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NAS PENSACOLA
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FINAL REMEDIAL INVESTIGATION REPORT
SITE 41 — OPERABLE UNIT 16 — NAS PENSACOLA WETLANDS

NAVAL AIR STATION
PENSACOLA, FLORIDA

SOUTHNAVFACENGCOM
CONTRACT NUMBER: N62467-89-D-0318

CTO-036

VOLUME VI OF XI
SECTIONS 13 — 14

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Pensacola, Florida

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13.0 CHEVALIER FIELD WETLANDS

The Chevalier Field wetlands include Wetlands 63A and 63B, which are located along the shoreline of Pensacola Bay, to the east of the NATTC complex on the former Chevalier Field area and immediately south and north of Site 14.

Site History

First named Station Field, Chevalier Field was built in 1922 to accommodate land-based aircraft operations at NAS Pensacola. Beginning in 1935, the airfield's runways were paved to facilitate increased training requirements, and the facility was renamed Chevalier Field. In 1947, NAS Pensacola was designated as an aircraft overhaul facility, with some of those operations being located at Chevalier Field. Chevalier Field remained the primary landing field for NAS Pensacola until the opening of Forest Sherman Field in 1955. Chevalier Field stayed open because it held aircraft maintenance facilities, such as the Overhaul and Repair Department.

Beginning in the early 1970s, aircraft repair and overhaul facilities were expanded at Chevalier Field, and these facilities were renamed the Naval Air Rework Facility, and later the Naval Aviation Depot. Intermediate level maintenance of fixed wing aircraft and later helicopters continued at Chevalier Field through 1995, when these facilities were closed and razed to pave the way for the construction of the NATTC, which commenced operations in 1997.

Previous Site Investigations

E/A&H RI Investigation Synopsis

IR sites generally associated with Chevalier Field included: OU 6 Sites 9 (Navy Yard Disposal), 29 (Soil South of Building 3460), and 34 (Solvent North of Building 3557); Site 14, Dredge Spoil Fill Site; and portions of Site 36, IWTP Sewer Line. These sites were investigated by E/A&H and are described in Section 3 in Table 3-1 (tables are located at the end of each section). Section 3.5 contains historical and updated information concerning the RIs conducted by E/A&H at these sites and the remedial alternatives selected for these areas.

1994 — Building 3380 Pre-Removal Investigation

From January 1992 to March 1994, Asea Brown Boveri (ABB), Environmental Services, Inc. assessed contamination at Building 2662 (Site 2662W), the former site of a 1,000-gallon UST. As agreed upon by the Tier I Partnering Team, the areas of Buildings 2662 and 3380 were transferred to the IR program and included under the E/A&H Site 36 investigation, due to the contaminants found by ABB and the buildings' proximity to the IWTP sewer line (E/A&H, 1997b).

E/A&H performed fieldwork in June and July 1994 in the area of Building 3380 including soil and groundwater sampling. During a 1994 meeting, the parties agreed to perform a removal at Site 3380 where there was SVOC and VOC contamination that was presented in a technical memorandum on Building 3380. In December of 1994, Bechtel Environmental, Inc. removed and disposed of the contaminated soil from the areas of Buildings 2662 and 3380. Confirmatory sampling was performed by E/A&H personnel (E/A&H, 1997b).

1996 Soil Removals

In 1996, several soil removals were conducted in the Chevalier Field area to remove contaminated soils associated with the OU 6 sites and Site 36 that were discovered during RIs associated with these sites. Removals were conducted at Sites 9, 29, 34, and 36 prior to construction of the NATTC facilities at Chevalier Field.

Chevalier Field Wetlands

The Site 41 wetlands associated with Chevalier Field included Wetlands 63A and 63B. As shown in Figure 13-1 (figures are located at the end of each section), both wetlands are located on the west side of Chevalier Field, along the shoreline of Pensacola Bay. Wetland 63A is located directly south of the former Site 14 area, while Wetland 63B is located due north of Site 14. As discussed in Section 3.5, after the berms of Site 14 were collapsed into the sediment basins, eliminating potential exposure pathways, the site was approved by USEPA and FDEP for NFA. These wetlands are located across Chevalier Field from the OU 6 area and likely were not impacted from these sites. Wetland 63A is adjacent to the area of Buildings 2662 and 3880 which were investigated during the Site 36 RI. Wetland 63A also receives stormwater from several outfalls that drain runoff from the southeast portion of Chevalier Field.

Figure 13-2 shows the area topography and Figure 13-3 presents the shallow potentiometric map. Figure 13-4 presents the soil and groundwater and Phase II sediment and surface water sampling locations.

This section presents the nature and extent of contamination, ecological risk assessment, fate and transport analysis, and human health risk assessment by wetland. To assist in the data evaluation, Figure 13-5 presents the Chevalier Field Area Total DDT for sediment, Figure 13-6 presents the Swartz TOC normalized PAHs, and Figure 13-7 presents the Mean ERM quotient categories and parameters exceeding ERMs. Figure 13-8 presents the chemistry and/or toxicity samples collected during Phases III and IV. To assess effects to selected measurement endpoints, such as the green heron, a food-chain model for all the wetlands associated with Chevalier Field is presented in Section 13.3.

Sitewide View

Legend

- Operable Unit (OU)
- Site
- Wetland- Approximate
- Chevalier Field Wetland- Approximate
- Building
- Shoreline
- Road
- Storm water Inlet
- Storm water Headwall
- Storm water Pipe

Note: Only the wetlands associated with Chevalier Field have labels.

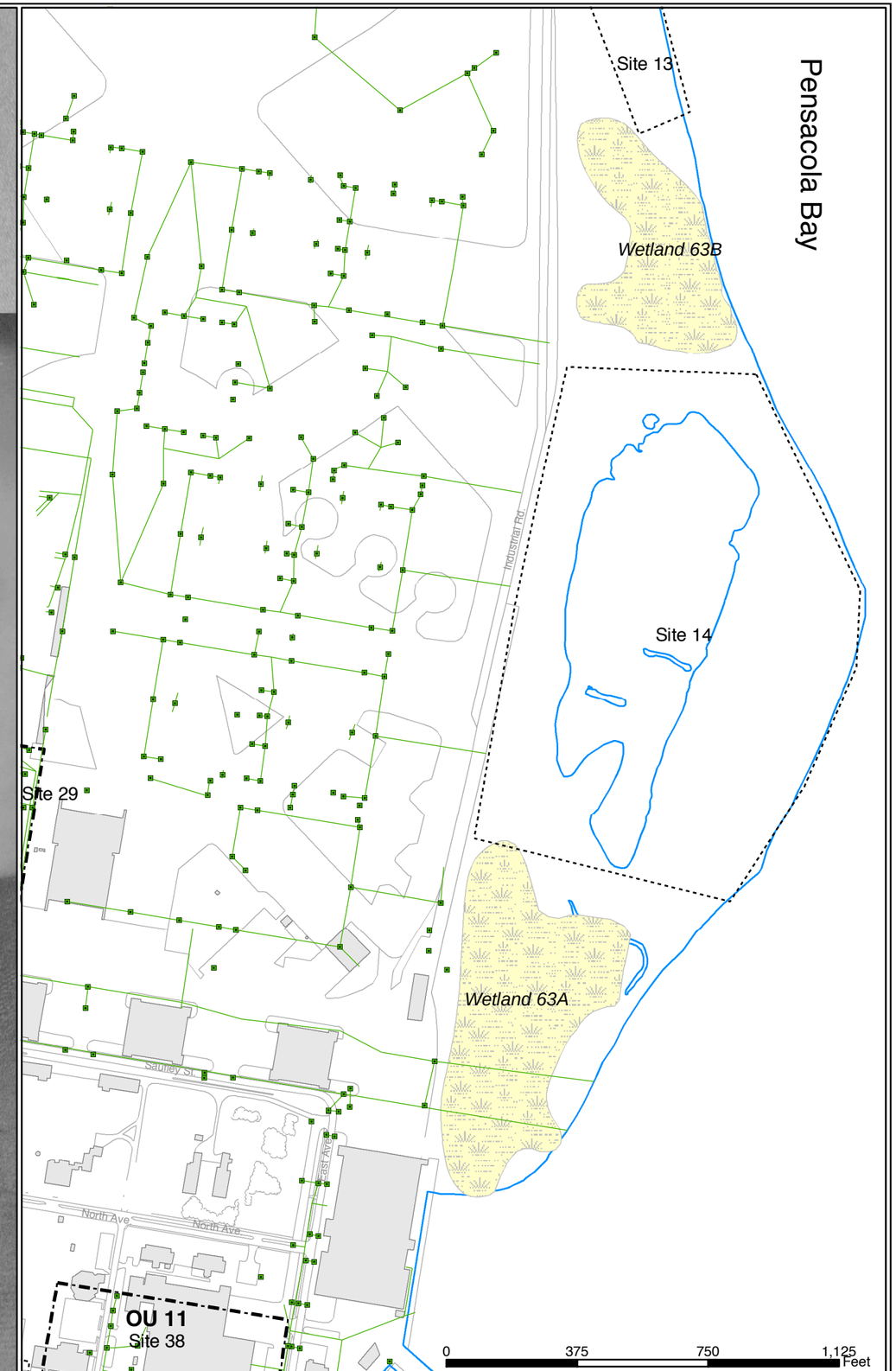

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FIGURE 13-1
Chevalier Field
Wetlands and Nearby Sites

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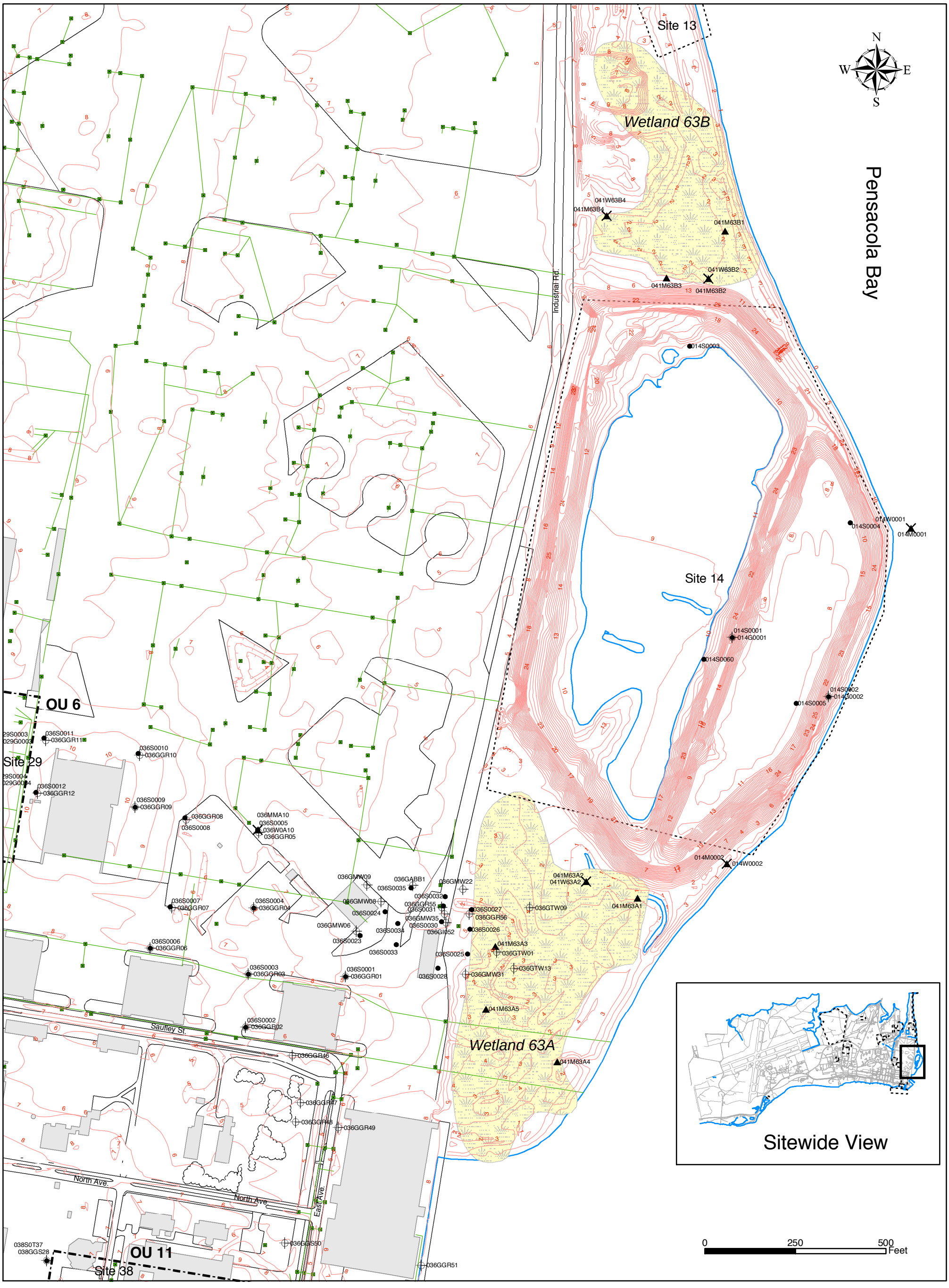

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FIGURE 13-2
Chevalier Field Wetlands
Study Area Topography

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Legend

Sitewide Sample Locations

- Soil
- Site 41 RI Sediment
- Site 41 RI Surface Water
- Groundwater
- Operable Unit (OU)
- Site
- Wetland- Approximate
- Chevalier Field Wetland- Approximate
- Building
- Topographic Contour(ft)
- Shoreline
- Road
- Storm water Pipe
- Storm water Inlet
- Storm water Headwall

Note: Only the wetlands associated with Chevalier Field have labels.

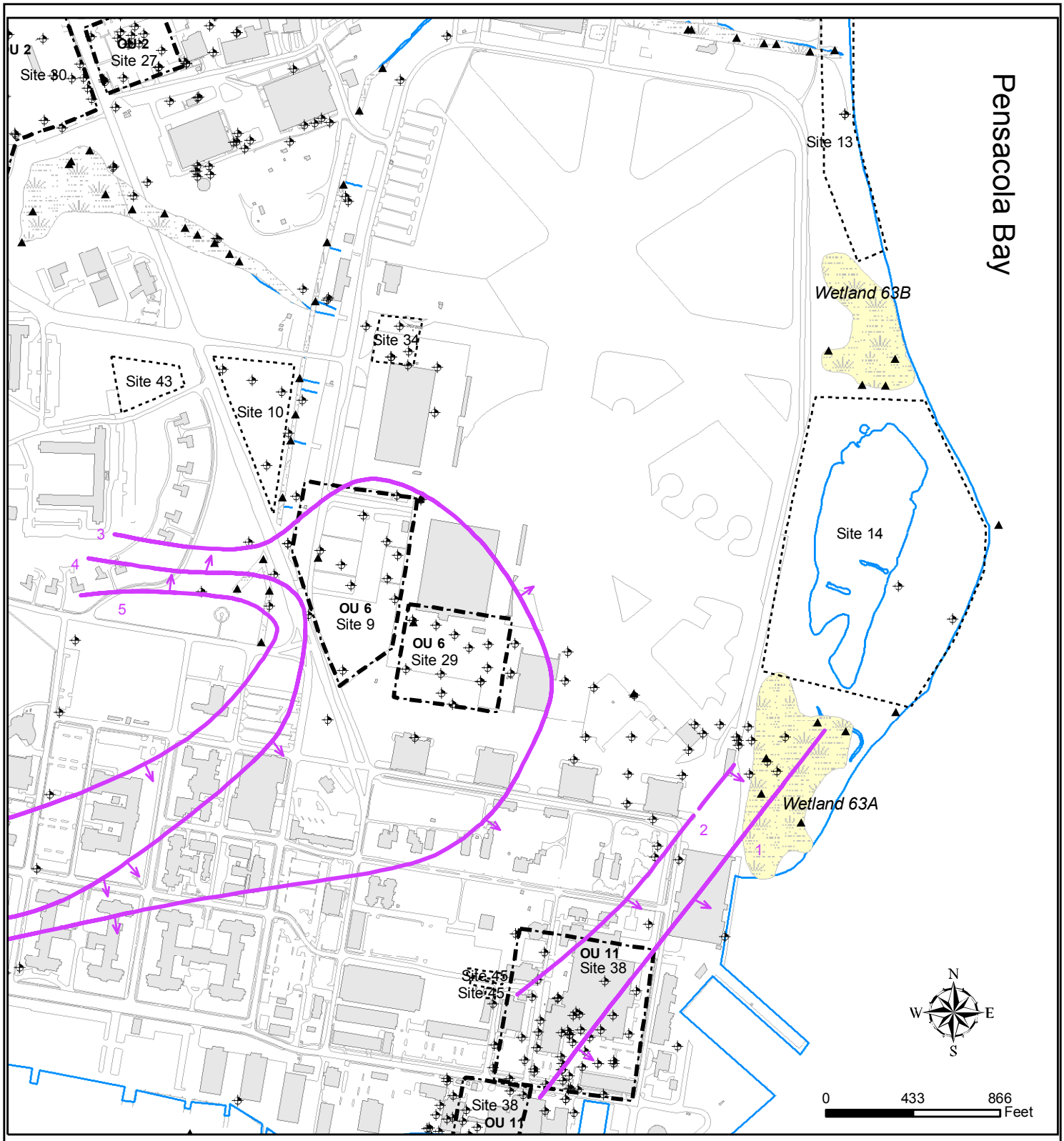

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FIGURE 13-3
Chevalier Field Wetlands
Shallow Potentiometric Surface

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Legend

Shallow Potentiometric Surface
- Contour (1 ft interval)
- Groundwater Flow direction

Sitewide Sample Location
- Sediment Sample
- Groundwater Well
- Chevalier Field Wetland-Approximate
- Wetland- Approximate
- Operable Unit (OU)
- Site

- Building
- Shoreline
- Road

Notes:
Groundwater potentiometric contours are from the Site 36 Site Characterization Report, 1997.

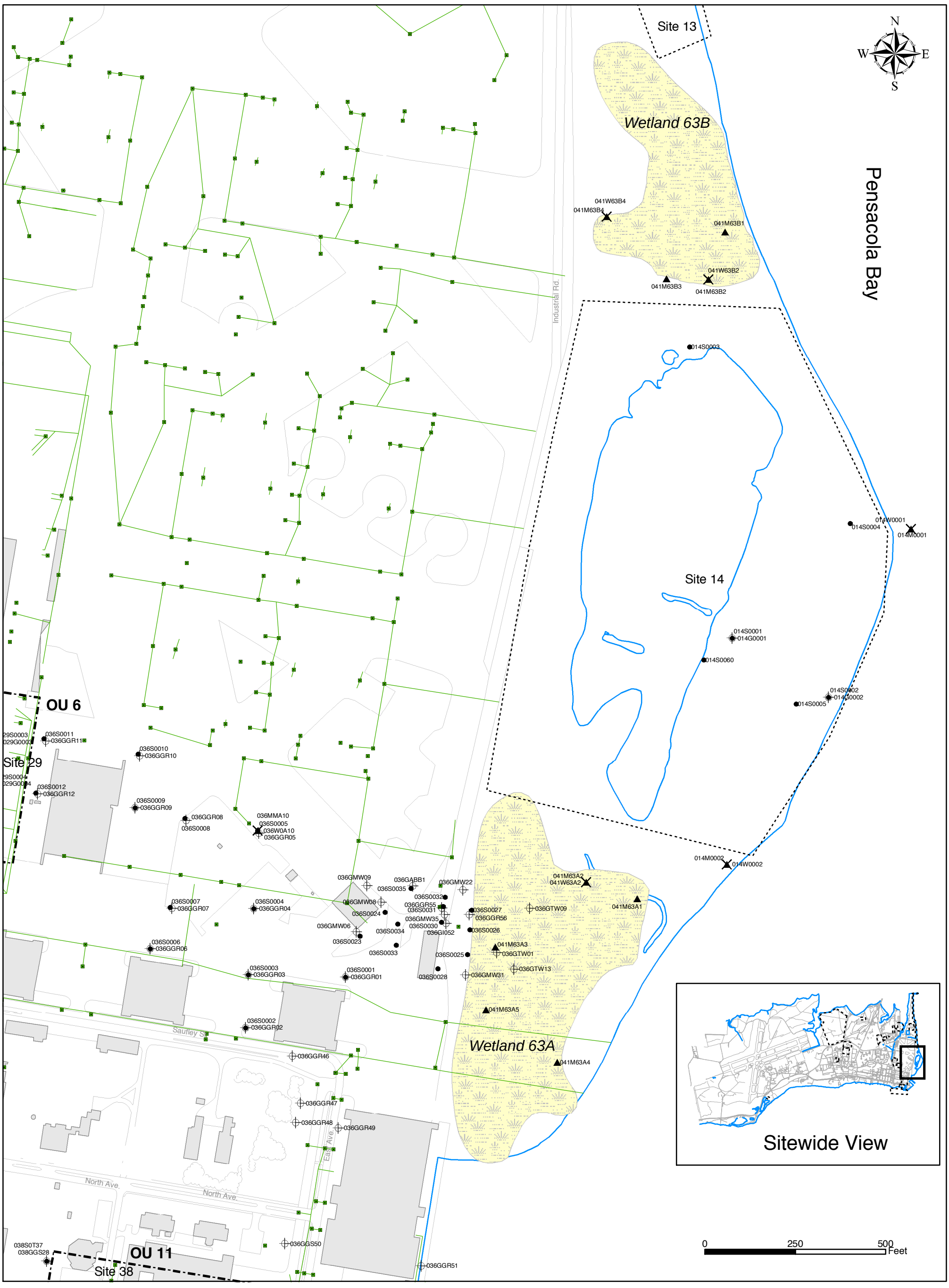

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FIGURE 13-4
Chevalier Field Wetlands, Nearby Sites, and Adjacent Soils Borings and Monitoring Wells

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Legend

Sitewide Sample Locations

- Soil
- Site 41 RI Sediment
- Site 41 RI Surface Water
- Groundwater
- Operable Unit (OU)
- Site
- Wetland- Approximate
- Chevalier Field Wetland- Approximate
- Building
- Shoreline
- Road
- Storm water Pipe
- Storm water Inlet
- Storm water Headwall

Note: Only the wetlands associated with Chevalier Field have labels.

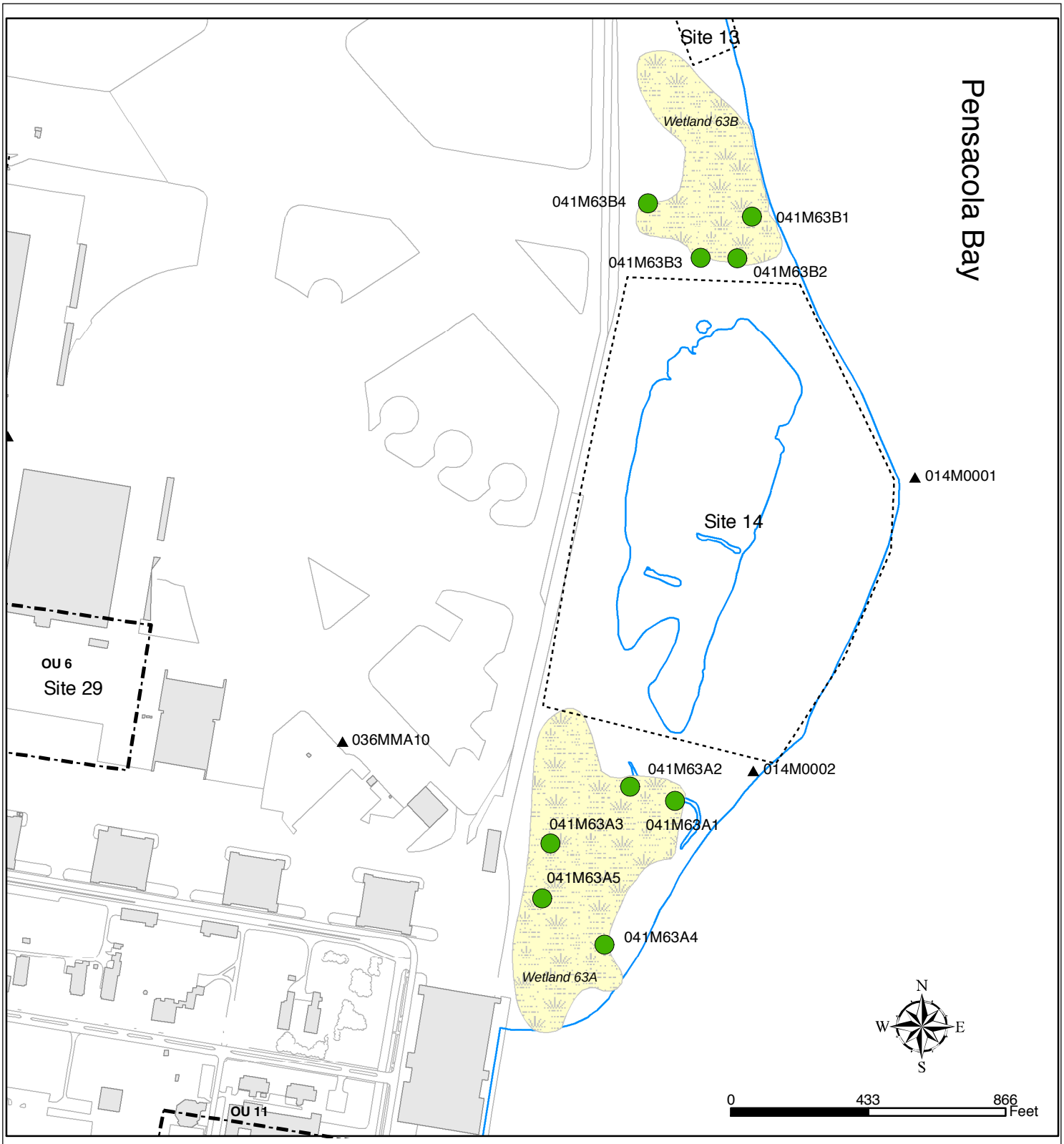

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FIGURE 13-5
Chevalier Field Wetlands
Sediment Total DDT

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Legend

Site 41 RI Sediment Sample
Phase II Total DDT

- 0.285 - 109.99
- 110.00(BL) - 3460.00
- Sediment Sample without Total DDT Calc
- Operable Unit (OU)
- Site
- Chevalier Field Wetland- Approximate
- Wetland- Approximate
- Building
- Shoreline
- Road

Note:
BL is the total DDT basewide level.
Result units are ug/kg.

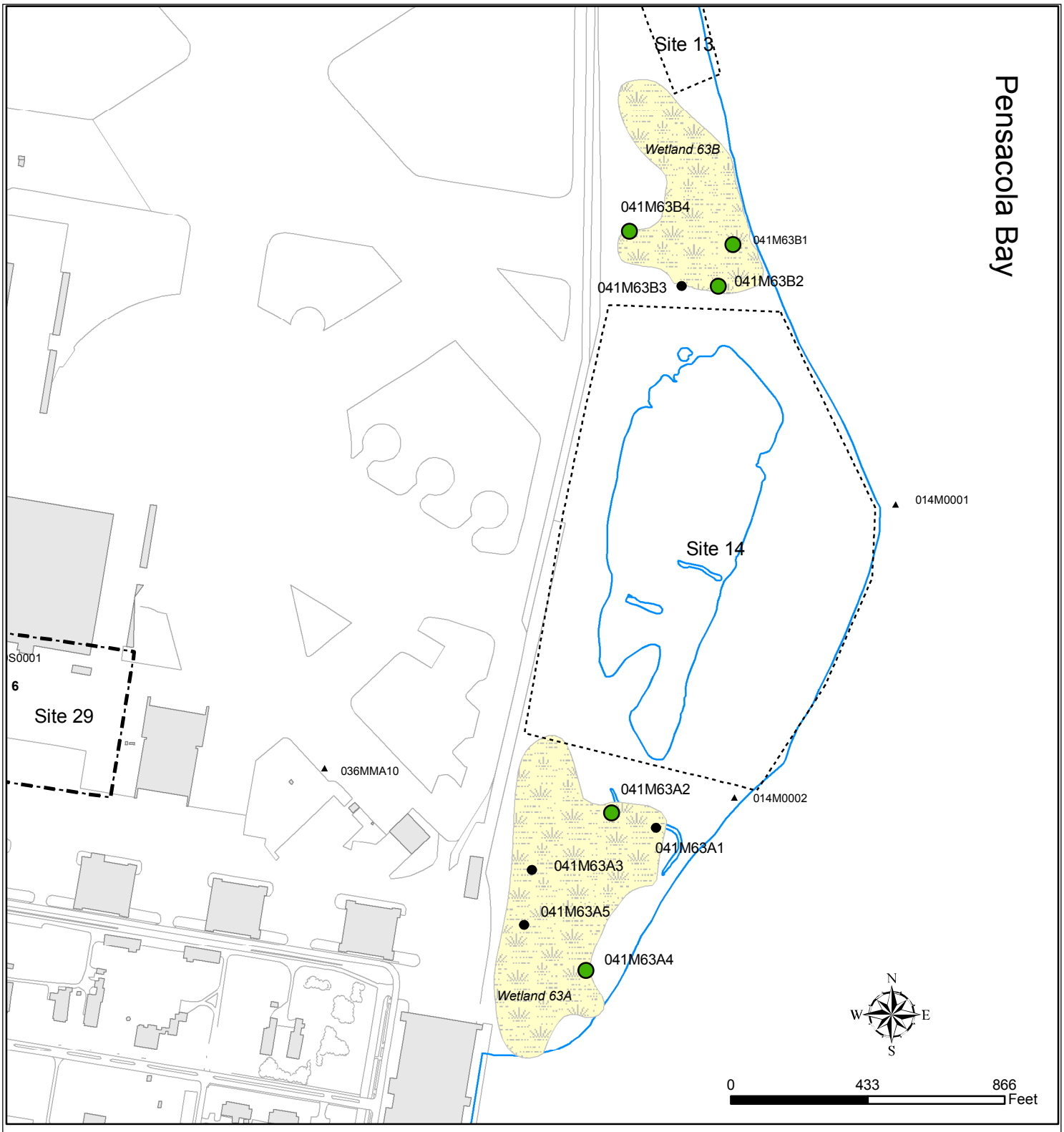

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FIGURE 13-6
Chevalier Field Wetlands
Sediment Swartz Normalized Total PAHs

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Legend

Site 41 RI Sediment Sample

Phase II TOC Normalized Total PAHs

- 1.94 - 289.99
- 290.00(TEC) - 1262.56
- Nondetect TOC Normalized Total PAH
- Sediment sample without TOC analysis
- Operable Unit (OU)
- Site
- Chevalier Field Wetland-Approximate
- Wetland- Approximate
- Building
- Shoreline
- Road

Note:
Result units are mg/kg-oc.

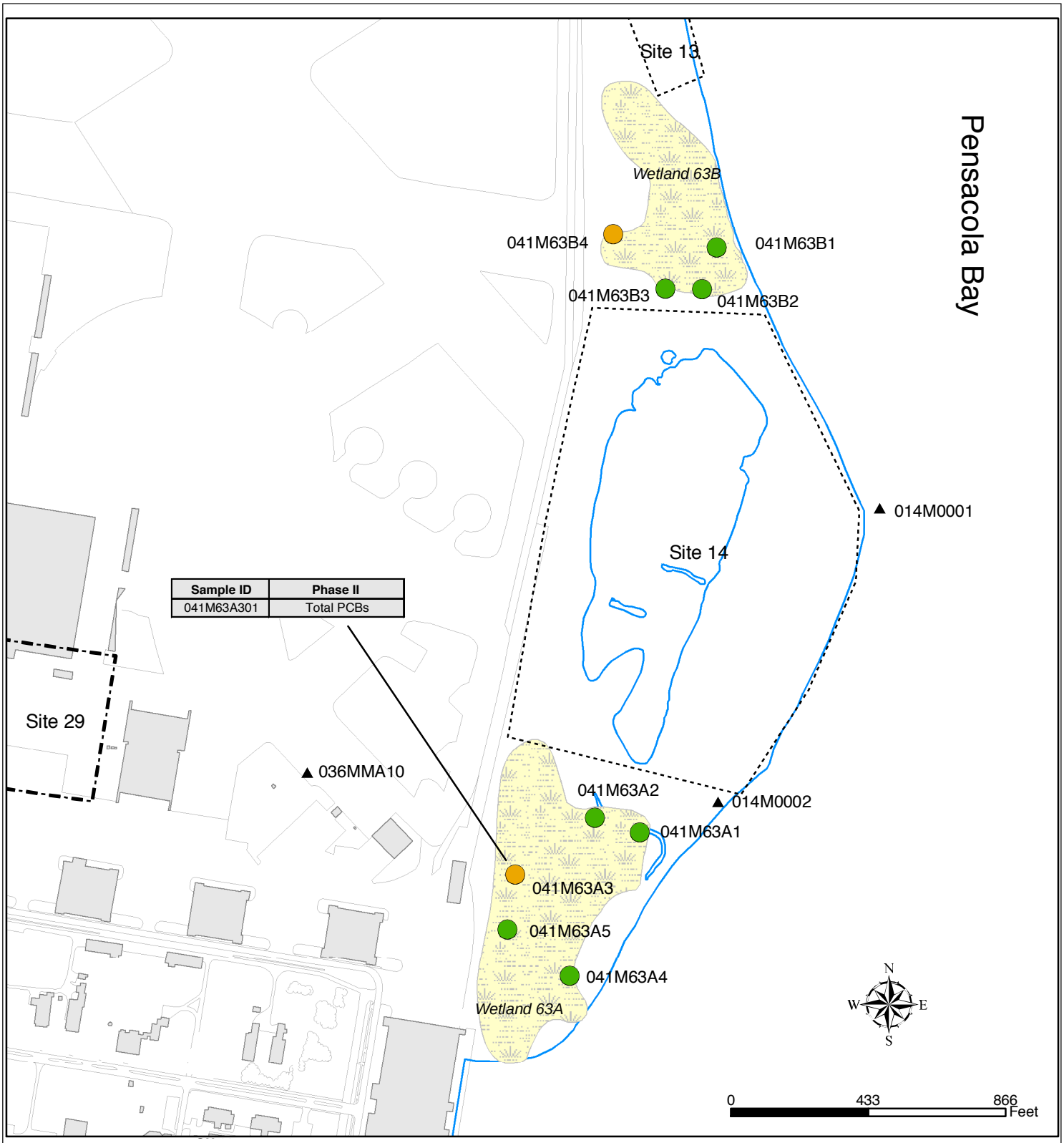

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FIGURE 13-7
Chevalier Field Wetlands
Sediment Sample ERM Quotient
Categories and Parameters that Exceeded the ERM

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Legend

Sediment Sample with ERM Category

Phase II Mean ERM Quotient Category

- 1
- 2
- Sediment Sample without ERM
- Chevalier Field Wetland- Approximate
- Wetland- Approximate

- Site
- Operable Unit (OU)
- Building
- Shoreline
- Road

Note:
Samples without a parameter table do not have parameters that exceeded the ERM value. Only the wetlands associated with Chavalier Field have labels.

Table indicates parameters that exceeded the ERM for each sample phase.				
Sample ID	Phase II	Phase III	Phase 2001	Phase 2004

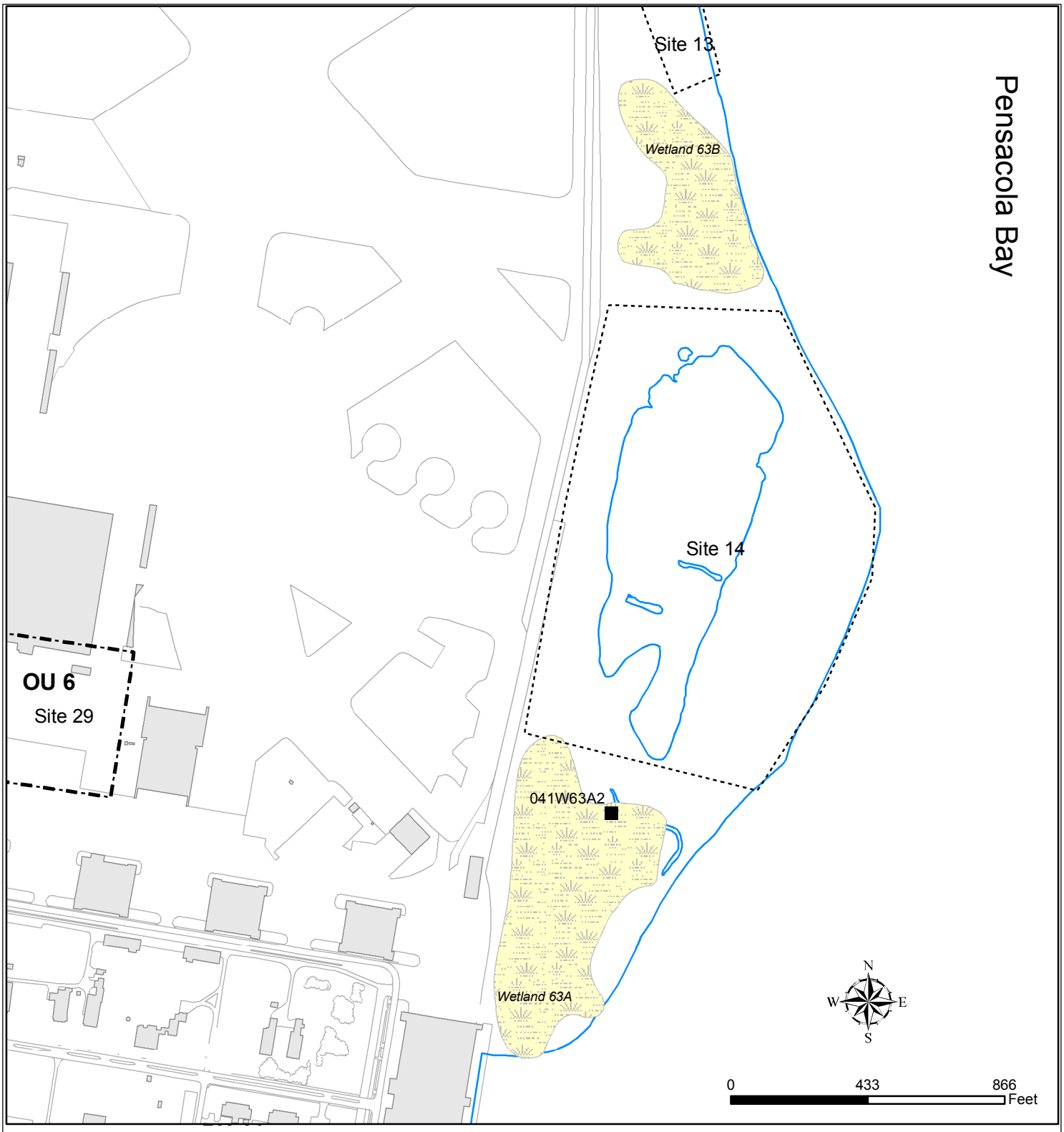

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FIGURE 13-8
Chevalier Field Wetlands
Chemistry and Toxicity Sample Locations

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Legend

Sediment Sample
- Chemistry only
- Chemistry and Toxicity

Surface Water Sample
- Total and Dissolved Metals only
- Total and Dissolved Metals and VOCs
- Chemistry only
- Chemistry and Toxicity
- Species Diversity Sample
- Fish Tissue Sample
- Operable Unit (OU)
- Site
- Chevalier Field Wetland-Approximate
- Wetland- Approximate
- Building
- Shoreline
- Road

13.1 Wetland 63A — Screening Level Problem Formulation

13.1.1 Site Description and Habitats Present at Wetland 63A

Wetland 63A is located on the shoreline of Pensacola Bay, southeast of Chevalier Field and south of Site 14. Parsons and Pruitt (USEPA, 1991a) described this wetland as an estuarine emergent system. Wetland 63A is fed by storm water runoff from the southeastern side of Chevalier Field and the surrounding area to the west.

Photograph 1 Wetland 63A — Facing Northeast

Wetland 63A generally flows east into Pensacola Bay through a 3 feet wide drainage channel that ranges from 1 to about 3 feet in depth. This drainage channel usually has standing water in it, containing aquatic weeds. The wetland has a maximum width of about 500 feet and is covered mostly with typical vegetation indicative of a disturbed area (as evidenced by the predominance of cattails and introduced weeds and shrubs). Estuarine plants found in the wetland include common reed *(Phragmites australis)* and saw grass *(Caladium jamaicense)*.

Wetland 63A is bordered by Site 36. Site 36 (Industrial Wastewater Treatment Plant Sewer Line) was investigated in conjunction with sites for OU 2. The wastewater treatment plant, originally built in 1948, was replaced in 1971 with a modern plant that could accept

industrial wastes. Most facilities discharging to the sewer did so without any pretreatment or waste segregation. The waste stream has included paint strippers, heavy metals, pesticides, radioactive wastes, fuels, cyanide waste, and waste oil (NEESA, 1983). Beginning in 1973, the Naval Air Rework Facility operations discharged to the sewer instead of to Pensacola Bay. The IWTP sewer line consisted of vitreous clay and cast-iron piping installed both before and after 1971. OU 2 investigated portions of the IWTP sewer line from the Building 649 complex to the wastewater treatment plant.

Historically, Buildings 3383 and 2252 were located directly west of Wetland 63A. A pipeline connecting the carrier dock to the Bilge Water Plant, along with a portion of the IWTP sewer line, ran to the west of Wetland 63A beneath Chevalier Field. In 1994, an interim soil removal removed contaminated soils associated with Buildings 2662 and 3880.

13.1.2 Wetland 63A — Sample Location Description

Phase II Sediment Sample Location Description

Five Phase II sediment samples were collected in Wetland 63A for the ERA (Figure 13-4). Sample locations 041M63A101 and 041M63A201 were collected from the northern portion of the wetland, while locations 041M63A301 and 041M63A501 were collected from the western side, and 041M63A401 was collected along the southwestern portion of this wetland. Table 13-1-1 (tables are located at the end of each section) provides a physical description of the Phase II sediments collected at Wetland 63A. Phase II sediments at Wetland 63A were composed of dark grayish brown poorly graded sand, fine (041M63A101 and 041M63A201) to light olive brown silty sand with organics (041M63A401). TOC concentrations ranged from 0.08% (041M63A101) to 4.2% (041M63A301).

Phase II Surface Water Sample Location Description

One surface water sample was collected at Wetland 63A and was collocated with the sediment station 041M63A201 (Figure 13-4). Table 13-1-2 provides a physical description of the surface water collected at Wetland 63A. Surface water from Wetland 63A was found to be slightly hard, slightly acidic pH, and reported salinity at 14.5 ppt.

Phase IV Surface Water Sample Location Description

One surface water sample (collocated with sediment sample 041M63A201) was collected from Wetland 63A (Figure 13-4). Surface water parameters were not collected during the Phase IV investigation due to sampler error.

13.1.3 Wetland 63A — Nature and Extent of Contamination

Phase II Sediment

Figure 13-4 presents the Phase II sediment sampling locations for Wetland 63A. Table 13-1-3 presents a summary of the analytical results of the five Phase II sediment samples.

Metals — Twenty metals were detected during Phase II sediment sampling at Wetland 63A. The distribution of inorganic detections and reference value exceedances during Phase II at Wetland 63A were concentrated at two locations — location 041M63A301, near the middle of the wetland's west side, where 13 analytes exceeded the estuarine reference values, and location 041M63A401, near the southeast edge of the wetland, where nine analytes exceeded the estuarine reference values. The analytes exceeding the reference values were aluminum, antimony, barium, cadmium, calcium, chromium, cooper, iron, lead, manganese, mercury, nickel, vanadium, and zinc. Locations 041M63A101 and 041M63A201, near the northeast edge of the wetland, and location 041M63A501, near the west edge of the wetland, contained inorganic detections as well. Locations 041M63A101 and 041M63A201 did not have reference concentration exceedances; however, calcium exceeded the reference value at sample location 041M63A501.

Pesticides and PCBs — Ten pesticide compounds and the PCB aroclor-1260 were detected during Phase II sediment sampling at Wetland 63A. Total DDT was calculated for each location by adding the concentrations of 4,4'-DDD, 4,4'-DDE and 4,4'-DDT. Likewise, a basewide total DDT reference concentration was calculated using the basewide concentrations for these same constituents.

The greatest number of pesticides detected in Wetland 63A sediments during Phase II sampling was situated near its north and west edges at locations 041M63A201 and 041M63A301. Location 041M63A201 had five pesticide detections. Location 041M63A301 had seven pesticide detections, with relatively higher concentrations compared to other locations. Three detections were identified at location 041M63A401. Aroclor-1260 was detected at four of the five sediment sample locations, with the highest detection located at 041M63A301, near the west central edge of the wetland.

SVOCs — Twelve SVOCs were detected in sediment samples collected during Phase II sampling at Wetland 63A. Four of the five Sample locations exhibited single detections of SVOCs. Location 041M63A401, near the southeast edge of the wetland, had the greatest number of SVOC detections with 12 compounds; however, the concentrations were relatively low. Butylbenzylphthalate was detected at location 041M63A301 which was the highest detected

concentration. This location corresponds with the greatest diversity of pesticides and metals detections.

VOCs — No VOCs were detected in sediments collected from Wetland 63A during Phase II sampling.

Phase II Surface Water

Figure 13-4 presents the surface water sampling locations for Wetland 63A. Table 13-1-4 summarizes the analytical results for the one Wetland 63A surface water samples.

Metals — Fourteen metals were detected in the single Phase II surface water sample taken from Wetland 63A. Location 041W63A201, located near the north edge of the wetland, contained six metals above the estuarine reference concentration.

All of the exceedances were generally within an order of magnitude, except lead, which was detected significantly above its reference concentration. Other metals detected above the reference concentrations were arsenic, barium, manganese, selenium, and zinc.

Organics — There were no organic constituents detected in surface water collected during the Phase II investigation of Wetland 63A.

Phase IV Surface Water

Figure 13-4 presents the Phase IV surface water sampling location for Wetland 63A collected in 2004. Table 13-1-5 summarizes the analytical results for the one Phase IV surface water samples. The surface water sample was analyzed for metals only.

Metals — Twelve metals were detected in the single Phase IV surface water sample collected from Wetland 63A. Location 041W63A202, located near the north edge of the wetland, contained two metals (barium and manganese) above the estuarine reference concentration.

13.1.4 Ecological Risk Assessment

13.1.4.1 Phase II Investigation Summary — Wetland 63A

Sediment Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 13-1-6, the sediment samples were compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs

greater than one or with no screening values were carried forward to COPC refinement. COPCs retained after screening are listed in Table 13-1-7.

Baseline Problem Formulation — Wetland 63A Sediment COPC Refinement

During the COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs. This risk assessment presents a statement of potential risk for each of the COPCs.

The COPC refinement process included:

- Comparison of maximum concentrations to RVs
- Comparison of average concentrations to SVs and RVs
- Comparison to basewide (reference) concentrations for total DDT
- Comparison of inorganic constituents to reference wetland values
- Regression Analysis for inorganic constituents
- Di Toro EqP SQGs for VOCs
- Comparison to Swartz consensus values
- Mean ERM quotients
- Description of exceedances of RVs and their extent

The methods used in the COPC refinement for the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 13-1-8. COPCs retained after refinement are presented in Table 13-1-9. Additionally, the tables compare: (1) average concentrations to screening and refinement values to assess potential exposure across the entire wetland, and (2) Wetland 63A concentrations to reference concentrations.

As shown on Figure 13-5, total DDT and its daughter products were below the basewide levels, indicating that pesticide application levels in this area were in accordance with other base activities. As a result, total DDT and its daughter products were carried forward as COPCs in the ERA process. One other pesticide was detected and retained as a COPC, endosulfan sulfate. Total PCB, specifically aroclor-1260, generated a reference value exceedance and was therefore retained as a COPC.

At Wetland 63A, the following inorganic constituents exceeded their Site 41 estuarine sediment reference concentrations and were carried forward in the ERA process as COPCs: aluminum,

barium, cadmium, iron, manganese, and vanadium. Calcium also exceeded its reference concentration but is an essential nutrient. The essential nutrient is not carried forward in the ERA process. Based on regression analysis, barium was identified as an outlier at sample location 041M63B301, when compared to both aluminum and iron concentrations.

No VOCs were detected in Wetland 63A sediments; however, when normalized to detected TOC concentrations, PAHs did not appear to be risk drivers for Wetland 63A as shown on Figure 13-6. Several other SVOCs were detected and retained as COPCs: benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, and indeno(1,2,3-cd)pyrene.

Table 13-1-10 presents the Mean ERL and ERM values, the Mean ERM Quotients, and the Mean ERM Quotient Category by individual Sample location. Based on this approach, four Sample locations (041M63A101, 041M63A201, 041M63A401, and 041M63A501) were determined to be Category 1, indicating that sediments from these areas of the wetland were considered nontoxic. Station 041M63A301 was determined to be Category 2, which, according to tests evaluated in developing this methodology, had average survival rates of approximately 80% of control sediments; however, this Category also has the highest level of uncertainty. Figure 13-7 shows the Mean ERM category for each sediment Sample location at Wetland 63A.

Surface Water Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 13-1-11, the surface water sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 13-1-12.

Baseline Problem Formulation — Wetland 63A Surface Water COPC Refinement

During the surface water COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs. The COPC refinement process included:

- Comparison of maximum SV concentrations to average SV concentrations
- Comparison of inorganic constituents to reference wetland values
- Description of surface water exceedances and their extent

The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in

Table 13-1-13. COPCs retained after refinement are presented in Table 13-1-14. Additionally, the tables compare average concentrations to screening and refinement values to assess potential exposure across the entire wetland.

For Wetland 63A, barium, lead, and manganese exceeded their Site 41 estuarine reference surface water concentrations (Table 13-1-13) and were retained as COPCs.

At Wetland 63A during the Phase II investigation, barium and manganese were detected in both sediment and surface water samples. Wetland 63A sediments contained several PAHs, one pesticide, and one PCB. Several inorganic constituents were also detected in Wetland 63A sediments. The only detections in Wetland 63A surface water were inorganic constituents.

The conceptual model below symbolizes which environmental habitats may be impacted by Wetland 63A Phase II constituents retained during the ERA process.

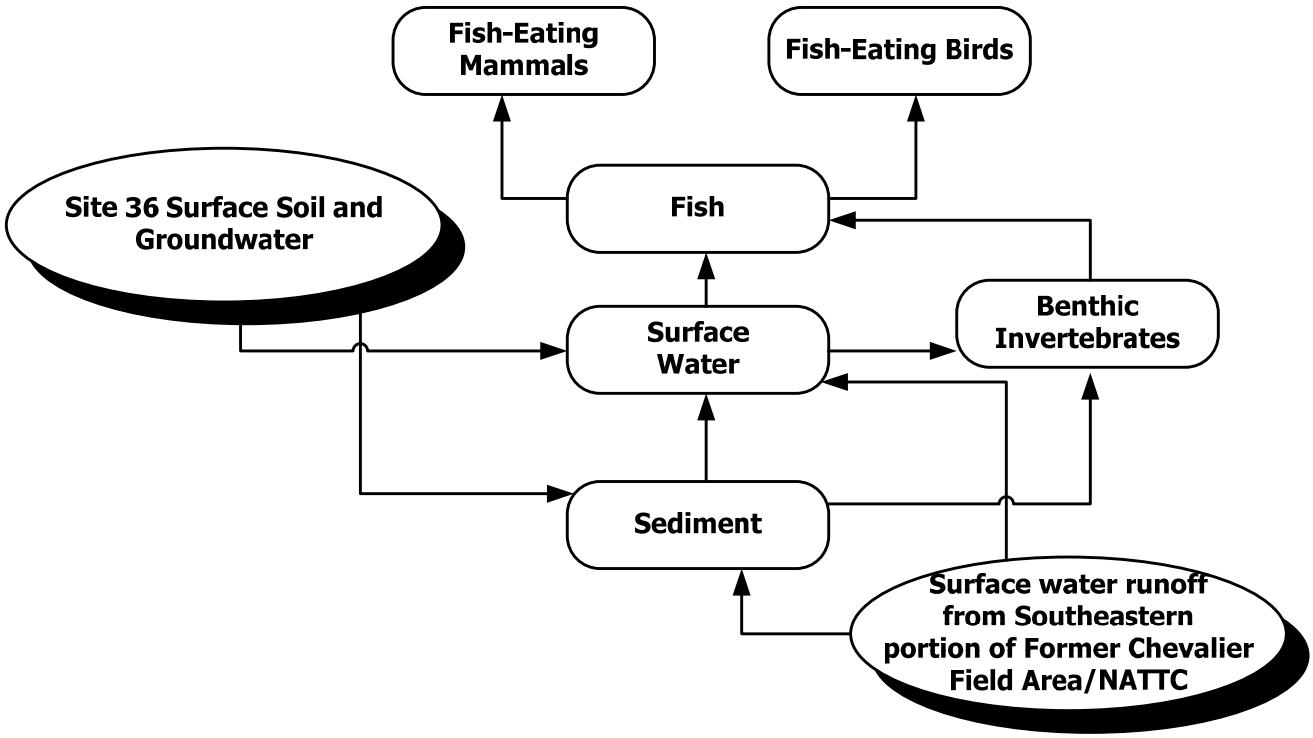
13.1.4.2 Phase IV Investigation Summary — Wetland 63A

An additional surface water sample was collected and analyzed for TAL metals in 2004 to confirm the lead detection in the Phase II surface water sample.

Surface Water Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 13-1-15, the surface water sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 13-1-16.

Wetland 63A
Conceptual Site Model



Baseline Problem Formulation — Wetland 63A Surface Water COPC Refinement

The same approach used to evaluate Phase II surface water sample (Section 13.1.4.1) was applied to surface water collected in 2004.

The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 13-1-17. A list of COPCs retained after refinement are presented in Table 13-1-18. Additionally, the tables compare average concentrations to screening and refinement values to assess potential exposure across the entire wetland.

For Wetland 63A, barium and manganese exceeded its Site 41 reference concentration (Table 13-1-17) and were carried forward as COPCs.

Barium was the common constituent between the Phase II and the Phase IV investigation. During the Phase II investigation in 1996, barium was detected in sediment with a maximum concentration of 16.3 mg/kg and in surface water with maximum concentrations

of 53.3 µg/L. During the Phase IV investigation, barium was detected at 61 µg/L in surface water. Although above reference conditions, these levels did not warrant additional investigation.

As summarized in the approved *Final RI/FS SAP Addendum* (E/A&H, 1997d), Wetland 63A was identified as an Orange-Coded Wetland based on the Phase II results, indicating contamination that was possibly related to nearby IR sites, but with limited contaminants exceeding sediment criteria and reference concentrations. Contaminants detected in these wetlands were also considered to be possible sources of ecological risk. Wetland 63A was also classified as a Group C wetland. Based on similar contaminants and physical characteristics, the other Group C wetlands include 4D, 15, 16, 18 (A&B). Wetlands 16 and 18 were sampled in Phase III to represent the Group C wetlands based on their relatively higher concentrations and extent of contamination.

13.1.5 Wetland 63A — Human Health Risk Assessment

Wetland 63 is described in Section 13.1.1, and the HHRA is summarized below.

13.1.5.1 Site Data

Section 13.1.3 summarizes the nature and extent of contamination for this wetland. Surface water and sediment data were collected at Wetland 63A during Phases II and IV of the RI. Surface water and sediment data for Wetland 63A are summarized in Tables 13-1-19 through 13-1-24 (Phase II data), and Tables 13-1-25 through 13-1-27 (Phase IV data).

13.1.5.2 Conceptual Site Model

As described in Section 13.1.1, Wetland 63A is located on the shoreline of Pensacola Bay, southeast of Chevalier Field, and south of Site 14. Wetland 63B is located on the northeast side of Chevalier Field, along the shoreline of Pensacola Bay and directly north of Site 14. Because Wetland 63 is located in an unrestricted area of the base, the wetland is accessible to Navy personnel and trespassers. Wetlands 63A and 63B are intermittently flooded, so surface water contact was assessed for maintenance and trespasser scenarios. Sediment locations are inundated all year at some locations, preventing significant sediment exposure. However, sediment dries at other locations within these wetlands, where exposure could be similar to soil exposure. Contact with sediment was assessed for all sediment locations within these wetlands. Although trespassers may be able to access the site, water depths are too shallow to support regular fishing for game fish species. Consequently, fish tissue ingestion pathways were excluded.

The following scenarios and exposure pathways were evaluated for this wetland:

Scenario	Medium	Ingestion	Dermal
Maintenance	Surface water	√	√
	Sediment	√	√
Trespasser	Surface water	√	√
	Sediment	√	√

13.1.5.3 Risk Characterization

The adult maintenance worker and child trespasser scenarios for surface water and sediment were assessed for this wetland as described in Section 9.

Phase II Data

Maintenance Worker

As shown in Tables 13-1-19 through 13-1-21, sediment ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

As shown in Tables 13-1-22 through 13-1-24, surface water ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

Trespasser

As shown in Tables 13-1-19 through 13-1-21, sediment ingestion and dermal contact risk estimates for trespasser were below the FDEP risk threshold. Hazard indices were below 1.0.

As shown in Tables 13-1-22 through 13-1-24, surface water ingestion and dermal contact risk estimates for trespassers were below the FDEP risk threshold. Hazard indices were below 1.0.

Summary of Wetland 63A Phase II Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Sediment	1.08E-02	3.76E-07
	Surface water	3.42E-03	N/A
Trespasser	Sediment	1.66E-02	2.34E-07
	Surface water	2.56E-03	N/A

Based on Phase II data, no COCs for Wetland 63A were identified.

Phase IV Data

Maintenance Worker

As shown in Tables 13-1-25 through 13-1-27, surface water ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

Trespasser

As shown in Tables 13-1-25 through 13-1-27, surface water ingestion and dermal contact risk estimates trespassers were below the FDEP risk threshold. Hazard indices were below 1.0.

Summary of Wetland 63A Phase IV Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Surface water	3.09E-03	N/A
Trespasser	Surface water	2.31E-03	N/A

Based on Phase IV data, no COCs for Wetland 63A were identified.

Wetland 63A HHRA COC Summary

No COCs were identified in the HHRA for Wetland 63A.

13.1.6 Wetland 63A — Fate and Transport Analysis

This wetland is located on the southeastern side the former Chevalier Field area and borders Pensacola Bay on its eastern boundary. It is close to a former IR site located on the southeastern corner of Chevalier Field (Building 2661). Five sediments and one surface water sample were collected as part of Phase II activities. The wetland receives drainage from the southeastern portion of former Chevalier Field and is tidally influenced by flux from Pensacola Bay (see Figure 13-1).

The sediment and surface water COPCs retained after refinement for this wetland are summarized in Tables 13-1-9 (sediment, Phase II), 13-1-14 (surface water, Phase II), and 13-1-18 (surface water, Phase IV). Provided below are the associated soil borings and monitoring wells used for comparing data for the fate and transport analysis.

Monitoring Wells Associated with 63A: 036GGTW09, 036GGTW13, 036GGTW01, 036GGMW31, 036GGR56, 036GMW22, 036GMW35, 036GGR55, 036ABB1, 036GMW08, 036GMW09, 036GMW06, 036GGR01, 0036GGR46, 036GGR47, 036GGR48, 036GGR49

Borings Associated with 63A: 036S0023, 036S0001, 036S0024, 036S0034, 036S0033, 036S0028, 00S0035, 036S0030, 036S0031, 036S0032, 036S0025, 036S0026, 036S0027

Surface Water/Sediment Transport into the Wetlands Media:

Surface Water — There was no directly comparable storm water data from the area proximal to this wetland complex. Because of the lack of data, no definitive statement can be made regarding the validation of the pathway via storm water runoff into the wetland complex. The vast majority of surface water drainage to this wetland is runoff from the former Chevalier Field area. The wetland may also be affected by storm water runoff and groundwater discharge from the former Building 2661 site; borings and wells from this site were evaluated as to potential impacts to the wetland.

Sediment — Based on the data from surface soil in associated borings, the storm water to wetland sediment pathway was validated for the following parameters:

Phase II
Aluminum
Barium
Cadmium
Iron
Manganese
Vanadium
Aroclor-1260
Total PCBs

Groundwater Discharge Into The Wetland Media:

Surface Water — Based on the data from associated monitoring wells, the groundwater to wetland surface water pathway was validated and significant for the following parameters:

Phase II
Barium
Lead
Manganese

Phase IV
Barium
Manganese

Sediment — Based on the data from associated monitoring wells, the groundwater to sediment pathway was validated and significant for the following parameters:

Phase II
Aluminum
Barium
Iron
Manganese
Vanadium

Surface Water/Sediment Transport within The Wetlands:

Surface Water — Because only one surface water sample was collected, this pathway was not evaluated.

Sediment — To evaluate this pathway, the wetland was separated into a northern and southern portion. For the northern portion, upgradient location 041M63A2 was compared to downgradient 041M63A1; for the southern portion, upgradient location 041M63A5 was compared to downgradient location 041M63A4.

Northern Portion — Evaluation of the sediment locations indicated a decrease in detected organics (14 metals and seven organics at the upgradient location versus 14 metals and one organic at the downgradient location). For the detected metals at the downgradient location, one parameter increased in concentration, and 13 exhibited very slight decreases. The only organic present at the downgradient location was not detected in the upgradient sample. The majority of organics detected in the upgradient sample were pesticides, which were consistent with application residuals. The organic detected downgradient was a phthalate and may be a lab artifact.

Southern Portion — Evaluation of the sediment locations indicated a general increase in detected parameters (15 metals and two organics in the upgradient location versus 18 metals and 16 organics in the downgradient). For the metals, three parameters were present in the downgradient locations that were not detected in the upgradient, three exhibited a decrease in concentration, and 13 metals exhibited an increase. For the organics, 14 compounds were present

in the downgradient locations that were not detected in the upgradient location, one exhibited an increase, and one organic exhibited a decrease. The organics detected downgradient included pesticides and BAP equivalents. The pesticides represent application residuals, but the BAPs may represent incorporation of small asphalt fragments derived from longshore transport from Site 13 (located to the northeast of Chevalier Field, approximately one-half mile north of Wetland 63A, and being composed of large amounts of asphalt fill), or they may represent storm water runoff/incomplete combustion byproducts from Chevalier Field. The increases in metals downgradient represent enrichment likely due to the higher TOC, which can provide a ready substrate for adsorption.

Table 13-1-1
Wetland 63A Phase II
Sediment Physical Parameters

Parameter	041M63A101	041M63A201	041M63A301	041M63A401	041M63A501
TOC (%)	0.0873	0.169	4.23	0.963	0.165
Percent Solids (%)	82.2	78.9	57.6	72.6	81.8
Grain Size Analysis (percent of composition[1])					
Fine Gravel	0	0	0	0	1
Coarse Sand	1	1	8	0	1
Medium Sand	38	49	59	21	66
Fine Sand	58	49	30	40	31
Silt and Clay	3	1	3	39	1
Description	Dark Grayish Brown Poorly Graded Sand, Fine	Dark Grayish Brown Poorly Graded Sand, Fine	Dark Brown Poorly Graded Sand with Organics	Light Olive Brown Silty Sand with Organics	Dark Grayish Brown Poorly Graded Sand, Medium, Shells

Note:
[1] - Derived from sieve analyses.

Table 13-1-2
Wetland 63A Phase II
Surface Water Physical Parameters

Parameter	041W63A201
Hardness as CaCO3 (mg/L)	120
pH	6.79
Specific Conductivity (mS/cm)	24.2
Turbidity (NTU)	10
Salinity (%)	14.5

Notes:

mg/L = Milligrams per liter

MS/cm = Millisiemens per centimeter

NTU = Nephelometric turbidity units

% = Percent

Table 13-1-3
Wetland 63A Phase II
Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Average Detection	Maximum Detection Location
Metals (mg/kg)								
Aluminum	4,274.0	2	5	5	180.0	5,500.0	2,110.0	041M63A301
Antimony	0.260	2	1	5	0.290	0.290	0.166	041M63A401
Arsenic	2.140	0	5	5	0.150	1.40	0.652	041M63A301
Barium	3.840	2	5	5	0.390	16.30	5.080	041M63A301
Cadmium	0.390	2	3	5	0.150	7.70	1.760	041M63A301
Calcium	1,978.80	3	5	5	1,170.0	4,040.0	2,300.0	041M63A401
Chromium	13.10	1	5	5	0.510	92.50	20.70	041M63A301
Cobalt	0.910	0	2	5	0.260	0.370	0.165	041M63A301
Copper	8.440	1	5	5	0.380	15.10	4.780	041M63A301
Iron	2,684.40	2	5	5	293.0	5,000.0	1,810.0	041M63A301
Lead	21.040	2	5	5	0.930	106.0	28.80	041M63A301
Magnesium	2,943.60	0	5	5	100.0	278.0	172.0	041M63A301
Manganese	9.810	2	5	5	1.70	44.50	13.60	041M63A401
Mercury	0.110	1	1	5	0.140	0.140	0.050	041M63A301
Nickel	3.690	1	2	5	0.970	5.10	1.390	041M63A301
Potassium	899.720	0	5	5	22.0	76.40	49.70	041M63A301
Silver	0.520	0	1	5	0.460	0.460	0.224	041M63A301
Sodium	11,439.60	0	5	5	33.80	884.0	324.0	041M63A201
Vanadium	8.590	1	5	5	0.550	14.40	4.770	041M63A301
Zinc	14.360	2	5	5	1.50	88.90	26.0	041M63A301
PAHs (g/kg)								
Benzo(a)anthracene	N/A	0	1	5	63.0	63.0	175.0	041M63A401
Benzo(a)pyrene	N/A	0	1	5	72.0	72.0	177.0	041M63A401
Chrysene	N/A	0	1	5	74.0	74.0	177.0	041M63A401
Fluoranthene	N/A	0	1	5	130.0	130.0	188.0	041M63A401
Phenanthrene	N/A	0	1	5	47.0	47.0	172.0	041M63A401
Pyrene	N/A	0	2	5	24.0	120.0	187.0	041M63A401
Total PAHs	N/A	0	2	5	254.0	658.50	2,070.0	041M63A401
Pesticides and PCBs (g/kg)								
Aroclor-1260	N/A	0	4	5	1.10	260.0	56.0	041M63A301
Total PCBs	N/A	0	4	5	10.20	273.20	64.80	041M63A301
Dieldrin	N/A	0	1	5	4.10	4.10	0.909	041M63A301
Endosulfan sulfate	N/A	0	2	5	1.40	1.40	0.623	041M63A401
alpha-Chlordane	N/A	0	1	5	1.0	1.0	0.244	041M63A301
gamma-Chlordane	N/A	0	1	5	1.40	1.40	0.324	041M63A301
Total Chlordane	N/A	0	1	5	2.40	2.40	0.568	041M63A301

Table 13-1-3
Wetland 63A Phase II
Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Average Detection	Maximum Detection Location
Pesticides and PCBs (g/kg) - cont.								
Endrin	N/A	0	1	5	2.70	2.70	0.629	041M63A301
Total Endrin	N/A	0	1	5	3.080	3.080	0.883	041M63A301
delta-BHC	N/A	0	1	5	0.240	0.240	0.10	041M63A201
gamma-BHC (Lindane)	N/A	0	1	5	0.210	0.210	0.094	041M63A201
Total BHC	N/A	0	1	5	0.560	0.560	0.319	041M63A201
4,4'-DDD	50.0	0	3	5	0.320	5.60	1.490	041M63A301
4,4'-DDE	40.0	0	1	5	0.950	0.950	0.295	041M63A201
4,4'-DDT	20.0	0	3	5	0.290	1.10	0.475	041M63A301
Total DDT	110.0	0	3	5	1.230	6.890	2.260	041M63A301
SVOCs (g/kg)								
Benzo(b)fluoranthene	N/A	0	1	5	120.0	120.0	186.0	041M63A401
Benzo(g,h,i)perylene	N/A	0	1	5	48.0	48.0	172.0	041M63A401
Benzo(k)fluoranthene	N/A	0	1	5	37.0	37.0	170.0	041M63A401
bis(2-Ethylhexyl)phthalate (BEHP)	N/A	0	2	5	99.0	130.0	1,630.0	041M63A401
Butylbenzylphthalate	N/A	0	3	5	22.0	1,400.0	379.0	041M63A301
Indeno(1,2,3-cd)pyrene	N/A	0	1	5	47.0	47.0	172.0	041M63A401

Notes:
g/kg = micrograms per kilogram
mg/kg = milligram per kilogram
N/A = Not Applicable

Table 13-1-4
Wetland 63A Phase II
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (g/L)								
Aluminum	2,927.50	0	1	1	2,080.0	2,080.0	2,080.0	041W63A201
Arsenic	3.6	1	1	1	5.0	5.0	5.0	041W63A201
Barium	9.43	1	1	1	53.3	53.3	53.3	041W63A201
Calcium	76,800.0	0	1	1	38,700.0	38,700.0	38,700.0	041W63A201
Copper	7.03	0	1	1	5.0	5.0	5.0	041W63A201
Iron	1,352.0	0	1	1	483.0	483.0	483.0	041W63A201
Lead	13.75	1	1	1	299.0	299.0	299.0	041W63A201
Magnesium	243,650.0	0	1	1	5,740.0	5,740.0	5,740.0	041W63A201
Manganese	12.15	1	1	1	28.3	28.3	28.3	041W63A201
Potassium	81,250.0	0	1	1	14,700.0	14,700.0	14,700.0	041W63A201
Selenium	2.9	1	1	1	8.0	8.0	8.0	041W63A201
Sodium	1,952,000.0	0	1	1	28,300.0	28,300.0	28,300.0	041W63A201
Vanadium	6.69	0	1	1	4.1	4.1	4.1	041W63A201
Zinc	12.88	1	1	1	19.3	19.3	19.3	041W63A201

Notes:
g/L = micrograms per liter
N/A = Not Applicable

Table 13-1-5
Wetland 63A Phase IV
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections		Range of Detections			
			Number Detected	Number Analyzed	Minimum Detection	Maximum Detection	Average Detection	Maximum Detection Location
Metals (g/L)								
Aluminum	2,927.5	0	1	1	25.0	25.0	25.0	041W63A202
Barium	9.43	1	1	1	61.0	61.0	61.0	041W63A202
Beryllium	0.82	0	1	1	0.44	0.44	0.44	041W63A202
Calcium	76,800.0	0	1	1	76,000.0	76,000.0	76,000.0	041W63A202
Copper	7.03	0	1	1	0.98	0.98	0.98	041W63A202
Iron	1,352.0	0	1	1	140.0	140.0	140.0	041W63A202
Magnesium	243,650.0	0	1	1	5,800.0	5,800.0	5,800.0	041W63A202
Manganese	12.15	1	1	1	15.0	15.0	15.0	041W63A202
Potassium	81,250.0	0	1	1	1,400.0	1,400.0	1,400.0	041W63A202
Sodium	1,952,000.0	0	1	1	14,000.0	14,000.0	14,000.0	041W63A202
Vanadium	6.69	0	1	1	1.7	1.7	1.7	041W63A202
Zinc	12.88	0	1	1	1.8	1.8	1.8	041W63A202

Notes:
g/L = micrograms per liter
N/A = Not Applicable

Table 13-1-6
Wetland 63A Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Metals (mg/kg)														
Aluminum	5	5			180	5,500	041M63A301	5,500			N/A		Yes	No SV
Antimony	1	5	0.065	0.325	0.290	0.29	041M63A401	0.29	J	12	2	0.024	No	Max Detect < SV
Arsenic	5	5			0.150	1.40	041M63A301	1.40		7	1, 2	0.193	No	Max Detect < SV
Barium	5	5			0.390	16.30	041M63A301	16.30	J		N/A		Yes	No SV
Beryllium	0	5	0.030	0.045			ND	0.045	U		N/A		Yes	No SV
Cadmium	**3**	**5**	**0.085**	**0.185**	**0.150**	**7.70**	**041M63A301**	**7.70**		**1**	**1**	**11.400**	**Yes**	**Max Detect > SV**
Calcium	5	5			1,170	4,040	041M63A401	4,040	J		N/A		Yes	No SV
Chromium	**5**	**5**			**0.510**	**92.50**	**041M63A301**	**92.50**		**52**	**1, 2**	**1.770**	**Yes**	**Max Detect > SV**
Cobalt	2	5	0.065	0.065	0.260	0.37	041M63A301	0.370	J		N/A		Yes	No SV
Copper	5	5			0.380	15.10	041M63A301	15.100		19	1, 2	0.807	No	Max Detect < SV
Cyanide (CN)	0	5	0.305	0.425			ND	0.425	U		N/A		Yes	No SV
Iron	5	5			293	5,000	041M63A301	5,000			N/A		Yes	No SV
Lead	**5**	**5**			**0.930**	**106.00**	**041M63A301**	**106.00**		**30**	**1, 2**	**3.510**	**Yes**	**Max Detect > SV**
Magnesium	5	5			100	278.00	041M63A301	278.00	J		N/A		Yes	No SV
Manganese	5	5			1.700	44.50	041M63A401	44.50			N/A		Yes	No SV
Mercury	**1**	**5**	**0.025**	**0.035**	**0.140**	**0.14**	**041M63A301**	**0.14**	**J**	**0**	**1, 2**	**1.080**	**Yes**	**Max Detect > SV**
Nickel	2	5	0.285	0.295	0.970	5.10	041M63A301	5.10		16	1, 2	0.321	No	Max Detect < SV
Potassium	5	5			22	76.40	041M63A301	76.40	J		N/A		Yes	No SV
Selenium	0	5	0.125	0.175			ND	0.175	UJ		N/A		Yes	No SV
Silver	1	5	0.160	0.175	0.460	0.46	041M63A301	0.460	J	1	1	0.628	No	Max Detect < SV
Sodium	5	5			33.800	884	041M63A201	884			N/A		Yes	No SV
Thallium	0	5	0.125	0.175			ND	0.175	U		N/A		Yes	No SV
Vanadium	5	5			0.550	14.40	041M63A301	14.40			N/A		Yes	No SV
Zinc	5	5			1.500	88.90	041M63A301	88.90		124	1, 2	0.717	No	Max Detect < SV
PAHs (g/kg)														
2-Methylnaphthalene	0	5	19.50	750			ND	750	U	20	1	37.10	No	TOC Normalized PAHs<TEC
Acenaphthene	0	5	9.50	360			ND	360	U	7	1	53.70	No	TOC Normalized PAHs<TEC
Acenaphthylene	0	5	19.50	750			ND	750	U	6	1	128.00	No	TOC Normalized PAHs<TEC
Anthracene	0	5	19.50	750			ND	750	U	47	1	16.00	No	TOC Normalized PAHs<TEC
Benzo(a)anthracene	1	5	19.50	750	63	63	041M63A401	63		75	1	0.842	No	TOC Normalized PAHs<TEC
Benzo(a)pyrene	1	5	19.50	750	72	72	041M63A401	72		89	1	0.811	No	TOC Normalized PAHs<TEC
Chrysene	1	5	19.50	750	74	74	041M63A401	74		108	1	0.685	No	TOC Normalized PAHs<TEC
Dibenz(a,h)anthracene	0	5	19.50	750			ND	750	U	6	1	121.00	No	TOC Normalized PAHs<TEC
Fluoranthene	**1**	**5**	**19.50**	**750**	**130**	**130**	**041M63A401**	**130**		**113**	**1**	**1.15**	No	TOC Normalized PAHs<TEC
Fluorene	0	5	9.50	360			ND	360	U	21	1	17.00	No	TOC Normalized PAHs<TEC
Naphthalene	0	5	19.50	750			ND	750	U	35	1	21.70	No	TOC Normalized PAHs<TEC
Phenanthrene	1	5	19.50	750	47	47	041M63A401	47	J	87	1	0.542	No	TOC Normalized PAHs<TEC
Pyrene	2	5	19.50	750	24	120	041M63A401	120		153	1	0.784	No	TOC Normalized PAHs<TEC
Total PAHs	2	5	234.00	8,970	254	659	041M63A401	659		1,684	1, 2	0.391	No	TOC Normalized PAHs<TEC
TOC Normalized PAHs	2	5	145.45	267.47	68.38	150.30	041M63A201	150.30		290	3	0.518	No	Max Detect < SV
PCBs (g/kg)														
Aroclor-1016	0	5	1.00	1.90			ND	1.9	U	21.6	1	0.09	No	Max SQL< SV
Aroclor-1221	0	5	1.95	3.70			ND	3.7	U	67.0	2	0.06	No	Max SQL< SV
Aroclor-1232	0	5	1.00	1.90			ND	1.9	U	21.6	1	0.09	No	Max SQL< SV
Aroclor-1242	0	5	1.00	1.90			ND	1.9	U	21.6	1	0.09	No	Max SQL< SV
Aroclor-1248	0	5	1.00	1.90			ND	1.9	U	21.6	1	0.09	No	Max SQL< SV
Aroclor-1254	0	5	1.00	1.90			ND	1.9	U	21.6	1	0.09	No	Max SQL< SV
Aroclor-1260	**4**	**5**	**1.00**	**1.00**	**1.10**	**260**	**041M63A501**	**260**		**21.6**	**1**	**12**	**Yes**	**Max Detect > SV**
Total PCBs	**4**	**5**	**7.95**	**7.95**	**10.20**	**273**	**041M63A501**	**273**		**21.6**	**1**	**13**	**Yes**	**Max Detect > SV**
Pesticides (g/kg)														
Aldrin	0	5	0.049	0.095			ND	0.095	U		N/A		Yes	No SV
Dieldrin	**1**	**5**	**0.100**	**0.130**	**4.10**	**4.10**	**041M63A301**	**4.100**	**J**	**0.716**	**1**	**5.730**	**Yes**	**Max Detect > SV**
Endosulfan I	0	5	0.049	0.095			ND	0.095	U		N/A		Yes	No SV
Endosulfan II	0	5	0.100	0.190			ND	0.190	U		N/A		Yes	No SV
Endosulfan sulfate	2	5	0.100	0.110	1.40	1.40	041M63A401	1.400	J		N/A		Yes	No SV
Heptachlor	0	5	0.049	0.095			ND	0.095	U		N/A		Yes	No SV
Heptachlor epoxide	0	5	0.049	0.095			ND	0.095	U		N/A		Yes	No SV
Methoxychlor	0	5	0.490	0.950			ND	0.950	U		N/A		Yes	No SV
Toxaphene	0	5	10.000	19.000			ND	19.000	U		N/A		Yes	No SV

Table 13-1-6
Wetland 63A Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Pesticides (g/kg) - cont.														
alpha-Chlordane	1	5	0.049	0.065	1.00	1.00	041M63A301	1.000	J	1.700	1	0.588	No	Max Detect < SV
gamma-Chlordane	1	5	0.049	0.065	1.40	1.40	041M63A301	1.400		1.700	1	0.824	No	Max Detect < SV
Total Chlordane	**1**	**5**	**0.098**	**0.130**	**2.40**	**2.40**	**041M63A301**	**2.400**		**1.700**	**1**	**1.410**	**Yes**	**Max Detect > SV**
Endrin	1	5	0.100	0.130	2.70	2.70	041M63A301	2.700	J	3.300	2	0.818	No	Max Detect < SV
Endrin aldehyde	0	5	0.100	0.190			ND	0.190	U	3.300	2	0.058	No	Max SQL< SV
Endrin ketone	0	5	0.100	0.190			ND	0.190	U	3.300	2	0.058	No	Max SQL< SV
Total Endrin	1	5	0.300	0.390	3.08	3.08	041M63A301	3.080		3.300	2	0.933	No	Max Detect < SV
alpha-BHC	0	5	0.049	0.095			ND	0.095	U		N/A		Yes	No SV
beta-BHC	0	5	0.049	0.095			ND	0.095	U	0.320	N/A	0.297	No	Max SQL< SV
delta-BHC	1	5	0.049	0.095	0.24	0.24	041M63A201	0.240	J	0.320	N/A	0.750	No	Max Detect < SV
gamma-BHC (Lindane)	1	5	0.049	0.095	0.21	0.21	041M63A201	0.210	J	0.320	1.000	0.656	No	Max Detect < SV
Total BHC	**1**	**5**	**0.196**	**0.380**	**0.56**	**0.56**	**041M63A201**	**0.560**		**0.320**	**2.000**	**1.750**	**Yes**	**Max Detect > SV**
4,4'-DDD	**3**	**5**	**0.100**	**0.105**	**0.32**	**5.60**	**041M63A301**	**5.600**	**DJ**	**1.220**	**1**	**4.590**	**Yes**	**Max Detect > SV**
4,4'-DDE	1	5	0.100	0.190	0.95	0.95	041M63A201	0.950		2.070	1	0.459	No	Max Detect < SV
4,4'-DDT	3	5	0.100	0.105	0.29	1.10	041M63A301	1.100	J	1.190	1	0.924	No	Max Detect < SV
Total DDT	**3**	**5**	**0.300**	**0**	**1.23**	**6.89**	**041M63A301**	**6.890**		**3.300**	**2**	**2.090**	**Yes**	**Max Detect > SV**
SVOCs (g/kg)														
1,2,4-Trichlorobenzene	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
1,2-Dichlorobenzene	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
1,3-Dichlorobenzene	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
1,4-Dichlorobenzene	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
2,4,5-Trichlorophenol	0	5	475	18,000			ND	18,000	U		N/A		Yes	No SV
2,4,6-Trichlorophenol	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
2,4-Dichlorophenol	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
2,4-Dimethylphenol	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
2,4-Dinitrophenol	0	5	475	18,000			ND	18,000	U		N/A		Yes	No SV
2,4-Dinitrotoluene	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
2,6-Dinitrotoluene	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
2-Chloronaphthalene	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
2-Chlorophenol	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	5	475	18,000			ND	18,000	U		N/A		Yes	No SV
2-Methylphenol (o-Cresol)	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
2-Nitroaniline	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
2-Nitrophenol	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
3,3'-Dichlorobenzidine	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
3-Nitroaniline	0	5	475	18,000			ND	18,000	U		N/A		Yes	No SV
4-Bromophenyl-phenylether	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
4-Chloro-3-methylphenol	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
4-Chloroaniline	0	5	195	7,500			ND	7,500	UJ		N/A		Yes	No SV
4-Chlorophenylphenyl ether	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
4-Methylphenol (p-Cresol)	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
4-Nitroaniline	0	5	475	18,000			ND	18,000	U		N/A		Yes	No SV
4-Nitrophenol	0	5	475	18,000			ND	18,000	U		N/A		Yes	No SV
Benzo(b)fluoranthene	1	5	19.5	750	120	120	041M63A401	120			N/A		No	TOC Normalized PAHs<TEC
Benzo(g,h,i)perylene	1	5	19.5	750	48	48	041M63A401	48	J		N/A		No	TOC Normalized PAHs<TEC
Benzo(k)fluoranthene	1	5	19.5	750	37	37	041M63A401	37	J		N/A		No	TOC Normalized PAHs<TEC
bis(2-Chloroethoxy)methane	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
bis(2-Chloroethyl)ether	0	5	19.5	750			ND	750	U		N/A		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	2	5	190	7,500	99	130	041M63A401	130	J	182	1, 2	0.71	No	Max Detect < SV
Butylbenzylphthalate	**3**	**5**	**200**	**210**	**22**	**1,400**	**041M63A301**	**1,400**	**J**	**182**	**1, 2**	**7.69**	**Yes**	**Max Detect > SV**
Carbazole	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
Dibenzofuran	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
Diethylphthalate	0	5	195	7,500			ND	7,500	U	182	1, 2	41.20	Yes	Max SQL > SV
Dimethylphthalate	0	5	195	7,500			ND	7,500	U	182	1, 2	41.20	Yes	Max SQL > SV
Di-n-butylphthalate	0	5	195	7,500			ND	7,500	U	182	1, 2	41.20	Yes	Max SQL > SV
Di-n-octylphthalate	0	5	195	7,500			ND	7,500	U	182	1, 2	41.20	Yes	Max SQL > SV

Table 13-1-6
Wetland 63A Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
SVOCs (g/kg) - cont.														
Hexachlorobenzene	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
Hexachlorobutadiene	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
Hexachlorocyclopentadiene	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
Hexachloroethane	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
Indeno(1,2,3-cd)pyrene	1	5	20	750	47	47	041M63A401	47	J		N/A		No	TOC Normalized PAHs<TEC
Isophorone	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
Nitrobenzene	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
N-Nitroso-di-n-propylamine	0	5	19.5	750			ND	750	U		N/A		Yes	No SV
N-Nitrosodiphenylamine	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
Pentachlorophenol	0	5	475	18,000			ND	18,000	U		N/A		Yes	No SV
Phenol	0	5	195	7,500			ND	7,500	U		N/A		Yes	No SV
VOCs (g/kg)														
1,1,1-Trichloroethane	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
1,1,2,2-Tetrachloroethane	0	5	6	9.5			ND	9.50	UJ		N/A		Yes	No SV
1,1,2-Trichloroethane	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
1,1-Dichloroethane	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
1,1-Dichloroethene	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
1,2-Dichloroethane	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
1,2-Dichloroethene (total)	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
1,2-Dichloropropane	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
2-Butanone (MEK)	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
2-Hexanone	0	5	6	9.5			ND	9.50	UJ		N/A		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
Acetone	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
Benzene	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
Bromodichloromethane	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
Bromoform	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
Bromomethane	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
Carbon disulfide	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
Carbon tetrachloride	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
Chlorobenzene	0	5	6	9.5			ND	9.50	UJ		N/A		Yes	No SV
Chloroethane	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
Chloroform	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
Chloromethane	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
cis-1,3-Dichloropropene	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
Dibromochloromethane	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
Ethylbenzene	0	5	6	9.5			ND	9.50	UJ		N/A		Yes	No SV
Methylene chloride	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
Styrene	0	5	6	9.5			ND	9.50	UJ		N/A		Yes	No SV
Tetrachloroethene	0	5	6	9.5			ND	9.50	UJ		N/A		Yes	No SV
Toluene	0	5	6	9.5			ND	9.50	UJ		N/A		Yes	No SV
trans-1,3-Dichloropropene	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
Trichloroethene	0	5	6	9.5			ND	9.50	U		N/A		Yes	No SV
Vinyl chloride	0	5	2	3.0			ND	3.00	U		N/A		Yes	No SV
Xylene (Total)	0	5	6	9.5			ND	9.50	UJ		N/A		Yes	No SV

Notes:

Sources for Screening Values:
SV = Screening Value
1 = USEPA Region 4 Screening Value. Detailed explanation for SVs provided in Section 8.0.
2 = FDEP Threshold effects level

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available.
U or ND = Not Detected at or above the SQL
J = Estimated value
SHQ = Screening Hazard Quotient

D = Diluted Result
mg/kg = milligrams per kilograms
g/kg = micrograms per kilograms
mg/kg oc = milligrams per kilograms - organic carbon
UJ = Not detected. SQL is estimated.
Parameters in bold were detected and exceeded screening values.

Table 13-1-7
Wetland 63A Phase II
Sediment COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	4,4'-DDD	Butylbenzylphthalate	None
Barium	Dieldrin		
Cadmium	Endosulfan sulfate		
Calcium	Total BHC		
Chromium	Total Chlordane		
Cobalt	Total DDT		
Iron	Aroclor-1260		
Lead	Total PCBs		
Magnesium			
Manganese			
Mercury			
Potassium			
Sodium			
Vanadium			
		Not Detected Parameters	
Beryllium	Aldrin	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane
Cyanide (CN)	alpha-BHC	1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
Selenium	Endosulfan I	1,3-Dichlorobenzene	1,1,2-Trichloroethane
Thallium	Endosulfan II	1,4-Dichlorobenzene	1,1-Dichloroethane
	Heptachlor	2,2'-oxybis(1-Chloropropane)/bis(2-chlor	1,1-Dichloroethene
	Heptachlor epoxide	2,4,5-Trichlorophenol	1,2-Dichloroethane
	Methoxychlor	2,4,6-Trichlorophenol	1,2-Dichloroethene (total)
	Toxaphene	2,4-Dichlorophenol	1,2-Dichloropropane
		2,4-Dimethylphenol	2-Butanone (MEK)
		2,4-Dinitrophenol	2-Hexanone
		2,4-Dinitrotoluene	4-Methyl-2-Pentanone (MIBK)
		2,6-Dinitrotoluene	Acetone
		2-Chloronaphthalene	Benzene
		2-Chlorophenol	Bromodichloromethane
		2-Methyl-4,6-Dinitrophenol	Bromoform
		2-Methylphenol (o-Cresol)	Bromomethane
		2-Nitroaniline	Carbon disulfide
		2-Nitrophenol	Carbon tetrachloride
		3,3'-Dichlorobenzidine	Chlorobenzene
		3-Nitroaniline	Chloroethane
		4-Bromophenyl-phenylether	Chloroform
		4-Chloro-3-methylphenol	Chloromethane
		4-Chloroaniline	cis-1,3-Dichloropropene
		4-Chlorophenylphenyl ether	Dibromochloromethane
		4-Methylphenol (p-Cresol)	Ethylbenzene
		4-Nitroaniline	Methylene chloride
		4-Nitrophenol	Styrene
		bis(2-Chloroethoxy)methane	Tetrachloroethene
		bis(2-Chloroethyl)ether	Toluene
		Carbazole	trans-1,3-Dichloropropene
		Dibenzofuran	Trichloroethene
		Diethylphthalate	Vinyl chloride
		Dimethylphthalate	Xylene (Total)
		Di-n-butylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	

Table 13-1-8
Wetland 63A Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
Metals (mg/kg)																							
Aluminum	5	5				2,110	180	5,500	5,500		041M63A301			NA					0	4,274	2	Yes	EPC > RC and no RV
Barium	5	5				5.080	0.390	16.30	16.30	J	041M63A301			NA					0	3.84	2	Yes	EPC > RC and no RV
Beryllium	0	5	0.036	0.030	0.045	0.036			0.05	U	ND			NA					0	0.13	0	No	Parameter Not Detected
Cadmium	**3**	**5**	**0.135**	**0.085**	**0.185**	**1.760**	**0.150**	**7.70**	**7.70**		**041M63A301**	**1**	**4**	**PEL**	**11.400**	**2.610**	**1.830**	**0.419**	**1**	**0.39**	**2**	**Yes**	**EPC > RV and RC**
Calcium	5	5				2,300	1,170	4,040	4,040	J	041M63A401			NA					0	1,979	3	No	Essential Nutrient
Chromium	5	5				20.700	0.510	92.50	92.50		041M63A301	52	160	PEL	1.770	0.395	0.578	0.129	0	13.10	1	No	EPC > RC, but < RV
Cobalt	2	5	0.065	0.065	0.065	0.165	0.260	0.37	0.37	J	041M63A301			NA					0	0.91	0	No	EPC < RC
Cyanide (CN)	0	5	0.337	0.305	0.425	0.337			0.43	U	ND			NA					0	1.29	0	No	Parameter Not Detected
Iron	5	5				1,810	293	5,000	5,000		041M63A301			NA					0	2,684	2	Yes	EPC > RC and no RV
Lead	5	5				28.80	0.93	106	106		041M63A301	30	112	PEL	3.510	0.955	0.946	0.258	0	21.04	2	No	EPC > RC, but < RV
Magnesium	5	5				172	100	278	278	J	041M63A301			NA					0	2,944	0	No	EPC < RC
Manganese	5	5				13.60	1.70	44.50	44.50		041M63A401			NA					0	9.81	2	Yes	EPC > RC and no RV
Mercury	1	5	0.028	0.025	0.035	0.05	0.14	0.14	0.14	J	041M63A301	0	1	PEL	1.080	0.385	0.201	0.072	0	0.11	1	No	EPC > RC, but < RV
Potassium	5	5				49.70	22.00	76.40	76.40	J	041M63A301			NA					0	900	0	No	EPC < RC
Selenium	0	5	0.140	0.125	0.175	0.14			0.18	UJ	ND			NA					0	0.66	0	No	Parameter Not Detected
Sodium	5	5				324	33.80	884	884		041M63A201			NA					0	11,440	0	No	EPC < RC
Thallium	0	5	0.140	0.125	0.175	0.14			0.18	U	ND			NA					0	0.39	0	No	Parameter Not Detected
Vanadium	5	5				4.77	0.55	653.62	293.27		041M63A301			NA					0	8.59	1	Yes	EPC > RC and no RV
PCBs (g/kg)																							
Aroclor-1016	0	5	1.27	1.00	1.90	1.27			1.90	U	ND	22	189	PEL	0.088	0.059	0.010	0.007	0		0	No	Parameter Not Detected
Aroclor-1221	0	5	2.48	1.95	3.70	2.48			3.70	U	ND	67	189	PEL	0.055	0.037	0.020	0.013	0		0	No	Parameter Not Detected
Aroclor-1232	0	5	1.27	1.00	1.90	1.27			1.90	U	ND	22	189	PEL	0.088	0.059	0.010	0.007	0		0	No	Parameter Not Detected
Aroclor-1242	0	5	1.27	1.00	1.90	1.27			1.90	U	ND	22	189	PEL	0.088	0.059	0.010	0.007	0		0	No	Parameter Not Detected
Aroclor-1248	0	5	1.27	1.00	1.90	1.27			1.90	U	ND	22	189	PEL	0.088	0.059	0.010	0.007	0		0	No	Parameter Not Detected
Aroclor-1254	0	5	1.27	1.00	1.90	1.27			1.90	U	ND	22	189	PEL	0.088	0.059	0.010	0.007	0		0	No	Parameter Not Detected
Aroclor-1260	**4**	**5**	**1.00**	**1.00**	**1.00**	**56.00**	**1.10**	**260**	**260**		**041M63A501**	**22**	**189**	**PEL**	**12.000**	**2.590**	**1.380**	**0.296**	**1**		**0**	**Yes**	**RV HQ > 1 and no RC**
Total PCBs	**4**	**5**	**7.95**	**7.95**	**7.95**	**64.80**	**10.20**	**273**	**273**		**041M63A501**	**22**	**189**	**PEL**	**12.600**	**3.000**	**1.450**	**0.343**	**1**		**0**	**Yes**	**RV HQ > 1 and no RC**
Pesticides (g/kg)																							
Aldrin	0	5	0.063	0.049	0.095	0.063			0.10	U	ND			NA					0		0	No	Parameter Not Detected
Dieldrin	1	5	0.111	0.100	0.130	0.909	4.10	4.10	4.10	J	041M63A301	1	4	PEL	5.730	1.270	0.953	0.211	0		0	No	RV HQ <1 and no RC
Endosulfan I	0	5	0.063	0.049	0.095	0.063			0.10	U	ND			NA					0		0	No	Parameter Not Detected
Endosulfan II	0	5	0.127	0.100	0.190	0.127			0.19	U	ND			NA					0		0	No	Parameter Not Detected
Endosulfan sulfate	2	5	0.105	0.100	0.110	0.623	1.40	1.40	1.40	J	041M63A401			NA					0		0	Yes	No SV, no RV, and no RC
Heptachlor	0	5	0.063	0.049	0.095	0.063			0.10	U	ND			NA					0		0	No	Parameter Not Detected
Heptachlor epoxide	0	5	0.063	0.049	0.095	0.063			0.10	U	ND			NA					0		0	No	Parameter Not Detected
Methoxychlor	0	5	0.628	0.490	0.950	0.628			0.95	U	ND			NA					0		0	No	Parameter Not Detected
Toxaphene	0	5	12.800	10.000	19.000	12.800			19.00	U	ND			NA					0		0	No	Parameter Not Detected
alpha-Chlordane	1	5	0.055	0.049	0.065	0.244	1.00	1.00	1.00	J	041M63A301	2	5	PEL	0.588	0.143	0.209	0.051	0		0	No	RV HQ <1 and no RC
gamma-Chlordane	1	5	0.055	0.049	0.065	0.324	1.40	1.40	1.40		041M63A301	2	5	PEL	0.824	0.190	0.292	0.068	0		0	No	RV HQ <1 and no RC
Total Chlordane	1	5	0.110	0.098	0.130	0.568	2.40	2.40	2.40		041M63A301	2	5	PEL	1.410	0.334	0.501	0.118	0		0	No	RV HQ <1 and no RC
alpha-BHC	0	5	0.063	0.049	0.095	0.063			0.10	U	ND		1	PEL			0.096	0.063	0		0	No	Parameter Not Detected
beta-BHC	0	5	0.063	0.049	0.095	0.063			0.10	U	ND	0	1	PEL	0.297	0.196	0.096	0.063	0		0	No	Parameter Not Detected
delta-BHC	1	5	0.065	0.049	0.095	0.100	0.24	0.24	0.24	J	041M63A201	0	1	PEL	0.750	0.312	0.242	0.101	0		0	No	RV HQ <1 and no RC
gamma-BHC (Lindane)	1	5	0.065	0.049	0.095	0.094	0.21	0.21	0.21	J	041M63A201	0	1	PEL	0.656	0.293	0.212	0.095	0		0	No	RV HQ <1 and no RC
Total BHC	1	5	0.259	0.196	0.380	0.319	0.56	0.56	0.56		041M63A201	0	1	PEL	1.750	0.997	0.566	0.322	0		0	No	RV HQ <1 and no RC
4,4'-DDD	3	5	0.103	0.100	0.105	1.490	0.32	5.60	5.60	DJ	041M63A301	1	8	PEL	4.590	1.220	0.717	0.190	0	50	0	No	EPC < RC and RV
4,4'-DDE	1	5	0.131	0.100	0.190	0.295	0.95	0.95	0.95		041M63A201	2	374	PEL	0.459	0.143	0.003	0.001	0	40	0	No	EPC < RC and RV
4,4'-DDT	3	5	0.103	0.100	0.105	0.475	0.29	1.10	1.10	J	041M63A301	1	5	PEL	0.924	0.399	0.231	0.100	0	20	0	No	EPC < RC and RV
Total DDT	3	5	0.308	0.300	0.315	2.260	1.23	6.89	6.89		041M63A301	3	52	PEL	2.090	0.683	0.133	0.044	0	110	0	No	EPC < RC and RV
SVOCs (g/kg)																							
1,2,4-Trichlorobenzene	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichlorobenzene	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
1,4-Dichlorobenzene	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	5	4,010	475	18,000	4,010			18,000	U	ND			NA					0		0	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dichlorophenol	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dimethylphenol	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrophenol	0	5	4,010	475	18,000	4,010			18,000	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrotoluene	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
2,6-Dinitrotoluene	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
2-Chloronaphthalene	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
2-Chlorophenol	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	5	4,010	475	18,000	4,010			18,000	U	ND			NA					0		0	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
2-Nitroaniline	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
2-Nitrophenol	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
3-Nitroaniline	0	5	4,010	475	18,000	4,010			18,000	U	ND			NA					0		0	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
4-Chloroaniline	0	5	1,670	195	7,500	1,670			7,500	UJ	ND			NA					0		0	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
4-Nitroaniline	0	5	4,010	475	18,000	4,010			18,000	U	ND			NA					0		0	No	Parameter Not Detected
4-Nitrophenol	0	5	4,010	475	18,000	4,010			18,000	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	5	167	20	750	167			750	U	ND			NA					0		0	No	Parameter Not Detected
Butylbenzylphthalate	3	5	205	200	210	379	22	1,400	1,400	J	041M63A301	182	2,647	PEL	7.69	2.08	0.53	0.143	0		0	No	RV HQ <1 and no RC
Carbazole	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
Dibenzofuran	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected

Table 13-1-8
Wetland 63A Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
SVOCs (g/kg) - cont																							
Diethylphthalate	0	5	1,670	195	7,500	1,670			7,500	U	ND	182	2,647	PEL	41.20	9.19	2.83	0.632	0		0	No	Parameter Not Detected Max SQL > RV
Dimethylphthalate	0	5	1,670	195	7,500	1,670			7,500	U	ND	182	2,647	PEL	41.20	9.19	2.83	0.632	0		0	No	Parameter Not Detected Max SQL > RV
Di-n-butylphthalate	0	5	1,670	195	7,500	1,670			7,500	U	ND	182	2,647	PEL	41.20	9.19	2.83	0.632	0		0	No	Parameter Not Detected Max SQL > RV
Di-n-octylphthalate	0	5	1,670	195	7,500	1,670			7,500	U	ND	182	2,647	PEL	41.20	9.19	2.83	0.632	0		0	No	Parameter Not Detected Max SQL > RV
Hexachlorobenzene	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
Hexachlorobutadiene	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
Hexachloroethane	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
Isophorone	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
Nitrobenzene	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	5	167	20	750	167			750	U	ND			NA					0		0	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
Pentachlorophenol	0	5	4,010	475	18,000	4,010			18,000	U	ND			NA					0		0	No	Parameter Not Detected
Phenol	0	5	1,670	195	7,500	1,670			7,500	U	ND			NA					0		0	No	Parameter Not Detected
VOCs (g/kg)																							
1,1,1-Trichloroethane	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1,2,2-Tetrachloroethane	0	5	7.40	6	9.5	7.4			9.5	UJ	ND			NA					0		0	No	Parameter Not Detected
1,1,2-Trichloroethane	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1-Dichloroethane	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1-Dichloroethene	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloroethane	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloroethene (total)	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloropropane	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
2-Butanone (MEK)	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
2-Hexanone	0	5	7.40	6	9.5	7.4			9.5	UJ	ND			NA					0		0	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
Acetone	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
Benzene	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
Bromodichloromethane	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
Bromoform	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
Bromomethane	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
Carbon disulfide	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
Carbon tetrachloride	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
Chlorobenzene	0	5	7.40	6	9.5	7.4			9.5	UJ	ND			NA					0		0	No	Parameter Not Detected
Chloroethane	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
Chloroform	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
Chloromethane	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
Dibromochloromethane	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
Ethylbenzene	0	5	7.40	6	9.5	7.4			9.5	UJ	ND			NA					0		0	No	Parameter Not Detected
Methylene chloride	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
Styrene	0	5	7.40	6	9.5	7.4			9.5	UJ	ND			NA					0		0	No	Parameter Not Detected
Tetrachloroethene	0	5	7.40	6	9.5	7.4			9.5	UJ	ND			NA					0		0	No	Parameter Not Detected
Toluene	0	5	7.40	6	9.5	7.4			9.5	UJ	ND			NA					0		0	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
Trichloroethene	0	5	7.40	6	9.5	7.4			9.5	U	ND			NA					0		0	No	Parameter Not Detected
Vinyl chloride	0	5	2.30	2	3.0	2.3			3.0	U	ND			NA					0		0	No	Parameter Not Detected
Xylene (Total)	0	5	7.40	6	9.5	7.4			9.5	UJ	ND			NA					0		0	No	Parameter Not Detected

Notes:

Sources for Refinement Values (RVs):
PEL = FDEP Probable Effects Level
MEC = Swartz Midrange Effect Concentration

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result
Parameters in bold were detected and exceeded screening values.

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8)
RV = Refinement value (detailed explanation of RVs provided in Section 8)
HQ = Hazard Quotient.
PEL = Probable effects level.

N/R = No refinement value available.
N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the maximum detections
NAS Pensacola basewide levels used as reference values for 4,4'-DDT, 4,4'-DDD, 4,4'-DDE and total DDT

Table 13-1-9
Wetland 63A Phase II
Sediment COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	Endosulfan sulfate	None	None
Barium	Aroclor-1260		
Cadmium	Total PCBs		
Iron			
Manganese			
Vanadium			

Table 13-1-10
Wetland 63A Phase II
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M63A101	1/18/1996	mg/kg	0.22	J	Arsenic	8.2	70	0.00
041M63A101	1/18/1996	mg/kg	0.085	U	Cadmium	1.2	9.6	0.01
041M63A101	1/18/1996	mg/kg	0.51	J	Chromium	81	370	0.00
041M63A101	1/18/1996	mg/kg	0.38	J	Copper	34	270	0.00
041M63A101	1/18/1996	mg/kg	0.93		Lead	46.7	218	0.00
041M63A101	1/18/1996	mg/kg	0.025	U	Mercury	0.15	0.71	0.04
041M63A101	1/18/1996	mg/kg	0.285	U	Nickel	20.9	51.6	0.01
041M63A101	1/18/1996	mg/kg	0.16	U	Silver	1	3.7	0.04
041M63A101	1/18/1996	mg/kg	1.5		Zinc	150	410	0.00
041M63A101	1/18/1996	g/kg	0.1	U	4,4'-DDE	2.2	27	0.00
041M63A101	1/18/1996	g/kg	0.1	U	4,4'-DDT	1.58	46.1	0.00
041M63A101	1/18/1996	g/kg	7.95	U	Total PCBs	22.7	180	0.04
041M63A101	1/18/1996	g/kg	19.5	U	2-Methylnaphthalene	70	670	0.03
041M63A101	1/18/1996	g/kg	9.5	U	Acenaphthene	16	500	0.02
041M63A101	1/18/1996	g/kg	19.5	U	Acenaphthylene	44	640	0.03
041M63A101	1/18/1996	g/kg	19.5	U	Anthracene	85.3	1,100	0.02
041M63A101	1/18/1996	g/kg	19.5	U	Benzo(a)anthracene	261	1,600	0.01
041M63A101	1/18/1996	g/kg	19.5	U	Benzo(a)pyrene	430	1,600	0.01
041M63A101	1/18/1996	g/kg	19.5	U	Chrysene	384	2,800	0.01
041M63A101	1/18/1996	g/kg	19.5	U	Dibenz(a,h)anthracene	63.4	260	0.08
041M63A101	1/18/1996	g/kg	19.5	U	Fluoranthene	600	5,100	0.00
041M63A101	1/18/1996	g/kg	9.5	U	Fluorene	19	540	0.02
041M63A101	1/18/1996	g/kg	19.5	U	Naphthalene	160	2,100	0.01
041M63A101	1/18/1996	g/kg	19.5	U	Phenanthrene	240	1,500	0.01
041M63A101	1/18/1996	g/kg	19.5	U	Pyrene	665	2,600	0.01
041M63A101	1/18/1996				ERM Quotient Sum			0.41
041M63A101	1/18/1996				Mean ERM Quotient			0.02
041M63A101	1/18/1996				Mean ERM Quotient without ND			0.00
041M63A101	1/18/1996				Mean ERM Quotient Category			1
041M63A201	1/18/1996	mg/kg	0.15	J	Arsenic	8.2	70	0.00
041M63A201	1/18/1996	mg/kg	0.185	U	Cadmium	1.2	9.6	0.02
041M63A201	1/18/1996	mg/kg	2.2		Chromium	81	370	0.01
041M63A201	1/18/1996	mg/kg	1.2	J	Copper	34	270	0.00
041M63A201	1/18/1996	mg/kg	3.1		Lead	46.7	218	0.01
041M63A201	1/18/1996	mg/kg	0.025	U	Mercury	0.15	0.71	0.04
041M63A201	1/18/1996	mg/kg	0.29	U	Nickel	20.9	51.6	0.01
041M63A201	1/18/1996	mg/kg	0.16	U	Silver	1	3.7	0.04
041M63A201	1/18/1996	mg/kg	4.9		Zinc	150	410	0.01
041M63A201	1/18/1996	g/kg	0.95		4,4'-DDE	2.2	27	0.04
041M63A201	1/18/1996	g/kg	0.29	J	4,4'-DDT	1.58	46.1	0.01
041M63A201	1/18/1996	g/kg	21.6		Total PCBs	22.7	180	0.12
041M63A201	1/18/1996	g/kg	21	U	2-Methylnaphthalene	70	670	0.03
041M63A201	1/18/1996	g/kg	10	U	Acenaphthene	16	500	0.02
041M63A201	1/18/1996	g/kg	21	U	Acenaphthylene	44	640	0.03
041M63A201	1/18/1996	g/kg	21	U	Anthracene	85.3	1,100	0.02
041M63A201	1/18/1996	g/kg	21	U	Benzo(a)anthracene	261	1,600	0.01
041M63A201	1/18/1996	g/kg	21	U	Benzo(a)pyrene	430	1,600	0.01
041M63A201	1/18/1996	g/kg	21	U	Chrysene	384	2,800	0.01
041M63A201	1/18/1996	g/kg	21	U	Dibenz(a,h)anthracene	63.4	260	0.08
041M63A201	1/18/1996	g/kg	21	U	Fluoranthene	600	5,100	0.00
041M63A201	1/18/1996	g/kg	10	U	Fluorene	19	540	0.02
041M63A201	1/18/1996	g/kg	21	U	Naphthalene	160	2,100	0.01
041M63A201	1/18/1996	g/kg	21	U	Phenanthrene	240	1,500	0.01
041M63A201	1/18/1996	g/kg	24	J	Pyrene	665	2,600	0.01
041M63A201	1/18/1996				ERM Quotient Sum			0.58
041M63A201	1/18/1996				Mean ERM Quotient			0.02
041M63A201	1/18/1996				Mean ERM Quotient without ND			0.01
041M63A201	1/18/1996				Mean ERM Quotient Category			1
041M63A301	1/18/1996	mg/kg	1.4		Arsenic	8.2	70	0.02
041M63A301	1/18/1996	mg/kg	7.7		Cadmium	1.2	9.6	0.80
041M63A301	1/18/1996	mg/kg	92.5		Chromium	81	370	0.25
041M63A301	1/18/1996	mg/kg	15.1		Copper	34	270	0.06
041M63A301	1/18/1996	mg/kg	106		Lead	46.7	218	0.49
041M63A301	1/18/1996	mg/kg	0.14	J	Mercury	0.15	0.71	0.20
041M63A301	1/18/1996	mg/kg	5.1		Nickel	20.9	51.6	0.10
041M63A301	1/18/1996	mg/kg	0.46	J	Silver	1	3.7	0.12
041M63A301	1/18/1996	mg/kg	88.9		Zinc	150	410	0.22
041M63A301	1/18/1996	g/kg	0.19	U	4,4'-DDE	2.2	27	0.01
041M63A301	1/18/1996	g/kg	1.1	J	4,4'-DDT	1.58	46.1	0.02
041M63A301	**1/18/1996**	**g/kg**	**273.2**		**Total PCBs**	**22.7**	**180**	**1.52**
041M63A301	1/18/1996	g/kg	750	U	2-Methylnaphthalene	70	670	1.12
041M63A301	1/18/1996	g/kg	360	U	Acenaphthene	16	500	0.72
041M63A301	1/18/1996	g/kg	750	U	Acenaphthylene	44	640	1.17
041M63A301	1/18/1996	g/kg	750	U	Anthracene	85.3	1,100	0.68
041M63A301	1/18/1996	g/kg	750	U	Benzo(a)anthracene	261	1,600	0.47
041M63A301	1/18/1996	g/kg	750	U	Benzo(a)pyrene	430	1,600	0.47
041M63A301	1/18/1996	g/kg	750	U	Chrysene	384	2,800	0.27
041M63A301	1/18/1996	g/kg	750	U	Dibenz(a,h)anthracene	63.4	260	2.88
041M63A301	1/18/1996	g/kg	750	U	Fluoranthene	600	5,100	0.15
041M63A301	1/18/1996	g/kg	360	U	Fluorene	19	540	0.67
041M63A301	1/18/1996	g/kg	750	U	Naphthalene	160	2,100	0.36
041M63A301	1/18/1996	g/kg	750	U	Phenanthrene	240	1,500	0.50
041M63A301	1/18/1996	g/kg	750	U	Pyrene	665	2,600	0.29
041M63A301	1/18/1996				ERM Quotient Sum			13.54
041M63A301	1/18/1996				Mean ERM Quotient			0.54
041M63A301	1/18/1996				Mean ERM Quotient without ND			0.15
041M63A301	1/18/1996				Mean ERM Quotient Category			2

Table 13-1-10
Wetland 63A Phase II
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M63A401	1/18/1996	mg/kg	1.3		Arsenic	8.2	70	0.02
041M63A401	1/18/1996	mg/kg	0.7		Cadmium	1.2	9.6	0.07
041M63A401	1/18/1996	mg/kg	6.2		Chromium	81	370	0.02
041M63A401	1/18/1996	mg/kg	4		Copper	34	270	0.01
041M63A401	1/18/1996	mg/kg	32.1		Lead	46.7	218	0.15
041M63A401	1/18/1996	mg/kg	0.035	U	Mercury	0.15	0.71	0.05
041M63A401	1/18/1996	mg/kg	0.97	J	Nickel	20.9	51.6	0.02
041M63A401	1/18/1996	mg/kg	0.175	U	Silver	1	3.7	0.05
041M63A401	1/18/1996	mg/kg	25.4		Zinc	150	410	0.06
041M63A401	1/18/1996	g/kg	0.13	UJ	4,4'-DDE	2.2	27	0.00
041M63A401	1/18/1996	g/kg	0.78	J	4,4'-DDT	1.58	46.1	0.02
041M63A401	1/18/1996	g/kg	10.2		Total PCBs	22.7	180	0.06
041M63A401	1/18/1996	g/kg	25.5	U	2-Methylnaphthalene	70	670	0.04
041M63A401	1/18/1996	g/kg	12.5	U	Acenaphthene	16	500	0.03
041M63A401	1/18/1996	g/kg	25.5	U	Acenaphthylene	44	640	0.04
041M63A401	1/18/1996	g/kg	25.5	U	Anthracene	85.3	1,100	0.02
041M63A401	1/18/1996	g/kg	63		Benzo(a)anthracene	261	1,600	0.04
041M63A401	1/18/1996	g/kg	72		Benzo(a)pyrene	430	1,600	0.05
041M63A401	1/18/1996	g/kg	74		Chrysene	384	2,800	0.03
041M63A401	1/18/1996	g/kg	25.5	U	Dibenz(a,h)anthracene	63.4	260	0.10
041M63A401	1/18/1996	g/kg	130		Fluoranthene	600	5,100	0.03
041M63A401	1/18/1996	g/kg	12.5	U	Fluorene	19	540	0.02
041M63A401	1/18/1996	g/kg	25.5	U	Naphthalene	160	2,100	0.01
041M63A401	1/18/1996	g/kg	47	J	Phenanthrene	240	1,500	0.03
041M63A401	1/18/1996	g/kg	120		Pyrene	665	2,600	0.05
041M63A401	1/18/1996				ERM Quotient Sum			1
041M63A401	1/18/1996				Mean ERM Quotient			0.04
041M63A401	1/18/1996				Mean ERM Quotient without ND			0.03
041M63A401	1/18/1996				Mean ERM Quotient Category			1
041M63A501	1/18/1996	mg/kg	0.19	J	Arsenic	8.2	70	0.00
041M63A501	1/18/1996	mg/kg	0.15	J	Cadmium	1.2	9.6	0.02
041M63A501	1/18/1996	mg/kg	2		Chromium	81	370	0.01
041M63A501	1/18/1996	mg/kg	3.2		Copper	34	270	0.01
041M63A501	1/18/1996	mg/kg	2.1		Lead	46.7	218	0.01
041M63A501	1/18/1996	mg/kg	0.025	U	Mercury	0.15	0.71	0.04
041M63A501	1/18/1996	mg/kg	0.295	U	Nickel	20.9	51.6	0.01
041M63A501	1/18/1996	mg/kg	0.165	U	Silver	1	3.7	0.04
041M63A501	1/18/1996	mg/kg	9.5		Zinc	150	410	0.02
041M63A501	1/18/1996	g/kg	0.105	U	4,4'-DDE	2.2	27	0.00
041M63A501	1/18/1996	g/kg	0.105	U	4,4'-DDT	1.58	46.1	0.00
041M63A501	1/18/1996	g/kg	11.1		Total PCBs	22.7	180	0.06
041M63A501	1/18/1996	g/kg	20	U	2-Methylnaphthalene	70	670	0.03
041M63A501	1/18/1996	g/kg	10	U	Acenaphthene	16	500	0.02
041M63A501	1/18/1996	g/kg	20	U	Acenaphthylene	44	640	0.03
041M63A501	1/18/1996	g/kg	20	U	Anthracene	85.3	1,100	0.02
041M63A501	1/18/1996	g/kg	20	U	Benzo(a)anthracene	261	1,600	0.01
041M63A501	1/18/1996	g/kg	20	U	Benzo(a)pyrene	430	1,600	0.01
041M63A501	1/18/1996	g/kg	20	U	Chrysene	384	2,800	0.01
041M63A501	1/18/1996	g/kg	20	U	Dibenz(a,h)anthracene	63.4	260	0.08
041M63A501	1/18/1996	g/kg	20	U	Fluoranthene	600	5,100	0.00
041M63A501	1/18/1996	g/kg	10	U	Fluorene	19	540	0.02
041M63A501	1/18/1996	g/kg	20	U	Naphthalene	160	2,100	0.01
041M63A501	1/18/1996	g/kg	20	U	Phenanthrene	240	1,500	0.01
041M63A501	1/18/1996	g/kg	20	U	Pyrene	665	2,600	0.01
041M63A501	1/18/1996				ERM Quotient Sum			0.48
041M63A501	1/18/1996				Mean ERM Quotient			0.02
041M63A501	1/18/1996				Mean ERM Quotient without ND			0.01
041M63A501	1/18/1996				Mean ERM Quotient Category			1

Notes:
ERL = Effects Range Low
ERM = Effects Range Median
mg/kg = milligrams per kilogram
g/kg = micrograms per kilogram
U = not detected at or above the SQL (value in table is 1/2 reported value)
J = estimated value
Shaded cells indicate constituent exceeds ERL.
Shaded and bold cells indicate constituent exceeds ERM.

Table 13-1-11
Wetland 63A Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
Metals (g/L)																
Aluminum	1	1				2,080	2,080	2,080	041W63A201	2,080			NA		Yes	No SV
Antimony	0	1	1	1	1	1			ND	1	UJ		NA		Yes	No SV
Arsenic	1	1				5	5	5	041W63A201	5	J	36	EPA	0.14	No	Max Detect < SV
Barium	1	1				53.3	53.3	53.3	041W63A201	53.3	J		NA		Yes	No SV
Beryllium	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Cadmium	0	1	1	1	1	1			ND	1	U	9.3	EPA	0.11	No	Max SQL< SV
Calcium	1	1				38,700	38,700	38,700	041W63A201	38,700			NA		Yes	No SV
Chromium	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	50	EPA	0.05	No	Max SQL< SV
Cobalt	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Copper	**1**	**1**				**5**	**5**	**5**	**041W63A201**	**5**	**J**	**2.9**	**EPA**	**1.72**	**Yes**	**Max Detect > SV**
Cyanide (CN)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	1	EPA	2.5	Yes	Max SQL > SV
Iron	1	1				483	483	483	041W63A201	483			NA		Yes	No SV
Lead	**1**	**1**				**299**	**299**	**299**	**041W63A201**	**299**		**8.5**	**EPA**	**35.2**	**Yes**	**Max Detect > SV**
Magnesium	1	1				5,740	5,740	5,740	041W63A201	5,740			NA		Yes	No SV
Manganese	1	1				28.3	28.3	28.3	041W63A201	28.3			NA		Yes	No SV
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.025	EPA	2.6	Yes	Max SQL > SV
Nickel	0	1	4.5	4.5	4.5	4.5			ND	4.5	U	8.3	EPA	0.54	No	Max SQL< SV
Potassium	1	1				14,700	14,700	14,700	041W63A201	14,700			NA		Yes	No SV
Selenium	1	1				8	8	8	041W63A201	8		71	EPA	0.11	No	Max Detect < SV
Silver	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.23	EPA	10.9	Yes	Max SQL > SV
Sodium	1	1				28,300	28,300	28,300	041W63A201	28,300			NA		Yes	No SV
Thallium	0	1	2	2	2	2			ND	2	U	6.3	FDEP	0.32	No	Max SQL< SV
Vanadium	1	1				4.1	4.1	4.1	041W63A201	4.1	J		NA		Yes	No SV
Zinc	1	1				19.3	19.3	19.3	041W63A201	19.3	J	86	EPA	0.22	No	Max Detect < SV
Pesticides (g/L)																
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan I	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0087	EPA	2.87	Yes	Max SQL > SV
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0036	EPA	6.94	Yes	Max SQL > SV
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	Yes	Max SQL > SV
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	U		NA		Yes	No SV
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.004	EPA	12.5	Yes	Max SQL > SV
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	21.7	Yes	Max SQL > SV
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.005	FDEP	5	Yes	Max SQL > SV
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.016	EPA	1.56	Yes	Max SQL > SV
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA		Yes	No SV
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	Yes	Max SQL > SV
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	Yes	Max SQL > SV
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP	84.7	Yes	Max SQL > SV
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV

Table 13-1-11
Wetland 63A Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
PCBs (g/L)																
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1221	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	FDEP	35.7	Yes	Max SQL > SV
Total PCB	0	1	4	4	4	4			ND	4	U		NA		Yes	No SV
SVOCs (g/L)																
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Di-n-butylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	3.4	EPA	0.74	No	Max SQL< SV
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV

Table 13-1-11
Wetland 63A Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
SVOCs (g/L) - cont.																
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
PAHs (g/L)																
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	23.5	EPA	0.02	No	Max SQL< SV
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA		Yes	No SV
VOCs (g/L)																
1,1,1-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	270	FDEP	0.00	No	Max SQL< SV
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3.2	FDEP	0.16	No	Max SQL< SV
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	19.7	EPA	0.03	No	Max SQL< SV
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3	FDEP	0.17	No	Max SQL< SV
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Benzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	71.28	FDEP	0.01	No	Max SQL< SV
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	17	FDEP	0.03	No	Max SQL< SV
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chloroform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	470.8	FDEP	0.00	No	Max SQL< SV
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Table 13-1-11
Wetland 63A Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
VOCs (g/L) - cont.																
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Ethylbenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	4.3	EPA	0.12	No	Max SQL< SV
Methylene chloride	0	1	2	2	2	2			ND	2	U	1580	FDEP	0.00	No	Max SQL< SV
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Toluene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	37	EPA	0.01	No	Max SQL< SV
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
N/R = No refinement value available.
N/A = Not applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the maximum detections.
Parameters in bold were detected and exceeded the screening value.

Table 13-1-12
Wetland 63A Phase II
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	None	None
Barium			
Calcium			
Copper			
Iron			
Lead			
Magnesium			
Manganese			
Potassium			
Sodium			
Vanadium			
		Not Detected Parameters	
Antimony	Aldrin	1,2,4-Trichlorobenzene	1,1,2,2-Tetrachloroethane
Beryllium	Dieldrin	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1,2-Trichloroethane
Cobalt	Endosulfan I	2,4,5-Trichlorophenol	1,1-Dichloroethane
Cyanide (CN)	Endosulfan II	2,4,6-Trichlorophenol	1,2-Dibromo-3-Chloropropane
Mercury	Endosulfan sulfate	2,4-Dichlorophenol	1,2-Dibromoethane
Silver	Heptachlor	2,4-Dimethylphenol	1,2-Dichloroethane
	Heptachlor epoxide	2,4-Dinitrophenol	1,2-Dichloropropane
	Methoxychlor	2,4-Dinitrotoluene	1,3-Dichlorobenzene
	Toxaphene	2,6-Dinitrotoluene	2-Hexanone
	alpha-Chlordane	2-Chloronaphthalene	4-Methyl-2-Pentanone (MIBK)
	gamma-Chlordane	2-Chlorophenol	Bromochloromethane
	Total Chlordane	2-Methyl-4,6-Dinitrophenol	Bromodichloromethane
	Endrin	2-Methylphenol (o-Cresol)	Bromoform
	Endrin aldehyde	2-Nitroaniline	Bromomethane
	Endrin ketone	2-Nitrophenol	Carbon disulfide
	Total Endrin	3,3'-Dichlorobenzidine	Carbon tetrachloride
	alpha-BHC	3-Nitroaniline	Chloroethane
	beta-BHC	4-Bromophenyl-phenylether	Chloromethane
	delta-BHC	4-Chloro-3-methylphenol	cis-1,2-Dichloroethene
	gamma-BHC (Lindane)	4-Chloroaniline	cis-1,3-Dichloropropene
	Total BHC	4-Chlorophenylphenyl ether	Dibromochloromethane
	4,4'-DDD	4-Methylphenol (p-Cresol)	Styrene
	4,4'-DDE	4-Nitroaniline	Tetrachloroethene
	4,4'-DDT	4-Nitrophenol	trans-1,2-Dichloroethene
	Total DDT	Benzo(b)fluoranthene	trans-1,3-Dichloropropene
	Aroclor-1016	Benzo(g,h,i)perylene	Trichloroethene
	Aroclor-1221	Benzo(k)fluoranthene	Vinyl chloride
	Aroclor-1232	bis(2-Chloroethoxy)methane	Xylene (Total)
	Aroclor-1242	bis(2-Chloroethyl)ether	
	Aroclor-1248	bis(2-Ethylhexyl)phthalate (BEHP)	
	Aroclor-1254	Butylbenzylphthalate	
	Aroclor-1260	Dibenzofuran	
	Total PCBs	Diethylphthalate	
		Dimethylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Indeno(1,2,3-cd)pyrene	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	
		2-Methylnaphthalene	
		Acenaphthene	
		Acenaphthylene	
		Anthracene	
		Benzo(a)anthracene	
		Benzo(a)pyrene	
		Chrysene	
		Dibenz(a,h)anthracene	
		Fluoranthene	
		Fluorene	
		Phenanthrene	
		Pyrene	
		Total PAHs	

Table 13-1-13
Wetland 63A Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
Metals (µg/L)																				
Aluminum	1	1				2,080	2,080	2,080	041W63A201	2,080			NA			2,930	0	1	No	Max Result < Ref. Conc.
Antimony	0	1	1	1	1	1			ND	1	UJ		NA			4.15	0	1	No	Max Result < Ref. Conc.
Barium	1	1				53.3	53.3	53.3	041W63A201	53.3	J		NA			9.43	1	1	Yes	Max Result > Ref. Conc.
Beryllium	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA			0.82	0	1	No	Max Result < Ref. Conc.
Calcium	1	1				38,700	38,700	38,700	041W63A201	38,700			NA			76,800	0	1	No	Max Result < Ref. Conc.
Cobalt	0	1	1	1	1	1			ND	1	U		NA			2.38	0	1	No	Max Result < Ref. Conc.
Copper	**1**	**1**				**5**	**5**	**5**	**041W63A20**	**5**	**J**	**2.9**	**EPA**	**1.72**	**1.72**	**7.02**	**0**	**1**	**No**	**Max Result < Ref. Conc.**
Cyanide (CN)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	1	EPA	2.5	2.5	4.1	0	1	No	Max Result < Ref. Conc.
Iron	1	1				483	483	483	041W63A201	483			NA			1,350	0	1	No	Max Result < Ref. Conc.
Lead	**1**	**1**				**299**	**299**	**299**	**041W63A20**	**299**		**8.5**	**EPA**	**35.18**	**35.2**	**13.8**	**1**	**1**	**Yes**	**Max Result > Ref. Conc.**
Magnesium	1	1				5,740	5,740	5,740	041W63A201	5,740			NA			244,000	0	1	No	Max Result < Ref. Conc.
Manganese	1	1				28.3	28.3	28.3	041W63A201	28.3			NA			12.2	1	1	Yes	Max Result > Ref. Conc.
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.025	EPA	2.6	2.6	0.21	0	1	No	Max Result < Ref. Conc.
Potassium	1	1				14,700	14,700	14,700	041W63A201	14,700			NA			81,300	0	1	No	Max Result < Ref. Conc.
Silver	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.23	EPA	11	10.9	3.01	0	1	No	Max Result < Ref. Conc.
Sodium	1	1				28,300	28,300	28,300	041W63A201	28,300			NA			1,950,000	0	1	No	Max Result < Ref. Conc.
Vanadium	1	1				4.1	4.1	4.1	041W63A201	4.1	J		NA			6.69	0	1	No	Max Result < Ref. Conc.
Pesticides (µg/L)																				
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	No Ref. Conc.
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	1	No	No Ref. Conc.
Endosulfan I	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0087	EPA	3	2.87		0	1	No	No Ref. Conc.
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	1	No	No Ref. Conc.
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	1	No	No Ref. Conc.
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0036	EPA	7	6.94		0	1	No	No Ref. Conc.
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	625		0	1	No	No Ref. Conc.
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	U		NA				0	1	No	No Ref. Conc.
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	No Ref. Conc.
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	No Ref. Conc.
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.004	EPA	12.5	12.5		0	1	No	No Ref. Conc.
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	1	No	No Ref. Conc.
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	1	No	No Ref. Conc.
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	22	21.7		0	1	No	No Ref. Conc.
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	1	No	No Ref. Conc.
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.005	FDEP	5	5		0	1	No	No Ref. Conc.
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	No Ref. Conc.
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	No Ref. Conc.
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.016	EPA	1.56	1.56		0	1	No	No Ref. Conc.
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA				0	1	No	No Ref. Conc.
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	167		0	1	No	No Ref. Conc.
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	250		0	1	No	No Ref. Conc.
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP	85	84.7		0	1	No	No Ref. Conc.
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	1	No	No Ref. Conc.
PCBs (µg/L)																				
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Aroclor-1221	0	1	1	1	1	1			ND	1	U		NA				0	1	No	No Ref. Conc.
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	FDEP	36	35.7		0	1	No	No Ref. Conc.
Total PCB	0	1	4	4	4	4			ND	4	U		NA				0	1	No	No Ref. Conc.
SVOCs (µg/L)																				
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
2,2'-oxybis(1-Chloropropane)/bis(2-chlor	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	No Ref. Conc.
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	No Ref. Conc.
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
2-Chlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	No Ref. Conc.
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	1	No	No Ref. Conc.
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.

Table 13-1-13
Wetland 63A Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
SVOCs (µg/L) - cont.																				
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	1	No	No Ref. Conc.
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	No Ref. Conc.
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
PAHs (µg/L)																				
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	23.5	EPA	0.02	0.02		0	1	No	No Ref. Conc.
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA				0	1	No	No Ref. Conc.
VOCs (µg/L)																				
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	No Ref. Conc.
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	1	No	No Ref. Conc.
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	No Ref. Conc.

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL

UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
PEL = Probable effects level.
N/R = No refinement value available.

N/A = Not applicable.
Average result calculations include summing detections and one half the detection limits
parameters. As a result, some average detections may exceed the Max detections
Parameters in bold were detected and exceeded Ref. Conc.s.

Table 13-1-14
Wetland 63A Phase II
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Manganese	None	None	None
Lead			
Barium			

Table 13-1-15
Wetland 63A Phase IV
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
Metals (g/L)																
Aluminum	1	1				25	25	25	041W63A202	25	I		NA		Yes	No SV
Antimony	0	1	1.95	1.95	1.95	1.95			ND	1.95	U		NA		Yes	No SV
Arsenic	0	1	1.65	1.65	1.65	1.65			ND	1.65	U	36	EPA	0.05	No	Max SQL< SV
Barium	1	1				61	61	61	041W63A202	61			NA		Yes	No SV
Beryllium	1	1				0.44	0.44	0.44	041W63A202	0.44	I		NA		Yes	No SV
Cadmium	0	1	0.3	0.3	0.3	0.3			ND	0.3	U	9.3	EPA	0.03	No	Max SQL< SV
Calcium	1	1				76,000	76,000	76,000	041W63A202	76,000			NA		Yes	No SV
Chromium	0	1	0.7	0.7	0.7	0.7			ND	0.7	U	50	EPA	0.01	No	Max SQL< SV
Cobalt	0	1	0.6	0.6	0.6	0.6			ND	0.6	U		NA		Yes	No SV
Copper	1	1				0.98	0.98	0.98	041W63A202	0.98	I	2.9	EPA	0.34	No	Max Detect < SV
Iron	1	1				140	140	140	041W63A202	140			NA		Yes	No SV
Lead	0	1	0.95	0.95	0.95	0.95			ND	0.95	U	8.5	EPA	0.11	No	Max SQL< SV
Magnesium	1	1				5,800	5,800	5,800	041W63A202	5,800			NA		Yes	No SV
Manganese	1	1				15	15	15	041W63A202	15			NA		Yes	No SV
Mercury	0	1	0.039	0.039	0.039	0.039			ND	0.039	U	0.025	EPA	1.56	Yes	Max SQL > SV
Nickel	0	1	0.75	0.75	0.75	0.75			ND	0.75	U	8.3	EPA	0.09	No	Max SQL< SV
Potassium	1	1				1,400	1,400	1,400	041W63A202	1,400			NA		Yes	No SV
Selenium	0	1	2.65	2.65	2.65	2.65			ND	2.65	U	71	EPA	0.04	No	Max SQL< SV
Silver	0	1	0.55	0.55	0.55	0.55			ND	0.55	U	0.23	EPA	2.39	Yes	Max SQL > SV
Sodium	1	1				14,000	14,000	14,000	041W63A202	14,000			NA		Yes	No SV
Thallium	0	1	3.8	3.8	3.8	3.8			ND	3.8	U	6.3	FDEP	0.60	No	Max SQL< SV
Vanadium	1	1				1.7	1.7	1.7	041W63A202	1.7	I		NA		Yes	No SV
Zinc	1	1				1.8	1.8	1.8	041W63A202	1.8	I	86	EPA	0.02	No	Max Detect < SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
N/R = No refinement value available.
N/A = Not applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the maximum detections.
Parameters in bold were detected and exceeded the screening value.

Table 13-1-16
Wetland 63A Phase IV
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	Not Analyzed	Not Analyzed	Not Analyzed
Barium			
Beryllium			
Calcium			
Iron			
Magnesium			
Manganese			
Potassium			
Sodium			
Vanadium			
		Not Detected Parameters	
Antimony	Not Analyzed	Not Analyzed	Not Analyzed
Cobalt			
Mercury			
Silver			

Table 13-1-17
Wetland 63A Phase IV
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
Metals (µg/L)																				
Aluminum	1	1				25	25	25	041W63A202	25	I		NA			2,930	0	1	No	Max Result < Ref. Conc.
Antimony	0	1	1.95	1.95	1.95	1.95			ND	1.95	U		NA			4.15	0	1	No	Max Result < Ref. Conc.
Barium	1	1				61	61	61	041W63A202	61			NA			9.43	1	1	Yes	Max Result > Ref. Conc.
Beryllium	1	1				0.44	0.44	0.44	041W63A202	0.44	I		NA			0.82	0	1	No	Max Result < Ref. Conc.
Calcium	1	1				76,000	76,000	76,000	041W63A202	76,000			NA			76,800	0	1	No	Max Result < Ref. Conc.
Cobalt	0	1	0.6	0.6	0.6	0.6			ND	0.6	U		NA			2.38	0	1	No	Max Result < Ref. Conc.
Iron	1	1				140	140	140	041W63A202	140			NA			1,350	0	1	No	Max Result < Ref. Conc.
Magnesium	1	1				5,800	5,800	5,800	041W63A202	5,800			NA			244,000	0	1	No	Max Result < Ref. Conc.
Manganese	1	1				15	15	15	041W63A202	15			NA			12.2	1	1	Yes	Max Result > Ref. Conc.
Mercury	0	1	0.039	0.039	0.039	0.039			ND	0.039	U	0.025	EPA	1.56	1.56	0.21	0	1	No	Max Result < Ref. Conc.
Potassium	1	1				1,400	1,400	1,400	041W63A202	1,400			NA			81,300	0	1	No	Max Result < Ref. Conc.
Silver	0	1	0.55	0.55	0.55	0.55			ND	0.55	U	0.23	EPA	2.39	2.39	3.01	0	1	No	Max Result < Ref. Conc.
Sodium	1	1				14,000	14,000	14,000	041W63A202	14,000			NA			1,950,000	0	1	No	Max Result < Ref. Conc.
Vanadium	1	1				1.7	1.7	1.7	041W63A202	1.7	I		NA			6.69	0	1	No	Max Result < Ref. Conc.

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8)
RV = Refinement value (detailed explanation of RVs provided in Section 8)
PEL = Probable effects level.
N/R = No refinement value available.

N/A = Not applicable.
Average result calculations include summing detections and one half the detection limits for n parameters. As a result, some average detections may exceed the Max detections
Parameters in bold were detected and exceeded Ref. Conc.s

Table 13-1-18
Wetland 63A Phase IV
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Manganese Barium	Not Analyzed	Not Analyzed	Not Analyzed

Table 13-1-19
Wetland 63A Phase II
Sediment Dermal Exposure Dose-Child Tresspasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration (mg/kg)	Min. Qual.	Maximum Concentration (mg/kg)	Max. Qual.	Units	Location of Max.Conc.	Detection Frequency	Range of Detection Limits	Mean	ABS_{sd}	ABS_{sd} Source	DA_{event}: Child Trespasser	DA_{event}: Adult Maintenance Worker	DAD_{sd} (mg/kg-day): Child Trespasser	DAD_{sd} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	1.8E+02	=	5.5E+03	=	MG/KG	041M63A301	5 / 5	NAV	2.1E+03	1.0E-03	3	1.10E-06	5.50E-07	1.74E-05	1.16E-05
7440393	Barium	N	3.9E-01	J	1.6E+01	J	MG/KG	041M63A301	5 / 5	NAV	5.1E+00	1.0E-03	3	3.26E-09	1.63E-09	5.16E-08	3.45E-08
7440439	Cadmium	N	1.5E-01	J	7.7E+00	=	MG/KG	041M63A301	3 / 5	1.7E-01 / 3.7E-01	1.8E+00	1.0E-03	3	1.54E-09	7.70E-10	2.44E-08	1.63E-08
7440473	Chromium	N	5.1E-01	J	9.3E+01	=	MG/KG	041M63A301	5 / 5	NAV	2.1E+01	1.0E-03	3	1.85E-08	9.25E-09	2.93E-07	1.96E-07
7440484	Cobalt	C	2.6E-01	J	3.7E-01	J	MG/KG	041M63A301	2 / 5	1.3E-01 / 1.3E-01	1.7E-01	1.0E-03	3	7.40E-11	3.70E-11	1.67E-10	2.80E-10
7439896	Iron	N	2.9E+02	=	5.0E+03	=	MG/KG	041M63A301	5 / 5	NAV	1.8E+03	1.0E-03	3	1.00E-06	5.00E-07	1.58E-05	1.06E-05
7439921	Lead	N	9.3E-01	=	1.1E+02	=	MG/KG	041M63A301	5 / 5	NAV	2.9E+01	1.0E-03	3	2.12E-08	1.06E-08	3.36E-07	2.24E-07
7439965	Manganese	N	1.7E+00	=	4.5E+01	=	MG/KG	041M63A401	5 / 5	NAV	1.4E+01	1.0E-03	3	8.90E-09	4.45E-09	1.41E-07	9.42E-08
7487947	Mercury	N	N/A	N/A	1.4E-01	J	MG/KG	041M63A301	1 / 5	5.0E-02 / 7.0E-02	5.0E-02	1.0E-03	3	2.80E-11	1.40E-11	4.43E-10	2.96E-10
7440622	Vanadium	N	5.5E-01	J	1.4E+01	=	MG/KG	041M63A301	5 / 5	NAV	4.8E+00	1.0E-03	3	2.88E-09	1.44E-09	4.56E-08	3.05E-08
72548	4,4'-DDD	C	3.2E-04	J	5.6E-03	DJ	MG/KG	041M63A301	3 / 5	2.0E-04 / 2.1E-04	1.5E-03	3.0E-02	1	3.36E-11	1.68E-11	7.60E-11	1.27E-10
72559	4,4'-DDE	C	N/A	N/A	9.5E-04	=	MG/KG	041M63A201	1 / 5	2.0E-04 / 3.8E-04	3.0E-04	3.0E-02	1	5.70E-12	2.85E-12	1.29E-11	2.15E-11
50293	4,4'-DDT	C	2.9E-04	J	1.1E-03	J	MG/KG	041M63A301	3 / 5	2.0E-04 / 2.1E-04	4.8E-04	3.0E-02	1	6.60E-12	3.30E-12	1.49E-11	2.49E-11
5103719	alpha-Chlordane	C	N/A	N/A	1.0E-03	J	MG/KG	041M63A301	1 / 5	9.8E-05 / 1.3E-04	2.4E-04	4.0E-02	2	8.00E-12	4.00E-12	1.81E-11	3.02E-11
11096825	Aroclor-1260	C	1.1E-03	J	2.6E-01	DJ	MG/KG	041M63A301	4 / 5	N/A / 2.0E-03	5.6E-02	1.4E-02	3	7.18E-10	3.59E-10	1.62E-09	2.71E-09
319868	delta-BHC	C	N/A	N/A	2.4E-04	J	MG/KG	041M63A201	1 / 5	9.8E-05 / 1.9E-04	1.0E-04	4.0E-02	2	1.92E-12	9.60E-13	4.34E-12	7.26E-12
60571	Dieldrin	C	N/A	N/A	4.1E-03	J	MG/KG	041M63A301	1 / 5	2.0E-04 / 2.6E-04	9.1E-04	1.0E-01	2	8.20E-11	4.10E-11	1.85E-10	3.10E-10
1031078	Endosulfan sulfate	N	1.4E-03	J	1.4E-03	J	MG/KG	041M63A401	2 / 5	2.0E-04 / 2.2E-04	6.2E-04	1.0E-01	2	2.80E-11	1.40E-11	4.43E-10	2.96E-10
72208	Endrin	N	N/A	N/A	2.7E-03	J	MG/KG	041M63A301	1 / 5	2.0E-04 / 2.6E-04	6.3E-04	1.0E-01	2	5.40E-11	2.70E-11	8.55E-10	5.71E-10
58899	gamma-BHC (Lindane)	C	N/A	N/A	2.1E-04	J	MG/KG	041M63A201	1 / 5	9.8E-05 / 1.9E-04	9.4E-05	4.0E-02	2	1.68E-12	8.40E-13	3.80E-12	6.35E-12
57749	gamma-Chlordane	C	N/A	N/A	1.4E-03	=	MG/KG	041M63A301	1 / 5	9.8E-05 / 1.3E-04	3.2E-04	4.0E-02	2	1.12E-11	5.60E-12	2.53E-11	4.23E-11
56553	Benzo(a)anthracene	C	N/A	N/A	6.3E-02	=	MG/KG	041M63A401	1 / 5	3.9E-02 / 1.5E+00	1.7E-01	1.3E-01	2	1.64E-09	8.19E-10	3.70E-09	6.19E-09
50328	Benzo(a)pyrene	C	N/A	N/A	7.2E-02	=	MG/KG	041M63A401	1 / 5	3.9E-02 / 1.5E+00	1.8E-01	1.3E-01	2	1.87E-09	9.36E-10	4.23E-09	7.08E-09
205992	Benzo(b)fluoranthene	C	N/A	N/A	1.2E-01	=	MG/KG	041M63A401	1 / 5	3.9E-02 / 1.5E+00	1.9E-01	1.3E-01	2	3.12E-09	1.56E-09	7.06E-09	1.18E-08
191242	Benzo(g,h,i)perylene	C	N/A	N/A	4.8E-02	J	MG/KG	041M63A401	1 / 5	3.9E-02 / 1.5E+00	1.7E-01	1.3E-01	2	1.25E-09	6.24E-10	2.82E-09	4.72E-09
207089	Benzo(k)fluoranthene	C	N/A	N/A	3.7E-02	J	MG/KG	041M63A401	1 / 5	3.9E-02 / 1.5E+00	1.7E-01	1.3E-01	2	9.62E-10	4.81E-10	2.18E-09	3.64E-09
117817	bis(2-Ethylhexyl)phthalate (BEHP)	C	9.9E-02	J	1.3E-01	J	MG/KG	041M63A401	2 / 5	3.8E-01 / 1.5E+01	1.6E+00	1.0E-01	1	2.60E-09	1.30E-09	5.88E-09	9.83E-09
85687	Butylbenzylphthalate	N	2.2E-02	J	1.4E+00	J	MG/KG	041M63A301	3 / 5	4.0E-01 / 4.2E-01	3.8E-01	1.0E-01	2	2.80E-08	1.40E-08	4.43E-07	2.96E-07
218019	Chrysene	C	N/A	N/A	7.4E-02	=	MG/KG	041M63A401	1 / 5	3.9E-02 / 1.5E+00	1.8E-01	1.3E-01	2	1.92E-09	9.62E-10	4.35E-09	7.27E-09
206440	Fluoranthene	N	N/A	N/A	1.3E-01	=	MG/KG	041M63A401	1 / 5	3.9E-02 / 1.5E+00	1.9E-01	1.3E-01	2	3.38E-09	1.69E-09	5.35E-08	3.58E-08
193395	Indeno(1,2,3-cd)pyrene	C	N/A	N/A	4.7E-02	J	MG/KG	041M63A401	1 / 5	3.9E-02 / 1.5E+00	1.7E-01	1.3E-01	2	1.22E-09	6.11E-10	2.76E-09	4.62E-09
85018	Phenanthrene	N	N/A	N/A	4.7E-02	J	MG/KG	041M63A401	1 / 5	3.9E-02 / 1.5E+00	1.7E-01	1.0E-02	3	9.40E-11	4.70E-11	1.49E-09	9.95E-10
129000	Pyrene	N	2.4E-02	J	1.2E-01	=	MG/KG	041M63A401	2 / 5	3.9E-02 / 1.5E+00	1.9E-01	1.0E-02	3	2.40E-10	1.20E-10	3.80E-09	2.54E-09

Notes:

Equation for sediment risk:

$$DAD_{sd} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sd} = Dermal Absorbed Dose-soil contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event)
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer - 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer - 25,550 days (child trespasser/adult maintenance worker).

Equation for DA_{event} for sediment contact:

$$DA_{event} = C_{sd} \times CF \times AF \times ABS_d$$

Where:

C_{sd} = Chemical concentration in sediment (mg/kg).
CF = Conversion factor (10^{-6} kg/mg).
AF = Adherence factor of sediment to soil (mg/cm2-event).
0.2 (children playing in wet soil) 0.1 (construction worker)
AB_{sd} = Dermal absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1;
(2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Table 13-1-20
Wetland 63A Phase II
Sediment Dermal Exposure Risk-Child Tresspasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/kg)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABSGI	ABSGI Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser: Dermal Hazard Quotient	Child Trespasser: Dermal Cancer Risk	Maintenance Worker: Dermal Hazard Quotient	Maintenance Worker: Dermal Cancer Risk
Sediment Dermal Risk	Aluminum	N	5.5E+03	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	1.7E-04	N/A	1.2E-04	N/A
	Barium	N	1.6E+01	7.0E-02	N/A	7.0E-02	1, 3	4.9E-03	N/A	1.1E-05	N/A	7.0E-06	N/A
	Cadmium	N	7.7E+00	5.0E-04	N/A	2.5E-02	1	1.3E-05	N/A	2.0E-03	N/A	1.3E-03	N/A
	Chromium	N	9.3E+01	N/A	N/A	2.5E-02	1	N/A	N/A	N/A	N/A	N/A	N/A
	Cobalt	C	3.7E-01	2.0E-02	N/A	8.0E-01	3	1.6E-02	N/A	1.0E-08	N/A	1.7E-08	N/A
	Iron	N	5.0E+03	3.0E-01	N/A	1.5E-01	3	4.5E-02	N/A	3.5E-04	N/A	2.4E-04	N/A
	Lead	N	1.1E+02	N/A	N/A	1.5E-01	3	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	4.5E+01	2.4E-02	N/A	4.0E-02	1, 3	9.6E-04	N/A	1.5E-04	N/A	9.8E-05	N/A
	Mercury	N	1.4E-01	3.0E-04	N/A	7.0E-02	1	2.1E-05	N/A	2.1E-05	N/A	1.4E-05	N/A
	Vanadium	N	1.4E+01	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	2.5E-04	N/A	1.7E-04	N/A
	4,4'-DDD	C	5.6E-03	N/A	2.4E-01	3.0E-02	2	N/A	8.0E+00	N/A	6.1E-10	N/A	1.0E-09
	4,4'-DDE	C	9.5E-04	N/A	3.4E-01	3.0E-02	2	N/A	1.1E+01	N/A	1.5E-10	N/A	2.4E-10
	4,4'-DDT	C	1.1E-03	5.0E-04	3.4E-01	3.0E-02	2	1.5E-05	1.1E+01	9.9E-07	1.7E-10	1.7E-06	2.8E-10
	alpha-Chlordane	C	1.0E-03	5.0E-04	3.5E-01	8.0E-01	1	4.0E-04	4.4E-01	4.5E-08	7.9E-12	7.6E-08	1.3E-11
	Aroclor-1260	C	2.6E-01	N/A	2.0E+00	1.4E-01	2	N/A	1.4E+01	N/A	2.3E-08	N/A	3.9E-08
	delta-BHC	C	2.4E-04	5.0E-04	6.3E+00	1.4E-02	3	7.1E-06	4.4E+02	6.1E-07	1.9E-09	1.0E-06	3.2E-09
	Dieldrin	C	4.1E-03	5.0E-05	1.6E+01	5.0E-01	3	2.5E-05	3.2E+01	7.4E-06	5.9E-09	1.2E-05	9.9E-09
	Endosulfan sulfate	N	1.4E-03	6.0E-03	N/A	5.0E-01	3	3.0E-03	N/A	1.5E-07	N/A	9.9E-08	N/A
	Endrin	N	2.7E-03	3.0E-04	N/A	1.3E-02	3	3.8E-06	N/A	2.3E-04	N/A	1.5E-04	N/A
	gamma-BHC (Lindane)	C	2.1E-04	3.0E-04	1.3E+00	9.7E-01	3	2.9E-04	1.3E+00	1.3E-08	5.1E-12	2.2E-08	8.5E-12
	gamma-Chlordane	C	1.4E-03	5.0E-04	3.5E-01	8.0E-01	1	4.0E-04	4.4E-01	6.3E-08	1.1E-11	1.1E-07	1.9E-11
	Benzo(a)anthracene	C	6.3E-02	N/A	7.3E-01	3.1E-01	3	N/A	2.4E+00	N/A	8.7E-09	N/A	1.5E-08
	Benzo(a)pyrene	C	7.2E-02	N/A	7.3E+00	3.1E-01	3	N/A	2.4E+01	N/A	1.0E-07	N/A	1.7E-07
	Benzo(b)fluoranthene	C	1.2E-01	N/A	7.3E-01	3.1E-01	3	N/A	2.4E+00	N/A	1.7E-08	N/A	2.8E-08
	Benzo(g,h,i)perylene	C	4.8E-02	N/A	7.3E-01	3.1E-01	3	N/A	2.4E+00	N/A	6.6E-09	N/A	1.1E-08
	Benzo(k)fluoranthene	C	3.7E-02	N/A	7.3E-02	3.1E-01	3	N/A	2.4E-01	N/A	5.1E-10	N/A	8.6E-10
	bis(2-Ethylhexyl)phthalate (BEHP)	C	1.3E-01	2.0E-02	1.4E-02	1.0E-01	2	2.0E-03	1.4E-01	2.9E-06	8.2E-10	4.9E-06	1.4E-09
	Butylbenzylphthalate	N	1.4E+00	2.0E-01	N/A	1.7E-02	3	3.5E-03	N/A	1.3E-04	N/A	8.5E-05	N/A
	Chrysene	C	7.4E-02	7.3E-03	N/A	3.1E-01	3	2.3E-03	N/A	1.9E-06	N/A	3.2E-06	N/A
	Fluoranthene	N	1.3E-01	N/A	4.0E-02	3.1E-01	3	N/A	1.3E-01	N/A	6.9E-09	N/A	4.6E-09
	Indeno(1,2,3-cd)pyrene	C	4.7E-02	7.3E-01	N/A	3.1E-01	3	2.3E-01	N/A	1.2E-08	N/A	2.0E-08	N/A
	Phenanthrene	N	4.7E-02	N/A	3.0E-02	7.3E-01	3	N/A	4.1E-02	N/A	6.1E-11	N/A	4.1E-11
	Pyrene	N	1.2E-01	N/A	3.0E-02	3.1E-01	3	N/A	9.7E-02	N/A	3.7E-10	N/A	2.5E-10

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABSGI = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose-sources: (1) RAIS value; (2) adjusted for ABSGI.
Dermal SF = Dermal slope factor-sources: (1) RAIS value; (2) adjusted for ABSGI.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfDdermal = Dermal reference dose.
RFDoral =Oral reference dose.
ABSGI = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 13-1-21
Wetland 63A Phase II
Sediment Incidental Ingestion Exposure Risk-Child Tresspasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/kg)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
Sediment Incidental Ingestion	Aluminum	N	5.5E+03	1.0E+00	N/A	1.74E-03	N/A	1.12E-03	N/A
	Barium	N	1.6E+01	7.0E-02	N/A	7.37E-05	N/A	4.74E-05	N/A
	Cadmium	N	7.7E+00	5.0E-04	N/A	4.88E-03	N/A	3.13E-03	N/A
	Chromium	N	9.3E+01	N/A	N/A	N/A	N/A	N/A	N/A
	Cobalt	C	3.7E-01	2.0E-02	N/A	8.37E-07	N/A	1.34E-06	N/A
	Iron	N	5.0E+03	3.0E-01	N/A	5.28E-03	N/A	3.39E-03	N/A
	Lead	N	1.1E+02	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	4.5E+01	2.4E-02	N/A	5.87E-04	N/A	3.77E-04	N/A
	Mercury	N	1.4E-01	3.0E-04	N/A	1.48E-04	N/A	9.50E-05	N/A
	Vanadium	N	1.4E+01	7.0E-03	N/A	6.51E-04	N/A	4.19E-04	N/A
	4,4'-DDD	C	5.6E-03	N/A	2.4E-01	N/A	6.08E-11	N/A	9.77E-11
	4,4'-DDE	C	9.5E-04	N/A	3.4E-01	N/A	1.46E-11	N/A	2.35E-11
	4,4'-DDT	C	1.1E-03	5.0E-04	3.4E-01	9.95E-08	1.69E-11	1.60E-07	2.72E-11
	alpha-Chlordane	C	1.0E-03	5.0E-04	3.5E-01	9.05E-08	1.58E-11	1.45E-07	2.54E-11
	Aroclor-1260	C	2.6E-01	N/A	2.0E+00	N/A	2.35E-08	N/A	3.78E-08
	delta-BHC	C	2.4E-04	5.0E-04	6.3E+00	2.17E-08	6.84E-11	3.49E-08	1.10E-10
	Dieldrin	C	4.1E-03	5.0E-05	1.6E+01	3.71E-06	2.97E-09	5.96E-06	4.77E-09
	Endosulfan sulfate	N	1.4E-03	6.0E-03	N/A	7.39E-08	N/A	4.75E-08	N/A
	Endrin	N	2.7E-03	3.0E-04	N/A	2.85E-06	N/A	1.83E-06	N/A
	gamma-BHC (Lindane)	C	2.1E-04	3.0E-04	1.3E+00	3.17E-08	1.23E-11	5.09E-08	1.98E-11
	gamma-Chlordane	C	1.4E-03	5.0E-04	3.5E-01	1.27E-07	2.22E-11	2.04E-07	3.56E-11
	Benzo(a)anthracene	C	6.3E-02	N/A	7.3E-01	N/A	2.08E-09	N/A	3.34E-09
	Benzo(a)pyrene	C	7.2E-02	N/A	7.3E+00	N/A	2.38E-08	N/A	3.82E-08
	Benzo(b)fluoranthene	C	1.2E-01	N/A	7.3E-01	N/A	3.96E-09	N/A	6.37E-09
	Benzo(g,h,i)perylene	C	4.8E-02	N/A	7.3E-01	N/A	1.58E-09	N/A	2.55E-09
	Benzo(k)fluoranthene	C	3.7E-02	N/A	7.3E-02	N/A	1.22E-10	N/A	1.96E-10
	bis(2-Ethylhexyl)phthalate (BEHP)	C	1.3E-01	2.0E-02	1.4E-02	2.94E-07	8.23E-11	4.72E-07	1.32E-10
	Butylbenzylphthalate	N	1.4E+00	2.0E-01	N/A	2.22E-06	N/A	1.42E-06	N/A
	Chrysene	C	7.4E-02	7.3E-03	N/A	4.58E-07	N/A	7.37E-07	N/A
	Fluoranthene	N	1.3E-01	N/A	4.0E-02	N/A	1.65E-09	N/A	1.06E-09
	Indeno(1,2,3-cd)pyrene	C	4.7E-02	7.3E-01	N/A	2.91E-09	N/A	4.68E-09	N/A
	Phenanthrene	N	4.7E-02	N/A	3.0E-02	N/A	4.46E-10	N/A	2.87E-10
	Pyrene	N	1.2E-01	N/A	3.0E-02	N/A	1.14E-09	N/A	7.33E-10

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI = chronic daily intake (mg/kg-day)

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, sediment risk:

$$CDI = \frac{EPC_{sd} \times IR_{sd} \times EF \times ED \times CF}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPC_{sd} = Exposure point concentration in sediment (mg/kg).
IR_{sd} = Incidental ingestion rate for sediment (mg/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
CF = Conversion factor (1E-6 kg/mg).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
IR_{sd} = 100 mg/day for age groups greater than 6-years old.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer - 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer - 25,550 days (child trespasser/adult maintenance worker).

Table 13-1-22
Wetland 63A Phase II
Surface Water Dermal Absorbed Dose-Child Trespasser and Adult Maintenance Worke

CAS Number	Chemical		Minimum Concentration (g/L)	Min. Qual.	Maximum Concentration (g/L)	Max. Qual.	Units	Location of Max. Conc.	Detection Frequency	Range of Detection Limits	Mean	Maximum Concentration (mg/cm^3)	K_p	DA_{event}	DAD_{sw} (mg/kg-day): Child Trespasser	DAD_{sw} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	N/A	N/A	2.1E+03	=	UG/L	041W63A201	1 / 1	NAV	2.1E+03	2.1E-03	1.0E-03	5.41E-06	8.56E-05	1.14E-04
7440393	Barium	N	N/A	N/A	5.3E+01	J	UG/L	041W63A201	1 / 1	NAV	5.3E+01	5.3E-05	1.0E-03	1.39E-07	2.19E-06	2.93E-06
7439921	Lead	N	N/A	N/A	3.0E+02	=	UG/L	041W63A201	1 / 1	NAV	3.0E+02	3.0E-04	3.4E-04	2.64E-07	4.18E-06	5.59E-06
7439965	Manganese	N	N/A	N/A	2.8E+01	=	UG/L	041W63A201	1 / 1	NAV	2.8E+01	2.8E-05	1.0E-03	7.36E-08	1.16E-06	1.56E-06
7782492	Selenium	N	N/A	N/A	8.0E+00	=	UG/L	041W63A201	1 / 1	NAV	8.0E+00	8.0E-06	1.0E-03	2.08E-08	3.29E-07	4.40E-07
7440622	Vanadium	N	N/A	N/A	4.1E+00	J	UG/L	041W63A201	1 / 1	NAV	4.1E+00	4.1E-06	1.0E-03	1.07E-08	1.69E-07	2.26E-07

Notes:

Equation for Dermal Absorbed Dose, surface water risk:

$$DAD_{sw} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sw} = Dermal absorbed dose-water contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event).
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).

EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Equation for DAevent for inorganics:

$$DA_{event} = K_p \times C_w \times t_{event}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: RAGS Part E, Exhibit B-3 or Exhibit B-4
Cw = Chemical concentration in water (mg/cm3).
tevent = Event duration (hr/event).

Equation for DAevent for organics:

$$DA_{event} = FA \times K_p \times C_w \left[\frac{t_{event}}{1 + B} + 2\tau_{event} \left(\frac{1 + 3B + 3B^2}{(1 + B)^2} \right) \right]$$

Where:

FA = Fraction absorbed water (dimensionless). From RAGS Part E, Exhibit B-4.
Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E, Exhibit B-4.
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).
t_{event} = Lag time per event (hr/event). From RAGS Part E, Exhibit B-4.
B = Dimensionless ratio of the permeability coefficient of a compound,
calculated using the equation below:

$$B = \frac{K_p \sqrt{MW}}{2.6}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E.
MW = Molecular weight

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer - 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer - 25,550 days (child trespasser/adult maintenance worker).
tevent = 2.6 hrs/dy (child trespasser/adult maintenance worker).

Table 13-1-23
Wetland 63A Phase II
Surface Water Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABS_{GI}	ABS_{GI} Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser: Dermal Hazard Quotient	Child Trespasser: Dermal Cancer Risk	Maintenance Worker: Dermal Hazard Quotient	Maintenance Worker: Dermal Cancer Risk
SW Dermal Risk	Aluminum	N	2.1E-03	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	8.6E-04	N/A	1.1E-03	N/A
	Barium	N	5.3E-05	7.0E-02	N/A	7.0E-02	1, 2	4.9E-03	N/A	4.5E-04	N/A	6.0E-04	N/A
	Lead	N	3.0E-04	N/A	N/A	1.5E-01	3	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	2.8E-05	1.4E-01	N/A	4.0E-02	1	5.6E-03	N/A	2.1E-04	N/A	2.8E-04	N/A
	Selenium	N	8.0E-06	5.0E-03	N/A	5.5E-01	1	2.8E-03	N/A	1.2E-04	N/A	1.6E-04	N/A
	Vanadium	N	4.1E-06	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	9.3E-04	N/A	1.2E-03	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose adjusted for ABS_{GI}.
Dermal SF = Dermal slope factoradjusted for ABS_{GI}.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfDdermal = Dermal reference dose.
RFDoral = Oral reference dose.
SFdermal = Dermal slope factor.
ABSGI = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 13-1-24
Wetland 63A Phase II
Surface Water Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
SW Incidental Ingestion	Aluminum	N	2.1E-03	1.0E+00	N/A	6.6E-08	N/A	4.2E-08	N/A
	Barium	N	5.3E-05	7.0E-02	N/A	2.4E-08	N/A	1.5E-08	N/A
	Lead	N	3.0E-04	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	2.8E-05	1.4E-01	N/A	6.4E-09	N/A	4.1E-09	N/A
	Selenium	N	8.0E-06	5.0E-03	N/A	5.1E-08	N/A	3.3E-08	N/A
	Vanadium	N	4.1E-06	7.0E-03	N/A	1.9E-08	N/A	1.2E-08	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI = Chronic Daily Intake

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, surface water risk:

$$CDI = \frac{EPC_{sw} \times IR_{sw} \times EF \times ED}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPCsw = Exposure point concentration in surface water (mg/L).
IRsw = Incidental ingestion rate for sediment (L/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
Irsw = 0.01 L/day exposure to surface water during wading for adolescents and adults.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer - 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer - 25,550 days (child trespasser/adult maintenance worker).

Table 13-1-25
Wetland 63A Phase IV
Surface Water Dermal Absorbed Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration (g/L)	Min. Qual.	Maximum Concentration (g/L)	Max. Qual.	Units	Location of Max. Conc.	Detection Frequency	Range of Detection Limits	Mean	Maximum Concentration (mg/cm^3)	K_p	DA_{event}	DAD_{sw} (mg/kg-day): Child Trespasser	DAD_{sw} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	N/A	N/A	2.5E+01	I	UG/L	041W63A202	1 / 1	NAV	2.5E+01	2.5E-05	1.0E-03	6.50E-08	1.03E-06	1.38E-06
7440393	Barium	N	N/A	N/A	6.1E+01	=	UG/L	041W63A202	1 / 1	NAV	6.1E+01	6.1E-05	1.0E-03	1.59E-07	2.51E-06	3.36E-06
7440417	Beryllium	N	N/A	N/A	4.4E-01	I	UG/L	041W63A202	1 / 1	NAV	4.4E-01	4.4E-07	1.0E-03	1.14E-09	1.81E-08	2.42E-08
7439965	Manganese	N	N/A	N/A	1.5E+01	=	UG/L	041W63A202	1 / 1	NAV	1.5E+01	1.5E-05	1.0E-03	3.90E-08	6.17E-07	8.25E-07
7440622	Vanadium	N	N/A	N/A	1.7E+00	I	UG/L	041W63A202	1 / 1	NAV	1.7E+00	1.7E-06	1.0E-03	4.42E-09	7.00E-08	9.36E-08

Notes:

Equation for Dermal Absorbed Dose, surface water risk:

$$DAD_{sw} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DADsw = Dermal absorbed dose-water contact (mg/kg-day).
DAevent = Dermal absorbed dose per event (mg/cm2-event).
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).

EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Equation for DAevent for inorganics:

$$DA_{event} = K_p \times C_w \times t_{event}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: RAGS Part E, Exhibit B-3 or Exhibit B-4
Cw = Chemical concentration in water (mg/cm3).
tevent = Event duration (hr/event).

Equation for DAevent for organics:

$$DA_{event} = FA \times K_p \times C_w \left[\frac{t_{event}}{1 + B} + 2\tau_{event} \left(\frac{1 + 3B + 3B^2}{(1 + B)^2} \right) \right]$$

Where:

FA = Fraction absorbed water (dimensionless). From RAGS Part E, Exhibit B-4.
Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E, Exhibit B-4.
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).
t_{event} = Lag time per event (hr/event). From RAGS Part E, Exhibit B-4.
B = Dimensionless ratio of the permeability coefficient of a compound,
Where:

$$B = \frac{K_p \sqrt{MW}}{2.6}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E.
MW = Molecular weight

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer - 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer - 25,550 days (child trespasser/adult maintenance worker).
tevent = 2.6 hrs/dy (child trespasser/adult maintenance worker).

Table 13-1-26
Wetland 63A Phase IV
Surface Water Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABS_{GI}	ABS_{GI} Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser: Dermal Hazard Quotient	Child Trespasser: Dermal Cancer Risk	Maintenance Worker: Dermal Hazard Quotient	Maintenance Worker: Dermal Cancer Risk
SW Dermal Risk	Aluminum	N	2.5E-05	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	1.0E-05	N/A	1.4E-05	N/A
	Barium	N	6.1E-05	7.0E-02	N/A	7.0E-02	1, 2	4.9E-03	N/A	5.1E-04	N/A	6.9E-04	N/A
	Beryllium	N	4.4E-07	2.0E-03	N/A	7.0E-03	1	1.4E-05	N/A	1.3E-03	N/A	1.7E-03	N/A
	Manganese	N	1.5E-05	1.4E-01	N/A	4.0E-02	1	5.6E-03	N/A	1.1E-04	N/A	1.5E-04	N/A
	Vanadium	N	1.7E-06	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	3.8E-04	N/A	5.1E-04	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose adjusted for ABS_{GI}.
Dermal SF = Dermal slope factoradjusted for ABS_{GI}.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfD_{dermal} = Dermal reference dose.
RFD_{oral} = Oral reference dose.
SFdermal = Dermal slope factor.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 13-1-27
Wetland 63A Phase IV
Surface Water Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
SW Incidental Ingestion	Aluminum	N	2.5E-05	1.0E+00	N/A	7.9E-10	N/A	5.1E-10	N/A
	Barium	N	6.1E-05	7.0E-02	N/A	2.8E-08	N/A	1.8E-08	N/A
	Beryllium	N	4.4E-07	2.0E-03	N/A	7.0E-09	N/A	4.5E-09	N/A
	Manganese	N	1.5E-05	1.4E-01	N/A	3.4E-09	N/A	2.2E-09	N/A
	Vanadium	N	1.7E-06	7.0E-03	N/A	7.7E-09	N/A	4.9E-09	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, surface water risk:

$$CDI = \frac{EPC_{sw} \times IR_{sw} \times EF \times ED}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPCsw = Exposure point concentration in surface water (mg/L).
IRsw = Incidental ingestion rate for sediment (L/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
Irsw = 0.01 L/day exposure to surface water during wading for adolescents and adults.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer - 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer - 25,550 days (child trespasser/adult maintenance worker).

13.2 Wetland 63B — Screening Level Problem Formulation

13.2.1 Site Description and Habitats Present at Wetland 63B

Wetland 63B is located on the northeast side of Chevalier Field, along the shoreline of Pensacola Bay, and directly north of Site 14 (Figure 13-1). Wetland 63B is potentially impacted by Sites 14 (Dredge Spoil Fill) and 36 (Industrial Wastewater Treatment Plant Sewer Line). Wetland 63B is also surrounded by buildings and development to the west and Pensacola Bay to the east.

Photograph 1 Wetland 63B — Facing Southeast from Chevalier Field

Photograph 2 Wetland 63B — Facing Northwest from the Southeast Shore

Parsons and Pruitt (USEPA, 1991a) described this wetland as an estuarine emergent system. No storm water outfalls drain into the wetland, which is connected to and tidally influenced by Pensacola Bay via a narrow channel. The wetland is vegetated with plants typically found in disturbed areas. Estuarine plants found in the wetland include common reed *(Phragmites australis)* and saw grass *(Caladium jamaicense)*. There is a noticeable elevation in the topography as one moves inland from the coast at this site.

Wetland 63B is bordered by Sites 14 and Site 36. Site 14 (Dredge Spoil Fill) was created between 1975 and 1977 by deposition of spoils from dredging operations in Pensacola Bay, and used afterward to place spoils dredged for the carrier basin adjacent to Allegheny Pier. Site 36 (IWTP Sewer Line) was investigated in conjunction with sites for OU 2. The wastewater treatment plant, originally built in 1948, was replaced in 1971 with a modern plant that could accept industrial wastes. Most facilities discharging to the sewer did so without any pretreatment or waste segregation. The waste stream has included paint strippers, heavy metals, pesticides, radioactive wastes, fuels, cyanide waste, and waste oil (NEESA, 1983). Beginning in 1973, the Naval Air Rework Facility operations discharged to the sewer instead of to Pensacola Bay. The IWTP sewer line consisted of vitreous clay and cast-iron piping installed

both before and after 1971. OU 2 investigated portions of the IWTP sewer line from the Building 649 complex to the wastewater treatment plant.

13.2.2 Wetland 63B — Sample Location Description

Phase II Sediment Sample Location Description

Four Phase II sediment samples were collected in Wetland 63B for the ERA (Figure 13-4). All sample locations were collected from the southern portion of the wetland. Sample location 041M63B101 was collected along the eastern side of this wetland and is the closest in proximity to Pensacola Bay. Sample locations 041M63B201 and 041M63B301 were collected from the southern shore of the wetland, and sample location 041M63B401 was collected from the western shore. Table 13-2-1 (tables are located at the end of each section) provides a physical description of the Phase II sediments collected at Wetland 63B. Phase II sediments at Wetland 63B were composed light yellowish brown poorly graded sand, medium, with organics (041M63B301) with 0.14% TOC to black silty sand with organics (041M63B101) with 2.52% TOC.

Phase II Surface Water Sample Location Description

Two surface water samples were collected at Wetland 63B and were collocated with the sediment stations 041M63B201 and 041M63B401 (Figure 13-4). Table 13-2-2 provides a physical description of the surface water collected at Wetland 63B. Surface water from Wetland 63B was found to be slightly hard and of slightly acidic pH.

13.2.3 Nature and Extent of Contamination

Phase II Wetland 63B Sediment

Figure 13-4 presents the Phase II sediment sampling locations for Wetland 63B. Table 13-2-3 presents a summary of the analytical results of the four Phase II sediment samples.

Metals — Nineteen inorganic constituents were detected during Phase II sediment sampling at Wetland 63B. The distribution of inorganic detections and reference value exceedances during Phase II at Wetland 63B were centered at location 041M63B101, near the southeast section of the wetland, where 18 analytes were detected. Of these 18 detections, two exceeded the estuarine reference values for barium and calcium. Inorganic constituents at the other three sample locations were below the reference value.

Pesticides and PCBs — Three pesticide compounds and the PCB aroclor-1260 were detected during Phase II sediment sampling at Wetland 63B. Total DDT was calculated for each location by adding the concentrations of 4,4′-DDD, 4,4′-DDE, and 4,4′-DDT. Likewise, a basewide total

DDT reference concentration was calculated using the basewide concentrations for these same constituents. Total DDT was not detected above the screening value at Wetland 63B.

Pesticides were detected at three of the four sample locations during Phase II sampling; however, concentrations were below the basewide reference concentration at all locations. Location 041M63B201, at the southern edge of the wetland, had three detections. Location 041M63B401, at the southwestern edge of the wetland, had two detections. Location 041M63B101, near the southeast edge of the wetland, had one detection. The PCB aroclor-1260 was detected at four locations, with the highest detection at 041M63B101. No reference concentration was established for aroclor-1260.

SVOCs — Fourteen SVOCs were detected in sediment samples collected during Phase II sampling at Wetland 63B. Location 041M63B401, near the southwest edge of the wetland, had the greatest number of SVOC detections, with 12 compounds; however, the concentrations were relatively low. Locations 041M63B101 and 041M63B201 had five and three detections, respectively, and similarly low concentrations. The distribution of SVOCs in Wetland 63B is similar to the pesticide constituents, relatively low concentrations at all locations with the exception of location 041M63B301, near the south end of the wetland, where SVOCs were not detected.

VOCs — No VOCs were detected in the Phase II sediment sampling at Wetland 63B.

Phase II Surface Water

Figure 13-4 presents the Phase II surface water sampling locations for Wetland 63B. Table 13-2-4 presents a summary of the analytical results of the two Phase II surface water samples.

Metals — Twelve metals were detected in Phase II surface water samples collected from Wetland 63B. Location 041W63B201, at the south end of the wetland, had 12 detections, four of which exceeded their reference concentrations. Note that this location generally exhibited the highest concentrations of metals, as well as greatest diversity. Location 041W63B401 had nine detections and two exceedances.

Pesticides and PCBs — No pesticides or PCBs were detected during Phase II surface water sampling at Wetland 63B.

SVOCs — One SVOC was detected in the Phase II surface water sampling at Wetland 63B. The detection of di-n-butylphthalate was limited to a single location — 041W63B201, located at the

south end of the wetland. Di-n-butylphthalate was also detected in one of the four sediment sample locations; however, the sediment detection was located at the southwest section of the wetland.

VOCs — No VOCs were detected in the Phase II surface water sampling at Wetland 63B.

13.2.4 Ecological Risk Assessment

Phase II Investigation Summary — Wetland 63B

Sediment Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 13-2-5, the sediment samples were compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 13-2-6.

Baseline Problem Formulation — Wetland 63B Sediment COPC Refinement

During the COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs. This risk assessment presents a statement of potential risk for each of the COPCs.

The COPC refinement process included:

- Comparison of maximum concentrations to RVs
- Comparison of average concentrations to SVs and RVs
- Comparison to basewide (reference) concentrations for total DDT
- Comparison of inorganic constituents to reference wetland values
- Interpretative Tool for metals
- Di Toro EqP SQGs for VOCs
- Comparison to Swartz consensus values
- Mean ERM quotients
- Description of exceedances of RVs and their extent

The methods used in the COPC refinement for the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 13-2-7. A list of COPCs retained after refinement is presented in Table 13-2-8. Additionally, the tables compare: (1) average concentrations to screening and refinement values to

assess potential exposure across the entire wetland, and (2) Wetland 63B concentrations to reference concentrations.

As shown on Figure 13-5, total DDT and its daughter products were below the basewide levels, indicating that pesticide application levels in this area were in accordance with other base activities. As a result, total DDT and its daughter products were not carried forward as COPCs in the ERA process. The only pesticide detected and retained as a COPC was endosulfan sulfate. For Wetland 63B, barium exceeded its reference concentration and was retained as a COPC. Calcium also exceeded its reference concentration; however, calcium is considered an essential nutrient and is not retained as a COPC.

No VOCs were detected in Wetland 63B sediments. When normalized to detected TOC concentrations, PAHs did not appear to be a risk driver for Wetland 63B as shown on Figure 13-6. Benzo(b)fluoranthene and dibenzofuran were detected and retained as COPCs due to lack of screening criteria for these constituents.

Table 13-2-9 presents the Mean ERL and ERM values, the Mean ERM Quotients, and the Mean ERM Quotient Category by individual sample location. Based on this approach, three sample locations (041M63B101 through 041M63B301) were determined to be Category 1, indicating these sediments were considered nontoxic. Station 041M63B401 was determined to be Category 2, which, according to tests evaluated in developing this methodology, had average survival rates of approximately 80% of control sediments; however, this Category also has the highest level of uncertainty. Figure 13-7 shows the Mean ERM category for each sediment sample location at Wetland 63B.

Surface Water Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 13-2-10, the surface water samples were compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 13-2-11.

Baseline Problem Formulation — Wetland 63B Surface Water COPC Refinement

During the surface water COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs.

The COPC refinement process included:

- Comparison of maximum SV concentrations to average SV concentrations
- Comparison of inorganic constituents to reference wetland values
- Description of surface water exceedances and their extent

The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 13-2-12. COPCs retained after refinement are presented in Table 13-2-13. Additionally, the tables compare average concentrations to screening and refinement values to assess potential exposure across the entire wetland.

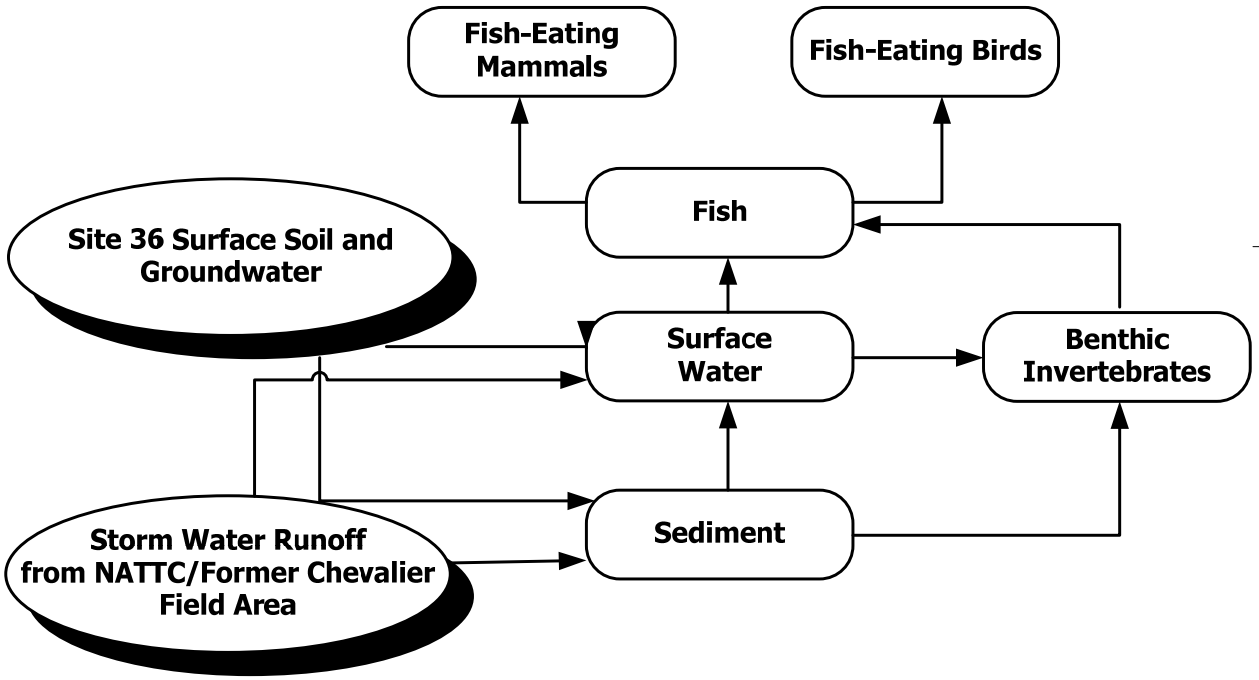
For Wetland 63B, barium, iron, and manganese exceeded their Site 41 estuarine reference surface water concentrations at sample location 041W63B201 (Table 13-2-12) and were retained as COPCs. Di-n-butylphthalate (SVOC) was also detected at sample location 041W63B201 and retained as a COPC.

There were no similar constituents retained for sediment and surface water at Wetland 63B.

Based on the Phase II results described above, Wetland 63B was identified as a Blue-Coded Wetland in the approved *Final RI/FS SAP Addendum* (E/A&H, 1997d), indicating that contaminants were present generally below screening values, and contaminants did not appear to be site related. Blue-Coded Wetlands were not assessed further in Phase III.

The constituents retained through the ERA process resemble constituents found in surface water runoff conditions. The conceptual model below symbolizes which environmental habitats may be impacted by Wetland 63B Phase II constituents retained during the ERA process.

Wetland 63B
Conceptual Site Model



13.2.5 Wetland 63B — Human Health Risk Assessment

Wetland 63 is described in Section 13.2.1, and the HHRA is summarized below.

13.2.5.1 Site Data

Section 13.2.3 summarizes the nature and extent of contamination for this wetland. Surface water and sediment data were collected at Wetland 63B during the Phases II of the RI. Surface water and sediment data for Wetland 63B are summarized in Tables 13-2-3 and 13-2-4.

13.2.5.2 Conceptual Site Model

As described in Section 13.2.1, Wetland 63B is located on the northeast side of Chevalier Field, along the shoreline of Pensacola Bay, and directly north of Site 14. As described in Section 13.1.5.2, Wetland 63 is in an unrestricted area of the base, so the wetland is accessible to Navy personnel and trespassers. Wetlands 63A and 63B are intermittently flooded, so surface water contact was assessed for maintenance and trespasser scenarios. Sediment locations are inundated all year at some locations, preventing significant sediment exposure. However, sediment dries at other locations within these wetlands where exposure could be similar to

soil exposure. Contact with sediment was assessed for all sediment locations within these wetlands. Although trespassers may be able to access the site, water depths are too shallow to support regular fishing for game fish species. Consequently, fish tissue ingestion pathways were excluded.

The following scenarios and exposure pathways were evaluated for this wetland:

Scenario	Medium	Ingestion	Dermal
Maintenance	Surface water	√	√
	Sediment	√	√
Trespasser	Surface water	√	√
	Sediment	√	√

13.2.5.3 Risk Characterization

The adult maintenance worker and child trespasser scenarios for surface water and sediment were assessed for this wetland as described in Section 9.

Phase II Data

Maintenance Worker

As shown in Tables 13-2-14 through 13-2-16, sediment ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

As shown in Tables 13-2-17 through 13-2-19, surface water ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

Trespasser

As shown in Tables 13-2-14 through 13-2-16, sediment ingestion and dermal contact risk estimates for trespasser were below the FDEP risk threshold. Hazard indices were below 1.0.

As shown in Tables 13-2-17 through 13-2-19, surface water ingestion and dermal contact risk estimates for trespassers were below the FDEP risk threshold. Hazard indices were below 1.0.

Summary of Wetland 63B Phase II Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Sediment	1.68E-03	1.35E-07
	Surface water	6.46E-03	0.00E+00
Trespasser	Sediment	2.59E-03	8.62E-08
	Surface water	4.83E-03	0.00E+00

Based on Phase II data, no COCs for Wetland 63B were identified.

Wetland 63B HHRA COC Summary

No COCs were identified in the HHRA for Wetland 63B.

13.2.6 Wetland 63B — Fate and Transport Analysis

This wetland is located on the eastern side of former Chevalier Field and is bounded by Pensacola Bay on its western side. There were no borings or wells proximal to this wetland; therefore only the sediment/surface water transport pathways were completed.

Four sediment samples and two surface water samples were collected from this wetland and used to evaluate the transport pathways. Flow within the wetland is to the east, and flow from this wetland eventually empties into Pensacola Bay (see Figure 13-1).

Surface Water/Sediment Transport Within The Wetlands:

Surface Water — To evaluate this pathway, upgradient location 041W63B4 was compared to downgradient location 041W63B2. Evaluation of these two locations indicated an increase in detected parameters (nine metals in the upgradient location versus 12 metals and one organic in the downgradient location). For the metals, three parameters present in the downgradient location were not detected in the upgradient, one metal exhibited a decrease, and eight constituents exhibited slight increases. The only organic detected downgradient was a phthalate and may be a lab artifact.

Sediment — To evaluate this pathway, upgradient location 041M63B4 was compared to downgradient locations 041M63B2 and 041M63B1. Evaluation of 041M63B4 with 041M63B2 indicated an increase in inorganic detections and a decrease in organic detections (13 metals and 15 organics upgradient versus 16 metals and seven organics downgradient). For the metals, five parameters were present in the downgradient locations that were not detected in the upgradient location, and 13 constituent exhibited marked increases. For the organics,

two compounds were present in the downgradient locations that were not detected in the upgradient, one constituent remained the same, two compounds decreased in concentration, and two organics increased in concentration. TOC exhibited a marked increase, which may explain the increase in metals by supplying a ready substrate for adsorption. Organic detections and concentrations were notable in that there was a significant drop in BAP equivalents and napthalenes (likely derived from storm water runoff from Chevalier Field), indicating that these compounds were being fixed relatively rapidly within the wetland.

Evaluation of upgradient location 041M63B4 with downgradient location 041M63B2 also indicated an increase in inorganic detections and a decrease in organics (13 metals and 15 organics at the upgradient versus 16 metals and seven organics at the downgradient). For the metals, one parameter was present in the downgradient that was not present in the upgradient location, three metals exhibited a decrease, and 12 parameters exhibited an increase. For the organics, one compound was present in the downgradient location that was not detected in the upgradient, three constituents exhibited a decrease, and three organics exhibited an increase. The organics detected downgradient included more pesticides but fewer BAP equivalents and napthalenes than the upgradient location. Similar to the other downgradient location evaluated in this wetland (041M63B1), this indicated that these compounds were being fixed relatively rapidly within the wetland.

Table 13-2-1
Wetland 63B Phase II
Sediment Physical Parameters

Parameter	041M63B101	041M63B201	041M63B301	041M63B401
TOC (%)	2.52	0.24	0.143	0.295
Percent Solids (%)	69	69.7	76.4	75.7
Grain Size Analysis (percent of composition[1])				
Fine Gravel	0	0	1	0
Coarse Sand	0	1	1	0
Medium Sand	42	6	45	28
Fine Sand	39	91	52	71
Silt and Clay	19	2	1	1
Description	Black Silty Sand with Organics	Dark Grayish Brown Poorly Graded Sand, Fine, Trace of Silt, Organics	Light Yellowish Brown Poorly Graded Sand, Medium, with organics	Pale Brown Poorly Graded Sand, Fine

Note:
[1] = Derived from sieve analyses.

Table 13-2-2
Wetland 63B Phase II
Surface Water Physical Parameters

Parameter	041W63B201	041W63B201
Hardness as CaCO3 (mg/L)	141	136
pH	6.35	6.13
Specific Conductivity (mS/cm)	0.638	0.011
Turbidity (NTU)	5	13
Salinity (%)	0.02	0

Notes:
mg/L = Milligrams per liter
MS/cm = Millisiemens per centimeter
NTU = Nephelometric turbidity units
% = Percent

Table 13-2-3
Wetland 63B Phase II
Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Average Detection	Maximum Detection Location
Metals (mg/kg)								
Aluminum	4,274.0	0	4	4	101.0	1,960.0	650.0	041M63B101
Antimony	0.260	1	1	4	0.250	0.250	0.191	041M63B201
Arsenic	2.140	0	2	4	0.240	0.430	0.20	041M63B101
Barium	3.840	1	4	4	0.710	4.0	1.70	041M63B101
Beryllium	0.130	0	1	4	0.10	0.10	0.051	041M63B101
Calcium	1,978.80	1	4	4	191.0	3,230.0	1,320.0	041M63B101
Chromium	13.10	0	4	4	0.340	5.20	1.940	041M63B101
Cobalt	0.910	0	2	4	0.20	0.420	0.188	041M63B101
Copper	8.440	0	4	4	0.350	4.40	1.690	041M63B101
Iron	2,684.40	0	4	4	112.0	1,290.0	565.0	041M63B101
Lead	21.040	0	4	4	0.950	13.0	4.410	041M63B101
Magnesium	2,943.60	0	4	4	33.60	410.0	151.0	041M63B101
Manganese	9.810	0	4	4	0.880	7.10	3.250	041M63B101
Nickel	3.690	0	1	4	0.880	0.880	0.450	041M63B101
Potassium	899.720	0	4	4	10.30	121.0	47.40	041M63B101
Selenium	0.660	0	1	4	0.40	0.40	0.201	041M63B101
Sodium	11,439.60	0	4	4	28.40	129.0	70.0	041M63B101
Vanadium	8.590	0	4	4	0.350	3.90	1.490	041M63B101
Zinc	14.360	0	4	4	0.790	13.0	4.50	041M63B101
PAHs (g/kg)								
2-Methylnaphthalene	N/A	0	1	4	24.0	24.0	25.90	041M63B401
Acenaphthene	N/A	0	1	4	39.0	39.0	19.40	041M63B401
Anthracene	N/A	0	1	4	44.0	44.0	30.90	041M63B401
Benzo(a)pyrene	N/A	0	1	4	39.0	39.0	26.30	041M63B101
Fluoranthene	N/A	0	3	4	41.0	86.0	51.80	041M63B201
Fluorene	N/A	0	1	4	47.0	47.0	21.40	041M63B401
Naphthalene	N/A	0	1	4	23.0	23.0	25.60	041M63B401
Phenanthrene	N/A	0	1	4	120.0	120.0	49.90	041M63B401
Pyrene	N/A	0	3	4	41.0	65.0	42.0	041M63B201
Total PAHs	N/A	0	3	4	380.0	507.0	395.0	041M63B401
Pesticides and PCBs (g/kg)								
Aroclor-1260	N/A	0	4	4	1.20	6.30	3.0	041M63B101
Total PCBs	N/A	0	4	4	6.30	10.70	8.790	041M63B401
Endosulfan sulfate	N/A	0	1	3	0.980	0.980	0.398	041M63B201
4,4'-DDD	50.0	0	2	3	0.230	0.340	0.225	041M63B201
4,4'-DDE	40.0	0	3	4	0.270	0.370	0.276	041M63B401

Table 13-2-3
Wetland 63B Phase II
Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Average Detection	Maximum Detection Location
Pesticides and PCBs (g/kg) - cont.								
Total DDT	110.0	0	3	4	0.360	0.725	0.527	041M63B201
SVOCs (g/kg)					30.701	43.805	32.627	041M63B401
Benzo(b)fluoranthene	N/A	0	1	4	28.535	41.664	31.398	041M63B401
bis(2-Ethylhexyl)phthalate (BEHP)	N/A	0	3	4	26.370	39.524	30.170	041M63B401
Butylbenzylphthalate	N/A	0	1	4	24.205	37.383	28.941	041M63B101
Dibenzofuran	N/A	0	1	4	22.039	35.242	27.712	041M63B201
Di-n-butylphthalate	N/A	0	1	4	19.874	33.102	26.484	041M63B401

Notes:
g/kg = micrograms per kilogram
mg/kg = milligram per kilogram
N/A = Not Applicable

Table 13-2-4
Wetland 63B Phase II
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (g/L)								
Aluminum	2,927.5	0	2	2	157.0	1,300.0	729.0	041W63B201
Arsenic	3.6	0	1	2	3.1	3.1	3.1	041W63B201
Barium	9.43	2	2	2	44.7	53.0	48.9	041W63B201
Calcium	76,800.0	0	2	2	37,800.0	39,000.0	38,400.0	041W63B201
Iron	1,352.0	1	2	2	206.0	1,560.0	883.0	041W63B201
Lead	13.75	0	1	2	5.3	5.3	5.3	041W63B201
Magnesium	243,650.0	0	2	2	10,100.0	10,600.0	10,400.0	041W63B201
Manganese	12.15	2	2	2	21.4	40.1	30.8	041W63B201
Potassium	81,250.0	0	2	2	7,720.0	7,900.0	7,810.0	041W63B401
Sodium	1,952,000.0	0	2	2	64,400.0	71,700.0	68,100.0	041W63B201
Vanadium	6.69	0	1	2	3.5	3.5	3.5	041W63B201
Zinc	12.88	1	2	2	4.8	13.7	9.25	041W63B201
SVOCs (g/L)								
Di-n-butylphthalate	N/A	0	1	2	22.0	22.0	22.0	041W63B201

Notes:
g/L = micrograms per liter
N/A = Not Applicable

Table 13-2-5
Wetland 63B Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Metals (mg/kg)														
Aluminum	4	4			101	1,960	041M63B101	1,960	J		N/A		Yes	No SV
Antimony	1	4	0.065	0.385	0.25	0.25	041M63B201	0.25	J	12	2	0.02	No	Max Detect < SV
Arsenic	2	4	0.065	0.065	0.24	0.43	041M63B101	0.43	J	7.24	1, 2	0.06	No	Max Detect < SV
Barium	4	4			0.71	4	041M63B101	4	J		N/A		Yes	No SV
Beryllium	1	4	0.03	0.04	0.1	0.1	041M63B101	0.1	J		N/A		Yes	No SV
Cadmium	0	4	0.065	0.075			ND	0.075	U	0.676	1	0.11	No	Max SQL< SV
Calcium	4	4			191	3,230	041M63B101	3,230	J		N/A		Yes	No SV
Chromium	4	4			0.34	5.2	041M63B101	5.2		52.3	1, 2	0.10	No	Max Detect < SV
Cobalt	2	4	0.065	0.065	0.2	0.42	041M63B101	0.42	J		N/A		Yes	No SV
Copper	4	4			0.35	4.4	041M63B101	4.4		18.7	1, 2	0.24	No	Max Detect < SV
Cyanide (CN)	0	4	0.31	0.35			ND	0.35	U		N/A		Yes	No SV
Iron	4	4			112	1,290	041M63B101	1,290			N/A		Yes	No SV
Lead	4	4			0.95	13	041M63B101	13		30.2	1, 2	0.43	No	Max Detect < SV
Magnesium	4	4			33.6	410	041M63B101	410			N/A		Yes	No SV
Manganese	4	4			0.88	7.1	041M63B101	7.1			N/A		Yes	No SV
Mercury	0	4	0.025	0.035			ND	0.035	U	0.13	1, 2	0.27	No	Max SQL< SV
Nickel	1	4	0.285	0.34	0.88	0.88	041M63B101	0.88	J	15.9	1, 2	0.06	No	Max Detect < SV
Potassium	4	4			10.3	121	041M63B101	121	J		N/A		Yes	No SV
Selenium	1	4	0.125	0.15	0.4	0.4	041M63B101	0.4			N/A		Yes	No SV
Silver	0	4	0.155	0.195			ND	0.195	U	0.733	1	0.27	No	Max SQL< SV
Sodium	4	4			28.4	129	041M63B101	129	J		N/A		Yes	No SV
Thallium	0	4	0.125	0.155			ND	0.155	U		N/A		Yes	No SV
Vanadium	4	4			0.35	3.9	041M63B101	3.9			N/A		Yes	No SV
Zinc	4	4			0.79	13	041M63B101	13		124	1, 2	0.11	No	Max Detect < SV
PAHs (µg/kg)														
2-Methylnaphthalene	**1**	**4**	**21**	**35.5**	**24**	**24**	**041M63B401**	**24**	**J**	**20.2**	**1**	**1.19**	No	TOC Normalized PAHs<TEC
Acenaphthene	**1**	**4**	**10.5**	**17**	**39**	**39**	**041M63B401**	**39**		**6.71**	**1**	**5.81**	No	TOC Normalized PAHs<TEC
Acenaphthylene	0	4	21	35.5			ND	35.5	U	5.87	1	6.05	No	TOC Normalized PAHs<TEC
Anthracene	1	4	21	35.5	44	44	041M63B401	44		46.9	1	0.94	No	TOC Normalized PAHs<TEC
Benzo(a)anthracene	0	4	21	35.5			ND	35.5	U	74.8	1	0.48	No	TOC Normalized PAHs<TEC
Benzo(a)pyrene	1	4	21	23	39	39	041M63B101	39	J	88.8	1	0.44	No	TOC Normalized PAHs<TEC
Chrysene	0	4	21	35.5			ND	35.5	U	108	1	0.33	No	TOC Normalized PAHs<TEC
Dibenz(a,h)anthracene	0	4	21	35.5			ND	35.5	U	6.22	1	5.71	No	TOC Normalized PAHs<TEC
Fluoranthene	3	4	21	21	41	86	041M63B201	86		113	1	0.76	No	TOC Normalized PAHs<TEC
Fluorene	**1**	**4**	**10.5**	**17**	**47**	**47**	**041M63B401**	**47**		**21.2**	**1**	**2.22**	No	TOC Normalized PAHs<TEC
Naphthalene	1	4	21	35.5	23	23	041M63B401	23	J	34.6	1	0.67	No	TOC Normalized PAHs<TEC
Phenanthrene	**1**	**4**	**21**	**35.5**	**120**	**120**	**041M63B401**	**120**		**86.7**	**1**	**1.38**	No	TOC Normalized PAHs<TEC
Pyrene	3	4	21	21	41	65	041M63B201	65		153	1	0.43	No	TOC Normalized PAHs<TEC
Total PAHs	3	4	252	252	380	507	041M63B401	507		1,684	1, 2	0.30	No	TOC Normalized PAHs<TEC
TOC Normalized PAHs	3	4	176.22	176.22	17.42	171.86	041M63B401	171.86		290	3	0.59	No	Max Detect < SV
PCBs (µg/kg)														
Aroclor-1016	0	3	1.05	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Aroclor-1221	0	3	2.1	2.35			ND	2.35	U	67	2	0.04	No	Max SQL< SV
Aroclor-1232	0		1.05	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Aroclor-1242	0	3	1.05	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Aroclor-1248	0	3	1.05	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Aroclor-1254	0	3	1.05	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Aroclor-1260	4	4			1.2	6.3	041M63B401	6.3		21.6	N/A	0.29	No	Max Detect < SV
Total PCBs	4	4			6.3	10.7	041M63B401	10.7		21.6	1	0.50	No	Max Detect < SV
Pesticides (µg/kg)														
Aldrin	0	3	0.055	0.06			ND	0.06	U		N/A		Yes	No SV
Dieldrin	0	3	0.105	0.115			ND	0.115	U	0.716	1	0.16	No	Max SQL< SV
Endosulfan I	0	3	0.055	0.06			ND	0.06	U		N/A		Yes	No SV
Endosulfan II	0	3	0.105	0.115			ND	0.115	U		N/A		Yes	No SV
Endosulfan sulfate	1	3	0.105	0.11	0.98	0.98	041M63B201	0.98	J		N/A		Yes	No SV
Heptachlor	0	3	0.055	0.06			ND	0.06	U		N/A		Yes	No SV
Heptachlor epoxide	0	3	0.055	0.06			ND	0.06	U		N/A		Yes	No SV
Methoxychlor	0	3	0.55	0.6			ND	0.6	U		N/A		Yes	No SV
Toxaphene	0	3	10.5	12			ND	12	U		N/A		Yes	No SV
alpha-Chlordane	0	3	0.055	0.06			ND	0.06	U	1.7	1	0.04	No	Max SQL< SV
gamma-Chlordane	0	3	0.055	0.06			ND	0.06	U	1.7	1	0.04	No	Max SQL< SV
Total Chlordane	0	3	0.11	0.12			ND	0.12	U	1.7	1	0.07	No	Max SQL< SV
Endrin	0	3	0.105	0.115			ND	0.115	U	3.3	2	0.03	No	Max SQL< SV
Endrin aldehyde	0	3	0.105	0.115			ND	0.115	U	3.3	2	0.03	No	Max SQL< SV
Endrin ketone	0	3	0.105	0.115			ND	0.115	U	3.3	2	0.03	No	Max SQL< SV
Total Endrin	0	3	0.315	0.345			ND	0.345	U	3.3	2	0.11	No	Max SQL< SV
alpha-BHC	0	3	0.055	0.06			ND	0.06	U		N/A		Yes	No SV
beta-BHC	0	3	0.055	0.06			ND	0.06	U	0.32	N/A	0.19	No	Max SQL< SV
delta-BHC	0	3	0.055	0.06			ND	0.06	U	0.32	N/A	0.19	No	Max SQL< SV
gamma-BHC (Lindane)	0	3	0.055	0.06			ND	0.06	U	0.32	1	0.19	No	Max SQL< SV
Total BHC	0	3	0.22	0.24			ND	0.24	U	0.32	2	0.75	No	Max SQL< SV
4,4'-DDD	2	3	0.105	0.105	0.23	0.34	041M63B201	0.34	J	1.22	1	0.28	No	Max Detect < SV
4,4'-DDE	3	4	0.105	0.105	0.27	0.37	041M63B401	0.37	J	2.07	1	0.18	No	Max Detect < SV
4,4'-DDT	0	3	0.105	0.115			ND	0.115	U	1.19	1	0.10	No	Max SQL< SV
Total DDT	3	4	0.315	0.315	0.36	0.725	041M63B201	0.725		3.3	2	0.22	No	Max Detect < SV
SVOCs (µg/kg)														
1,2,4-Trichlorobenzene	0	4	210	355			ND	355	U		N/A		Yes	No SV
1,2-Dichlorobenzene	0	4	210	355			ND	355	U		N/A		Yes	No SV
1,3-Dichlorobenzene	0	4	210	355			ND	355	U		N/A		Yes	No SV
1,4-Dichlorobenzene	0	4	210	355			ND	355	U		N/A		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	4	210	355			ND	355	U		N/A		Yes	No SV
2,4,5-Trichlorophenol	0	4	500	850			ND	850	U		N/A		Yes	No SV
2,4,6-Trichlorophenol	0	4	210	355			ND	355	U		N/A		Yes	No SV
2,4-Dichlorophenol	0	4	210	355			ND	355	U		N/A		Yes	No SV
2,4-Dimethylphenol	0	4	210	355			ND	355	U		N/A		Yes	No SV
2,4-Dinitrophenol	0	4	500	850			ND	850	U		N/A		Yes	No SV
2,4-Dinitrotoluene	0	4	210	355			ND	355	U		N/A		Yes	No SV
2,6-Dinitrotoluene	0	4	210	355			ND	355	U		N/A		Yes	No SV
2-Chloronaphthalene	0	4	210	355			ND	355	U		N/A		Yes	No SV
2-Chlorophenol	0	4	210	355			ND	355	U		N/A		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	4	500	850			ND	850	U		N/A		Yes	No SV
2-Methylphenol (o-Cresol)	0	4	210	355			ND	355	U		N/A		Yes	No SV
2-Nitroaniline	0	4	210	355			ND	355	U		N/A		Yes	No SV
2-Nitrophenol	0	4	210	355			ND	355	U		N/A		Yes	No SV
3,3'-Dichlorobenzidine	0	4	210	355			ND	355	U		N/A		Yes	No SV
3-Nitroaniline	0	4	500	850			ND	850	U		N/A		Yes	No SV
4-Bromophenyl-phenylether	0	4	210	355			ND	355	U		N/A		Yes	No SV
4-Chloro-3-methylphenol	0	4	210	355			ND	355	U		N/A		Yes	No SV
4-Chloroaniline	0	4	210	355			ND	355	U		N/A		Yes	No SV
4-Chlorophenylphenyl ether	0	4	210	355			ND	355	U		N/A		Yes	No SV
4-Methylphenol (p-Cresol)	0	4	210	355			ND	355	U		N/A		Yes	No SV
4-Nitroaniline	0	4	500	850			ND	850	U		N/A		Yes	No SV
4-Nitrophenol	0	4	500	850			ND	850	U		N/A		Yes	No SV
Benzo(b)fluoranthene	1	4	21	23	56	56	041M63B101	56	J		N/A		No	TOC Normalized PAHs<TEC
Benzo(g,h,i)perylene	0	4	21	35.5			ND	35.5	U		N/A		No	TOC Normalized PAHs<TEC
Benzo(k)fluoranthene	0	4	21	35.5			ND	35.5	U		N/A		No	TOC Normalized PAHs<TEC
bis(2-Chloroethoxy)methane	0	4	210	355			ND	355	U		N/A		Yes	No SV
bis(2-Chloroethyl)ether	0	4	21	35.5			ND	35.5	U		N/A		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	3	4	210	210	33	97	041M63B101	97	J	182	1, 2	0.53	No	Max Detect < SV
Butylbenzylphthalate	1	4	210	355	29	29	041M63B401	29	J	182	1, 2	0.16	No	Max Detect < SV
Carbazole	0	4	210	355			ND	355	U		N/A		Yes	No SV
Dibenzofuran	1	4	210	355	34	34	041M63B401	34	J		N/A		Yes	No SV
Diethylphthalate	0	4	210	355			ND	355	U	182	1, 2	1.95	Yes	Max SQL > SV
Dimethylphthalate	0	4	210	355			ND	355	U	182	1, 2	1.95	Yes	Max SQL > SV
Di-n-butylphthalate	1	4	210	355	27	27	041M63B401	27	J	182	1, 2	0.15	No	Max Detect < SV
Di-n-octylphthalate	0	4	210	355			ND	355	U	182	1, 2	1.95	Yes	Max SQL > SV
Hexachlorobenzene	0	4	210	355			ND	355	U		N/A		Yes	No SV
Hexachlorobutadiene	0	4	210	355			ND	355	U		N/A		Yes	No SV
Hexachlorocyclopentadiene	0	4	210	355			ND	355	U		N/A		Yes	No SV
Hexachloroethane	0	4	210	355			ND	355	U		N/A		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	4	21	35.5			ND	35.5	U		N/A		No	TOC Normalized PAHs<TEC
Isophorone	0	4	210	355			ND	355	U		N/A		Yes	No SV
Nitrobenzene	0	4	210	355			ND	355	U		N/A		Yes	No SV
N-Nitroso-di-n-propylamine	0	4	21	35.5			ND	35.5	U		N/A		Yes	No SV
N-Nitrosodiphenylamine	0	4	210	355			ND	355	U		N/A		Yes	No SV
Pentachlorophenol	0	4	500	850			ND	850	U		N/A		Yes	No SV
Phenol	0	4	210	355			ND	355	U		N/A		Yes	No SV

Table 13-2-5
Wetland 63B Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
VOCs (µg/kg)														
1,1,1-Trichloroethane	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
1,1,2,2-Tetrachloroethane	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
1,1,2-Trichloroethane	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
1,1-Dichloroethane	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
1,1-Dichloroethene	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
1,2-Dichloroethane	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
1,2-Dichloroethene (total)	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
1,2-Dichloropropane	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
2-Butanone (MEK)	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
2-Hexanone	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Acetone	0	4	7	29.5			ND	29.5	U		N/A		Yes	No SV
Benzene	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Bromodichloromethane	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Bromoform	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Bromomethane	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Carbon disulfide	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Carbon tetrachloride	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Chlorobenzene	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Chloroethane	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Chloroform	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Chloromethane	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
cis-1,3-Dichloropropene	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Dibromochloromethane	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Ethylbenzene	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Methylene chloride	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Styrene	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Tetrachloroethene	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Toluene	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
trans-1,3-Dichloropropene	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Trichloroethene	0	4	6.5	12			ND	12	U		N/A		Yes	No SV
Vinyl chloride	0	4	2	3.5			ND	3.5	U		N/A		Yes	No SV
Xylene (Total)	0	4	6.5	12			ND	12	U		N/A		Yes	No SV

Notes:

Sources for Screening Values:
SV = Screening Value
1 = USEPA Region 4 Screening Value. Detailed explanation for SVs provided in Section 8.0.
2 = FDEP Threshold effects level

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available.
U or ND = Not Detected at or above the SQL
J = Estimated value
SHQ = Screening Hazard Quotient

D = Diluted Result
mg/kg = milligrams per kilograms
g/kg = micrograms per kilograms
mg/kg oc = milligrams per kilograms - organic carbon
UJ = Not detected. SQL is estimated.
Parameters in bold were detected and exceeded screening values.

Table 13-2-6
Wetland 63B Phase II
Sediment COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	Endosulfan sulfate	Dibenzofuran	None
Barium			
Beryllium			
Calcium			
Cobalt			
Iron			
Magnesium			
Manganese			
Potassium			
Selenium			
Sodium			
Vanadium			
		Not Detected Parameters	
Cyanide (CN)	Aldrin	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane
Thallium	alpha-BHC	1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
	Endosulfan I	1,3-Dichlorobenzene	1,1,2-Trichloroethane
	Endosulfan II	1,4-Dichlorobenzene	1,1-Dichloroethane
	Heptachlor	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1-Dichloroethene
	Heptachlor epoxide	2,4,5-Trichlorophenol	1,2-Dichloroethane
	Methoxychlor	2,4,6-Trichlorophenol	1,2-Dichloroethene (total)
	Toxaphene	2,4-Dichlorophenol	1,2-Dichloropropane
		2,4-Dimethylphenol	2-Butanone (MEK)
		2,4-Dinitrophenol	2-Hexanone
		2,4-Dinitrotoluene	4-Methyl-2-Pentanone (MIBK)
		2,6-Dinitrotoluene	Acetone
		2-Chloronaphthalene	Benzene
		2-Chlorophenol	Bromodichloromethane
		2-Methyl-4,6-Dinitrophenol	Bromoform
		2-Methylphenol (o-Cresol)	Bromomethane
		2-Nitroaniline	Carbon disulfide
		2-Nitrophenol	Carbon tetrachloride
		3,3'-Dichlorobenzidine	Chlorobenzene
		3-Nitroaniline	Chloroethane
		4-Bromophenyl-phenylether	Chloroform
		4-Chloro-3-methylphenol	Chloromethane
		4-Chloroaniline	cis-1,3-Dichloropropene
		4-Chlorophenylphenyl ether	Dibromochloromethane
		4-Methylphenol (p-Cresol)	Ethylbenzene
		4-Nitroaniline	Methylene chloride
		4-Nitrophenol	Styrene
		bis(2-Chloroethoxy)methane	Tetrachloroethene
		bis(2-Chloroethyl)ether	Toluene
		Carbazole	trans-1,3-Dichloropropene
		Diethylphthalate	Trichloroethene
		Dimethylphthalate	Vinyl chloride
		Di-n-octylphthalate	Xylene (Total)
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	

Table 13-2-7
Wetland 63B Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	Number Analyzed	COPC Retained (Y/N)	Rationale
Metals (mg/kg)																								
Aluminum	4	4				650	101	1,960	1,960	J	041M63B101			NA					0	4,274	0	4	No	EPC < RC
Barium	4	4				1.7	0.71	4	4	J	041M63B101			NA					0	3.84	1	4	Yes	EPC > RC and no RV
Beryllium	1	4	0.035	0.03	0.04	0.0513	0.1	0.1	0.1	J	041M63B101			NA					0	0.13	0	4	No	EPC < RC
Calcium	4	4				1320	191	3,230	3,230	J	041M63B101			NA					0	1,978.80	1	4	No	Essential Nutrient
Cobalt	2	4	0.065	0.065	0.065	0.188	0.2	0.42	0.42	J	041M63B101			NA					0	0.91	0	4	No	EPC < RC
Cyanide (CN)	0	4	0.333	0.31	0.35	0.333			0.35	U	ND			NA					0	1.29	0	4	No	Parameter Not Detected
Iron	4	4				565	112	1,290	1,290		041M63B101			NA					0	2,684.40	0	4	No	EPC < RC
Magnesium	4	4				151	33.6	410	410		041M63B101			NA					0	2,943.60	0	4	No	EPC < RC
Manganese	4	4				3.25	0.88	7.1	7.1		041M63B101			NA					0	9.81	0	4	No	EPC < RC
Potassium	4	4				47.4	10.3	121	121	J	041M63B101			NA					0	899.72	0	4	No	EPC < RC
Selenium	1	4	0.135	0.125	0.15	0.201	0.4	0.4	0.4		041M63B101			NA					0	0.66	0	4	No	EPC < RC
Sodium	4	4				70	28.4	129	129	J	041M63B101			NA					0	11,439.60	0	4	No	EPC < RC
Thallium	0	4	0.14	0.125	0.155	0.14			0.155	U	ND			NA					0	0.39	0	4	No	Parameter Not Detected
Vanadium	4	4				1.5	0.35	3.9	3.9		041M63B101			NA					0	8.59	0	4	No	EPC < RC
Pesticides (g/kg)																								
Aldrin	0	3	0.0567	0.055	0.06	0.0567			0.06	U	ND			NA					0		0	3	No	Parameter Not Detected
Endosulfan I	0	3	0.0567	0.055	0.06	0.0567			0.06	U	ND			NA					0		0	3	No	Parameter Not Detected
Endosulfan II	0	3	0.11	0.105	0.115	0.11			0.115	U	ND			NA					0		0	3	No	Parameter Not Detected
Endosulfan sulfate	1	3	0.108	0.105	0.11	0.398	0.98	0.98	0.98	J	041M63B201			NA					0		0	3	Yes	No SV, no RV, and no RC
Heptachlor	0	3	0.0567	0.055	0.06	0.0567			0.06	U	ND			NA					0		0	3	No	Parameter Not Detected
Heptachlor epoxide	0	3	0.0567	0.055	0.06	0.0567			0.06	U	ND			NA					0		0	3	No	Parameter Not Detected
Methoxychlor	0	3	0.567	0.55	0.6	0.567			0.6	U	ND			NA					0		0	3	No	Parameter Not Detected
Toxaphene	0	3	11.3	10.5	12	11.3			12	U	ND			NA					0		0	3	No	Parameter Not Detected
alpha-BHC	0	3	0.0567	0.055	0.06	0.0567			0.06	U	ND		0.99	PEL			0.06	0.06	0		0	3	No	Parameter Not Detected
SVOCs (g/kg)																								
1,2,4-Trichlorobenzene	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
1,2-Dichlorobenzene	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
1,3-Dichlorobenzene	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
1,4-Dichlorobenzene	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	4	613	500	850	613			850	U	ND			NA					0		0	4	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
2,4-Dichlorophenol	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
2,4-Dimethylphenol	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
2,4-Dinitrophenol	0	4	613	500	850	613			850	U	ND			NA					0		0	4	No	Parameter Not Detected
2,4-Dinitrotoluene	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
2,6-Dinitrotoluene	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
2-Chloronaphthalene	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
2-Chlorophenol	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	4	613	500	850	613			850	U	ND			NA					0		0	4	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
2-Nitroaniline	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
2-Nitrophenol	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
3-Nitroaniline	0	4	613	500	850	613			850	U	ND			NA					0		0	4	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
4-Chloroaniline	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
4-Nitroaniline	0	4	613	500	850	613			850	U	ND			NA					0		0	4	No	Parameter Not Detected
4-Nitrophenol	0	4	613	500	850	613			850	U	ND			NA					0		0	4	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	4	25.4	21	35.5	25.4			35.5	U	ND			NA					0		0	4	No	Parameter Not Detected
Carbazole	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
Dibenzofuran	1	4	265	210	355	207	34	34	34	J	041M63B401			NA					0		0	4	Yes	No SV, no RV, and no RC
Diethylphthalate	0	4	254	210	355	254			355	U	ND	182	2,647	PEL	1.95	1.39	0.13	0.10	0		0	4	No	Parameter Not Detected
Dimethylphthalate	0	4	254	210	355	254			355	U	ND	182	2,647	PEL	1.95	1.39	0.13	0.10	0		0	4	No	Parameter Not Detected
Di-n-octylphthalate	0	4	254	210	355	254			355	U	ND	182	2,647	PEL	1.95	1.39	0.13	0.10	0		0	4	No	Parameter Not Detected
Hexachlorobenzene	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
Hexachlorobutadiene	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
Hexachloroethane	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
Isophorone	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
Nitrobenzene	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	4	25.4	21	35.5	25.4			35.5	U	ND			NA					0		0	4	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected
Pentachlorophenol	0	4	613	500	850	613			850	U	ND			NA					0		0	4	No	Parameter Not Detected
Phenol	0	4	254	210	355	254			355	U	ND			NA					0		0	4	No	Parameter Not Detected

Table 13-2-7
Wetland 63B Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	Number Analyzed	COPC Retained (Y/N)	Rationale
VOCs (g/kg)																								
1,1,1-Trichloroethane	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
1,1,2,2-Tetrachloroethane	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
1,1,2-Trichloroethane	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
1,1-Dichloroethane	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
1,1-Dichloroethene	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
1,2-Dichloroethane	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
1,2-Dichloroethene (total)	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
1,2-Dichloropropane	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
2-Butanone (MEK)	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
2-Hexanone	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Acetone	0	4	17.8	7	29.5	17.8			29.5	U	ND			NA					0		0	4	No	Parameter Not Detected
Benzene	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Bromodichloromethane	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Bromoform	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Bromomethane	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Carbon disulfide	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Carbon tetrachloride	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Chlorobenzene	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Chloroethane	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Chloroform	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Chloromethane	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Dibromochloromethane	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Ethylbenzene	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Methylene chloride	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Styrene	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Tetrachloroethene	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Toluene	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Trichloroethene	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected
Vinyl chloride	0	4	2.38	2	3.5	2.38			3.5	U	ND			NA					0		0	4	No	Parameter Not Detected
Xylene (Total)	0	4	8.25	6.5	12	8.25			12	U	ND			NA					0		0	4	No	Parameter Not Detected

Notes:

Sources for Refinement Values (RVs):
PEL = FDEP Probable Effects Level
MEC = Swartz Midrange Effect Concentration

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
Parameters in bold were detected and exceeded screening values.

J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8)
RV = Refinement value (detailed explanation of RVs provided in Section 8)
HQ = Hazard Quotient.
PEL = Probable effects level.

N/R = No refinement value available.
N/A = Not applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the maximum detection
NAS Pensacola basewide levels used as reference values for 4,4'-DDT, 4,4'-DDD, 4,4'-DDE and total DDT

Table 13-2-8
Wetland 63B Phase II
Sediment COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Barium	Endosulfan sulfate	Dibenzofuran	None

Table 13-2-9
Wetland 63B Phase II
Mean ERM Quotient

Sample_ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M63B101	1/18/1996	mg/kg	0.43	J	Arsenic	8.2	70	0.01
041M63B101	1/18/1996	mg/kg	0.075	U	Cadmium	1.2	9.6	0.01
041M63B101	1/18/1996	mg/kg	5.2		Chromium	81	370	0.01
041M63B101	1/18/1996	mg/kg	4.4		Copper	34	270	0.02
041M63B101	1/18/1996	mg/kg	13		Lead	46.7	218	0.06
041M63B101	1/18/1996	mg/kg	0.035	U	Mercury	0.15	0.71	0.05
041M63B101	1/18/1996	mg/kg	0.88	J	Nickel	20.9	51.6	0.02
041M63B101	1/18/1996	mg/kg	0.195	U	Silver	1	3.7	0.05
041M63B101	1/18/1996	mg/kg	13		Zinc	150	410	0.03
041M63B101	1/18/1996	g/kg	0.36	J	4,4'-DDE	2.2	27	0.01
041M63B101	1/18/1996	g/kg	6.3		Total PCBs	22.7	180	0.04
041M63B101	1/18/1996	g/kg	35.5	U	2-Methylnaphthalene	70	670	0.05
041M63B101	1/18/1996	g/kg	17	U	Acenaphthene	16	500	0.03
041M63B101	1/18/1996	g/kg	35.5	U	Acenaphthylene	44	640	0.06
041M63B101	1/18/1996	g/kg	35.5	U	Anthracene	85.3	1,100	0.03
041M63B101	1/18/1996	g/kg	35.5	U	Benzo(a)anthracene	261	1,600	0.02
041M63B101	1/18/1996	g/kg	39	J	Benzo(a)pyrene	430	1,600	0.02
041M63B101	1/18/1996	g/kg	35.5	U	Chrysene	384	2,800	0.01
041M63B101	1/18/1996	g/kg	35.5	U	Dibenz(a,h)anthracene	63.4	260	0.14
041M63B101	1/18/1996	g/kg	41	J	Fluoranthene	600	5,100	0.01
041M63B101	1/18/1996	g/kg	17	U	Fluorene	19	540	0.03
041M63B101	1/18/1996	g/kg	35.5	U	Naphthalene	160	2,100	0.02
041M63B101	1/18/1996	g/kg	35.5	U	Phenanthrene	240	1,500	0.02
041M63B101	1/18/1996	g/kg	41	J	Pyrene	665	2,600	0.02
041M63B101	1/18/1996				ERM Quotient Sum			0.77
041M63B101	1/18/1996				Mean ERM Quotient			0.03
041M63B101	1/18/1996				Mean ERM Quotient without ND			0.01
041M63B101	1/18/1996				Mean ERM Quotient Category			1
041M63B201	1/18/1996	mg/kg	0.24	J	Arsenic	8.2	70	0.00
041M63B201	1/18/1996	mg/kg	0.075	U	Cadmium	1.2	9.6	0.01
041M63B201	1/18/1996	mg/kg	1.3		Chromium	81	370	0.00
041M63B201	1/18/1996	mg/kg	1.1	J	Copper	34	270	0.00
041M63B201	1/18/1996	mg/kg	1.8		Lead	46.7	218	0.01
041M63B201	1/18/1996	mg/kg	0.03	U	Mercury	0.15	0.71	0.04
041M63B201	1/18/1996	mg/kg	0.34	U	Nickel	20.9	51.6	0.01
041M63B201	1/18/1996	mg/kg	0.19	U	Silver	1	3.7	0.05
041M63B201	1/18/1996	mg/kg	2.6		Zinc	150	410	0.01
041M63B201	1/18/1996	g/kg	0.27	J	4,4'-DDE	2.2	27	0.01
041M63B201	1/18/1996	g/kg	0.115	U	4,4'-DDT	1.58	46.1	0.00
041M63B201	1/18/1996	g/kg	9.6		Total PCBs	22.7	180	0.05
041M63B201	1/18/1996	g/kg	23	U	2-Methylnaphthalene	70	670	0.03
041M63B201	1/18/1996	g/kg	11	U	Acenaphthene	16	500	0.02
041M63B201	1/18/1996	g/kg	23	U	Acenaphthylene	44	640	0.04
041M63B201	1/18/1996	g/kg	23	U	Anthracene	85.3	1,100	0.02
041M63B201	1/18/1996	g/kg	23	U	Benzo(a)anthracene	261	1,600	0.01
041M63B201	1/18/1996	g/kg	23	U	Benzo(a)pyrene	430	1,600	0.01
041M63B201	1/18/1996	g/kg	23	U	Chrysene	384	2,800	0.01
041M63B201	1/18/1996	g/kg	23	U	Dibenz(a,h)anthracene	63.4	260	0.09
041M63B201	1/18/1996	g/kg	86		Fluoranthene	600	5,100	0.02
041M63B201	1/18/1996	g/kg	11	U	Fluorene	19	540	0.02
041M63B201	1/18/1996	g/kg	23	U	Naphthalene	160	2,100	0.01

Table 13-2-9
Wetland 63B Phase II
Mean ERM Quotient

Sample_ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M63B201	1/18/1996	g/kg	23	U	Phenanthrene	240	1,500	0.02
041M63B201	1/18/1996	g/kg	65		Pyrene	665	2,600	0.03
041M63B201	1/18/1996				ERM Quotient Sum			0.53
041M63B201	1/18/1996				Mean ERM Quotient			0.02
041M63B201	1/18/1996				Mean ERM Quotient without ND			0.01
041M63B201	1/18/1996				Mean ERM Quotient Category			1
041M63B301	1/18/1996	mg/kg	0.065	U	Arsenic	8.2	70	0.00
041M63B301	1/18/1996	mg/kg	0.065	U	Cadmium	1.2	9.6	0.01
041M63B301	1/18/1996	mg/kg	0.34	J	Chromium	81	370	0.00
041M63B301	1/18/1996	mg/kg	0.35	J	Copper	34	270	0.00
041M63B301	1/18/1996	mg/kg	0.95		Lead	46.7	218	0.00
041M63B301	1/18/1996	mg/kg	0.025	U	Mercury	0.15	0.71	0.04
041M63B301	1/18/1996	mg/kg	0.285	U	Nickel	20.9	51.6	0.01
041M63B301	1/18/1996	mg/kg	0.155	U	Silver	1	3.7	0.04
041M63B301	1/18/1996	mg/kg	0.79	J	Zinc	150	410	0.00
041M63B301	1/18/1996	g/kg	0.105	U	4,4'-DDE	2.2	27	0.00
041M63B301	1/18/1996	g/kg	0.105	U	4,4'-DDT	1.58	46.1	0.00
041M63B301	1/18/1996	g/kg	8.55		Total PCBs	22.7	180	0.05
041M63B301	1/18/1996	g/kg	21	U	2-Methylnaphthalene	70	670	0.03
041M63B301	1/18/1996	g/kg	10.5	U	Acenaphthene	16	500	0.02
041M63B301	1/18/1996	g/kg	21	U	Acenaphthylene	44	640	0.03
041M63B301	1/18/1996	g/kg	21	U	Anthracene	85.3	1,100	0.02
041M63B301	1/18/1996	g/kg	21	U	Benzo(a)anthracene	261	1,600	0.01
041M63B301	1/18/1996	g/kg	21	U	Benzo(a)pyrene	430	1,600	0.01
041M63B301	1/18/1996	g/kg	21	U	Chrysene	384	2,800	0.01
041M63B301	1/18/1996	g/kg	21	U	Dibenz(a,h)anthracene	63.4	260	0.08
041M63B301	1/18/1996	g/kg	21	U	Fluoranthene	600	5,100	0.00
041M63B301	1/18/1996	g/kg	10.5	U	Fluorene	19	540	0.02
041M63B301	1/18/1996	g/kg	21	U	Naphthalene	160	2,100	0.01
041M63B301	1/18/1996	g/kg	21	U	Phenanthrene	240	1,500	0.01
041M63B301	1/18/1996	g/kg	21	U	Pyrene	665	2,600	0.01
041M63B301	1/18/1996				ERM Quotient Sum			0.43
041M63B301	1/18/1996				Mean ERM Quotient			0.02
041M63B301	1/18/1996				Mean ERM Quotient without ND			0.00
041M63B301	1/18/1996				Mean ERM Quotient Category			1
041M63B401	1/24/1996	mg/kg	0.065	U	Arsenic	8.2	70	0.00
041M63B401	1/24/1996	mg/kg	0.065	U	Cadmium	1.2	9.6	0.01
041M63B401	1/24/1996	mg/kg	0.91		Chromium	81	370	0.00
041M63B401	1/24/1996	mg/kg	0.9	J	Copper	34	270	0.00
041M63B401	1/24/1996	mg/kg	1.9		Lead	46.7	218	0.01
041M63B401	1/24/1996	mg/kg	0.025	U	Mercury	0.15	0.71	0.04
041M63B401	1/24/1996	mg/kg	0.295	U	Nickel	20.9	51.6	0.01
041M63B401	1/24/1996	mg/kg	0.165	U	Silver	1	3.7	0.04
041M63B401	1/24/1996	mg/kg	1.6		Zinc	150	410	0.00
041M63B401	1/24/1996	g/kg	0.37	J	4,4'-DDE	2.2	27	0.01
041M63B401	1/24/1996	g/kg	0.11	U	4,4'-DDT	1.58	46.1	0.00
041M63B401	1/24/1996	g/kg	10.7		Total PCBs	22.7	180	0.06
041M63B401	1/24/1996	g/kg	24	J	2-Methylnaphthalene	70	670	0.04
041M63B401	1/24/1996	g/kg	39		Acenaphthene	16	500	0.08
041M63B401	1/24/1996	g/kg	22	U	Acenaphthylene	44	640	0.03
041M63B401	1/24/1996	g/kg	44		Anthracene	85.3	1,100	0.04

Table 13-2-9
Wetland 63B Phase II
Mean ERM Quotient

Sample_ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M63B401	1/24/1996	g/kg	22	U	Benzo(a)anthracene	261	1,600	0.01
041M63B401	1/24/1996	g/kg	22	U	Benzo(a)pyrene	430	1,600	0.01
041M63B401	1/24/1996	g/kg	22	U	Chrysene	384	2,800	0.01
041M63B401	1/24/1996	g/kg	22	U	Dibenz(a,h)anthracene	63.4	260	0.08
041M63B401	1/24/1996	g/kg	59		Fluoranthene	600	5,100	0.01
041M63B401	1/24/1996	g/kg	47		Fluorene	19	540	0.09
041M63B401	1/24/1996	g/kg	23	J	Naphthalene	160	2,100	0.01
041M63B401	1/24/1996	g/kg	120		Phenanthrene	240	1,500	0.08
041M63B401	1/24/1996	g/kg	41	J	Pyrene	665	2,600	0.02
041M63B401	1/24/1996				ERM Quotient Sum			0.70
041M63B401	1/24/1996				Mean ERM Quotient			0.03
041M63B401	1/24/1996				Mean ERM Quotient without ND			0.02
041M63B401	1/24/1996				Mean ERM Quotient Category			2

Notes:
ERL = Effects Range Low
ERM = Effects Range Median
mg/kg = milligrams per kilogram
g/kg = micrograms per kilogram
U = not detected at or above the SQL (value in table is 1/2 reported value)
J = estimated value
Shaded cells indicate constituent exceeds ERL.
Shaded and bold cells indicate constituent exceeds ERM.

Table 13-2-10
Wetland 63B Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
Metals (g/L)																
Aluminum	2	2				729	157	1,300	041W63B201	1,300			NA		Yes	No SV
Antimony	0	2	3	1	5	3			ND	5	U		NA		Yes	No SV
Arsenic	1	2	1	1	1	2.05	3.1	3.1	041W63B201	3.1	J	36	EPA	0.09	No	Max Detect < SV
Barium	2	2				48.9	44.7	53	041W63B201	53	J		NA		Yes	No SV
Beryllium	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Cadmium	0	2	1	1	1	1			ND	1	UJ	9.3	EPA	0.11	No	Max SQL< SV
Calcium	2	2				38,400	37,800	39,000	041W63B201	39,000			NA		Yes	No SV
Chromium	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	50	EPA	0.05	No	Max SQL< SV
Cobalt	0	2	1	1	1	1			ND	1	U		NA		Yes	No SV
Copper	0	2	2	2	2	2			ND	2	U	2.9	EPA	0.69	No	Max SQL< SV
Cyanide (CN)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	1	EPA	2.5	Yes	Max SQL > SV
Iron	2	2				883	206	1560	041W63B201	1,560			NA		Yes	No SV
Lead	1	2	1	1	1	3.15	5.3	5.3	041W63B201	5.3		8.5	EPA	0.62	No	Max Detect < SV
Magnesium	2	2				10,400	10,100	10,600	041W63B201	10,600			NA		Yes	No SV
Manganese	2	2				30.8	21.4	40.1	041W63B201	40.1			NA		Yes	No SV
Mercury	0	2	0.065	0.065	0.065	0.065			ND	0.065	U	0.025	EPA	2.6	Yes	Max SQL > SV
Nickel	0	2	4.5	4.5	4.5	4.5			ND	4.5	U	8.3	EPA	0.54	No	Max SQL< SV
Potassium	2	2				7,810	7,720	7,900	041W63B401	7,900			NA		Yes	No SV
Selenium	0	2	2	2	2	2			ND	2	U	71	EPA	0.03	No	Max SQL< SV
Silver	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	0.23	EPA	10.9	Yes	Max SQL > SV
Sodium	2	2				68,100	64,400	71,700	041W63B201	71,700			NA		Yes	No SV
Thallium	0	2	2	2	2	2			ND	2	U	6.3	FDEP	0.32	No	Max SQL< SV
Vanadium	1	2	1	1	1	2.25	3.5	3.5	041W63B201	3.5	J		NA		Yes	No SV
Zinc	2	2				9.25	4.8	13.7	041W63B201	13.7	J	86	EPA	0.16	No	Max Detect < SV
Pesticides (g/L)																
Aldrin	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Dieldrin	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan I	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.0087	EPA	2.87	Yes	Max SQL > SV
Endosulfan II	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan sulfate	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Heptachlor	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.0036	EPA	6.94	Yes	Max SQL > SV
Heptachlor epoxide	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	Yes	Max SQL > SV
Methoxychlor	0	2	0.25	0.25	0.25	0.25			ND	0.25	U		NA		Yes	No SV
Toxaphene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
alpha-Chlordane	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-Chlordane	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Total Chlordane	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.004	EPA	12.5	Yes	Max SQL > SV
Endrin	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin aldehyde	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin ketone	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	21.7	Yes	Max SQL > SV
Total Endrin	0	2	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
alpha-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.005	FDEP	5	Yes	Max SQL > SV
beta-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
delta-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-BHC (Lindane)	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.016	EPA	1.56	Yes	Max SQL > SV
Total BHC	0	2	0.1	0.1	0.1	0.1			ND	0.1	U		NA		Yes	No SV
4,4'-DDD	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	Yes	Max SQL > SV
4,4'-DDE	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	Yes	Max SQL > SV
4,4'-DDT	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP	84.7	Yes	Max SQL > SV
Total DDT	0	2	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV

Table 13-2-10
Wetland 63B Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
PCBs (g/L)																
Aroclor-1016	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1221	0	2	1	1	1	1			ND	1	U		NA		Yes	No SV
Aroclor-1232	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1242	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1248	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1254	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1260	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	FDEP	35.7	Yes	Max SQL > SV
Total PCB	0	2	4	4	4	4			ND	4	U		NA		Yes	No SV
SVOCs (g/L)																
1,2,4-Trichlorobenzene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4,5-Trichlorophenol	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4,6-Trichlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dichlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dimethylphenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dinitrophenol	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4-Dinitrotoluene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,6-Dinitrotoluene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chloronaphthalene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
2-Methylphenol (o-Cresol)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitroaniline	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitrophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3,3'-Dichlorobenzidine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3-Nitroaniline	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Bromophenyl-phenylether	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloro-3-methylphenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloroaniline	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chlorophenylphenyl ether	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methylphenol (p-Cresol)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Nitroaniline	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Nitrophenol	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
Benzo(b)fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(g,h,i)perylene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(k)fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Chloroethoxy)methane	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
bis(2-Chloroethyl)ether	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Butylbenzylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dibenzofuran	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Diethylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dimethylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Di-n-butylphthalate	**1**	**2**	**2.5**	**2.5**	**2.5**	**12.3**	**22**	**22**	**041W63B201**	**22**		**3.4**	**EPA**	**6.47**	**Yes**	**Max Detect > SV**
Di-n-octylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Hexachlorobutadiene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorocyclopentadiene	0	2	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA		Yes	No SV
Hexachloroethane	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Isophorone	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Nitrobenzene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitroso-di-n-propylamine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitrosodiphenylamine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Pentachlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Phenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV

Table 13-2-10
Wetland 63B Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
PAHs (g/L)																
2-Methylnaphthalene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthylene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chrysene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibenz(a,h)anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluorene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Naphthalene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	23.5	EPA	0.02	No	Max SQL< SV
Phenanthrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Total PAH	0	2	6.5	6.5	6.5	6.5			ND	6.5	U		NA		Yes	No SV
VOCs (g/L)																
1,1,1-Trichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	270	FDEP	0.00	No	Max SQL< SV
1,1,2,2-Tetrachloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1,2-Trichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	3.2	FDEP	0.16	No	Max SQL< SV
1,2-Dibromo-3-Chloropropane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dibromoethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	19.7	EPA	0.03	No	Max SQL< SV
1,2-Dichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichloropropane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,3-Dichlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	3	FDEP	0.17	No	Max SQL< SV
2-Hexanone	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Benzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	71.28	FDEP	0.01	No	Max SQL< SV
Bromochloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromodichloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromoform	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromomethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon disulfide	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon tetrachloride	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	17	FDEP	0.03	No	Max SQL< SV
Chloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chloroform	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	470.8	FDEP	0.00	No	Max SQL< SV
Chloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,2-Dichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,3-Dichloropropene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibromochloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Ethylbenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	4.3	EPA	0.12	No	Max SQL< SV
Methylene chloride	0	2	1.75	1	2.5	1.75			ND	2.5	U	1,580	FDEP	0.00	No	Max SQL< SV
Styrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Tetrachloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Toluene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	37	EPA	0.01	No	Max SQL< SV
trans-1,2-Dichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
trans-1,3-Dichloropropene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Trichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Vinyl chloride	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Xylene (Total)	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
N/R = No refinement value available.
N/A = Not Applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the maximum detections.
Parameters in bold were detected and exceeded the screening value.

Table 13-2-11
Wetland 63B Phase II
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	Di-n-butylphthalate	None
Barium			
Calcium			
Iron			
Magnesium			
Manganese			
Potassium			
Sodium			
Vanadium			
		Not Detected Parameters	
Antimony	Aldrin	1,2,4-Trichlorobenzene	1,1,2,2-Tetrachloroethane
Beryllium	Dieldrin	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1,2-Trichloroethane
Cobalt	Endosulfan I	2,4,5-Trichlorophenol	1,1-Dichloroethane
Cyanide (CN)	Endosulfan II	2,4,6-Trichlorophenol	1,2-Dibromo-3-Chloropropane
Mercury	Endosulfan sulfate	2,4-Dichlorophenol	1,2-Dibromoethane
Silver	Heptachlor	2,4-Dimethylphenol	1,2-Dichloroethane
	Heptachlor epoxide	2,4-Dinitrophenol	1,2-Dichloropropane
	Methoxychlor	2,4-Dinitrotoluene	1,3-Dichlorobenzene
	Toxaphene	2,6-Dinitrotoluene	2-Hexanone
	alpha-Chlordane	2-Chloronaphthalene	4-Methyl-2-Pentanone (MIBK)
	gamma-Chlordane	2-Chlorophenol	Bromochloromethane
	Total Chlordane	2-Methyl-4,6-Dinitrophenol	Bromodichloromethane
	Endrin	2-Methylphenol (o-Cresol)	Bromoform
	Endrin aldehyde	2-Nitroaniline	Bromomethane
	Endrin ketone	2-Nitrophenol	Carbon disulfide
	Total Endrin	3,3'-Dichlorobenzidine	Carbon tetrachloride
	alpha-BHC	3-Nitroaniline	Chloroethane
	beta-BHC	4-Bromophenyl-phenylether	Chloromethane
	delta-BHC	4-Chloro-3-methylphenol	cis-1,2-Dichloroethene
	gamma-BHC (Lindane)	4-Chloroaniline	cis-1,3-Dichloropropene
	Total BHC	4-Chlorophenylphenyl ether	Dibromochloromethane
	4,4'-DDD	4-Methylphenol (p-Cresol)	Styrene
	4,4'-DDE	4-Nitroaniline	Tetrachloroethene
	4,4'-DDT	4-Nitrophenol	trans-1,2-Dichloroethene
	Total DDT	Benzo(b)fluoranthene	trans-1,3-Dichloropropene
	Aroclor-1016	Benzo(g,h,i)perylene	Trichloroethene
	Aroclor-1221	Benzo(k)fluoranthene	Vinyl chloride
	Aroclor-1232	bis(2-Chloroethoxy)methane	Xylene (Total)
	Aroclor-1242	bis(2-Chloroethyl)ether	
	Aroclor-1248	bis(2-Ethylhexyl)phthalate (BEHP)	
	Aroclor-1254	Butylbenzylphthalate	
	Aroclor-1260	Dibenzofuran	
	Total PCBs	Diethylphthalate	
		Dimethylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Indeno(1,2,3-cd)pyrene	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	
		2-Methylnaphthalene	
		Acenaphthene	
		Acenaphthylene	
		Anthracene	
		Benzo(a)anthracene	
		Benzo(a)pyrene	
		Chrysene	
		Dibenz(a,h)anthracene	
		Fluoranthene	
		Fluorene	
		Phenanthrene	
		Pyrene	
		Total PAHs	

Table 13-2-12
Wetland 63B Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maxmum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
Metals (µg/L)																				
Aluminum	2	2				729	157	1300	041W63B201	1,300			NA			2,930	0	2	No	Max Result < Ref. Conc.
Antimony	0	2	3	1	5	3			ND	5	U		NA			4.15	1	2	No	Max Result > Ref. Conc.;Parameter Not Detected
Barium	2	2				48.9	44.7	53	041W63B201	53	J		NA			9.43	2	2	Yes	Max Result > Ref. Conc.
Beryllium	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA			0.82	0	2	No	Max Result < Ref. Conc.
Calcium	2	2				38,400	37,800	39,000	041W63B201	39,000			NA			76,800	0	2	No	Max Result < Ref. Conc.
Cobalt	0	2	1	1	1	1			ND	1	U		NA			2.38	0	2	No	Max Result < Ref. Conc.
Cyanide (CN)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	1	EPA	2.5	2.5	4.1	0	2	No	Max Result < Ref. Conc.
Iron	2	2				883	206	1560	041W63B201	1,560			NA			1350	1	2	Yes	Max Result > Ref. Conc.
Magnesium	2	2				10,400	10,100	10,600	041W63B201	10,600			NA			244,000	0	2	No	Max Result < Ref. Conc.
Manganese	2	2				30.8	21.4	40.1	041W63B201	40.1			NA			12.2	2	2	Yes	Max Result > Ref. Conc.
Mercury	0	2	0.065	0.065	0.065	0.065			ND	0.065	U	0.025	EPA	2.6	2.6	0.21	0	2	No	Max Result < Ref. Conc.
Potassium	2	2				7810	7,720	7,900	041W63B401	7,900			NA			81,300	0	2	No	Max Result < Ref. Conc.
Silver	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	0.23	EPA	11	10.9	3.01	0	2	No	Max Result < Ref. Conc.
Sodium	2	2				68,100	64,400	71,700	041W63B201	71,700			NA			1,950,000	0	2	No	Max Result < Ref. Conc.
Vanadium	1	2	1	1	1	2.25	3.5	3.5	041W63B201	3.5	J		NA			6.69	0	2	No	Max Result < Ref. Conc.
Pesticides (µg/L)																				
Aldrin	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Dieldrin	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Endosulfan I	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.0087	EPA	3	2.87		0	2	No	No Ref. Conc.; Parameter Not Detected
Endosulfan II	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Endosulfan sulfate	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Heptachlor	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.0036	EPA	7	6.94		0	2	No	No Ref. Conc.; Parameter Not Detected
Heptachlor epoxide	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	625		0	2	No	No Ref. Conc.; Parameter Not Detected
Methoxychlor	0	2	0.25	0.25	0.25	0.25			ND	0.25	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Toxaphene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
alpha-Chlordane	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
gamma-Chlordane	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Total Chlordane	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.004	EPA	12.5	12.5		0	2	No	No Ref. Conc.; Parameter Not Detected
Endrin	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Endrin aldehyde	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Endrin ketone	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	22	21.7		0	2	No	No Ref. Conc.; Parameter Not Detected
Total Endrin	0	2	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
alpha-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.005	FDEP	5	5		0	2	No	No Ref. Conc.; Parameter Not Detected
beta-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
delta-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
gamma-BHC (Lindane)	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.016	EPA	2	1.56		0	2	No	No Ref. Conc.; Parameter Not Detected
Total BHC	0	2	0.1	0.1	0.1	0.1			ND	0.1	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
4,4'-DDD	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	167		0	2	No	No Ref. Conc.; Parameter Not Detected
4,4'-DDE	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	250		0	2	No	No Ref. Conc.; Parameter Not Detected
4,4'-DDT	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP	85	84.7		0	2	No	No Ref. Conc.; Parameter Not Detected
Total DDT	0	2	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
PCBs (µg/L)																				
Aroclor-1016	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Aroclor-1221	0	2	1	1	1	1			ND	1	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Aroclor-1232	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Aroclor-1242	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Aroclor-1248	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Aroclor-1254	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Aroclor-1260	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	FDEP	36	35.7		0	2	No	No Ref. Conc.; Parameter Not Detected
Total PCB	0	2	4	4	4	4			ND	4	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
SVOCs (µg/L)																				
1,2,4-Trichlorobenzene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
2,4,5-Trichlorophenol	0	2	10	10	10	10			ND	10	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
2,4,6-Trichlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
2,4-Dichlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
2,4-Dimethylphenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
2,4-Dinitrophenol	0	2	10	10	10	10			ND	10	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
2,4-Dinitrotoluene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
2,6-Dinitrotoluene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
2-Chloronaphthalene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
2-Chlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	2	10	10	10	10			ND	10	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
2-Methylphenol (o-Cresol)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
2-Nitroaniline	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
2-Nitrophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
3,3'-Dichlorobenzidine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
3-Nitroaniline	0	2	10	10	10	10			ND	10	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
4-Bromophenyl-phenylether	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
4-Chloro-3-methylphenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
4-Chloroaniline	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
4-Chlorophenylphenyl ether	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
4-Methylphenol (p-Cresol)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
4-Nitroaniline	0	2	10	10	10	10			ND	10	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
4-Nitrophenol	0	2	10	10	10	10			ND	10	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Benzo(b)fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Benzo(g,h,i)perylene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Benzo(k)fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected

Table 13-2-12
Wetland 63B Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maxmum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
SVOCs (µg/L) - cont.																				
bis(2-Chloroethoxy)methane	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
bis(2-Chloroethyl)ether	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Butylbenzylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Dibenzofuran	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Diethylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Dimethylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Di-n-butylphthalate	**1**	**2**	**2.5**	**2.5**	**2.5**	**12.3**	**22**	**22**	**041W63B201**	**22**		**3.4**	**EPA**	**6.47**	**3.6**		**0**	**2**	**Yes**	**No Ref. Conc.**
Di-n-octylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Hexachlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Hexachlorobutadiene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Hexachlorocyclopentadiene	0	2	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Hexachloroethane	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Indeno(1,2,3-cd)pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Isophorone	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Nitrobenzene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
N-Nitroso-di-n-propylamine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
N-Nitrosodiphenylamine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Pentachlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Phenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
PAHs (µg/L)																				
2-Methylnaphthalene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Acenaphthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Acenaphthylene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Benzo(a)anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Benzo(a)pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Chrysene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Dibenz(a,h)anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Fluorene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Naphthalene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	23.5	EPA	0.02	0.02		0	2	No	No Ref. Conc.; Parameter Not Detected
Phenanthrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Total PAH	0	2	6.5	6.5	6.5	6.5			ND	6.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
VOCs (µg/L)																				
1,1,2,2-Tetrachloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
1,1,2-Trichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
1,1-Dichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
1,2-Dibromo-3-Chloropropane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
1,2-Dibromoethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
1,2-Dichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
1,2-Dichloropropane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
1,3-Dichlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
2-Hexanone	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Bromochloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Bromodichloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Bromoform	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Bromomethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Carbon disulfide	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Carbon tetrachloride	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Chloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Chloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
cis-1,2-Dichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
cis-1,3-Dichloropropene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Dibromochloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Styrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Tetrachloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
trans-1,2-Dichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
trans-1,3-Dichloropropene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Trichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Vinyl chloride	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected
Xylene (Total)	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	2	No	No Ref. Conc.; Parameter Not Detected

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL

UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
PEL = Probable effects level.
N/R = No refinement value available.

N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the Max detections.
Parameters in bold were detected and exceeded Ref. Conc.s.

Table 13-2-13
Wetland 63B Phase II
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Iron Manganese Barium	None	Di-n-butylphthalate	None

Table 13-2-14
Wetland 63B Phase II
Sediment Dermal Exposure Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration (mg/kg)	Min. Qual.	Maximum Concentration (mg/kg)	Max. Qual.	Units	Location of Max. Conc.	Detection Frequency	Range of Detection Limits	Mean	ABS_{sd}	ABS_{sd} Source	DA_{event}: Child Trespasser	DA_{event}: Adult Maintenance Worker	DAD_{sd} (mg/kg-day): Child Trespasser	DAD_{sd} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	1.0E+02	J	2.0E+03	J	MG/KG	041M63B101	4 / 4	NAV	6.5E+02	1.0E-03	3	3.92E-07	1.96E-07	6.21E-06	4.15E-06
7440393	Barium	N	7.1E-01	J	4.0E+00	J	MG/KG	041M63B101	4 / 4	NAV	1.7E+00	1.0E-03	3	8.00E-10	4.00E-10	1.27E-08	8.47E-09
7440417	Beryllium	N	N/A	N/A	1.0E-01	J	MG/KG	041M63B101	1 / 4	6.0E-02 / 8.0E-02	5.1E-02	1.0E-03	3	2.00E-11	1.00E-11	3.17E-10	2.12E-10
7440484	Cobalt	C	2.0E-01	J	4.2E-01	J	MG/KG	041M63B101	2 / 4	1.3E-01 / 1.3E-01	1.9E-01	1.0E-03	3	8.40E-11	4.20E-11	1.90E-10	3.17E-10
7439896	Iron	N	1.1E+02	=	1.3E+03	=	MG/KG	041M63B101	4 / 4	NAV	5.6E+02	1.0E-03	3	2.58E-07	1.29E-07	4.08E-06	2.73E-06
7439965	Manganese	N	8.8E-01	J	7.1E+00	=	MG/KG	041M63B101	4 / 4	NAV	3.2E+00	1.0E-03	3	1.42E-09	7.10E-10	2.25E-08	1.50E-08
7782492	Selenium	N	N/A	N/A	4.0E-01	=	MG/KG	041M63B101	1 / 4	2.5E-01 / 3.0E-01	2.0E-01	1.0E-03	3	8.00E-11	4.00E-11	1.27E-09	8.47E-10
7440622	Vanadium	N	3.5E-01	J	3.9E+00	=	MG/KG	041M63B101	4 / 4	NAV	1.5E+00	1.0E-03	3	7.80E-10	3.90E-10	1.23E-08	8.25E-09
72548	4,4'-DDD	C	2.3E-04	J	3.4E-04	J	MG/KG	041M63B201	2 / 4	2.1E-04 / 3.6E-04	2.1E-04	3.0E-02	1	2.04E-12	1.02E-12	4.61E-12	7.71E-12
72559	4,4'-DDE	C	2.7E-04	J	3.7E-04	J	MG/KG	041M63B401	3 / 4	N/A / 2.1E-04	2.8E-04	3.0E-02	1	2.22E-12	1.11E-12	5.02E-12	8.39E-12
11096825	Aroclor-1260	C	1.2E-03	J	6.3E-03	J	MG/KG	041M63B101	4 / 4	NAV	3.0E-03	1.4E-02	3	1.74E-11	8.69E-12	3.93E-11	6.57E-11
1031078	Endosulfan sulfate	N	N/A	N/A	9.8E-04	J	MG/KG	041M63B201	1 / 4	2.1E-04 / 3.6E-04	3.4E-04	1.0E-01	2	1.96E-11	9.80E-12	3.10E-10	2.07E-10
91576	2-Methylnaphthalene	N	N/A	N/A	2.4E-02	J	MG/KG	041M63B401	1 / 4	4.2E-02 / 7.1E-02	2.6E-02	1.0E-02	3	4.80E-11	2.40E-11	7.60E-10	5.08E-10
83329	Acenaphthene	N	N/A	N/A	3.9E-02	=	MG/KG	041M63B401	1 / 4	2.1E-02 / 3.4E-02	1.9E-02	1.0E-02	3	7.80E-11	3.90E-11	1.23E-09	8.25E-10
120127	Anthracene	N	N/A	N/A	4.4E-02	=	MG/KG	041M63B401	1 / 4	4.2E-02 / 7.1E-02	3.1E-02	1.0E-02	3	8.80E-11	4.40E-11	1.39E-09	9.31E-10
50328	Benzo(a)pyrene	C	N/A	N/A	3.9E-02	J	MG/KG	041M63B101	1 / 4	4.2E-02 / 4.6E-02	2.6E-02	1.3E-01	2	1.01E-09	5.07E-10	2.29E-09	3.83E-09
205992	Benzo(b)fluoranthene	C	N/A	N/A	5.6E-02	J	MG/KG	041M63B101	1 / 4	4.2E-02 / 4.6E-02	3.1E-02	1.3E-01	2	1.46E-09	7.28E-10	3.29E-09	5.50E-09
117817	bis(2-Ethylhexyl)phthalate (BEHP)	C	3.3E-02	J	9.7E-02	J	MG/KG	041M63B101	3 / 4	N/A / 4.2E-01	9.6E-02	1.0E-01	1	1.94E-09	9.70E-10	4.39E-09	7.33E-09
85687	Butylbenzylphthalate	N	N/A	N/A	2.9E-02	J	MG/KG	041M63B401	1 / 4	4.2E-01 / 7.1E-01	2.1E-01	1.0E-01	2	5.80E-10	2.90E-10	9.18E-09	6.14E-09
132649	Dibenzofuran	N	N/A	N/A	3.4E-02	J	MG/KG	041M63B401	1 / 4	4.2E-01 / 7.1E-01	2.1E-01	1.0E-02	3	6.80E-11	3.40E-11	1.08E-09	7.20E-10
84742	Di-n-butylphthalate	N	N/A	N/A	2.7E-02	J	MG/KG	041M63B401	1 / 4	4.2E-01 / 7.1E-01	2.1E-01	1.0E-01	2	5.40E-10	2.70E-10	8.55E-09	5.71E-09
206440	Fluoranthene	N	4.1E-02	J	8.6E-02	=	MG/KG	041M63B201	3 / 4	N/A / 4.2E-02	5.2E-02	1.3E-01	2	2.24E-09	1.12E-09	3.54E-08	2.37E-08
86737	Fluorene	N	N/A	N/A	4.7E-02	=	MG/KG	041M63B401	1 / 4	2.1E-02 / 3.4E-02	2.1E-02	1.0E-02	3	9.40E-11	4.70E-11	1.49E-09	9.95E-10
91203	Naphthalene	N	N/A	N/A	2.3E-02	J	MG/KG	041M63B401	1 / 4	4.2E-02 / 7.1E-02	2.6E-02	1.0E-02	3	4.60E-11	2.30E-11	7.28E-10	4.87E-10
85018	Phenanthrene	N	N/A	N/A	1.2E-01	=	MG/KG	041M63B401	1 / 4	4.2E-02 / 7.1E-02	5.0E-02	1.0E-02	3	2.40E-10	1.20E-10	3.80E-09	2.54E-09
129000	Pyrene	N	4.1E-02	J	6.5E-02	=	MG/KG	041M63B201	3 / 4	N/A / 4.2E-02	4.2E-02	1.0E-02	3	1.30E-10	6.50E-11	2.06E-09	1.38E-09

Equation for sediment risk:

$$DAD_{sd} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sd} = Dermal Absorbed Dose-soil contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event)
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Equation for DA_{event} for sediment contact:

$$DA_{event} = C_{sd} \times CF \times AF \times ABS_d$$

Where:

C_{sd} = Chemical concentration in sediment (mg/kg).
CF = Conversion factor (10^{-6} kg/mg).
AF = Adherence factor of sediment to soil (mg/cm2-event).
0.2 (children playing in wet soil) 0.1 (construction worker)
AB_{sd} = Dermal absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1;
(2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Table 13-2-15
Wetland 63B Phase II
Sediment Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/kg)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABSGI	ABSGI Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
										Dermal Hazard Quotient	Dermal Cancer Risk	Dermal Hazard Quotient	Dermal Cancer Risk
Sediment Dermal Risk	Aluminum	N	2.0E+03	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	6.2E-05	N/A	4.1E-05	N/A
	Barium	N	4.0E+00	7.0E-02	N/A	7.0E-02	1, 3	4.9E-03	N/A	2.6E-06	N/A	1.7E-06	N/A
	Beryllium	N	1.0E-01	2.0E-03	N/A	7.0E-03	1	1.4E-05	N/A	2.3E-05	N/A	1.5E-05	N/A
	Cobalt	C	4.2E-01	2.0E-02	N/A	8.0E-01	3	1.6E-02	N/A	1.2E-08	N/A	2.0E-08	N/A
	Iron	N	1.3E+03	3.0E-01	N/A	1.5E-01	3	4.5E-02	N/A	9.1E-05	N/A	6.1E-05	N/A
	Manganese	N	7.1E+00	2.4E-02	N/A	4.0E-02	1, 3	9.6E-04	N/A	2.3E-05	N/A	1.6E-05	N/A
	Selenium	N	4.0E-01	5.0E-03	N/A	5.5E-01	1	2.8E-03	N/A	4.6E-07	N/A	3.1E-07	N/A
	Vanadium	N	3.9E+00	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	6.8E-05	N/A	4.5E-05	N/A
	4,4'-DDD	C	3.4E-04	N/A	2.4E-01	3.0E-02	2	N/A	8.0E+00	N/A	3.7E-11	N/A	6.2E-11
	4,4'-DDE	C	3.7E-04	N/A	3.4E-01	3.0E-02	2	N/A	1.1E+01	N/A	5.7E-11	N/A	9.5E-11
	Aroclor-1260	C	6.3E-03	N/A	2.0E+00	1.4E-01	2	N/A	1.4E+01	N/A	5.6E-10	N/A	9.4E-10
	Endosulfan sulfate	N	9.8E-04	6.0E-03	N/A	5.0E-01	3	3.0E-03	N/A	1.0E-07	N/A	6.9E-08	N/A
	2-Methylnaphthalene	N	2.4E-02	8.0E-02	N/A	5.0E-01	3	4.0E-02	N/A	1.9E-08	N/A	1.3E-08	N/A
	Acenaphthene	N	3.9E-02	6.0E-02	N/A	4.2E-02	3	2.5E-03	N/A	4.9E-07	N/A	3.3E-07	N/A
	Anthracene	N	4.4E-02	3.0E-01	N/A	7.6E-01	3	2.3E-01	N/A	6.1E-09	N/A	4.1E-09	N/A
	Benzo(a)pyrene	C	3.9E-02	N/A	7.3E+00	3.1E-01	3	N/A	2.4E+01	N/A	5.4E-08	N/A	9.0E-08
	Benzo(b)fluoranthene	C	5.6E-02	N/A	7.3E-01	3.1E-01	3	N/A	2.4E+00	N/A	7.8E-09	N/A	1.3E-08
	bis(2-Ethylhexyl)phthalate (BEHP)	C	9.7E-02	2.0E-02	1.4E-02	1.0E-01	2	2.0E-03	1.4E-01	2.2E-06	6.1E-10	3.7E-06	1.0E-09
	Butylbenzylphthalate	N	2.9E-02	2.0E-01	N/A	1.7E-02	3	3.5E-03	N/A	2.6E-06	N/A	1.8E-06	N/A
	Dibenzofuran	N	3.4E-02	4.0E-03	N/A	8.0E-01	3	3.2E-03	N/A	3.4E-07	N/A	2.2E-07	N/A
	Di-n-butylphthalate	N	2.7E-02	1.0E-01	N/A	3.1E-01	3	3.1E-02	N/A	2.8E-07	N/A	1.8E-07	N/A
	Fluoranthene	N	8.6E-02	N/A	4.0E-02	3.1E-01	3	N/A	1.3E-01	N/A	4.6E-09	N/A	3.1E-09
	Fluorene	N	4.7E-02	4.0E-02	N/A	3.1E-01	3	1.2E-02	N/A	1.2E-07	N/A	8.0E-08	N/A
	Naphthalene	N	2.3E-02	2.0E-02	N/A	5.9E-02	3	1.2E-03	N/A	6.2E-07	N/A	4.1E-07	N/A
	Phenanthrene	N	1.2E-01	N/A	3.0E-02	7.3E-01	3	N/A	4.1E-02	N/A	1.6E-10	N/A	1.0E-10
	Pyrene	N	6.5E-02	N/A	3.0E-02	3.1E-01	3	N/A	9.7E-02	N/A	2.0E-10	N/A	1.3E-10

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABSGI = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose-sources: (1) RAIS value; (2) adjusted for ABSGI.
Dermal SF = Dermal slope factor-sources: (1) RAIS value; (2) adjusted for ABSGI.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfDdermal = Dermal reference dose.
RFDoral = Oral reference dose.
ABSGI = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 13-2-16
Wetland 63B Phase II
Sediment Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/kg)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
Sediment Incidental Ingestion	Aluminum	N	2.0E+03	1.0E+00	N/A	6.21E-04	N/A	3.99E-04	N/A
	Barium	N	4.0E+00	7.0E-02	N/A	1.81E-05	N/A	1.16E-05	N/A
	Beryllium	N	1.0E-01	2.0E-03	N/A	1.58E-05	N/A	1.02E-05	N/A
	Cobalt	C	4.2E-01	2.0E-02	N/A	9.50E-07	N/A	1.53E-06	N/A
	Iron	N	1.3E+03	3.0E-01	N/A	1.36E-03	N/A	8.75E-04	N/A
	Manganese	N	7.1E+00	2.4E-02	N/A	9.37E-05	N/A	6.02E-05	N/A
	Selenium	N	4.0E-01	5.0E-03	N/A	2.53E-05	N/A	1.63E-05	N/A
	Vanadium	N	3.9E+00	7.0E-03	N/A	1.76E-04	N/A	1.13E-04	N/A
	4,4'-DDD	C	3.4E-04	N/A	2.4E-01	N/A	3.69E-12	N/A	5.93E-12
	4,4'-DDE	C	3.7E-04	N/A	3.4E-01	N/A	5.69E-12	N/A	9.14E-12
	Aroclor-1260	C	6.3E-03	N/A	2.0E+00	N/A	5.70E-10	N/A	9.16E-10
	Endosulfan sulfate	N	9.8E-04	6.0E-03	N/A	5.17E-08	N/A	3.32E-08	N/A
	2-Methylnaphthalene	N	2.4E-02	8.0E-02	N/A	9.50E-08	N/A	6.11E-08	N/A
	Acenaphthene	N	3.9E-02	6.0E-02	N/A	2.06E-07	N/A	1.32E-07	N/A
	Anthracene	N	4.4E-02	3.0E-01	N/A	4.64E-08	N/A	2.98E-08	N/A
	Benzo(a)pyrene	C	3.9E-02	N/A	7.3E+00	N/A	1.29E-08	N/A	2.07E-08
	Benzo(b)fluoranthene	C	5.6E-02	N/A	7.3E-01	N/A	1.85E-09	N/A	2.97E-09
	bis(2-Ethylhexyl)phthalate (BEHP)	C	9.7E-02	2.0E-02	1.4E-02	2.19E-07	6.14E-11	3.53E-07	9.87E-11
	Butylbenzylphthalate	N	2.9E-02	2.0E-01	N/A	4.59E-08	N/A	2.95E-08	N/A
	Dibenzofuran	N	3.4E-02	4.0E-03	N/A	2.69E-06	N/A	1.73E-06	N/A
	Di-n-butylphthalate	N	2.7E-02	1.0E-01	N/A	8.55E-08	N/A	5.50E-08	N/A
	Fluoranthene	N	8.6E-02	N/A	4.0E-02	N/A	1.09E-09	N/A	7.00E-10
	Fluorene	N	4.7E-02	4.0E-02	N/A	3.72E-07	N/A	2.39E-07	N/A
	Naphthalene	N	2.3E-02	2.0E-02	N/A	3.64E-07	N/A	2.34E-07	N/A
	Phenanthrene	N	1.2E-01	N/A	3.0E-02	N/A	1.14E-09	N/A	7.33E-10
	Pyrene	N	6.5E-02	N/A	3.0E-02	N/A	6.17E-10	N/A	3.97E-10

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI = chronic daily intake (mg/kg-day)

Equation for Chronic Daily Intake, sediment risk:

$$CDI = \frac{EPC_{sd} \times IR_{sd} \times EF \times ED \times CF}{BW \times AT}$$

$$Risk = CDI \times SF_{oral}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPCsd = Exposure point concentration in sediment (mg/kg).
IRsd = Incidental ingestion rate for sediment (mg/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
CF = Conversion factor (1E-6 kg/mg).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
IRsd = 100 mg/day for age groups greater than 6-years old.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Table 13-2-17
Wetland 63B Phase II
Surface Water Dermal Absorbed Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration (g/L)	Min. Qual.	Maximum Concentration (g/L)	Max. Qual.	Units	Location of Max.Conc.	Detection Frequency	Range of Detection Limits	Mean	Maximum concentration (mg/cm^3)	K_p	DA_{event}	DAD_{sw} (mg/kg-day): Child Trespasser	DAD_{sw} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	1.6E+02	J	1.3E+03	=	UG/L	041W63B201	2 / 2	NAV	7.3E+02	1.3E-03	1.0E-03	3.38E-06	5.35E-05	7.15E-05
7440393	Barium	N	4.5E+01	J	5.3E+01	J	UG/L	041W63B201	2 / 2	NAV	4.9E+01	5.3E-05	1.0E-03	1.38E-07	2.18E-06	2.92E-06
7439896	Iron	N	2.1E+02	=	1.6E+03	=	UG/L	041W63B201	2 / 2	NAV	8.8E+02	1.6E-03	2.5E-04	1.01E-06	1.61E-05	2.15E-05
7439921	Lead	N	N/A	N/A	5.3E+00	=	UG/L	041W63B201	1 / 2	N/A / 2.0E+00	3.2E+00	5.3E-06	3.4E-04	4.69E-09	7.42E-08	9.92E-08
7439965	Manganese	N	2.1E+01	=	4.0E+01	=	UG/L	041W63B201	2 / 2	NAV	3.1E+01	4.0E-05	1.0E-03	1.04E-07	1.65E-06	2.21E-06
7440622	Vanadium	N	N/A	N/A	3.5E+00	J	UG/L	041W63B201	1 / 2	N/A / 2.0E+00	2.3E+00	3.5E-06	1.0E-03	9.10E-09	1.44E-07	1.93E-07
84742	Di-n-butylphthalate	N	N/A	N/A	2.2E+01	=	UG/L	041W63B201	1 / 2	N/A / 5.0E+00	1.2E+01	2.2E-05	2.4E-02	5.41E-06	8.57E-05	1.15E-04

Notes:

Equation for Dermal Absorbed Dose, surface water risk:

$$DAD_{sw} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sw} = Dermal absorbed dose-water contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event).
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Equation for DAevent for inorganics:

$$DA_{event} = K_p \times C_w \times t_{event}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: RAGS Part E, Exhibit B-3 or Exhibit B-4
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).

Equation for DAevent for organics:

$$DA_{event} = FA \times K_p \times C_w \left[\frac{t_{event}}{1 + B} + 2\tau_{event} \left(\frac{1 + 3B + 3B^2}{(1 + B)^2} \right) \right]$$

Where:

FA = Fraction absorbed water (dimensionless). From RAGS Part E, Exhibit B-4.
Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E, Exhibit B-4.
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).
t_{event} = Lag time per event (hr/event). From RAGS Part E, Exhibit B-4.
B = Dimensionless ratio of the permeability coefficient of a compound, calculated using the equation below:

$$B = \frac{K_p \sqrt{MW}}{2.6}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E.
MW = Molecular weight

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).
t_{event} = 2.6 hrs/dy (child trespasser/adult maintenance worker).

Table 13-2-18
Wetland 63B Phase II
Surface Water Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABS_{GI}	ABS_{GI} Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser: Dermal Hazard Quotient	Child Trespasser: Dermal Cancer Risk	Maintenance Worker: Dermal Hazard Quotient	Maintenance Worker: Dermal Cancer Risk
SW Dermal Risk	Aluminum	N	1.3E-03	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	5.4E-04	N/A	7.2E-04	N/A
	Barium	N	5.3E-05	7.0E-02	N/A	7.0E-02	1, 2	4.9E-03	N/A	4.5E-04	N/A	6.0E-04	N/A
	Iron	N	1.6E-03	N/A	N/A	1.5E-01	3	N/A	N/A	N/A	N/A	N/A	N/A
	Lead	N	5.3E-06	N/A	N/A	1.5E-01	3	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	4.0E-05	1.4E-01	N/A	4.0E-02	1	5.6E-03	N/A	2.9E-04	N/A	3.9E-04	N/A
	Vanadium	N	3.5E-06	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	7.9E-04	N/A	1.1E-03	N/A
	Di-n-butylphthalate	N	2.2E-05	1.0E-01	N/A	3.1E-01	3	3.1E-02	N/A	2.8E-03	N/A	3.7E-03	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose adjusted for ABS_{GI}.
Dermal SF = Dermal slope factoradjusted for ABS_{GI}.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfD_{dermal} = Dermal reference dose.
RFD_{oral} = Oral reference dose.
SFdermal = Dermal slope factor.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 13-2-19
Wetland 63B Phase II
Surface Water Incidental Ingestion Exposure Risk-Child Tresspasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
SW Incidental Ingestion	Aluminum	N	1.3E-03	1.0E+00	N/A	4.1E-08	N/A	2.6E-08	N/A
	Barium	N	5.3E-05	7.0E-02	N/A	2.4E-08	N/A	1.5E-08	N/A
	Iron	N	1.6E-03	N/A	N/A	N/A	N/A	N/A	N/A
	Lead	N	5.3E-06	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	4.0E-05	1.4E-01	N/A	9.1E-09	N/A	5.8E-09	N/A
	Vanadium	N	3.5E-06	7.0E-03	N/A	1.6E-08	N/A	1.0E-08	N/A
	Di-n-butylphthalate	N	2.2E-05	1.0E-01	N/A	7.0E-09	N/A	4.5E-09	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI

Equation for Chronic Daily Intake, surface water risk:

$$CDI = \frac{EPC_{sw} \times IR_{sw} \times EF \times ED}{BW \times AT}$$

$$Risk = CDI \times SF_{oral}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPC_{sw} = Exposure point concentration in surface water (mg/L).
IR_{sw} = Incidental ingestion rate for sediment (L/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
Irsw = 0.01 L/day exposure to surface water during wading for adolescents and adults.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

13.3 Chevalier Field Wetlands Evaluation

All the wetlands associated with the former Chevalier Fields (Wetlands 63A and 63B) were evaluated collectively to help determine the locations that represent the highest probabilities of unacceptable risk. This evaluation is also used to determine if constituents detected were likely to be related to the IR sites associated with the former Chevalier Fields. This section will include a discussion of the following topics for Wetlands 63A and 63B together.

- **Food-Chain Models:** Many of the upper-level predators likely to be exposed within Site 41 wetlands would likely be exposed to constituents in more than one wetland. To evaluate this scenario, food-chain models were developed using constituent concentrations from Wetlands 63A and 63B.

- **Mean ERM Quotients:** This methodology is an effective way to pinpoint areas of potential risk from a mixture of constituents. It is also useful in identifying locations most likely to be impacted by direct toxicity.

- **Basewide Total DDT-Level Comparison:** A basewide level was established for total DDT at NAS Pensacola. A comparison of site concentrations to the basewide levels is presented in a figure and will be discussed on a basewide level in this section

- **TOC-Normalized PAH Concentrations:** PAHs are widespread across NAS Pensacola and have been evaluated based on their potential for adverse effects when the TOC at each sample location is taken into account. This method has been summarized in Chevalier Field wide figures to identify locations where PAHs may occur at levels most likely to cause adverse effects.

13.3.1 Chevalier Field Wetlands Food-Chain Modeling

To evaluate the potential for risk to upper-trophic-level receptors that forage within Wetlands 63A and 63B, a food-chain model was prepared following the methodology presented in Section 8.0. No resampling was done in Wetlands 63A or 63B during Phase III, so prey tissue concentrations were estimated using literature-based BSAFs. The sediment and surface water exposure concentrations utilized in the food-chain models are presented in Appendix M. Tables 13-3-1 through 13-3-3 (tables are located at the end of each section) show the results of the food-chain models for the following receptor groups:

- Piscivorous Birds (green heron used as representative species) (Table 13-3-1)
- Piscivorous Mammals (mink used as a representative species) (Table 13-3-2)
- Predatory Fish (red drum used as representative species) (Table 13-3-3)

13.3.1.1 Food-Chain Modeling Results

The following assessment endpoints were proposed and approved in the *Final RI/FS SAP, Site 41* (E/A&H, 1995g).

Assessment Endpoint 1 — Health and Viability of Piscivorous Bird Communities that Forage Throughout Chevalier Field Wetlands

No constituent generated an HQ greater than 1 for this assessment endpoint, indicating that no adverse effects are likely based on bioaccumulation to piscivorous birds in Wetlands 63A and 63B.

Assessment Endpoint 2 — Health and Viability of Piscivorous Mammal Communities that Forage Throughout Chevalier Field Wetlands

No constituent generated an HQ greater than 1 for this assessment endpoint, indicating that no adverse effects were likely based on bioaccumulation to piscivorous mammals in Wetlands 63A and 63B.

Assessment Endpoint 3 — Health and Viability of Predatory Fish Communities that Forage in and around Chevalier Field Wetlands

Phase II Evaluation

Mercury generated a max NOAEL HQ of 2.4 and a max LOAEL of 1.2, indicating the potential for adverse effects to predatory fish with forage ranges within Wetlands 63A and 63B. However, it should be noted that in the nine samples collected from these wetlands, the only detection was 0.14 mg/kg at location 041M63A3. The average concentration HQs were less than 1. This food-chain model indicated that at the location of the sole detection, adverse effects were possible. However, given that no other detections were identified in either Wetland 63A or 63B, it is unlikely that the conditions that would generate adverse effects exist over a large enough area to affect the predatory fish community. Mercury was also not identified as a concern in the Site 42 RI (Pensacola Bay) and was only detected in seven samples out of the 141 collected throughout the Bay.

13.3.2 Mean ERM Quotients

Figure 13-7 shows only two sample locations within the Chevalier Field wetlands (041M63B4 and 041M63A3) where there is some potential for risk. Of these two samples, only 041M63A3 had

any constituents exceeding its ERM (PCBs). However, the food-chain models indicated that PCBs present no unacceptable levels of risk in the Chevalier Field wetlands.

13.3.3 Basewide Total DDT-Levels

No sample locations within Chevalier Field wetlands exceeded the basewide total DDT levels.

13.3.4 TOC-Normalized PAHs

No sample locations within the Chevalier Field wetlands exceeded the Swartz TEC and were unlikely to cause any adverse effects due to exposures to PAHs.

13.4 Conclusions

Based on the evaluations included as part of the ecological risk assessment, it is unlikely that any adverse effects are occurring within the Chevalier Field wetlands. The only potential risk identified was to predatory fish from a single detection of mercury at 0.14 mg/kg in sediment. Therefore, no further action is recommended for the Chevalier Field wetlands.

Table 13-3-1
Chevalier Field Wetlands FCM (Phase 2)
Receptor: Green Heron (Butorides virescens)

Sediment Ingestion Rate[a] : 0.00023 kg/day
Surface Water Ingestion Rate[b]: 0.0227 L/day
Food Ingestion Rate[c]: 0.0115 kg/day

Body Weight[d]: 0.241 kg

Contaminant		Sediment Concentrations mg/kg	Surface Water Concentrations mg/L	Tissue Concentrations mg/kg	Sediment Exposure mg/day	Water Exposure mg/day	Prey Exposure mg/day	Total Exposure mg/day	Daily Dose mg/kgBW/day	NOAEL mg/kdBW/day	LOAEL mg/kdBW/day	NOAEL HQ	LOAEL HQ
Mercury													
	Max	0.1400	0	0.28	0.0000322	0.0000	0.0032	0.0032522	0.0135	0.44	0.86	3.07E-02	1.57E-02
	Average	0.0405	0.0001	0.081	0.000009315	0.0000	0.0009	0.000943085	0.0039	0.44	0.86	8.89E-03	4.55E-03
Total BHC													
	Max	0.0007	0	0.0007	0.000000161	0.0000	0.0000	0.000008211	0.0000	0.563	2.25	6.05E-05	1.51E-05
	Average	0.0003	0.0001	0.0003	0.000000069	0.0000	0.0000	0.000005789	0.0000	0.563	2.25	4.27E-05	1.07E-05
Total Chlordane													
	Max	0.0024	0	0.00564	0.000000552	0.0000	0.0001	0.000065412	0.0003	2.14	10.7	1.27E-04	2.54E-05
	Average	0.0004	0.0001	0.00094	0.000000092	0.0000	0.0000	0.000013172	0.0001	2.14	10.7	2.55E-05	5.11E-06
Dieldrin													
	Max	0.0041	0	0.019803	0.000000943	0.0000	0.0002	0.000228678	0.0009	0.044	0.44	2.16E-02	2.16E-03
	Average	0.0006	0.0001	0.002898	0.000000138	0.0000	0.0000	0.000035735	0.0001	0.044	0.44	3.37E-03	3.37E-04
Total DDT													
	Max	0.0071	0	0.030459	0.000001633	0.0000	0.0004	0.000351912	0.0015	0.051	0.512	2.86E-02	2.85E-03
	Average	0.0015	0.0002	0.006435	0.000000345	0.0000	0.0001	7.88875E-05	0.0003	0.051	0.512	6.42E-03	6.39E-04
Total Endrin													
	Max	0.0035	0	0.0035	0.000000805	0.0000	0.0000	0.000041055	0.0002	0.01	0.1	1.70E-02	1.70E-03
	Average	0.0007	0.0001	0.0007	0.000000161	0.0000	0.0000	0.000010481	0.0000	0.01	0.1	4.35E-03	4.35E-04
Total PCB													
	Max	0.2864	0	0.470	0.000065872	0.0000	0.0054	0.005467376	0.0227	0.112	1.12	2.03E-01	2.03E-02
	Average	0.0466	0.004	0.076	0.000010718	0.0001	0.0009	0.000980394	0.0041	0.112	1.12	3.63E-02	3.63E-03

Notes:
Sediment Exposure = Sediment Concentration * Sediment Ingestion Rate (mg/day)
Surface Water Exposure = Surface Water Concentration * Water Ingestion Rate (mg/day)
Prey Exposure = Tissue Concentration * Food Ingestion Rate (mg/day)
Total Exposure = Sediment Exposure + Surface Water Exposure + Prey Exposure (mg/day)

Daily Dose = Total Exposure / Body Weight (mg/kgBW/day)

NOAEL HQ = Daily Dose/NOAEL (mg/kgBW/day)
LOAEL HQ = Daily Dose/LOAEL (mg/kgBW/day)

[a] Estimated based on the results of Beyer et al. 1994.
[b] Calder and Braun 1983.
[c] Kushlan 1978
[d] Niethammer and Kaiser 1983.

Table 13-3-2
Chevalier Field Wetlands FCM (Phase 2)
Receptor: Mink (*Mustella vison*)

Sediment Ingestion Rate[a] : 0.003 kg/day
Surface Water Ingestion Rate[b]: 0.0578 L/day
Food Ingestion Rate[c]: 0.029 kg/day

Body Weight[d]: 0.55 kg

Contaminant		Sediment Concentrations mg/kg	Surface Water Concentrations mg/L	Tissue Concentrations mg/kg	Sediment Exposure mg/day	Water Exposure mg/day	Prey Exposure mg/day	Total Exposure mg/day	Daily Dose mg/kgBW/day	NOAEL mg/kdBW/day	LOAEL mg/kdBW/day	NOAEL HQ	LOAEL HQ
Mercury													
	Max	0.1400	0	0.28	0.00042	0.0000	0.0081	0.00854	0.0155	0.032	0.16	4.85E-01	9.70E-02
	Average	0.0405	0.0001	0.081	0.0001215	0.0000	0.0023	0.00247628	0.0045	0.032	0.16	1.41E-01	2.81E-02
Total BHC													
	Max	0.0007	0	0.0007	0.0000021	0.0000	0.0000	0.0000224	0.0000	0.014	0.14	2.91E-03	2.91E-04
	Average	0.0003	0.0001	0.0003	0.0000009	0.0000	0.0000	0.00001538	0.0000	0.014	0.14	2.00E-03	2.00E-04
Total Chlordane													
	Max	0.0024	0	0.00564	0.0000072	0.0000	0.0002	0.00017076	0.0003	3.9	7.8	7.96E-05	3.98E-05
	Average	0.0004	0.0001	0.00094	0.0000012	0.0000	0.0000	0.00003424	0.0001	3.9	7.8	1.60E-05	7.98E-06
Dieldrin													
	Max	0.0041	0	0.019803	0.0000123	0.0000	0.0006	0.000586587	0.0011	0.015	0.15	7.11E-02	7.11E-03
	Average	0.0006	0.0001	0.002898	0.0000018	0.0000	0.0001	0.000091622	0.0002	0.015	0.15	1.11E-02	1.11E-03
Total DDT													
	Max	0.0071	0	0.030459	0.0000213	0.0000	0.0009	0.000904611	0.0016	0.6	3	2.74E-03	5.48E-04
	Average	0.0015	0.0002	0.006435	0.0000045	0.0000	0.0002	0.000202675	0.0004	0.6	3	6.14E-04	1.23E-04
Total Endrin													
	Max	0.0035	0	0.0035	0.0000105	0.0000	0.0001	0.000112	0.0002	0.092	0.92	2.21E-03	2.21E-04
	Average	0.0007	0.0001	0.0007	0.0000021	0.0000	0.0000	0.00002818	0.0001	0.092	0.92	5.57E-04	5.57E-05
Total PCB													
	Max	0.2864	0	0.470	0.0008592	0.0000	0.0136	0.014480384	0.0263	0.05	0.1	5.27E-01	2.63E-01
	Average	0.0466	0.004	0.076	0.0001398	0.0002	0.0022	0.002587296	0.0047	0.05	0.1	9.41E-02	4.70E-02

Notes:
Sediment Exposure = Sediment Concentration * Sediment Ingestion Rate (mg/day)
Surface Water Exposure = Surface Water Concentration * Water Ingestion Rate (mg/day)
Prey Exposure = Tissue Concentration * Food Ingestion Rate (mg/day)
Total Exposure = Sediment Exposure + Surface Water Exposure + Prey Exposure (mg/day)

Daily Dose = Total Exposure / Body Weight (mg/kgBW/day)

NOAEL HQ = Daily Dose/NOAEL (mg/kgBW/day)
LOAEL HQ = Daily Dose/LOAEL (mg/kgBW/day)

[a] Guilday 1957.
[b] Based on Morrison 1957.
[c] Chew 1951.
[d] Estimated based on the results of Beyer et al. 1994.

Table 13-3-3
Red Drum Exposure Model
Chevalier Field Phase II Data

Chevalier Field	Hg in Sediment (Cs) (ppm)	MeHg in Forage Fish (Cf) (ppm)A	MeHg in Crustaceans (Ccr) (ppm)	MeHg in Invertebrates (Cinv) (ppm)	MeHg in Red Drum Tissue (ppm)	NOAEL HQ	LOAEL HQ
Chevalier Field Maximum	0.14	0.168	0.0392	0.014	0.36	**2.40**	**1.20**
Chevalier Field Average	0.04	0.048	0.0112	0.004	0.10	0.69	0.34

Note:
A = Forage Fish tissue concentrations calculated BSAF of 2.0 from Evans and Engel 1994.

14.0 UST 18 — WETLANDS

The UST 18 wetlands include Wetlands 52, 72 and W1 (Figure 14-1 — figures are located at the end of each section). UST 18 occupies approximately 48 acres along the southwestern border of Forrest Sherman Field. The site is bounded to the east by Runway 19, to the north by a paved taxiway, to the west by scattered brush and woods, and to the south by an open field. The site topography is characterized by a swale paralleling Runway 19 in the east-central portion of the site, bounded on the east and west by higher, generally flat areas (Figure 14-2). The swale constitutes a storm water drainage system consisting of several catch basins in the swale's axis at the lowest elevations. Wetland W1 is located in the center of this drainage swale.

Surface runoff (i.e., storm water) flows into the swale and is captured by two storm water drainage lines. Storm water collected in the northern catch basins drains northward to Wetland 72, which is a drainage canal that eventually discharges into Bayou Grande. Runoff entering the southern catch basins drains southward into a small creek that flows into Wetland 52, which lies south of the site and drains into Sherman's Inlet.

Site History

Previously named IR Site 3, UST 18 contains at least eight burn pits used to train fire fighters for aircraft crash response since 1955 (NEESA, 1983). Historically, during training exercises, approximately 30 to 50 gallons of fuel, (possibly JP-4, JP-5, aviation gas, lube oil, or water-tainted fuel), were poured into unlined pits or on various pieces of equipment and ignited to simulate post-crash aircraft fires. As many as five training fires may have been set each week, using an estimated 450-gallons of fuel. In 1991, the northernmost pit was lined with an impermeable geofabric membrane called Bentomat, a two-layer woven cloth separated by bentonite. Thereafter, only the northern pit was used, and training exercises were performed approximately twice per month using up to 700-gallons of fuel per event. Aircraft fire-fighting foam was used along with water to extinguish the fires. In 1997, crash crew training was moved to environmentally friendly training facilities at the NATTC.

Previous Site Investigations

1984 — Geraghty & Miller Investigation

In July 1984, G&M studied 18 sites at NAS Pensacola, including Site 3. During that study, 18 soil borings were advanced to determine if product was free-floating in the local groundwater. In addition, six shallow monitoring wells were installed. The soil borings did not indicate any free-product contamination. Groundwater samples collected from each of the six monitoring wells were analyzed for VOCs. Three wells (GM-20, GM-21, and GM-23) contained low concentrations of

VOCs. The VS recommended no further studies be conducted at the site (G&M, 1984); consequently, Site 3 was not included in the subsequent Characterization Study.

1991 — E&E Phase I Investigation

As part of the Navy's IR program, E&E performed a Phase I investigation of Site 3 in 1991 to identify areas with potential contaminants of concern. Physical surveys completed during this investigation included an air photograph analysis, an organic vapor analyses emissions survey, a particulate air screening, a geophysical survey, a utilities survey, and soil headspace survey. The results of the headspace survey revealed values up to 1,000 parts per million (ppm) were at the northern and central burn areas. Based on the results of the physical surveys, sediment, soil, surface water, and groundwater samples were collected and submitted for laboratory analyses. Metals (chromium, lead, cadmium, and iron), TRPHs, VOCs, PAHs, BNAs, and phenols were identified in site groundwater. Surface water contained chromium, TRPHs, VOCs, and phenols. Chromium, lead, TRPHs, VOCs, PAHs, and phenols were detected in site soil and sediment.

1994-1995 — E/A&H Investigation

UST 18 (previously named IR Site 3) contain at least eight burn pits used to train fire fighters for aircraft crash response since 1955 (NEESA, 1983). Historically, during training exercises, approximately 30 to 50 gallons of fuel (possibly JP-4, JP-5, aviation gas, lube oil, or water-tainted fuel) were poured into unlined pits or on various pieces of equipment and ignited to simulate post-crash aircraft fires. In 1991, the northernmost pit was lined with an impermeable geofabric membrane called Bentomat, a two-layer woven cloth separated by bentonite, and became the only pit used for training exercises. Aircraft fire-fighting foam was used along with water to extinguish the fires. In 1997, crash crew training was moved to environmentally friendly training facilities at the NATTC.

E/A&H prepared a CAR for UST Site 18 in January 1996. Twenty-two permanent shallow and intermediate groundwater monitoring wells were installed and soil, sediment, groundwater, and surface water samples were collected and analyzed for petroleum constituents. BTEX, EDB, naphthalene, and lead were detected (E/A&H, 1996a).

EnSafe prepared a RAP for UST Site 18 on December 19, 1997. The RAP proposed landfarming to remediate the soil contamination and thereby removing the source of groundwater contamination. Groundwater modeling indicated that natural attenuation would remediate the groundwater once the landfarming was complete. A Monitoring Only Plan (MOP) was proposed for groundwater remediation (EnSafe, 1997a).

2000 - 2002 — CH2MHILL Landfarming and Monitoring

CH2MHILL performed a remedial action for the impacted soil at UST Site 18 that consisted of the landfarming of petroleum contaminated soil in the four former firefighter training burn pits. Landfarming activities were conducted between September 2000 and September 2001 and consisted of biweekly soil tilling using a farm tractor and disk harrow. Soil samples were collected monthly. Landfarming operations ceased when soil analytical results indicated that soil cleanup goals had been achieved in September 2001 (CH2MHILL, 2003a).

Groundwater monitoring was performed monthly from December 2000 through August 2001 and quarterly until December 2002 by CH2MHill. BTEX, PAHs, TRPH, and lead were consistently reported to exceed FDEP GCTLs during quarterly sampling (CH2MHILL, 2003a).

2003 to Present — TtNUS Treatability Study and Additional Assessment

TtNUS performed a treatability study to evaluate PermeOx® Plus for remediation of petroleum hydrocarbons. TtNUS performed supplemental site assessment activities in August 2003 to delineate the groundwater contamination and to provide a baseline for the treatability study. Two main areas of contamination were identified during the additional groundwater investigation. A northern plume was identified around the four former pits. A southern plume was found to exist south of the four former pits. Both plumes were migrating southeast (with the groundwater flow direction) from their source areas. (TtNUS, 2003a). Extent of groundwater contamination was delineated during this investigation.

The PermeOx® Plus injection event was conducted from December 3 to December 17, 2003. This pilot-scale treatability study consisted of the installation of 219 injection borings (143 in the northern plume and 76 in the southern plume) into which a PermeOx® Plus enriched slurry was injected. Select groundwater monitoring wells were then monitored for site contaminants of concern (COCs) and natural attenuation parameters for four quarters to evaluate the effectiveness of enhanced bioremediation (TtNUS, 2005).

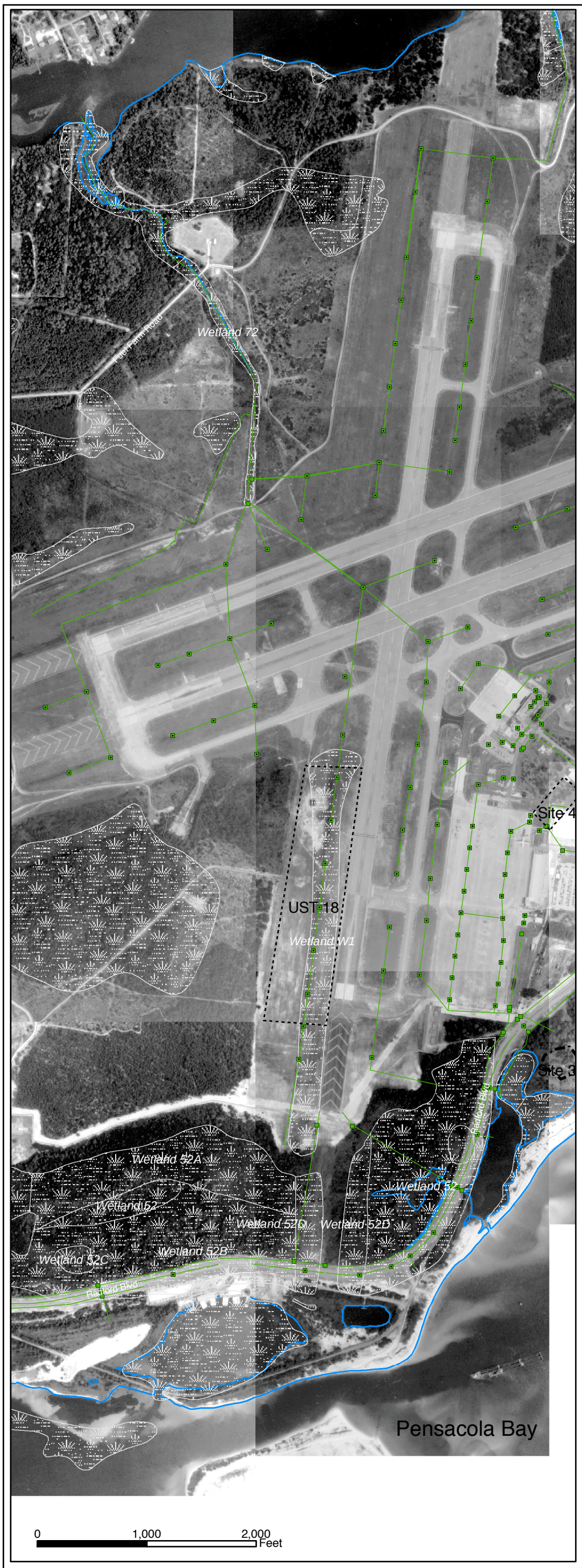
The Enhanced Natural Attenuation Study (PermeOx® Plus injection) concluded that there was no clear evidence of a reduction in site COCs after one year of monitoring. While COC concentrations had decreased temporarily in several wells, there was a rebound and no evidence that conditions favorable to enhanced biodegradation were occurring. Free product was detected in a shallow monitoring well (NASP18-GS26) on the northern portion of the site. The presence of free product indicated there was a continuing source of contamination and that previous soil remediation (landfarming) efforts may have not effectively removed all the

contaminated soil (TtNUS, 2005). It was reasoned that contaminated soil exists around the smear zone (underneath the landfarming effort) and continually contributes to the groundwater contamination. Additional characterization has been recommended for the site (TtNUS, 2006).

UST 18 Wetlands

The Site 41 wetlands associated with UST 18 include Wetlands 52, 72, and W1. As shown in Figure 14-1, Wetland 52 is located south of the UST 18 area. It receives storm water from the southern end of the UST 18 area and discharges to Pensacola Bay via Sherman's Inlet. Wetland 72 is a drainage ditch located on the northwest side of Runway 19 and receives storm water from the northern end of UST 18. Wetland W1 occupies the drainage swale located directly east of UST 18, between the site and Runway 19 of Forrest Sherman Field.

This section presents the nature and extent of contamination, ecological risk assessment, fate, and transport analysis, and human health risk assessment by wetland. To assist in the data evaluation, Figure 14-5 presents Total DDT results for sediment, Figure 14-6 presents the Swartz TOC normalized PAHs, and Figure 14-7 presents the Mean ERM quotient categories. Figure 14-8 presents chemistry and/or toxicity samples collected during Phases III and IV. To assess effects to selected measurement endpoints, such as the green heron, a food-chain model for all the wetlands associated with UST 18 is presented in Section 14.4.



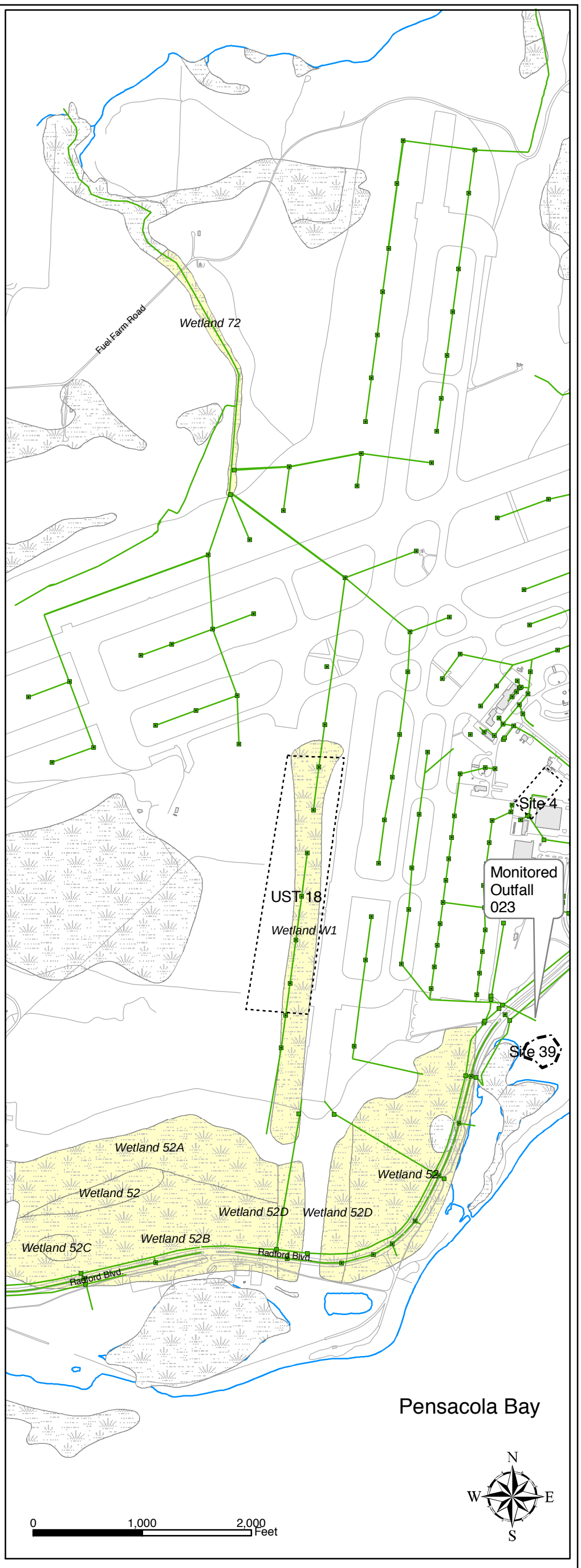


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FIGURE 14-1
UST 18 Wetlands and Nearby Sites

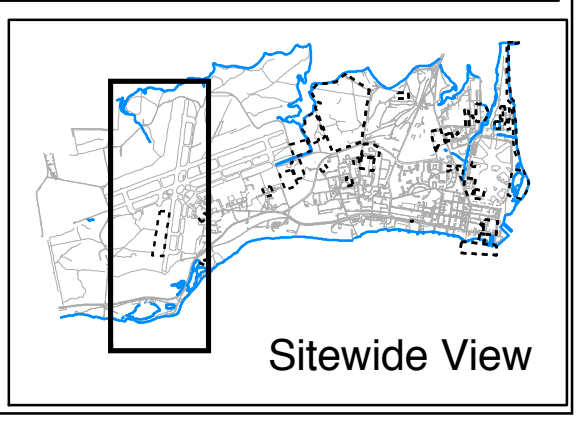
Final Remedial Investigation Report
Site 41
NAS Pensacola, FL

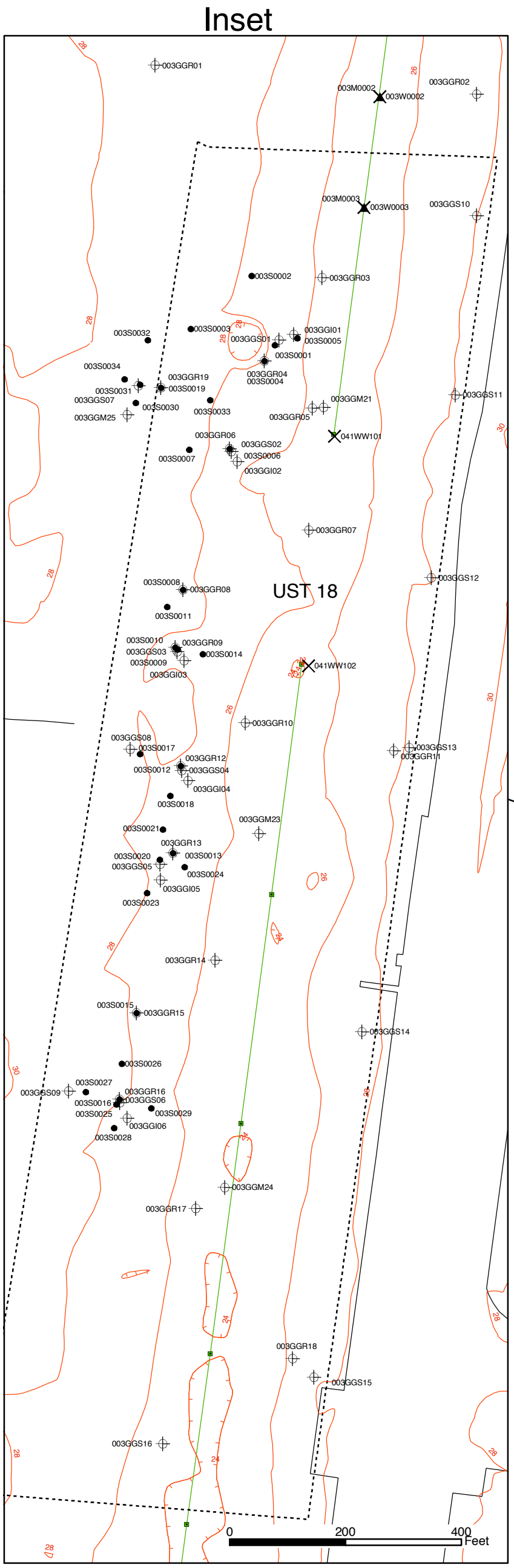
Date: 10/4/04 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig14-1.mxd

Legend

- Operable Unit (OU)
- Site
- Wetland- Approximate
- UST 18 Wetland-Approximate
- Building
- Shoreline
- Road
- Storm water Pipe
- Storm water Inlet
- Storm water Headwall

Note: Only the wetlands associated with UST 18 have labels.





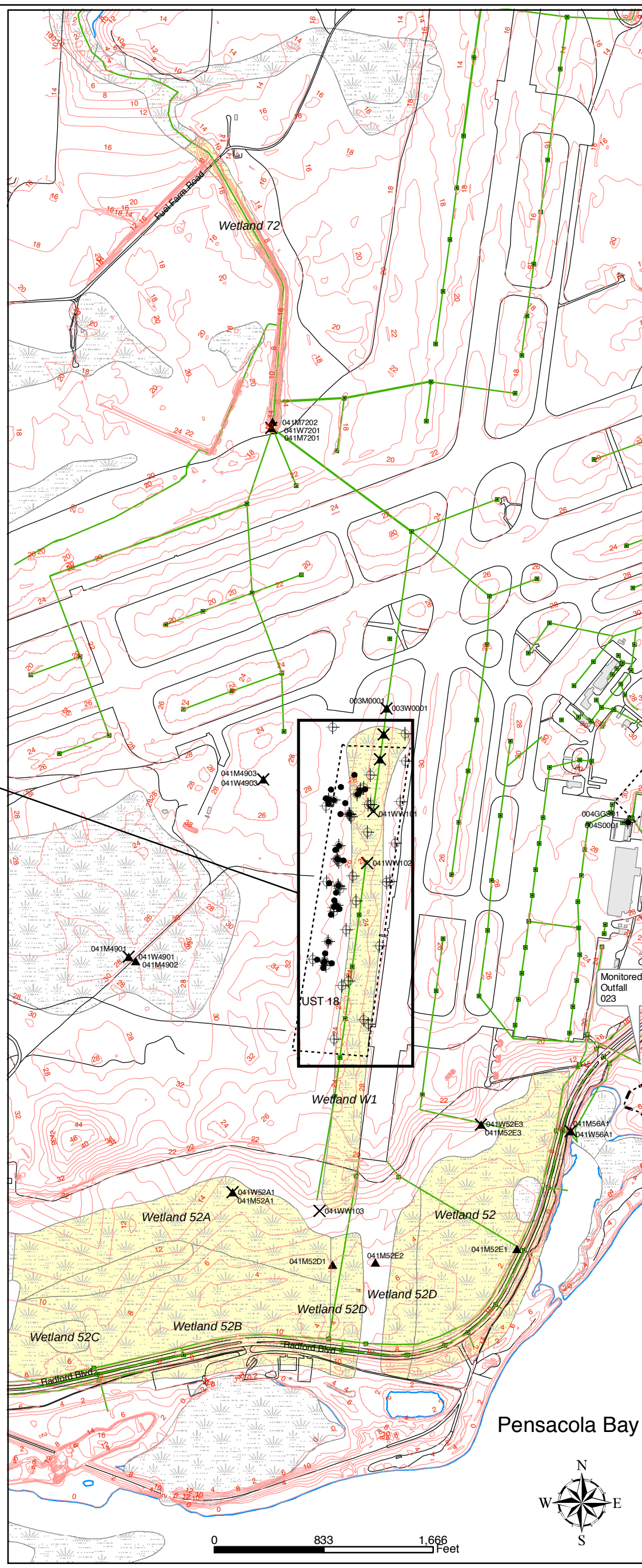


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FIGURE 14-2
UST 18 Wetlands
Study Area Topography

Final Remedial Investigation Report
Site 41
NAS Pensacola, FL

Date: 10/3/04 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig14-2.mxd

Legend

Sitewide Sample Locations

- Soil
- Site 41 RI Sediment
- Site 41 RI Surface Water
- Groundwater
- Operable Unit (OU)
- Site
- Wetland- Approximate
- UST 18 Wetland-Approximate
- Building
- Topographic Contour(ft)
- Shoreline
- Road
- Storm water Pipe
- Storm water Inlet
- Storm water Headwall

Note: Only the wetlands associated with UST 18 have labels.

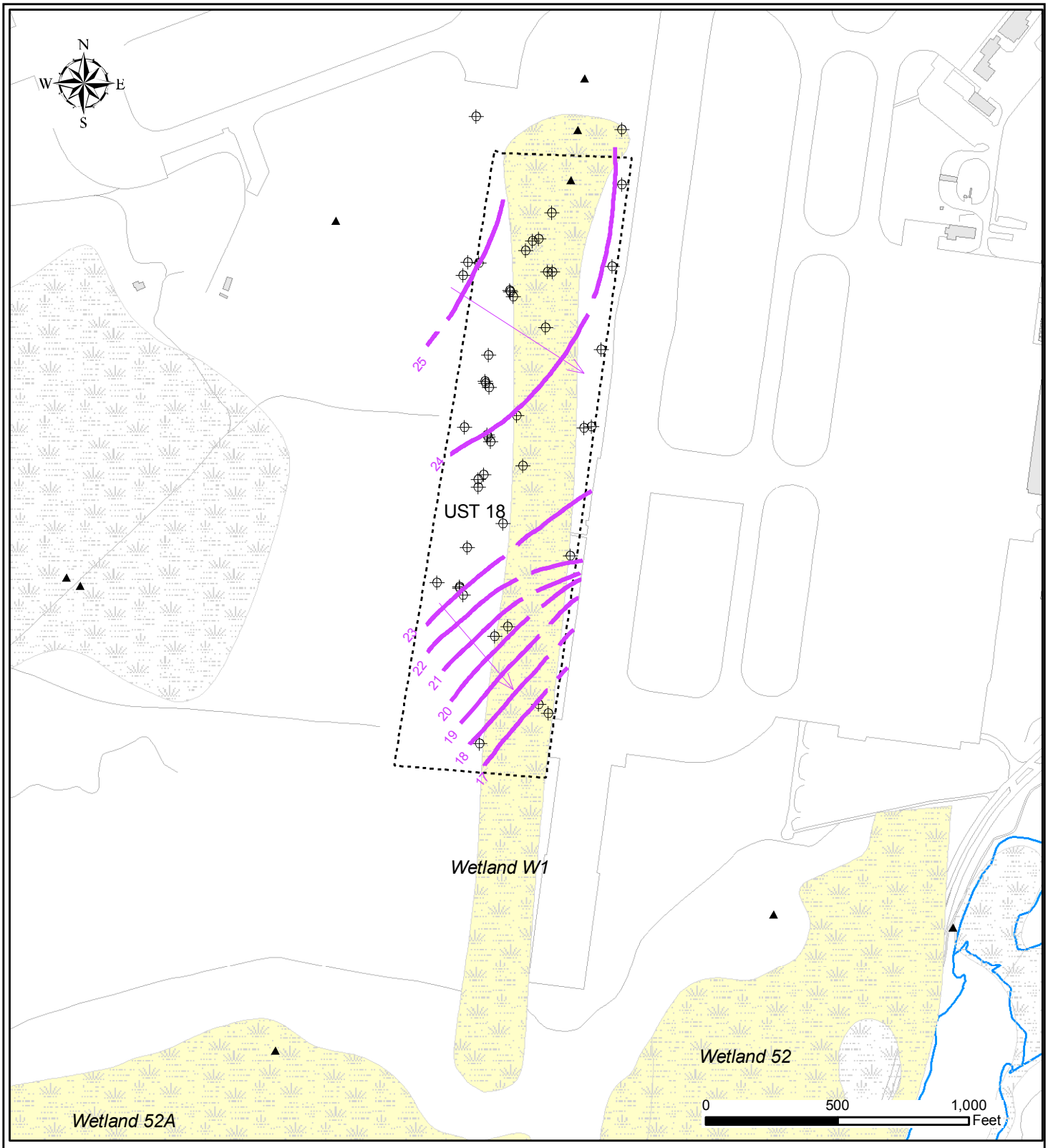

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FIGURE 14-3
UST 18 Wetlands
Shallow Potentiometric Surface

Final Remedial Investigation Report
Site 41
NAS Pensacola, FL

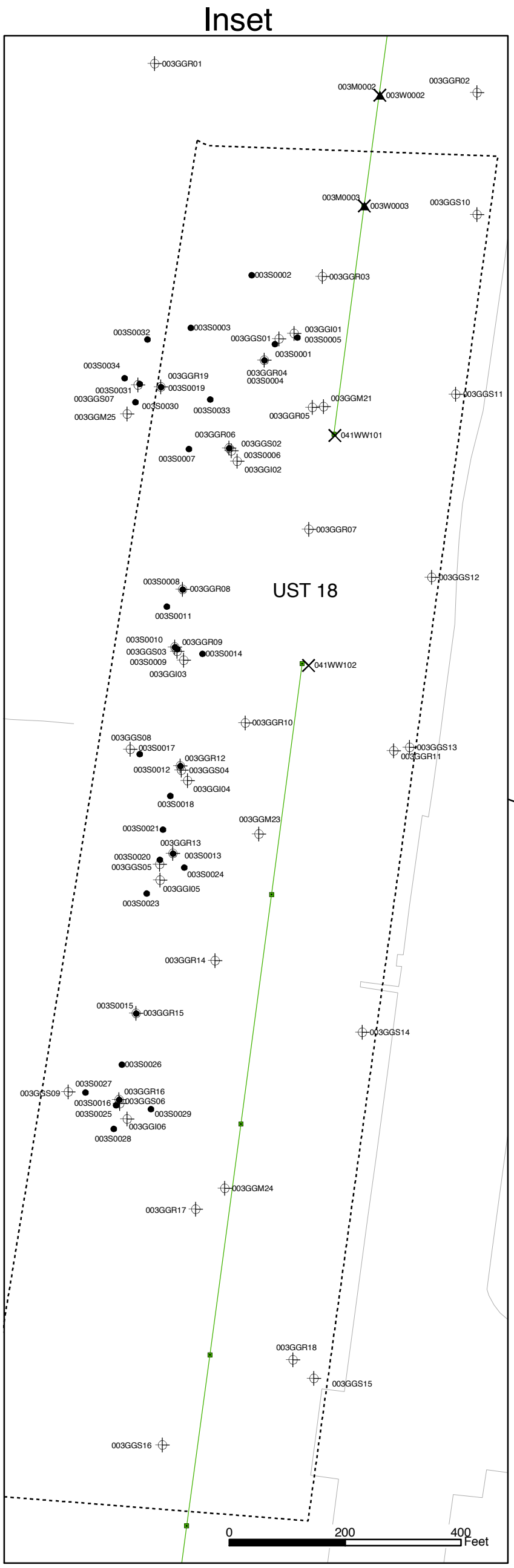
Date: 8/14/05 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig14-3.mxd

Legend

Shallow Potentiometric Surface
- Contour (1ft interval)
- Groundwater Flow Direction

Sitewide Sample Location
- Sediment Sample
- Groundwater Well
- UST 18 Wetland-Approximate
- Wetland- Approximate
- Operable Unit (OU)
- Site
- Building
- Shoreline
- Road

Note:
Groundwater potentiometric contours are from the UST 18 Contamination Assessment Report, 1995. Only the wetlands associated with UST 18 have labels.



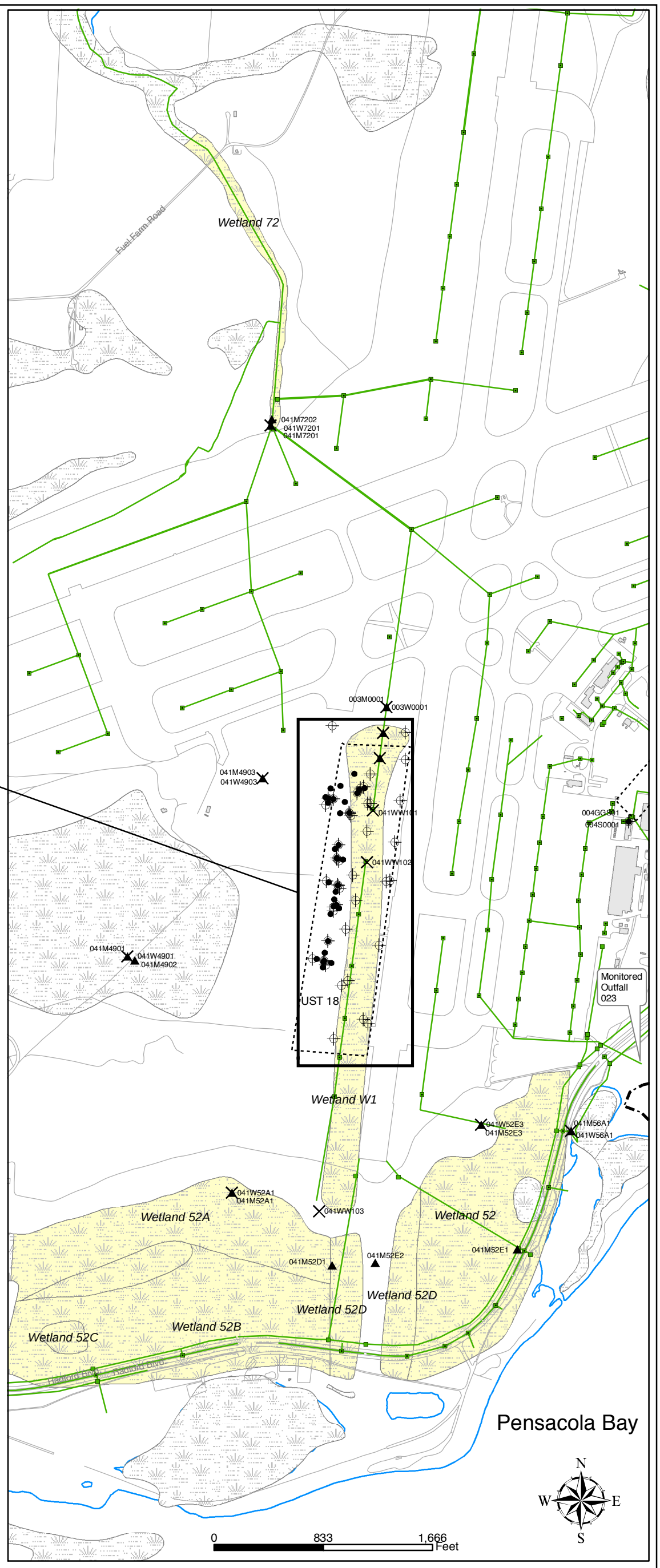


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FIGURE 14-4
UST 18 Wetlands, Nearby Sites and Adjacent Soil Borings and Monitoring Wells

Final Remedial Investigation Report
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NAS Pensacola, FL

Date: 10/3/04 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig14-4.mxd

Legend

Sitewide Sample Locations

- Soil
- Site 41 RI Sediment
- Site 41 RI Surface Water
- Groundwater
- Operable Unit (OU)
- Site
- Wetland- Approximate
- UST 18 Wetland-Approximate
- Building
- Shoreline
- Road
- Storm water Pipe
- Storm water Inlet
- Storm water Headwall

Note: Only the wetlands associated with UST 18 have labels.

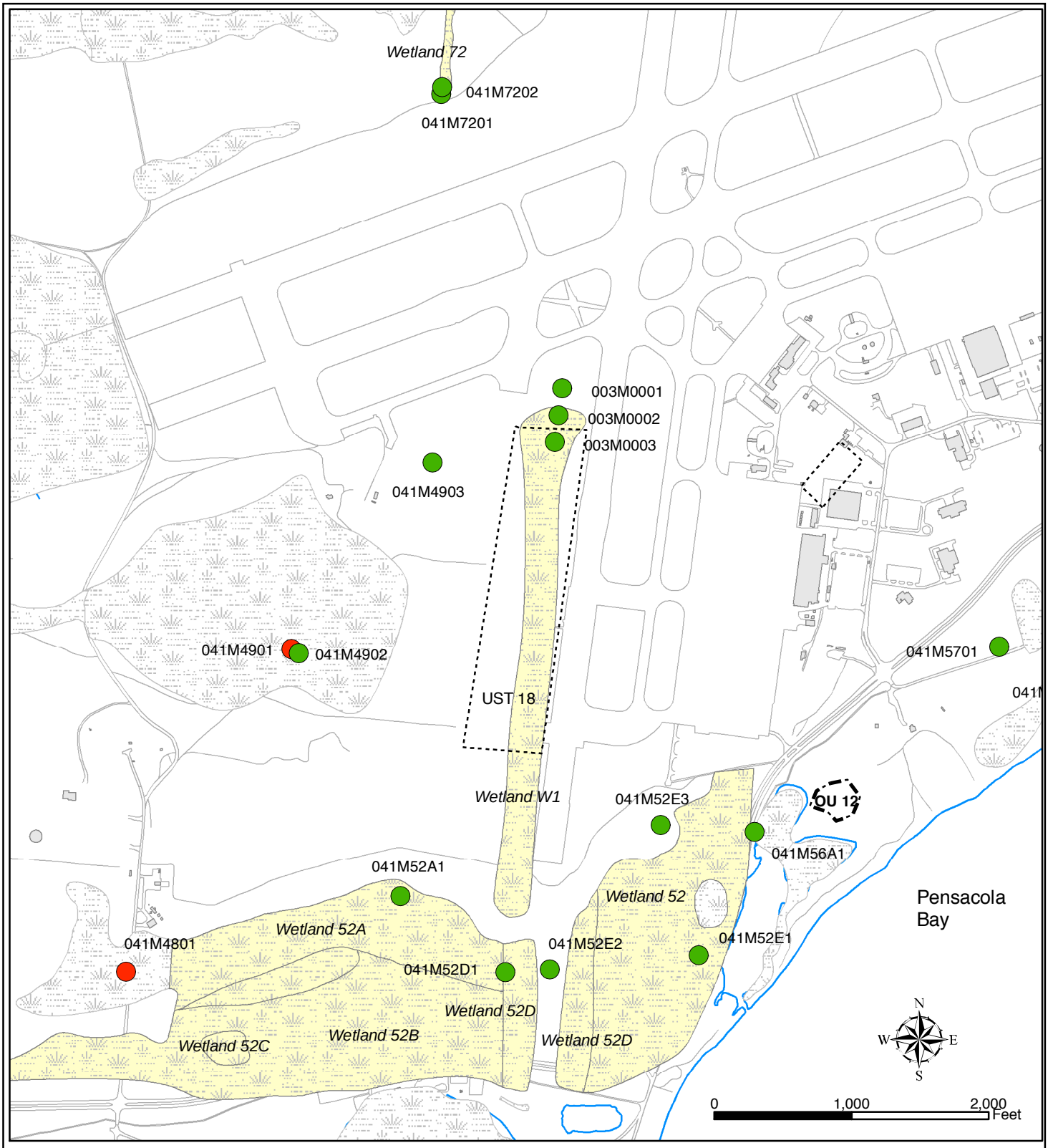

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FIGURE 14-5
UST 18 Wetlands
Sediment Total DDT

Final Remedial Investigation Report
Site 41
NAS Pensacola, FL

Date: 10/4/04 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig14-5.mxd

Legend

Site 41 RI Sediment Sample
Phase II Total DDT

- 0.285 - 109.99
- 110.00(BL) - 3460.00
- Operable Unit (OU)
- Site
- Wetland- Approximate
- UST 18 Wetland-Approximate
- Building
- Shoreline
- Road

Note:
BL is the total DDT basewide level.
Result units are ug/kg.
Only the wetlands associated with UST 18 have labels.

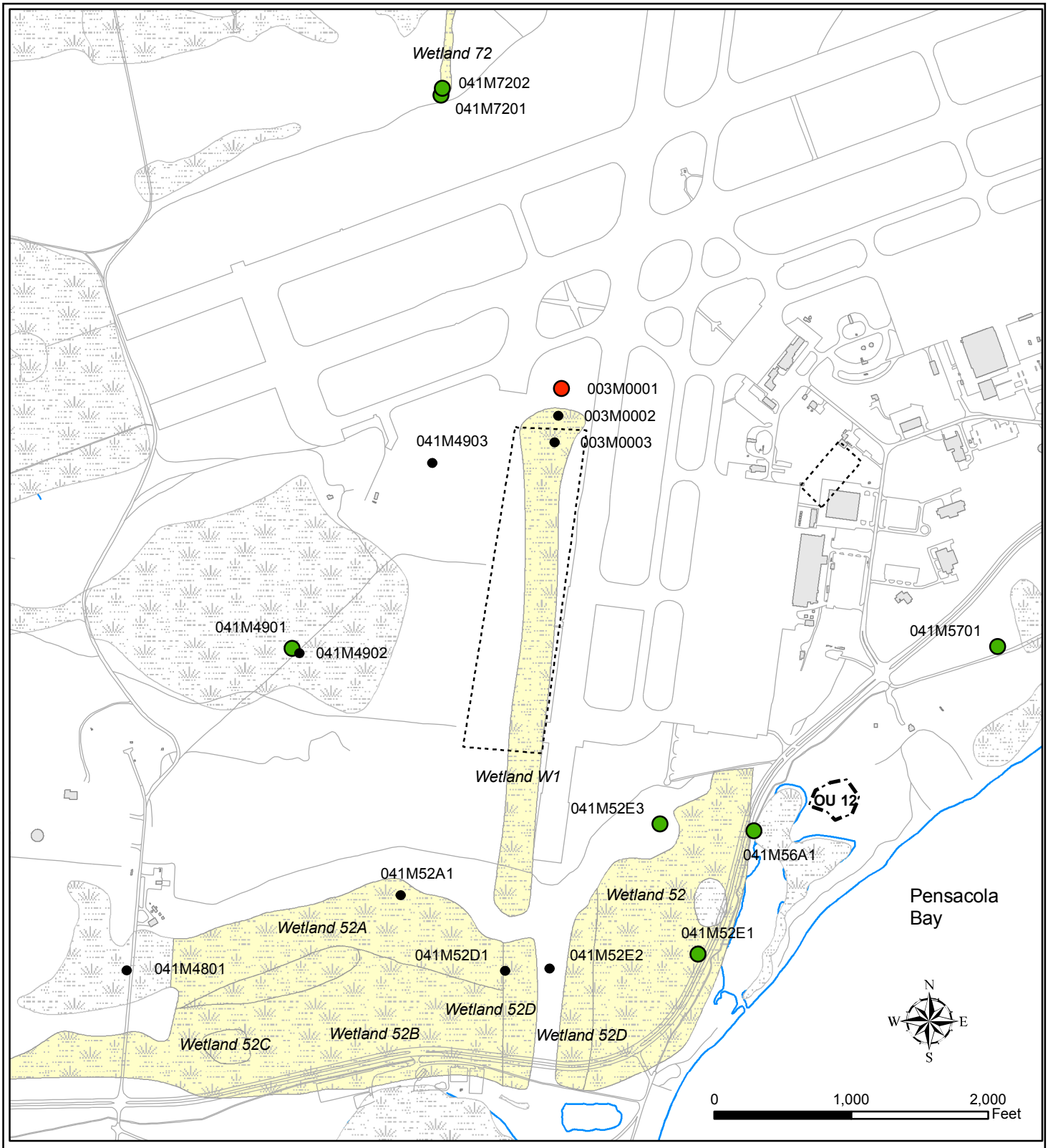

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FIGURE 14-6
UST 18 Wetlands
Sediment Swartz Normalized Total PAHs

Final Remedial Investigation Report
Site 41
NAS Pensacola, FL

Date:3/9/05 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig14-5.mxd

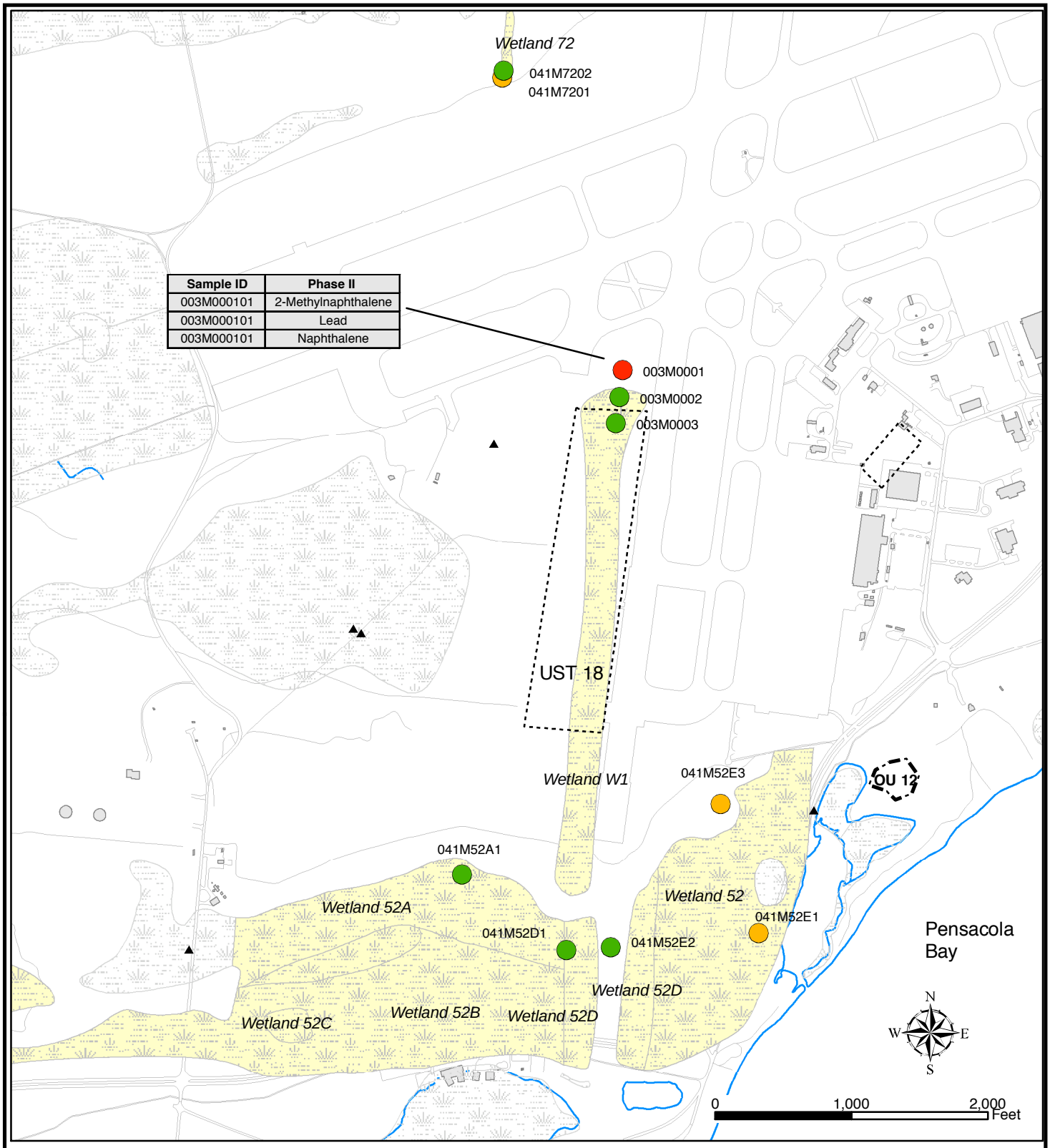
Legend

Site 41 RI Sediment Sample

Phase II TOC Normalized Total PAHs

- 1.94 - 289.99
- 290.00(TEC) - 1262.56
- Nondetect TOC Normalized Total PAH
- Operable Unit (OU)
- Site
- Wetland- Approximate
- UST 18 Wetland-Approximate
- Building
- Shoreline
- Road

Note:
Result units are mg/kg-oc.
Only the wetlands associated with UST 18 have labels.



Sample ID	Phase II
003M000101	2-Methylnaphthalene
003M000101	Lead
003M000101	Naphthalene

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FIGURE 14-7
UST 18 Wetlands Sediment Sample ERM Quotient Categories and Parameters that Exceed the ERM

Final Remedial Investigation Report
Site 41
NAS Pensacola, FL

Date:10/19/04 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig14-7.mxd

Legend

UST 18 Sediment Sample with ERM Category

Phase II Mean ERM Quotient Category

- 1
- 2
- 3
- Site 41 RI Sediment associated to another OU
- Operable Unit (OU)

- Site
- UST 18 Wetland- Approximate
- Wetland- Approximate
- Building
- Shoreline
- Road

Table indicates parameters that exceeded the ERM for each sample phase.				
Sample ID	Phase II	Phase III	Phase 2001	Phase 2004

Note:
Samples without parameter table do not have parameters that exceeded the ERM value.
Only the wetlands associated with UST 18 have labels.

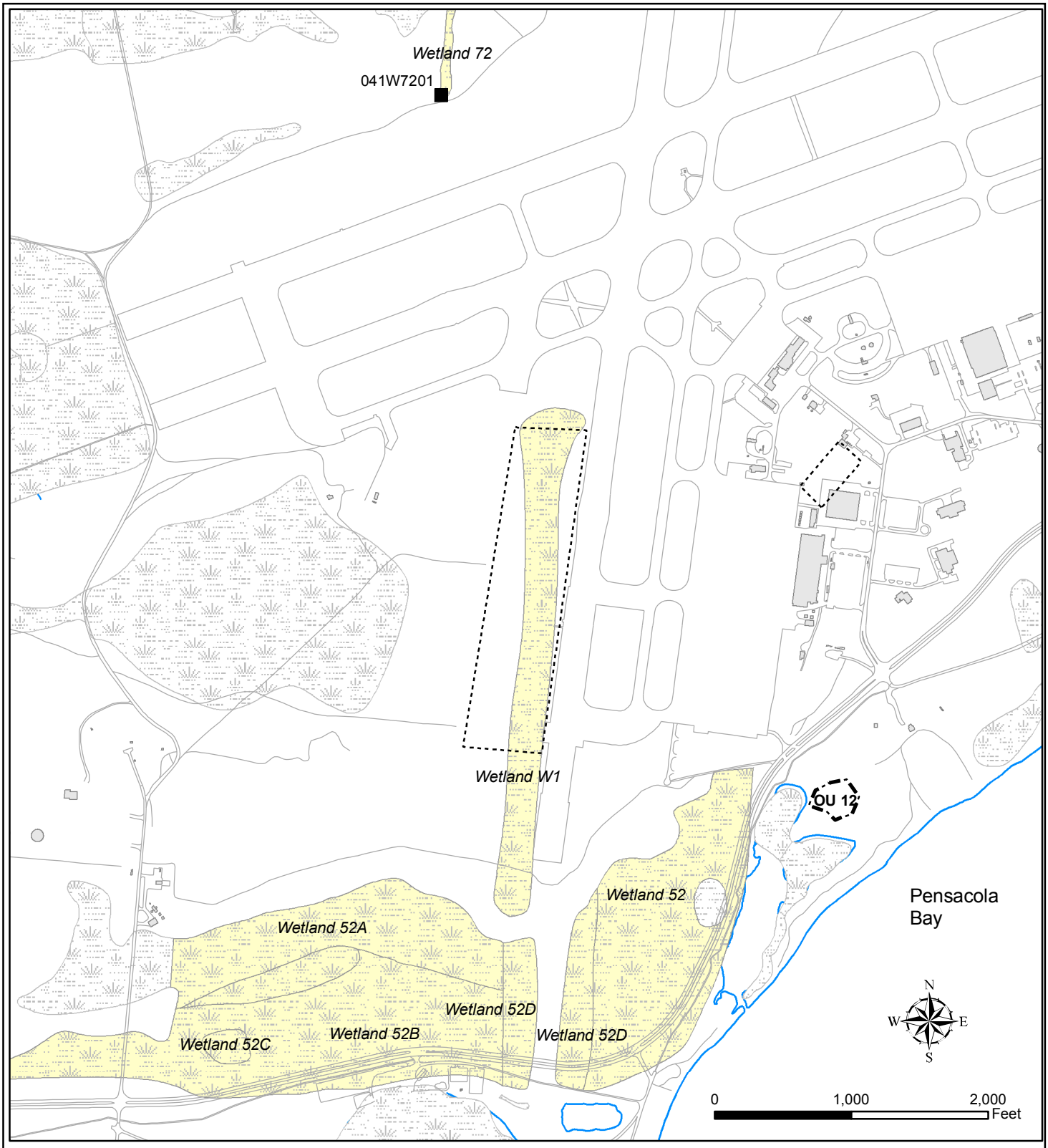

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FIGURE 14-8
UST 18 Wetlands
Chemistry and Toxicity Sample Locations

Final Remedial Investigation Report
Site 41
NAS Pensacola, FL

Date:4/1/05 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig14-8.mxd

Legend

Sediment Sample
- Chemistry only
- Chemistry and Toxicity

Surface Water Sample
- Total and Dissolved Metals only
- Total and Dissolved Metals and VOCs
- Chemistry only
- Chemistry and Toxicity
- Species Diversity Sample

- Fish Tissue Sample
- Operable Unit (OU)
- Site
- Wetland- Approximate
- UST 18 Wetland-Approximate
- Building
- Shoreline
- Road

14.1 Wetland 52 — Screening Level Problem Formulation

14.1.1 Site Description and Habitats Present at Wetland 52

Wetland 52 is located at the southern end of Forrest Sherman Field and on the northern side of Blue Angel Parkway. Wetland 52 is due south of Site 19 and encompasses approximately 100 acres of land directly south of Forrest Sherman Field (Figure 14-1).

The IR sites potentially affecting Wetland 52 are UST 18, formerly Site 3 (Crash Crew Fire Fighting Training Area), Site 4 (Army Rubble Disposal Area), Site 19 (Fuel Farm Pipeline Leak), and Site 37 (Sherman Field Area).

Photograph 1 Wetland 52 — Facing Southeast

In the 1950s, rubble from the former Fort Barrancas was disposed in the area of Site 4. The rubble included timber, pipes, mattresses, and other wastes. None of the wastes was documented as being incinerated before disposal. Inorganic constituents exceeding PRGs in site soil were similar to those identified at previously investigated sites in the eastern portion of NAS Pensacola (E/A&H, 1997e). The detected PAH contaminants are likely associated with routine activities such as automobile traffic or the

asphalt pavement (E/A&H, 1997e). The USEPA (USEPA Region 4, 1997b) and FDEP (FDEP, 1997c) approved remedial alternative for Site 4 was no action.

UST 18 (previously named IR Site 3) contains at least eight burn pits used to train fire fighters for aircraft crash response since 1955 (NEESA, 1983). Historically, during training exercises, approximately 30 to 50 gallons of fuel, (possibly JP-4, JP-5, aviation gas, lube oil, or water-tainted fuel) were poured into unlined pits or on various pieces of equipment, and ignited to simulate post-crash aircraft fires. In 1991, the northernmost pit was lined with an impermeable geofabric membrane called Bentomat, a two-layer woven cloth separated by bentonite, and became the only pit used for training exercises. Aircraft fire-fighting foam was used along with water to extinguish the fires. In 1997, crash crew training was moved to environmentally friendly training facilities at the NATTC.

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EnSafe prepared a RAP for UST Site 18 on December 19, 1997. The RAP proposed landfarming to remediate the soil contamination and thereby removing the source of groundwater contamination. Groundwater modeling indicated that natural attenuation would remediate the groundwater once the landfarming was complete. A Monitoring Only Plan (MOP) was proposed for groundwater remediation (EnSafe, 1997a).

CH2MHILL performed a remedial action for the impacted soil at UST Site 18 that consisted of the landfarming of petroleum contaminated soil in the four former firefighter training burn pits. Landfarming activities were conducted between September 2000 and September 2001 and consisted of biweekly soil tilling using a farm tractor and disk harrow. Soil samples were collected monthly. Landfarming operations ceased when soil analytical results indicated that soil cleanup goals had been achieved in September 2001 (CH2MHILL, 2003a).

Groundwater monitoring was performed monthly from December 2000 through August 2001 and quarterly until December 2002 by CH2MHill. BTEX, PAHs, TRPH, and lead were consistently reported to exceed FDEP GCTLs during quarterly sampling (CH2MHILL, 2003a).

TtNUS performed a treatability study to evaluate PermeOx® Plus for remediation of petroleum hydrocarbons. TtNUS performed supplemental site assessment activities in August 2003 to delineate the

groundwater contamination and to provide a baseline for the treatability study. Two main areas of contamination were identified during the additional groundwater investigation. A northern plume was identified around the four former pits. A southern plume was found to exist south of the four former pits. Both plumes were migrating southeast (with the groundwater flow direction) from their source areas. (TtNUS, 2003a). Extent of groundwater contamination was delineated during this investigation.

The PermeOx® Plus injection event was conducted from December 3 to December 17, 2003. This pilot-scale treatability study consisted of the installation of 219 injection borings (143 in the northern plume and 76 in the southern plume) into which a PermeOx® Plus enriched slurry was injected. Select groundwater monitoring wells were then monitored for site contaminants of concern (COCs) and natural attenuation parameters for four quarters to evaluate the effectiveness of enhanced bioremediation (TtNUS, 2005).

The Enhanced Natural Attenuation Study (PermeOx® Plus injection) concluded that there was no clear evidence of a reduction in site COCs after one year of monitoring. While COC concentrations had decreased temporarily in several wells, there was a rebound and no evidence that conditions favorable to enhanced biodegradation were occurring. Free product was detected in a shallow monitoring well (NASP18-GS26) on the northern portion of the site. The presence of free product indicated there was a continuing source of contamination and that previous soil remediation (landfarming) efforts may have not effectively removed all the contaminated soil (TtNUS, 2005). It was reasoned that contaminated soil exists around the smear zone (underneath the landfarming effort) and continually contributes to the groundwater contamination. Additional characterization has been recommended for the site (TtNUS, 2006).

Site 19 (Fuel Farm Pipeline Leak) was the site where a leak occurred in 1958 between an underground fuel pipeline which led from the fuel farm to the aircraft refueling facility at Forrest Sherman Field. This leak resulted in the direct discharge of 860,000 gallons of fuel oil, which resulted in trees and other vegetation being killed in a 200 by 400 foot area.

Site 37 (Sherman Field Fuel Farm Area) is located south of the western end of Forrest Sherman Field. The site consists of an approximately 3.5-acre, fenced area around the former fuel farm including four cut-and-cover storage tanks (Tank Nos. 1884, 1886, 1887, and 1888). The petroleum storage tank system was installed in approximately 1945 and used to store JP-4 Jet Fuel. The fuel storage tanks were abandoned in place in approximately 1995 after a new fuel facility was constructed adjacent to the south side of the original fuel farm. An equipment malfunction in 1983 resulted in the release of

approximately 48,000 gallons of JP-4 Jet Fuel. Initial recovery efforts by NAS Pensacola personnel included the installation of four recovery ditches along the fence line in the northwestern corner resulting in the recovery of approximately 600-700 gallons of free product. However, recovery efforts were discontinued by direction of the NAS Pensacola Fire Marshall due to the proximity of open excavations containing free product to the active fuel farm area. Additional recovery efforts in August 1983 included the installation of a product/groundwater recovery well system from approximately 50 to 140 feet west-northwest of the fuel farm. The system proved unsatisfactory, apparently due to its location, and recovery operations were discontinued.

Wetland 52 was described as palustrine in nature, with unique vegetative types from Forrested shrub-scrub to emergent. Parsons and Pruitt divided this area into five distinctive areas: Wetland 52A, 52B, 52C, 52D, and 52E. This large forested wetland has surface water from Wetland W1 draining into it. Wetland W1 is located to the west of the north/south runway of Forrest Sherman Field. This site may be important due to its proximity to this highly active landing site. The area between Wetland sections 52D east and west is mowed and maintained as an emergency overrun runway.

The area located directly south of the runway (Wetland 52D) is filled with water year round. The main vegetation appears to be water lillies indicating a quiet waterbody. When this area fills up, it eventually spills over into Shermans Inlet, which also maintains an active NPDES permit at this site. This area has been known to backup due to tidal activity.

Wetland 52A has a stream which passes west to east along the border between 52A and 52B. This stream continues across both sections 52D through 52E, and empties into Sherman's Inlet after passing under Blue Angel Parkway. This stream originates in Wetland 48 and follows a topographic low across 52 A/B. The topographic low showed evidence of sporadic/periodic ponding, but no stream, and is virtually impassable because of dense titi forests.

14.1.2 Wetland 52 — Sample Location Description

Phase II Sediment Sample Location Description

Five Phase II sediment samples were collected in Wetland 52 to support the Site 41 RI (Figure 14-4). Sample location 041M52A101 was collected along the northern edge of the western side of wetland area designated Wetland 52A. Sample locations 041M52D101 and 041M52E201 were also collected on the western side of this wetland complex. Sample locations 041M52E101 and 041M52E301 were collected from the eastern side of the wetland, with station location 041M52E101 adjacent to Radford Boulevard Table 14-1-1 (tables are located at the end of each section) provides a physical description of the Phase II sediments collected at Wetland 52. Phase II sediments at Wetland 52 were composed of

black silty sand with organics (041M52D101, 041M52E101 and 041M52E201) to black organic silt (041M52A101). TOC concentrations ranged from 0.68% (041M52E301) to 46.8% (041M52A101).

Phase II Surface Water Sample Location Description

Two surface water samples (041W52A101 and 041W52E301) were collected at Wetland 52, and were co-located with the sediment stations 041M52A101 and 041M52E301 (Figure 14-4). Table 14-1-2 provides a physical description of the surface water samples collected at Wetland 52. Surface water from Wetland 52B was found to be relatively soft ($CaCO_3$ levels were < 30 mg/L) and very acidic.

14.1.3 Wetland 52 — Nature and Extent of Contamination

Phase II Sediment

Figure 14-4 presents the Phase II sediment sampling locations for Wetland 52. Table 14-1-3 present a summary of the analytical results of the five Phase II sediment samples.

Metals — Eighteen metals were detected during Phase II sediment sampling at Wetland 52. Barium exceeded reference values at 041M52A101 and 04152E201, which are located near the center of the wetland. Selenium exceeded its reference value at location 041M52A101.

Pesticides and PCBs — Thirteen pesticide compounds and the PCB aroclor-1260 were detected during Phase II sediment sampling at Wetland 52. Total DDT was calculated for each location by adding the concentrations of 4,4-DDD, 4,4-DDE and 4,4-DDT. Likewise, a base-wide total DDT reference concentration was calculated using the base-wide concentrations for these same constituents.

Pesticides were detected in all five of the Wetland 52 sample locations during the Phase II investigation. Locations 041M52E301, 041M52D101, and 041M52E201 exhibited three detections whereas the other two locations each exhibited four detections. No reference values for 4,4-DDT compounds and total DDT were exceeded.

SVOCs — Twenty SVOCs were detected in sediment samples collected during Phase II sampling at Wetland 52. Sample location 041M52D101, 041M52A101, and 041M52E201 exhibited one, two, and three detections of SVOCs, respectively. Locations 041M52E101 and 041M52E301 exhibited 12 detections each. These locations are on the eastern side of the wetland.

VOCs — Acetone and toluene were detected in sediments collected from Wetland 52 during Phase II sampling. Acetone was detected at location 041M52A101, and toluene was detected at location 041M52E201.

Phase II Surface Water

Figure 14-4 presents the Phase II surface sampling locations for Wetland 52. Table 14-1-4 present a summary of the analytical results of the two Phase II surface water samples.

Metals — Eleven metals were detected in Phase II surface water samples taken from Wetland 52. Location 041W52A101 exhibited eight detections, with two of the eight exceeding reference values. Likewise, location 041W52E301 exhibited ten detections, with four of the ten exceeding reference values. Analytes exceeding reference concentrations are aluminum, barium, calcium, copper, and zinc.

Pesticides and PCBs — No pesticides and PCBs were detected during Phase II surface water sampling at Wetland 52.

SVOCs — No SVOCs were detected in surface water samples collected during the Phase II sampling effort.

VOCs — No VOCs were detected in surface water samples collected during the Phase II sampling effort.

14.1.4 Ecological Risk Assessment

Phase II Investigation Summary — Wetland 52

Sediment Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 14-1-5, the sediment samples were compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than 1 or with no screening values are carried forward to COPC refinement. A list of all COPCs after screening is included in Table 14-1-6.

Baseline Problem Formulation — Wetland 52 Sediment COPC Refinement

During the COPC refinement, additional information will be used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs. After COPC refinement, the risk assessment will present a statement of potential risk for each of the preliminary COPCs.

The COPC refinement process will include:

- Comparison of maximum concentrations to RVs
- Comparison of average concentrations to SVs and RVs
- Comparison to base-wide (reference) concentrations for DDT
- Comparison of inorganic constituents to reference wetland values
- Interpretative tool for metals
- Di Toro EqP SQGs for VOCs
- Comparison to Swartz consensus values
- Mean ERM quotients
- Description of exceedances of RVs and their extent

The methods used in the COPC refinement in the Site 41 ERA Process is detailed in Section 8. Comparison of maximum detected concentrations with refinement values are presented in Table 14-1-7. COPCs retained after refinement are presented in Table 14-1-8. Additionally, the tables compare: 1) average concentrations to screening and refinement values to assess potential exposure across the entire wetland, and 2) Wetland 52 concentrations to reference concentrations.

As shown on Figure 14-5, Total DDT and its daughter products were below the base-wide levels, indicating that pesticide application levels in this area were in accordance with other base activities. As a result, Total DDT and its daughter products are not carried forward as COPCs in the ERA Process. Four other pesticides were detected and retained as COPCs for Wetland 52: aldrin, dieldrin, endosulfan I, and endosulfan sulfate.

For Wetland 52, barium and selenium were the only two inorganic constituents, which exceeded their Site 41 freshwater sediment reference concentrations and are therefore carried forward in the ERA Process. However, barium concentrations did not appear enriched when normalized to aluminum and iron concentrations using FDEP's interpretative tool (Appendix K).

Seven SVOCs were detected and retained as COPCs during the ERA process. Those constituents include 4-methylphenol, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, carbazole, dibenzofuran, and indeno(1,2,3-cd)pyrene. Two VOCs, acetone and toluene, were detected and retained as COPCs for Wetland 52. When normalized to detected TOC concentrations, both VOCs and PAHs did not appear to be risk drivers for Wetland 52. Normalized PAH results are shown in Figure 14-6.

Table 14-1-9 presents the Mean ERL and ERM values, the Mean ERM Quotients, and the Mean ERM Quotient Category by individual sample location. Based on this approach, three sample locations (041M52A101, 041M52D101, and 041M52E201) were determined to be Category 1, which identifies these sediments to be nontoxic. Stations 041M52E101 and 041M52E301 were determined to be Category 2, which, according to tests evaluated in developing this methodology, had average survival rates of approximately 80% of control sediments; however, this Category also has the highest level of uncertainty. Figure 14-7 shows the Mean ERM category for each sediment sample location at Wetland 52.

Surface Water Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 14-1-10, the surface water samples were compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than 1 or with no screening values are carried forward to COPC refinement. A list of all COPCs after screening is included in Table 14-1-11.

Baseline Problem Formulation — Wetland 52 Surface Water COPC Refinement

During the surface water COPC refinement, additional information will be used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs.

The COPC refinement process will include:

- Comparison of maximum SV concentrations to average SV concentrations
- Comparison of inorganic constituents to reference wetland values
- Description of surface water exceedances and their extent

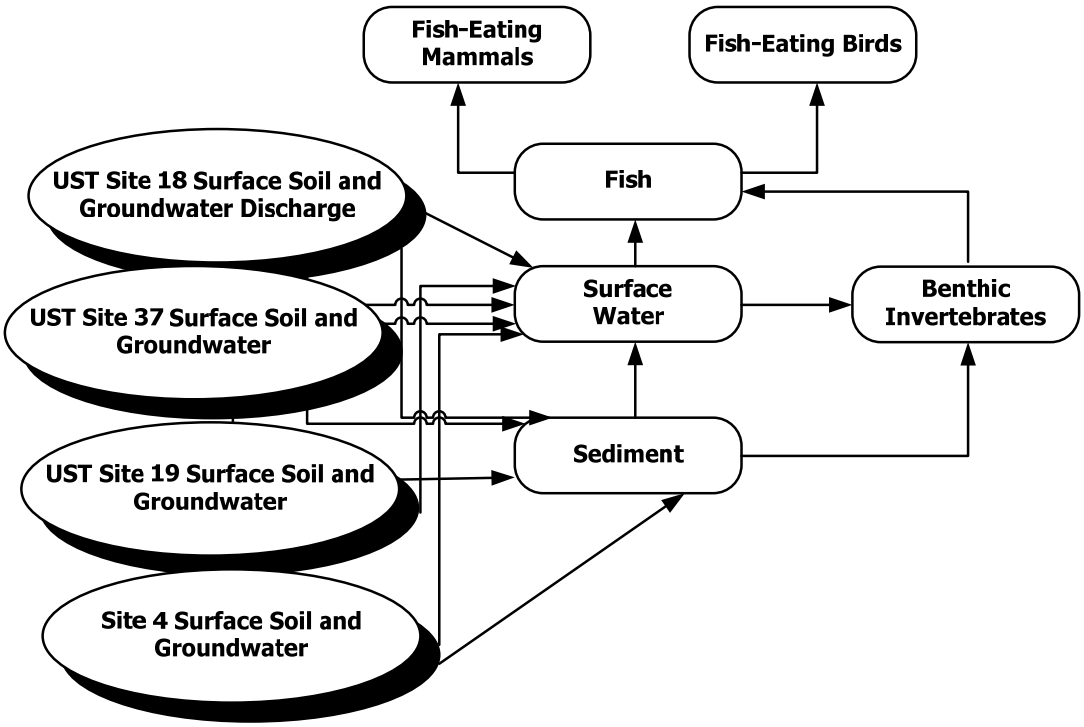
The methods used in the COPC refinement in the Site 41 ERA Process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values are presented in Table 14-1-12. COPCs retained after refinement are presented in Table 14-1-13. Additionally, the tables compare average concentrations to screening and refinement values to assess potential exposure across the entire wetland.

For Wetland 52, aluminum and barium exceeded their Site 41 freshwater reference surface water concentrations (Table 14-1-12) and are retained as COPCs. Calcium also exceeded its reference concentration; however, it is considered an essential nutrient and is not retained.

During the Wetland 52 Phase II investigation, barium was the only constituents detected and retained in both sediment and surface water samples. Sediments had an assortment of PAHs, which are likely remnants from routine grass maintenance and runway activities. Several pesticides were also detected, many of which are very persistent and laws prohibiting product application (i.e., dieldrin) curtail their usage today.

The conceptual model below symbolizes which environmental habitats that may be impacted by Wetland 52 Phase II constituents retained during the ERA Process.

Wetland 52
Conceptual Site Model



Based on the Phase II results described above, Wetland 52 was identified as a Blue-Coded Wetland in the approved *Final RI/FS SAP Addendum* (E/A&H, 1997d), indicating that contaminants were present generally below screening values, and contaminants did not appear to be site related. Blue-Coded Wetlands were not assessed further in Phase III.

14.1.5 Wetland 52 — Human Health Risk Assessment

Wetland 52 is described in Section 14.1.1, and the HHRA is summarized below.

14.1.5.1 Site Data

Section 14.1.2 summarizes the nature and extent of contamination for this wetland. Surface water and sediment data were collected at Wetland 52 during Phase II of the RI. Surface water and sediment data for 52 are summarized in Tables 14-1-3 and 14-1-4.

14.1.5.2 Conceptual Site Model

As described in Section 14.1.1, Wetland 52 is due south of Site 19 and encompasses approximately 100 acres of land directly south of Forrest Sherman Field. Because Wetland 52 is located in a restricted area of the base, the wetland is only accessible to Navy personnel. Trespassing is restricted and enforced by the homeland security act.

Wetland 52 is intermittently flooded, so surface water contact was assessed for maintenance worker scenario. Sediment locations are inundated all year at some locations, preventing significant sediment exposure. However, sediment dries at other locations within this wetland where exposure could be similar to soil exposure. Contact with sediment was assessed for all sediment locations within these wetlands. Although water depths support habitat for freshwater game fish species, enforcement of homeland security restrictions prevents fishing by trespassers. Consequently, fish tissue ingestion pathways were excluded.

The following scenarios and exposure pathways were evaluated for this wetland:

Scenario	Medium	Ingestion	Dermal
Maintenance	Surface water	√	√
	Sediment	√	√

14.1.5.3 Risk Characterization

The adult maintenance worker scenario for surface water and sediment were assessed for this wetland as described in Section 9.

Phase II Data

Maintenance Worker

As shown in Tables 14-1-14 through 14-1-16, sediment ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

As shown in Tables 14-1-17 through 14-1-19, surface water ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

Summary of Wetland 52 Phase II Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Sediment	1.96E-03	6.18E-07
	Surface water	2.41E-03	N/A

Based on Phase II data, no COCs for Wetland 52 were identified.

Wetland 52 HHRA COC Summary

No COCs were identified in the HHRA for Wetland 52.

14.1.6 Wetland 52 — Fate and Transport Analysis

The wetland actually is comprised of a number of shallow but widespread wetland environments, and contains sub-wetlands A, B, C, D, and E (see Figure 14-1). Six sediment and two surface water samples collected from this wetland were used to evaluate the transport pathways. The wetland occupies an area south of the southern end of the north-south trending Forrest Sherman runway. Flow within the wetland is complex, and is expected to be generally west to east, and north to south from A, B, and C to D. Flow in the western portion of the wetland is expected to exit the system to the south into Wetland 55. Flow in the eastern portion of the complex, including an eastern portion of 52D and 52E, especially in the northern sector, is expected to flow east and exits the system into Wetland 56. In the southern sector, flow is expected to be more complex, and is possibly to the south.

The sediment and surface water COPCs retained after refinement for this wetland are summarized in Tables 14-1-8 and 14-1-13. Provided below are the associated soil borings and monitoring wells used for comparing data for the fate and transport analysis; these wells and borings are associated with the southern end of UST Site 18.

Monitoring Wells Associated with Wetland 52: 003GGS03, 003GGR09, 003GGI03, 003GGR10, 003GGS08, 003GGR12, 003GGS04, 003GGI04, 003GGM23, 003GGR10, 003GGR13, 003GGS05, 003GGI05, 003GGR14, 003GGR15, 003GGS09, 003GGS06, 003GGR16, 003GGI06, 003GGR17, 003GGM24, 003GGS16, 003GGM24, 003GGR18, 003GGS15, 003GGS14, 003GGR11, 003GGS13, 003GGS12, 003GGR07

Borings Associated with Wetland 52: 003S0008, 003S0010, 003S0014, 003S0011, 003S0017, 003S0012, 003S0013, 003S0020, 003S0024, 003S0023, 003S0015, 003S0026, 003S0027, 003S0016, 003S0029, 003S0028

Note: These wells and borings are the same as those associated with the southern half of Wetland W1.

Surface Water/Sediment Transport into the Wetlands Media:

Surface Water — There is no directly comparable storm water data from the area proximal to this wetland complex. Because of the lack of data, no definitive statement can be made regarding the validation of the pathway via storm water runoff into the wetland complex. The vast majority of surface water drainage to this wetland is from the southern area of Forrest Sherman Field, and in particular the southernmost portion of the north-south runway (including drainage from UST Site 18; borings and wells from this site were evaluated as to potential impacts to the wetland).

Sediment — Based on surface soil data from the associated borings, the storm water to wetland sediment pathway is valid and significant for selenium and barium.

Groundwater Discharge into the Wetland Media:

Surface Water — Based on the data from associated monitoring wells, the groundwater to wetland surface water pathway is validated and significant for the following parameters:

Phase II
Aluminum
Barium

Sediment — Based on the data from associated monitoring wells, the groundwater to wetland surface water pathway is valid and significant for the following parameters:

Phase II
Selenium
Barium
4-methylphenol

Surface Water/Sediment Transport within the Wetlands:

To evaluate these pathways in Wetland 52, flow regimes were separated into a western side (upgradient sediment location 041M52A1, and downgradient sediment locations 041M52D1 and 041M52E2) and an eastern side (upgradient sediment location 041M52E3 and downgradient

location 041M52E1). The two surface water samples collected are both from upgradient positions and are not conducive to evaluating the surface water pathway.

Sediment — Western Side: Evaluation of Wetland 52 upgradient location 041M52A1 with downgradient location 041M52D1 indicates a decrease in detected parameters (15 metals/seven organics versus 14 metals/five organics respectively). Upgradient to downgradient, there was a marked decrease in TOC. For the metals, in the downgradient location compared to the upgradient, 11 exhibited a decrease, one remained the same, and two were present downgradient but were not detected upgradient. For the organics, five present in the downgradient location were not detected in the upgradient location; the organics detected consisted of pesticides, a PCB and a phthalate.

Evaluation of upgradient location 041M52D1 with downgradient location 041M52E2 indicates an increase in detected parameters (14 metals/five organics versus 15 metals/eight organics respectively). There was marked increase in TOC downgradient. From upgradient to downgradient, for metals, there was a marked increase in concentration — 14 increased, and one was not detected in the upgradient location; for organics there was only a moderate increase in concentrations with no general trend — two increased, two decreased, and four were not detected in the upgradient. Organics included pesticides, VOCs and SVOCs, which are likely derived from runoff from Forrest Sherman Field, and potentially from UST Site 18 (located to the north of the wetland) runoff and groundwater discharge; the detected phtathlates may be laboratory artifacts.

Sediment — Eastern Side: For the purpose of this evaluation, flow within the wetland was assumed southeasterly. Evaluation of Wetland 52 upgradient location 041M52E3 with downgradient location 041M52E1 indicates detections of 16 metals/15 organics in the upgradient location versus 15 metals/16 organics in the downgradient. Upgradient to downgradient, there was an increase TOC; for the metals, eight exhibited a decrease, six exhibited an increase, and one was not detected in the upgradient location; for the organics, 12 were present in the downgradient locations that were not detected in the upgradient, and four exhibited an increase. In general, the majority of organics detected in both consisted of pesticides and BAP equivalents, indicative of application residue and runoff from asphalt surfaces and/or incomplete combustion byproducts — all consistent with runoff from Sherman Field.

Table 14-1-1
Wetland 52 Phase II
Sediment Physical Parameters

Parameter	041M52A101	041M52D101	041M52E101	041M52E201	041M52E301
TOC (%)	46.8	5.25	2.28	22.1	0.68
Percent Solids (%)	11.5	46.7	53.4	12.2	69.7
Grain Size Analysis (percent of composition[1])					
Medium Sand	10	11	12	11	21
Fine Sand	5	72	77	66	71
Silt and Clay	85	17	11	23	8
Description	Black Organic Silt	Black Silty Sand With Organics	Black Silty Sand with Organics	Black Silty Sand with Organics	Brown Sand with Silt and Organics

Note:
[1] — Derived from sieve analyses.

Table 14-1-2
Wetland 52 Phase II
Surface Water Physical Parameters

Parameter	041W52A101	041W52E301
Hardness as CaCO3 (mg/L)	5.8	30.4
pH	4.63	5.86
Specific Conductivity (mS/cm)	0.052	0.063
Turbidity (NTU)	65	27
Salinity (%)	0	0

Notes:
mg/L = Milligrams per liter
MS/cm = Millisiemens per centimeter
NTU = Nephelometric turbidity units
% = Percent

Table 14-1-3
Wetland 52 Phase II
Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Average Detection	Maximum Detection Location
Metals (mg/kg)								
Aluminum	13,610.0	0	5	5	667.0	6,230.0	3,060.0	041M52A101
Arsenic	6.620	0	1	5	0.310	0.310	0.272	041M52E301
Barium	14.0	2	5	5	2.20	43.30	15.0	041M52A101
Beryllium	0.840	0	1	5	0.680	0.680	0.205	041M52A101
Calcium	10,756.670	0	5	5	526.0	3,670.0	1,900.0	041M52E201
Chromium	39.370	0	5	5	1.20	6.70	3.320	041M52E201
Cobalt	2.80	0	3	5	0.210	1.40	0.478	041M52A101
Copper	19.50	0	5	5	0.920	6.40	2.980	041M52E201
Iron	11,911.670	0	5	5	361.0	2,300.0	1,160.0	041M52E201
Lead	82.470	0	5	5	2.60	17.70	7.360	041M52E201
Magnesium	7,513.330	0	5	5	110.0	1,280.0	613.0	041M52A101
Manganese	37.970	0	5	5	2.0	15.80	9.080	041M52A101
Nickel	9.280	0	4	5	0.990	5.20	2.270	041M52E201
Potassium	1,628.670	0	5	5	22.20	160.0	80.50	041M52E201
Selenium	3.450	1	4	5	0.730	10.20	2.990	041M52A101
Sodium	18,993.330	0	3	5	61.10	169.0	78.40	041M52E201
Vanadium	28.670	0	5	5	1.10	6.60	4.10	041M52A101
Zinc	36.730	0	4	5	3.20	25.50	9.110	041M52E301
PAHs (g/kg)								
2-Methylnaphthalene	N/A	0	1	5	50.0	50.0	59.40	041M52E301
Acenaphthene	N/A	0	1	5	77.0	77.0	39.30	041M52E301
Anthracene	N/A	0	1	5	100.0	100.0	69.40	041M52E301
Benzo(a)anthracene	N/A	0	2	5	26.0	100.0	69.40	041M52E101
Benzo(a)pyrene	N/A	0	1	5	64.0	64.0	61.80	041M52E101
Chrysene	N/A	0	1	5	130.0	130.0	75.0	041M52E101
Fluoranthene	N/A	0	2	5	130.0	140.0	98.20	041M52E101
Fluorene	N/A	0	1	5	94.0	94.0	42.70	041M52E301
Naphthalene	N/A	0	1	5	100.0	100.0	69.40	041M52E301
Phenanthrene	N/A	0	1	5	240.0	240.0	97.40	041M52E301
Pyrene	N/A	0	2	5	82.0	140.0	88.60	041M52E101
Total PAHs	N/A	0	2	5	755.0	995.0	879.0	041M52E301
Pesticides and PCBs (g/kg)								
Aroclor-1260	N/A	0	2	5	3.30	3.70	3.30	041M52D101
Total PCBs	N/A	0	2	5	18.70	19.050	22.80	041M52E201
Aldrin	N/A	0	1	5	2.80	2.80	0.628	041M52A101
Dieldrin	N/A	0	1	5	9.50	9.50	2.040	041M52A101
Endosulfan I	N/A	0	2	5	0.390	5.70	1.270	041M52A101
Endosulfan sulfate	N/A	0	1	5	1.20	1.20	0.494	041M52E301
alpha-Chlordane	N/A	0	1	5	0.340	0.340	0.183	041M52E201
gamma-Chlordane	N/A	0	1	5	0.910	0.910	0.250	041M52A101
Total Chlordane	N/A	0	2	5	0.450	1.255	0.433	041M52A101
Endrin	N/A	0	2	5	1.70	2.40	1.010	041M52D101
Total Endrin	N/A	0	2	5	2.150	2.830	1.570	041M52D101
alpha-BHC	N/A	0	1	5	0.140	0.140	0.153	041M52E301
delta-BHC	N/A	0	1	5	0.610	0.610	0.238	041M52D101
gamma-BHC (Lindane)	N/A	0	1	5	0.430	0.430	0.210	041M52E101
Total BHC	N/A	0	3	5	0.320	0.925	0.738	041M52D101
4,4'-DDD	50.0	0	3	5	0.450	6.10	1.580	041M52E101
4,4'-DDE	40.0	0	1	5	7.0	7.0	1.650	041M52E101
4,4'-DDT	20.0	0	1	5	1.30	1.30	0.512	041M52E101
Total DDT	110.0	0	3	5	0.880	14.40	3.740	041M52E101
SVOCs (g/kg)								
4-Methylphenol (p-Cresol)	N/A	0	2	5	110.0	170.0	458.0	041M52E101
Benzo(b)fluoranthene	N/A	0	1	5	190.0	190.0	87.0	041M52E101
Benzo(g,h,i)perylene	N/A	0	1	5	45.0	45.0	58.0	041M52E101
Benzo(k)fluoranthene	N/A	0	1	5	61.0	61.0	61.20	041M52E101
bis(2-Ethylhexyl)phthalate (BEHP)	N/A	0	5	5	50.0	360.0	192.0	041M52A101
Carbazole	N/A	0	1	5	45.0	45.0	503.0	041M52E301
Dibenzofuran	N/A	0	1	5	72.0	72.0	508.0	041M52E301
Di-n-butylphthalate	N/A	0	3	5	49.0	150.0	185.0	041M52A101
Indeno(1,2,3-cd)pyrene	N/A	0	1	5	51.0	51.0	59.20	041M52E101
VOCs (g/kg)								
Acetone	N/A	0	1	5	1,300.0	1,300.0	291.0	041M52A101
Toluene	N/A	0	1	5	21.0	21.0	16.0	041M52E201

Notes:
g/kg = micrograms per kilogram
mg/kg = milligram per kilogram
N/A = Not Applicable

Table 14-1-4
Wetland 52 Phase II
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (g/L)								
Aluminum	1,090.25	1	2	2	116.0	2,580.0	1,350.0	041W52E301
Barium	3.68	2	2	2	4.9	6.6	5.75	041W52A101
Calcium	7,675.0	1	2	2	808.0	10,800.0	5,800.0	041W52E301
Copper	4.0	1	1	2	6.4	6.4	6.4	041W52A101
Iron	2,360.0	0	1	2	1,220.0	1,220.0	1,220.0	041W52E301
Magnesium	20,260.0	0	2	2	854.0	912.0	883.0	041W52A101
Manganese	13.2	0	2	2	8.2	10.5	9.35	041W52A101
Potassium	6,995.0	0	2	2	349.0	589.0	469.0	041W52A101
Sodium	182,200.0	0	2	2	2,670.0	5,260.0	3,970.0	041W52A101
Vanadium	4.7	0	1	2	2.7	2.7	2.7	041W52E301
Zinc	5.53	1	1	2	12.4	12.4	12.4	041W52E301

Notes:
g/L = micrograms per liter
N/A = Not Applicable

Table 14-1-5
Wetland 52 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Metals (mg/kg)														
Aluminum	5	5			667	6,230	041M52A101	6,230			N/A		Yes	No SV
Antimony	0	5	0.075	2.1			ND	2.1	UJ	12	2	0.18	No	Max SQL< SV
Arsenic	1	5	0.09	0.43	0.31	0.31	041M52E301	0.31	J	7.24	1, 2	0.04	No	Max Detect < SV
Barium	5	5			2.2	43.3	041M52A101	43.3	J		N/A		Yes	No SV
Beryllium	1	5	0.035	0.21	0.68	0.68	041M52A101	0.68	J		N/A		Yes	No SV
Cadmium	0	5	0.075	0.43			ND	0.43	U	0.676	1	0.64	No	Max SQL< SV
Calcium	5	5			526	3,670	041M52E201	3,670			N/A		Yes	No SV
Chromium	5	5			1.2	6.7	041M52E201	6.7		52.3	1, 2	0.13	No	Max Detect < SV
Cobalt	3	5	0.11	0.42	0.21	1.4	041M52A101	1.4	J		N/A		Yes	No SV
Copper	5	5			0.92	6.4	041M52E201	6.4	J	18.7	1, 2	0.34	No	Max Detect < SV
Cyanide (CN)	0	5	0.35	2.1			ND	2.1	U		N/A		Yes	No SV
Iron	5	5			361	2,300	041M52E201	2,300			N/A		Yes	No SV
Lead	5	5			2.6	17.7	041M52E201	17.7		30.2	1, 2	0.59	No	Max Detect < SV
Magnesium	5	5			110	1,280	041M52A101	1,280	J		N/A		Yes	No SV
Manganese	5	5			2	15.8	041M52A101	15.8			N/A		Yes	No SV
Mercury	0	5	0.03	0.19			ND	0.19	U	0.13	1, 2	1.46	Yes	Max SQL > SV
Nickel	4	5	1.95	1.95	0.99	5.2	041M52E201	5.2	J	15.9	1, 2	0.33	No	Max Detect < SV
Potassium	5	5			22.2	160	041M52E201	160	J		N/A		Yes	No SV
Selenium	4	5	0.185	0.185	0.73	10.2	041M52A101	10.2	J		N/A		Yes	No SV
Silver	0	5	0.185	1.1			ND	1.1	U	0.733	1	1.5	Yes	Max SQL > SV
Sodium	3	5	7.3	11.6	61.1	169	041M52E201	169	J		N/A		Yes	No SV
Thallium	0	5	0.15	0.85			ND	0.85	U		N/A		Yes	No SV
Vanadium	5	5			1.1	6.6	041M52A101	6.6	J		N/A		Yes	No SV
Zinc	4	5	0.85	0.85	3.2	25.5	041M52E301	25.5		124	1, 2	0.21	No	Max Detect < SV
PAHs (g/kg)														
2-Methylnaphthalene	**1**	**5**	**26**	**135**	**50**	**50**	**041M52E301**	**50**		**20.2**	**1**	**2.48**	No	TOC Normalized PAHs<TEC
Acenaphthene	**1**	**5**	**12.5**	**65**	**77**	**77**	**041M52E301**	**77**		**6.71**	**1**	**11.5**	No	TOC Normalized PAHs<TEC
Acenaphthylene	0	5	24	135			ND	135	U	5.87	1	23	No	TOC Normalized PAHs<TEC
Anthracene	**1**	**5**	**26**	**135**	**100**	**100**	**041M52E301**	**100**		**46.9**	**1**	**2.13**	No	TOC Normalized PAHs<TEC
Benzo(a)anthracene	**2**	**5**	**42**	**135**	**26**	**100**	**041M52E101**	**100**		**74.8**	**1**	**1.34**	No	TOC Normalized PAHs<TEC
Benzo(a)pyrene	1	5	24	135	64	64	041M52E101	64		88.8	1	0.72	No	TOC Normalized PAHs<TEC
Chrysene	**1**	**5**	**24**	**135**	**130**	**130**	**041M52E101**	**130**		**108**	**1**	**1.2**	No	TOC Normalized PAHs<TEC
Dibenz(a,h)anthracene	0	5	24	135			ND	135	U	6.22	1	21.7	No	TOC Normalized PAHs<TEC
Fluoranthene	**2**	**5**	**42**	**135**	**130**	**140**	**041M52E101**	**140**		**113**	**1**	**1.24**	No	TOC Normalized PAHs<TEC
Fluorene	**1**	**5**	**12.5**	**65**	**94**	**94**	**041M52E301**	**94**		**21.2**	**1**	**4.43**	No	TOC Normalized PAHs<TEC
Naphthalene	**1**	**5**	**26**	**135**	**100**	**100**	**041M52E301**	**100**		**34.6**	**1**	**2.89**	No	TOC Normalized PAHs<TEC
Phenanthrene	**1**	**5**	**26**	**135**	**240**	**240**	**041M52E301**	**240**		**86.7**	**1**	**2.77**	No	TOC Normalized PAHs<TEC
Pyrene	2	5	42	135	82	140	041M52E101	140		153	1	0.92	No	TOC Normalized PAHs<TEC
Total PAHs	2	5	503	1,620	755	995	041M52E301	995		1,684	1, 2	0.59	No	TOC Normalized PAHs<TEC
TOC Normalized PAHs	2	5	2.38	9.58	33.11	146.32	041M52E301	146.32		290	3	0.51	No	Max Detect < SV
PCBs (g/kg)														
Aroclor-1016	0	5	1.2	7			ND	7	U	21.6	N/A	0.32	No	Max SQL< SV
Aroclor-1221	0	5	2.45	14			ND	14	U	67	2	0.21	No	Max SQL< SV
Aroclor-1232	0	5	1.2	7			ND	7	U	21.6	N/A	0.32	No	Max SQL< SV
Aroclor-1242	0	5	1.2	7			ND	7	U	21.6	N/A	0.32	No	Max SQL< SV
Aroclor-1248	0	5	1.2	7			ND	7	U	21.6	N/A	0.32	No	Max SQL< SV
Aroclor-1254	0	5	1.2	7			ND	7	U	21.6	N/A	0.32	No	Max SQL< SV
Aroclor-1260	2	5	1.2	7	3.3	3.7	041M52E201	3.7	J	21.6	N/A	0.17	No	Max Detect < SV
Total PCBs	2	5	9.65	56	18.7	19.1	041M52E201	19.1		21.6	1	0.88	No	Max Detect < SV
Pesticides (g/kg)														
Aldrin	1	5	0.06	0.11	2.8	2.8	041M52A101	2.8	J		N/A		Yes	No SV
Dieldrin	**1**	**5**	**0.12**	**0.225**	**9.5**	**9.5**	**041M52A101**	**9.5**	**J**	**0.716**	**1**	**13.3**	**Yes**	**Max Detect > SV**
Endosulfan I	2	5	0.065	0.11	0.39	5.7	041M52A101	5.7	J		N/A		Yes	No SV
Endosulfan II	0	5	0.12	0.7			ND	0.7	U		N/A		Yes	No SV
Endosulfan sulfate	1	5	0.13	0.7	1.2	1.2	041M52E301	1.2	J		N/A		Yes	No SV
Heptachlor	0	5	0.06	0.345			ND	0.345	U		N/A		Yes	No SV
Heptachlor epoxide	0	5	0.06	0.345			ND	0.345	U		N/A		Yes	No SV
Methoxychlor	0	5	0.6	3.45			ND	3.45	U		N/A		Yes	No SV
Toxaphene	0	5	12.5	70			ND	70	U		N/A		Yes	No SV
alpha-Chlordane	1	5	0.06	0.345	0.34	0.34	041M52E201	0.34	J	1.7	1	0.2	No	Max Detect < SV

Table 14-1-5
Wetland 52 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Pesticides (g/kg) - cont.														
gamma-Chlordane	1	5	0.06	0.11	0.91	0.91	041M52A101	0.91	J	1.7	1	0.54	No	Max Detect < SV
Total Chlordane	2	5	0.12	0.21	0.45	1.26	041M52A101	1.26		1.7	1	0.74	No	Max Detect < SV
Endrin	2	5	0.12	0.7	1.7	2.4	041M52D101	2.4	J	3.3	2	0.73	No	Max Detect < SV
Endrin aldehyde	0	5	0.12	0.7			ND	0.7	U	3.3	2	0.21	No	Max SQL< SV
Endrin ketone	0	5	0.12	0.7			ND	0.7	U	3.3	2	0.21	No	Max SQL< SV
Total Endrin	2	5	0.36	2.1	2.15	2.83	041M52D101	2.83		3.3	2	0.86	No	Max Detect < SV
alpha-BHC	1	5	0.065	0.345	0.14	0.14	041M52E301	0.14	J		N/A		Yes	No SV
beta-BHC	0	5	0.06	0.345			ND	0.345	U	0.32	N/A	1.08	Yes	Max SQL > SV
delta-BHC	**1**	**5**	**0.06**	**0.345**	**0.61**	**0.61**	**041M52D101**	**0.61**	**J**	**0.32**	**N/A**	**1.91**	**Yes**	**Max Detect > SV**
gamma-BHC (Lindane)	**1**	**5**	**0.06**	**0.345**	**0.43**	**0.43**	**041M52E101**	**0.43**	**J**	**0.32**	**1**	**1.34**	**Yes**	**Max Detect > SV**
Total BHC	**3**	**5**	**0.44**	**1.38**	**0.32**	**0.925**	**041M52E301**	**0.925**		**0.32**	**2**	**2.89**	**Yes**	**Max Detect > SV**
4,4'-DDD	**3**	**5**	**0.12**	**0.7**	**0.45**	**6.1**	**041M52E101**	**6.1**	**DJ**	**1.22**	**1**	**5**	**Yes**	**Max Detect > SV**
4,4'-DDE	**1**	**5**	**0.12**	**0.7**	**7**	**7**	**041M52E101**	**7**	**D**	**2.07**	**1**	**3.38**	**Yes**	**Max Detect > SV**
4,4'-DDT	**1**	**5**	**0.12**	**0.7**	**1.3**	**1.3**	**041M52E101**	**1.3**		**1.19**	**1**	**1.09**	**Yes**	**Max Detect > SV**
Total DDT	**3**	**5**	**0.36**	**2.1**	**0.88**	**14.4**	**041M52E101**	**14.4**		**3.3**	**2**	**4.36**	**Yes**	**Max Detect > SV**
SVOCs (g/kg)														
1,2,4-Trichlorobenzene	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
1,2-Dichlorobenzene	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
1,3-Dichlorobenzene	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
1,4-Dichlorobenzene	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	5	240	1,350			ND	1,350	UJ		N/A		Yes	No SV
2,4,5-Trichlorophenol	0	5	600	3,350			ND	3,350	U		N/A		Yes	No SV
2,4,6-Trichlorophenol	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
2,4-Dichlorophenol	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
2,4-Dimethylphenol	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
2,4-Dinitrophenol	0	5	600	3,350			ND	3,350	U		N/A		Yes	No SV
2,4-Dinitrotoluene	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
2,6-Dinitrotoluene	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
2-Chloronaphthalene	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
2-Chlorophenol	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	5	600	3,350			ND	3,350	U		N/A		Yes	No SV
2-Methylphenol (o-Cresol)	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
2-Nitroaniline	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
2-Nitrophenol	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
3,3'-Dichlorobenzidine	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
3-Nitroaniline	0	5	600	3,350			ND	3,350	U		N/A		Yes	No SV
4-Bromophenyl-phenylether	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
4-Chloro-3-methylphenol	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
4-Chloroaniline	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
4-Chlorophenylphenyl ether	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
4-Methylphenol (p-Cresol)	2	5	240	1,350	110	170	041M52E101	170	J		N/A		Yes	No SV
4-Nitroaniline	0	5	600	3,350			ND	3,350	U		N/A		Yes	No SV
4-Nitrophenol	0	5	600	3,350			ND	3,350	U		N/A		Yes	No SV
Benzo(b)fluoranthene	1	5	24	135	190	190	041M52E101	190			N/A		No	TOC Normalized PAHs<TEC
Benzo(g,h,i)perylene	1	5	24	135	45	45	041M52E101	45	J		N/A		No	TOC Normalized PAHs<TEC
Benzo(k)fluoranthene	1	5	24	135	61	61	041M52E101	61			N/A		No	TOC Normalized PAHs<TEC
bis(2-Chloroethoxy)methane	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
bis(2-Chloroethyl)ether	0	5	24	135			ND	135	U		N/A		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	**5**	**5**			**50**	**360**	**041M52A101**	**360**	**J**	**182**	**1, 2**	**1.98**	**Yes**	**Max Detect > SV**
Butylbenzylphthalate	0	5	240	1,350			ND	1,350	U	182	1, 2	7.42	Yes	Max SQL > SV
Carbazole	1	5	260	1,350	45	45	041M52E301	45	J		N/A		Yes	No SV
Dibenzofuran	1	5	260	1,350	72	72	041M52E301	72	J		N/A		Yes	No SV
Diethylphthalate	0	5	240	1,350			ND	1,350	U	182	1, 2	7.42	Yes	Max SQL > SV
Dimethylphthalate	0	5	240	1,350			ND	1,350	U	182	1, 2	7.42	Yes	Max SQL > SV
Di-n-butylphthalate	3	5	240	420	49	150	041M52A101	150	J	182	1, 2	0.82	No	Max Detect < SV
Di-n-octylphthalate	0	5	240	1,350			ND	1,350	U	182	1, 2	7.42	Yes	Max SQL > SV
Hexachlorobenzene	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
Hexachlorobutadiene	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
Hexachlorocyclopentadiene	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV

Table 14-1-5
Wetland 52 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
SVOCs (g/kg) - cont.														
Hexachloroethane	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
Indeno(1,2,3-cd)pyrene	1	5	24	135	51	51	041M52E101	51	J		N/A		No	TOC Normalized PAHs<TEC
Isophorone	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
Nitrobenzene	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
N-Nitroso-di-n-propylamine	0	5	24	135			ND	135	U		N/A		Yes	No SV
N-Nitrosodiphenylamine	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
Pentachlorophenol	0	5	600	3,350			ND	3,350	U		N/A		Yes	No SV
Phenol	0	5	240	1,350			ND	1,350	U		N/A		Yes	No SV
VOCs (g/kg)														
1,1,1-Trichloroethane	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
1,1,2,2-Tetrachloroethane	0	5	7	35.5			ND	35.5	UJ		N/A		Yes	No SV
1,1,2-Trichloroethane	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
1,1-Dichloroethane	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
1,1-Dichloroethene	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
1,2-Dichloroethane	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
1,2-Dichloroethene (total)	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
1,2-Dichloropropane	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
2-Butanone (MEK)	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
2-Hexanone	0	5	7	35.5			ND	35.5	UJ		N/A		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
Acetone	1	5	14.5	100	1,300	1,300	041M52A101	1,300			N/A		Yes	No SV
Benzene	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
Bromodichloromethane	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
Bromoform	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
Bromomethane	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
Carbon disulfide	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
Carbon tetrachloride	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
Chlorobenzene	0	5	7	35.5			ND	35.5	UJ		N/A		Yes	No SV
Chloroethane	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
Chloroform	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
Chloromethane	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
cis-1,3-Dichloropropene	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
Dibromochloromethane	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
Ethylbenzene	0	5	7	35.5			ND	35.5	UJ		N/A		Yes	No SV
Methylene chloride	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
Styrene	0	5	7	35.5			ND	35.5	UJ		N/A		Yes	No SV
Tetrachloroethene	0	5	7	35.5			ND	35.5	UJ		N/A		Yes	No SV
Toluene	1	5	7	35.5	21	21	041M52E201	21	J		N/A		Yes	No SV
trans-1,3-Dichloropropene	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
Trichloroethene	0	5	7	35.5			ND	35.5	U		N/A		Yes	No SV
Vinyl chloride	0	5	2	10.5			ND	10.5	U		N/A		Yes	No SV
Xylene (Total)	0	5	7	35.5			ND	35.5	UJ		N/A		Yes	No SV

Notes:

Sources for Screening Values:
SV = Screening Value
1 = USEPA Region 4 Screening Value. Detailed explanation for SVs provided in Section 8.0.
2 = FDEP Threshold effects level

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available.
U or ND = Not Detected at or above the SQL
J = Estimated value
SHQ = Screening Hazard Quotient

D = Diluted Result
mg/kg = milligrams per kilograms
g/kg = micrograms per kilograms
mg/kg oc = milligrams per kilograms - organic carbon
UJ = Not detected. SQL is estimated.
Parameters in bold were detected and exceeded screening values.

Table 14-1-6
Wetland 52 Phase II
Sediment COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	4,4'-DDD	4-Methylphenol (p-Cresol)	Acetone
Barium	4,4'-DDE	bis(2-Ethylhexyl)phthalate (BEHP)	Toluene
Beryllium	4,4'-DDT	Carbazole	
Calcium	Aldrin	Dibenzofuran	
Cobalt	alpha-BHC		
Iron	delta-BHC		
Magnesium	Dieldrin		
Manganese	Endosulfan I		
Potassium	Endosulfan sulfate		
Selenium	gamma-BHC (Lindane)		
Sodium	Total BHC		
Vanadium	Total DDT		
		Not Detected Parameters	
Cyanide (CN)	beta-BHC	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane
Mercury	Endosulfan II	1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
Silver	Heptachlor	1,3-Dichlorobenzene	1,1,2-Trichloroethane
Thallium	Heptachlor epoxide	1,4-Dichlorobenzene	1,1-Dichloroethane
	Methoxychlor	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1-Dichloroethene
	Toxaphene	2,4,5-Trichlorophenol	1,2-Dichloroethane
		2,4,6-Trichlorophenol	1,2-Dichloroethene (total)
		2,4-Dichlorophenol	1,2-Dichloropropane
		2,4-Dimethylphenol	2-Butanone (MEK)
		2,4-Dinitrophenol	2-Hexanone
		2,4-Dinitrotoluene	4-Methyl-2-Pentanone (MIBK)
		2,6-Dinitrotoluene	Benzene
		2-Chloronaphthalene	Bromodichloromethane
		2-Chlorophenol	Bromoform
		2-Methyl-4,6-Dinitrophenol	Bromomethane
		2-Methylphenol (o-Cresol)	Carbon disulfide
		2-Nitroaniline	Carbon tetrachloride
		2-Nitrophenol	Chlorobenzene
		3,3'-Dichlorobenzidine	Chloroethane
		3-Nitroaniline	Chloroform
		4-Bromophenyl-phenylether	Chloromethane
		4-Chloro-3-methylphenol	cis-1,3-Dichloropropene
		4-Chloroaniline	Dibromochloromethane
		4-Chlorophenylphenyl ether	Ethylbenzene
		4-Nitroaniline	Methylene chloride
		4-Nitrophenol	Styrene
		bis(2-Chloroethoxy)methane	Tetrachloroethene
		bis(2-Chloroethyl)ether	trans-1,3-Dichloropropene
		Butylbenzylphthalate	Trichloroethene
		Diethylphthalate	Vinyl chloride
		Dimethylphthalate	Xylene (Total)
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	

Table 14-1-7
Wetland 52 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	Number Analyzed	COPC Retained (Y/N)	Rationale
Metals (mg/kg)																								
Aluminum	5	5				3,060	667	6,230	6,230		041M52A101			NA					0	13,610	0	5	No	EPC < RC
Barium	5	5				15	2.2	43.3	43.3	J	041M52A101			NA					0	14	2	5	Yes	EPC > RC and no RV
Beryllium	1	5	0.0863	0.035	0.21	0.205	0.68	0.68	0.68	J	041M52A101			NA					0	0.84	0	5	No	EPC < RC
Calcium	5	5				1,900	526	3,670	3,670		041M52E201			NA					0	10,756.67	0	5	No	EPC < RC
Cobalt	3	5	0.265	0.11	0.42	0.478	0.21	1.4	1.4	J	041M52A101			NA					0	2.8	0	5	No	EPC < RC
Cyanide (CN)	0	5	1.1	0.35	2.1	1.1			2.1	U	ND			NA					0	5.22	0	5	No	Parameter Not Detected
Iron	5	5				1,160	361	2,300	2,300		041M52E201			NA					0	11,911.67	0	5	No	EPC < RC
Magnesium	5	5				613	110	1,280	1,280	J	041M52A101			NA					0	7,513.33	0	5	No	EPC < RC
Manganese	5	5				9.08	2	15.8	15.8		041M52A101			NA					0	37.97	0	5	No	EPC < RC
Mercury	0	5	0.099	0.03	0.19	0.099			0.19	U	ND	0.13	0.696	PEL	1.46	0.76	0.27	0.14	0	0.55	0	5	No	Parameter Not Detected
Potassium	5	5				80.5	22.2	160	160	J	041M52E201			NA					0	1,628.67	0	5	No	EPC < RC
Selenium	4	5	0.185	0.185	0.185	2.99	0.73	10.2	10.2	J	041M52A101			NA					0	3.45	0	5	Yes	EPC > RC and no RV
Silver	0	5	0.568	0.185	1.1	0.568			1.1	U	ND	0.73	2	PEL	1.51	0.78	0.55	0.28	0	2.1	0	5	No	Parameter Not Detected
Sodium	3	5	9.45	7.3	11.6	78.4	61.1	169	169	J	041M52E201			NA					0	18,993.33	0	5	No	EPC < RC
Thallium	0	5	0.451	0.15	0.85	0.451			0.85	U	ND			NA					0	1.57	0	5	No	Parameter Not Detected
Vanadium	5	5				4.1	1.1	6.6	6.6	J	041M52A101			NA					0	28.67	0	5	No	EPC < RC
PCBs (g/kg)																								
Aroclor-1016	0	5	2.78	1.2	7	2.78			7	U	ND	21.6	189	PEL	0.32	0.13	0.04	0.01	0		0	5	No	Parameter Not Detected
Aroclor-1221	0	5	5.57	2.45	14	5.57			14	U	ND	67	189	PEL	0.21	0.08	0.07	0.03	0		0	5	No	Parameter Not Detected
Aroclor-1232	0	5	2.78	1.2	7	2.78			7	U	ND	21.6	189	PEL	0.32	0.13	0.04	0.01	0		0	5	No	Parameter Not Detected
Aroclor-1242	0	5	2.78	1.2	7	2.78			7	U	ND	21.6	189	PEL	0.32	0.13	0.04	0.01	0		0	5	No	Parameter Not Detected
Aroclor-1248	0	5	2.78	1.2	7	2.78			7	U	ND	21.6	189	PEL	0.32	0.13	0.04	0.01	0		0	5	No	Parameter Not Detected
Aroclor-1254	0	5	2.78	1.2	7	2.78			7	U	ND	21.6	189	PEL	0.32	0.13	0.04	0.01	0		0	5	No	Parameter Not Detected
Aroclor-1260	2	5	3.17	1.2	7	3.3	3.3	3.7	3.7	J	041M52E201	21.6	189	PEL	0.17	0.15	0.02	0.02	0		0	5	No	RV HQ <1 and no RC
Total PCBs	2	5	25.4	9.65	56	22.8	18.7	19.1	19.1		041M52E201	21.6	189	PEL	0.88	1.05	0.10	0.12	0		0	**5**	No	RV HQ <1 and no RC
Pesticides (g/kg)																								
Aldrin	1	5	0.085	0.06	0.11	0.628	2.8	2.8	2.8	J	041M52A101			NA					0		0	5	Yes	No SV, no RV, and no RC
Dieldrin	**1**	**5**	**0.172**	**0.12**	**0.225**	**2.04**	**9.5**	**9.5**	**9.5**	**J**	**041M52A101**	**0.72**	**4.3**	**PEL**	**13.3**	**2.85**	**2.21**	**0.47**	**1**		**0**	5	**Yes**	**RV HQ > 1 and no RC**
Endosulfan I	2	5	0.0933	0.065	0.11	1.27	0.39	5.7	5.7	J	041M52A101			NA					0		0	5	Yes	No SV, no RV, and no RC
Endosulfan II	0	5	0.278	0.12	0.7	0.278			0.7	U	ND			NA					0		0	5	No	Parameter Not Detected
Endosulfan sulfate	1	5	0.318	0.13	0.7	0.494	1.2	1.2	1.2	J	041M52E301			NA					0		0	5	Yes	No SV, no RV, and no RC
Heptachlor	0	5	0.137	0.06	0.345	0.137			0.345	U	ND			NA					0		0	5	No	Parameter Not Detected
Heptachlor epoxide	0	5	0.137	0.06	0.345	0.137			0.345	U	ND			NA					0		0	5	No	Parameter Not Detected
Methoxychlor	0	5	1.37	0.6	3.45	1.37			3.45	U	ND			NA					0		0	5	No	Parameter Not Detected
Toxaphene	0	5	28.1	12.5	70	28.1			70	U	ND			NA					0		0	5	No	Parameter Not Detected
alpha-BHC	1	5	0.156	0.065	0.345	0.153	0.14	0.14	0.14	J	041M52E301		0.99	PEL			0.14	0.16	0		0	5	No	RV HQ <1 and no RC
beta-BHC	0	5	0.137	0.06	0.345	0.137			0.345	U	ND	0.32	0.99	PEL	1.08	0.43	0.35	0.14	0		0	5	No	Parameter Not Detected
delta-BHC	1	5	0.145	0.06	0.345	0.238	0.61	0.61	0.61	J	041M52D101	0.32	0.99	PEL	1.91	0.74	0.62	0.24	0		0	5	No	RV HQ <1 and no RC
gamma-BHC (Lindane)	1	5	0.155	0.06	0.345	0.21	0.43	0.43	0.43	J	041M52E101	0.32	0.99	PEL	1.34	0.66	0.43	0.21	0		0	5	No	RV HQ <1 and no RC
Total BHC	3	5	0.91	0.44	1.38	0.738	0.32	0.925	0.925		041M52E301	0.32	0.99	PEL	2.89	2.31	0.93	0.75	0		0	**5**	No	RV HQ <1 and no RC
4,4'-DDD	3	5	0.41	0.12	0.7	1.58	0.45	6.1	6.1	DJ	041M52E101	1.22	7.81	PEL	5	1.29	0.78	0.20	0	50	0	5	No	EPC < RC and RV
4,4'-DDE	1	5	0.315	0.12	0.7	1.65	7	7	7	D	041M52E101	2.07	374	PEL	3.38	0.80	0.02	0.00	0	40	0	5	No	EPC < RC and RV
4,4'-DDT	1	5	0.315	0.12	0.7	0.512	1.3	1.3	1.3		041M52E101	1.19	4.77	PEL	1.09	0.43	0.27	0.11	0	20	0	5	No	EPC < RC and RV
Total DDT	3	5	1.23	0.36	2.1	3.74	0.88	14.4	14.4		041M52E101	3.3	51.7	PEL	4.36	1.13	0.28	0.07	0	110	0	**5**	No	EPC < RC and RV
SVOCs (g/kg)																								
1,2,4-Trichlorobenzene	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
1,2-Dichlorobenzene	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
1,3-Dichlorobenzene	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
1,4-Dichlorobenzene	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	5	542	240	1,350	542			1,350	UJ	ND			NA					0		0	5	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	5	1,330	600	3,350	1,330			3,350	U	ND			NA					0		0	5	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
2,4-Dichlorophenol	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
2,4-Dimethylphenol	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
2,4-Dinitrophenol	0	5	1,330	600	3,350	1,330			3,350	U	ND			NA					0		0	5	No	Parameter Not Detected
2,4-Dinitrotoluene	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
2,6-Dinitrotoluene	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
2-Chloronaphthalene	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
2-Chlorophenol	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	5	1,330	600	3,350	1,330			3,350	U	ND			NA					0		0	5	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
2-Nitroaniline	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
2-Nitrophenol	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
3-Nitroaniline	0	5	1,330	600	3,350	1,330			3,350	U	ND			NA					0		0	5	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
4-Chloroaniline	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	2	5	670	240	1,350	458	110	170	170	J	041M52E101			NA					0		0	5	Yes	No SV, no RV, and no RC
4-Nitroaniline	0	5	1,330	600	3,350	1,330			3,350	U	ND			NA					0		0	5	No	Parameter Not Detected
4-Nitrophenol	0	5	1,330	600	3,350	1,330			3,350	U	ND			NA					0		0	5	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	5	54	24	135	54			135	U	ND			NA					0		0	5	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	5	5				192	50	360	360	J	041M52A101	182	2,647	PEL	1.98	1.05	0.14	0.07	0		0	5	No	RV HQ <1 and no RC
Butylbenzylphthalate	0	5	542	240	1,350	542			1,350	U	ND	182	2,647	PEL	7.42	2.98	0.51	0.21	0		0	5	No	Parameter Not Detected
Carbazole	1	5	618	260	1,350	503	45	45	45	J	041M52E301			NA					0		0	5	Yes	No SV, no RV, and no RC
Dibenzofuran	1	5	618	260	1,350	508	72	72	72	J	041M52E301			NA					0		0	5	Yes	No SV, no RV, and no RC
Diethylphthalate	0	5	542	240	1,350	542			1,350	U	ND	182	2,647	PEL	7.42	2.98	0.51	0.21	0		0	5	No	Parameter Not Detected
Dimethylphthalate	0	5	542	240	1,350	542			1,350	U	ND	182	2,647	PEL	7.42	2.98	0.51	0.21	0		0	5	No	Parameter Not Detected
Di-n-octylphthalate	0	5	542	240	1,350	542			1,350	U	ND	182	2,647	PEL	7.42	2.98	0.51	0.21	0		0	5	No	Parameter Not Detected
Hexachlorobenzene	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected

Table 14-1-7
Wetland 52 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	Number Analyzed	COPC Retained (Y/N)	Rationale
SVOCs (g/kg) - cont.																								
Hexachlorobutadiene	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
Hexachloroethane	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
Isophorone	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
Nitrobenzene	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	5	54.2	24	135	54.2			135	U	ND			NA					0		0	5	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
Pentachlorophenol	0	5	1,330	600	3,350	1,330			3,350	U	ND			NA					0		0	5	No	Parameter Not Detected
Phenol	0	5	542	240	1,350	542			1,350	U	ND			NA					0		0	5	No	Parameter Not Detected
VOCs (g/kg)																								
1,1,1-Trichloroethane	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
1,1,2,2-Tetrachloroethane	0	5	16.3	7	35.5	16.3			35.5	UJ	ND			NA					0		0	5	No	Parameter Not Detected
1,1,2-Trichloroethane	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
1,1-Dichloroethane	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
1,1-Dichloroethene	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
1,2-Dichloroethane	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
1,2-Dichloroethene (total)	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
1,2-Dichloropropane	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
2-Butanone (MEK)	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
2-Hexanone	0	5	16.3	7	35.5	16.3			35.5	UJ	ND			NA					0		0	5	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
Acetone	1	5	39	14.5	100	291	1,300	1,300	1,300		041M52A101			NA					0		0	5	Yes	No SV, no RV, and no RC
Benzene	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
Bromodichloromethane	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
Bromoform	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
Bromomethane	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
Carbon disulfide	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
Carbon tetrachloride	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
Chlorobenzene	0	5	16.3	7	35.5	16.3			35.5	UJ	ND			NA					0		0	5	No	Parameter Not Detected
Chloroethane	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
Chloroform	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
Chloromethane	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
Dibromochloromethane	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
Ethylbenzene	0	5	16.3	7	35.5	16.3			35.5	UJ	ND			NA					0		0	5	No	Parameter Not Detected
Methylene chloride	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
Styrene	0	5	16.3	7	35.5	16.3			35.5	UJ	ND			NA					0		0	5	No	Parameter Not Detected
Tetrachloroethene	0	5	16.3	7	35.5	16.3			35.5	UJ	ND			NA					0		0	5	No	Parameter Not Detected
Toluene	1	5	14.8	7	35.5	16	21	21	21	J	041M52E201			NA					0		0	5	Yes	No SV, no RV, and no RC
trans-1,3-Dichloropropene	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
Trichloroethene	0	5	16.3	7	35.5	16.3			35.5	U	ND			NA					0		0	5	No	Parameter Not Detected
Vinyl chloride	0	5	4.9	2	10.5	4.9			10.5	U	ND			NA					0		0	5	No	Parameter Not Detected
Xylene (Total)	0	5	16.3	7	35.5	16.3			35.5	UJ	ND			NA					0		0	5	No	Parameter Not Detected

Notes:

Sources for Refinement Values (RVs):
PEL = FDEP Probable Effects Level
MEC = Swartz Midrange Effect Concentration

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
Parameters in bold were detected and exceeded screening values.

J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
PEL = Probable effects level.

N/R = No refinement value available.
N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the maximum detections
NAS Pensacola base wide levels used as reference values for 4,4'-DDT, 4,4'-DDD, 4,4'-DDE and total DDT.

Table 14-1-8
Wetland 52 Phase II
Sediment COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Barium	Aldrin	4-Methylphenol (p-Cresol)	None
Selenium	Dieldrin	Carbazole	
	Endosulfan I	Dibenzofuran	
	Endosulfan sulfate		

Table 14-1-9
Wetland 52 Phase II
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M52A101	1/23/1996	mg/kg	0.43	U	Arsenic	8.2	70	0.01
041M52A101	1/23/1996	mg/kg	0.43	U	Cadmium	1.2	9.6	0.04
041M52A101	1/23/1996	mg/kg	4.2	J	Chromium	81	370	0.01
041M52A101	1/23/1996	mg/kg	3.9	J	Copper	34	270	0.01
041M52A101	1/23/1996	mg/kg	7.1		Lead	46.7	218	0.03
041M52A101	1/23/1996	mg/kg	0.19	U	Mercury	0.15	0.71	0.27
041M52A101	1/23/1996	mg/kg	1.95	U	Nickel	20.9	51.6	0.04
041M52A101	1/23/1996	mg/kg	1.1	U	Silver	1	3.7	0.30
041M52A101	1/23/1996	mg/kg	0.85	U	Zinc	150	410	0.00
041M52A101	1/23/1996	g/kg	0.7	U	4,4'-DDE	2.2	27	0.03
041M52A101	1/23/1996	g/kg	0.7	U	4,4'-DDT	1.58	46.1	0.02
041M52A101	1/23/1996	g/kg	56	U	Total PCBs	22.7	180	0.31
041M52A101	1/23/1996	g/kg	135	U	2-Methylnaphthalene	70	670	0.20
041M52A101	1/23/1996	g/kg	65	U	Acenaphthene	16	500	0.13
041M52A101	1/23/1996	g/kg	135	U	Acenaphthylene	44	640	0.21
041M52A101	1/23/1996	g/kg	135	U	Anthracene	85.3	1,100	0.12
041M52A101	1/23/1996	g/kg	135	U	Benzo(a)anthracene	261	1,600	0.08
041M52A101	1/23/1996	g/kg	135	U	Benzo(a)pyrene	430	1,600	0.08
041M52A101	1/23/1996	g/kg	135	U	Chrysene	384	2,800	0.05
041M52A101	1/23/1996	g/kg	135	U	Dibenz(a,h)anthracene	63.4	260	0.52
041M52A101	1/23/1996	g/kg	135	U	Fluoranthene	600	5,100	0.03
041M52A101	1/23/1996	g/kg	65	U	Fluorene	19	540	0.12
041M52A101	1/23/1996	g/kg	135	U	Naphthalene	160	2,100	0.06
041M52A101	1/23/1996	g/kg	135	U	Phenanthrene	240	1,500	0.09
041M52A101	1/23/1996	g/kg	135	U	Pyrene	665	2,600	0.05
041M52A101	1/23/1996				ERM Quotient Sum			2.82
041M52A101	1/23/1996				Mean ERM Quotient			0.11
041M52A101	1/23/1996				Mean ERM Quotient without ND			0.00
041M52A101	1/23/1996				Mean ERM Quotient Category			1
041M52D101	1/23/1996	mg/kg	0.11	U	Arsenic	8.2	70	0.00
041M52D101	1/23/1996	mg/kg	0.11	U	Cadmium	1.2	9.6	0.01
041M52D101	1/23/1996	mg/kg	1.2		Chromium	81	370	0.00
041M52D101	1/23/1996	mg/kg	0.92	J	Copper	34	270	0.00
041M52D101	1/23/1996	mg/kg	3.7		Lead	46.7	218	0.02
041M52D101	1/23/1996	mg/kg	0.05	U	Mercury	0.15	0.71	0.07
041M52D101	1/23/1996	mg/kg	1.6	J	Nickel	20.9	51.6	0.03
041M52D101	1/23/1996	mg/kg	0.275	U	Silver	1	3.7	0.07
041M52D101	1/23/1996	mg/kg	3.2		Zinc	150	410	0.01
041M52D101	1/23/1996	g/kg	0.215	U	4,4'-DDE	2.2	27	0.01
041M52D101	1/23/1996	g/kg	0.215	U	4,4'-DDT	1.58	46.1	0.00
041M52D101	1/23/1996	g/kg	18.7		Total PCBs	22.7	180	0.10
041M52D101	1/23/1996	g/kg	42	U	2-Methylnaphthalene	70	670	0.06
041M52D101	1/23/1996	g/kg	20.5	U	Acenaphthene	16	500	0.04
041M52D101	1/23/1996	g/kg	42	U	Acenaphthylene	44	640	0.07
041M52D101	1/23/1996	g/kg	42	U	Anthracene	85.3	1,100	0.04
041M52D101	1/23/1996	g/kg	42	U	Benzo(a)anthracene	261	1,600	0.03
041M52D101	1/23/1996	g/kg	42	U	Benzo(a)pyrene	430	1,600	0.03
041M52D101	1/23/1996	g/kg	42	U	Chrysene	384	2,800	0.02
041M52D101	1/23/1996	g/kg	42	U	Dibenz(a,h)anthracene	63.4	260	0.16
041M52D101	1/23/1996	g/kg	42	U	Fluoranthene	600	5,100	0.01
041M52D101	1/23/1996	g/kg	20.5	U	Fluorene	19	540	0.04
041M52D101	1/23/1996	g/kg	42	U	Naphthalene	160	2,100	0.02
041M52D101	1/23/1996	g/kg	42	U	Phenanthrene	240	1,500	0.03
041M52D101	1/23/1996	g/kg	42	U	Pyrene	665	2,600	0.02
041M52D101	1/23/1996				ERM Quotient Sum			0.88
041M52D101	1/23/1996				Mean ERM Quotient			0.04
041M52D101	1/23/1996				Mean ERM Quotient without ND			0.01
041M52D101	1/23/1996				Mean ERM Quotient Category			1
041M52E101	1/23/1996	mg/kg	0.09	U	Arsenic	8.2	70	0.00
041M52E101	1/23/1996	mg/kg	0.09	U	Cadmium	1.2	9.6	0.01
041M52E101	1/23/1996	mg/kg	1.6		Chromium	81	370	0.00
041M52E101	1/23/1996	mg/kg	2	J	Copper	34	270	0.01
041M52E101	1/23/1996	mg/kg	5.7		Lead	46.7	218	0.03
041M52E101	1/23/1996	mg/kg	0.04	U	Mercury	0.15	0.71	0.06
041M52E101	1/23/1996	mg/kg	0.99	J	Nickel	20.9	51.6	0.02
041M52E101	1/23/1996	mg/kg	0.23	U	Silver	1	3.7	0.06
041M52E101	1/23/1996	mg/kg	5.3		Zinc	150	410	0.01
041M52E101	1/23/1996	g/kg	7	D	4,4'-DDE	2.2	27	0.26
041M52E101	1/23/1996	g/kg	1.3		4,4'-DDT	1.58	46.1	0.03
041M52E101	1/23/1996	g/kg	10.45	U	Total PCBs	22.7	180	0.06
041M52E101	1/23/1996	g/kg	26	U	2-Methylnaphthalene	70	670	0.04
041M52E101	1/23/1996	g/kg	12.5	U	Acenaphthene	16	500	0.03
041M52E101	1/23/1996	g/kg	26	U	Acenaphthylene	44	640	0.04
041M52E101	1/23/1996	g/kg	26	U	Anthracene	85.3	1,100	0.02
041M52E101	1/23/1996	g/kg	100		Benzo(a)anthracene	261	1,600	0.06
041M52E101	1/23/1996	g/kg	64		Benzo(a)pyrene	430	1,600	0.04
041M52E101	1/23/1996	g/kg	130		Chrysene	384	2,800	0.05
041M52E101	1/23/1996	g/kg	26	U	Dibenz(a,h)anthracene	63.4	260	0.10
041M52E101	1/23/1996	g/kg	140		Fluoranthene	600	5,100	0.03
041M52E101	1/23/1996	g/kg	12.5	U	Fluorene	19	540	0.02
041M52E101	1/23/1996	g/kg	26	U	Naphthalene	160	2,100	0.01
041M52E101	1/23/1996	g/kg	26	U	Phenanthrene	240	1,500	0.02
041M52E101	1/23/1996	g/kg	140		Pyrene	665	2,600	0.05
041M52E101	1/23/1996				ERM Quotient Sum			1.06
041M52E101	1/23/1996				Mean ERM Quotient			0.04
041M52E101	1/23/1996				Mean ERM Quotient without ND			0.02
041M52E101	1/23/1996				Mean ERM Quotient Category			2
041M52E201	1/23/1996	mg/kg	0.42	U	Arsenic	8.2	70	0.01
041M52E201	1/23/1996	mg/kg	0.42	U	Cadmium	1.2	9.6	0.04
041M52E201	1/23/1996	mg/kg	6.7		Chromium	81	370	0.02
041M52E201	1/23/1996	mg/kg	6.4	J	Copper	34	270	0.02
041M52E201	1/23/1996	mg/kg	17.7		Lead	46.7	218	0.08
041M52E201	1/23/1996	mg/kg	0.185	U	Mercury	0.15	0.71	0.26
041M52E201	1/23/1996	mg/kg	5.2	J	Nickel	20.9	51.6	0.10
041M52E201	1/23/1996	mg/kg	1.05	U	Silver	1	3.7	0.28
041M52E201	1/23/1996	mg/kg	10.7		Zinc	150	410	0.03
041M52E201	1/23/1996	g/kg	0.225	U	4,4'-DDE	2.2	27	0.01

Table 14-1-9
Wetland 52 Phase II
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M52E201	1/23/1996	g/kg	0.225	U	4,4'-DDT	1.58	46.1	0.00
041M52E201	1/23/1996	g/kg	19.05		Total PCBs	22.7	180	0.11
041M52E201	1/23/1996	g/kg	44	U	2-Methylnaphthalene	70	670	0.07
041M52E201	1/23/1996	g/kg	21.5	U	Acenaphthene	16	500	0.04
041M52E201	1/23/1996	g/kg	44	U	Acenaphthylene	44	640	0.07
041M52E201	1/23/1996	g/kg	44	U	Anthracene	85.3	1,100	0.04
041M52E201	1/23/1996	g/kg	44	U	Benzo(a)anthracene	261	1,600	0.03
041M52E201	1/23/1996	g/kg	44	U	Benzo(a)pyrene	430	1,600	0.03
041M52E201	1/23/1996	g/kg	44	U	Chrysene	384	2,800	0.02
041M52E201	1/23/1996	g/kg	44	U	Dibenz(a,h)anthracene	63.4	260	0.17
041M52E201	1/23/1996	g/kg	44	U	Fluoranthene	600	5,100	0.01
041M52E201	1/23/1996	g/kg	21.5	U	Fluorene	19	540	0.04
041M52E201	1/23/1996	g/kg	44	U	Naphthalene	160	2,100	0.02
041M52E201	1/23/1996	g/kg	44	U	Phenanthrene	240	1,500	0.03
041M52E201	1/23/1996	g/kg	44	U	Pyrene	665	2,600	0.02
041M52E201	1/23/1996				ERM Quotient Sum			1.54
041M52E201	1/23/1996				Mean ERM Quotient			0.06
041M52E201	1/23/1996				Mean ERM Quotient without ND			0.01
041M52E201	1/23/1996				Mean ERM Quotient Category			1
041M52E301	1/24/1996	mg/kg	0.31	J	Arsenic	8.2	70	0.00
041M52E301	1/24/1996	mg/kg	0.075	U	Cadmium	1.2	9.6	0.01
041M52E301	1/24/1996	mg/kg	2.9		Chromium	81	370	0.01
041M52E301	1/24/1996	mg/kg	1.7	J	Copper	34	270	0.01
041M52E301	1/24/1996	mg/kg	2.6		Lead	46.7	218	0.01
041M52E301	1/24/1996	mg/kg	0.03	U	Mercury	0.15	0.71	0.04
041M52E301	1/24/1996	mg/kg	1.6	J	Nickel	20.9	51.6	0.03
041M52E301	1/24/1996	mg/kg	0.185	U	Silver	1	3.7	0.05
041M52E301	1/24/1996	mg/kg	25.5		Zinc	150	410	0.06
041M52E301	1/24/1996	g/kg	0.12	U	4,4'-DDE	2.2	27	0.00
041M52E301	1/24/1996	g/kg	0.12	U	4,4'-DDT	1.58	46.1	0.00
041M52E301	1/24/1996	g/kg	9.65	U	Total PCBs	22.7	180	0.05
041M52E301	1/24/1996	g/kg	50		2-Methylnaphthalene	70	670	0.07
041M52E301	1/24/1996	g/kg	77		Acenaphthene	16	500	0.15
041M52E301	1/24/1996	g/kg	24	U	Acenaphthylene	44	640	0.04
041M52E301	1/24/1996	g/kg	100		Anthracene	85.3	1,100	0.09
041M52E301	1/24/1996	g/kg	26	J	Benzo(a)anthracene	261	1,600	0.02
041M52E301	1/24/1996	g/kg	24	U	Benzo(a)pyrene	430	1,600	0.02
041M52E301	1/24/1996	g/kg	24	U	Chrysene	384	2,800	0.01
041M52E301	1/24/1996	g/kg	24	U	Dibenz(a,h)anthracene	63.4	260	0.09
041M52E301	1/24/1996	g/kg	130		Fluoranthene	600	5,100	0.03
041M52E301	1/24/1996	g/kg	94		Fluorene	19	540	0.17
041M52E301	1/24/1996	g/kg	100		Naphthalene	160	2,100	0.05
041M52E301	1/24/1996	g/kg	240		Phenanthrene	240	1,500	0.16
041M52E301	1/24/1996	g/kg	82		Pyrene	665	2,600	0.03
041M52E301	1/24/1996				ERM Quotient Sum			1.21
041M52E301	1/24/1996				Mean ERM Quotient			0.05
041M52E301	1/24/1996				Mean ERM Quotient without ND			0.04
041M52E301	1/24/1996				Mean ERM Quotient Category			2

Notes:
ERL = Effects Range Low
ERM = Effects Range Median
mg/kg = milligrams per kilogram
g/kg = micrograms per kilogram
U = not detected at or above the SQL (value in table is 1/2 reported value)
J = estimated value
Shaded cells indicate constituent exceeds ERL.
Shaded and bold cells indicate constituent exceeds ERM.

Table 14-1-10
Wetland 52 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
Metals (g/L)																
Aluminum	**2**	**2**				**1,350**	**116**	**2,580**	**041W52E301**	**2,580**		**13**	**FDEP**	**198**	**Yes**	**Max Detect > SV**
Antimony	0	2	3	1	5	3			ND	5	UJ	160	EPA	0.03	No	Max SQL< SV
Arsenic	0	2	1	1	1	1			ND	1	U	50	FDEP	0.02	No	Max SQL< SV
Barium	2	2				5.75	4.9	6.6	041W52A101	6.6	J		NA		Yes	No SV
Beryllium	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	0.13	FDEP	3.85	Yes	Max SQL > SV
Cadmium	0	2	1	1	1	1			ND	1	UJ	0.66	EPA	1.52	Yes	Max SQL > SV
Calcium	2	2				5,800	808	10,800	041W52E301	10,800			NA		Yes	No SV
Chromium	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	11	EPA	0.23	No	Max SQL< SV
Cobalt	0	2	1	1	1	1			ND	1	U		NA		Yes	No SV
Copper	1	2	2	2	2	4.2	6.4	6.4	041W52A101	6.4	J	6.54	EPA	0.98	No	Max Detect < SV
Cyanide (CN)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	5.2	EPA	0.48	No	Max SQL< SV
Iron	1	2	43.1	43.1	43.1	632	1,220	1,220	041W52E301	1,220			NA		Yes	No SV
Lead	0	2	1	1	1	1			ND	1	U	1.32	EPA	0.76	No	Max SQL< SV
Magnesium	2	2				883	854	912	041W52A101	912	J		NA		Yes	No SV
Manganese	2	2				9.35	8.2	10.5	041W52A101	10.5	J		NA		Yes	No SV
Mercury	0	2	0.065	0.065	0.065	0.065			ND	0.065	U	0.012	EPA	5.42	Yes	Max SQL > SV
Nickel	0	2	4.5	4.5	4.5	4.5			ND	4.5	U	87.71	EPA	0.05	No	Max SQL< SV
Potassium	2	2				469	349	589	041W52A101	589	J		NA		Yes	No SV
Selenium	0	2	2	2	2	2			ND	2	U	5	EPA	0.4	No	Max SQL< SV
Silver	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	0.012	EPA	208	Yes	Max SQL > SV
Sodium	2	2				3,970	2,670	5,260	041W52A101	5,260			NA		Yes	No SV
Thallium	0	2	2	2	2	2			ND	2	U	4	EPA	0.5	No	Max SQL< SV
Vanadium	1	2	1	1	1	1.85	2.7	2.7	041W52E301	2.7	J		NA		Yes	No SV
Zinc	1	2	2	2	2	7.2	12.4	12.4	041W52E301	12.4	J	58.91	EPA	0.21	No	Max Detect < SV
Pesticides (g/L)																
Aldrin	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
Dieldrin	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA		Yes	No SV
Endosulfan I	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.056	EPA	0.45	No	Max SQL< SV
Endosulfan II	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA		Yes	No SV
Endosulfan sulfate	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA		Yes	No SV
Heptachlor	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.0038	EPA	6.58	Yes	Max SQL > SV
Heptachlor epoxide	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.00004	FDEP	625	Yes	Max SQL > SV
Methoxychlor	0	2	0.25	0.25	0.25	0.25			ND	0.25	UJ		NA		Yes	No SV
Toxaphene	0	2	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA		Yes	No SV
alpha-Chlordane	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
gamma-Chlordane	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
Total Chlordane	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	11.6	Yes	Max SQL > SV
Endrin	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA		Yes	No SV
Endrin aldehyde	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA		Yes	No SV
Endrin ketone	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0023	EPA	21.7	Yes	Max SQL > SV
Total Endrin	0	2	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
alpha-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
beta-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
delta-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
gamma-BHC (Lindane)	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.08	EPA	0.31	No	Max SQL< SV
Total BHC	0	2	0.1	0.1	0.1	0.1			ND	0.1	U		NA		Yes	No SV
4,4'-DDD	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0003	FDEP	167	Yes	Max SQL > SV
4,4'-DDE	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0002	FDEP	250	Yes	Max SQL > SV
4,4'-DDT	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.00059	FDEP	84.7	Yes	Max SQL > SV
Total DDT	0	2	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
PCBs (g/L)																
Aroclor-1016	0	2	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
Aroclor-1221	0	2	1	1	1	1			ND	1	UJ		NA		Yes	No SV
Aroclor-1232	0	2	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
Aroclor-1242	0	2	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
Aroclor-1248	0	2	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
Aroclor-1254	0	2	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
Aroclor-1260	0	2	0.5	0.5	0.5	0.5			ND	0.5	UJ	0.014	EPA	35.7	Yes	Max SQL > SV
Total PCB	0	2	4	4	4	4			ND	4	U		NA		Yes	No SV

Table 14-1-10
Wetland 52 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
SVOCs (g/L)																
1,2,4-Trichlorobenzene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4,5-Trichlorophenol	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4,6-Trichlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dichlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dimethylphenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dinitrophenol	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4-Dinitrotoluene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,6-Dinitrotoluene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chloronaphthalene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	43.8	EPA	0.06	No	Max SQL< SV
2-Methyl-4,6-Dinitrophenol	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
2-Methylphenol (o-Cresol)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitroaniline	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitrophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3,3'-Dichlorobenzidine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3-Nitroaniline	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Bromophenyl-phenylether	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloro-3-methylphenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloroaniline	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chlorophenylphenyl ether	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methylphenol (p-Cresol)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Nitroaniline	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Nitrophenol	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
Benzo(b)fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(g,h,i)perylene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(k)fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Chloroethoxy)methane	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
bis(2-Chloroethyl)ether	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	0.3	EPA	8.33	Yes	Max SQL > SV
Butylbenzylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dibenzofuran	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Diethylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dimethylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Di-n-butylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	9.4	EPA	0.27	No	Max SQL< SV
Di-n-octylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Hexachlorobutadiene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorocyclopentadiene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachloroethane	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Isophorone	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Nitrobenzene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitroso-di-n-propylamine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitrosodiphenylamine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Pentachlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Phenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
PAHs (g/L)																
2-Methylnaphthalene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthylene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chrysene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibenz(a,h)anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluorene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Naphthalene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	26	FDEP	0.02	No	Max SQL< SV

Table 14-1-10
Wetland 52 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
PAHs (g/L) - cont.																
Phenanthrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Total PAH	0	2	6.5	6.5	6.5	6.5			ND	6.5	U		NA		Yes	No SV
VOCs (g/L)																
1,1,1-Trichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	270	FDEP	0.00	No	Max SQL< SV
1,1,2,2-Tetrachloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1,2-Trichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	3.2	FDEP	0.16	No	Max SQL< SV
1,2-Dibromo-3-Chloropropane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dibromoethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	15.8	EPA	0.03	No	Max SQL< SV
1,2-Dichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichloropropane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,3-Dichlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	3	FDEP	0.17	No	Max SQL< SV
2-Hexanone	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Benzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	53	EPA	0.01	No	Max SQL< SV
Bromochloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromodichloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromoform	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromomethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon disulfide	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon tetrachloride	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	17	FDEP	0.03	No	Max SQL< SV
Chloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chloroform	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	289	EPA	0.00	No	Max SQL< SV
Chloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,2-Dichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,3-Dichloropropene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibromochloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Ethylbenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	453	EPA	0.00	No	Max SQL< SV
Methylene chloride	0	2	1.5	1.5	1.5	1.5			ND	1.5	U	1,580	FDEP	0.00	No	Max SQL< SV
Styrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Tetrachloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Toluene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	175	EPA	0.00	No	Max SQL< SV
trans-1,2-Dichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
trans-1,3-Dichloropropene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Trichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Vinyl chloride	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Xylene (Total)	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value availabl
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
N/R = No refinement value available.
N/A = Not Applicable.

Average result calculations include summing detections and
one half the detection limits for not detected parameters.
As a result, some average detections may exceed the maximum detectio
Parameters in bold were detected and exceeded the screening value.

Table 14-1-11
Wetland 52 Phase II
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	None	None
Barium			
Calcium			
Iron			
Magnesium			
Manganese			
Potassium			
Sodium			
Vanadium			
		Not Detected Parameters	
Beryllium	Aldrin	1,2,4-Trichlorobenzene	1,1,2,2-Tetrachloroethane
Cadmium	Dieldrin	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1,2-Trichloroethane
Cobalt	Endosulfan II	2,4,5-Trichlorophenol	1,1-Dichloroethane
Mercury	Endosulfan sulfate	2,4,6-Trichlorophenol	1,2-Dibromo-3-Chloropropane
Silver	Heptachlor	2,4-Dichlorophenol	1,2-Dibromoethane
	Heptachlor epoxide	2,4-Dimethylphenol	1,2-Dichloroethane
	Methoxychlor	2,4-Dinitrophenol	1,2-Dichloropropane
	Toxaphene	2,4-Dinitrotoluene	1,3-Dichlorobenzene
	alpha-Chlordane	2,6-Dinitrotoluene	2-Hexanone
	gamma-Chlordane	2-Chloronaphthalene	4-Methyl-2-Pentanone (MIBK)
	Total Chlordane	2-Methyl-4,6-Dinitrophenol	Bromochloromethane
	Endrin	2-Methylphenol (o-Cresol)	Bromodichloromethane
	Endrin aldehyde	2-Nitroaniline	Bromoform
	Endrin ketone	2-Nitrophenol	Bromomethane
	Total Endrin	3,3'-Dichlorobenzidine	Carbon disulfide
	alpha-BHC	3-Nitroaniline	Carbon tetrachloride
	beta-BHC	4-Bromophenyl-phenylether	Chloroethane
	delta-BHC	4-Chloro-3-methylphenol	Chloromethane
	Total BHC	4-Chloroaniline	cis-1,2-Dichloroethene
	4,4'-DDD	4-Chlorophenylphenyl ether	cis-1,3-Dichloropropene
	4,4'-DDE	4-Methylphenol (p-Cresol)	Dibromochloromethane
	4,4'-DDT	4-Nitroaniline	Styrene
	Total DDT	4-Nitrophenol	Tetrachloroethene
	Aroclor-1016	Benzo(b)fluoranthene	trans-1,2-Dichloroethene
	Aroclor-1221	Benzo(g,h,i)perylene	trans-1,3-Dichloropropene
	Aroclor-1232	Benzo(k)fluoranthene	Trichloroethene
	Aroclor-1242	bis(2-Chloroethoxy)methane	Vinyl chloride
	Aroclor-1248	bis(2-Chloroethyl)ether	Xylene (Total)
	Aroclor-1254	bis(2-Ethylhexyl)phthalate (BEHP)	
	Aroclor-1260	Butylbenzylphthalate	
	Total PCBs	Dibenzofuran	
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Indeno(1,2,3-cd)pyrene	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	
		2-Methylnaphthalene	
		Acenaphthene	
		Acenaphthylene	
		Anthracene	
		Benzo(a)anthracene	
		Benzo(a)pyrene	
		Chrysene	
		Dibenz(a,h)anthracene	
		Fluoranthene	
		Fluorene	
		Phenanthrene	
		Pyrene	
		Total PAHs	

Table 14-1-12
Wetland 52 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
Metals (g/L)																			
Aluminum	**2**	**2**				**1,350**	**116**	**2,580**	**041W52E301**	**2,580**		**13**	**FDEP**	**198.46**	**104**	**1,090.25**	**1**	**Yes**	**Max Result > Ref. Conc.**
Barium	2	2				5.75	4.9	6.6	041W52A101	6.6	J		NA			3.68	2	Yes	Max Result > Ref. Conc.
Beryllium	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	0.13	FDEP	4	3.85	1	0	No	Max SQL < Ref. Conc.
Cadmium	0	2	1	1	1	1			ND	1	UJ	0.66	EPA	2	1.52	3	0	No	Max SQL < Ref. Conc.
Calcium	2	2				5,800	808	10,800	041W52E301	10,800			NA			7,675	1	No	Essential Nutrient
Cobalt	0	2	1	1	1	1			ND	1	U		NA			3	0	No	Max SQL < Ref. Conc.
Iron	1	2	43.1	43.1	43.1	632	1,220	1,220	041W52E301	1,220			NA			2,360	0	No	Max Result < Ref. Conc.
Magnesium	2	2				883	854	912	041W52A101	912	J		NA			20,260	0	No	Max Result < Ref. Conc.
Manganese	2	2				9.35	8.2	10.5	041W52A101	10.5	J		NA			13.2	0	No	Max Result < Ref. Conc.
Mercury	0	2	0.065	0.065	0.065	0.065			ND	0.065	U	0.012	EPA	5.42	5.42	0.13	0	No	Max SQL < Ref. Conc.
Potassium	2	2				469	349	589	041W52A101	589	J		NA			6,995	0	No	Max Result < Ref. Conc.
Silver	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	0.012	EPA	208.33	208	4	0	No	Max SQL < Ref. Conc.
Sodium	2	2				3,970	2,670	5,260	041W52A101	5,260			NA			182,200	0	No	Max Result < Ref. Conc.
Vanadium	1	2	1	1	1	1.85	2.7	2.7	041W52E301	2.7	J		NA			4.7	0	No	Max Result < Ref. Conc.
Pesticides (g/L)																			
Aldrin	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	No	Parameter Not Detected
Dieldrin	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA				0	No	Parameter Not Detected
Endosulfan II	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA				0	No	Parameter Not Detected
Endosulfan sulfate	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA				0	No	Parameter Not Detected
Heptachlor	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.0038	EPA	7	6.58		0	No	Parameter Not Detected
Heptachlor epoxide	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.00004	FDEP	625	625		0	No	Parameter Not Detected
Methoxychlor	0	2	0.25	0.25	0.25	0.25			ND	0.25	UJ		NA				0	No	Parameter Not Detected
Toxaphene	0	2	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA				0	No	Parameter Not Detected
alpha-Chlordane	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	No	Parameter Not Detected
gamma-Chlordane	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	No	Parameter Not Detected
Total Chlordane	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	12	11.6		0	No	Parameter Not Detected
Endrin	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA				0	No	Parameter Not Detected
Endrin aldehyde	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA				0	No	Parameter Not Detected
Endrin ketone	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0023	EPA	22	21.7		0	No	Parameter Not Detected
Total Endrin	0	2	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	No	Parameter Not Detected
alpha-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	No	Parameter Not Detected
beta-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	No	Parameter Not Detected
delta-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	No	Parameter Not Detected
gamma-BHC (Lindane)	0	2	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.08	EPA	0.31	0.31		0	No	Parameter Not Detected
Total BHC	0	2	0.1	0.1	0.1	0.1			ND	0.1	U		NA				0	No	Parameter Not Detected
4,4'-DDD	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0003	FDEP	167	167		0	No	Parameter Not Detected
4,4'-DDE	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0002	FDEP	250	250		0	No	Parameter Not Detected
4,4'-DDT	0	2	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.00059	FDEP	85	84.7		0	No	Parameter Not Detected
Total DDT	0	2	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	No	Parameter Not Detected
PCBs (g/L)																			
Aroclor-1016	0	2	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	No	Parameter Not Detected
Aroclor-1221	0	2	1	1	1	1			ND	1	UJ		NA				0	No	Parameter Not Detected
Aroclor-1232	0	2	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	No	Parameter Not Detected
Aroclor-1242	0	2	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	No	Parameter Not Detected
Aroclor-1248	0	2	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	No	Parameter Not Detected
Aroclor-1254	0	2	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	No	Parameter Not Detected
Aroclor-1260	0	2	0.5	0.5	0.5	0.5			ND	0.5	UJ	0.014	EPA	36	35.7		0	No	Parameter Not Detected
Total PCB	0	2	4	4	4	4			ND	4	U		NA				0	No	Parameter Not Detected
SVOCs (g/L)																			
1,2,4-Trichlorobenzene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlc	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	2	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dichlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dimethylphenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dinitrophenol	0	2	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2,4-Dinitrotoluene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,6-Dinitrotoluene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Chloronaphthalene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	2	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected

Table 14-1-12
Wetland 52 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
SVOCs (g/L) - cont.																			
2-Nitroaniline	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Nitrophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
3-Nitroaniline	0	2	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chloroaniline	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Nitroaniline	0	2	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
4-Nitrophenol	0	2	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
Benzo(b)fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(g,h,i)perylene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(k)fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	0.3	EPA	8.33	8.33		0	No	Parameter Not Detected
Butylbenzylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Dibenzofuran	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Diethylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Dimethylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Di-n-octylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Hexachlorobutadiene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachloroethane	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Indeno(1,2,3-cd)pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Isophorone	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Nitrobenzene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Pentachlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Phenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
PAHs (g/L)																			
2-Methylnaphthalene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Acenaphthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Acenaphthylene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(a)anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(a)pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chrysene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Dibenz(a,h)anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Fluorene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Naphthalene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	26	FDEP	0.02	0.02		0	No	Parameter Not Detected
Phenanthrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Total PAH	0	2	6.5	6.5	6.5	6.5			ND	6.5	U		NA				0	No	Parameter Not Detected
VOCs (g/L)																			
1,1,2,2-Tetrachloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,1,2-Trichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,1-Dichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dibromo-3-Chloropropane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dibromoethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dichloropropane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
2-Hexanone	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Bromochloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromodichloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected

Table 14-1-12
Wetland 52 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
VOCs (g/L) - cont.																			
Bromoform	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromomethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Carbon disulfide	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Carbon tetrachloride	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
cis-1,2-Dichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Dibromochloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Styrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Tetrachloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
trans-1,2-Dichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Trichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Vinyl chloride	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Xylene (Total)	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
PEL = Probable effects level.
N/R = No refinement value available.
N/A = Not Applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the Max detections.
Parameters in bold were detected and exceeded Ref. Conc.s.

Table 14-1-13
Wetland 52 Phase II
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum Barium	None	None	None

Table 14-1-14
Wetland 52 Phase II
Sediment Dermal Exposure Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration	Min. Qual.	Maximum Concentration	Max. Qual.	Units	Location of Max. Conc.	Detection Frequency	Range of Detection Limits	Mean	ABS_d	ABS_{sd} Source	DA_{event}: Child Trespasser	DA_{event}: Adult Maintenance Worker	DAD_{sd} (mg/kg-day): Child Trespasser	DAD_{sd} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	6.7E+02	=	6.2E+03	=	MG/KG	041M52A101	5 / 5	NAV	3.1E+03	1.0E-03	3	N/A	6.23E-07	N/A	1.32E-05
7440393	Barium	N	2.2E+00	J	4.3E+01	J	MG/KG	041M52A101	5 / 5	NAV	1.5E+01	1.0E-03	3	N/A	4.33E-09	N/A	9.17E-08
7440417	Beryllium	N	N/A	N/A	6.8E-01	J	MG/KG	041M52A101	1 / 5	7.0E-02 / 4.2E-01	2.1E-01	1.0E-03	3	N/A	6.80E-11	N/A	1.44E-09
7440484	Cobalt	C	2.1E-01	J	1.4E+00	J	MG/KG	041M52A101	3 / 5	2.2E-01 / 8.4E-01	4.8E-01	1.0E-03	3	N/A	1.40E-10	N/A	1.06E-09
7439896	Iron	N	3.6E+02	=	2.3E+03	=	MG/KG	041M52E201	5 / 5	NAV	1.2E+03	1.0E-03	3	N/A	2.30E-07	N/A	4.87E-06
7439965	Manganese	N	2.0E+00	=	1.6E+01	=	MG/KG	041M52A101	5 / 5	NAV	9.1E+00	1.0E-03	3	N/A	1.58E-09	N/A	3.34E-08
7782492	Selenium	N	7.3E-01	J	1.0E+01	J	MG/KG	041M52A101	4 / 5	N/A / 3.7E-01	3.0E+00	1.0E-03	3	N/A	1.02E-09	N/A	2.16E-08
7440622	Vanadium	N	1.1E+00	J	6.6E+00	J	MG/KG	041M52A101	5 / 5	NAV	4.1E+00	1.0E-03	3	N/A	6.60E-10	N/A	1.40E-08
72548	4,4'-DDD	C	4.5E-04	J	6.1E-03	DJ	MG/KG	041M52E101	3 / 5	2.4E-04 / 1.4E-03	1.6E-03	3.0E-02	1	N/A	1.83E-11	N/A	1.38E-10
72559	4,4'-DDE	C	N/A	N/A	7.0E-03	D	MG/KG	041M52E101	1 / 5	2.4E-04 / 1.4E-03	1.7E-03	3.0E-02	1	N/A	2.10E-11	N/A	1.59E-10
50293	4,4'-DDT	C	N/A	N/A	1.3E-03	=	MG/KG	041M52E101	1 / 5	2.4E-04 / 1.4E-03	5.1E-04	3.0E-02	1	N/A	3.90E-12	N/A	2.95E-11
309002	Aldrin	C	N/A	N/A	2.8E-03	J	MG/KG	041M52A101	1 / 5	1.2E-04 / 2.2E-04	6.3E-04	1.0E-01	2	N/A	2.80E-11	N/A	2.12E-10
319846	alpha-BHC	C	N/A	N/A	1.4E-04	J	MG/KG	041M52E301	1 / 5	1.3E-04 / 6.9E-04	1.5E-04	4.0E-02	2	N/A	5.60E-13	N/A	4.23E-12
5103719	alpha-Chlordane	C	N/A	N/A	3.4E-04	J	MG/KG	041M52E201	1 / 5	1.2E-04 / 6.9E-04	1.8E-04	4.0E-02	2	N/A	1.36E-12	N/A	1.03E-11
11096825	Aroclor-1260	C	3.3E-03	J	3.7E-03	J	MG/KG	041M52D101	2 / 5	2.4E-03 / 1.4E-02	3.3E-03	1.4E-02	3	N/A	5.11E-12	N/A	3.86E-11
319868	delta-BHC	C	N/A	N/A	6.1E-04	J	MG/KG	041M52D101	1 / 5	1.2E-04 / 6.9E-04	2.4E-04	4.0E-02	2	N/A	2.44E-12	N/A	1.84E-11
60571	Dieldrin	C	N/A	N/A	9.5E-03	J	MG/KG	041M52A101	1 / 5	2.4E-04 / 4.5E-04	2.0E-03	1.0E-01	2	N/A	9.50E-11	N/A	7.18E-10
115297	Endosulfan I	N	3.9E-04	J	5.7E-03	J	MG/KG	041M52A101	2 / 5	1.3E-04 / 2.2E-04	1.3E-03	1.0E-01	2	N/A	5.70E-11	N/A	1.21E-09
1031078	Endosulfan sulfate	N	N/A	N/A	1.2E-03	J	MG/KG	041M52E301	1 / 5	2.6E-04 / 1.4E-03	4.9E-04	1.0E-01	2	N/A	1.20E-11	N/A	2.54E-10
72208	Endrin	N	1.7E-03	J	2.4E-03	J	MG/KG	041M52D101	2 / 5	2.4E-04 / 1.4E-03	1.0E-03	1.0E-01	2	N/A	2.40E-11	N/A	5.08E-10
58899	gamma-BHC (Lindane)	C	N/A	N/A	4.3E-04	J	MG/KG	041M52E101	1 / 5	1.2E-04 / 6.9E-04	2.1E-04	4.0E-02	2	N/A	1.72E-12	N/A	1.30E-11
57749	gamma-Chlordane	C	N/A	N/A	9.1E-04	J	MG/KG	041M52A101	1 / 5	1.2E-04 / 2.2E-04	2.5E-04	4.0E-02	2	N/A	3.64E-12	N/A	2.75E-11
91576	2-Methylnaphthalene	N	N/A	N/A	5.0E-02	=	MG/KG	041M52E301	1 / 5	5.2E-02 / 2.7E-01	5.9E-02	1.0E-02	3	N/A	5.00E-11	N/A	1.06E-09
106445	4-Methylphenol (p-Cresol)	N	1.1E-01	J	1.7E-01	J	MG/KG	041M52E101	2 / 5	4.8E-01 / 2.7E+00	4.6E-01	1.0E-01	2	N/A	1.70E-09	N/A	3.60E-08
83329	Acenaphthene	N	N/A	N/A	7.7E-02	=	MG/KG	041M52E301	1 / 5	2.5E-02 / 1.3E-01	3.9E-02	1.0E-02	3	N/A	7.70E-11	N/A	1.63E-09
120127	Anthracene	N	N/A	N/A	1.0E-01	=	MG/KG	041M52E301	1 / 5	5.2E-02 / 2.7E-01	6.9E-02	1.0E-02	3	N/A	1.00E-10	N/A	2.12E-09
56553	Benzo(a)anthracene	C	2.6E-02	J	1.0E-01	=	MG/KG	041M52E101	2 / 5	8.4E-02 / 2.7E-01	6.9E-02	1.3E-01	2	N/A	1.30E-09	N/A	9.83E-09
50328	Benzo(a)pyrene	C	N/A	N/A	6.4E-02	=	MG/KG	041M52E101	1 / 5	4.8E-02 / 2.7E-01	6.2E-02	1.3E-01	2	N/A	8.32E-10	N/A	6.29E-09
205992	Benzo(b)fluoranthene	C	N/A	N/A	1.9E-01	=	MG/KG	041M52E101	1 / 5	4.8E-02 / 2.7E-01	8.7E-02	1.3E-01	2	N/A	2.47E-09	N/A	1.87E-08
191242	Benzo(g,h,i)perylene	C	N/A	N/A	4.5E-02	J	MG/KG	041M52E101	1 / 5	4.8E-02 / 2.7E-01	5.8E-02	1.3E-01	2	N/A	5.85E-10	N/A	4.42E-09
207089	Benzo(k)fluoranthene	C	N/A	N/A	6.1E-02	=	MG/KG	041M52E101	1 / 5	4.8E-02 / 2.7E-01	6.1E-02	1.3E-01	2	N/A	7.93E-10	N/A	5.99E-09
117817	bis(2-Ethylhexyl)phthalate (BEHP)	C	5.0E-02	J	3.6E-01	J	MG/KG	041M52A101	5 / 5	NAV	1.9E-01	1.0E-01	1	N/A	3.60E-09	N/A	2.72E-08
86748	Carbazole	C	N/A	N/A	4.5E-02	J	MG/KG	041M52E301	1 / 5	5.2E-01 / 2.7E+00	5.0E-01	1.0E-01	2	N/A	4.50E-10	N/A	3.40E-09
218019	Chrysene	C	N/A	N/A	1.3E-01	=	MG/KG	041M52E101	1 / 5	4.8E-02 / 2.7E-01	7.5E-02	1.3E-01	2	N/A	1.69E-09	N/A	1.28E-08
132649	Dibenzofuran	N	N/A	N/A	7.2E-02	J	MG/KG	041M52E301	1 / 5	5.2E-01 / 2.7E+00	5.1E-01	1.0E-02	3	N/A	7.20E-11	N/A	1.52E-09
84742	Di-n-butylphthalate	N	4.9E-02	J	1.5E-01	J	MG/KG	041M52A101	3 / 5	4.8E-01 / 8.4E-01	1.9E-01	1.0E-01	2	N/A	1.50E-09	N/A	3.17E-08
206440	Fluoranthene	N	1.3E-01	=	1.4E-01	=	MG/KG	041M52E101	2 / 5	8.4E-02 / 2.7E-01	9.8E-02	1.3E-01	2	N/A	1.82E-09	N/A	3.85E-08
86737	Fluorene	N	N/A	N/A	9.4E-02	=	MG/KG	041M52E301	1 / 5	2.5E-02 / 1.3E-01	4.3E-02	1.0E-02	3	N/A	9.40E-11	N/A	1.99E-09
193395	Indeno(1,2,3-cd)pyrene	C	N/A	N/A	5.1E-02	J	MG/KG	041M52E101	1 / 5	4.8E-02 / 2.7E-01	5.9E-02	1.3E-01	2	N/A	6.63E-10	N/A	5.01E-09
91203	Naphthalene	N	N/A	N/A	1.0E-01	=	MG/KG	041M52E301	1 / 5	5.2E-02 / 2.7E-01	6.9E-02	1.0E-02	3	N/A	1.00E-10	N/A	2.12E-09
85018	Phenanthrene	N	N/A	N/A	2.4E-01	=	MG/KG	041M52E301	1 / 5	5.2E-02 / 2.7E-01	9.7E-02	1.0E-02	3	N/A	2.40E-10	N/A	5.08E-09
129000	Pyrene	N	8.2E-02	=	1.4E-01	=	MG/KG	041M52E101	2 / 5	8.4E-02 / 2.7E-01	8.9E-02	1.0E-02	3	N/A	1.40E-10	N/A	2.96E-09
67641	Acetone	N	N/A	N/A	1.3E+00	=	MG/KG	041M52A101	1 / 5	2.9E-02 / 2.0E-01	2.9E-01	1.0E-02	3	N/A	1.30E-09	N/A	2.75E-08
108883	Toluene	N	N/A	N/A	2.1E-02	J	MG/KG	041M52E201	1 / 5	1.4E-02 / 7.1E-02	1.6E-02	1.0E-02	3	N/A	2.10E-11	N/A	4.44E-10

Notes:
Equation for sediment risk:

$$DAD_{sd} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sd} = Dermal Absorbed Dose-soil contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event)
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer – 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer – 25,550 days (child trespasser/adult maintenance worker).

Equation for DA_{event} for sediment contact:

$$DA_{event} = C_{sd} \times CF \times AF \times ABS_d$$

Where:

C_{sd} = Chemical concentration in sediment (mg/kg).
CF = Conversion factor (10^{-6} kg/mg).
AF = Adherence factor of sediment to soil (mg/cm2-event).
0.2 (children playing in wet soil) 0.1 (construction worker)
AB_{sd} = Dermal absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1;
(2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Table 14-1-15
Wetland 52 Phase II
Sediment Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/kg)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABSGI	ABSGI Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
										Dermal Hazard Quotient	Dermal Cancer Risk	Dermal Hazard Quotient	Dermal Cancer Risk
Sediment Dermal Risk	Aluminum	N	6.2E+03	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	N/A	N/A	1.3E-04	N/A
	Barium	N	4.3E+01	7.0E-02	N/A	7.0E-02	1, 3	4.9E-03	N/A	N/A	N/A	1.9E-05	N/A
	Beryllium	N	6.8E-01	2.0E-03	N/A	7.0E-03	1	1.4E-05	N/A	N/A	N/A	1.0E-04	N/A
	Cobalt	C	1.4E+00	2.0E-02	N/A	8.0E-01	3	1.6E-02	N/A	N/A	N/A	6.6E-08	N/A
	Iron	N	2.3E+03	3.0E-01	N/A	1.5E-01	3	4.5E-02	N/A	N/A	N/A	1.1E-04	N/A
	Manganese	N	1.6E+01	2.4E-02	N/A	4.0E-02	1, 3	9.6E-04	N/A	N/A	N/A	3.5E-05	N/A
	Selenium	N	1.0E+01	5.0E-03	N/A	5.5E-01	1	2.8E-03	N/A	N/A	N/A	7.9E-06	N/A
	Vanadium	N	6.6E+00	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	N/A	N/A	7.7E-05	N/A
	4,4'-DDD	C	6.1E-03	N/A	2.4E-01	3.0E-02	2	N/A	8.0E+00	N/A	N/A	N/A	1.1E-09
	4,4'-DDE	C	7.0E-03	N/A	3.4E-01	3.0E-02	2	N/A	1.1E+01	N/A	N/A	N/A	1.8E-09
	4,4'-DDT	C	1.3E-03	5.0E-04	3.4E-01	3.0E-02	2	1.5E-05	1.1E+01	N/A	N/A	2.0E-06	3.3E-10
	Aldrin	C	2.8E-03	3.0E-05	1.7E+01	1.3E-02	3	4.0E-07	1.3E+03	N/A	N/A	5.3E-04	2.7E-07
	alpha-BHC	C	1.4E-04	5.0E-04	6.3E+00	1.4E-02	3	7.1E-06	4.4E+02	N/A	N/A	6.0E-07	1.9E-09
	alpha-Chlordane	C	3.4E-04	5.0E-04	3.5E-01	8.0E-01	1	4.0E-04	4.4E-01	N/A	N/A	2.6E-08	4.5E-12
	Aroclor-1260	C	3.7E-03	N/A	2.0E+00	1.4E-01	2	N/A	1.4E+01	N/A	N/A	N/A	5.5E-10
	delta-BHC	C	6.1E-04	5.0E-04	6.3E+00	1.4E-02	3	7.1E-06	4.4E+02	N/A	N/A	2.6E-06	8.2E-09
	Dieldrin	C	9.5E-03	5.0E-05	1.6E+01	5.0E-01	3	2.5E-05	3.2E+01	N/A	N/A	2.9E-05	2.3E-08
	Endosulfan I	N	5.7E-03	6.0E-03	N/A	5.0E-01	3	3.0E-03	N/A	N/A	N/A	4.0E-07	N/A
	Endosulfan sulfate	N	1.2E-03	6.0E-03	N/A	5.0E-01	3	3.0E-03	N/A	N/A	N/A	8.5E-08	N/A
	Endrin	N	2.4E-03	3.0E-04	N/A	1.3E-02	3	3.8E-06	N/A	N/A	N/A	1.4E-04	N/A
	gamma-BHC (Lindane)	C	4.3E-04	3.0E-04	1.3E+00	9.7E-01	3	2.9E-04	1.3E+00	N/A	N/A	4.5E-08	1.7E-11
	gamma-Chlordane	C	9.1E-04	5.0E-04	3.5E-01	8.0E-01	1	4.0E-04	4.4E-01	N/A	N/A	6.9E-08	1.2E-11
	2-Methylnaphthalene	N	5.0E-02	8.0E-02	N/A	5.0E-01	3	4.0E-02	N/A	N/A	N/A	2.6E-08	N/A
	4-Methylphenol (p-Cresol)	N	1.7E-01	5.0E-03	N/A	7.4E-02	3	3.7E-04	N/A	N/A	N/A	9.7E-05	N/A
	Acenaphthene	N	7.7E-02	6.0E-02	N/A	4.2E-02	3	2.5E-03	N/A	N/A	N/A	6.5E-07	N/A
	Anthracene	N	1.0E-01	3.0E-01	N/A	7.6E-01	3	2.3E-01	N/A	N/A	N/A	9.3E-09	N/A
	Benzo(a)anthracene	C	1.0E-01	N/A	7.3E-01	3.1E-01	3	N/A	2.4E+00	N/A	N/A	N/A	2.3E-08
	Benzo(a)pyrene	C	6.4E-02	N/A	7.3E+00	3.1E-01	3	N/A	2.4E+01	N/A	N/A	N/A	1.5E-07
	Benzo(b)fluoranthene	C	1.9E-01	N/A	7.3E-01	3.1E-01	3	N/A	2.4E+00	N/A	N/A	N/A	4.4E-08
	Benzo(g,h,i)perylene	C	4.5E-02	N/A	7.3E-01	3.1E-01	3	N/A	2.4E+00	N/A	N/A	N/A	1.0E-08
	Benzo(k)fluoranthene	C	6.1E-02	N/A	7.3E-02	3.1E-01	3	N/A	2.4E-01	N/A	N/A	N/A	1.4E-09
	bis(2-Ethylhexyl)phthalate (BEHP)	C	3.6E-01	2.0E-02	1.4E-02	1.0E-01	2	2.0E-03	1.4E-01	N/A	N/A	1.4E-05	3.8E-09
	Carbazole	C	4.5E-02	N/A	2.0E-02	7.0E-01	3	N/A	2.9E-02	N/A	N/A	N/A	9.7E-11
	Chrysene	C	1.3E-01	7.3E-03	N/A	3.1E-01	3	2.3E-03	N/A	N/A	N/A	5.6E-06	N/A
	Dibenzofuran	N	7.2E-02	4.0E-03	N/A	8.0E-01	3	3.2E-03	N/A	N/A	N/A	4.8E-07	N/A
	Di-n-butylphthalate	N	1.5E-01	1.0E-01	N/A	3.1E-01	3	3.1E-02	N/A	N/A	N/A	1.0E-06	N/A
	Fluoranthene	N	1.4E-01	N/A	4.0E-02	3.1E-01	3	N/A	1.3E-01	N/A	N/A	N/A	5.0E-09
	Fluorene	N	9.4E-02	4.0E-02	N/A	3.1E-01	3	1.2E-02	N/A	N/A	N/A	1.6E-07	N/A
	Indeno(1,2,3-cd)pyrene	C	5.1E-02	7.3E-01	N/A	3.1E-01	3	2.3E-01	N/A	N/A	N/A	2.2E-08	N/A
	Naphthalene	N	1.0E-01	2.0E-02	N/A	5.9E-02	3	1.2E-03	N/A	N/A	N/A	1.8E-06	N/A
	Phenanthrene	N	2.4E-01	N/A	3.0E-02	7.3E-01	3	N/A	4.1E-02	N/A	N/A	N/A	2.1E-10
	Pyrene	N	1.4E-01	N/A	3.0E-02	3.1E-01	3	N/A	9.7E-02	N/A	N/A	N/A	2.9E-10
	Acetone	N	1.3E+00	1.0E-01	N/A	1.0E-01	2	1.0E-02	N/A	N/A	N/A	2.8E-06	N/A
	Toluene	N	2.1E-02	2.0E-01	N/A	3.1E-01	3	6.2E-02	N/A	N/A	N/A	7.2E-09	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABSGI = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose-sources: (1) RAIS value; (2) adjusted for ABSGI.
Dermal SF = Dermal slope factor-sources: (1) RAIS value; (2) adjusted for ABSGI.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfDdermal = Dermal reference dose.
RFDoral = Oral reference dose.
ABSGI = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 14-1-16
Wetland 52 Phase II
Sediment Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/kg)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
Sediment Incidental Ingestion	Aluminum	N	6.2E+03	1.0E+00	N/A	N/A	N/A	1.27E-03	N/A
	Barium	N	4.3E+01	7.0E-02	N/A	N/A	N/A	1.26E-04	N/A
	Beryllium	N	6.8E-01	2.0E-03	N/A	N/A	N/A	6.92E-05	N/A
	Cobalt	C	1.4E+00	2.0E-02	N/A	N/A	N/A	5.09E-06	N/A
	Iron	N	2.3E+03	3.0E-01	N/A	N/A	N/A	1.56E-03	N/A
	Manganese	N	1.6E+01	2.4E-02	N/A	N/A	N/A	1.34E-04	N/A
	Selenium	N	1.0E+01	5.0E-03	N/A	N/A	N/A	4.15E-04	N/A
	Vanadium	N	6.6E+00	7.0E-03	N/A	N/A	N/A	1.92E-04	N/A
	4,4'-DDD	C	6.1E-03	N/A	2.4E-01	N/A	N/A	N/A	1.06E-10
	4,4'-DDE	C	7.0E-03	N/A	3.4E-01	N/A	N/A	N/A	1.73E-10
	4,4'-DDT	C	1.3E-03	5.0E-04	3.4E-01	N/A	N/A	1.89E-07	3.21E-11
	Aldrin	C	2.8E-03	3.0E-05	1.7E+01	N/A	N/A	6.78E-06	3.46E-09
	alpha-BHC	C	1.4E-04	5.0E-04	6.3E+00	N/A	N/A	2.04E-08	6.41E-11
	alpha-Chlordane	C	3.4E-04	5.0E-04	3.5E-01	N/A	N/A	4.94E-08	8.65E-12
	Aroclor-1260	C	3.7E-03	N/A	2.0E+00	N/A	N/A	N/A	5.38E-10
	delta-BHC	C	6.1E-04	5.0E-04	6.3E+00	N/A	N/A	8.87E-08	2.79E-10
	Dieldrin	C	9.5E-03	5.0E-05	1.6E+01	N/A	N/A	1.38E-05	1.10E-08
	Endosulfan I	N	5.7E-03	6.0E-03	N/A	N/A	N/A	1.93E-07	N/A
	Endosulfan sulfate	N	1.2E-03	6.0E-03	N/A	N/A	N/A	4.07E-08	N/A
	Endrin	N	2.4E-03	3.0E-04	N/A	N/A	N/A	1.63E-06	N/A
	gamma-BHC (Lindane)	C	4.3E-04	3.0E-04	1.3E+00	N/A	N/A	1.04E-07	4.06E-11
	gamma-Chlordane	C	9.1E-04	5.0E-04	3.5E-01	N/A	N/A	1.32E-07	2.32E-11
	2-Methylnaphthalene	N	5.0E-02	8.0E-02	N/A	N/A	N/A	1.27E-07	N/A
	4-Methylphenol (p-Cresol)	N	1.7E-01	5.0E-03	N/A	N/A	N/A	6.92E-06	N/A
	Acenaphthene	N	7.7E-02	6.0E-02	N/A	N/A	N/A	2.61E-07	N/A
	Anthracene	N	1.0E-01	3.0E-01	N/A	N/A	N/A	6.78E-08	N/A
	Benzo(a)anthracene	C	1.0E-01	N/A	7.3E-01	N/A	N/A	N/A	5.31E-09
	Benzo(a)pyrene	C	6.4E-02	N/A	7.3E+00	N/A	N/A	N/A	3.40E-08
	Benzo(b)fluoranthene	C	1.9E-01	N/A	7.3E-01	N/A	N/A	N/A	1.01E-08
	Benzo(g,h,i)perylene	C	4.5E-02	N/A	7.3E-01	N/A	N/A	N/A	2.39E-09
	Benzo(k)fluoranthene	C	6.1E-02	N/A	7.3E-02	N/A	N/A	N/A	3.24E-10
	bis(2-Ethylhexyl)phthalate (BEHP)	C	3.6E-01	2.0E-02	1.4E-02	N/A	N/A	1.31E-06	3.66E-10
	Carbazole	C	4.5E-02	N/A	2.0E-02	N/A	N/A	N/A	6.54E-11
	Chrysene	C	1.3E-01	7.3E-03	N/A	N/A	N/A	1.29E-06	N/A
	Dibenzofuran	N	7.2E-02	4.0E-03	N/A	N/A	N/A	3.66E-06	N/A
	Di-n-butylphthalate	N	1.5E-01	1.0E-01	N/A	N/A	N/A	3.05E-07	N/A
	Fluoranthene	N	1.4E-01	N/A	4.0E-02	N/A	N/A	N/A	1.14E-09
	Fluorene	N	9.4E-02	4.0E-02	N/A	N/A	N/A	4.78E-07	N/A
	Indeno(1,2,3-cd)pyrene	C	5.1E-02	7.3E-01	N/A	N/A	N/A	5.08E-09	N/A
	Naphthalene	N	1.0E-01	2.0E-02	N/A	N/A	N/A	1.02E-06	N/A
	Phenanthrene	N	2.4E-01	N/A	3.0E-02	N/A	N/A	N/A	1.47E-09
	Pyrene	N	1.4E-01	N/A	3.0E-02	N/A	N/A	N/A	8.55E-10
	Acetone	N	1.3E+00	1.0E-01	N/A	N/A	N/A	2.65E-06	N/A
	Toluene	N	2.1E-02	2.0E-01	N/A	N/A	N/A	2.14E-08	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI = Chronic daily intake (mg/kg-day)

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, sediment risk:

$$CDI = \frac{EPC_{sd} \times IR_{sd} \times EF \times ED \times CF}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPCsd = Exposure point concentration in sediment (mg/kg).
IRsd = Incidental ingestion rate for sediment (mg/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
CF = Conversion factor (1E-6 kg/mg).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
IRsd = 100 mg/day for age groups greater than 6-years old.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Table 14-1-16
Wetland 52 Phase II
Sediment Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/kg)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
Sediment Incidental Ingestion	Aluminum	N	6.2E+03	1.0E+00	N/A	N/A	N/A	1.27E-03	N/A
	Barium	N	4.3E+01	7.0E-02	N/A	N/A	N/A	1.26E-04	N/A
	Beryllium	N	6.8E-01	2.0E-03	N/A	N/A	N/A	6.92E-05	N/A
	Cobalt	C	1.4E+00	2.0E-02	N/A	N/A	N/A	5.09E-06	N/A
	Iron	N	2.3E+03	3.0E-01	N/A	N/A	N/A	1.56E-03	N/A
	Manganese	N	1.6E+01	2.4E-02	N/A	N/A	N/A	1.34E-04	N/A
	Selenium	N	1.0E+01	5.0E-03	N/A	N/A	N/A	4.15E-04	N/A
	Vanadium	N	6.6E+00	7.0E-03	N/A	N/A	N/A	1.92E-04	N/A
	4,4'-DDD	C	6.1E-03	N/A	2.4E-01	N/A	N/A	N/A	1.06E-10
	4,4'-DDE	C	7.0E-03	N/A	3.4E-01	N/A	N/A	N/A	1.73E-10
	4,4'-DDT	C	1.3E-03	5.0E-04	3.4E-01	N/A	N/A	1.89E-07	3.21E-11
	Aldrin	C	2.8E-03	3.0E-05	1.7E+01	N/A	N/A	6.78E-06	3.46E-09
	alpha-BHC	C	1.4E-04	5.0E-04	6.3E+00	N/A	N/A	2.04E-08	6.41E-11
	alpha-Chlordane	C	3.4E-04	5.0E-04	3.5E-01	N/A	N/A	4.94E-08	8.65E-12
	Aroclor-1260	C	3.7E-03	N/A	2.0E+00	N/A	N/A	N/A	5.38E-10
	delta-BHC	C	6.1E-04	5.0E-04	6.3E+00	N/A	N/A	8.87E-08	2.79E-10
	Dieldrin	C	9.5E-03	5.0E-05	1.6E+01	N/A	N/A	1.38E-05	1.10E-08
	Endosulfan I	N	5.7E-03	6.0E-03	N/A	N/A	N/A	1.93E-07	N/A
	Endosulfan sulfate	N	1.2E-03	6.0E-03	N/A	N/A	N/A	4.07E-08	N/A
	Endrin	N	2.4E-03	3.0E-04	N/A	N/A	N/A	1.63E-06	N/A
	gamma-BHC (Lindane)	C	4.3E-04	3.0E-04	1.3E+00	N/A	N/A	1.04E-07	4.06E-11
	gamma-Chlordane	C	9.1E-04	5.0E-04	3.5E-01	N/A	N/A	1.32E-07	2.32E-11
	2-Methylnaphthalene	N	5.0E-02	8.0E-02	N/A	N/A	N/A	1.27E-07	N/A
	4-Methylphenol (p-Cresol)	N	1.7E-01	5.0E-03	N/A	N/A	N/A	6.92E-06	N/A
	Acenaphthene	N	7.7E-02	6.0E-02	N/A	N/A	N/A	2.61E-07	N/A
	Anthracene	N	1.0E-01	3.0E-01	N/A	N/A	N/A	6.78E-08	N/A
	Benzo(a)anthracene	C	1.0E-01	N/A	7.3E-01	N/A	N/A	N/A	5.31E-09
	Benzo(a)pyrene	C	6.4E-02	N/A	7.3E+00	N/A	N/A	N/A	3.40E-08
	Benzo(b)fluoranthene	C	1.9E-01	N/A	7.3E-01	N/A	N/A	N/A	1.01E-08
	Benzo(g,h,i)perylene	C	4.5E-02	N/A	7.3E-01	N/A	N/A	N/A	2.39E-09
	Benzo(k)fluoranthene	C	6.1E-02	N/A	7.3E-02	N/A	N/A	N/A	3.24E-10
	bis(2-Ethylhexyl)phthalate (BEHP)	C	3.6E-01	2.0E-02	1.4E-02	N/A	N/A	1.31E-06	3.66E-10
	Carbazole	C	4.5E-02	N/A	2.0E-02	N/A	N/A	N/A	6.54E-11
	Chrysene	C	1.3E-01	7.3E-03	N/A	N/A	N/A	1.29E-06	N/A
	Dibenzofuran	N	7.2E-02	4.0E-03	N/A	N/A	N/A	3.66E-06	N/A
	Di-n-butylphthalate	N	1.5E-01	1.0E-01	N/A	N/A	N/A	3.05E-07	N/A
	Fluoranthene	N	1.4E-01	N/A	4.0E-02	N/A	N/A	N/A	1.14E-09
	Fluorene	N	9.4E-02	4.0E-02	N/A	N/A	N/A	4.78E-07	N/A
	Indeno(1,2,3-cd)pyrene	C	5.1E-02	7.3E-01	N/A	N/A	N/A	5.08E-09	N/A
	Naphthalene	N	1.0E-01	2.0E-02	N/A	N/A	N/A	1.02E-06	N/A
	Phenanthrene	N	2.4E-01	N/A	3.0E-02	N/A	N/A	N/A	1.47E-09
	Pyrene	N	1.4E-01	N/A	3.0E-02	N/A	N/A	N/A	8.55E-10
	Acetone	N	1.3E+00	1.0E-01	N/A	N/A	N/A	2.65E-06	N/A
	Toluene	N	2.1E-02	2.0E-01	N/A	N/A	N/A	2.14E-08	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI = Chronic daily intake (mg/kg-day)

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, sediment risk:

$$CDI = \frac{EPC_{sd} \times IR_{sd} \times EF \times ED \times CF}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPCsd = Exposure point concentration in sediment (mg/kg).
IRsd = Incidental ingestion rate for sediment (mg/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
CF = Conversion factor (1E-6 kg/mg).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
IRsd = 100 mg/day for age groups greater than 6-years old.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Table 14-1-17
Wetland 52 Phase II
Surface Water Dermal Absorbed Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration (g/L)	Min. Qual.	Maximum Concentration (g/L)	Max. Qual.	Units	Location of Max.Conc.	Detection Frequency	Range of Detection Limits	Mean	Maximum concentration (mg/cm^3)	K_p	DA_{event}	DAD_{sw} (mg/kg-day): Child Trespasser	DAD_{sw} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	1.2E+02	J	2.6E+03	=	UG/L	041W52E301	2 / 2	NAV	1.3E+03	2.6E-03	1.0E-03	6.71E-06	N/A	1.42E-04
7440393	Barium	N	4.9E+00	J	6.6E+00	J	UG/L	041W52A101	2 / 2	NAV	5.8E+00	6.6E-06	1.0E-03	1.72E-08	N/A	3.63E-07
7439896	Iron	N	N/A	N/A	1.2E+03	=	UG/L	041W52E301	1 / 2	N/A / 8.6E+01	6.3E+02	1.2E-03	2.5E-04	7.93E-07	N/A	1.68E-05
7439965	Manganese	N	8.2E+00	J	1.1E+01	J	UG/L	041W52A101	2 / 2	NAV	9.4E+00	1.1E-05	1.0E-03	2.73E-08	N/A	5.78E-07
7440622	Vanadium	N	N/A	N/A	2.7E+00	J	UG/L	041W52E301	1 / 2	N/A / 2.0E+00	1.9E+00	2.7E-06	1.0E-03	7.02E-09	N/A	1.49E-07

Notes:

Equation for Dermal Absorbed Dose, surface water risk:

$$DAD_{sw} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sw} = Dermal absorbed dose-water contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event).
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Equation for DAevent for inorganics:

$$DA_{event} = K_p \times C_w \times t_{event}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: RAGS Part E, Exhibit B-3 or Exhibit B-4
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).

Equation for DAevent for organics:

$$DA_{event} = FA \times K_p \times C_w \left[\frac{t_{event}}{1 + B} + 2\tau_{event} \left(\frac{1 + 3B + 3B^2}{(1 + B)^2} \right) \right]$$

Where:

FA = Fraction absorbed water (dimensionless). From RAGS Part E, Exhibit B-4.
Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E, Exhibit B-4.
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).
t_{event} = Lag time per event (hr/event). From RAGS Part E, Exhibit B-4.
B = Dimensionless ratio of the permeability coefficient of a compound, calculated using the equation below:

$$B = \frac{K_p \sqrt{MW}}{2.6}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E.
MW = Molecular weight

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer —- 25,550 days (child trespasser/adult maintenance worker).
t_{event} = 2.6 hrs/dy (child trespasser/adult maintenance worker).

Table 14-1-18
Wetland 52 Phase II
Surface Water Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABS_{GI}	ABS_{GI} Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
										Dermal Hazard Quotient	Dermal Cancer Risk	Dermal Hazard Quotient	Dermal Cancer Risk
SW Dermal Risk	Aluminum	N	2.6E-03	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	N/A	N/A	1.4E-03	N/A
	Barium	N	6.6E-06	7.0E-02	N/A	7.0E-02	1, 2	4.9E-03	N/A	N/A	N/A	7.4E-05	N/A
	Iron	N	1.2E-03	N/A	N/A	1.5E-01	3	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	1.1E-05	1.4E-01	N/A	4.0E-02	1	5.6E-03	N/A	N/A	N/A	1.0E-04	N/A
	Vanadium	N	2.7E-06	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	N/A	N/A	8.2E-04	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose adjusted for ABS_{GI}.
Dermal SF = Dermal slope factor adjusted for ABSGI.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfD_{dermal} = Dermal reference dose.
RFD_{oral} = Oral reference dose.
SFdermal = Dermal slope factor.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 14-1-19
Wetland 52 Phase II
Surface Water Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
SW Incidental Ingestion	Aluminum	N	2.6E-03	1.0E+00	N/A	N/A	N/A	5.3E-08	N/A
	Barium	N	6.6E-06	7.0E-02	N/A	N/A	N/A	1.9E-09	N/A
	Iron	N	1.2E-03	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	1.1E-05	1.4E-01	N/A	N/A	N/A	1.5E-09	N/A
	Vanadium	N	2.7E-06	7.0E-03	N/A	N/A	N/A	7.9E-09	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, surface water risk:

$$CDI = \frac{EPC_{sw} \times IR_{sw} \times EF \times ED}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPC_{sw} = Exposure point concentration in surface water (mg/L).
IR_{sw} = Incidental ingestion rate for sediment (L/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
Irsw = 0.01 L/day exposure to surface water during wading for adolescents and adults.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

14.2 Wetland 72 — Screening Level Problem Formulation

14.2.1 Site Description and Habitats Present at Wetland 72

Wetland 72 is a surface water drainage pathway that drains storm water and surface water from the northwest side of Forrest Sherman Field and storm water from the northern end of Wetland W1 via a storm sewer. Wetland 72 is located in the northwestern portion of the base, a relatively non-impacted area. The storm sewer system of Wetland W1 drains into Wetland 72. Surface water which passes through Wetland 72, eventually drains into Bayou Grande via Wetland 39. Samples collected from this site were noted to have a foul odor. Wetland 72 is comprised of a long narrow, finger-shaped wetland, which runs north to south. Wetland 72 is less than three feet deep and has a maximum width of 75 feet.

The IR site potentially affecting Wetland 72 is UST 18, formerly Site 3 (Crash Crew Fire Fighting Training Area).

Photograph 1 Wetland 72 — Facing Southeast

UST 18 wetlands include Wetlands 52, 72, and W1. UST 18 occupy approximately 48 acres along the southwestern border of Forrest Sherman Field. The site topography is characterized by a swale paralleling Runway 19 in the east-central portion of the site, bounded on the east and west by higher, generally flat areas. As shown in Figure 14-1, Wetland 52 is located south of the UST 18 area. It receives storm water from the southern end of the UST 18 area and discharges to Pensacola Bay via Sherman's Inlet. Wetland 72 is a drainage ditch, located on the northwest side of Runway 19, and receives storm water from the northern end of UST 18. Wetland W1 occupies the drainage swale located directly east of UST 18, between the site and Runway 19 of Forrest Sherman Field.

UST 18 (previously named IR Site 3) contains at least eight burn pits used to train fire fighters for aircraft crash response since 1955 (NEESA, 1983). Historically, during training exercises, approximately 30 to 50 gallons of fuel (possibly JP-4, JP-5, aviation gas, lube oil, or water-tainted fuel) were poured into unlined pits or on various pieces of equipment and ignited to simulate post-crash aircraft fires. In 1991, the northernmost pit was lined with an impermeable geofabric membrane called Bentomat, a two-layer woven cloth separated by bentonite, and became the only pit used for training exercises. Aircraft fire-fighting foam was used along with water to extinguish the fires. In 1997, crash crew training was moved to environmentally friendly training facilities at the NATTC.

E/A&H prepared a CAR for UST Site 18 in January 1996. Twenty-two permanent shallow and intermediate groundwater monitoring wells were installed and soil, sediment, groundwater, and surface water samples were collected and analyzed for petroleum constituents. BTEX, EDB, naphthalene, and lead were detected (E/A&H, 1996a).

EnSafe prepared a RAP for UST Site 18 on December 19, 1997. The RAP proposed landfarming to remediate the soil contamination and thereby removing the source of groundwater contamination. Groundwater modeling indicated that natural attenuation would remediate the groundwater once the landfarming was complete. A Monitoring Only Plan (MOP) was proposed for groundwater remediation (EnSafe, 1997a).

CH2MHILL performed a remedial action for the impacted soil at UST Site 18 that consisted of the landfarming of petroleum contaminated soil in the four former firefighter training burn pits. Landfarming activities were conducted between September 2000 and September 2001 and consisted of biweekly soil tilling using a farm tractor and disk harrow. Soil samples were collected monthly.

Landfarming operations ceased when soil analytical results indicated that soil cleanup goals had been achieved in September 2001 (CH2MHILL, 2003a).

Groundwater monitoring was performed monthly from December 2000 through August 2001 and quarterly until December 2002 by CH2MHill. BTEX, PAHs, TRPH, and lead were consistently reported to exceed FDEP GCTLs during quarterly sampling (CH2MHILL, 2003a).

TtNUS performed a treatability study to evaluate PermeOx® Plus for remediation of petroleum hydrocarbons. TtNUS performed supplemental site assessment activities in August 2003 to delineate the groundwater contamination and to provide a baseline for the treatability study. Two main areas of contamination were identified during the additional groundwater investigation. A northern plume was identified around the four former pits. A southern plume was found to exist south of the four former pits. Both plumes were migrating southeast (with the groundwater flow direction) from their source areas. (TtNUS, 2003a). Extent of groundwater contamination was delineated during this investigation.

The PermeOx® Plus injection event was conducted from December 3 to December 17, 2003. This pilot-scale treatability study consisted of the installation of 219 injection borings (143 in the northern plume and 76 in the southern plume) into which a PermeOx® Plus enriched slurry was injected. Select groundwater monitoring wells were then monitored for site contaminants of concern (COCs) and natural attenuation parameters for four quarters to evaluate the effectiveness of enhanced bioremediation (TtNUS, 2005).

The Enhanced Natural Attenuation Study (PermeOx® Plus injection) concluded that there was no clear evidence of a reduction in site COCs after one year of monitoring. While COC concentrations had decreased temporarily in several wells, there was a rebound and no evidence that conditions favorable to enhanced biodegradation were occurring. Free product was detected in a shallow monitoring well (NASP18-GS26) on the northern portion of the site. The presence of free product indicated there was a continuing source of contamination and that previous soil remediation (landfarming) efforts may have not effectively removed all the contaminated soil (TtNUS, 2005). It was reasoned that contaminated soil exists around the smear zone (underneath the landfarming effort) and continually contributes to the groundwater contamination. Additional characterization has been recommended for the site (TtNUS, 2006).

Parsons and Pruitt described Wetland 72 as a palustrine forested system with plant species *Pinus*, *Quercus*, and *Cliftonia monophylla* found throughout this site. Wetland 72 is always wet and of

the 3.2 acres that encompass this area, standing water can be observed in at least half. Some maintenance does occur at this location, because beaver dams have been observed one day and were no longer present on following days.

14.2.2 Wetland 72 — Sample Location Description

Phase II Sediment Sample Location Description

Two sampling stations along the southern end of Wetland 72 were sampled in November 1995 (Figure 14-4). These locations are adjacent to a cement head wall, which houses the storm water and storm sewer outfalls. Table 14-2-1 (tables are located at the end of each section) provides a physical description of the sediments collected at Wetland 72. Sediments at Wetland 72 were composed of brown poorly graded sand with trace of silt and organics (041M720101) with 0.29% TOC to brown poorly graded medium to fine sand (041M720102) with 0.16% TOC.

Phase II Surface Water Sample Location Description

One surface water sample (041W720101) was collected at Wetland 72 and was collocated with sediment station 041M720101 (Figure 14-4). Table 14-2-2 provides a physical description of the surface water sample collected at Wetland 72. Surface water from Wetland 72 was found to be relatively soft ($CaCO_3$ levels were < 33 mg/L) and slightly acidic.

Phase IV Surface Water Sample Location Description

One surface water sample (041W720102) was collected at Wetland 72 in 2004 and was collocated with the sediment station 041M720101 (Figure 14-4). Due to sampling errors, surface water physical parameters were not collected during the Phase IV sampling event.

14.2.3 Nature and Extent of Contamination

Phase II Sediment

Figure 14-4 presents the Phase II sediment sampling locations for Wetland 72. Table 14-2-3 presents a summary of the analytical results of the two Phase II sediment samples.

Metals — Seventeen metals were detected during Phase II sediment sampling at Wetland 72. Of these detections only copper exceeded its reference value at location 041M720101, which is located at the southern tip of the wetland. Location 041M720101 exhibited all 17 metals, as well as reported the highest concentrations.

Pesticides and PCBs — Three pesticide compounds were detected during Phase II sediment sampling at Wetland 72. Total DDT was calculated for each location by adding the concentrations of 4,4′-DDD, 4,4′-DDE, and 4,4′-DDT. Likewise, a basewide total DDT reference concentration was calculated using the basewide concentrations for these same constituents.

Location 041M720101 exhibited detections for 4,4′-DDD and 4,4′-DDT, both below reference values.

Location 041M720201 exhibited a detection for 4,4′-DDE, also below its reference value.

SVOCs — Twelve SVOCs were detected in sediment samples collected during Phase II sampling at Wetland 72. All compounds were detected at location 041M720101; however, location 041M720201 only had two detections.

VOCs — Acetone and methylene chloride were detected in sediments collected during Phase II sampling. Acetone was detected at location 041M720201, and methylene chloride was detected at location 041M720101.

Phase II Surface Water

Figure 14-4 presents the Phase II surface sampling locations for Wetland 72. Table 14-2-4 presents a summary of the analytical results of the one Phase II surface water sample.

Metals — Thirteen metals were detected in Phase II surface water sampling collected from Wetland 72. Location 041W720101 exhibited six detections, exceeding reference values for barium, calcium, copper, silver, thallium, and zinc.

Organics — There were no organic constituents detected in surface water samples collected from Wetland 72 during the Phase II investigation.

Phase IV Surface Water

Figure 14-4 presents the Phase IV surface sampling locations for Wetland 72. Table 14-2-5 presents a summary of the analytical results of the one Phase IV surface water sample.

Metals — Twelve metals were detected in the Phase IV surface water sampling effort collected from Wetland 72. Location 041W720101 exhibited two detections, exceeding reference values for barium and calcium.

14.2.4 Ecological Risk Assessment

14.2.4.1 Phase II Investigation Summary — Wetland 72

Sediment Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 14-2-6, the sediment samples were compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 14-2-7.

Baseline Problem Formulation — Wetland 72 Sediment COPC Refinement

During the COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs. This risk assessment presents a statement of potential risk for each of the COPCs.

The COPC refinement process included:

- Comparison of maximum concentrations to RVs
- Comparison of average concentrations to SVs and RVs
- Comparison to basewide (reference) concentrations for total DDT
- Comparison of inorganic constituents to reference wetland values
- Interpretative tool for metals
- Di Toro EqP SQGs for VOCs
- Comparison to Swartz consensus values
- Mean ERM quotients
- Description of exceedances of RVs and their extent

The methods used in the COPC refinement in the Site 41 ERA process is detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 14-2-8. A list of COPCs retained after refinement are presented in Table 14-2-9. Additionally, the tables compare: (1) average concentrations to screening and refinement values to assess potential exposure across the entire wetland, and (2) Wetland 72 concentrations to reference concentrations.

As shown on Figure 14-5, total DDT and its daughter products were detected below basewide levels and were not carried forward as COPCs. Copper exceeded its Site 41 freshwater sediment reference concentrations (Table 14-2-8); however, the detection did not exceed the maximum and average RV HQ. The interpretive tool was not applied.

Four SVOCs were detected and retained as COPCs for Wetland 72: benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, and indeno(1,2,3-cd)pyrene. Two VOCs, acetone and methylene chloride, were also detected and retained as COPCs. When normalized to detected TOC concentrations, both VOCs and PAHs (Figure 14-6) do not appear to be risk drivers for Wetland 72.

Table 14-2-10 presents the Mean ERL and ERM values, the Mean ERM Quotients, and the Mean ERM Quotient Category by individual sample location. Based on this approach, the two sample locations (041M720102 and 041M720201) were determined to be Category 1, which identified these sediments to be considered nontoxic. Figure 14-7 shows the Mean ERM category for each sediment sample location at Wetland 72.

Surface Water Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 14-2-11, the surface water sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 14-2-12.

Baseline Problem Formulation — Wetland 72 Surface Water COPC Refinement

During the surface water COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as COPCs.

The COPC refinement process included:

- Comparison of maximum SV concentrations to average SV concentrations
- Comparison of inorganic constituents to reference wetland values
- Description of surface water exceedances and their extent

The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 14-2-13. COPCs retained after refinement are presented in Table 14-2-14. Additionally, the tables compare average concentrations to screening and refinement values to assess potential exposure across the entire wetland.

For Wetland 72, barium, calcium, silver, and thallium exceeded their Site 41 freshwater reference surface water values (Table 14-2-13) and were retained as COPCs.

During the Wetland 72 Phase II investigation, none of the constituents detected and retained occurred in both sediment and surface water samples. Sediments had an assortment of PAHs, which were likely remnants from routine grass maintenance and storm water runoff.

14.2.4.2 Phase IV/2004 Investigation Summary — Wetland 72

Surface Water Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 14-2-15, the surface water sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 14-2-16.

Baseline Problem Formulation — Phase IV Wetland 72 Surface Water COPC Refinement

The same methods used to evaluation the Phase II surface water (Section 14.2.4.1) were applied to the Phase IV surface water sample.

The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 14-2-17. COPCs retained after refinement are presented in Table 14-2-18. Additionally, the tables compare average concentrations to screening and refinement values to assess potential exposure across the entire wetland.

For Wetland 72, barium and calcium exceeded its Site 41 freshwater reference surface water values (Table 14-2-17) and were retained as COPCs.

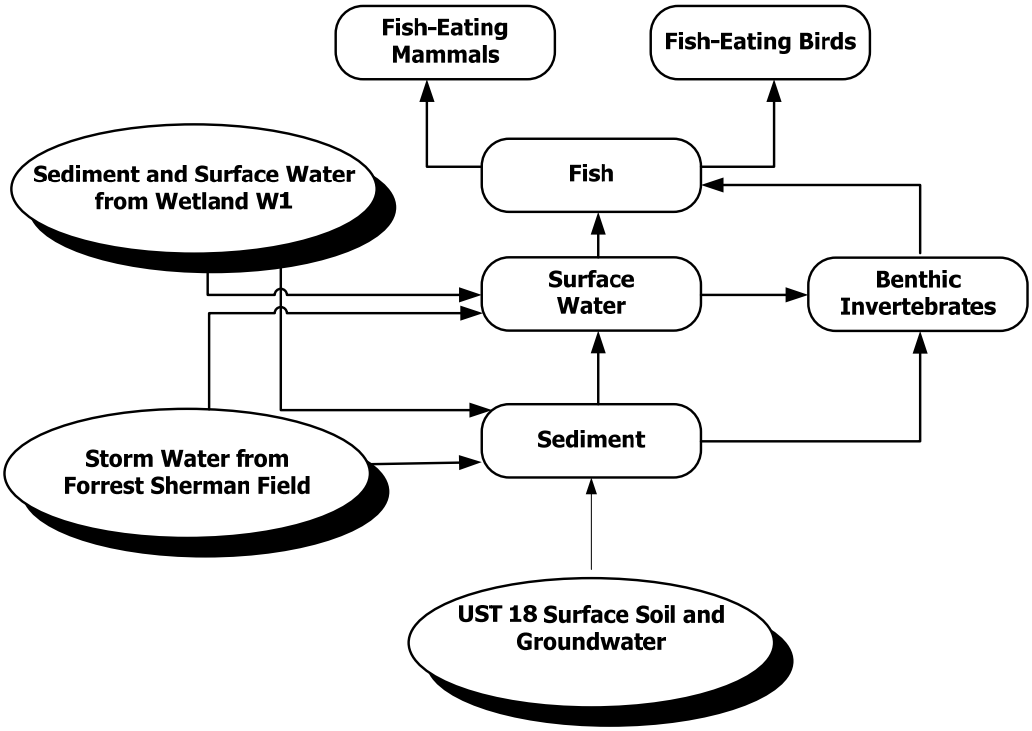
In Wetland 72, two inorganic constituents (barium and calcium) were retained in both the Phase II (1995 investigation) and the Phase IV investigation. Neither of these constituents was perceived to pose any negative environmental impacts at this wetland.

PAHs detected in sediments during the Phase II investigation were detected at these sampling locations because of the nature of the base storm water routing system.

Based on the Phase II results described above, Wetland 72 was identified as a Blue-Coded Wetland in the approved *Final RI/FS SAP Addendum* (E/A&H, 1997d), indicating that contaminants were present generally below screening values, and contaminants did not appear to be site related. Blue-Coded Wetlands were not assessed further in Phase III.

The conceptual model below symbolizes which environmental habitats may be impacted by Wetland 72 Phase II and Phase IV constituents retained during the ERA process.

Wetland 72
Conceptual Site Model



14.2.5 Wetland 72 — Human Health Risk Assessment

Wetland 72 is described in Section 14.2.1, and the HHRA is summarized below.

14.2.5.1 Site Data

Section 14.2.2 summarizes the nature and extent of contamination for this wetland. Surface water and sediment data were collected at Wetland 72 during Phases II and IV of the RI. Surface water and sediment data for Wetland 72 are summarized in Tables 14-2-3 through 14-2-5.

14.2.5.2 Conceptual Site Model

As described in Section 14.2.1, Wetland 72 is located in the northwestern portion of the base, a relatively non-impacted area of the base. Because Wetland 72 is located in a restricted area of the base, the wetland is only accessible to Navy personnel. Trespassing is limited by homeland security restrictions.

Wetland 72 is continually inundated, so surface water contact was assessed for maintenance worker scenario. Sediment locations are inundated all year, preventing significant sediment exposure. Therefore, in accordance with USEPA Region IV Supplemental Guidance to RAGS Bulletins (2000) described in Section 9, sediment exposure was not assessed in this HHRA, because it was assumed to be an insignificant exposure pathway. Although habitat for freshwater game fish species could be present, enforcement of homeland security restrictions prevents fishing by trespassers. Consequently, fish tissue ingestion pathways were excluded, and maintenance worker contact with surface water while wading would be the likely exposure scenario.

The following scenarios and exposure pathways were evaluated for this wetland:

Scenario	Medium	Ingestion	Dermal
Maintenance	Surface water	√	√

14.2.5.3 Risk Characterization

The adult maintenance worker scenario for surface water and sediment were assessed for this wetland as described in Section 9.

Maintenance Worker

Phase II Data

As shown in Tables 14-2-19 through 14-2-21, surface water ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

Phase IV Data

As shown in Tables 14-2-22 through 14-2-24, surface water ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

Summary of Wetland 72 Phase II Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Surface water	2.38E-02	N/A

Based on Phase II data, no COCs for Wetland 72 were identified.

Summary of Wetland 72 Phase IV Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Surface water	4.85E-03	N/A

Based on Phase IV data, no COCs for Wetland 72 were identified.

Wetland 72 HHRA COC Summary

No COCs were identified in the HHRA for Wetland 72.

14.2.6 Wetland 72 — Fate and Transport Analysis

This wetland occupies an area north of the southwest end of the Southwest-Northeast trending Forrest Sherman runway. Three samples (two sediment samples and one surface water sample) were collected from this wetland and used to evaluate the transport pathways. Wetland 72 flows north into Wetland 39, eventually empting into the upper reaches of Bayou Grande (see Figure 14-1).

The sediment and surface water COPCs retained after refinement for this wetland are summarized in Tables 14-2-9 (sediment, Phase II), 14-2-14 (surface water, Phase II), and 14-2-18 (surface water, Phase IV). Also provided are the associated soil borings and monitoring wells used for comparing data for the fate and transport analysis. These monitoring wells and borings are associated with the northern end of UST Site 18.

Monitoring Wells Associated with Wetland 72: 033GGR07, 003GGI02, 003GGS02, 003GGR06, 003GGM25, 003GGS07, 003GGR19, 003GGR05, 003GGM21, 003GGR04, 003GGS01, 003GG101, 003GGR03, 003GGR01, 003GGR02, 003GGS10, 003GGS11

Borings Associated with Wetland 72: 003S0006, 003S0007, 003S0033, 003S0019, 003S0031, 003S0034, 003S0032, 003S0004, 003S0003, 003S0001, 003S0005, 003S0002

Note: These wells and borings are the same as those associated with the northern half of Wetland W1.

Surface Water/Sediment Transport into the Wetlands Media:

Surface Water — There were no direct comparable storm water data from the area proximal to this wetland. Because of the lack of data, no definitive statement can be made regarding the validation of the pathway via storm water runoff into the wetland complex. The vast majority of surface water drainage to this wetland is from the northern area of Forrest Sherman Field, and in

particularly the northernmost portion of the north-south runway (including drainage from UST Site 18; borings and wells from this site were evaluated as to potential impacts to the wetland).

Sediment — No detected parameters were retained after refinement within sediment.

Groundwater Discharge into the Wetland Media:

Surface Water — Based on the data from associated monitoring wells, the groundwater to wetland surface water pathway was validated and significant for the following parameters:

Phase II
Barium
Thallium

Phase IV
Barium

Surface Water/Sediment Transport within the Wetlands:

Surface Water — Since only one surface water sample was collected, the surface water transport pathway could not be evaluated.

Sediment — To evaluate the sediment transport pathway, upgradient sample location 041M7201 (sampled in Phase II) was compared to downgradient sample location 041M7202 (sampled during Phase II). Evaluation of upgradient location 041M7201 with downgradient location 041M7202 indicated a decrease in detected parameters (17 metals and 15 organics upgradient versus 14 metals and four organics downgradient). TOC exhibited a slight decrease downgradient. For the metals, all 14 parameters detected downgradient exhibited a marked decrease. For the organics, two compounds were present at the downgradient locations that were not detected at the upgradient location. Of the two organics detected at both locations, both exhibited a marked decrease. Detected organics at both locations consisted of pesticides and SVOCs (primarily BAP equivalents); indicative of storm water runoff, routine application residuals, and/or incomplete combustion byproducts. Location 041M7201 was collected directly at a storm water outfall, and the data indicated parameters were quickly being fixed within the sediment, little downgradient transport.

Temporal Evaluation of Surface Water:

Surface water samples were collected from location 041W7201 during Phases II and IV. Evaluation of these two samples indicated fewer metals detected in Phase IV (13 in Phase II versus 11 in Phase IV). Changes in concentrations between the two samples were only slight; two constituents were present in Phase IV that were not detected in Phase II, six parameters increased, and three constituents decreased.

Table 14-2-1
Wetland 72 Phase II
Sediment Physical Parameters

Parameter	041M720101	041M720201
TOC (%)	0.294	0.164
Percent Solids (%)	73.8	78.5
Grain Size Analysis (percent of composition[1])		
Fine Gravel	0	0
Coarse Sand	1	0
Medium Sand	23	34
Fine Sand	73	66
Silt and Clay	3	0
Description	Brown Poorly Graded Sand with trace of silt, organics	Brown Poorly Graded Sand, Medium to Fine

Note:
[1] = Derived from sieve analyses.

Table 14-2-2
Wetland 72 Phase II
Surface Water Physical Parameters

Parameter	041W720101
Hardness as CaCO3 (mg/L)	32.1
pH	6.21
Specific Conductivity (mS/cm)	0.476
Turbidity (NTU)	9
Salinity (%)	0.01

Notes:
mg/L = Milligrams per liter
MS/cm = Millisiemens per centimeter
NTU = Nephelometric turbidity units
% = Percent

Table 14-2-3
Wetland 72 Phase II
Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (mg/kg)								
Aluminum	13,610.0	0	2	2	736.0	2,450.0	1,590.0	041M720101
Arsenic	6.620	0	2	2	0.280	0.860	0.570	041M720101
Barium	14.0	0	2	2	1.30	2.30	1.80	041M720101
Cadmium	1.80	0	1	2	0.270	0.270	0.183	041M720101
Calcium	10,756.670	0	2	2	23.20	43.10	33.10	041M720101
Chromium	39.370	0	2	2	0.850	3.20	2.020	041M720101
Copper	19.50	1	2	2	1.20	38.90	20.10	041M720101
Iron	11,911.670	0	2	2	397.0	1,510.0	954.0	041M720101
Lead	82.470	0	2	2	1.80	17.50	9.650	041M720101
Magnesium	7,513.330	0	2	2	20.30	50.0	35.10	041M720101
Manganese	37.970	0	2	2	1.30	10.70	6.0	041M720101
Nickel	9.280	0	1	2	1.40	1.40	0.890	041M720101
Potassium	1,628.670	0	2	2	8.40	29.70	19.10	041M720101
Selenium	3.450	0	1	2	0.260	0.260	0.177	041M720101
Sodium	18,993.330	0	2	2	3.0	8.70	5.850	041M720101
Vanadium	28.670	0	2	2	1.20	3.80	2.50	041M720101
Zinc	36.730	0	2	2	3.30	10.70	7.0	041M720101
PAHs (g/kg)								
Anthracene	N/A	0	1	2	41.0	41.0	30.80	041M720101
Benzo(a)anthracene	N/A	0	1	2	47.0	47.0	33.80	041M720101
Benzo(a)pyrene	N/A	0	1	2	43.0	43.0	31.80	041M720101
Chrysene	N/A	0	1	2	47.0	47.0	33.80	041M720101
Fluoranthene	N/A	0	2	2	30.0	120.0	75.0	041M720101
Phenanthrene	N/A	0	1	2	49.0	49.0	34.80	041M720101
Pyrene	N/A	0	2	2	38.0	98.0	68.0	041M720101
Total PAHs	N/A	0	2	2	272.50	557.0	415.0	041M720101
Pesticides and PCBs (g/kg)								
4,4'-DDD	50.0	0	1	2	0.20	0.20	0.158	041M720201
4,4'-DDE	40.0	0	1	2	0.240	0.240	0.172	041M720101
4,4'-DDT	20.0	0	1	2	0.260	0.260	0.183	041M720101
Total DDT	110.0	0	2	2	0.410	0.615	0.512	041M720101
SVOCs (g/kg)								
Benzo(b)fluoranthene	N/A	0	1	2	90.0	90.0	55.30	041M720101
Benzo(g,h,i)perylene	N/A	0	1	2	58.0	58.0	39.30	041M720101
Benzo(k)fluoranthene	N/A	0	1	2	27.0	27.0	23.80	041M720101
Di-n-butylphthalate	N/A	0	1	2	43.0	43.0	124.0	041M720101
Indeno(1,2,3-cd)pyrene	N/A	0	1	2	47.0	47.0	33.80	041M720101
VOCs (g/kg)								
Acetone	N/A	0	1	2	32.0	32.0	416.0	041M720201
Methylene chloride	N/A	0	1	2	740.0	740.0	373.0	041M720101

Notes:
g/kg = micrograms per kilogram
mg/kg = milligram per kilogram
N/A = Not Applicable

Table 14-2-4
Wetland 72 Phase II
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (g/L)								
Aluminum	1,090.25	0	1	1	895.0	895.0	895.0	041W720101
Barium	3.68	1	1	1	8.8	8.8	8.8	041W720101
Calcium	7,675.0	1	1	1	11,000.0	11,000.0	11,000.0	041W720101
Copper	4.0	1	1	1	5.2	5.2	5.2	041W720101
Iron	2,360.0	0	1	1	559.0	559.0	559.0	041W720101
Magnesium	20,260.0	0	1	1	1,140.0	1,140.0	1,140.0	041W720101
Manganese	13.2	0	1	1	6.1	6.1	6.1	041W720101
Potassium	6,995.0	0	1	1	597.0	597.0	597.0	041W720101
Silver	4.0	1	1	1	4.4	4.4	4.4	041W720101
Sodium	182,200.0	0	1	1	3,870.0	3,870.0	3,870.0	041W720101
Thallium	4.2	1	1	1	5.3	5.3	5.3	041W720101
Vanadium	4.7	0	1	1	3.0	3.0	3.0	041W720101
Zinc	5.53	1	1	1	9.0	9.0	9.0	041W720101

Notes:
g/L = micrograms per liter
N/A = Not Applicable

Table 14-2-5
Wetland 72 Phase IV
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (g/L)								
Aluminum	1,090.25	0	1	1	830.0	830.0	830.0	041W720102
Barium	3.68	1	1	1	12.0	12.0	12.0	041W720102
Beryllium	1.0	0	1	1	0.78	0.78	0.78	041W720102
Calcium	7,675.0	1	1	1	9,700.0	9,700.0	9,700.0	041W720102
Iron	2,360.0	0	1	1	1,200.0	1,200.0	1,200.0	041W720102
Lead	3.2	0	1	1	2.3	2.3	2.3	041W720102
Magnesium	20,260.0	0	1	1	1,400.0	1,400.0	1,400.0	041W720102
Manganese	13.2	0	1	1	7.7	7.7	7.7	041W720102
Potassium	6,995.0	0	1	1	990.0	990.0	990.0	041W720102
Sodium	182,200.0	0	1	1	5,400.0	5,400.0	5,400.0	041W720102
Vanadium	4.7	0	1	1	3.7	3.7	3.7	041W720102
Zinc	5.53	0	1	1	1.7	1.7	1.7	041W720102

Notes:
g/L = micrograms per liter
N/A = Not Applicable

Table 14-2-6
Wetland 72 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Metals (mg/kg)														
Aluminum	2	2			736	2,450	041M720101	2,450			N/A		Yes	No SV
Arsenic	2	2			0.28	0.86	041M720101	0.86		7.24	1, 2	0.12	No	Max Detect < SV
Barium	2	2			1.3	2.3	041M720101	2.3	J		N/A		Yes	No SV
Beryllium	0	2	0.03	0.035			ND	0.04	U		N/A		Yes	No SV
Cadmium	1	2	0.095	0.095	0.27	0.27	041M720101	0.27	J	0.676	1	0.40	No	Max Detect < SV
Calcium	2	2			23.2	43.1	041M720101	43.1	J		N/A		Yes	No SV
Chromium	2	2			0.85	3.2	041M720101	3.2	J	52.3	1, 2	0.06	No	Max Detect < SV
Cobalt	0	2	0.095	0.1			ND	0.1	U		N/A		Yes	No SV
Copper	**2**	**2**			**1.2**	**38.9**	**041M720101**	**38.9**		**18.7**	**1, 2**	**2.08**	**Yes**	**Max Detect > SV**
Cyanide (CN)	0	2	0.31	0.32			ND	0.32	U		N/A		Yes	No SV
Iron	2	2			397	1,510	041M720101	1,510			N/A		Yes	No SV
Lead	2	2			1.8	17.5	041M720101	17.5		30.2	1, 2	0.58	No	Max Detect < SV
Magnesium	2	2			20.3	50	041M720101	50	J		N/A		Yes	No SV
Manganese	2	2			1.3	10.7	041M720101	10.7			N/A		Yes	No SV
Mercury	0	2	0.025	0.03			ND	0.03	U	0.13	1, 2	0.23	No	Max SQL< SV
Nickel	1	2	0.38	0.38	1.4	1.4	041M720101	1.4	J	15.9	1, 2	0.09	No	Max Detect < SV
Potassium	2	2			8.4	29.7	041M720101	29.7	J		N/A		Yes	No SV
Selenium	1	2	0.095	0.095	0.26	0.26	041M720101	0.26	J		N/A		Yes	No SV
Silver	0	2	0.125	0.13			ND	0.13	U	0.733	1	0.18	No	Max SQL< SV
Sodium	2	2			3	8.7	041M720101	8.7	J		N/A		Yes	No SV
Thallium	0	2	0.095	0.1			ND	0.1	UJ		N/A		Yes	No SV
Vanadium	2	2			1.2	3.8	041M720101	3.8			N/A		Yes	No SV
Zinc	2	2			3.3	10.7	041M720101	10.7		124	1, 2	0.09	No	Max Detect < SV
PAHs (µg/kg)														
2-Methylnaphthalene	0	2	20.5	22.5			ND	22.5	U	20.2	1	1.11	No	TOC Normalized PAHs<TEC
Acenaphthene	0	2	10	11			ND	11	U	6.71	1	1.64	No	TOC Normalized PAHs<TEC
Acenaphthylene	0	2	20.5	22.5			ND	22.5	U	5.87	1	3.83	No	TOC Normalized PAHs<TEC
Anthracene	1	2	20.5	20.5	41	41	041M720101	41	J	46.9	1	0.87	No	TOC Normalized PAHs<TEC
Benzo(a)anthracene	1	2	20.5	20.5	47	47	041M720101	47		74.8	1	0.63	No	TOC Normalized PAHs<TEC
Benzo(a)pyrene	1	2	20.5	20.5	43	43	041M720101	43	J	88.8	1	0.48	No	TOC Normalized PAHs<TEC
Chrysene	1	2	20.5	20.5	47	47	041M720101	47		108	1	0.44	No	TOC Normalized PAHs<TEC
Dibenz(a,h)anthracene	0	2	20.5	22.5			ND	22.5	U	6.22	1	3.62	No	TOC Normalized PAHs<TEC
Fluoranthene	**2**	**2**			**30**	**120**	**041M720101**	**120**		**113**	**1**	**1.06**	No	TOC Normalized PAHs<TEC
Fluorene	0	2	10	11			ND	11	U	21.2	1	0.52	No	TOC Normalized PAHs<TEC
Naphthalene	0	2	20.5	22.5			ND	22.5	U	34.6	1	0.65	No	TOC Normalized PAHs<TEC
Phenanthrene	1	2	20.5	20.5	49	49	041M720101	49		86.7	1	0.57	No	TOC Normalized PAHs<TEC
Pyrene	2	2			38	98	041M720101	98		153	1	0.64	No	TOC Normalized PAHs<TEC
Total PAHs	2	2			273	557	041M720101	557		1,684	1, 2	0.33	No	TOC Normalized PAHs<TEC
TOC Normalized PAHs	2	2			166.16	189.46	041M720101	189		290	3	0.65	No	Max Detect < SV
PCBs (µg/kg)														
Aroclor-1016	0	2	1.05	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Aroclor-1221	0	2	2.05	2.25			ND	2.25	U	67	2	0.03	No	Max SQL< SV
Aroclor-1232	0	2	1.05	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Aroclor-1242	0	2	1.05	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Aroclor-1248	0	2	1.05	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Aroclor-1254	0	2	1.05	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Aroclor-1260	0	2	1.05	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Total PCBs	0	2	8.35	9.15			ND	9.15	U	21.6	1	0.42	No	Max SQL< SV
Pesticides (µg/kg)														
Aldrin	0	2	0.05	0.055			ND	0.06	U		N/A		Yes	No SV
Dieldrin	0	2	0.105	0.115			ND	0.12	U	0.716	1	0.16	No	Max SQL< SV
Endosulfan I	0	2	0.105	0.115			ND	0.12	U		N/A		Yes	No SV
Endosulfan II	0	2	0.105	0.115			ND	0.12	U		N/A		Yes	No SV
Endosulfan sulfate	0	2	0.105	0.115			ND	0.12	U		N/A		Yes	No SV
Heptachlor	0	2	0.05	0.055			ND	0.06	U		N/A		Yes	No SV
Heptachlor epoxide	0	2	0.05	0.055			ND	0.06	U		N/A		Yes	No SV
Methoxychlor	0	2	0.5	0.55			ND	0.55	UJ		N/A		Yes	No SV
Toxaphene	0	2	5	5.5			ND	5.5	U		N/A		Yes	No SV
alpha-Chlordane	0	2	0.05	0.055			ND	0.06	U	1.7	1	0.03	No	Max SQL< SV
gamma-Chlordane	0	2	0.05	0.055			ND	0.06	U	1.7	1	0.03	No	Max SQL< SV
Total Chlordane	0	2	0.1	0.11			ND	0.11	U	1.7	1	0.06	No	Max SQL< SV
Endrin	0	2	0.105	0.115			ND	0.12	U	3.3	2	0.03	No	Max SQL< SV
Endrin aldehyde	0	2	0.105	0.115			ND	0.12	U	3.3	2	0.03	No	Max SQL< SV
Endrin ketone	0	2	0.105	0.115			ND	0.12	U	3.3	2	0.03	No	Max SQL< SV
Total Endrin	0	2	0.315	0.345			ND	0.35	U	3.3	2	0.11	No	Max SQL< SV
alpha-BHC	0	2	0.05	0.055			ND	0.06	U		N/A		Yes	No SV
beta-BHC	0	2	0.05	0.055			ND	0.06	U	0.32	N/A	0.17	No	Max SQL< SV
delta-BHC	0	2	0.05	0.055			ND	0.06	U	0.32	N/A	0.17	No	Max SQL< SV
gamma-BHC (Lindane)	0	2	0.05	0.055			ND	0.06	U	0.32	1	0.17	No	Max SQL< SV
Total BHC	0	2	0.2	0.22			ND	0.22	U	0.32	2	0.69	No	Max SQL< SV
4,4'-DDD	1	2	0.115	0.115	0.2	0.2	041M720201	0.2	J	1.22	1	0.16	No	Max Detect < SV
4,4'-DDE	1	2	0.105	0.105	0.24	0.24	041M720101	0.24		2.07	1	0.12	No	Max Detect < SV
4,4'-DDT	1	2	0.105	0.105	0.26	0.26	041M720101	0.26	J	1.19	1	0.22	No	Max Detect < SV
Total DDT	2	2			0.41	0.615	041M720101	0.62		3.3	2	0.19	No	Max Detect < SV
SVOCs (µg/kg)														
1,2,4-Trichlorobenzene	0	2	205	225			ND	225	U		N/A		Yes	No SV
1,2-Dichlorobenzene	0	2	205	225			ND	225	U		N/A		Yes	No SV
1,3-Dichlorobenzene	0	2	205	225			ND	225	U		N/A		Yes	No SV
1,4-Dichlorobenzene	0	2	205	225			ND	225	U		N/A		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	2	205	225			ND	225	U		N/A		Yes	No SV
2,4,5-Trichlorophenol	0	2	495	550			ND	550	U		N/A		Yes	No SV
2,4,6-Trichlorophenol	0	2	205	225			ND	225	U		N/A		Yes	No SV
2,4-Dichlorophenol	0	2	205	225			ND	225	U		N/A		Yes	No SV
2,4-Dimethylphenol	0	2	205	225			ND	225	U		N/A		Yes	No SV
2,4-Dinitrophenol	0	2	495	550			ND	550	U		N/A		Yes	No SV
2,4-Dinitrotoluene	0	2	205	225			ND	225	U		N/A		Yes	No SV
2,6-Dinitrotoluene	0	2	205	225			ND	225	U		N/A		Yes	No SV
2-Chloronaphthalene	0	2	205	225			ND	225	U		N/A		Yes	No SV
2-Chlorophenol	0	2	205	225			ND	225	U		N/A		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	2	495	550			ND	550	U		N/A		Yes	No SV
2-Methylphenol (o-Cresol)	0	2	205	225			ND	225	U		N/A		Yes	No SV
2-Nitroaniline	0	2	205	225			ND	225	U		N/A		Yes	No SV
2-Nitrophenol	0	2	205	225			ND	225	U		N/A		Yes	No SV
3,3'-Dichlorobenzidine	0	2	205	225			ND	225	U		N/A		Yes	No SV
3-Nitroaniline	0	2	495	550			ND	550	U		N/A		Yes	No SV
4-Bromophenyl-phenylether	0	2	205	225			ND	225	U		N/A		Yes	No SV
4-Chloro-3-methylphenol	0	2	205	225			ND	225	U		N/A		Yes	No SV
4-Chloroaniline	0	2	205	225			ND	225	U		N/A		Yes	No SV
4-Chlorophenylphenyl ether	0	2	205	225			ND	225	U		N/A		Yes	No SV
4-Methylphenol (p-Cresol)	0	2	205	225			ND	225	U		N/A		Yes	No SV
4-Nitroaniline	0	2	495	550			ND	550	U		N/A		Yes	No SV
4-Nitrophenol	0	2	495	550			ND	550	U		N/A		Yes	No SV
Benzo(b)fluoranthene	1	2	20.5	20.5	90	90	041M720101	90			N/A		No	TOC Normalized PAHs<TEC
Benzo(g,h,i)perylene	1	2	20.5	20.5	58	58	041M720101	58			N/A		No	TOC Normalized PAHs<TEC
Benzo(k)fluoranthene	1	2	20.5	20.5	27	27	041M720101	27	J		N/A		No	TOC Normalized PAHs<TEC
bis(2-Chloroethoxy)methane	0	2	205	225			ND	225	U		N/A		Yes	No SV
bis(2-Chloroethyl)ether	0	2	20.5	22.5			ND	22.5	U		N/A		Yes	No SV
Bis(2-Ethylhexyl)phthalate (BEHP)	0	2	225	250			ND	250	U	182	1, 2	1.37	Yes	Max SQL > SV
Butylbenzylphthalate	0	2	205	225			ND	225	U	182	1, 2	1.24	Yes	Max SQL > SV

Table 14-2-6
Wetland 72 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
SVOCs (µg/kg) - cont.														
Carbazole	0	2	205	225			ND	225	U		N/A		Yes	No SV
Dibenzofuran	0	2	205	225			ND	225	U		N/A		Yes	No SV
Diethylphthalate	0	2	205	225			ND	225	U	182	1, 2	1.24	Yes	Max SQL > SV
Dimethylphthalate	0	2	205	225			ND	225	U	182	1, 2	1.24	Yes	Max SQL > SV
Di-n-butylphthalate	1	2	205	205	43	43	041M720101	43	J	182	1, 2	0.24	No	Max Detect < SV
Di-n-octylphthalate	0	2	205	225			ND	225	U	182	1, 2	1.24	Yes	Max SQL > SV
Hexachlorobenzene	0	2	205	225			ND	225	U		N/A		Yes	No SV
Hexachlorobutadiene	0	2	205	225			ND	225	U		N/A		Yes	No SV
Hexachlorocyclopentadiene	0	2	205	225			ND	225	U		N/A		Yes	No SV
Hexachloroethane	0	2	205	225			ND	225	U		N/A		Yes	No SV
Indeno(1,2,3-cd)pyrene	1	2	20.5	20.5	47	47	041M720101	47			N/A		No	TOC Normalized PAHs<TEC
Isophorone	0	2	205	225			ND	225	U		N/A		Yes	No SV
Nitrobenzene	0	2	205	225			ND	225	U		N/A		Yes	No SV
N-Nitroso-di-n-propylamine	0	2	20.5	22.5			ND	22.5	U		N/A		Yes	No SV
N-Nitrosodiphenylamine	0	2	205	225			ND	225	U		N/A		Yes	No SV
Pentachlorophenol	0	2	495	550			ND	550	U		N/A		Yes	No SV
Phenol	0	2	205	225			ND	225	U		N/A		Yes	No SV
VOCs (µg/kg)														
1,1,1-Trichloroethane	0	2	6	800			ND	800	U		N/A		Yes	No SV
1,1,2,2-Tetrachloroethane	0	2	6	800			ND	800	U		N/A		Yes	No SV
1,1,2-Trichloroethane	0	2	6	800			ND	800	U		N/A		Yes	No SV
1,1-Dichloroethane	0	2	6	800			ND	800	U		N/A		Yes	No SV
1,1-Dichloroethene	0	2	6	800			ND	800	U		N/A		Yes	No SV
1,2-Dichloroethane	0	2	6	800			ND	800	U		N/A		Yes	No SV
1,2-Dichloroethene (total)	0	2	6	800			ND	800	U		N/A		Yes	No SV
1,2-Dichloropropane	0	2	6	800			ND	800	U		N/A		Yes	No SV
2-Butanone (MEK)	0	2	6	800			ND	800	U		N/A		Yes	No SV
2-Hexanone	0	2	6	800			ND	800	U		N/A		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	2	6	800			ND	800	U		N/A		Yes	No SV
Acetone	1	2	800	800	32	32	041M720201	32			N/A		Yes	No SV
Benzene	0	2	6	800			ND	800	U		N/A		Yes	No SV
Bromodichloromethane	0	2	6	800			ND	800	U		N/A		Yes	No SV
Bromoform	0	2	6	800			ND	800	U		N/A		Yes	No SV
Bromomethane	0	2	6	800			ND	800	U		N/A		Yes	No SV
Carbon disulfide	0	2	6	800			ND	800	U		N/A		Yes	No SV
Carbon tetrachloride	0	2	6	800			ND	800	U		N/A		Yes	No SV
Chlorobenzene	0	2	6	800			ND	800	U		N/A		Yes	No SV
Chloroethane	0	2	6	800			ND	800	U		N/A		Yes	No SV
Chloroform	0	2	6	800			ND	800	U		N/A		Yes	No SV
Chloromethane	0	2	6	800			ND	800	U		N/A		Yes	No SV
cis-1,3-Dichloropropene	0	2	6	800			ND	800	U		N/A		Yes	No SV
Dibromochloromethane	0	2	6	800			ND	800	U		N/A		Yes	No SV
Ethylbenzene	0	2	6	800			ND	800	U		N/A		Yes	No SV
Methylene chloride	1	2	6	6	740	740	041M720101	740	J		N/A		Yes	No SV
Styrene	0	2	6	800			ND	800	U		N/A		Yes	No SV
Tetrachloroethene	0	2	6	800			ND	800	U		N/A		Yes	No SV
Toluene	0	2	6	800			ND	800	U		N/A		Yes	No SV
trans-1,3-Dichloropropene	0	2	6	800			ND	800	U		N/A		Yes	No SV
Trichloroethene	0	2	6	800			ND	800	U		N/A		Yes	No SV
Vinyl chloride	0	2	2	235			ND	235	U		N/A		Yes	No SV
Xylene (Total)	0	2	6	800			ND	800	U		N/A		Yes	No SV

Notes:
Sources for Screening Values:
SV = Screening Value
1 = USEPA Region 4 Screening Value. Detailed explanation for SVs provided in Section 8.0.
2 = FDEP Threshold effects level

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available.
U or ND = Not Detected at or above the SQL
J = Estimated value
SHQ = Screening Hazard Quotient
D = Diluted Result
mg/kg = milligrams per kilograms
g/kg = micrograms per kilograms
mg/kg oc = milligrams per kilograms - organic carbon
UJ = Not detected. SQL is estimated.
Parameters in bold were detected and exceeded screening values.

Table 14-2-7
Wetland 72 Phase II
Sediment COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	None	Acetone
Barium			Methylene chloride
Calcium			
Copper			
Iron			
Magnesium			
Manganese			
Potassium			
Selenium			
Sodium			
Vanadium			
		Not Detected Parameters	
Beryllium	Aldrin	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane
Cobalt	alpha-BHC	1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
Cyanide (CN)	Endosulfan I	1,3-Dichlorobenzene	1,1,2-Trichloroethane
Thallium	Endosulfan II	1,4-Dichlorobenzene	1,1-Dichloroethane
	Endosulfan sulfate	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1-Dichloroethene
	Heptachlor	2,4,5-Trichlorophenol	1,2-Dichloroethane
	Heptachlor epoxide	2,4,6-Trichlorophenol	1,2-Dichloroethene (total)
	Methoxychlor	2,4-Dichlorophenol	1,2-Dichloropropane
	Toxaphene	2,4-Dimethylphenol	2-Butanone (MEK)
		2,4-Dinitrophenol	2-Hexanone
		2,4-Dinitrotoluene	4-Methyl-2-Pentanone (MIBK)
		2,6-Dinitrotoluene	Benzene
		2-Chloronaphthalene	Bromodichloromethane
		2-Chlorophenol	Bromoform
		2-Methyl-4,6-Dinitrophenol	Bromomethane
		2-Methylphenol (o-Cresol)	Carbon disulfide
		2-Nitroaniline	Carbon tetrachloride
		2-Nitrophenol	Chlorobenzene
		3,3'-Dichlorobenzidine	Chloroethane
		3-Nitroaniline	Chloroform
		4-Bromophenyl-phenylether	Chloromethane
		4-Chloro-3-methylphenol	cis-1,3-Dichloropropene
		4-Chloroaniline	Dibromochloromethane
		4-Chlorophenylphenyl ether	Ethylbenzene
		4-Methylphenol (p-Cresol)	Styrene
		4-Nitroaniline	Tetrachloroethene
		4-Nitrophenol	Toluene
		bis(2-Chloroethoxy)methane	trans-1,3-Dichloropropene
		bis(2-Chloroethyl)ether	Trichloroethene
		bis(2-Ethylhexyl)phthalate (BEHP)	Vinyl chloride
		Butylbenzylphthalate	Xylene (Total)
		Carbazole	
		Dibenzofuran	
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	

Table 14-2-8
Wetland 72 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Number Analyzed	Reference Concentration	Number Detected > Reference Concentration	Number Analyzed	COPC Retained (Y/N)	Rationale
Metals (mg/kg)																									
Aluminum	2	2				1,590	736	2,450	2,450		041M720101			NA					0	2	13,610	0	2	No	EPC < RC
Barium	2	2				1.8	1.3	2.3	2.3	J	041M720101			NA					0	2	14	0	2	No	EPC < RC
Beryllium	0	2	0.0325	0.03	0.035	0.0325			0.035	U	ND			NA					0	2	0.84	0	2	No	Parameter Not Detected
Calcium	2	2				33.1	23.2	43.1	43.1	J	041M720101			NA					0	2	10,756.67	0	2	No	EPC < RC
Cobalt	0	2	0.0975	0.095	0.1	0.0975			0.1	U	ND			NA					0	2	2.8	0	2	No	Parameter Not Detected
Copper	2	2				20.1	1.2	38.9	38.9		041M720101	18.7	108	PEL	2.08	1.07	0.36	0.19	0	2	19.5	1	2	No	EPC > RC, but < RV
Cyanide (CN)	0	2	0.315	0.31	0.32	0.315			0.32	U	ND			NA					0	2	5.22	0	2	No	Parameter Not Detected
Iron	2	2				954	397	1,510	1,510		041M720101			NA					0	2	11,911.67	0	2	No	EPC < RC
Magnesium	2	2				35.1	20.3	50	50	J	041M720101			NA					0	2	7,513.33	0	2	No	EPC < RC
Manganese	2	2				6	1.3	10.7	10.7		041M720101			NA					0	2	37.97	0	2	No	EPC < RC
Potassium	2	2				19.1	8.4	29.7	29.7	J	041M720101			NA					0	2	1,628.67	0	2	No	EPC < RC
Selenium	1	2	0.095	0.095	0.095	0.177	0.26	0.26	0.26	J	041M720101			NA					0	2	3.45	0	2	No	EPC < RC
Sodium	2	2				5.85	3	8.7	8.7	J	041M720101			NA					0	2	18,993.33	0	2	No	EPC < RC
Thallium	0	2	0.0975	0.095	0.1	0.0975			0.1	UJ	ND			NA					0	2	1.57	0	2	No	Parameter Not Detected
Vanadium	2	2				2.5	1.2	3.8	3.8		041M720101			NA					0	2	28.67	0	2	No	EPC < RC
Pesticides (g/kg)																									
Aldrin	0	2	0.0525	0.05	0.055	0.0525			0.055	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Endosulfan I	0	2	0.11	0.105	0.115	0.11			0.115	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Endosulfan II	0	2	0.11	0.105	0.115	0.11			0.115	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Endosulfan sulfate	0	2	0.11	0.105	0.115	0.11			0.115	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Heptachlor	0	2	0.0525	0.05	0.055	0.0525			0.055	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Heptachlor epoxide	0	2	0.0525	0.05	0.055	0.0525			0.055	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Methoxychlor	0	2	0.525	0.5	0.55	0.525			0.55	UJ	ND			NA					0	2		0	2	No	Parameter Not Detected
Toxaphene	0	2	5.25	5	5.5	5.25			5.5	U	ND			NA					0	2		0	2	No	Parameter Not Detected
alpha-BHC	0	2	0.0525	0.05	0.055	0.0525			0.055	U	ND		0.99	PEL			0.06	0.05	0	2		0	2	No	Parameter Not Detected
SVOCs (g/kg)																									
1,2,4-Trichlorobenzene	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
1,2-Dichlorobenzene	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
1,3-Dichlorobenzene	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
1,4-Dichlorobenzene	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	2	523	495	550	523			550	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2,4-Dichlorophenol	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2,4-Dimethylphenol	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2,4-Dinitrophenol	0	2	523	495	550	523			550	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2,4-Dinitrotoluene	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2,6-Dinitrotoluene	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2-Chloronaphthalene	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2-Chlorophenol	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	2	523	495	550	523			550	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2-Nitroaniline	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2-Nitrophenol	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
3-Nitroaniline	0	2	523	495	550	523			550	U	ND			NA					0	2		0	2	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
4-Chloroaniline	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
4-Nitroaniline	0	2	523	495	550	523			550	U	ND			NA					0	2		0	2	No	Parameter Not Detected
4-Nitrophenol	0	2	523	495	550	523			550	U	ND			NA					0	2		0	2	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	2	21.5	20.5	22.5	21.5			22.5	U	ND			NA					0	2		0	2	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	2	238	225	250	238			250	U	ND	182	2,647	PEL	1.37	1.3	0.09	0.09	0	2		0	2	No	Parameter Not Detected
Butylbenzylphthalate	0	2	215	205	225	215			225	U	ND	182	2,647	PEL	1.24	1.18	0.09	0.08	0	2		0	2	No	Parameter Not Detected
Carbazole	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Dibenzofuran	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Diethylphthalate	0	2	215	205	225	215			225	U	ND	182	2,647	PEL	1.24	1.18	0.09	0.08	0	2		0	2	No	Parameter Not Detected
Dimethylphthalate	0	2	215	205	225	215			225	U	ND	182	2,647	PEL	1.24	1.18	0.09	0.08	0	2		0	2	No	Parameter Not Detected
Di-n-octylphthalate	0	2	215	205	225	215			225	U	ND	182	2,647	PEL	1.24	1.18	0.09	0.08	0	2		0	2	No	Parameter Not Detected
Hexachlorobenzene	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Hexachlorobutadiene	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Hexachloroethane	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Isophorone	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Nitrobenzene	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	2	21.5	20.5	22.5	21.5			22.5	U	ND			NA					0	2		0	2	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Pentachlorophenol	0	2	523	495	550	523			550	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Phenol	0	2	215	205	225	215			225	U	ND			NA					0	2		0	2	No	Parameter Not Detected

Table 14-2-8
Wetland 72 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Number Analyzed	Reference Concentration	Number Detected > Reference Concentration	Number Analyzed	COPC Retained (Y/N)	Rationale
VOCs (g/kg)																									
1,1,1-Trichloroethane	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
1,1,2,2-Tetrachloroethane	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
1,1,2-Trichloroethane	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
1,1-Dichloroethane	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
1,1-Dichloroethene	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
1,2-Dichloroethane	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
1,2-Dichloroethene (total)	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
1,2-Dichloropropane	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2-Butanone (MEK)	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
2-Hexanone	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Acetone	1	2	800	800	800	416	32	32	32		041M720201			NA					0	2		0	2	Yes	No SV, no RV, and no RC
Benzene	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Bromodichloromethane	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Bromoform	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Bromomethane	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Carbon disulfide	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Carbon tetrachloride	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Chlorobenzene	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Chloroethane	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Chloroform	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Chloromethane	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Dibromochloromethane	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Ethylbenzene	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Methylene chloride	1	2	6	6	6	373	740	740	740	J	041M720101			NA					0	2		0	2	Yes	No SV, no RV, and no RC
Styrene	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Tetrachloroethene	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Toluene	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Trichloroethene	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Vinyl chloride	0	2	119	2	235	119			235	U	ND			NA					0	2		0	2	No	Parameter Not Detected
Xylene (Total)	0	2	403	6	800	403			800	U	ND			NA					0	2		0	2	No	Parameter Not Detected

Notes:

Sources for Refinement Values (RVs):
PEL = FDEP Probable Effects Level
MEC = Swartz Midrange Effect Concentration

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
Parameters in bold were detected and exceeded screening values.
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
PEL = Probable effects level.

N/R = No refinement value available.
N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the maximum detections
NAS Pensacola basewide levels used as reference values for 4,4'-DDT, 4,4'-DDD, 4,4'-DDE and total DDT.

Table 14-2-9
Wetland 72 Phase II
Sediment COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
None	None	None	None

Table 14-2-10
Wetland 72 Phase II
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M720101	11/29/1995	mg/kg	0.86		Arsenic	8.2	70	0.01
041M720101	11/29/1995	mg/kg	0.27	J	Cadmium	1.2	9.6	0.03
041M720101	11/29/1995	mg/kg	3.2	J	Chromium	81	370	0.01
041M720101	11/29/1995	mg/kg	38.9		Copper	34	270	0.14
041M720101	11/29/1995	mg/kg	17.5		Lead	46.7	218	0.08
041M720101	11/29/1995	mg/kg	0.03	U	Mercury	0.15	0.71	0.04
041M720101	11/29/1995	mg/kg	1.4	J	Nickel	20.9	51.6	0.03
041M720101	11/29/1995	mg/kg	0.13	U	Silver	1	3.7	0.04
041M720101	11/29/1995	mg/kg	10.7		Zinc	150	410	0.03
041M720101	11/29/1995	g/kg	0.24		4,4'-DDE	2.2	27	0.01
041M720101	11/29/1995	g/kg	0.26	J	4,4'-DDT	1.58	46.1	0.01
041M720101	11/29/1995	g/kg	9.15	U	Total PCBs	22.7	180	0.05
041M720101	11/29/1995	g/kg	22.5	U	2-Methylnaphthalene	70	670	0.03
041M720101	11/29/1995	g/kg	11	U	Acenaphthene	16	500	0.02
041M720101	11/29/1995	g/kg	22.5	U	Acenaphthylene	44	640	0.04
041M720101	11/29/1995	g/kg	41	J	Anthracene	85.3	1,100	0.04
041M720101	11/29/1995	g/kg	47		Benzo(a)anthracene	261	1,600	0.03
041M720101	11/29/1995	g/kg	43	J	Benzo(a)pyrene	430	1,600	0.03
041M720101	11/29/1995	g/kg	47		Chrysene	384	2,800	0.02
041M720101	11/29/1995	g/kg	22.5	U	Dibenz(a,h)anthracene	63.4	260	0.09
041M720101	11/29/1995	g/kg	120		Fluoranthene	600	5,100	0.02
041M720101	11/29/1995	g/kg	11	U	Fluorene	19	540	0.02
041M720101	11/29/1995	g/kg	22.5	U	Naphthalene	160	2,100	0.01
041M720101	11/29/1995	g/kg	49		Phenanthrene	240	1,500	0.03
041M720101	11/29/1995	g/kg	98		Pyrene	665	2,600	0.04
041M720101	11/29/1995				ERM Quotient Sum			0.88
041M720101	11/29/1995				Mean ERM Quotient			0.04
041M720101	11/29/1995				Mean ERM Quotient without ND			0.02
041M720101	11/29/1995				Mean ERM Quotient Category			2
041M720201	11/29/1995	mg/kg	0.28	J	Arsenic	8.2	70	0.00
041M720201	11/29/1995	mg/kg	0.095	U	Cadmium	1.2	9.6	0.01
041M720201	11/29/1995	mg/kg	0.85	J	Chromium	81	370	0.00
041M720201	11/29/1995	mg/kg	1.2	J	Copper	34	270	0.00
041M720201	11/29/1995	mg/kg	1.8		Lead	46.7	218	0.01
041M720201	11/29/1995	mg/kg	0.025	U	Mercury	0.15	0.71	0.04
041M720201	11/29/1995	mg/kg	0.38	U	Nickel	20.9	51.6	0.01
041M720201	11/29/1995	mg/kg	0.125	U	Silver	1	3.7	0.03
041M720201	11/29/1995	mg/kg	3.3		Zinc	150	410	0.01
041M720201	11/29/1995	g/kg	0.105	U	4,4'-DDE	2.2	27	0.00
041M720201	11/29/1995	g/kg	0.105	UJ	4,4'-DDT	1.58	46.1	0.00
041M720201	11/29/1995	g/kg	8.35	U	Total PCBs	22.7	180	0.05
041M720201	11/29/1995	g/kg	20.5	U	2-Methylnaphthalene	70	670	0.03
041M720201	11/29/1995	g/kg	10	U	Acenaphthene	16	500	0.02
041M720201	11/29/1995	g/kg	20.5	U	Acenaphthylene	44	640	0.03
041M720201	11/29/1995	g/kg	20.5	U	Anthracene	85.3	1,100	0.02
041M720201	11/29/1995	g/kg	20.5	U	Benzo(a)anthracene	261	1,600	0.01
041M720201	11/29/1995	g/kg	20.5	U	Benzo(a)pyrene	430	1,600	0.01
041M720201	11/29/1995	g/kg	20.5	U	Chrysene	384	2,800	0.01
041M720201	11/29/1995	g/kg	20.5	U	Dibenz(a,h)anthracene	63.4	260	0.08
041M720201	11/29/1995	g/kg	30	J	Fluoranthene	600	5,100	0.01
041M720201	11/29/1995	g/kg	10	U	Fluorene	19	540	0.02
041M720201	11/29/1995	g/kg	20.5	U	Naphthalene	160	2,100	0.01
041M720201	11/29/1995	g/kg	20.5	U	Phenanthrene	240	1,500	0.01
041M720201	11/29/1995	g/kg	38	J	Pyrene	665	2,600	0.01
041M720201	11/29/1995				ERM Quotient Sum			0.44
041M720201	11/29/1995				Mean ERM Quotient			0.02
041M720201	11/29/1995				Mean ERM Quotient without ND			0.00
041M720201	11/29/1995				Mean ERM Quotient Category			1

Notes:
ERL = Effects Range Low
ERM = Effects Range Median
mg/kg = milligrams per kilogram
g/kg = micrograms per kilogram
U = not detected at or above the SQL (value in table is 1/2 reported value)
J = estimated value
Shaded cells indicate constituent exceeds ERL.
Shaded and bold cells indicate constituent exceeds ERM.

Table 14-2-11
Wetland 72 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screenin g Value	Source	Screening HQ	Retained for Refinement?	Rationale
Metals (g/L)																
Aluminum	**1**	**1**				**895**	**895**	**895**	**041W720101**	**895**		**13**	**FDEP**	**68.8**	**Yes**	**Max Detect > SV**
Arsenic	0	1	1	1	1	1			ND	1	U	50	FDEP	0.02	No	Max SQL< SV
Barium	1	1				8.8	8.8	8.8	041W720101	8.8	J		NA		Yes	No SV
Beryllium	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.13	FDEP	3.85	Yes	Max SQL > SV
Cadmium	0	1	1.5	1.5	1.5	1.5			ND	1.5	U	0.66	EPA	2.27	Yes	Max SQL > SV
Calcium	1	1				11,000	11,000	11,000	041W720101	11,000			NA		Yes	No SV
Chromium	0	1	4	4	4	4			ND	4	U	11	EPA	0.36	No	Max SQL< SV
Cobalt	0	1	1.5	1.5	1.5	1.5			ND	1.5	U		NA		Yes	No SV
Copper	1	1				5.2	5.2	5.2	041W720101	5.2	J	6.54	EPA	0.80	No	Max Detect < SV
Cyanide (CN)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	5.2	EPA	0.48	No	Max SQL< SV
Iron	1	1				559	559	559	041W720101	559			NA		Yes	No SV
Lead	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	1.32	EPA	0.38	No	Max SQL< SV
Magnesium	1	1				1,140	1,140	1,140	041W720101	1,140	J		NA		Yes	No SV
Manganese	1	1				6.1	6.1	6.1	041W720101	6.1	J		NA		Yes	No SV
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.012	EPA	5.42	Yes	Max SQL > SV
Nickel	0	1	6	6	6	6			ND	6	U	87.71	EPA	0.07	No	Max SQL< SV
Potassium	1	1				597	597	597	041W720101	597	J		NA		Yes	No SV
Selenium	0	1	1.5	1.5	1.5	1.5			ND	1.5	U	5	EPA	0.3	No	Max SQL< SV
Silver	**1**	**1**				**4.4**	**4.4**	**4.4**	**041W720101**	**4.4**	**J**	**0.012**	**EPA**	**367**	**Yes**	**Max Detect > SV**
Sodium	1	1				3,870	3,870	3,870	041W720101	3,870	J		NA		Yes	No SV
Thallium	**1**	**1**				**5.3**	**5.3**	**5.3**	**041W720101**	**5.3**	**J**	**4**	**EPA**	**1.33**	**Yes**	**Max Detect > SV**
Vanadium	1	1				3	3	3	041W720101	3	J		NA		Yes	No SV
Zinc	1	1				9	9	9	041W720101	9	J	58.91	EPA	0.15	No	Max Detect < SV
Pesticides (g/L)																
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan I	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.056	EPA	0.45	No	Max SQL< SV
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0038	EPA	6.58	Yes	Max SQL > SV
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	Yes	Max SQL > SV
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	UJ		NA		Yes	No SV
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	11.6	Yes	Max SQL > SV
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	21.7	Yes	Max SQL > SV
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.08	EPA	0.31	No	Max SQL< SV
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA		Yes	No SV
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	Yes	Max SQL > SV
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	Yes	Max SQL > SV
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.00059	FDEP	84.7	Yes	Max SQL > SV
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
PCBs (g/L)																
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1221	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	EPA	35.7	Yes	Max SQL > SV
Total PCB	0	1	4	4	4	4			ND	4	U		NA		Yes	No SV

Table 14-2-11
Wetland 72 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screenin g Value	Source	Screening HQ	Retained for Refinement?	Rationale
SVOCs (g/L)																
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	15.8	EPA	0.16	No	Max SQL< SV
1,3-Dichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	3	FDEP	0.83	No	Max SQL< SV
2,2'-oxybis(1-Chloropropane)/bis(2-ch	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	43.8	EPA	0.06	No	Max SQL< SV
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	3.5	3.5	3.5	3.5			ND	3.5	U	0.3	EPA	11.7	Yes	Max SQL > SV
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Di-n-butylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	9.4	EPA	0.27	No	Max SQL< SV
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
PAHs (g/L)																
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Table 14-2-11
Wetland 72 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screenin g Value	Source	Screening HQ	Retained for Refinement?	Rationale
PAHs (g/L) - cont.																
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	26	FDEP	0.02	No	Max SQL< SV
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA		Yes	No SV
VOCs (g/L)																
1,1,1-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	270	FDEP	0.00	No	Max SQL< SV
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3.2	FDEP	0.16	No	Max SQL< SV
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	15.8	EPA	0.03	No	Max SQL< SV
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3	FDEP	0.17	No	Max SQL< SV
2-Butanone (MEK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Acetone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Benzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	53	EPA	0.01	No	Max SQL< SV
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	17	FDEP	0.03	No	Max SQL< SV
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chloroform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	289	EPA	0.00	No	Max SQL< SV
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Ethylbenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	453	EPA	0.00	No	Max SQL< SV
Methylene chloride	0	1	6	6	6	6			ND	6	U	1,580	FDEP	0.00	No	Max SQL< SV
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Toluene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	175	EPA	0.00	No	Max SQL< SV
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
N/R = No refinement value available.
N/A = Not Applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the maximum detections.
Parameters in bold were detected and exceeded the screening value.

Table 14-2-12
Wetland 72 Phase II
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	None	None
Barium			
Calcium			
Iron			
Magnesium			
Manganese			
Potassium			
Silver			
Sodium			
Thallium			
Vanadium			
		Not Detected Parameters	
Beryllium	Aldrin	1,2,4-Trichlorobenzene	1,1,2,2-Tetrachloroethane
Cadmium	Dieldrin	1,3-Dichlorobenzene	1,1,2-Trichloroethane
Cobalt	Endosulfan II	2,2'-oxybis(1-Chloropropane)/bis(2-chlor	1,1-Dichloroethane
Mercury	Endosulfan sulfate	2,4,5-Trichlorophenol	1,2-Dibromo-3-Chloropropane
	Heptachlor	2,4,6-Trichlorophenol	1,2-Dibromoethane
	Heptachlor epoxide	2,4-Dichlorophenol	1,2-Dichloroethane
	Methoxychlor	2,4-Dimethylphenol	1,2-Dichloropropane
	Toxaphene	2,4-Dinitrophenol	1,3-Dichlorobenzene
	alpha-Chlordane	2,4-Dinitrotoluene	2-Butanone (MEK)
	gamma-Chlordane	2,6-Dinitrotoluene	2-Hexanone
	Total Chlordane	2-Chloronaphthalene	4-Methyl-2-Pentanone (MIBK)
	Endrin	2-Methyl-4,6-Dinitrophenol	Acetone
	Endrin aldehyde	2-Methylphenol (o-Cresol)	Bromochloromethane
	Endrin ketone	2-Nitroaniline	Bromodichloromethane
	Total Endrin	2-Nitrophenol	Bromoform
	alpha-BHC	3,3'-Dichlorobenzidine	Bromomethane
	beta-BHC	3-Nitroaniline	Carbon disulfide
	delta-BHC	4-Bromophenyl-phenylether	Carbon tetrachloride
	Total BHC	4-Chloro-3-methylphenol	Chloroethane
	4,4'-DDD	4-Chloroaniline	Chloromethane
	4,4'-DDE	4-Chlorophenylphenyl ether	cis-1,2-Dichloroethene
	4,4'-DDT	4-Methylphenol (p-Cresol)	cis-1,3-Dichloropropene
	Total DDT	4-Nitroaniline	Dibromochloromethane
	Aroclor-1016	4-Nitrophenol	Styrene
	Aroclor-1221	Benzo(b)fluoranthene	Tetrachloroethene
	Aroclor-1232	Benzo(g,h,i)perylene	trans-1,2-Dichloroethene
	Aroclor-1242	Benzo(k)fluoranthene	trans-1,3-Dichloropropene
	Aroclor-1248	bis(2-Chloroethoxy)methane	Trichloroethene
	Aroclor-1254	bis(2-Chloroethyl)ether	Vinyl chloride
	Aroclor-1260	bis(2-Ethylhexyl)phthalate (BEHP)	Xylene (Total)
	Total PCBs	Butylbenzylphthalate	
		Dibenzofuran	
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Indeno(1,2,3-cd)pyrene	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	
		2-Methylnaphthalene	
		Acenaphthene	
		Acenaphthylene	
		Anthracene	
		Benzo(a)anthracene	
		Benzo(a)pyrene	
		Chrysene	
		Dibenz(a,h)anthracene	
		Fluoranthene	
		Fluorene	
		Phenanthrene	
		Pyrene	
		Total PAHs	

Table 14-2-13
Wetland 72 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
Metals (g/L)																				
Aluminum	**1**	**1**				**895**	**895**	**895**	**041W720101**	**895**		**13**	**FDEP**	**69**	**68.8**	**1,090.25**	**0**	**1**	**No**	**Max Result < Ref. Conc.**
Barium	1	1				8.8	8.8	8.8	041W720101	8.8	J		NA			3.68	1	1	Yes	Max Result > Ref. Conc.
Beryllium	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.13	FDEP	4	3.85	1	0	1	No	Max SQL < Ref. Conc.
Cadmium	0	1	1.5	1.5	1.5	1.5			ND	1.5	U	0.66	EPA	2.27	2.27	3	0	1	No	Max SQL < Ref. Conc.
Calcium	1	1				11,000	11,000	11,000	041W720101	11,000			NA			7,675	1	1	No	Essential Nutrient
Cobalt	0	1	1.5	1.5	1.5	1.5			ND	1.5	U		NA			3	0	1	No	Max SQL < Ref. Conc.
Iron	1	1				559	559	559	041W720101	559			NA			2,360	0	1	No	Max Result < Ref. Conc.
Magnesium	1	1				1,140	1,140	1,140	041W720101	1,140	J		NA			20,260	0	1	No	Max Result < Ref. Conc.
Manganese	1	1				6.1	6.1	6.1	041W720101	6.1	J		NA			13.2	0	1	No	Max Result < Ref. Conc.
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.012	EPA	5.42	5.42	0.13	0	1	No	Max SQL < Ref. Conc.
Potassium	1	1				597	597	597	041W720101	597	J		NA			6,995	0	1	No	Max Result < Ref. Conc.
Silver	**1**	**1**				**4.4**	**4.4**	**4.4**	**041W720101**	**4.4**	**J**	**0.012**	**EPA**	**367**	**367**	**4**	**1**	**1**	**Yes**	**Max Result > Ref. Conc.**
Sodium	1	1				3,870	3,870	3,870	041W720101	3,870	J		NA			182,200	0	1	No	Max Result < Ref. Conc.
Thallium	**1**	**1**				**5.3**	**5.3**	**5.3**	**041W720101**	**5.3**	**J**	**4**	**EPA**	**1.33**	**1.33**	**4.2**	**1**	**1**	**Yes**	**Max Result > Ref. Conc.**
Vanadium	1	1				3	3	3	041W720101	3	J		NA			4.7	0	1	No	Max Result < Ref. Conc.
Pesticides (g/L)																				
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	Parameter Not Detected
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	1	No	Parameter Not Detected
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	1	No	Parameter Not Detected
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	1	No	Parameter Not Detected
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0038	EPA	7	6.58		0	1	No	Parameter Not Detected; Max SQL > SV
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	625		0	1	No	Parameter Not Detected; Max SQL > SV
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	UJ		NA				0	1	No	Parameter Not Detected
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	Parameter Not Detected
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	Parameter Not Detected
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	12	11.6		0	1	No	Parameter Not Detected; Max SQL > SV
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	1	No	Parameter Not Detected
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	1	No	Parameter Not Detected
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	22	21.7		0	1	No	Parameter Not Detected; Max SQL > SV
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	1	No	Parameter Not Detected
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	Parameter Not Detected
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	Parameter Not Detected
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	Parameter Not Detected
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.08	EPA	0.31	0.31		0	1	No	Max SQL < SV
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA				0	1	No	Parameter Not Detected
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	167		0	1	No	Parameter Not Detected; Max SQL > SV
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	250		0	1	No	Parameter Not Detected; Max SQL > SV
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.00059	FDEP	85	84.7		0	1	No	Parameter Not Detected; Max SQL > SV
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	1	No	Parameter Not Detected
PCBs (g/L)																				
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Aroclor-1221	0	1	1	1	1	1			ND	1	U		NA				0	1	No	Parameter Not Detected
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	EPA	36	35.7		0	1	No	Parameter Not Detected; Max SQL > SV
Total PCB	0	1	4	4	4	4			ND	4	U		NA				0	1	No	Parameter Not Detected
SVOCs (g/L)																				
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
1,3-Dichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter Not Detected
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter Not Detected
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter Not Detected

Table 14-2-13
Wetland 72 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
SVOCs (g/L) - cont.																				
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	3.5	3.5	3.5	3.5			ND	3.5	U	0.3	EPA	12	11.7		0	1	No	Parameter Not Detected; Max SQL > SV
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
PAHs (g/L)																				
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	26	FDEP	0.02	0.02		0	1	No	Max SQL < SV
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA				0	1	No	Parameter Not Detected
VOCs (g/L)																				
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
2-Butanone (MEK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Acetone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
PEL = Probable effects level.
N/R = No refinement value available.
N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the Max detections.
Parameters in bold were detected and exceeded Ref. Conc.s.

Table 14-2-14
Wetland 72 Phase II
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Silver Thallium Barium	None	None	None

Table 14-2-15
Wetland 72 Phase IV
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
Metals (g/L)																
Aluminum	**1**	**1**				**830**	**830**	**830**	**041W720102**	**830**		**13**	**FDEP**	**63.8**	**Yes**	**Max Detect > SV**
Antimony	0	1	1.95	1.95	1.95	1.95			ND	1.95	U	160	EPA	0.01	No	Max SQL< SV
Arsenic	0	1	1.65	1.65	1.65	1.65			ND	1.65	U	50	FDEP	0.03	No	Max SQL< SV
Barium	1	1				12	12	12	041W720102	12			NA		Yes	No SV
Beryllium	**1**	**1**				**0.78**	**0.78**	**0.78**	**041W720102**	**0.78**	**I**	**0.13**	**FDEP**	**6**	**Yes**	**Max Detect > SV**
Cadmium	0	1	0.3	0.3	0.3	0.3			ND	0.3	U	0.66	EPA	0.46	No	Max SQL< SV
Calcium	1	1				9,700	9,700	9,700	041W720102	9,700			NA		Yes	No SV
Chromium	0	1	0.7	0.7	0.7	0.7			ND	0.7	U	11	EPA	0.06	No	Max SQL< SV
Cobalt	0	1	0.6	0.6	0.6	0.6			ND	0.6	U		NA		Yes	No SV
Copper	0	1	0.3	0.3	0.3	0.3			ND	0.3	U	6.54	EPA	0.05	No	Max SQL< SV
Iron	1	1				1,200	1,200	1,200	041W720102	1,200			NA		Yes	No SV
Lead	**1**	**1**				**2.3**	**2.3**	**2.3**	**041W720102**	**2.3**	**I**	**1.32**	**EPA**	**1.74**	**Yes**	**Max Detect > SV**
Magnesium	1	1				1,400	1,400	1,400	041W720102	1,400			NA		Yes	No SV
Manganese	1	1				7.7	7.7	7.7	041W720102	7.7	I		NA		Yes	No SV
Mercury	0	1	0.039	0.039	0.039	0.039			ND	0.039	U	0.012	EPA	3.25	Yes	Max SQL > SV
Nickel	0	1	0.75	0.75	0.75	0.75			ND	0.75	U	87.71	EPA	0.01	No	Max SQL< SV
Potassium	1	1				990	990	990	041W720102	990	I		NA		Yes	No SV
Selenium	0	1	2.65	2.65	2.65	2.65			ND	2.65	U	5	EPA	0.53	No	Max SQL< SV
Silver	0	1	0.55	0.55	0.55	0.55			ND	0.55	U	0.012	EPA	45.8	Yes	Max SQL > SV
Sodium	1	1				5,400	5,400	5,400	041W720102	5,400			NA		Yes	No SV
Thallium	0	1	3.8	3.8	3.8	3.8			ND	3.8	U	4	EPA	0.95	No	Max SQL< SV
Vanadium	1	1				3.7	3.7	3.7	041W720102	3.7	I		NA		Yes	No SV
Zinc	1	1				1.7	1.7	1.7	041W720102	1.7	I	58.91	EPA	0.03	No	Max Detect < SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
N/R = No refinement value available.
N/A = Not applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the maximum detections.
Parameters in bold were detected and exceeded the screening value.

Table 14-2-16
Wetland 72 Phase IV
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
Detected Parameters			
Aluminum	Not Analyzed	Not Analyzed	Not Analyzed
Barium			
Beryllium			
Calcium			
Iron			
Lead			
Magnesium			
Manganese			
Potassium			
Sodium			
Vanadium			
Not Detected Parameters			
Cobalt	Not Analyzed	Not Analyzed	Not Analyzed
Mercury			
Silver			

Table 14-2-17
Wetland 72 Phase IV
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
Metals (g/L)																				
Aluminum	**1**	**1**				**830**	**830**	**830**	**041W720102**	**830**		**13**	**FDEP**	**64**	**63.8**	**1,090.25**	**0**	**1**	**No**	**Max Result < Ref. Conc.**
Barium	1	1				12	12	12	041W720102	12			NA			3.68	1	1	Yes	Max Result > Ref. Conc.
Beryllium	**1**	**1**				**0.78**	**0.78**	**0.78**	**041W720102**	**0.78**	**I**	**0.13**	**FDEP**	**6**	**6**	**1**	**0**	**1**	**No**	**Max Result < Ref. Conc.**
Calcium	1	1				9,700	9,700	9,700	041W720102	9,700			NA			7,675	1	1	No	Essential Nutrient
Cobalt	0	1	0.6	0.6	0.6	0.6			ND	0.6	U		NA			3	0	1	No	Max SQL < Ref. Conc.
Iron	1	1				1,200	1,200	1,200	041W720102	1,200			NA			2,360	0	1	No	Max Result < Ref. Conc.
Lead	**1**	**1**				**2.3**	**2.3**	**2.3**	**041W720102**	**2.3**	**I**	**1.32**	**EPA**	**1.74**	**1.74**	**3.2**	**0**	**1**	**No**	**Max Result < Ref. Conc.**
Magnesium	1	1				1,400	1,400	1,400	041W720102	1,400			NA			20,260	0	1	No	Max Result < Ref. Conc.
Manganese	1	1				7.7	7.7	7.7	041W720102	7.7	I		NA			13.2	0	1	No	Max Result < Ref. Conc.
Mercury	0	1	0.039	0.039	0.039	0.039			ND	0.039	U	0.012	EPA	3.25	3.25	0.13	0	1	No	Max SQL < Ref. Conc.
Potassium	1	1				990	990	990	041W720102	990	I		NA			6,995	0	1	No	Max Result < Ref. Conc.
Silver	0	1	0.55	0.55	0.55	0.55			ND	0.55	U	0.012	EPA		45.8	4	0	1	No	Max SQL < Ref. Conc.
Sodium	1	1				5,400	5,400	5,400	041W720102	5,400			NA			182,200	0	1	No	Max Result < Ref. Conc.
Vanadium	1	1				3.7	3.7	3.7	041W720102	3.7	I		NA			4.7	0	1	No	Max Result < Ref. Conc.

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
PEL = Probable effects level.
N/R = No refinement value available.

N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the Max detections.
Parameters in bold were detected and exceeded Ref. Conc.s.

Table 14-2-18
Wetland 72 Phase IV
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Barium	Not Analyzed	Not Analyzed	Not Analyzed

Table 14-2-19
Wetland 72 Phase II
Surface Water Dermal Absorbed Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration	Min. Qual.	Maximum Concentration	Max. Qual.	Units	Location of Max.Conc.	Detection Frequency	Range of Detection Limits	Mean	Maximum concentration	K_p	DA_{event}	DAD_{sw} (mg/kg-day): Child Trespasser	DAD_{sw} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	N/A	N/A	9.0E+02	=	UG/L	041W720101	1 / 1	NAV	9.0E+02	9.0E-04	1.0E-03	2.33E-06	N/A	4.93E-05
7440393	Barium	N	N/A	N/A	8.8E+00	J	UG/L	041W720101	1 / 1	NAV	8.8E+00	8.8E-06	1.0E-03	2.29E-08	N/A	4.84E-07
7439965	Manganese	N	N/A	N/A	6.1E+00	J	UG/L	041W720101	1 / 1	NAV	6.1E+00	6.1E-06	1.0E-03	1.59E-08	N/A	3.36E-07
7440224	Silver	N	N/A	N/A	4.4E+00	J	UG/L	041W720101	1 / 1	NAV	4.4E+00	4.4E-06	6.0E-04	6.86E-09	N/A	1.45E-07
7440280	Thallium	N	N/A	N/A	5.3E+00	J	UG/L	041W720101	1 / 1	NAV	5.3E+00	5.3E-06	1.0E-03	1.38E-08	N/A	2.92E-07
7440622	Vanadium	N	N/A	N/A	3.0E+00	J	UG/L	041W720101	1 / 1	NAV	3.0E+00	3.0E-06	1.0E-03	7.80E-09	N/A	1.65E-07

Notes:

Equation for Dermal Absorbed Dose, surface water risk:

$$DAD_{sw} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sw} = Dermal absorbed dose-water contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event).
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Equation for DAevent for inorganics:

$$DA_{event} = K_p \times C_w \times t_{event}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: RAGS Part E, Exhibit B-3 or Exhibit B-4
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).

Equation for DAevent for organics:

$$DA_{event} = FA \times K_p \times C_w \left[\frac{t_{event}}{1 + B} + 2\tau_{event} \left(\frac{1 + 3B + 3B^2}{(1 + B)^2} \right) \right]$$

Where:

FA = Fraction absorbed water (dimensionless). From RAGS Part E, Exhibit B-4.
Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E, Exhibit B-4.
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).
t_{event} = Lag time per event (hr/event). From RAGS Part E, Exhibit B-4.
B = Dimensionless ratio of the permeability coefficient of a compound,
calculated using the equation below:

$$B = \frac{K_p \sqrt{MW}}{2.6}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E.
MW = Molecular weight

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).
t_{event} = 2.6 hrs/dy (child trespasser/adult maintenance worker).

Table 14-2-20
Wetland 72 Phase II
Surface Water Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABS_{GI}	ABS_{GI} Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
										Dermal Hazard Quotient	Dermal Cancer Risk	Dermal Hazard Quotient	Dermal Cancer Risk
SW Dermal Risk	Aluminum	N	9.0E-04	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	N/A	N/A	4.9E-04	N/A
	Barium	N	8.8E-06	7.0E-02	N/A	7.0E-02	1, 2	4.9E-03	N/A	N/A	N/A	9.9E-05	N/A
	Manganese	N	6.1E-06	1.4E-01	N/A	4.0E-02	1	5.6E-03	N/A	N/A	N/A	6.0E-05	N/A
	Silver	N	4.4E-06	5.0E-03	N/A	1.8E-01	3	9.0E-04	N/A	N/A	N/A	1.6E-04	N/A
	Thallium	N	5.3E-06	6.6E-05	N/A	2.0E-01	3, 4	1.3E-05	N/A	N/A	N/A	2.2E-02	N/A
	Vanadium	N	3.0E-06	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	N/A	N/A	9.1E-04	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose adjusted for ABS_{GI}.
Dermal SF = Dermal slope factoradjusted for ABS_{GI}.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfD_{dermal} = Dermal reference dose.
RFD_{oral} = Oral reference dose.
SFdermal = Dermal slope factor.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 14-2-21
Wetland 72 Phase II
Surface Water Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
SW Incidental Ingestion	Aluminum	N	9.0E-04	1.0E+00	N/A	N/A	N/A	1.8E-08	N/A
	Barium	N	8.8E-06	7.0E-02	N/A	N/A	N/A	2.6E-09	N/A
	Manganese	N	6.1E-06	1.4E-01	N/A	N/A	N/A	8.9E-10	N/A
	Silver	N	4.4E-06	5.0E-03	N/A	N/A	N/A	1.8E-08	N/A
	Thallium	N	5.3E-06	6.6E-05	N/A	N/A	N/A	1.6E-06	N/A
	Vanadium	N	3.0E-06	7.0E-03	N/A	N/A	N/A	8.7E-09	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, surface water risk:

$$CDI = \frac{EPC_{sw} \times IR_{sw} \times EF \times ED}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPC_{sw} = Exposure point concentration in surface water (mg/L).
IR_{sw} = Incidental ingestion rate for sediment (L/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
Irsw = 0.01 L/day exposure to surface water during wading for adolescents and adults.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Table 14-2-22
Wetland 72 Phase IV
2004 Surface Water Dermal Absorbed Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration	Min. Qual.	Maximum Concentration	Max. Qual.	Units	Location of Max.Conc.	Detection Frequency	Range of Detection Limits	Mean	Maximum Concentration	K_p	DA_{event}	DAD_{sw} (mg/kg-	DAD_{sw} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	N/A	N/A	8.3E+02	=	UG/L	041W720102	1 / 1	NAV	8.3E+02	8.3E-04	1.0E-03	2.16E-06	N/A	4.57E-05
7440393	Barium	N	N/A	N/A	1.2E+01	=	UG/L	041W720102	1 / 1	NAV	1.2E+01	1.2E-05	1.0E-03	3.12E-08	N/A	6.60E-07
7440417	Beryllium	N	N/A	N/A	7.8E-01	I	UG/L	041W720102	1 / 1	NAV	7.8E-01	7.8E-07	1.0E-03	2.03E-09	N/A	4.29E-08
7439896	Iron	N	N/A	N/A	1.2E+03	=	UG/L	041W720102	1 / 1	NAV	1.2E+03	1.2E-03	2.5E-04	7.80E-07	N/A	1.65E-05
7439921	Lead	N	N/A	N/A	2.3E+00	I	UG/L	041W720102	1 / 1	NAV	2.3E+00	2.3E-06	3.4E-04	2.03E-09	N/A	4.30E-08
7439965	Manganese	N	N/A	N/A	7.7E+00	I	UG/L	041W720102	1 / 1	NAV	7.7E+00	7.7E-06	1.0E-03	2.00E-08	N/A	4.24E-07
7440622	Vanadium	N	N/A	N/A	3.7E+00	I	UG/L	041W720102	1 / 1	NAV	3.7E+00	3.7E-06	1.0E-03	9.62E-09	N/A	2.04E-07

Notes:

Equation for Dermal Absorbed Dose, surface water risk:

$$DAD_{sw} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sw} = Dermal absorbed dose-water contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event).
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Equation for DAevent for inorganics:

$$DA_{event} = K_p \times C_w \times t_{event}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: RAGS Part E, Exhibit B-3 or Exhibit B-4
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).

Equation for DAevent for organics:

$$DA_{event} = FA \times K_p \times C_w \left[\frac{t_{event}}{1 + B} + 2\tau_{event} \left(\frac{1 + 3B + 3B^2}{(1 + B)^2} \right) \right]$$

Where:

FA = Fraction absorbed water (dimensionless). From RAGS Part E, Exhibit B-4.
Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E, Exhibit B-4.
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).
t_{event} = Lag time per event (hr/event). From RAGS Part E, Exhibit B-4.
B = Dimensionless ratio of the permeability coefficient of a compound,
calculated using the equation below:

$$B = \frac{K_p \sqrt{MW}}{2.6}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E.
MW = Molecular weight

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).
t_{event} = 2.6 hrs/dy (child trespasser/adult maintenance worker).

Table 14-2-23
Wetland 72 Phase IV
2004 Surface Water Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABS_{GI}	ABS_{GI} Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
										Dermal Hazard Quotient	Dermal Cancer Risk	Dermal Hazard Quotient	Dermal Cancer Risk
SW Dermal Risk	Aluminum	N	8.3E-04	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	N/A	N/A	4.6E-04	N/A
	Barium	N	1.2E-05	7.0E-02	N/A	7.0E-02	1, 2	4.9E-03	N/A	N/A	N/A	1.3E-04	N/A
	Beryllium	N	7.8E-07	2.0E-03	N/A	7.0E-03	1	1.4E-05	N/A	N/A	N/A	3.1E-03	N/A
	Iron	N	1.2E-03	N/A	N/A	1.5E-01	3	N/A	N/A	N/A	N/A	N/A	N/A
	Lead	N	2.3E-06	N/A	N/A	1.5E-01	3	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	7.7E-06	1.4E-01	N/A	4.0E-02	1	5.6E-03	N/A	N/A	N/A	7.6E-05	N/A
	Vanadium	N	3.7E-06	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	N/A	N/A	1.1E-03	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose adjusted for ABS_{GI}.
Dermal SF = Dermal slope factoradjusted for ABS_{GI}.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfD_{dermal} = Dermal reference dose.
RFD_{oral} = Oral reference dose.
SFdermal = Dermal slope factor.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 14-2-24
Wetland 72 Phase IV
2004 Surface Water Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
SW Incidental Ingestion	Aluminum	N	8.3E-04	1.0E+00	N/A	N/A	N/A	1.7E-08	N/A
	Barium	N	1.2E-05	7.0E-02	N/A	N/A	N/A	3.5E-09	N/A
	Beryllium	N	7.8E-07	2.0E-03	N/A	N/A	N/A	7.9E-09	N/A
	Iron	N	1.2E-03	N/A	N/A	N/A	N/A	N/A	N/A
	Lead	N	2.3E-06	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	7.7E-06	1.4E-01	N/A	N/A	N/A	1.1E-09	N/A
	Vanadium	N	3.7E-06	7.0E-03	N/A	N/A	N/A	1.1E-08	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, surface water risk:

$$CDI = \frac{EPC_{sw} \times IR_{sw} \times EF \times ED}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPC_{sw} = Exposure point concentration in surface water (mg/L).
IR_{sw} = Incidental ingestion rate for sediment (L/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
Irsw = 0.01 L/day exposure to surface water during wading for adolescents and adults.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

14.3 Wetland W1 — Screening Level Problem Formulation

14.3.1 Site Description and Habitats Present at Wetland W1

Wetland W1 is on the southwest side of Forrest Sherman Field, paralleling the north/south runway of the airfield. Wetland W1 is a cleared and maintained area, which functions as a buffer zone along the southwest side of Runway 19/01 at NAS Pensacola's Forrest Sherman Field. Wetland W1 is located within Site 3, which was a burn pit where chemical retardants were tested from the 1950s to the early 1980s. Today, Wetland W1 serves as a drainage pathway for the southwestern side of Forrest Sherman Field.

Surface water from the southern end of Wetland W1 drains into wetland 52, and surface water from the northern side of Wetland W1 drains north into wetland 72. Although not described by Parsons and Pruitt, this area can be described as a wet meadow, which includes wax myrtle, hypericum, and other wet loving plants.

Wetland W1 is surrounded by mowed grass, and the runways from Sherman Field are nearby. When it has standing water in it the open water portion of Wetland W1 is no greater than one foot deep and is generally about five to seven feet wide. The transition from open water to upland is very gradual and depends heavily on recent precipitation.

Photograph 1 Wetland W1 — Facing North

The IR site potentially affecting Wetland W1 is UST 18, formerly Site 3 (Crash Crew Fire Fighting Training Area). UST 18/Site 3 (Crash Crew Fire Fighting Training Area) is located on the southwest edge of Forrest Sherman Field and was used for fire-fighting practice by setting fires in unlined pits. Jet fuel, aviation gasoline, and lube oil were typically disposed of at this site.

UST 18 wetlands include Wetlands 52, 72, and W1. UST 18 occupies approximately 48 acres along the southwestern border of Forrest Sherman Field. The site topography is characterized by a swale paralleling Runway 19 in the east-central portion of the site, bounded on the east and west by higher, generally flat areas. The swale constitutes a storm water drainage system, consisting of several catch basins in the swale's axis at the lowest elevations. Wetland W1 is located in the center of this drainage swale.

As shown in Figure 14-1, Wetland 52 is located south of the UST 18 area. It receives storm water from the southern end of the UST 18 area and discharges to Pensacola Bay via Sherman's Inlet. Wetland 72 is a drainage ditch located on the northwest side of Runway 19 and receives storm water from the northern end of UST 18. Wetland W1 occupies the drainage swale located directly east of UST 18, between the site and Runway 19 of Forrest Sherman Field.

UST 18 (previously named IR Site 3) contain at least eight burn pits used to train fire fighters for aircraft crash response since 1955 (NEESA, 1983). Historically, during training exercises, approximately 30 to 50 gallons of fuel (possibly JP-4, JP-5, aviation gas, lube oil, or water-tainted fuel) were poured into unlined pits or on various pieces of equipment and ignited to simulate post-crash aircraft fires. In 1991, the northernmost pit was lined with an impermeable geofabric membrane called Bentomat, a two-layer woven cloth separated by bentonite, and became the only pit used for training exercises. Aircraft fire-fighting foam was used along with water to extinguish the fires. In 1997, crash crew training was moved to environmentally friendly training facilities at the NATTC.

E/A&H prepared a CAR for UST Site 18 in January 1996. Twenty-two permanent shallow and intermediate groundwater monitoring wells were installed and soil, sediment, groundwater, and surface water samples were collected and analyzed for petroleum constituents. BTEX, EDB, naphthalene, and lead were detected (E/A&H, 1996a).

EnSafe prepared a RAP for UST Site 18 on December 19, 1997. The RAP proposed landfarming to remediate the soil contamination and thereby removing the source of groundwater contamination. Groundwater modeling indicated that natural attenuation would remediate the groundwater once the

landfarming was complete. A Monitoring Only Plan (MOP) was proposed for groundwater remediation (EnSafe, 1997a).

CH2MHILL performed a remedial action for the impacted soil at UST Site 18 that consisted of the landfarming of petroleum contaminated soil in the four former firefighter training burn pits. Landfarming activities were conducted between September 2000 and September 2001 and consisted of biweekly soil tilling using a farm tractor and disk harrow. Soil samples were collected monthly. Landfarming operations ceased when soil analytical results indicated that soil cleanup goals had been achieved in September 2001 (CH2MHILL, 2003a).

Groundwater monitoring was performed monthly from December 2000 through August 2001 and quarterly until December 2002 by CH2MHill. BTEX, PAHs, TRPH, and lead were consistently reported to exceed FDEP GCTLs during quarterly sampling (CH2MHILL, 2003a).

TtNUS performed a treatability study to evaluate PermeOx® Plus for remediation of petroleum hydrocarbons. TtNUS performed supplemental site assessment activities in August 2003 to delineate the groundwater contamination and to provide a baseline for the treatability study. Two main areas of contamination were identified during the additional groundwater investigation. A northern plume was identified around the four former pits. A southern plume was found to exist south of the four former pits. Both plumes were migrating southeast (with the groundwater flow direction) from their source areas. (TtNUS, 2003a). Extent of groundwater contamination was delineated during this investigation.

The PermeOx® Plus injection event was conducted from December 3 to December 17, 2003. This pilot-scale treatability study consisted of the installation of 219 injection borings (143 in the northern plume and 76 in the southern plume) into which a PermeOx® Plus enriched slurry was injected. Select groundwater monitoring wells were then monitored for site contaminants of concern (COCs) and natural attenuation parameters for four quarters to evaluate the effectiveness of enhanced bioremediation (TtNUS, 2005).

The Enhanced Natural Attenuation Study (PermeOx® Plus injection) concluded that there was no clear evidence of a reduction in site COCs after one year of monitoring. While COC concentrations had decreased temporarily in several wells, there was a rebound and no evidence that conditions favorable to enhanced biodegradation were occurring. Free product was detected in a shallow monitoring well (NASP18-GS26) on the northern portion of the site. The presence of free product indicated there was a continuing source of contamination and that previous soil remediation (landfarming) efforts may have

not effectively removed all the contaminated soil (TtNUS, 2005). It was reasoned that contaminated soil exists around the smear zone (underneath the landfarming effort) and continually contributes to the groundwater contamination. Additional characterization has been recommended for the site (TtNUS, 2006).

14.3.2 Wetland W1 — Sample Location Description

Phase II Sediment Sample Location Description

Three stations were sampled during the 1995 UST 18 portion of this wetlands investigation. Stations 003M000101 through 003M000301 are located in the northern portion of this wetland and represent low-lying topographic areas, where COPCs could have the potential to congregate (Figure 14-4). Table 14-3-1 (tables are located at the end of each section) provides the TOC analyses results for the three sediment samples collected in 1995. These ranged from 0.55% (003M000201) to 3.94% (003M000101). No other physical description parameters were analyzed from Wetland W1 at this time.

Phase II Surface Water Sample Location Description

Three stations were sampled during the 1995 UST 18 portion of this wetlands investigation. Locations 003W000101 through 003W000301 were sampled for surface water and are collocated with sediment sampling stations (Figure 14-4). Surface water parameters were not collected during the 1995 sampling event.

Three additional stations were sampled in Wetland W1 during the 1996 Site 41 investigation. Stations 041WW10101 through 041WW10301 were collected in 1996 to confirm previous constituent detections. Table 14-3-2 provides a physical description of the surface water collected at W1. Surface water from Wetland W1 was found to be soft and mildly acidic.

14.3.3 Wetland W1 — Nature and Extent of Contamination

Phase II Sediment

Figure 14-4 presents the Phase II sediment sampling locations for Wetland W1. Table 14-3-3 presents a summary of the analytical results of the three Phase II sediment samples.

Metals — Sixteen metals were detected in sediments collected during Phase II sampling. Location 003M000101 exhibited the greatest number of detections and exceeded reference value for barium, cadmium, copper, lead, selenium, and zinc. Locations 003M000201 and 003M000301 exhibited six and nine detections, respectively. However, none of the detections at these locations exceeded reference values.

Pesticides and PCBs — Eighteen pesticides were detected in Phase II sampling. Locations 003M000101 and 003M000301 exhibited the greatest number of detections. Location 003M000201 only exhibited two detections. Reference values were not exceeded for 4,4'-DDT compounds and total DDTs. PCBs were not detected during 1995 sediment sampling.

SVOCs — Two PAHs were detected during Phase II sampling at Wetland W1. 2-Methylnaphthalene and naphthalene were detected at sample location 003M000101.

VOCs — Five VOCs were detected during the Phase II sampling of Wetland W1. 1,2-Dichloroethene (total), benzene, ethylbenzene, toluene, and xylene (total) were detected at location 003M000101.

Phase II Surface Water

Figure 14-4 presents the Phase II surface water sampling locations for Wetland W1. Table 14-3-4 present a summary of the analytical results of the six surface water samples.

Metals — Fourteen metals were detected in the Phase II surface water samples collected from Wetland W1. Of these 14 detections, 11 metals were detected at sample location 003W000101 with six of those exceeding reference concentrations. Locations 003W000301 had seven detections, with only one exceedance (zinc). Eight metals were detected at sample location 003W000201; however, the location did not have any reference value exceedances. Sample locations 041WW10101 and 041WW10201 had nine and 10 detections with five and six reference concentration exceedances, respectively. Of the seven detections at sample location 041WW10301, lead was the only exceedance. Analytes exceeding reference values included aluminum, barium, copper, iron, lead, manganese, vanadium, and zinc.

Pesticides and PCBs — Three pesticides (heptachlor epoxide, alpha-chlordane, and gamma-BHC) were detected at locations 003W000101 and 041WW10201. No pesticide detections occurred at other sample locations for Wetland W1.

SVOCs — Three SVOCs, 2-methylnapthalene, bis(2-ethylhexyl)phthalate, and napthalene, were detected during Phase II surface water sampling. 2-Methylnapthalene and naphthalene were detected at 041WW10101, and bis(2-ethylhexyl)phthalate was detected at 041WW10201. Total petroleum hydrocarbons (TPH) were detected at location 003W000101 and 003W000201 during the Phase II sampling event.

VOCs — Seven VOCs were detected during Phase II surface water sampling at Wetland W1. 1,2-Dichloroethene, benzene, ethylbenzene, toluene, and xylene (total) were detected at sample location 003W000101. VOCs were also detected at sampling locations 041WW10101 and 041WW10201. Location 0041WW10101 exhibited detections for acetone, benzene, ethylbenzene, toluene, and xylene (total), and cis-1,2-dichloroethene. Location 041WW10201 exhibited detections for benzene, ethylbenzene, toluene, and xylene (total) only.

14.3.4 Ecological Risk Assessment

Phase II Investigation Summary — Wetland W1

Sediment Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 14-3-5, the sediment samples were compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 14-3-6.

Baseline Problem Formulation — Wetland W1 Sediment COPC Refinement

During the COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs. This risk assessment presents a statement of potential risk for each of the COPCs.

The COPC refinement process included:

- Comparison of maximum concentrations to RVs
- Comparison of average concentrations to SVs and RVs
- Comparison to basewide (reference) concentrations for total DDT
- Comparison of inorganic constituents to reference wetland values
- Interpretative tool for metals
- Di Toro EqP SQGs for VOCs
- Comparison to Swartz consensus values
- Mean ERM quotients
- Description of exceedances of RVs and their extent

The methods used in the COPC refinement in the Site 41 ERA process is detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 14-3-7. A list of retained COPCs is presented in Table 14-3-8. Additionally, the tables compare:

1) average concentrations to screening and refinement values to assess potential exposure across the entire wetland, and 2) Wetland W1 concentrations to reference concentrations.

For Wetland W1, barium, cadmium, copper, lead, and selenium exceeded their Site 41 freshwater sediment reference concentrations. Lead had the highest HQs and was the only inorganic constituent to exceed the RV. Sample location 003M000101 exceeded the reference concentration, screening values, and refinement values. Since barium and selenium do not have a screening criteria and exceeded their reference concentrations (at one location), they were retained along with lead through the ERA process.

At Wetland W1, total DDT and its daughter products (4,4'-DDD, 4,4'-DDE, and 4,4'-DDT) were below the basewide levels and were not carried forward as COPCs in the ERA process (Figure 14-5). Several pesticides were detected and retained as COPCs for Wetland W1. Those constituents included aldrin, endosulfan I, endosulfan sulfate, heptachlor, heptachlor epoxide, total endrin, and total BHC. Pesticides were evaluated in the OU-wide food chain models.

Total PAHs, specifically 2-methylnaphthalene and naphthalene, were detected and exceeded SVs in Wetland W1. When normalized for TOC content, PAH concentrations were above the Swartz TEC, suggesting no effects were likely from exposure to PAHs; however, none of the three locations exceeded the Swartz MEC value, suggesting adverse effects from exposure to PAHs were likely (Figure 14-6).

Several VOCs were also detected and retained as COPCs: 1,2-dichloroethene (total), benzene, ethylbenzene, toluene, and xylene (total). When normalized to detected TOC concentrations, VOCs do not appear to be risk drivers for Wetland W1.

Table 14-3-9 presents the Mean ERL and ERM values, the Mean ERM Quotients, and the Mean ERM Quotient Category by individual sample location. Based on this approach, station 003M000301 and 003M00201 fell into Category 1, which indicated these sediments were considered nontoxic. Sample location 003M000101 was determined to be Category 3, which is a category that included the studies where about 50% of the samples were found to be toxic and average survival was about 60% — 70%. Figure 14-7 shows the Mean ERM category for each sediment sample location at Wetland W1.

Surface Water Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 14-3-10, the surface water samples were compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 14-3-11.

Baseline Problem Formulation — Wetland W1 Surface Water COPC Refinement

During the surface water COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as COPCs.

The COPC refinement process included:

- Comparison of maximum SV concentrations to average SV concentrations
- Comparison of inorganic constituents to reference wetland values
- Description of surface water exceedances and their extent

The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 14-3-12. COPCs retained are presented in Table 14-3-13. Additionally, the tables compare average concentrations to screening and refinement values to assess potential exposure across the entire wetland.

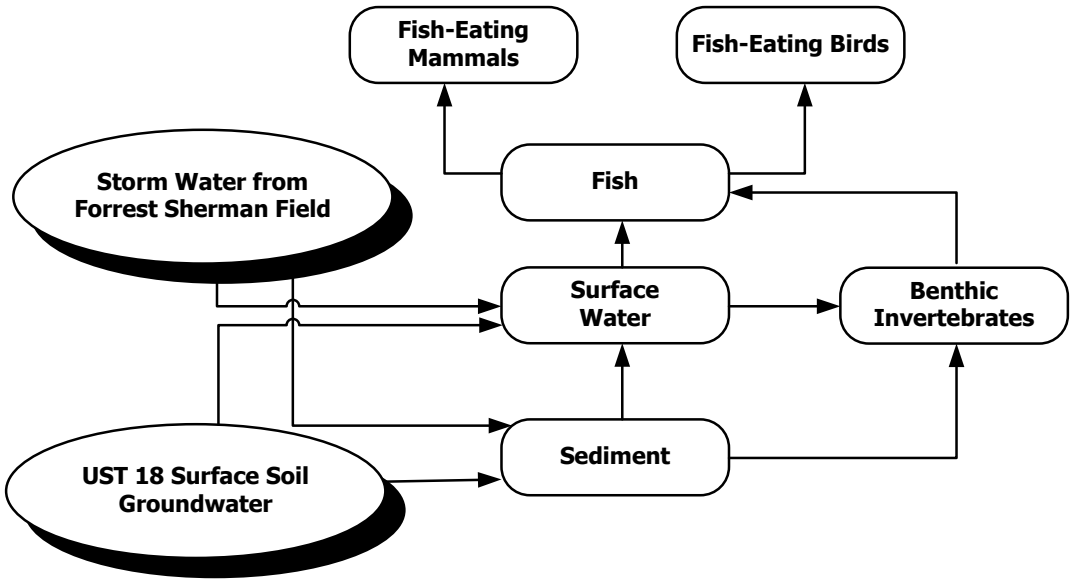
For Wetland W1, aluminum, copper, and lead exceeded both the SV and the reference concentrations and were included as COPCs. In addition, barium, iron, manganese, and vanadium exceeded their Site 41 freshwater reference surface water concentrations (Table 14-3-12) and were retained as COPCs.

Several pesticides were detected and retained as COPCs for surface water at Wetland W1: heptachlor epoxide, total chlordane, and total BHC. Bis(2-ethylhexyl)phthalate was also detected and retained as a COPC for the ERA process, as well as the following VOCs: 1,2-dichloroethene (total), acetone, benzene, cis-1,2-dichloroethene, and xylene (total).

Barium, lead, heptachlor epoxide, and total BHC were the constituents retained in common between sediment and surface water samples collected for Wetland W1.

The conceptual model below symbolizes which environmental habitats may be impacted by Wetland W1 constituents retained during the ERA process.

Wetland W1
Conceptual Site Model



As summarized in the approved *Final RI/FS SAP Addendum* (E/A&H, 1997d), Wetland W1 was identified as a Yellow-Coded Wetland based on the Phase II results, indicating contaminants detected in this wetland were not considered as sources of ecological risk. Wetland W1 was also classified as a Group D wetland. Based on similar contaminants and physical characteristics, the other Group D wetlands included 6, 5B, 1B, and 10. As stated in the approved *Final RI/FS SAP, Site 41* (E/A&H, 1995g), Group D wetlands were not identified for further sampling.

14.3.5 Wetland W1 — Human Health Risk Assessment

Wetland W1 is described in Section 14.3.1, and the HHRA is summarized below.

14.3.5.1 Site Data

Section 14.3.1 summarizes the nature and extent of contamination for this wetland. Surface water and sediment data were collected at Wetland W1 during Phase II of the RI. Sediment and surface water data for W1 are summarized in Tables 14-3-3 through 14-3-4.

Heptachlor epoxide was excluded from dermal exposure estimates, in accordance with USEPA's policy for chlorinated compounds with a molecular weight greater than 250.

14.3.5.2 Conceptual Site Model

As described in Section 14.3.1, Wetland W1 is on the southwest side of Forrest Sherman Field, paralleling the north/south runway of the airfield. Because Wetland W1 is located in a restricted area of the base, the wetland is only accessible to Navy personnel. Enforcement of homeland security restrictions limits the potential for trespassing.

Wetland W1 is intermittently flooded, so surface water contact was assessed for the maintenance scenario. Sediment locations are inundated all year at some locations, preventing significant sediment exposure. However, sediment dries at other locations within this wetland, where exposure could be similar to soil exposure. Contact with sediment was assessed for all sediment locations within this wetland. Water depths at this wetland vary with occasional flooding but would not generally support regular fishing for game fish species. In addition, homeland security restrictions limit the potential for fishing. Fish tissue ingestion pathways were excluded.

The following scenarios and exposure pathways were evaluated for this wetland:

Scenario	Medium	Ingestion	Dermal
Maintenance	Surface water	√	√
	Sediment	√	√

14.3.5.3 Risk Characterization

The adult maintenance worker scenario for surface water and sediment were assessed for this wetland as described in Section 9.

Phase II Data

Maintenance Worker

As shown in Tables 14-3-14 through 14-3-16, sediment ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

As shown in Tables 14-3-17 through 14-3-19, surface water dermal contact risk estimates for benzene exceeded the FDEP risk threshold of 1E-6. Hazard indices were below 1.0.

Summary of Wetland W1 Phase II Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Sediment	1.04E-02	1.71E-07
	Surface water	8.34E-02	1.18E-05

Based on Phase II data, benzene was identified as a COC for Wetland W1.

Wetland W1 HHRA COC Summary

The following parameter was determined to be a COC from the HHRA for Wetland W1:

- Benzene

14.3.6 Wetland W1 — Fate and Transport Analysis

This wetland encompasses a northern and southern portion and is separated by a drainage divide. It is located on the western boundary of the north south runway at Forrest Sherman Field. Seven samples (four surface waters and three sediments) were collected in the northern portion of the wetland, and two samples (both surface waters) were collected in the southern portion of the wetland. A drainage divide near the center of the wetland separates it into the northern and southern portions; the northern portion drains to the north underneath the SW-NE runway at Forrest Sherman Field and into Wetland 72, and the southern portion drains to the south into Wetland 52 (see Figure 14-2).

The sediment and surface water COPCs retained after refinement for this wetland are summarized in Table 14-3-8 and 14-3-13 respectively. Provided below are the associated soil borings and monitoring wells used for comparing data for the fate and transport analysis.

Monitoring Wells Associated with W1 — South: 003GGS03, 003GGR09, 003GGI03, 003GGR10, 003GGS08, 003GGR12, 003GGS04, 003GGI04, 003GGM23, 003GGR10, 003GGR13, 003GGS05, 003GGI05, 003GGR14, 003GGR15, 003GGS09, 003GGS06, 003GGR16, 003GGI06, 003GGR17, 003GGM24, 003GGS16, 003GGM24, 003GGR18, 003GGS15, 003GGS14, 003GGR11, 003GGS13, 003GGS12, 003GGR07

Monitoring Wells Associated with W1 — North: 033GGR07, 003GGI02, 003GGS02, 003GGR06, 003GGM25, 003GGS07, 003GGR19, 003GGR05, 003GGM21, 003GGR04, 003GGS01, 003GG101, 003GGR03, 003GGR01, 003GGR02, 003GGS10, 003GGS11

Borings Associated with W1 — North: 003S0006, 003S0007, 003S0033, 003S0019, 003S0031, 003S0034, 003S0032, 003S0004, 003S0003, 003S0001, 003S0005, 003S0002

Borings Associated with W1 — South: 003S0008, 003S0010, 003S0014, 003S0011, 003S0017, 003S0012, 003S0013, 003S0020, 003S0024, 003S0023, 003S0015, 003S0026, 003S0027, 003S0016, 003S0029, 003S0028

Surface Water/Sediment Transport into Wetland Media:

Surface Water — There was no directly comparable storm water data from the area proximal to this wetland complex. Because of the lack of data, no definitive statement can be made regarding the validation of the pathway via storm water runoff into the wetland complex. The vast majority of surface water drainage to this wetland is runoff from the north south runway at Forrest Sherman Field. The wetland may also be affected by storm water runoff and groundwater discharge from UST Site 18 (formerly IR Site 3): borings and wells from this site were evaluated as to potential impacts to the wetland.

Sediment — Based on the data from surface soil in associated borings, the storm water to sediment medialpathway was validated for the following parameters:

W1 (north) — Phase II
Barium
Lead
Total BHC
Total Endrin
2-Methylnaphthalene
Naphthalene
Total PAHs

W1 (south) — Phase II
Barium
Lead
Selenium
Heptachlor
2-Methylnaphthalene
Naphthalene
Total PAHs

Groundwater Discharge into the Wetland Media:

Surface Water — Based on the data from associated monitoring wells, the groundwater to wetland surface water pathway was validated and significant for the following parameters:

W1 (north) — Phase II
Aluminum
Iron
Manganese
Barium
Lead
Vanadium
Total PAHs

W1 (south) — Phase II
Aluminum
Iron
Manganese
Barium
Lead
Vanadium
Total PAHs

Sediment — Based on the data from associated monitoring wells, the groundwater to sediment media pathway was validated and significant for the following parameters:

W1 (north) — Phase II
Barium
Lead
2-Methylnaphthalene
Naphthalene
Total PAHs

W1 (south) — Phase II
Barium
Lead
Selenium
2-Methylnaphthalene
Naphthalene
Total PAHs

Surface Water/Sediment Transport within the Wetlands:

Surface Water — Wetland W1 — North: To evaluate the surface water transport pathway, upgradient sample location 041WW101 (collected at the very beginning of the northern portion) was compared to downgradient sample location 003W0002 (immediately downstream of the Wetland 1 — North proper). Evaluation of these two samples indicated a decrease in the number of detected parameters (nine metals and eight organics in the upgradient versus eight metals and total TPH detected in the downgradient). Analyzed organics in the downgradient location were not speculated. For the metals, one parameter was present in the downgradient location that was not detected in the upgradient location. Of the seven parameters detected in both locations, all seven metals exhibited a marked decrease in concentrations. For the organics, most of those detected in the upgradient location were associated with petroleum contaminations. The TPH detections in the downgradient location indicated transport is occurring. The general decrease in metals indicated partitioning to sediment and/or dispersion is occurring.

Wetland W1 — South: To evaluate the surface water transport pathway, upgradient sample location 041WW102 (collected at the very beginning of the southern portion) was compared to downgradient sample location 041WW103 (collected at the exit of Wetland W1 into the Wetland 52 complex). Evaluation of these two samples indicated a decrease in the number of detected parameters (ten metals and six organics in the upgradient versus seven metals and zero organics detected in the downgradient location). Of the seven metals detected in both locations, all seven parameters exhibited a decrease in concentrations. For the organics, most of those compounds detected in the upgradient location were associated with petroleum contamination. The absence of organic detections in the downgradient location indicated transport was not occurring, either through partitioning to sediment and/or dispersion.

Sediment — Wetland W1 — North: To evaluate the sediment transport pathway, upgradient location 003M0003 (located on the north side of this portion of the wetland) was compared to downgradient location 003M0002 (located immediately downstream of the northern extent of this portion of the wetland). Evaluation of these two locations indicated a decrease in detected parameters (nine metals and 12 organics upgradient versus six metals and three organics at the downgradient location). All six metals detected at both locations exhibited a decrease in concentration. For the organics, one compound was present in the downgradient location that was not detected in the upgradient location. Of the two organics detected at both locations, both decreased in concentration. Notably, petroleum hydrocarbons exhibited a marked decrease, indicating the impacts from UST 18 were being fixed within sediment over a short distance.

Wetland W1 — South: No sediment samples were collected in this portion of Wetland W1; therefore, the pathway was not evaluated.

Table 14-3-1
Wetland W1 Phase II
Sediment Physical Parameters

Parameter	003M000101	003M000201	003M000301
TOC (%)	3.94	0.552	0.891

Table 14-3-2
Wetland W1 Phase II
Surface Water Physical Parameters

Parameter	041WW10101	041WW10201	041WW10301
Hardness as CaCO3 (mg/L)	21.2	15.2	11.2
pH	5.43	5.22	6.09
Specific Conductivity (mS/cm)	0.061	0.042	0.035
Turbidity (NTU)	10	102	5
Salinity (%)	0	0	0

Notes:
mg/L = Milligrams per liter
MS/cm = Millisiemens per centimeter
NTU = Nephelometric turbidity units
% = Percent

Table 14-3-3
Wetland W1 Phase II
Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Average Detection	Maximum Detection Location
Metals (mg/kg)								
Aluminum	13,610	0	3	3	228	13,400	4,850	003M000101
Barium	14	1	2	3	3.3	27.6	10.4	003M000101
Cadmium	1.8	1	1	3	4.1	4.1	1.41	003M000101
Calcium	10,756.67	0	3	3	44.3	2,020	929	003M000101
Chromium	39.37	0	1	3	15.2	15.2	5.3	003M000101
Cobalt	2.8	0	1	3	0.45	0.45	0.2	003M000101
Copper	19.5	1	1	3	105	105	35.6	003M000101
Iron	11,911.67	0	3	3	219	3,670	1,480	003M000101
Lead	82.47	1	3	3	1	525	180	003M000101
Magnesium	7,513.33	0	1	3	529	529	188	003M000101
Manganese	37.97	0	2	3	5.6	12.6	6.18	003M000101
Nickel	9.28	0	1	3	3.3	3.3	1.32	003M000101
Potassium	1,628.67	0	3	3	22.9	324	128	003M000101
Selenium	3.45	1	1	3	4.	4.	1.64	003M000101
Vanadium	28.67	0	3	3	0.32	18.7	6.97	003M000101
Zinc	36.73	1	2	3	11.1	60.5	24.4	003M000101
PAHs (g/kg)								
2-Methylnaphthalene	N/A	0	1	3	4,800	4,800	1,750	003M000101
Naphthalene	N/A	0	1	3	7,500	7,500	2,650	003M000101
Total PAHs	N/A	0	1	3	20,550	20,550	8,760	003M000101
Pesticides and PCBs (g/kg)								
Aldrin	N/A	0	2	3	0.08	0.88	0.67	003M000101
Dieldrin	N/A	0	3	3	0.09	0.67	0.4	003M000301
Endosulfan I	N/A	0	2	3	0.8	0.86	0.9	003M000101
Endosulfan sulfate	N/A	0	1	3	0.34	0.34	3.3	003M000301
Heptachlor	N/A	0	2	3	0.04	0.64	0.63	003M000101
Heptachlor epoxide	N/A	0	2	3	1.4	1.5	1.32	003M000101
alpha-Chlordane	N/A	0	2	3	0.1	0.35	0.5	003M000101
gamma-Chlordane	N/A	0	2	3	0.08	1.8	0.98	003M000101
Total Chlordane	N/A	0	2	3	0.18	2.15	1.48	003M000101
Endrin	N/A	0	1	3	0.78	0.78	1.73	003M000101
Endrin aldehyde	N/A	0	2	3	0.23	2.3	1.53	003M000101
Endrin ketone	N/A	0	1	3	0.36	0.36	1.59	003M000101
Total Endrin	N/A	0	2	3	3.44	4.93	4.84	003M000301
alpha-BHC	N/A	0	1	3	0.3	0.3	0.85	003M000101
beta-BHC	N/A	0	2	3	0.25	1.5	0.93	003M000101
delta-BHC	N/A	0	2	3	0.08	0.32	0.48	003M000101
gamma-BHC (Lindane)	N/A	0	1	3	0.22	0.22	0.82	003M000101
Total BHC	N/A	0	2	3	2.34	2.73	3.09	003M000301
4,4'-DDD	50	0	2	3	0.66	2.5	1.74	003M000101
4,4'-DDE	40	0	1	3	0.56	0.56	3.37	003M000301
4,4'-DDT	20	0	1	3	0.36	0.36	1.59	003M000101
Total DDT	110	0	2	3	3.57	10.36	6.69	003M000101
TPH (mg/kg)								
Petroleum Hydrocarbons, TPH	N/A	0	3	3	24.8	9,800	3,440	003M000101
VOCs (g/kg)								
1,2-Dichloroethene (total)	N/A	0	1	3	9	9	7.5	003M000101
Benzene	N/A	0	1	3	120	120	44.5	003M000101
Ethylbenzene	N/A	0	1	3	290	290	101	003M000101
Toluene	N/A	0	1	3	200	200	71.2	003M000101
Xylene (Total)	N/A	0	1	3	2,000	2,000	671	003M000101

Notes:
g/kg = micrograms per kilogram
mg/kg = milligram per kilogram
N/A = Not Applicable

Table 14-3-4
Wetland W1 Phase II
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (g/L)								
Aluminum	1,090.25	3	5	6	664.0	2,270.0	1,470.0	041WW10201
Antimony	4.0	0	1	6	2.0	2.0	2.0	003W000201
Barium	3.68	3	1	6	57.8	57.8	57.8	041WW10201
Cadmium	3.0	0	1	6	0.94	0.94	0.94	003W000101
Calcium	7,675.0	0	6	6	3,260.0	6,790.0	4,810.0	041WW10101
Copper	4.0	3	2	6	6.6	7.8	7.2	041WW10101
Iron	2,360.0	3	6	6	419.0	10,400.0	2,900.0	003W000101
Lead	3.2	4	5	6	2.2	56.4	24.3	041WW10101
Magnesium	20,260.0	0	6	6	649.0	1,200.0	850.0	003W000101
Manganese	13.2	2	6	6	3.7	27.4	12.8	041WW10101
Potassium	6,995.0	0	4	6	361.0	1,970.0	1,120.0	003W000101
Sodium	182,200.0	0	1	6	5,170.0	5,170.0	5,170.0	003W000101
Vanadium	4.7	2	6	6	1.0	10.8	4.2	041WW10201
Zinc	5.53	6	2	6	21.4	29.8	25.6	003W000301
Pesticides (g/L)								
Heptachlor epoxide	N/A	0	1	6	0.0068	0.0068	0.0068	003W000101
alpha-Chlordane	N/A	0	1	6	0.25	0.25	0.25	041WW10201
Total Chlordane	N/A	0	1	6	0.275	0.275	0.275	041WW10201
gamma-BHC (Lindane)	N/A	0	1	6	0.0061	0.0061	0.0061	003W000101
Total BHC	N/A	0	1	6	0.0811	0.0811	0.0811	003W000101
TPH (mg/L)								
Petroleum Hydrocarbons, TPH	N/A	0	2	3	1.2	1.4	1.3	003W000201
SVOCs (g/L)								
2-methylnapthalene	N/A	0	1	6	3	3	3.2	041WW10101
bis(2-ethyhlhexyl)phthlate	N/A	0	1	6	5	5	4.2	014WW10201
Naphthalene	N/A	0	1	6	6	6	3.7	041WW10101
VOCs (g/L)								
1,2-Dichloroethene (total)	N/A	0	1	3	4.0	4.0	4.0	003W000101
Acetone	N/A	0	1	4	13.0	13.0	13.0	041WW10101
Benzene	N/A	0	3	6	16.0	55.0	31.7	003W000101
cis-1,2-Dichloroethene	N/A	0	1	3	3.0	3.0	3.0	041WW10101
Ethylbenzene	N/A	0	3	6	7.0	13.0	10.3	003W000101
Toluene	N/A	0	3	6	3.0	25.0	10.3	003W000101
Xylene (Total)	N/A	0	3	6	46.0	150.0	93.3	041WW10201

Notes:
g/L = micrograms per liter
mg/L = milligrams per liter
N/A = Not Applicable

Table 14-3-5
Wetland W1 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Metals (mg/kg)														
Aluminum	3	3			228	13,400	003M000101	13,400	J		N/A		Yes	No SV
Antimony	0	3	0.24	0.85			ND	0.85	U	12	2	0.07	No	Max SQL< SV
Arsenic	0	3	0.34	1.2			ND	1.2	U	7.24	1, 2	0.17	No	Max SQL< SV
Barium	2	3	0.315	0.315	3.3	27.6	003M000101	27.6			N/A		Yes	No SV
Beryllium	0	3	0.015	0.115			ND	0.115	U		N/A		Yes	No SV
Cadmium	**1**	**3**	**0.065**	**0.075**	**4.1**	**4.1**	**003M000101**	**4.1**		**0.676**	**1**	**6.07**	**Yes**	**Max Detect > SV**
Calcium	3	3			44.3	2,020	003M000101	2,020			N/A		Yes	No SV
Chromium	1	3	0.185	0.5	15.2	15.2	003M000101	15.2		52.3	1, 2	0.29	No	Max Detect < SV
Cobalt	1	3	0.065	0.075	0.45	0.45	003M000101	0.45			N/A		Yes	No SV
Copper	**1**	**3**	**0.85**	**1**	**105**	**105**	**003M000101**	**105**		**18.7**	**1, 2**	**5.61**	**Yes**	**Max Detect > SV**
Cyanide (CN)	0	3	0.315	1.15			ND	1.15	U		N/A		Yes	No SV
Iron	3	3			219	3,670	003M000101	3,670	J		N/A		Yes	No SV
Lead	**3**	**3**			**1**	**525**	**003M000101**	**525**		**30.2**	**1, 2**	**17.4**	**Yes**	**Max Detect > SV**
Magnesium	1	3	6.05	29.7	529	529	003M000101	529			N/A		Yes	No SV
Manganese	2	3	0.345	0.345	5.6	12.6	003M000101	12.6			N/A		Yes	No SV
Mercury	0	3	0.065	0.225			ND	0.225	U	0.13	1, 2	1.73	Yes	Max SQL > SV
Nickel	1	3	0.305	0.35	3.3	3.3	003M000101	3.3		15.9	1, 2	0.21	No	Max Detect < SV
Potassium	3	3			22.9	324	003M000101	324			N/A		Yes	No SV
Selenium	1	3	0.43	0.495	4	4	003M000101	4			N/A		Yes	No SV
Silver	0	3	0.55	2			ND	2	U	0.733	1	2.73	Yes	Max SQL > SV
Sodium	0	3	142	505			ND	505	U		N/A		Yes	No SV
Thallium	0	3	0.455	1.6			ND	1.6	U		N/A		Yes	No SV
Vanadium	3	3			0.32	18.7	003M000101	18.7			N/A		Yes	No SV
Zinc	2	3	1.5	1.5	11.1	60.5	003M000101	60.5		124	1, 2	0.49	No	Max Detect < SV
PAHs (g/kg)														
2-Methylnaphthalene	**1**	**3**	**205**	**235**	**4,800**	**4,800**	**003M000101**	**4,800**		**20.2**	**1**	**238**	**Yes**	**Max Detect > SV**
Acenaphthene	0	3	205	750			ND	750	U	6.71	1	112	Yes	Max SQL > SV
Acenaphthylene	0	3	205	750			ND	750	U	5.87	1	128	Yes	Max SQL > SV
Anthracene	0	3	205	750			ND	750	U	46.9	1	16	Yes	Max SQL > SV
Benzo(a)anthracene	0	3	205	750			ND	750	U	74.8	1	10	Yes	Max SQL > SV
Benzo(a)pyrene	0	3	205	750			ND	750	U	88.8	1	8.45	Yes	Max SQL > SV
Chrysene	0	3	205	750			ND	750	U	108	1	6.94	Yes	Max SQL > SV
Dibenz(a,h)anthracene	0	3	205	750			ND	750	U	6.22	1	121	Yes	Max SQL > SV
Fluoranthene	0	3	205	750			ND	750	U	113	1	6.64	Yes	Max SQL > SV
Fluorene	0	3	205	750			ND	750	U	21.2	1	35.4	Yes	Max SQL > SV
Naphthalene	**1**	**3**	**205**	**235**	**7,500**	**7,500**	**003M000101**	**7,500**		**34.6**	**1**	**217**	**Yes**	**Max Detect > SV**
Phenanthrene	0	3	205	750			ND	750	U	86.7	1	8.65	Yes	Max SQL > SV
Pyrene	0	3	205	750			ND	750	U	153	1	4.9	Yes	Max SQL > SV
Total PAHs	**1**	**3**	**2,670**	**3,060**	**20,600**	**20,600**	**003M000101**	**20,600**		**1,684**	**1, 2**	**12.2**	**Yes**	**Max Detect > SV**
TOC Normalized PAHs	**1**	**3**	**685.8**	**965.6**	**1,043.15**	**1,043.15**	**003M000101**	**1,043.15**		**290**	**3**	**3.6**	**Yes**	**Max Detect > SV**
PCBs (g/kg)														
Aroclor-1016	0	3	20.5	75			ND	75	U	21.6	N/A	3.47	Yes	Max SQL > SV
Aroclor-1221	0	3	42	150			ND	150	U	67	2	2.24	Yes	Max SQL > SV
Aroclor-1232	0	3	20.5	75			ND	75	U	21.6	N/A	3.47	Yes	Max SQL > SV
Aroclor-1242	0	3	20.5	75			ND	75	U	21.6	N/A	3.47	Yes	Max SQL > SV
Aroclor-1248	0	3	20.5	75			ND	75	U	21.6	N/A	3.47	Yes	Max SQL > SV
Aroclor-1254	0	3	20.5	75			ND	75	U	21.6	N/A	3.47	Yes	Max SQL > SV
Aroclor-1260	0	3	20.5	75			ND	75	U	21.6	N/A	3.47	Yes	Max SQL > SV
Total PCBs	0	3	165	600			ND	600	U	21.6	1	27.8	Yes	Max SQL > SV
Pesticides (g/kg)														
Aldrin	2	3	1.05	1.05	0.082	0.88	003M000101	0.88	J		N/A		Yes	No SV
Dieldrin	3	3			0.094	0.67	003M000301	0.67	J	0.716	1	0.94	No	Max Detect < SV
Endosulfan I	2	3	1.05	1.05	0.8	0.86	003M000101	0.86	J		N/A		Yes	No SV
Endosulfan II	0	3	2.05	7.5			ND	7.5	U		N/A		Yes	No SV
Endosulfan sulfate	1	3	2.05	7.5	0.34	0.34	003M000301	0.34	J		N/A		Yes	No SV
Heptachlor	2	3	1.2	1.2	0.044	0.64	003M000101	0.64	J		N/A		Yes	No SV
Heptachlor epoxide	2	3	1.05	1.05	1.4	1.5	003M000101	1.5	J		N/A		Yes	No SV
Methoxychlor	0	3	1.3	10.5			ND	10.5	U		N/A		Yes	No SV
Toxaphene	0	3	105	385			ND	385	U		N/A		Yes	No SV
alpha-Chlordane	2	3	1.05	1.05	0.1	0.35	003M000101	0.35	J	1.7	1	0.21	No	Max Detect < SV
gamma-Chlordane	**2**	**3**	**1.05**	**1.05**	**0.084**	**1.8**	**003M000101**	**1.8**	**J**	**1.7**	**1**	**1.06**	**Yes**	**Max Detect > SV**
Total Chlordane	**2**	**3**	**2.1**	**2.1**	**0.184**	**2.15**	**003M000101**	**2.15**		**1.7**	**1**	**1.26**	**Yes**	**Max Detect > SV**
Endrin	1	3	2.05	2.35	0.78	0.78	003M000101	0.78	J	3.3	2	0.24	No	Max Detect < SV
Endrin aldehyde	2	3	2.05	2.05	0.23	2.3	003M000101	2.3	J	3.3	2	0.70	No	Max Detect < SV
Endrin ketone	1	3	2.05	2.35	0.36	0.36	003M000101	0.36	J	3.3	2	0.11	No	Max Detect < SV
Total Endrin	**2**	**3**	**6.15**	**6.15**	**3.44**	**4.93**	**003M000301**	**4.93**		**3.3**	**2**	**1.49**	**Yes**	**Max Detect > SV**
alpha-BHC	1	3	1.05	1.2	0.3	0.3	003M000101	0.3	J		N/A		Yes	No SV
beta-BHC	**2**	**3**	**1.05**	**1.05**	**0.25**	**1.5**	**003M000301**	**1.5**	**J**	**0.32**	**N/A**	**4.69**	**Yes**	**Max Detect > SV**
delta-BHC	**2**	**3**	**1.05**	**1.05**	**0.076**	**0.32**	**003M000301**	**0.32**	**J**	**0.32**	**N/A**	**1**	**Yes**	**Max Detect > SV**
gamma-BHC (Lindane)	1	3	1.05	1.2	0.22	0.22	003M000101	0.22	J	0.32	1	0.69	No	Max Detect < SV
Total BHC	**2**	**3**	**4.2**	**4.2**	**2.34**	**2.73**	**003M000301**	**2.73**		**0.32**	**2**	**8.52**	**Yes**	**Max Detect > SV**
4,4'-DDD	**2**	**3**	**2.05**	**2.05**	**0.66**	**2.5**	**003M000101**	**2.5**	**J**	**1.22**	**1**	**2.05**	**Yes**	**Max Detect > SV**
4,4'-DDE	1	3	2.05	7.5	0.56	0.56	003M000301	0.56	J	2.07	1	0.27	No	Max Detect < SV
4,4'-DDT	1	3	2.05	2.35	0.36	0.36	003M000101	0.36	J	1.19	1	0.30	No	Max Detect < SV
Total DDT	**2**	**3**	**6.15**	**6.15**	**3.57**	**10.4**	**003M000101**	**10.4**		**3.3**	**2**	**3.14**	**Yes**	**Max Detect > SV**
SVOCs (g/kg)														
1,2,4-Trichlorobenzene	0	3	205	750			ND	750	U		N/A		Yes	No SV
1,2-Dichlorobenzene	0	3	205	750			ND	750	U		N/A		Yes	No SV
1,3-Dichlorobenzene	0	3	205	750			ND	750	U		N/A		Yes	No SV
1,4-Dichlorobenzene	0	3	205	750			ND	750	U		N/A		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	3	205	750			ND	750	U		N/A		Yes	No SV
2,4,5-Trichlorophenol	0	3	500	1,800			ND	1,800	U		N/A		Yes	No SV
2,4,6-Trichlorophenol	0	3	205	750			ND	750	U		N/A		Yes	No SV
2,4-Dichlorophenol	0	3	205	750			ND	750	U		N/A		Yes	No SV
2,4-Dimethylphenol	0	3	205	750			ND	750	U		N/A		Yes	No SV
2,4-Dinitrophenol	0	3	500	1,800			ND	1,800	U		N/A		Yes	No SV
2,4-Dinitrotoluene	0	3	205	750			ND	750	U		N/A		Yes	No SV
2,6-Dinitrotoluene	0	3	205	750			ND	750	U		N/A		Yes	No SV
2-Chloronaphthalene	0	3	205	750			ND	750	U		N/A		Yes	No SV
2-Chlorophenol	0	3	205	750			ND	750	U		N/A		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	3	500	1,800			ND	1,800	U		N/A		Yes	No SV
2-Methylphenol (o-Cresol)	0	3	205	750			ND	750	U		N/A		Yes	No SV
2-Nitroaniline	0	3	500	1,800			ND	1,800	U		N/A		Yes	No SV
2-Nitrophenol	0	3	205	750			ND	750	U		N/A		Yes	No SV
3,3'-Dichlorobenzidine	0	3	205	750			ND	750	U		N/A		Yes	No SV
3-Nitroaniline	0	3	500	1,800			ND	1,800	U		N/A		Yes	No SV
4-Bromophenyl-phenylether	0	3	205	750			ND	750	U		N/A		Yes	No SV
4-Chloro-3-methylphenol	0	3	205	750			ND	750	U		N/A		Yes	No SV
4-Chloroaniline	0	3	205	750			ND	750	U		N/A		Yes	No SV
4-Chlorophenylphenyl ether	0	3	205	750			ND	750	U		N/A		Yes	No SV
4-Methylphenol (p-Cresol)	0	3	205	750			ND	750	U		N/A		Yes	No SV
4-Nitroaniline	0	3	500	1,800			ND	1,800	U		N/A		Yes	No SV
4-Nitrophenol	0	3	500	1,800			ND	1,800	U		N/A		Yes	No SV
Benzo(b)fluoranthene	0	3	205	750			ND	750	U		N/A		Yes	No SV
Benzo(g,h,i)perylene	0	3	205	750			ND	750	U		N/A		Yes	No SV
Benzo(k)fluoranthene	0	3	205	750			ND	750	U		N/A		Yes	No SV
bis(2-Chloroethoxy)methane	0	3	205	750			ND	750	U		N/A		Yes	No SV
bis(2-Chloroethyl)ether	0	3	205	750			ND	750	U		N/A		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	3	205	750			ND	750	U	182	1, 2	4.12	Yes	Max SQL > SV
Butylbenzylphthalate	0	3	205	750			ND	750	U	182	1, 2	4.12	Yes	Max SQL > SV
Carbazole	0	3	205	750			ND	750	U		N/A		Yes	No SV
Dibenzofuran	0	3	205	750			ND	750	U		N/A		Yes	No SV
Diethylphthalate	0	3	205	750			ND	750	U	182	1, 2	4.12	Yes	Max SQL > SV
Dimethylphthalate	0	3	205	750			ND	750	U	182	1, 2	4.12	Yes	Max SQL > SV

Table 14-3-5
Wetland W1 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
SVOCs (g/kg) - cont.														
Di-n-butylphthalate	0	3	205	750			ND	750	U	182	1, 2	4.12	Yes	Max SQL > SV
Di-n-octylphthalate	0	3	205	750			ND	750	U	182	1, 2	4.12	Yes	Max SQL > SV
Hexachlorobenzene	0	3	205	750			ND	750	U		N/A		Yes	No SV
Hexachlorobutadiene	0	3	205	750			ND	750	U		N/A		Yes	No SV
Hexachlorocyclopentadiene	0	3	205	750			ND	750	U		N/A		Yes	No SV
Hexachloroethane	0	3	205	750			ND	750	U		N/A		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	3	205	750			ND	750	U		N/A		Yes	No SV
Isophorone	0	3	205	750			ND	750	U		N/A		Yes	No SV
Nitrobenzene	0	3	205	750			ND	750	U		N/A		Yes	No SV
N-Nitroso-di-n-propylamine	0	3	205	750			ND	750	U		N/A		Yes	No SV
N-Nitrosodiphenylamin+F21e	0	3	205	750			ND	750	U		N/A		Yes	No SV
Pentachlorophenol	0	3	500	1,800			ND	1,800	U		N/A		Yes	No SV
Phenol	0	3	205	750			ND	750	U		N/A		Yes	No SV
VOCs (g/kg)														
1,1,1-Trichloroethane	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
1,1,2,2-Tetrachloroethane	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
1,1,2-Trichloroethane	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
1,1-Dichloroethane	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
1,1-Dichloroethene	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
1,2-Dichloroethane	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
1,2-Dichloroethene (total)	1	3	6.5	7	9	9	003M000101	9	J		N/A		Yes	No SV
1,2-Dichloropropane	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
2-Butanone (MEK)	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
2-Hexanone	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Acetone	0	3	6	39			ND	39	U		N/A		Yes	No SV
Benzene	1	3	6.5	7	120	120	003M000101	120			N/A		Yes	No SV
Bromodichloromethane	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Bromoform	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Bromomethane	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Carbon disulfide	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Carbon tetrachloride	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Chlorobenzene	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Chloroethane	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Chloroform	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Chloromethane	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
cis-1,3-Dichloropropene	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Dibromochloromethane	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Ethylbenzene	1	3	6.5	7	290	290	003M000101	290			N/A		Yes	No SV
Methylene chloride	0	3	10.5	85			ND	85	U		N/A		Yes	No SV
Styrene	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Tetrachloroethene	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Toluene	1	3	6.5	7	200	200	003M000101	200			N/A		Yes	No SV
trans-1,3-Dichloropropene	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Trichloroethene	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Vinyl chloride	0	3	6.5	22.5			ND	22.5	U		N/A		Yes	No SV
Xylene (Total)	1	3	6.5	7	2,000	2,000	003M000101	2,000			N/A		Yes	No SV

Notes:
Sources for Screening Values:
SV = Screening Value
1 = USEPA Region 4 Screening Value. Detailed explanation for SVs provided in Section 8.0.
2 = FDEP Threshold effects level

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available.
U or ND = Not Detected at or above the SQL
J = Estimated value
SHQ = Screening Hazard Quotient
D = Diluted Result
mg/kg = milligrams per kilograms
g/kg = micrograms per kilograms
mg/kg oc = milligrams per kilograms - organic carbon
UJ = Not detected. SQL is estimated.
Parameters in bold were detected and exceeded screening values.

Table 14-3-6
Wetland W1 Phase II
Sediment COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	4,4'-DDD	2-Methylnaphthalene	1,2-Dichloroethene (total)
Barium	Aldrin	Naphthalene	Benzene
Cadmium	alpha-BHC	TOC Normalized PAHs	Ethylbenzene
Calcium	beta-BHC	Total PAHs	Toluene
Cobalt	delta-BHC		Xylene (Total)
Copper	Endosulfan I		
Iron	Endosulfan sulfate		
Lead	gamma-Chlordane		
Magnesium	Heptachlor		
Manganese	Heptachlor epoxide		
Potassium	Total BHC		
Selenium	Total Chlordane		
Vanadium	Total DDT		
	Total Endrin		
		Not Detected Parameters	
Beryllium	Endosulfan II	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane
Cyanide (CN)	Methoxychlor	1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
Mercury	Toxaphene	1,3-Dichlorobenzene	1,1,2-Trichloroethane
Silver	Aroclor-1016	1,4-Dichlorobenzene	1,1-Dichloroethane
Sodium	Aroclor-1221	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1-Dichloroethene
Thallium	Aroclor-1232	2,4,5-Trichlorophenol	1,2-Dichloroethane
	Aroclor-1242	2,4,6-Trichlorophenol	1,2-Dichloropropane
	Aroclor-1248	2,4-Dichlorophenol	2-Butanone (MEK)
	Aroclor-1254	2,4-Dimethylphenol	2-Hexanone
	Aroclor-1260	2,4-Dinitrophenol	4-Methyl-2-Pentanone (MIBK)
	Total PCBs	2,4-Dinitrotoluene	Acetone
		2,6-Dinitrotoluene	Bromodichloromethane
		2-Chloronaphthalene	Bromoform
		2-Chlorophenol	Bromomethane
		2-Methyl-4,6-Dinitrophenol	Carbon disulfide
		2-Methylphenol (o-Cresol)	Carbon tetrachloride
		2-Nitroaniline	Chlorobenzene
		2-Nitrophenol	Chloroethane
		3,3'-Dichlorobenzidine	Chloroform
		3-Nitroaniline	Chloromethane
		4-Bromophenyl-phenylether	cis-1,3-Dichloropropene
		4-Chloro-3-methylphenol	Dibromochloromethane
		4-Chloroaniline	Methylene chloride
		4-Chlorophenylphenyl ether	Styrene
		4-Methylphenol (p-Cresol)	Tetrachloroethene
		4-Nitroaniline	trans-1,3-Dichloropropene
		4-Nitrophenol	Trichloroethene
		Acenaphthene	Vinyl chloride
		Acenaphthylene	
		Anthracene	
		Benzo(a)anthracene	
		Benzo(a)pyrene	
		Benzo(b)fluoranthene	
		Benzo(g,h,i)perylene	
		Benzo(k)fluoranthene	
		bis(2-Chloroethoxy)methane	
		bis(2-Chloroethyl)ether	
		bis(2-Ethylhexyl)phthalate (BEHP)	
		Butylbenzylphthalate	
		Carbazole	
		Chrysene	
		Dibenz(a,h)anthracene	
		Dibenzofuran	
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-butylphthalate	
		Di-n-octylphthalate	
		Fluoranthene	
		Fluorene	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Indeno(1,2,3-cd)pyrene	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenanthrene	
		Phenol	
		Pyrene	

Table 14-3-7
Wetland W1 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
Metals (mg/kg)																							
Aluminum	3	3				4,850	228	13,400	13,400	J	003M000101			NA					0	13,610	0	No	EPC < RC
Barium	2	3	0.315	0.315	0.315	10.4	3.3	27.6	27.6		003M000101			NA					0	14	1	Yes	EPC > RC and no RV
Beryllium	0	3	0.0483	0.015	0.115	0.0483			0.115	U	ND			NA					0	0.84	0	No	Parameter Not Detected
Cadmium	1	3	0.07	0.065	0.075	1.41	4.1	4.1	4.1		003M000101	0.676	4.21	PEL	6.07	2.09	0.97	0.34	0	1.8	1	No	EPC > RC, but < RV
Calcium	3	3				929	44.3	2,020	2,020		003M000101			NA					0	10,756.67	0	No	EPC < RC
Cobalt	1	3	0.07	0.065	0.075	0.197	0.45	0.45	0.45		003M000101			NA					0	2.8	0	No	EPC < RC
Copper	1	3	0.925	0.85	1	35.6	105	105	105		003M000101	18.7	108	PEL	5.61	1.9	0.97	0.33	0	19.5	1	No	EPC > RC, but < RV
Cyanide (CN)	0	3	0.61	0.315	1.15	0.61			1.15	U	ND			NA					0	5.22	0	No	Parameter Not Detected
Iron	3	3				1,480	219	3,670	3,670	J	003M000101			NA					0	11,911.67	0	No	EPC < RC
Lead	**3**	**3**				**180**	**1**	**525**	**525**		**003M000101**	**30.2**	**112**	**PEL**	**17.4**	**5.96**	**4.69**	**1.61**	**1**	**82.47**	**1**	**Yes**	**EPC > RV and RC**
Magnesium	1	3	17.9	6.05	29.7	188	529	529	529		003M000101			NA					0	7,513.33	0	No	EPC < RC
Manganese	2	3	0.345	0.345	0.345	6.18	5.6	12.6	12.6		003M000101			NA					0	37.97	0	No	EPC < RC
Mercury	0	3	0.12	0.065	0.225	0.12			0.225	U	ND	0.13	0.696	PEL	1.73	0.92	0.32	0.17	0	0.55	0	No	Parameter Not Detected
Potassium	3	3				128	22.9	324	324		003M000101			NA					0	1,628.67	0	No	EPC < RC
Selenium	1	3	0.463	0.43	0.495	1.64	4	4	4		003M000101			NA					0	3.45	1	Yes	EPC > RC and no RV
Silver	0	3	1.07	0.55	2	1.07			2	U	ND	0.73	1.77	PEL	2.74	1.47	1.13	0.60	1	2.1	0	No	Parameter Not Detected
Sodium	0	3	266	142	505	266			505	U	ND			NA					0	18,993.33	0	No	Parameter Not Detected
Thallium	0	3	0.852	0.455	1.6	0.852			1.6	U	ND			NA					0	1.57	1	No	Parameter Not Detected
Vanadium	3	3				6.97	0.32	18.7	18.7		003M000101			NA					0	28.67	0	No	EPC < RC
PAHs (g/kg)																							
2-Methylnaphthalene	**1**	**3**	**220**	**205**	**235**	**1,750**	**4,800**	**4,800**	**4,800**		**003M000101**	**20.2**	**201**	**PEL**	**238**	**86.5**	**23.9**	**8.69**	**1**		**0**	No	TOC Normalized PAHs<MEC
Acenaphthene	0	3	397	205	750	397			750	U	ND	6.71	88.9	PEL	112	59.1	8.44	4.46	0		0	No	TOC Normalized PAHs<MEC
Acenaphthylene	0	3	397	205	750	397			750	U	ND	5.87	128	PEL	128	67.6	5.86	3.1	0		0	No	TOC Normalized PAHs<MEC
Anthracene	0	3	397	205	750	397			750	U	ND	46.9	245	PEL	16	8.46	3.06	1.62	0		0	No	TOC Normalized PAHs<MEC
Benzo(a)anthracene	0	3	397	205	750	397			750	U	ND	74.8	693	PEL	10	5.3	1.08	0.572	0		0	No	TOC Normalized PAHs<MEC
Benzo(a)pyrene	0	3	397	205	750	397			750	U	ND	88.8	763	PEL	8.45	4.47	0.98	0.52	0		0	No	TOC Normalized PAHs<MEC
Chrysene	0	3	397	205	750	397			750	U	ND	108	846	PEL	6.94	3.67	0.89	0.47	0		0	No	TOC Normalized PAHs<MEC
Dibenz(a,h)anthracene	0	3	397	205	750	397			750	U	ND	6.22	135	PEL	121	63.8	5.56	2.94	0		0	No	TOC Normalized PAHs<MEC
Fluoranthene	0	3	397	205	750	397			750	U	ND	113	1494	PEL	6.64	3.51	0.50	0.27	0		0	No	TOC Normalized PAHs<MEC
Fluorene	0	3	397	205	750	397			750	U	ND	21.2	144	PEL	35.4	18.7	5.21	2.75	0		0	No	TOC Normalized PAHs<MEC
Naphthalene	**1**	**3**	**220**	**205**	**235**	**2,650**	**7,500**	**7,500**	**7,500**		**003M000101**	**34.6**	**391**	**PEL**	**217**	**76.5**	**19.2**	**6.77**	**1**		**0**	No	TOC Normalized PAHs<MEC
Phenanthrene	0	3	397	205	750	397			750	U	ND	86.7	544	PEL	8.65	4.58	1.38	0.73	0		0	No	TOC Normalized PAHs<MEC
Pyrene	0	3	397	205	750	397			750	U	ND	153	1,398	PEL	4.9	2.59	0.54	0.28	0		0	No	TOC Normalized PAHs<MEC
Total PAHs	**1**	**3**	**2860**	**2,670**	**3,060**	**8,760**	**20,600**	**20,600**	**20,600**		**003M000101**	**1,684**	**16,770**	**PEL**	**12.2**	**5.2**	**1.23**	**0.52**	**1**		**0**	No	TOC Normalized PAHs<MEC
TOC Normalized PAHs	1	3	825.66	685.75	965.58	898.16	1,043.15	1,043.15	1,043.15		003M000101	290	1,800	MEC	3.6	3.1	0.58	0.50	0		0	No	RV HQ <1 and no RC
PCBs (g/kg)																							
Aroclor-1016	0	3	39.7	20.5	75	39.7			75	U	ND	21.6	189	PEL	3.47	1.84	0.40	0.21	0		0	No	Parameter Not Detected
Aroclor-1221	0	3	80	42	150	80			150	U	ND	67	189	PEL	2.24	1.19	0.79	0.42	0		0	No	Parameter Not Detected
Aroclor-1232	0	3	39.7	20.5	75	39.7			75	U	ND	21.6	189	PEL	3.47	1.84	0.40	0.21	0		0	No	Parameter Not Detected
Aroclor-1242	0	3	39.7	20.5	75	39.7			75	U	ND	21.6	189	PEL	3.47	1.84	0.40	0.21	0		0	No	Parameter Not Detected
Aroclor-1248	0	3	39.7	20.5	75	39.7			75	U	ND	21.6	189	PEL	3.47	1.84	0.40	0.21	0		0	No	Parameter Not Detected
Aroclor-1254	0	3	39.7	20.5	75	39.7			75	U	ND	21.6	189	PEL	3.47	1.84	0.40	0.21	0		0	No	Parameter Not Detected
Aroclor-1260	0	3	39.7	20.5	75	39.7			75	U	ND	21.6	189	PEL	3.47	1.84	0.40	0.21	0		0	No	Parameter Not Detected
Total PCBs	0	3	318	165	600	318			600	U	ND	21.6	189	PEL	27.8	14.7	3.17	1.68	0		0	No	Parameter Not Detected; Max SQL > 1
Pesticides (g/kg)																							
Aldrin	2	3	1.05	1.05	1.05	0.671	0.082	0.88	0.88	J	003M000101			NA					0		0	Yes	No SV, no RV, and no RC
Endosulfan I	2	3	1.05	1.05	1.05	0.903	0.8	0.86	0.86	J	003M000101			NA					0		0	Yes	No SV, no RV, and no RC
Endosulfan II	0	3	3.97	2.05	7.5	3.97			7.5	U	ND			NA					0		0	No	Parameter Not Detected
Endosulfan sulfate	1	3	4.78	2.05	7.5	3.3	0.34	0.34	0.34	J	003M000301			NA					0		0	Yes	No SV, no RV, and no RC
Heptachlor	2	3	1.2	1.2	1.2	0.628	0.044	0.64	0.64	J	003M000101			NA					0		0	Yes	No SV, no RV, and no RC
Heptachlor epoxide	2	3	1.05	1.05	1.05	1.32	1.4	1.5	1.5	J	003M000101			NA					0		0	Yes	No SV, no RV, and no RC
Methoxychlor	0	3	4.72	1.3	10.5	4.72			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Toxaphene	0	3	203	105	385	203			385	U	ND			NA					0		0	No	Parameter Not Detected
alpha-Chlordane	2	3	1.05	1.05	1.05	0.5	0.1	0.35	0.35	J	003M000101	1.7	4.79	PEL	0.21	0.29	0.07	0.10	0		0	No	RV HQ <1 and no RC
gamma-Chlordane	2	3	1.05	1.05	1.05	0.978	0.084	1.8	1.8	J	003M000101	1.7	4.79	PEL	1.06	0.58	0.38	0.20	0		0	No	RV HQ <1 and no RC
Total Chlordane	2	3	2.1	2.1	2.1	1.48	0.184	2.15	2.15		003M000101	1.7	4.79	PEL	1.26	0.87	0.45	0.31	0		0	No	RV HQ <1 and no RC
Endrin	1	3	2.2	2.05	2.35	1.73	0.78	0.78	0.78	J	003M000101	3.3		NA	0.24	0.52			0		0	Yes	No RV or RC and EPC > SV
Endrin aldehyde	2	3	2.05	2.05	2.05	1.53	0.23	2.3	2.3	J	003M000101	3.3		NA	0.70	0.46			0		0	Yes	No RV or RC and EPC > SV
Endrin ketone	1	3	2.2	2.05	2.35	1.59	0.36	0.36	0.36	J	003M000101	3.3		NA	0.11	0.48			0		0	Yes	No RV or RC and EPC > SV
Total Endrin	2	3	6.15	6.15	6.15	4.84	3.44	4.93	4.93		003M000301	3.3		NA	1.49	1.47			0		0	Yes	No RV or RC and EPC > SV
alpha-BHC	1	3	1.13	1.05	1.2	0.85	0.3	0.3	0.3	J	003M000101		0.99	PEL			0.30	0.86	0		0	No	RV HQ <1 and no RC
beta-BHC	**2**	**3**	**1.05**	**1.05**	**1.05**	**0.933**	**0.25**	**1.5**	**1.5**	**J**	**003M000101**	**0.32**	**0.99**	**PEL**	**4.69**	**2.92**	**1.52**	**0.94**	**1**		**0**	**Yes**	**RV HQ > 1 and no RC**
delta-BHC	2	3	1.05	1.05	1.05	0.482	0.076	0.32	0.32	J	003M000301	0.32	0.99	PEL	1	1.51	0.32	0.49	0		0	No	RV HQ <1 and no RC
gamma-BHC (Lindane)	1	3	1.13	1.05	1.2	0.823	0.22	0.22	0.22	J	003M000101	0.32	0.99	PEL	0.69	2.57	0.22	0.83	0		0	No	RV HQ <1 and no RC
Total BHC	**2**	**3**	**4.2**	**4.2**	**4.2**	**3.09**	**2.34**	**2.73**	**2.73**		**003M000301**	**0.32**	**0.99**	**PEL**	**8.52**	**9.65**	**2.75**	**3.12**	**2**		**0**	**Yes**	**RV HQ > 1 and no RC**
4,4'-DDD	2	3	2.05	2.05	2.05	1.74	0.66	2.5	2.5	J	003M000101	1.22	7.81	PEL	2.05	1.42	0.32	0.22	0	50	0	No	EPC < RC and RV
4,4'-DDE	1	3	4.78	2.05	7.5	3.37	0.56	0.56	0.56	J	003M000301	2.07	374	PEL	0.27	1.63	0.00	0.01	0	40	0	No	EPC < RC and RV
4,4'-DDT	1	3	2.2	2.05	2.35	1.59	0.36	0.36	0.36	J	003M000101	1.19	4.77	PEL	0.30	1.33	0.08	0.33	0	20	0	No	EPC < RC and RV
Total DDT	2	3	6.15	6.15	6.15	6.69	3.57	10.4	10.4		003M000101	3.3	51.7	PEL	3.14	2.03	0.2	0.13	0	110	0	No	EPC < RC and RV
SVOCs (g/kg)																							
1,2,4-Trichlorobenzene	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichlorobenzene	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
1,4-Dichlorobenzene	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	3	950	500	1,800	950			1,800	U	ND			NA					0		0	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dichlorophenol	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dimethylphenol	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrophenol	0	3	950	500	1,800	950			1,800	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrotoluene	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
2,6-Dinitrotoluene	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
2-Chloronaphthalene	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
2-Chlorophenol	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	3	950	500	1,800	950			1,800	U	ND			NA					0		0	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected

Table 14-3-7
Wetland W1 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
SVOCs (g/kg) - cont.																							
2-Nitroaniline	0	3	950	500	1,800	950			1,800	U	ND			NA					0		0	No	Parameter Not Detected
2-Nitrophenol	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
3-Nitroaniline	0	3	950	500	1,800	950			1,800	U	ND			NA					0		0	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
4-Chloroaniline	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
4-Nitroaniline	0	3	950	500	1,800	950			1,800	U	ND			NA					0		0	No	Parameter Not Detected
4-Nitrophenol	0	3	950	500	1,800	950			1,800	U	ND			NA					0		0	No	Parameter Not Detected
Benzo(b)fluoranthene	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
Benzo(g,h,i)perylene	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
Benzo(k)fluoranthene	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	3	397	205	750	397			750	U	ND	182	2,647	PEL	4.12	2.18	0.28	0.15	0		0	No	Parameter Not Detected
Butylbenzylphthalate	0	3	397	205	750	397			750	U	ND	182	2,647	PEL	4.12	2.18	0.28	0.15	0		0	No	Parameter Not Detected
Carbazole	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
Dibenzofuran	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
Diethylphthalate	0	3	397	205	750	397			750	U	ND	182	2,647	PEL	4.12	2.18	0.28	0.15	0		0	No	Parameter Not Detected
Dimethylphthalate	0	3	397	205	750	397			750	U	ND	182	2,647	PEL	4.12	2.18	0.28	0.15	0		0	No	Parameter Not Detected
Di-n-butylphthalate	0	3	397	205	750	397			750	U	ND	182	2,647	PEL	4.12	2.18	0.28	0.15	0		0	No	Parameter Not Detected
Di-n-octylphthalate	0	3	397	205	750	397			750	U	ND	182	2,647	PEL	4.12	2.18	0.28	0.15	0		0	No	Parameter Not Detected
Hexachlorobenzene	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
Hexachlorobutadiene	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
Hexachloroethane	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
Indeno(1,2,3-cd)pyrene	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
Isophorone	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
Nitrobenzene	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
Pentachlorophenol	0	3	950	500	1,800	950			1,800	U	ND			NA					0		0	No	Parameter Not Detected
Phenol	0	3	397	205	750	397			750	U	ND			NA					0		0	No	Parameter Not Detected
VOCs (g/kg)																							
1,1,1-Trichloroethane	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1,2,2-Tetrachloroethane	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1,2-Trichloroethane	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1-Dichloroethane	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1-Dichloroethene	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloroethane	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloroethene (total)	1	3	6.75	6.5	7	7.5	9	9	9	J	003M000101			NA					0		0	Yes	No SV, no RV, and no RC
1,2-Dichloropropane	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
2-Butanone (MEK)	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
2-Hexanone	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Acetone	0	3	17.3	6	39	17.3			39	U	ND			NA					0		0	No	Parameter Not Detected
Benzene	1	3	6.75	6.5	7	44.5	120	120	120		003M000101			NA					0		0	Yes	No SV, no RV, and no RC
Bromodichloromethane	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Bromoform	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Bromomethane	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Carbon disulfide	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Carbon tetrachloride	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Chlorobenzene	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Chloroethane	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Chloroform	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Chloromethane	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Dibromochloromethane	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Ethylbenzene	1	3	6.75	6.5	7	101	290	290	290		003M000101			NA					0		0	Yes	No SV, no RV, and no RC
Methylene chloride	0	3	36.7	10.5	85	36.7			85	U	ND			NA					0		0	No	Parameter Not Detected
Styrene	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Tetrachloroethene	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Toluene	1	3	6.75	6.5	7	71.2	200	200	200		003M000101			NA					0		0	Yes	No SV, no RV, and no RC
trans-1,3-Dichloropropene	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Trichloroethene	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Vinyl chloride	0	3	12	6.5	22.5	12			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Xylene (Total)	1	3	6.75	6.5	7	671	2,000	2,000	2,000		003M000101			NA					0		0	Yes	No SV, no RV, and no RC

Notes:

Sources for Refinement Values (RVs):
PEL = FDEP Probable Effects Level
MEC = Swartz Midrange Effect Concentration

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result
Parameters in bold were detected and exceeded screening values.

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8)
RV = Refinement value (detailed explanation of RVs provided in Section 8)
HQ = Hazard Quotient.
PEL = Probable effects level.

N/R = No refinement value available
N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the maximum detection
NAS Pensacola basewide levels used as reference values for 4,4'-DDT, 4,4'-DDD, 4,4'-DDE and total DDT

Table 14-3-8
Wetland W1 Phase II
Sediment COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Barium	Aldrin	None	None
Lead	Endosulfan I		
Selenium	Endosulfan sulfate		
	Heptachlor		
	Heptachlor epoxide		
	Endrin		
	Endrin aldehyde		
	Endrin ketone		
	Total Endrin		
	beta-BHC		
	Total BHC		

Table 14-3-9
Wetland W1 Phase II
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
003M000101	8/9/1995	mg/kg	1.2	U	Arsenic	8.2	70	0.02
003M000101	8/9/1995	mg/kg	4.1		Cadmium	1.2	9.6	0.43
003M000101	8/9/1995	mg/kg	15.2		Chromium	81	370	0.04
003M000101	8/9/1995	mg/kg	105		Copper	34	270	0.39
003M000101	**8/9/1995**	**mg/kg**	**525**		**Lead**	**46.7**	**218**	**2.41**
003M000101	8/9/1995	mg/kg	0.225	U	Mercury	0.15	0.71	0.32
003M000101	8/9/1995	mg/kg	3.3		Nickel	20.9	51.6	0.06
003M000101	8/9/1995	mg/kg	2	U	Silver	1	3.7	0.54
003M000101	8/9/1995	mg/kg	60.5		Zinc	150	410	0.15
003M000101	8/9/1995	g/kg	7.5	U	4,4'-DDE	2.2	27	0.28
003M000101	8/9/1995	g/kg	0.36	J	4,4'-DDT	1.58	46.1	0.01
003M000101	8/9/1995	g/kg	600	U	Total PCBs	22.7	180	3.33
003M000101	**8/9/1995**	**g/kg**	**4,800**		**2-Methylnaphthalene**	**70**	**670**	**7.16**
003M000101	8/9/1995	g/kg	750	U	Acenaphthene	16	500	1.50
003M000101	8/9/1995	g/kg	750	U	Acenaphthylene	44	640	1.17
003M000101	8/9/1995	g/kg	750	U	Anthracene	85.3	1,100	0.68
003M000101	8/9/1995	g/kg	750	U	Benzo(a)anthracene	261	1,600	0.47
003M000101	8/9/1995	g/kg	750	U	Benzo(a)pyrene	430	1,600	0.47
003M000101	8/9/1995	g/kg	750	U	Chrysene	384	2,800	0.27
003M000101	8/9/1995	g/kg	750	U	Dibenz(a,h)anthracene	63.4	260	2.88
003M000101	8/9/1995	g/kg	750	U	Fluoranthene	600	5,100	0.15
003M000101	8/9/1995	g/kg	750	U	Fluorene	19	540	1.39
003M000101	**8/9/1995**	**g/kg**	**7,500**		**Naphthalene**	**160**	**2,100**	**3.57**
003M000101	8/9/1995	g/kg	750	U	Phenanthrene	240	1,500	0.50
003M000101	8/9/1995	g/kg	750	U	Pyrene	665	2,600	0.29
003M000101	8/9/1995				ERM Quotient Sum			28.47
003M000101	8/9/1995				Mean ERM Quotient			1.14
003M000101	8/9/1995				Mean ERM Quotient without ND			0.57
003M000101	8/9/1995				Mean ERM Quotient Category			3
003M000201	8/9/1995	mg/kg	0.34	U	Arsenic	8.2	70	0.00
003M000201	8/9/1995	mg/kg	0.065	U	Cadmium	1.2	9.6	0.01
003M000201	8/9/1995	mg/kg	0.185	U	Chromium	81	370	0.00
003M000201	8/9/1995	mg/kg	0.85	U	Copper	34	270	0.00
003M000201	8/9/1995	mg/kg	1		Lead	46.7	218	0.00
003M000201	8/9/1995	mg/kg	0.065	U	Mercury	0.15	0.71	0.09
003M000201	8/9/1995	mg/kg	0.305	U	Nickel	20.9	51.6	0.01
003M000201	8/9/1995	mg/kg	0.55	U	Silver	1	3.7	0.15
003M000201	8/9/1995	mg/kg	1.5	U	Zinc	150	410	0.00
003M000201	8/9/1995	g/kg	2.05	U	4,4'-DDE	2.2	27	0.08
003M000201	8/9/1995	g/kg	2.05	U	4,4'-DDT	1.58	46.1	0.04
003M000201	8/9/1995	g/kg	165	U	Total PCBs	22.7	180	0.92
003M000201	8/9/1995	g/kg	205	U	2-Methylnaphthalene	70	670	0.31
003M000201	8/9/1995	g/kg	205	U	Acenaphthene	16	500	0.41
003M000201	8/9/1995	g/kg	205	U	Acenaphthylene	44	640	0.32
003M000201	8/9/1995	g/kg	205	U	Anthracene	85.3	1,100	0.19
003M000201	8/9/1995	g/kg	205	U	Benzo(a)anthracene	261	1,600	0.13
003M000201	8/9/1995	g/kg	205	U	Benzo(a)pyrene	430	1,600	0.13
003M000201	8/9/1995	g/kg	205	U	Chrysene	384	2,800	0.07
003M000201	8/9/1995	g/kg	205	U	Dibenz(a,h)anthracene	63.4	260	0.79
003M000201	8/9/1995	g/kg	205	U	Fluoranthene	600	5,100	0.04
003M000201	8/9/1995	g/kg	205	U	Fluorene	19	540	0.38
003M000201	8/9/1995	g/kg	205	U	Naphthalene	160	2,100	0.10
003M000201	8/9/1995	g/kg	205	U	Phenanthrene	240	1,500	0.14
003M000201	8/9/1995	g/kg	205	U	Pyrene	665	2,600	0.08
003M000201	8/9/1995				ERM Quotient Sum			4.38
003M000201	8/9/1995				Mean ERM Quotient			0.18
003M000201	8/9/1995				Mean ERM Quotient without ND			0.00
003M000201	8/9/1995				Mean ERM Quotient Category			1
003M000301	8/9/1995	mg/kg	0.395	U	Arsenic	8.2	70	0.01
003M000301	8/9/1995	mg/kg	0.075	U	Cadmium	1.2	9.6	0.01
003M000301	8/9/1995	mg/kg	0.5	U	Chromium	81	370	0.00
003M000301	8/9/1995	mg/kg	1	U	Copper	34	270	0.00
003M000301	8/9/1995	mg/kg	14.1		Lead	46.7	218	0.06
003M000301	8/9/1995	mg/kg	0.07	U	Mercury	0.15	0.71	0.10
003M000301	8/9/1995	mg/kg	0.35	U	Nickel	20.9	51.6	0.01
003M000301	8/9/1995	mg/kg	0.65	U	Silver	1	3.7	0.18
003M000301	8/9/1995	mg/kg	11.1		Zinc	150	410	0.03
003M000301	8/9/1995	g/kg	0.56	J	4,4'-DDE	2.2	27	0.02
003M000301	8/9/1995	g/kg	2.35	U	4,4'-DDT	1.58	46.1	0.05
003M000301	8/9/1995	g/kg	189	U	Total PCBs	22.7	180	1.05
003M000301	8/9/1995	g/kg	235	U	2-Methylnaphthalene	70	670	0.35
003M000301	8/9/1995	g/kg	235	U	Acenaphthene	16	500	0.47
003M000301	8/9/1995	g/kg	235	U	Acenaphthylene	44	640	0.37
003M000301	8/9/1995	g/kg	235	U	Anthracene	85.3	1,100	0.21
003M000301	8/9/1995	g/kg	235	U	Benzo(a)anthracene	261	1,600	0.15
003M000301	8/9/1995	g/kg	235	U	Benzo(a)pyrene	430	1,600	0.15
003M000301	8/9/1995	g/kg	235	U	Chrysene	384	2,800	0.08
003M000301	8/9/1995	g/kg	235	U	Dibenz(a,h)anthracene	63.4	260	0.90
003M000301	8/9/1995	g/kg	235	U	Fluoranthene	600	5,100	0.05
003M000301	8/9/1995	g/kg	235	U	Fluorene	19	540	0.44
003M000301	8/9/1995	g/kg	235	U	Naphthalene	160	2,100	0.11
003M000301	8/9/1995	g/kg	235	U	Phenanthrene	240	1,500	0.16
003M000301	8/9/1995	g/kg	235	U	Pyrene	665	2,600	0.09
003M000301	8/9/1995				ERM Quotient Sum			5.04
003M000301	8/9/1995				Mean ERM Quotient			0.20
003M000301	8/9/1995				Mean ERM Quotient without ND			0.00
003M000301	8/9/1995				Mean ERM Quotient Category			1

Notes:
ERL = Effects Range Low
ERM = Effects Range Median
mg/kg = milligrams per kilogram
g/kg = micrograms per kilogram
U = not detected at or above the SQL (value in table is 1/2 reported value)
J = estimated value
Shaded cells indicate constituent exceeds ERL.
Shaded and bold cells indicate constituent exceeds ERM.

Table 14-3-10
Wetland W1 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
Metals (g/L)																
Aluminum	**5**	**6**	**640**	**640**	**640**	**1,330**	**664**	**2,270**	**041WW10201**	**2,270**	**J**	**13**	**FDEP**	**175**	**Yes**	**Max Detect > SV**
Antimony	1	6	0.98	0.95	1	1.15	2	2	003W000201	2		160	EPA	0.01	No	Max Detect < SV
Arsenic	0	6	1.41	1	2.25	1.41			ND	2.25	U	50	FDEP	0.05	No	Max SQL< SV
Barium	1	6	7.65	2.9	22.05	16	57.8	57.8	041WW10201	57.8	J		NA		Yes	No SV
Beryllium	0	6	0.275	0.05	0.5	0.275			ND	0.5	U	0.13	FDEP	3.85	No	Max SQL< SV
Cadmium	**1**	**6**	**0.7**	**0.25**	**1**	**0.74**	**0.94**	**0.94**	**003W000101**	**0.94**		**0.66**	**EPA**	**1.42**	**Yes**	**Max Detect > SV**
Calcium	6	6				4,810	3,260	6,790	041WW10101	6,790	J		NA		Yes	No SV
Chromium	0	6	1.69	0.6	2.5	1.69			ND	2.5	U	11	EPA	0.23	No	Max SQL< SV
Cobalt	0	6	0.625	0.25	1	0.625			ND	1	U		NA		Yes	No SV
Copper	**2**	**6**	**4.47**	**2**	**9.2**	**5.38**	**6.6**	**7.8**	**041WW10101**	**7.8**	**J**	**6.54**	**EPA**	**1.19**	**Yes**	**Max Detect > SV**
Cyanide (CN)	0	6	3.75	2.5	5	3.75			ND	5	U	5.2	EPA	0.96	No	Max SQL< SV
Iron	6	6				2,900	419	10,400	003W000101	10,400			NA		Yes	No SV
Lead	**5**	**6**	**0.8**	**0.8**	**0.8**	**20.4**	**2.2**	**56.4**	**041WW10101**	**56.4**		**1.32**	**EPA**	**42.7**	**Yes**	**Max Detect > SV**
Magnesium	6	6				850	649	1,200	003W000101	1,200			NA		Yes	No SV
Manganese	6	6				12.8	3.7	27.4	041WW10101	27.4			NA		Yes	No SV
Mercury	0	6	0.0825	0.065	0.1	0.0825			ND	0.1	U	0.012	EPA	8.33	Yes	Max SQL > SV
Nickel	0	6	2.85	1.2	4.5	2.85			ND	4.5	U	87.71	EPA	0.05	No	Max SQL< SV
Potassium	4	6	184	181.5	186	808	361	1,970	003W000101	1,970			NA		Yes	No SV
Selenium	0	6	1.85	1.7	2	1.85			ND	2	U	5	EPA	0.4	No	Max SQL< SV
Silver	0	6	2.38	2.25	2.5	2.38			ND	2.5	U	0.012	EPA	208	Yes	Max SQL > SV
Sodium	1	6	1,850	1,690	2,120	2,400	5,170	5,170	003W000101	5,170			NA		Yes	No SV
Thallium	0	6	1.9	1.8	2	1.9			ND	2	U	4	EPA	0.5	No	Max SQL< SV
Vanadium	6	6				4.17	1	10.8	041WW10201	10.8	J		NA		Yes	No SV
Zinc	2	6	18.1	6.9	32.4	20.6	21.4	29.8	003W000301	29.8		58.91	EPA	0.51	No	Max Detect < SV
Pesticides (g/L)																
Aldrin	0	6	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Dieldrin	0	6	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan I	0	6	0.025	0.025	0.025	0.025			ND	0.025	U	0.056	EPA	0.45	No	Max SQL< SV
Endosulfan II	0	6	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan sulfate	0	6	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Heptachlor	0	6	0.025	0.025	0.025	0.025			ND	0.025	U	0.0038	EPA	6.58	Yes	Max SQL > SV
Heptachlor epoxide	**1**	**6**	**0.025**	**0.025**	**0.025**	**0.022**	**0.0068**	**0.0068**	**003W000101**	**0.0068**	**J**	**0.00004**	**FDEP**	**170**	**Yes**	**Max Detect > SV**
Methoxychlor	0	6	0.25	0.25	0.25	0.25			ND	0.25	U		NA		Yes	No SV
Toxaphene	0	6	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
alpha-Chlordane	1	6	0.025	0.025	0.025	0.0625	0.25	0.25	041WW10201	0.25	J		NA		Yes	No SV
gamma-Chlordane	0	6	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Total Chlordane	**1**	**6**	**0.05**	**0.05**	**0.05**	**0.0875**	**0.275**	**0.275**	**041WW10201**	**0.275**		**0.0043**	**EPA**	**64**	**Yes**	**Max Detect > SV**
Endrin	0	6	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin aldehyde	0	6	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin ketone	0	6	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	21.7	Yes	Max SQL > SV
Total Endrin	0	6	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
alpha-BHC	0	6	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
beta-BHC	0	6	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
delta-BHC	0	6	0.0625	0.025	0.25	0.0625			ND	0.25	U		NA		Yes	No SV
gamma-BHC (Lindane)	1	6	0.025	0.025	0.025	0.0218	0.0061	0.0061	003W000101	0.0061	J	0.08	EPA	0.08	No	Max Detect < SV
Total BHC	1	6	0.145	0.1	0.325	0.134	0.0811	0.0811	003W000101	0.0811			NA		Yes	No SV
4,4'-DDD	0	6	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	Yes	Max SQL > SV
4,4'-DDE	0	6	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	Yes	Max SQL > SV
4,4'-DDT	0	6	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP	84.7	Yes	Max SQL > SV
Total DDT	0	6	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
PCBs (g/L)																
Aroclor-1016	0	6	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1221	0	6	1	1	1	1			ND	1	U		NA		Yes	No SV
Aroclor-1232	0	6	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1242	0	6	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1248	0	6	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1254	0	6	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1260	0	6	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	EPA	35.7	Yes	Max SQL > SV
Total PCB	0	6	4	4	4	4			ND	4	U		NA		Yes	No SV

Table 14-3-10
Wetland W1 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
SVOCs (g/L)																
1,2,4-Trichlorobenzene	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	3	5	5	5	5			ND	5	U	15.8	EPA	0.32	No	Max SQL< SV
1,3-Dichlorobenzene	0	3	5	5	5	5			ND	5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	3	5	5	5	5			ND	5	U	3	FDEP	1.67	Yes	Max SQL > SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
2,4,5-Trichlorophenol	0	6	11.3	10	12.5	11.3			ND	12.5	U		NA		Yes	No SV
2,4,6-Trichlorophenol	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
2,4-Dichlorophenol	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
2,4-Dimethylphenol	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
2,4-Dinitrophenol	0	6	11.3	10	12.5	11.3			ND	12.5	U		NA		Yes	No SV
2,4-Dinitrotoluene	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
2,6-Dinitrotoluene	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
2-Chloronaphthalene	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
2-Chlorophenol	0	6	3.75	2.5	5	3.75			ND	5	U	43.8	EPA	0.11	No	Max SQL< SV
2-Methyl-4,6-Dinitrophenol	0	6	11.3	10	12.5	11.3			ND	12.5	U		NA		Yes	No SV
2-Methylphenol (o-Cresol)	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
2-Nitroaniline	0	6	7.5	2.5	12.5	7.5			ND	12.5	U		NA		Yes	No SV
2-Nitrophenol	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
3,3'-Dichlorobenzidine	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
3-Nitroaniline	0	6	11.3	10	12.5	11.3			ND	12.5	U		NA		Yes	No SV
4-Bromophenyl-phenylether	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
4-Chloro-3-methylphenol	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
4-Chloroaniline	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
4-Chlorophenylphenyl ether	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
4-Methylphenol (p-Cresol)	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
4-Nitroaniline	0	6	11.3	10	12.5	11.3			ND	12.5	U		NA		Yes	No SV
4-Nitrophenol	0	6	11.3	10	12.5	11.3			ND	12.5	U		NA		Yes	No SV
Benzo(b)fluoranthene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Benzo(g,h,i)perylene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Benzo(k)fluoranthene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
bis(2-Chloroethoxy)methane	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
bis(2-Chloroethyl)ether	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	**1**	**6**	**4**	**2.5**	**5**	**4.17**	**5**	**5**	**041WW10201**	**5**		**0.3**	**EPA**	**16.7**	**Yes**	**Max Detect > SV**
Butylbenzylphthalate	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
Carbazole	0	3	5	5	5	5			ND	5	U		NA		Yes	No SV
Dibenzofuran	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
Diethylphthalate	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
Dimethylphthalate	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
Di-n-butylphthalate	0	6	3.75	2.5	5	3.75			ND	5	U	9.4	EPA	0.53	No	Max SQL< SV
Di-n-octylphthalate	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
Hexachlorobenzene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Hexachlorobutadiene	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
Hexachlorocyclopentadiene	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
Hexachloroethane	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Isophorone	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
Nitrobenzene	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
N-Nitroso-di-n-propylamine	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
N-Nitrosodiphenylamine	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
Pentachlorophenol	0	6	7.5	2.5	12.5	7.5			ND	12.5	U		NA		Yes	No SV
Phenol	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
PAHs (g/L)																
2-Methylnaphthalene	1	6	3.2	0.5	5	3.17	3	3	041WW10101	3			NA		Yes	No SV
Acenaphthene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Acenaphthylene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Anthracene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Benzo(a)anthracene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Benzo(a)pyrene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Chrysene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV

Table 14-3-10
Wetland W1 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
PAHs (g/L) - cont.																
Dibenz(a,h)anthracene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Fluoranthene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Fluorene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Naphthalene	1	6	3.2	0.5	5	3.67	6	6	041WW10101	6		26	FDEP	0.23	No	Max Detect < SV
Phenanthrene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Pyrene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Total PAH	1	6	41.6	6.5	65	37.1	14.5	14.5	041WW10101	14.5			NA		Yes	No SV
VOCs (g/L)																
1,1,1-Trichloroethane	0	6	2.75	0.5	5	2.75			ND	5	U	270	FDEP	0.02	No	Max SQL< SV
1,1,2,2-Tetrachloroethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
1,1,2-Trichloroethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
1,1-Dichloroethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
1,1-Dichloroethene	0	6	2.75	0.5	5	2.75			ND	5	U	3.2	FDEP	1.56	Yes	Max SQL > SV
1,2-Dibromo-3-Chloropropane	0	3	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dibromoethane	0	6	0.255	0.01	0.5	0.255			ND	0.5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	3	0.5	0.5	0.5	0.5			ND	0.5	U	15.8	EPA	0.03	No	Max SQL< SV
1,2-Dichloroethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
1,2-Dichloroethene (total)	1	3	5	5	5	4.67	4	4	003W000101	4	J		NA		Yes	No SV
1,2-Dichloropropane	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
1,3-Dichlorobenzene	0	3	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	3	0.5	0.5	0.5	0.5			ND	0.5	U	3	FDEP	0.17	No	Max SQL< SV
2-Butanone (MEK)	0	3	5	5	5	5			ND	5	U		NA		Yes	No SV
2-Hexanone	0	4	4.38	2.5	5	4.38			ND	5	U		NA		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	6	3.75	2.5	5	3.75			ND	5	U		NA		Yes	No SV
Acetone	1	4	5	5	5	7	13	13	041WW10101	13	J		NA		Yes	No SV
Benzene	**3**	**6**	**3.5**	**0.5**	**5**	**17.6**	**16**	**55**	**003W000101**	**55**		**53**	**EPA**	**1.04**	**Yes**	**Max Detect > SV**
Bromochloromethane	0	3	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromodichloromethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Bromoform	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Bromomethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Carbon disulfide	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Carbon tetrachloride	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Chlorobenzene	0	6	2.75	0.5	5	2.75			ND	5	U	17	FDEP	0.29	No	Max SQL< SV
Chloroethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Chloroform	0	6	2.75	0.5	5	2.75			ND	5	U	289	EPA	0.02	No	Max SQL< SV
Chloromethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
cis-1,2-Dichloroethene	1	3	0.5	0.5	0.5	1.33	3	3	041WW10101	3			NA		Yes	No SV
cis-1,3-Dichloropropene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Dibromochloromethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Ethylbenzene	3	6	3.5	0.5	5	6.92	7	13	003W000101	13		453	EPA	0.03	No	Max Detect < SV
Methylene chloride	0	6	3.17	1	5	3.17			ND	5	U	1,580	FDEP	0.00	No	Max SQL< SV
Styrene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Tetrachloroethene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Toluene	3	6	3.5	0.5	5	6.92	3	25	003W000101	25		175	EPA	0.14	No	Max Detect < SV
trans-1,2-Dichloroethene	0	3	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
trans-1,3-Dichloropropene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Trichloroethene	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Vinyl chloride	0	6	2.75	0.5	5	2.75			ND	5	U		NA		Yes	No SV
Xylene (Total)	3	6	3.5	0.5	5	48.4	46	150	041WW10201	150	D		NA		Yes	No SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
N/R = No refinement value available.
N/A = Not Applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the maximum detections.
Parameters in bold were detected and exceeded the screening value.

Table 14-3-11
Wetland W1 Phase II
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	Heptachlor epoxide	bis(2-Ethylhexyl)phthalate (BEHP)	1,2-Dichloroethene (total)
Barium	alpha-Chlordane	2-Methylnaphthalene	Acetone
Cadmium	Total Chlordane	Total PAHs	Benzene
Calcium	Total BHC		cis-1,2-Dichloroethene
Copper			Xylene (Total)
Iron			
Lead			
Magnesium			
Manganese			
Potassium			
Sodium			
Vanadium			
		Not Detected Parameters	
Cobalt	Aldrin	1,2,4-Trichlorobenzene	1,1,2,2-Tetrachloroethane
Mercury	Dieldrin	1,3-Dichlorobenzene	1,1,2-Trichloroethane
Silver	Endosulfan II	1,4-Dichlorobenzene	1,1-Dichloroethane
	Endosulfan sulfate	2,2'-oxybis(1-Chloropropane)	1,1-Dichloroethene
	Heptachlor	2,4,5-Trichlorophenol	1,2-Dibromo-3-Chloropropane
	Methoxychlor	2,4,6-Trichlorophenol	1,2-Dibromoethane
	Toxaphene	2,4-Dichlorophenol	1,2-Dichloroethane
	gamma-Chlordane	2,4-Dimethylphenol	1,2-Dichloropropane
	Endrin	2,4-Dinitrophenol	1,3-Dichlorobenzene
	Endrin aldehyde	2,4-Dinitrotoluene	2-Butanone (MEK)
	Endrin ketone	2,6-Dinitrotoluene	2-Hexanone
	Total Endrin	2-Chloronaphthalene	4-Methyl-2-Pentanone (MIBK)
	alpha-BHC	2-Methyl-4,6-Dinitrophenol	Bromochloromethane
	beta-BHC	2-Methylphenol (o-Cresol)	Bromodichloromethane
	delta-BHC	2-Nitroaniline	Bromoform
	4,4'-DDD	2-Nitrophenol	Bromomethane
	4,4'-DDE	3,3'-Dichlorobenzidine	Carbon disulfide
	4,4'-DDT	3-Nitroaniline	Carbon tetrachloride
	Total DDT	4-Bromophenyl-phenylether	Chloroethane
	Aroclor-1016	4-Chloro-3-methylphenol	Chloromethane
	Aroclor-1221	4-Chloroaniline	cis-1,3-Dichloropropene
	Aroclor-1232	4-Chlorophenylphenyl ether	Dibromochloromethane
	Aroclor-1242	4-Methylphenol (p-Cresol)	Styrene
	Aroclor-1248	4-Nitroaniline	Tetrachloroethene
	Aroclor-1254	4-Nitrophenol	trans-1,2-Dichloroethene
	Aroclor-1260	Benzo(b)fluoranthene	trans-1,3-Dichloropropene
	Total PCBs	Benzo(g,h,i)perylene	Trichloroethene
		Benzo(k)fluoranthene	Vinyl chloride
		bis(2-Chloroethoxy)methane	
		bis(2-Chloroethyl)ether	
		Butylbenzylphthalate	
		Carbazole	
		Dibenzofuran	
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Indeno(1,2,3-cd)pyrene	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	
		Acenaphthene	
		Acenaphthylene	
		Anthracene	
		Benzo(a)anthracene	
		Benzo(a)pyrene	
		Chrysene	
		Dibenz(a,h)anthracene	
		Fluoranthene	
		Fluorene	
		Phenanthrene	
		Pyrene	

Table 14-3-12
Wetland W1 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
Metals (µg/L)																				
Aluminum	**5**	**6**	**640**	**640**	**640**	**1,330**	**664**	**2,270**	**041WW10201**	**2,270**	**J**	**13**	**FDEP**	**175**	**103**	**1,090**	**3**	**6**	**Yes**	**Max Result > Ref. Conc.**
Barium	1	6	7.65	2.9	22.05	16	57.8	57.8	041WW10201	57.8	J		NA			3.67	3	6	Yes	Max Result > Ref. Conc.
Cadmium	**1**	**6**	**0.7**	**0.25**	**1**	**0.74**	**0.94**	**0.94**	**003W000101**	**0.94**		**0.66**	**EPA**	**1.42**	**1.12**	**3**	**0**	**6**	**No**	**Max Result < Ref. Conc.**
Calcium	6	6				4,810	3,260	6,790	041WW10101	6,790	J		NA			7,680	0	6	No	Max Result < Ref. Conc.
Cobalt	0	6	0.625	0.25	1	0.625			ND	1	U		NA			3	0	6	No	Max Result < Ref. Conc.
Copper	**2**	**6**	**4.47**	**2**	**9.2**	**5.38**	**6.6**	**7.8**	**041WW10101**	**7.8**	**J**	**6.54**	**EPA**	**1.19**	**0.82**	**4**	**3**	**6**	**Yes**	**Max Result > Ref. Conc.**
Iron	6	6				2,900	419	10,400	003W000101	10,400			NA			2,360	3	6	Yes	Max Result > Ref. Conc.
Lead	**5**	**6**	**0.8**	**0.8**	**0.8**	**20.4**	**2.2**	**56.4**	**041WW10101**	**56.4**		**1.32**	**EPA**	**43**	**15.5**	**3.2**	**4**	**6**	**Yes**	**Max Result > Ref. Conc.**
Magnesium	6	6				850	649	1,200	003W000101	1,200			NA			20,300	0	6	No	Max Result < Ref. Conc.
Manganese	6	6				12.8	3.7	27.4	041WW10101	27.4			NA			13.2	2	6	Yes	Max Result > Ref. Conc.
Mercury	0	6	0.0825	0.065	0.1	0.0825			ND	0.1	U	0.012	EPA	8.33	6.88	0.13	0	6	No	Max Result < Ref. Conc.
Potassium	4	6	184	181.5	186	808	361	1,970	003W000101	1,970			NA			7,000	0	6	No	Max Result < Ref. Conc.
Silver	0	6	2.38	2.25	2.5	2.38			ND	2.5	U	0.012	EPA	208.33	198	4	0	6	No	Max Result < Ref. Conc.
Sodium	1	6	1,850	1,690	2,120	2,400	5,170	5,170	003W000101	5,170			NA			182,000	0	6	No	Max Result < Ref. Conc.
Vanadium	6	6				4.17	1	10.8	041WW10201	10.8	J		NA			4.7	2	6	Yes	Max Result > Ref. Conc.
Pesticides (µg/L)																				
Aldrin	0	6	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	6	No	Parameter Not Detected
Dieldrin	0	6	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	6	No	Parameter Not Detected
Endosulfan II	0	6	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	6	No	Parameter Not Detected
Endosulfan sulfate	0	6	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	6	No	Parameter Not Detected
Heptachlor	0	6	0.025	0.025	0.025	0.025			ND	0.025	U	0.0038	EPA	7	6.58		0	6	No	Parameter Not Detected
Heptachlor epoxide	**1**	**6**	**0.025**	**0.025**	**0.025**	**0.022**	**0.0068**	**0.0068**	**003W000101**	**0.0068**	**J**	**0.00004**	**FDEP**	**170**	**549**		**0**	**6**	**Yes**	**Max Result>SV;Max HQ>1**
Methoxychlor	0	6	0.25	0.25	0.25	0.25			ND	0.25	U		NA				0	6	No	Parameter Not Detected
Toxaphene	0	6	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	6	No	Parameter Not Detected
alpha-Chlordane	1	6	0.025	0.025	0.025	0.0625	0.25	0.25	041WW10201	0.25	J		NA				0	6	Yes	No SV
gamma-Chlordane	0	6	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	6	No	Parameter Not Detected
Total Chlordane	**1**	**6**	**0.05**	**0.05**	**0.05**	**0.0875**	**0.275**	**0.275**	**041WW10201**	**0.275**		**0.0043**	**EPA**	**64**	**20.3**		**0**	**6**	**Yes**	**Max Result>SV**
Endrin	0	6	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	6	No	Parameter Not Detected
Endrin aldehyde	0	6	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	6	No	Parameter Not Detected
Endrin ketone	0	6	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	22	21.7		0	6	No	Parameter Not Detected
Total Endrin	0	6	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	6	No	Parameter Not Detected
alpha-BHC	0	6	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	6	No	Parameter Not Detected
beta-BHC	0	6	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	6	No	Parameter Not Detected
delta-BHC	0	6	0.0625	0.025	0.25	0.0625			ND	0.25	U		NA				0	6	No	Parameter Not Detected
gamma-BHC (Lindane)	1	6	0.025	0.025	0.025	0.0218	0.0061	0.0061	003W000101	0.0061	J	0.08	EPA	0.08	0.27		0	6	No	Max Result<SV
Total BHC	1	6	0.145	0.1	0.325	0.134	0.0811	0.0811	003W000101	0.0811			NA				0	6	Yes	No SV
4,4'-DDD	0	6	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP		167		0	6	No	Parameter Not Detected
4,4'-DDE	0	6	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP		250		0	6	No	Parameter Not Detected
4,4'-DDT	0	6	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP		84.7		0	6	No	Parameter Not Detected
Total DDT	0	6	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	6	No	Parameter Not Detected
PCBs (µg/L)																				
Aroclor-1016	0	6	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	6	No	Parameter Not Detected
Aroclor-1221	0	6	1	1	1	1			ND	1	U		NA				0	6	No	Parameter Not Detected
Aroclor-1232	0	6	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	6	No	Parameter Not Detected
Aroclor-1242	0	6	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	6	No	Parameter Not Detected
Aroclor-1248	0	6	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	6	No	Parameter Not Detected
Aroclor-1254	0	6	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	6	No	Parameter Not Detected
Aroclor-1260	0	6	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	EPA	36	35.7		0	6	No	Parameter Not Detected
Total PCB	0	6	4	4	4	4			ND	4	U		NA				0	6	No	Parameter Not Detected
SVOCs (µg/L)																				
1,2,4-Trichlorobenzene	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
1,3-Dichlorobenzene	0	3	5	5	5	5			ND	5	U		NA				0	3	No	Parameter Not Detected
1,4-Dichlorobenzene	0	3	5	5	5	5			ND	5	U	3	FDEP	2	1.67		0	3	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	6	11.3	10	12.5	11.3			ND	12.5	U		NA				0	6	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
2,4-Dichlorophenol	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
2,4-Dimethylphenol	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
2,4-Dinitrophenol	0	6	11.3	10	12.5	11.3			ND	12.5	U		NA				0	6	No	Parameter Not Detected
2,4-Dinitrotoluene	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
2,6-Dinitrotoluene	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
2-Chloronaphthalene	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	6	11.3	10	12.5	11.3			ND	12.5	U		NA				0	6	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
2-Nitroaniline	0	6	7.5	2.5	12.5	7.5			ND	12.5	U		NA				0	6	No	Parameter Not Detected

Table 14-3-12
Wetland W1 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
SVOCs (µg/L) - cont.																				
2-Nitrophenol	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
3-Nitroaniline	0	6	11.3	10	12.5	11.3			ND	12.5	U		NA				0	6	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
4-Chloroaniline	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
4-Nitroaniline	0	6	11.3	10	12.5	11.3			ND	12.5	U		NA				0	6	No	Parameter Not Detected
4-Nitrophenol	0	6	11.3	10	12.5	11.3			ND	12.5	U		NA				0	6	No	Parameter Not Detected
Benzo(b)fluoranthene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Benzo(g,h,i)perylene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Benzo(k)fluoranthene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	**1**	**6**	**4**	**2.5**	**5**	**4.17**	**5**	**5**	**041WW10201**	**5**		**0.3**	**EPA**	**17**	**13.9**		**0**	**6**	**Yes**	**Max Result>SV**
Butylbenzylphthalate	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Carbazole	0	3	5	5	5	5			ND	5	U		NA				0	3	No	Parameter Not Detected
Dibenzofuran	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Diethylphthalate	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Dimethylphthalate	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Di-n-octylphthalate	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Hexachlorobenzene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Hexachlorobutadiene	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Hexachloroethane	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Indeno(1,2,3-cd)pyrene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Isophorone	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Nitrobenzene	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Pentachlorophenol	0	6	7.5	2.5	12.5	7.5			ND	12.5	U		NA				0	6	No	Parameter Not Detected
Phenol	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
PAHs (µg/L)																				
2-Methylnaphthalene	1	6	3.2	0.5	5	3.17	3	3	041WW10101	3			NA				0	6	Yes	No SV
Acenaphthene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Acenaphthylene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Anthracene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Benzo(a)anthracene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Benzo(a)pyrene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Chrysene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Dibenz(a,h)anthracene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Fluoranthene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Fluorene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Naphthalene	1	6	3.2	0.5	5	3.67	6	6	041WW10101	6		26	FDEP	0.23	0.14		0	6	No	Max Result<SV
Phenanthrene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Pyrene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Total PAH	1	6	41.6	6.5	65	37.1	14.5	14.5	041WW10101	14.5			NA				0	6	Yes	No SV
VOCs (µg/L)																				
1,1,2,2-Tetrachloroethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
1,1,2-Trichloroethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
1,1-Dichloroethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
1,2-Dibromo-3-Chloropropane	0	3	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	3	No	Parameter Not Detected
1,2-Dibromoethane	0	6	0.255	0.01	0.5	0.255			ND	0.5	U		NA				0	6	No	Parameter Not Detected
1,2-Dichloroethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
1,2-Dichloroethene (total)	1	3	5	5	5	4.67	4	4	003W000101	4	J		NA				0	3	Yes	No SV
1,2-Dichloropropane	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
1,3-Dichlorobenzene	0	3	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	3	No	Parameter Not Detected
2-Butanone (MEK)	0	3	5	5	5	5			ND	5	U		NA				0	3	No	Parameter Not Detected
2-Hexanone	0	4	4.38	2.5	5	4.38			ND	5	U		NA				0	4	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	6	3.75	2.5	5	3.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Acetone	1	4	5	5	5	7	13	13	041WW10101	13	J		NA				0	4	Yes	No SV
Benzene	**3**	**6**	**3.5**	**0.5**	**5**	**17.6**	**16**	**55**	**003W000101**	**55**		**53**	**EPA**	**1.04**	**0.33**		**0**	**6**	**Yes**	**Max Result>SV**
Bromochloromethane	0	3	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	3	No	Parameter Not Detected
Bromodichloromethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Bromoform	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected

Table 14-3-12
Wetland W1 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
VOCs (µg/L) - cont.																				
Bromomethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Carbon disulfide	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Carbon tetrachloride	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Chloroethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Chloromethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
cis-1,2-Dichloroethene	1	3	0.5	0.5	0.5	1.33	3	3	041WW10101	3			NA				0	3	Yes	No SV
cis-1,3-Dichloropropene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Dibromochloromethane	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Styrene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Tetrachloroethene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
trans-1,2-Dichloroethene	0	3	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	3	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Trichloroethene	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Vinyl chloride	0	6	2.75	0.5	5	2.75			ND	5	U		NA				0	6	No	Parameter Not Detected
Xylene (Total)	3	6	3.5	0.5	5	48.4	46	150	041WW10201	150	D		NA				0	6	Yes	No SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
PEL = Probable effects level.
N/R = No refinement value available.
N/A = Not Applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the Max detections.
Parameters in bold were detected and exceeded Ref. Conc.s.

Table 14-3-13
Wetland W1 Phase II
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	Heptachlor epoxide	bis(2-Ethylhexyl)phthalate (BEHP)	Xylene (Total)
Iron	Total BHC	2-methylnaphthalene	cis-1,2-Dichloroethene
Lead	Total Chlordane	Total PAHs	1,2-Dichloroethene (total)
Manganese	alpha-Chlordane		Acetone
Barium			Benzene
Copper			
Vanadium			

Table 14-3-14
Wetland W1 Phase II
Sediment Dermal Exposure Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration (mg/kg)	Min. Qual.	Maximum Concentration (mg/kg)	Max. Qual.	Units	Location of Max.Conc.	Detection Frequency	Range of Detection Limits	Mean	ABS_{sd}	ABS_{sd} Source	DA_{event}: Child Trespasser	DA_{event}: Adult Maintenance Worker	DAD_{sd} (mg/kg-day): Child Trespasser	DAD_{sd} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	2.3E+02	J	1.3E+04	J	MG/KG	003M000101	3 / 3	NAV	4.8E+03	1.0E-03	3	2.68E-06	1.34E-06	4.24E-05	2.84E-05
7440393	Barium	N	3.3E+00	=	2.8E+01	=	MG/KG	003M000101	2 / 3	N/A / 6.3E-01	1.0E+01	1.0E-03	3	5.52E-09	2.76E-09	8.74E-08	5.84E-08
7440439	Cadmium	N	N/A	N/A	4.1E+00	=	MG/KG	003M000101	1 / 3	1.3E-01 / 1.5E-01	1.4E+00	1.0E-03	3	8.20E-10	4.10E-10	1.30E-08	8.68E-09
7440484	Cobalt	C	N/A	N/A	4.5E-01	=	MG/KG	003M000101	1 / 3	1.3E-01 / 1.5E-01	2.0E-01	1.0E-03	3	9.00E-11	4.50E-11	2.04E-10	3.40E-10
7440508	Copper	N	N/A	N/A	1.1E+02	=	MG/KG	003M000101	1 / 3	1.7E+00 / 2.0E+00	3.6E+01	1.0E-03	3	2.10E-08	1.05E-08	3.32E-07	2.22E-07
7439896	Iron	N	2.2E+02	J	3.7E+03	J	MG/KG	003M000101	3 / 3	NAV	1.5E+03	1.0E-03	3	7.34E-07	3.67E-07	1.16E-05	7.77E-06
7439921	Lead	N	1.0E+00	=	5.3E+02	=	MG/KG	003M000101	3 / 3	NAV	1.8E+02	1.0E-03	3	1.05E-07	5.25E-08	1.66E-06	1.11E-06
7439965	Manganese	N	5.6E+00	=	1.3E+01	=	MG/KG	003M000101	2 / 3	N/A / 6.9E-01	6.2E+00	1.0E-03	3	2.52E-09	1.26E-09	3.99E-08	2.67E-08
7782492	Selenium	N	N/A	N/A	4.0E+00	=	MG/KG	003M000101	1 / 3	8.6E-01 / 9.9E-01	1.6E+00	1.0E-03	3	8.00E-10	4.00E-10	1.27E-08	8.47E-09
7440622	Vanadium	N	3.2E-01	=	1.9E+01	=	MG/KG	003M000101	3 / 3	NAV	7.0E+00	1.0E-03	3	3.74E-09	1.87E-09	5.92E-08	3.96E-08
72548	4,4'-DDD	C	6.6E-04	J	2.5E-03	J	MG/KG	003M000101	2 / 3	N/A / 4.1E-03	1.7E-03	3.0E-02	1	1.50E-11	7.50E-12	3.39E-11	5.67E-11
72559	4,4'-DDE	C	N/A	N/A	5.6E-04	J	MG/KG	003M000301	1 / 3	4.1E-03 / 1.5E-02	3.4E-03	3.0E-02	1	3.36E-12	1.68E-12	7.60E-12	1.27E-11
50293	4,4'-DDT	C	N/A	N/A	3.6E-04	J	MG/KG	003M000101	1 / 3	4.1E-03 / 4.7E-03	1.6E-03	3.0E-02	1	2.16E-12	1.08E-12	4.88E-12	8.16E-12
309002	Aldrin	C	8.2E-05	J	8.8E-04	J	MG/KG	003M000101	2 / 3	N/A / 2.1E-03	6.7E-04	1.0E-01	2	1.76E-11	8.80E-12	3.98E-11	6.65E-11
319846	alpha-BHC	C	N/A	N/A	3.0E-04	J	MG/KG	003M000101	1 / 3	2.1E-03 / 2.4E-03	8.5E-04	4.0E-02	2	2.40E-12	1.20E-12	5.43E-12	9.07E-12
5103719	alpha-Chlordane	C	1.0E-04	J	3.5E-04	J	MG/KG	003M000101	2 / 3	N/A / 2.1E-03	5.0E-04	4.0E-02	2	2.80E-12	1.40E-12	6.33E-12	1.06E-11
319857	beta-BHC	C	2.5E-04	J	1.5E-03	J	MG/KG	003M000101	2 / 3	N/A / 2.1E-03	9.3E-04	4.0E-02	2	1.20E-11	6.00E-12	2.71E-11	4.54E-11
319868	delta-BHC	C	7.6E-05	J	3.2E-04	J	MG/KG	003M000101	2 / 3	N/A / 2.1E-03	4.8E-04	4.0E-02	2	2.56E-12	1.28E-12	5.79E-12	9.68E-12
60571	Dieldrin	C	9.4E-05	J	6.7E-04	J	MG/KG	003M000301	3 / 3	NAV	4.0E-04	1.0E-01	2	1.34E-11	6.70E-12	3.03E-11	5.06E-11
115297	Endosulfan I	N	8.0E-04	J	8.6E-04	J	MG/KG	003M000101	2 / 3	N/A / 2.1E-03	9.0E-04	1.0E-01	2	1.72E-11	8.60E-12	2.72E-10	1.82E-10
1031078	Endosulfan sulfate	N	N/A	N/A	3.4E-04	J	MG/KG	003M000301	1 / 3	4.1E-03 / 1.5E-02	3.3E-03	1.0E-01	2	6.80E-12	3.40E-12	1.08E-10	7.20E-11
72208	Endrin	N	N/A	N/A	7.8E-04	J	MG/KG	003M000101	1 / 3	4.1E-03 / 4.7E-03	1.7E-03	1.0E-01	2	1.56E-11	7.80E-12	2.47E-10	1.65E-10
7421934	Endrin aldehyde	N	2.3E-04	J	2.3E-03	J	MG/KG	003M000101	2 / 3	N/A / 4.1E-03	1.5E-03	1.0E-01	2	4.60E-11	2.30E-11	7.28E-10	4.87E-10
53494705	Endrin ketone	N	N/A	N/A	3.6E-04	J	MG/KG	003M000101	1 / 3	4.1E-03 / 4.7E-03	1.6E-03	1.0E-01	2	7.20E-12	3.60E-12	1.14E-10	7.62E-11
58899	gamma-BHC (Lindane)	C	N/A	N/A	2.2E-04	J	MG/KG	003M000101	1 / 3	2.1E-03 / 2.4E-03	8.2E-04	4.0E-02	2	1.76E-12	8.80E-13	3.98E-12	6.65E-12
57749	gamma-Chlordane	C	8.4E-05	J	1.8E-03	J	MG/KG	003M000101	2 / 3	N/A / 2.1E-03	9.8E-04	4.0E-02	2	1.44E-11	7.20E-12	3.26E-11	5.44E-11
76448	Heptachlor	C	4.4E-05	J	6.4E-04	J	MG/KG	003M000101	2 / 3	N/A / 2.4E-03	6.3E-04	1.0E-01	2	1.28E-11	6.40E-12	2.89E-11	4.84E-11
1024573	Heptachlor epoxide	C	1.4E-03	J	1.5E-03	J	MG/KG	003M000101	2 / 3	N/A / 2.1E-03	1.3E-03	1.0E-01	2	3.00E-11	1.50E-11	6.78E-11	1.13E-10
91576	2-Methylnaphthalene	N	N/A	N/A	4.8E+00	=	MG/KG	003M000101	1 / 3	4.1E-01 / 4.7E-01	1.7E+00	1.0E-02	3	9.60E-09	4.80E-09	1.52E-07	1.02E-07
91203	Naphthalene	N	N/A	N/A	7.5E+00	=	MG/KG	003M000101	1 / 3	4.1E-01 / 4.7E-01	2.6E+00	1.0E-02	3	1.50E-08	7.50E-09	2.37E-07	1.59E-07
156605	1,2-Dichloroethene (total)	N	N/A	N/A	9.0E-03	J	MG/KG	003M000101	1 / 3	1.3E-02 / 1.4E-02	7.5E-03	1.0E-02	3	1.80E-11	9.00E-12	2.85E-10	1.90E-10
71432	Benzene	C	N/A	N/A	1.2E-01	=	MG/KG	003M000101	1 / 3	1.3E-02 / 1.4E-02	4.5E-02	1.0E-02	3	2.40E-10	1.20E-10	5.43E-10	9.07E-10
100414	Ethylbenzene	C	N/A	N/A	2.9E-01	=	MG/KG	003M000101	1 / 3	1.3E-02 / 1.4E-02	1.0E-01	1.0E-02	3	5.80E-10	2.90E-10	1.31E-09	2.19E-09
108883	Toluene	N	N/A	N/A	2.0E-01	=	MG/KG	003M000101	1 / 3	1.3E-02 / 1.4E-02	7.1E-02	1.0E-02	3	4.00E-10	2.00E-10	6.33E-09	4.23E-09
1330207	Xylene (Total)	N	N/A	N/A	2.0E+00	=	MG/KG	003M000101	1 / 3	1.3E-02 / 1.4E-02	6.7E-01	1.0E-02	3	4.00E-09	2.00E-09	6.33E-08	4.23E-08

Notes;

Equation for sediment risk:

$$DAD_{sd} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sd} = Dermal Absorbed Dose-soil contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event)
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Equation for DA_{event} for sediment contact:

$$DA_{event} = C_{sd} \times CF \times AF \times ABS_d$$

Where:

C_{sd} = Chemical concentration in sediment (mg/kg).
CF = Conversion factor (10^{-6} kg/mg).
AF = Adherence factor of sediment to soil (mg/cm2-event).
0.2 (children playing in wet soil) 0.1 (construction worker)
AB_{sd} = Dermal absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1;
(2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Table 14-3-15
Wetland W1 Phase II
Sediment Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

										Child Trespasser		Maintenance Worker	
Exposure Route	**COPC**		**Maximum Concentration (mg/kg)**	**Oral RfD (mg/kg-day)**	**Oral SF (mg/kg-day)-1**	**ABSGI**	**ABSGIS ource**	**Dermal RfD (mg/kg-day)**	**Dermal SF (mg/kg-day)-1**	**Dermal Hazard Quotient**	**Dermal Cancer Risk**	**Dermal Hazard Quotient**	**Dermal Cancer Risk**
Sediment Dermal Risk	Aluminum	N	1.3E+04	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	4.2E-04	N/A	2.8E-04	N/A
	Barium	N	2.8E+01	7.0E-02	N/A	7.0E-02	1, 3	4.9E-03	N/A	1.8E-05	N/A	1.2E-05	N/A
	Cadmium	N	4.1E+00	5.0E-04	N/A	2.5E-02	1	1.3E-05	N/A	1.0E-03	N/A	6.9E-04	N/A
	Cobalt	C	4.5E-01	2.0E-02	N/A	8.0E-01	3	1.6E-02	N/A	1.3E-08	N/A	2.1E-08	N/A
	Copper	N	1.1E+02	4.0E-02	N/A	3.0E-01	3	1.2E-02	N/A	2.8E-05	N/A	1.9E-05	N/A
	Iron	N	3.7E+03	3.0E-01	N/A	1.5E-01	3	4.5E-02	N/A	2.6E-04	N/A	1.7E-04	N/A
	Lead	N	5.3E+02	N/A	N/A	1.5E-01	3	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	1.3E+01	2.4E-02	N/A	4.0E-02	1, 3	9.6E-04	N/A	4.2E-05	N/A	2.8E-05	N/A
	Selenium	N	4.0E+00	5.0E-03	N/A	5.5E-01	1	2.8E-03	N/A	4.6E-06	N/A	3.1E-06	N/A
	Vanadium	N	1.9E+01	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	3.3E-04	N/A	2.2E-04	N/A
	4,4'-DDD	C	2.5E-03	N/A	2.4E-01	3.0E-02	2	N/A	8.0E+00	N/A	2.7E-10	N/A	4.5E-10
	4,4'-DDE	C	5.6E-04	N/A	3.4E-01	3.0E-02	2	N/A	1.1E+01	N/A	8.6E-11	N/A	1.4E-10
	4,4'-DDT	C	3.6E-04	5.0E-04	3.4E-01	3.0E-02	2	1.5E-05	1.1E+01	3.3E-07	5.5E-11	5.4E-07	9.3E-11
	Aldrin	C	8.8E-04	3.0E-05	1.7E+01	1.3E-02	3	4.0E-07	1.3E+03	1.0E-04	5.1E-08	1.7E-04	8.6E-08
	alpha-BHC	C	3.0E-04	5.0E-04	6.3E+00	1.4E-02	3	7.1E-06	4.4E+02	7.6E-07	2.4E-09	1.3E-06	4.0E-09
	alpha-Chlordane	C	3.5E-04	5.0E-04	3.5E-01	8.0E-01	1	4.0E-04	4.4E-01	1.6E-08	2.8E-12	2.6E-08	4.6E-12
	beta-BHC	C	1.5E-03	2.0E-04	1.8E+00	1.4E-02	3	2.8E-06	1.3E+02	9.6E-06	3.4E-09	1.6E-05	5.7E-09
	delta-BHC	C	3.2E-04	5.0E-04	6.3E+00	1.4E-02	3	7.1E-06	4.4E+02	8.2E-07	2.6E-09	1.4E-06	4.3E-09
	Dieldrin	C	6.7E-04	5.0E-05	1.6E+01	5.0E-01	3	2.5E-05	3.2E+01	1.2E-06	9.7E-10	2.0E-06	1.6E-09
	Endosulfan I	N	8.6E-04	6.0E-03	N/A	5.0E-01	3	3.0E-03	N/A	9.1E-08	N/A	6.1E-08	N/A
	Endosulfan sulfate	N	3.4E-04	6.0E-03	N/A	5.0E-01	3	3.0E-03	N/A	3.6E-08	N/A	2.4E-08	N/A
	Endrin	N	7.8E-04	3.0E-04	N/A	1.3E-02	3	3.8E-06	N/A	6.6E-05	N/A	4.4E-05	N/A
	Endrin aldehyde	N	2.3E-03	3.0E-04	N/A	1.3E-02	3	3.8E-06	N/A	1.9E-04	N/A	1.3E-04	N/A
	Endrin ketone	N	3.6E-04	3.0E-04	N/A	1.3E-02	3	3.8E-06	N/A	3.0E-05	N/A	2.0E-05	N/A
	gamma-BHC (Lindane)	C	2.2E-04	3.0E-04	1.3E+00	9.7E-01	3	2.9E-04	1.3E+00	1.4E-08	5.3E-12	2.3E-08	8.9E-12
	gamma-Chlordane	C	1.8E-03	5.0E-04	3.5E-01	8.0E-01	1	4.0E-04	4.4E-01	8.1E-08	1.4E-11	1.4E-07	2.4E-11
	Heptachlor	C	6.4E-04	5.0E-04	4.5E+00	1.1E-02	3	5.6E-06	4.0E+02	5.2E-06	1.2E-08	8.6E-06	1.9E-08
	Heptachlor epoxide	C	1.5E-03	5.0E-04	4.5E+00	1.1E-02	3	5.6E-06	4.0E+02	1.2E-05	2.7E-08	2.0E-05	4.6E-08
	2-Methylnaphthalene	N	4.8E+00	8.0E-02	N/A	5.0E-01	3	4.0E-02	N/A	3.8E-06	N/A	2.5E-06	N/A
	Naphthalene	N	7.5E+00	2.0E-02	N/A	5.9E-02	3	1.2E-03	N/A	2.0E-04	N/A	1.3E-04	N/A
	1,2-Dichloroethene (total)	N	9.0E-03	2.0E-02	N/A	8.0E-01	3	1.6E-02	N/A	1.8E-08	N/A	1.2E-08	N/A
	Benzene	C	1.2E-01	3.0E-03	5.5E-02	8.8E-02	3	2.6E-04	6.3E-01	2.1E-06	3.4E-10	3.4E-06	5.7E-10
	Ethylbenzene	C	2.9E-01	1.0E-01	3.9E-03	9.7E-01	3	9.7E-02	4.0E-03	1.4E-08	5.2E-12	2.3E-08	8.7E-12
	Toluene	N	2.0E-01	2.0E-01	N/A	3.1E-01	3	6.2E-02	N/A	1.0E-07	N/A	6.8E-08	N/A
	Xylene (Total)	N	2.0E+00	7.0E-01	N/A	1.0E-01	2	7.0E-02	N/A	9.0E-07	N/A	6.0E-07	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABSGI = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose-sources: (1) RAIS value; (2) adjusted for ABSGI.
Dermal SF = Dermal slope factor-sources: (1) RAIS value; (2) adjusted for ABSGI.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfDdermal = Dermal reference dose.
RFDoral = Oral reference dose.
ABSGI = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 14-3-16
Wetland W1 Phase II
Sediment Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/kg)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
Sediment Incidental Ingestion	Aluminum	N	1.3E+04	1.0E+00	N/A	4.24E-03	N/A	2.73E-03	N/A
	Barium	N	2.8E+01	7.0E-02	N/A	1.25E-04	N/A	8.02E-05	N/A
	Cadmium	N	4.1E+00	5.0E-04	N/A	2.60E-03	N/A	1.67E-03	N/A
	Cobalt	C	4.5E-01	2.0E-02	N/A	1.02E-06	N/A	1.64E-06	N/A
	Copper	N	1.1E+02	4.0E-02	N/A	8.31E-04	N/A	5.34E-04	N/A
	Iron	N	3.7E+03	3.0E-01	N/A	3.87E-03	N/A	2.49E-03	N/A
	Lead	N	5.3E+02	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	1.3E+01	2.4E-02	N/A	1.66E-04	N/A	1.07E-04	N/A
	Selenium	N	4.0E+00	5.0E-03	N/A	2.53E-04	N/A	1.63E-04	N/A
	Vanadium	N	1.9E+01	7.0E-03	N/A	8.46E-04	N/A	5.44E-04	N/A
	4,4'-DDD	C	2.5E-03	N/A	2.4E-01	N/A	2.71E-11	N/A	4.36E-11
	4,4'-DDE	C	5.6E-04	N/A	3.4E-01	N/A	8.61E-12	N/A	1.38E-11
	4,4'-DDT	C	3.6E-04	5.0E-04	3.4E-01	3.26E-08	5.54E-12	5.23E-08	8.90E-12
	Aldrin	C	8.8E-04	3.0E-05	1.7E+01	1.33E-06	6.77E-10	2.13E-06	1.09E-09
	alpha-BHC	C	3.0E-04	5.0E-04	6.3E+00	2.71E-08	8.55E-11	4.36E-08	1.37E-10
	alpha-Chlordane	C	3.5E-04	5.0E-04	3.5E-01	3.17E-08	5.54E-12	5.09E-08	8.90E-12
	beta-BHC	C	1.5E-03	2.0E-04	1.8E+00	3.39E-07	1.22E-10	5.45E-07	1.96E-10
	delta-BHC	C	3.2E-04	5.0E-04	6.3E+00	2.89E-08	9.12E-11	4.65E-08	1.47E-10
	Dieldrin	C	6.7E-04	5.0E-05	1.6E+01	6.06E-07	4.85E-10	9.74E-07	7.79E-10
	Endosulfan I	N	8.6E-04	6.0E-03	N/A	4.54E-08	N/A	2.92E-08	N/A
	Endosulfan sulfate	N	3.4E-04	6.0E-03	N/A	1.79E-08	N/A	1.15E-08	N/A
	Endrin	N	7.8E-04	3.0E-04	N/A	8.23E-07	N/A	5.29E-07	N/A
	Endrin aldehyde	N	2.3E-03	3.0E-04	N/A	2.43E-06	N/A	1.56E-06	N/A
	Endrin ketone	N	3.6E-04	3.0E-04	N/A	3.80E-07	N/A	2.44E-07	N/A
	gamma-BHC (Lindane)	C	2.2E-04	3.0E-04	1.3E+00	3.32E-08	1.29E-11	5.33E-08	2.08E-11
	gamma-Chlordane	C	1.8E-03	5.0E-04	3.5E-01	1.63E-07	2.85E-11	2.62E-07	4.58E-11
	Heptachlor	C	6.4E-04	5.0E-04	4.5E+00	5.79E-08	1.30E-10	9.30E-08	2.09E-10
	Heptachlor epoxide	C	1.5E-03	5.0E-04	4.5E+00	1.36E-07	3.05E-10	2.18E-07	4.91E-10
	2-Methylnaphthalene	N	4.8E+00	8.0E-02	N/A	1.90E-05	N/A	1.22E-05	N/A
	Naphthalene	N	7.5E+00	2.0E-02	N/A	1.19E-04	N/A	7.63E-05	N/A
	1,2-Dichloroethene (total)	N	9.0E-03	2.0E-02	N/A	1.42E-07	N/A	9.16E-08	N/A
	Benzene	C	1.2E-01	3.0E-03	5.5E-02	1.81E-06	2.98E-10	2.91E-06	4.80E-10
	Ethylbenzene	C	2.9E-01	1.0E-01	3.9E-03	1.31E-07	5.05E-11	2.11E-07	8.12E-11
	Toluene	N	2.0E-01	2.0E-01	N/A	3.17E-07	N/A	2.04E-07	N/A
	Xylene (Total)	N	2.0E+00	7.0E-01	N/A	9.05E-07	N/A	5.81E-07	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI = chronic daily intake (mg/kg-day)

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, sediment risk:

$$CDI = \frac{EPC_{sd} \times IR_{sd} \times EF \times ED \times CF}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPCsd = Exposure point concentration in sediment (mg/kg).
IRsd = Incidental ingestion rate for sediment (mg/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
CF = Conversion factor (1E-6 kg/mg).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
IRsd = 100 mg/day for age groups greater than 6-years old.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Table 14-3-17
Wetland W1 Phase II
Surface Water Dermal Absorbed Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration	Min. Qual.	Maximum Concentration	Max. Qual.	Units	Location of Max.Conc.	Detection Frequency	Range of Detection Limits	Mean	Maximum Concentration	K_p	DA_{event}	DAD_{sw} (mg/kg-day): Child Trespasser	DAD_{sw} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	6.6E+02	J	1.9E+03	J	UG/L	003W000101	3 / 3	NAV	1.1E+03	1.9E-03	1.0E-03	4.97E-06	7.86E-05	1.05E-04
7440439	Cadmium	N	N/A	N/A	9.4E-01	=	UG/L	003W000101	1 / 3	5.0E-01 / 5.0E-01	4.8E-01	9.4E-07	1.0E-03	2.44E-09	3.87E-08	5.17E-08
7439896	Iron	N	4.2E+02	=	1.0E+04	=	UG/L	003W000101	3 / 3	NAV	3.8E+03	1.0E-02	2.5E-04	6.76E-06	1.07E-04	1.43E-04
7439921	Lead	N	2.2E+00	=	4.9E+01	=	UG/L	003W000101	2 / 3	N/A / 1.6E+00	1.7E+01	4.9E-05	3.4E-04	4.32E-08	6.84E-07	9.15E-07
7439965	Manganese	N	3.7E+00	=	2.3E+01	=	UG/L	003W000101	3 / 3	NAV	1.2E+01	2.3E-05	1.0E-03	5.88E-08	9.30E-07	1.24E-06
7440622	Vanadium	N	1.0E+00	=	5.4E+00	=	UG/L	003W000101	3 / 3	NAV	2.7E+00	5.4E-06	1.0E-03	1.40E-08	2.22E-07	2.97E-07
58899	gamma-BHC (Lindane)	C	N/A	N/A	6.1E-03	J	UG/L	003W000101	1 / 3	5.0E-02 / 5.0E-02	1.9E-02	6.1E-09	1.1E-02	7.49E-10	1.69E-09	5.67E-09
1024573	Heptachlor epoxide	C	N/A	N/A	6.8E-03	J	UG/L	003W000101	1 / 3	5.0E-02 / 5.0E-02	1.9E-02	6.8E-09	8.6E-03	1.48E-09	3.34E-09	1.12E-08
156605	1,2-Dichloroethene (total)	N	N/A	N/A	4.0E+00	J	UG/L	003W000101	1 / 3	1.0E+01 / 1.0E+01	4.7E+00	4.0E-06	7.7E-03	1.03E-07	1.63E-06	2.18E-06
71432	Benzene	C	N/A	N/A	5.5E+01	=	UG/L	003W000101	1 / 3	1.0E+01 / 1.0E+01	2.2E+01	5.5E-05	1.5E-02	2.48E-06	5.60E-06	1.87E-05
100414	Ethylbenzene	C	N/A	N/A	1.3E+01	=	UG/L	003W000101	1 / 3	1.0E+01 / 1.0E+01	7.7E+00	1.3E-05	4.9E-02	2.02E-06	4.57E-06	1.53E-05
108883	Toluene	N	N/A	N/A	2.5E+01	=	UG/L	003W000101	1 / 3	1.0E+01 / 1.0E+01	1.2E+01	2.5E-05	3.1E-02	2.43E-06	3.84E-05	5.14E-05
1330207	Xylene (Total)	N	N/A	N/A	8.4E+01	=	UG/L	003W000101	1 / 3	1.0E+01 / 1.0E+01	3.1E+01	8.4E-05	5.3E-02	1.41E-05	2.23E-04	2.99E-04

Notes:

Equation for Dermal Absorbed Dose, surface water risk:

$$DAD_{sw} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sw} = Dermal absorbed dose-water contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event).
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).

EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Equation for DAevent for inorganics:

$$DA_{event} = K_p \times C_w \times t_{event}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: RAGS Part E, Exhibit B-3 or Exhibit B-4
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).

Equation for DAevent for organics:

$$DA_{event} = FA \times K_p \times C_w \left[\frac{t_{event}}{1 + B} + 2\tau_{event} \left(\frac{1 + 3B + 3B^2}{(1 + B)^2} \right) \right]$$

Where:

FA = Fraction absorbed water (dimensionless). From RAGS Part E, Exhibit B-4.
Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E, Exhibit B-4.
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).
t_{event} = Lag time per event (hr/event). From RAGS Part E, Exhibit B-4.
B = Dimensionless ratio of the permeability coefficient of a compound,
calculated using the equation below:

$$B = \frac{K_p \sqrt{MW}}{2.6}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E.
MW = Molecular weight

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).
t_{event} = 2.6 hrs/dy (child trespasser/adult maintenance worker).

Table 14-3-18
Wetland W1 Phase II
Surface Water Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABS_{GI}	ABS_{GI} Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
										Dermal Hazard Quotient	Dermal Cancer Risk	Dermal Hazard Quotient	Dermal Cancer Risk
SW Dermal Risk	Aluminum	N	1.9E-03	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	7.9E-04	N/A	1.1E-03	N/A
	Cadmium	N	9.4E-07	5.0E-04	N/A	2.5E-02	1	1.3E-05	N/A	3.1E-03	N/A	4.1E-03	N/A
	Iron	N	1.0E-02	N/A	N/A	1.5E-01	3	N/A	N/A	N/A	N/A	N/A	N/A
	Lead	N	4.9E-05	N/A	N/A	1.5E-01	3	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	2.3E-05	1.4E-01	N/A	4.0E-02	1	5.6E-03	N/A	1.7E-04	N/A	2.2E-04	N/A
	Vanadium	N	5.4E-06	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	1.2E-03	N/A	1.6E-03	N/A
	gamma-BHC (Lindane)	C	6.1E-09	3.0E-04	1.3E+00	9.7E-01	3	2.9E-04	1.3E+00	5.8E-06	2.3E-09	1.9E-05	7.6E-09
	Heptachlor epoxide	C	6.8E-09	5.0E-04	4.5E+00	1.1E-02	3	5.6E-06	4.0E+02	N/A	N/A	N/A	N/A
	1,2-Dichloroethene (total)	N	4.0E-06	2.0E-02	N/A	8.0E-01	3	1.6E-02	N/A	1.0E-04	N/A	1.4E-04	N/A
	Benzene	C	5.5E-05	3.0E-03	5.5E-02	8.8E-02	3	2.6E-04	6.3E-01	2.1E-02	**3.5E-06**	7.1E-02	**1.2E-05**
	Ethylbenzene	C	1.3E-05	1.0E-01	3.9E-03	9.7E-01	3	9.7E-02	4.0E-03	4.7E-05	1.8E-08	1.6E-04	6.1E-08
	Toluene	N	2.5E-05	2.0E-01	N/A	3.1E-01	3	6.2E-02	N/A	6.2E-04	N/A	8.3E-04	N/A
	Xylene (Total)	N	8.4E-05	7.0E-01	N/A	1.0E-01	2	7.0E-02	N/A	3.2E-03	N/A	4.3E-03	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose adjusted for ABS_{GI}.
Dermal SF = Dermal slope factoradjusted for ABS_{GI}.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfD_{dermal} = Dermal reference dose.
RFD_{oral} = Oral reference dose.
SFdermal = Dermal slope factor.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 14-3-19
Wetland W1 Phase II
Surface Water Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
SW Incidental Ingestion	Aluminum	N	1.9E-03	1.0E+00	N/A	6.0E-08	N/A	3.9E-08	N/A
	Cadmium	N	9.4E-07	5.0E-04	N/A	6.0E-08	N/A	3.8E-08	N/A
	Iron	N	1.0E-02	N/A	N/A	N/A	N/A	N/A	N/A
	Lead	N	4.9E-05	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	2.3E-05	1.4E-01	N/A	5.1E-09	N/A	3.3E-09	N/A
	Vanadium	N	5.4E-06	7.0E-03	N/A	2.4E-08	N/A	1.6E-08	N/A
	gamma-BHC (Lindane)	C	6.1E-09	3.0E-04	1.3E+00	9.2E-11	3.6E-14	1.5E-10	5.8E-14
	Heptachlor epoxide	C	6.8E-09	5.0E-04	4.5E+00	6.2E-11	1.4E-13	9.9E-11	2.2E-13
	1,2-Dichloroethene (total)	N	4.0E-06	2.0E-02	N/A	6.3E-09	N/A	4.1E-09	N/A
	Benzene	C	5.5E-05	3.0E-03	5.5E-02	8.3E-08	1.4E-11	1.3E-07	2.2E-11
	Ethylbenzene	C	1.3E-05	1.0E-01	3.9E-03	5.9E-10	2.3E-13	9.4E-10	3.6E-13
	Toluene	N	2.5E-05	2.0E-01	N/A	4.0E-09	N/A	2.5E-09	N/A
	Xylene (Total)	N	8.4E-05	7.0E-01	N/A	3.8E-09	N/A	2.4E-09	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, surface water risk:

$$CDI = \frac{EPC_{sw} \times IR_{sw} \times EF \times ED}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPC_{sw} = Exposure point concentration in surface water (mg/L).
IR_{sw} = Incidental ingestion rate for sediment (L/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
Irsw = 0.01 L/day exposure to surface water during wading for adolescents and adults.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

14.4 UST 18 — Wide Evaluation

All the wetlands associated with UST 18 (Wetlands 52, 72, and W1) were evaluated collectively to help determine the locations that represent the highest probabilities of unacceptable risk. This evaluation was also used to determine if constituents detected were likely to be related to the IR sites associated with UST 18. The evaluations in this section included:

- ***Food-Chain Models:*** Many of the upper-level predators likely to be exposed within Site 41 wetlands would likely be exposed to constituents in more than one wetland. To evaluate this scenario, food-chain models were developed using constituent concentrations from Wetlands 52, 72, and W1.

- ***Mean ERM Quotients:*** This methodology is an effective way to pinpoint areas of potential risk from a mixture of constituents. It is also useful in identifying locations most likely to be impacted by direct toxicity. Figure 14-7 presents the mean ERM quotient categories and the parameters exceeding ERMs.

- ***Basewide Total DDT-Level Comparison:*** A basewide level was established for total DDT at NAS Pensacola. A comparison of site concentrations to the basewide levels is presented in Figure 14-5 and will be discussed on a basewide level in this section.

- ***TOC-Normalized PAH Concentrations:*** PAHs are widespread across NAS Pensacola and have been evaluated based on their potential for adverse effects when the TOC at each sample location is taken into account. This method has been summarized in the UST 18-wide Figure 14-6 to identify locations where PAHs may occur at levels most likely to cause adverse effects.

14.4.1 UST 18 Food-Chain Modeling

To evaluate the potential for risk to upper-trophic-level receptors that forage within the wetlands surrounding UST 18, food-chain models were prepared as presented in Section 8 of this report. No site-specific fish tissue was collected from any of the UST 18 wetlands; therefore, exposure to constituents in prey items was estimated using literature-based BSAFs.

The following constituents were evaluated in these food-chain models:

- Pesticides (total BHCs, total DDT, total chlordanes, total endrin, and dieldrin)
- Total PCBs
- Mercury

The sediment and surface water exposure concentrations used in the food-chain models are presented in Appendix M. Tables 14-4-1 through 14-4-3 (tables are located at the end of each section) show the results of the food-chain models for the following receptor groups:

- Piscivorous Birds (green heron) (Table 14-4-1)
- Piscivorous Mammals (mink) (Table 14-4-2)
- Predatory Fish (red drum) (Table 14-4-3)

14.4.1.1 Food-Chain Modeling Results

Assessment Endpoint 1 — Health and Viability of Piscivorous Bird Communities that Forage Throughout UST 18 Wetlands

No constituent indicated the potential for adverse effects to piscivorous birds foraging in the wetlands included in UST 18.

Assessment Endpoint 2 — Health and Viability of Piscivorous Mammal Communities that Forage Throughout UST 18 Wetlands

No constituent indicated the potential for adverse effects to piscivorous mammals foraging in the wetlands included in UST 18.

Assessment Endpoint 3 — Health and Viability of Predatory Fish Communities that Forage in and around UST 18 Wetlands

Phase II Evaluation

The only evaluation that generated a HQ greater than one was the red drum mercury food-chain model, based on the average concentrations, which was driven by using one-half the SQL for mercury. Mercury was never detected in any of the sediment or surface water samples from UST 18 wetlands.

14.4.2 Mean ERM Quotients

Figure 14-7 shows the mean ERM categories and all ERM exceedances for all UST 18 sediments. This figure shows that during Phase II, the only category 3 sample location in the UST 18 wetlands

was in Wetland W1 at 003M0001. The constituents that exceeded their ERMs at this location included two-methylnaphthalene, naphthalene, and lead. Wetland 52 contained two Category 2 sample locations; however, no constituent exceeded its ERM in either of those locations. Based on this figure, the sample location most likely to cause adverse effects from direct toxicity would be at the far end of Wetland W1. It should be noted that the constituents detected that exceeding their ERMs were all typically related to fuels and could be by-products of runoff from the adjacent runways.

14.4.3 Basewide Total-DDT-Levels

None of the sediment samples collected from the UST 18 wetlands exceeded the basewide total DDT level.

14.4.4 TOC-Normalized Total PAHs Concentrations

Figure 14-6 shows that the only sample associated with UST 18 which had total PAH concentrations that may cause adverse effects is within Wetland W1 (003M0001). PAHs were not detected at locations 003M002 or 003M003 and were coded red on the figure due to elevated SQLs at those locations. Based on this evaluation, adverse effects due to exposure to total PAHs at location 003M0001 cannot be ruled out.

14.5 Conclusions

The only potential for adverse effects within the UST 18 wetlands is from PAHs in Wetland W1. However, UST 18 is currently being investigated under the auspices of the FDEP Petroleum Program. Since petroleum contamination is excluded from CERCLA (42 USC 9601(14)), CERCLA has no authority to drive further investigation at this site. Therefore, any further investigation or remediation of UST 18 shall be handled in accordance with Florida law.

Table 14-4-1
UST 18 Wetlands FCM (Phase 2)
Receptor: Green Heron (Butorides virescens)

Sediment Ingestion Rate[a] :	0.00023 kg/day
Surface Water Ingestion Rate[b]:	0.0227 L/day
Food Ingestion Rate[c]:	0.0115 kg/day
Body Weight[d]:	0.241 kg

Contaminant		Sediment Concentrations mg/kg	Surface Water Concentrations mg/L	Tissue Concentrations mg/kg	Sediment Exposure mg/day	Water Exposure mg/day	Prey Exposure mg/day	Total Exposure mg/day	Daily Dose mg/kgBW/day	NOAEL mg/kdBW/day	LOAEL mg/kdBW/day	NOAEL HQ	LOAEL HQ
Mercury													
	Max	0	0	0	0	0.0000	0.0000	0	0.0000	0.44	0.86	0.00E+00	0.00E+00
	Average	0.091	0.0001	0.182	0.00002093	0.0000	0.0021	0.0021162	0.0088	0.44	0.86	2.00E-02	1.02E-02
Total BHC													
	Max	0.0051	0.0002	0.0051	0.000001173	0.0000	0.0001	0.000064363	0.0003	0.563	2.25	4.74E-04	1.19E-04
	Average	0.0016	0.0001	0.0016	0.000000368	0.0000	0.0000	0.000021038	0.0001	0.563	2.25	1.55E-04	3.88E-05
Total Chlordane													
	Max	0.0022	0.0003	0.00517	0.000000506	0.0000	0.0001	0.000066771	0.0003	2.14	10.7	1.29E-04	2.59E-05
	Average	0.0007	0.0001	0.001645	0.000000161	0.0000	0.0000	2.13485E-05	0.0001	2.14	10.7	4.14E-05	8.28E-06
Dieldrin													
	Max	0.0095	0	0.045885	0.000002185	0.0000	0.0005	0.000529863	0.0022	0.044	0.44	5.00E-02	5.00E-03
	Average	0.0012	0.0001	0.005796	0.000000276	0.0000	0.0001	0.0000692	0.0003	0.044	0.44	6.53E-03	6.53E-04
Total DDT													
	Max	0.0179	0	0.076791	0.000004117	0.0000	0.0009	0.000887214	0.0037	0.2	0.4	1.84E-02	9.20E-03
	Average	0.0051	0.0002	0.021879	0.000001173	0.0000	0.0003	0.000257322	0.0011	0.2	0.4	5.34E-03	2.67E-03
Total Endrin													
	Max	0.0096	0	0.0096	0.000002208	0.0000	0.0001	0.000112608	0.0005	0.01	0.1	4.67E-02	4.67E-03
	Average	0.0029	0.00015	0.0029	0.000000667	0.0000	0.0000	0.000037422	0.0002	0.01	0.1	1.55E-02	1.55E-03
Total PCB													
	Max	0.0348	0	0.057	0.000008004	0.0000	0.0007	0.000664332	0.0028	0.112	1.12	2.46E-02	2.46E-03
	Average	0.1116	0.004	0.183	0.000025668	0.0001	0.0021	0.002221244	0.0092	0.112	1.12	8.23E-02	8.23E-03

Notes:
Sediment Exposure = Sediment Concentration * Sediment Ingestion Rate (mg/day)
Surface Water Exposure = Surface Water Concentration * Water Ingestion Rate (mg/day)
Prey Exposure = Tissue Concentration * Food Ingestion Rate (mg/day)
Total Exposure = Sediment Exposure + Surface Water Exposure + Prey Exposure (mg/day)

Daily Dose = Total Exposure / Body Weight (mg/kgBW/day)

NOAEL HQ = Daily Dose/NOAEL (mg/kgBW/day)
LOAEL HQ = Daily Dose/LOAEL (mg/kgBW/day)

a	Estimated based on the results of Beyer et al 1994.
b	Calder and Braun 1983.
c	Kushlan 1978
d	Niethammer and Kaiser 1983.

Table 14-4-2
UST 18 Wetlands FCM (Phase 2)
Receptor: Mink (*Mustella vison*)

Sediment Ingestion Rate[a] : 0.003 kg/day
Surface Water Ingestion Rate[b]: 0.0578 L/day
Food Ingestion Rate[c]: 0.029 kg/day
Body Weight[d]: 0.55 kg

Contaminant		Sediment Concentrations mg/kg	Surface Water Concentrations mg/L	Tissue Concentrations mg/kg	Sediment Exposure mg/day	Water Exposure mg/day	Prey Exposure mg/day	Total Exposure mg/day	Daily Dose mg/kgBW/day	NOAEL mg/kdBW/day	LOAEL mg/kdBW/day	NOAEL HQ	LOAEL HQ
Mercury													
	Max	0	0	0	0	0.0000	0.0000	0	0.0000	0.032	0.16	0.00E+00	0.00E+00
	Average	0.091	0.0001	0.182	0.000273	0.0000	0.0053	0.00555678	0.0101	0.032	0.16	3.16E-01	6.31E-02
Total BHC													
	Max	0.0051	0.0002	0.0051	0.0000153	0.0000	0.0001	0.00017476	0.0003	0.014	0.14	2.27E-02	2.27E-03
	Average	0.0016	0.0001	0.0016	0.0000048	0.0000	0.0000	0.00005698	0.0001	0.014	0.14	7.40E-03	7.40E-04
Total Chlordane													
	Max	0.0022	0.0003	0.00517	0.0000066	0.0000	0.0001	0.00017387	0.0003	3.9	7.8	8.11E-05	4.05E-05
	Average	0.0007	0.0001	0.001645	0.0000021	0.0000	0.0000	0.000055585	0.0001	3.9	7.8	2.59E-05	1.30E-05
Dieldrin													
	Max	0.0095	0	0.045885	0.0000285	0.0000	0.0013	0.001359165	0.0025	0.015	0.15	1.65E-01	1.65E-02
	Average	0.0012	0.0001	0.005796	0.0000036	0.0000	0.0002	0.000177464	0.0003	0.015	0.15	2.15E-02	2.15E-03
Total DDT													
	Max	0.0179	0	0.076791	0.0000537	0.0000	0.0022	0.002280639	0.0041	0.6	3	6.91E-03	1.38E-03
	Average	0.0051	0.0002	0.021879	0.0000153	0.0000	0.0006	0.000661351	0.0012	0.6	3	2.00E-03	4.01E-04
Total Endrin													
	Max	0.0096	0	0.0096	0.0000288	0.0000	0.0003	0.0003072	0.0006	0.092	0.92	6.07E-03	6.07E-04
	Average	0.0029	0.00015	0.0029	0.0000087	0.0000	0.0001	0.00010147	0.0002	0.092	0.92	2.01E-03	2.01E-04
Total PCB													
	Max	0.0348	0	0.057	0.0001044	0.0000	0.0017	0.001759488	0.0032	0.05	0.1	6.40E-02	3.20E-02
	Average	0.1116	0.004	0.183	0.0003348	0.0002	0.0053	0.005873696	0.0107	0.05	0.1	2.14E-01	1.07E-01

Notes:
Sediment Exposure = Sediment Concentration * Sediment Ingestion Rate (mg/day)
Surface Water Exposure = Surface Water Concentration * Water Ingestion Rate (mg/day)
Prey Exposure = Tissue Concentration * Food Ingestion Rate (mg/day)
Total Exposure = Sediment Exposure + Surface Water Exposure + Prey Exposure (mg/day)

Daily Dose = Total Exposure / Body Weight (mg/kgBW/day)

NOAEL HQ = Daily Dose/NOAEL (mg/kgBW/day)
LOAEL HQ = Daily Dose/LOAEL (mg/kgBW/day)

a Guilday 1957.
b Based on Morrison 1957.
c Chew 1951.
d Estimated based on the results of Beyer et al. 1994.

Table 14-4-3
UST 18 Phase II Data
Red Drum Exposure Model

OU10	Me in Sediment (Cs) (ppm)	MeHg in Forage Fish (Cf) (ppm)A	MeHg in Crustaceans (Ccr) (ppm)	MeHg in Invertebrates (Cinv) (ppm)	MeHg in Red Drum Tissue (ppm)	NOAEL HQ	LOAEL HQ
UST 18 Maximum	0	0	0	0	0.00	0.00	0.00
UST 18 Average	0.091	0.1092	0.02548	0.0091	0.23	**1.56**	0.78

Note:
A = Forage Fish tissue concentrations calculated BSAF of 2.0 from Evans and Engel 1994.

FINAL REMEDIAL INVESTIGATION REPORT
SITE 41 — OPERABLE UNIT 16 — NAS PENSACOLA WETLANDS

NAVAL AIR STATION
PENSACOLA, FLORIDA

SOUTHNAVFACENGCOM
CONTRACT NUMBER: N62467-89-D-0318

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VOLUME VII OF XI
SECTIONS 15 — 18

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15.0 REMAINING WETLANDS

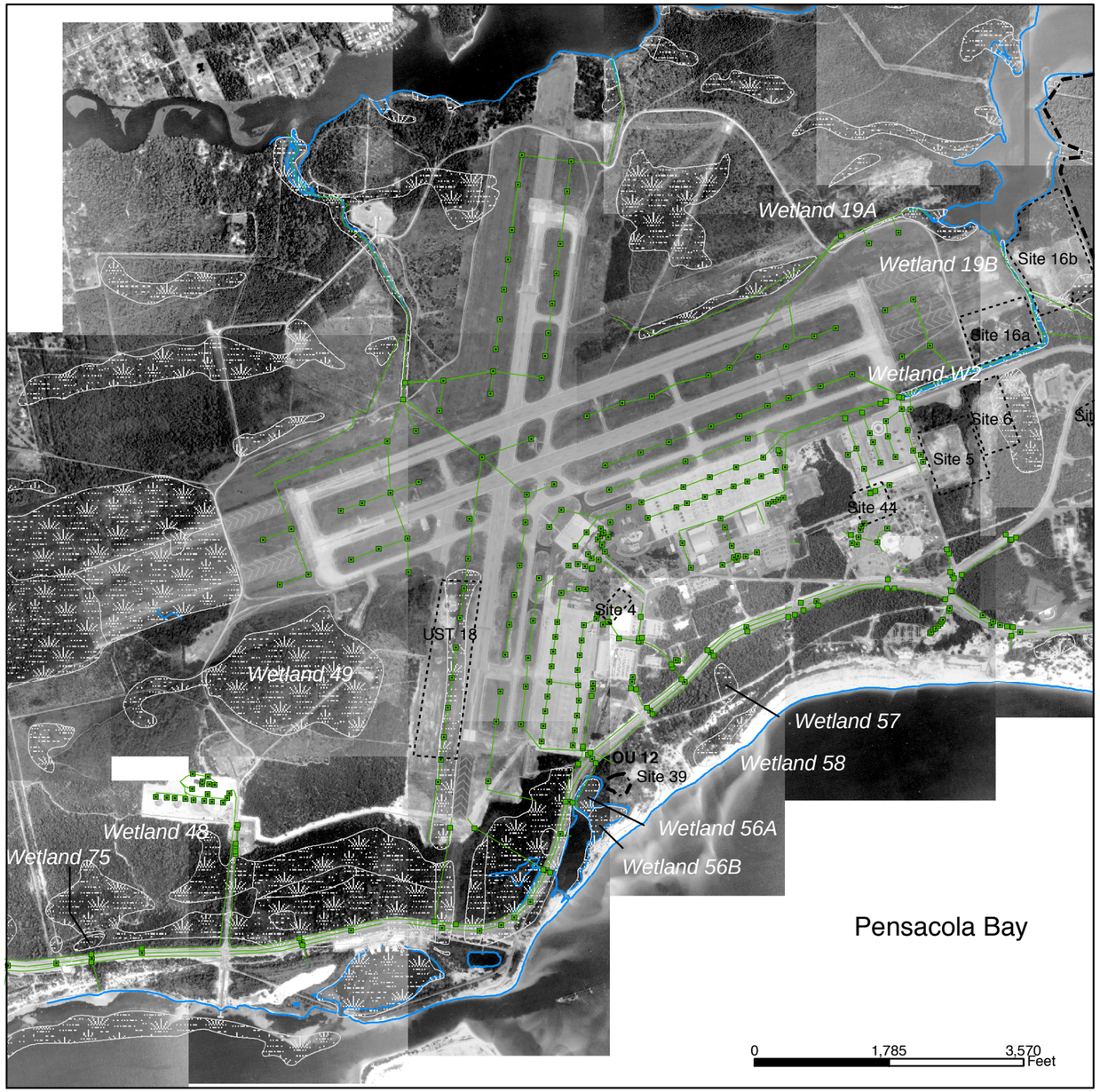
The remaining wetlands, Wetlands 19(A and B), 56, 57, 58, W2, 48, and 49 are not closely associated with an operable unit. The wetland locations are shown on Figure 15-1 (figures are located at the end of each section) and the area topography is shown on Figure 15-2. These wetlands are across the western portion of NAS Pensacola near Forrest Sherman Field. Associated IR sites include:

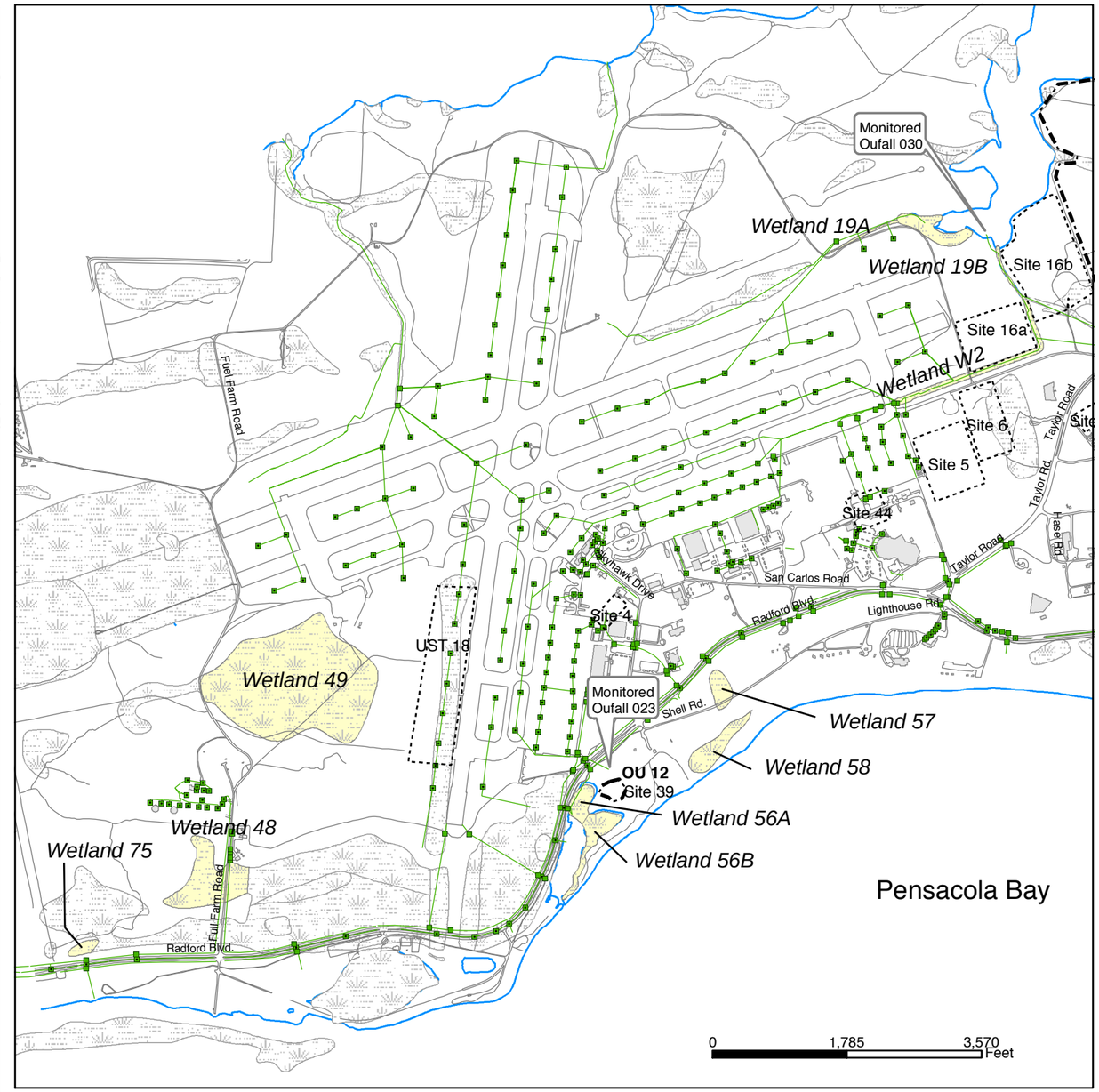
- Site 1 — Sanitary Landfill
- Site 4 — Army Rubble Disposal Area
- Site 5 — Borrow Pit
- Site 6 — Fort Redoubt Rubble Disposal Area
- Site 16 — Brush Disposal Area
- Site 39 (OU 12) — Oak Grove Campground

Associated petroleum sites include Site 19 (Fuel Farm Pipeline Leak), Site 37 (Sherman Field Fuel Farm Area) and UST 18 (Crash Crew Training Area). Site histories and investigation findings are presented in Sections 15.1 through 15.7 for those sites related to the individual wetlands.

The potentiometric surface in the UST 18 and Site 19 area is shown on Figure 15-3. Groundwater flow in that area is to the southeast. Soil boring, monitoring well, sediment, and surface water sampling locations are shown on Figure 15-4.

This section presents the nature and extent of contamination, ecological risk assessment, fate and transport analysis, and human health risk assessment by wetland for the remaining wetlands. To assist in the data evaluation, Figure 15-5 presents the Remaining Wetlands Total DDT for sediment, Figure 15-6 presents the Swartz TOC normalized PAHs, and Figure 15-7 presents the Mean ERM quotient categories. Figure 15-8 presents the chemistry and toxicity samples collected during Phases III and IV. To assess effects to selected measurement endpoints, such as the green heron, a food-chain model for all the remaining wetlands is presented in Section 15.8.





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SOUTHERN DIVISION

FIGURE 15-1
Miscellaneous Wetlands and Nearby Sites

Final Remedial Investigation Report
Site 41
NAS Pensacola, FL

Date: 10/5/04 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig15-1.mxd

Legend

- Site
- Operable Unit (OU)
- Wetland-Approximate
- Miscellaneous Wetland-Approximate
- Building
- Shoreline
- Road
- Storm water Pipe
- Storm water Inlet
- Storm water Headwall

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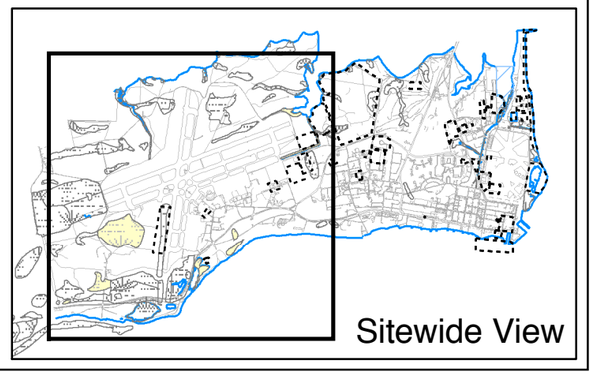

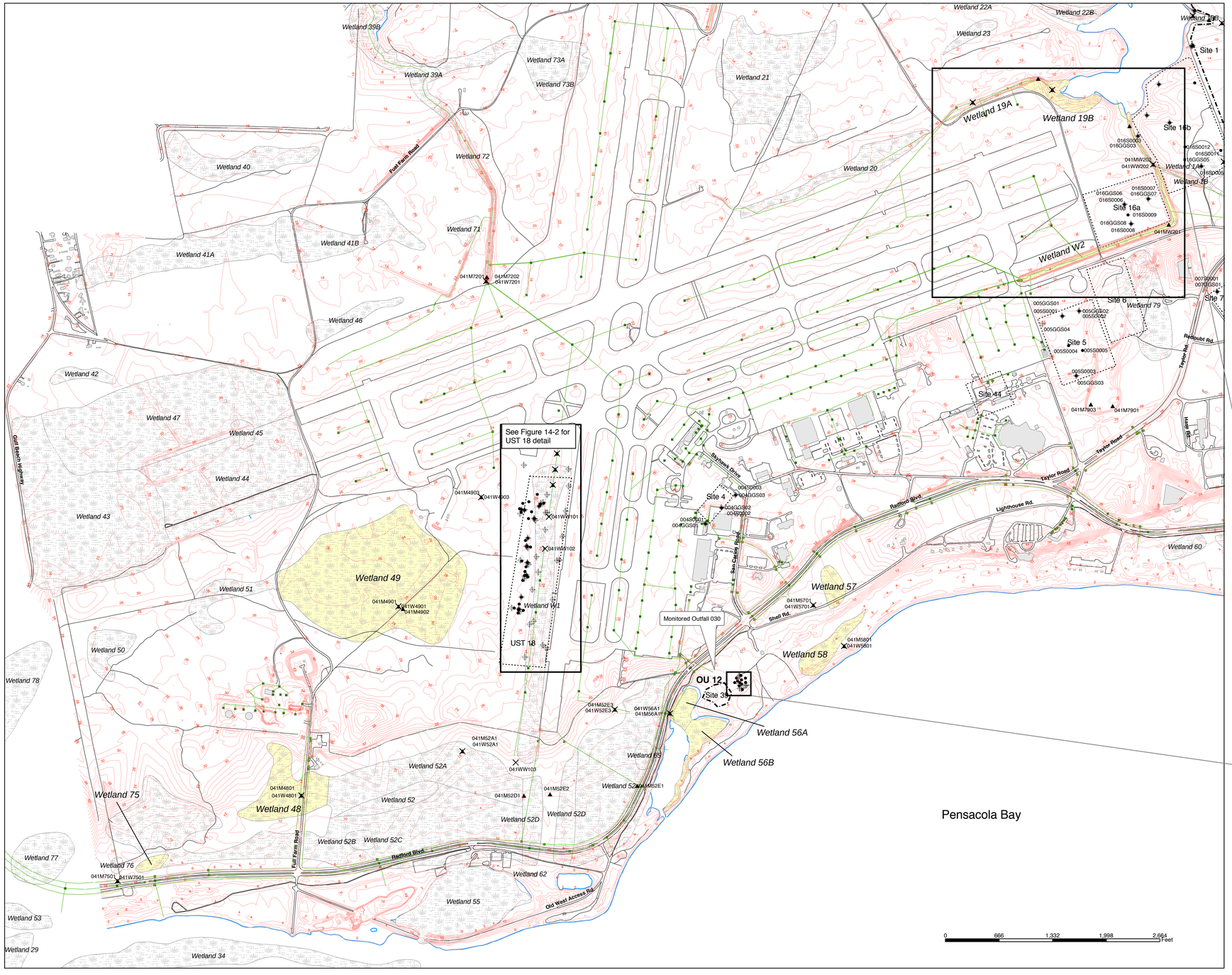

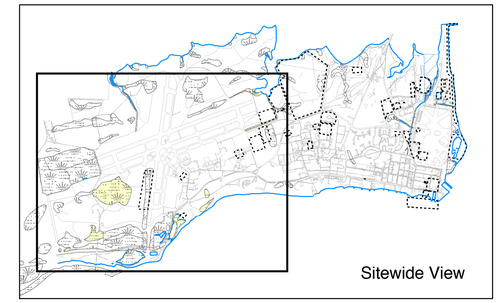

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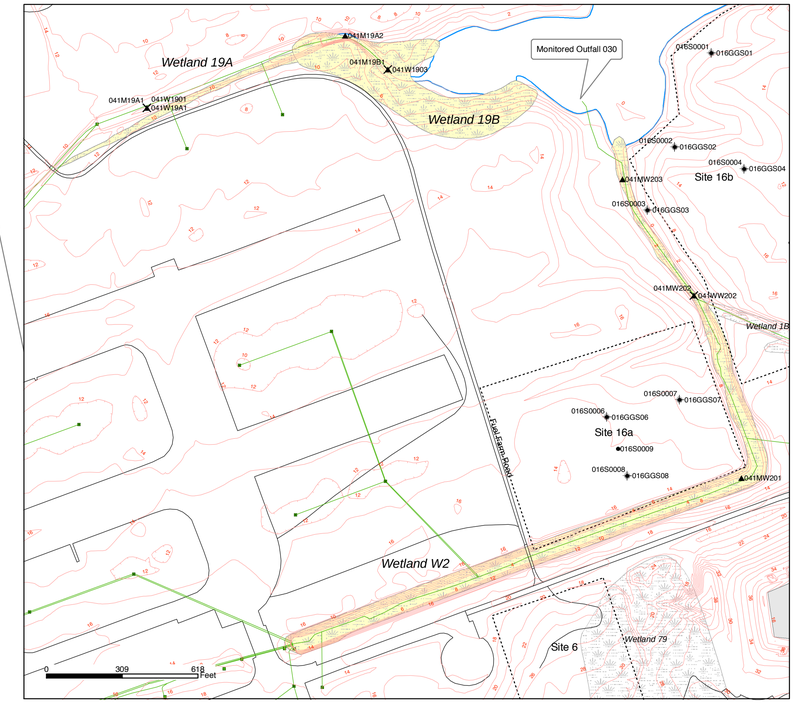

Inset 2

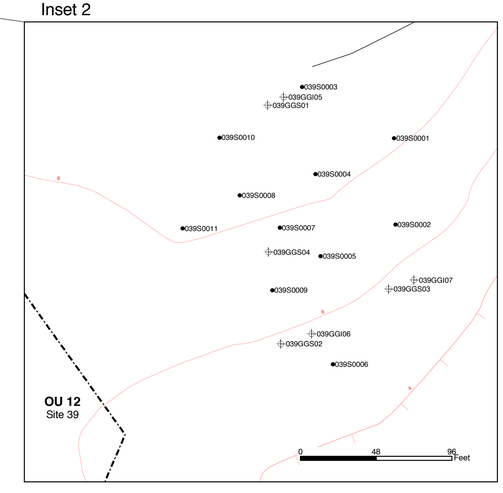

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FIGURE 15-2
Miscellaneous Wetlands
Study Area Topography

Final Remedial Investigation Report
Site 41
NAS Pensacola, FL

Date: 10/5/04 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig15-2.mxd

Legend

Sitewide Sample Locations

- Soil
- Site 41 RI Sediment
- Site 41 RI Surface Water
- Groundwater
- Operable Unit (OU)
- Site
- Wetland-Approximate
- Misc Wetland-Approximate
- Building
- Topographic Contour(ft)
- Shoreline
- Road
- Storm water Pipe
- Storm water Inlet
- Storm water Headwall

N W E S

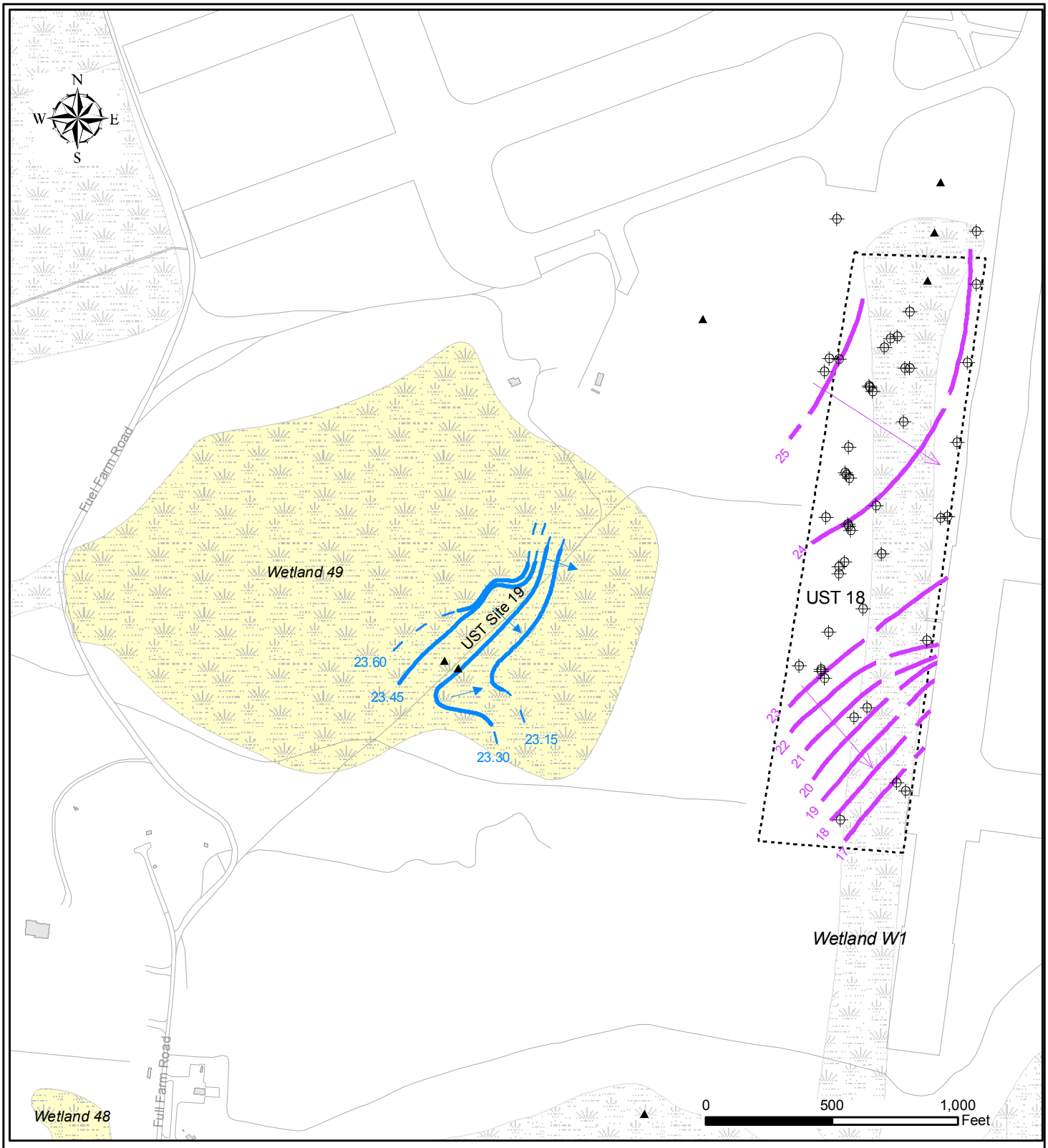

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FIGURE 15-3
Miscellaneous Wetlands
Shallow Potentiometric Surface

Final Remedial Investigation Report
Site 41
NAS Pensacola, FL

Date:8/14/05 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig15-3.mxd

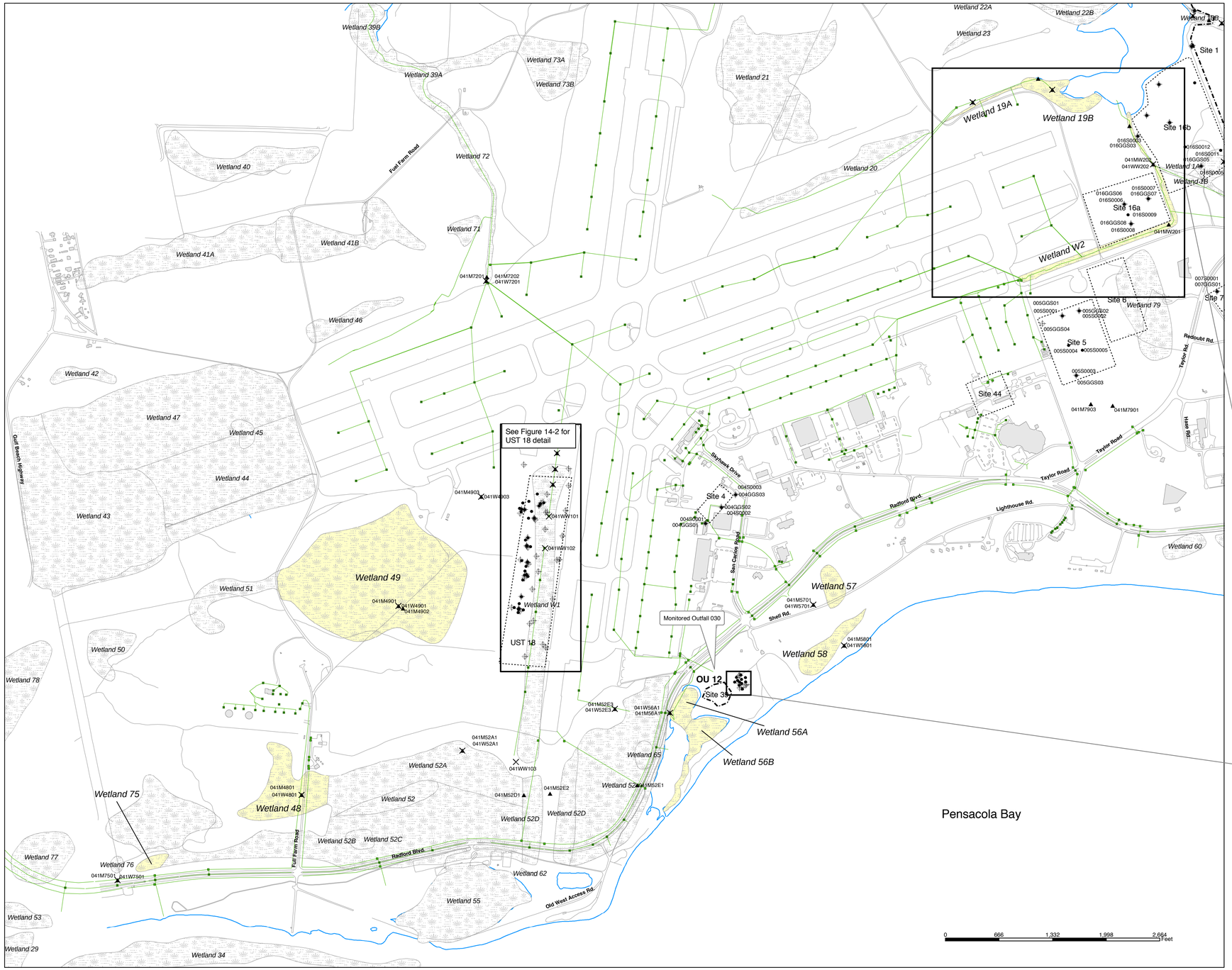
Legend

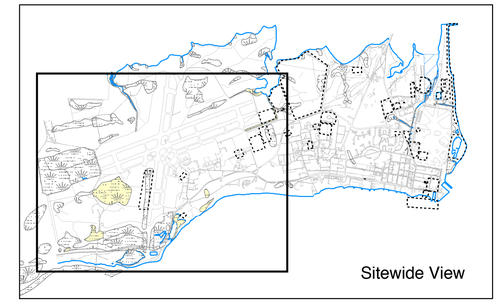
Shallow Potentiometric Surface
- Contour (0.15ft interval)
- Groundwater Flow Direction

Shallow Potentiometric Surface
- Contour (1ft interval)
- Groundwater Flow Direction

Sitewide Sample Location
- Sediment Sample
- Groundwater Well
- Misc Wetland-Approximate
- Wetland- Approximate
- Operable Unit (OU)
- Site
- Building
- Shoreline
- Road

Note:
Groundwater potentiometric contours are from the Site 19 Site Assessment Report Addendum, 4/10/2001.





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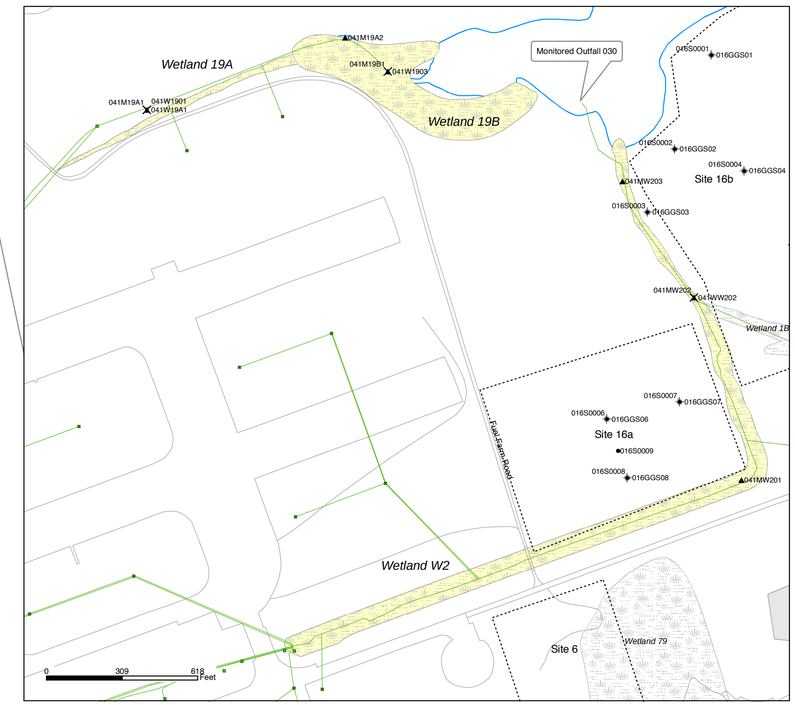

Inset 2

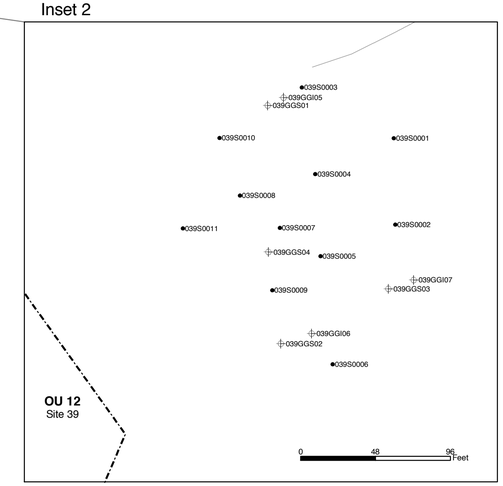

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FIGURE 15-4
Miscellaneous Wetlands, Nearby Sites, and Adjacent Soil Borings and Monitoring Wells

Final Remedial Investigation Report
Site 41
NAS Pensacola, FL

Date: 10/5/04 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig15-4.mxd

Legend

Sitewide Sample Locations

- Soil
- Site 41 RI Sediment
- Site 41 RI Surface Water
- Groundwater
- Operable Unit (OU)
- Site
- Wetland-Approximate
- Misc Wetland-Approximate
- Building
- Shoreline
- Road
- Storm water Pipe
- Storm water Inlet
- Storm water Headwall

N W E S

Legend

Site 41 RI Sediment Sample

Phase II Total DDT

- 0.285 - 109.99
- 110.00(BL) - 3460.00

Phase 2004 Total DDT

- 0.79 - 31.50 [<110 (BL)]
- Operable Unit (OU)
- Site
- Wetland-Approximate
- Misc Wetland-Approximate
- Building
- Shoreline
- Road

Note:
BL is the total DDT basewide level.
Results units are ug/kg.
Only the miscellaneous wetlands have labels.

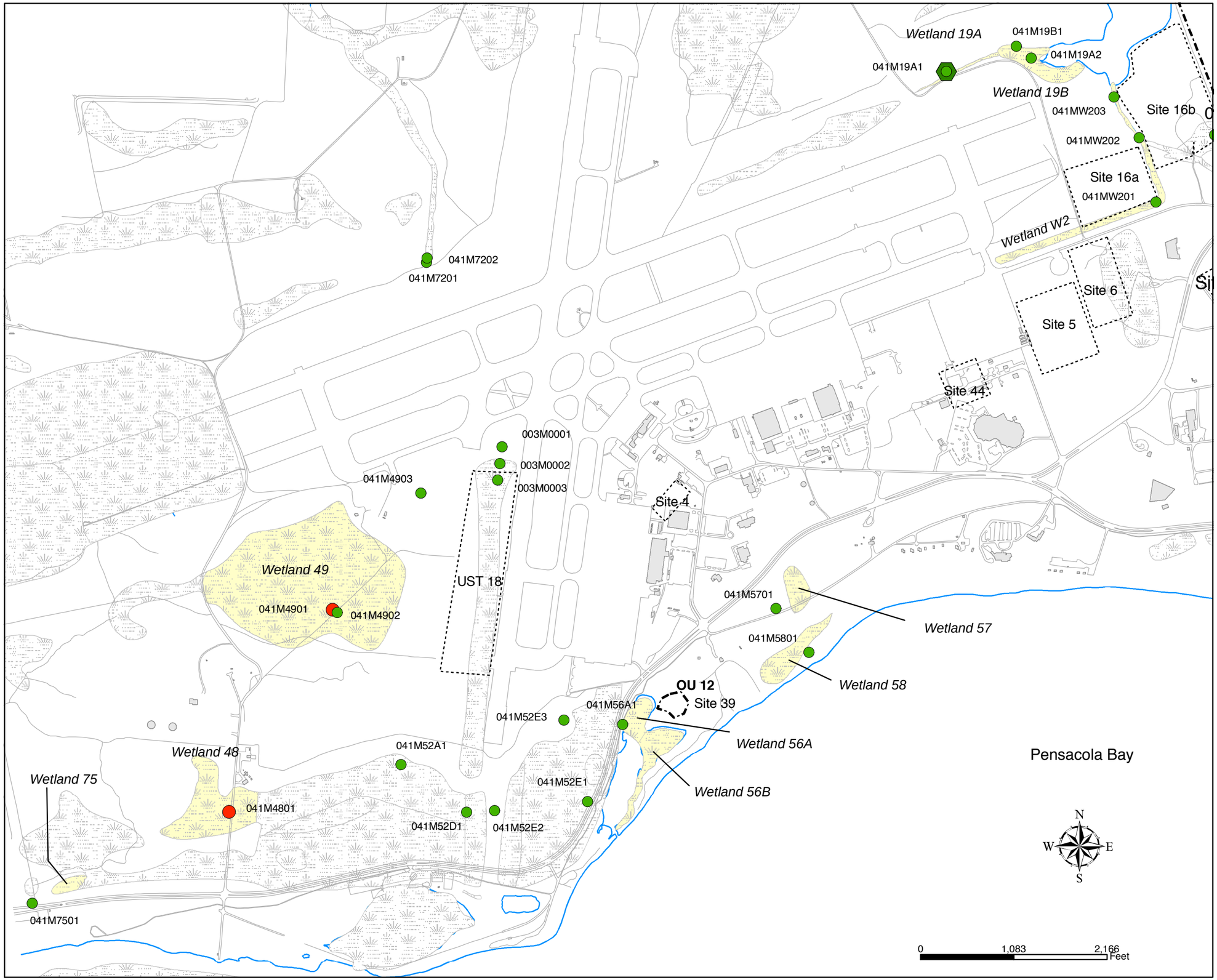

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FIGURE 15-5
Miscellaneous Wetlands
Sediment Total DDT

Final Remedial Investigation Report
Site 41
NAS Pensacola, FL

Date: 10/5/04 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig15-5.mxd

Legend

Site 41 RI Sediment Sample

Phase II TOC Normalized Total PAHs

- 1.94 - 289.99
- 290.00(TEC) - 1262.56

Phase 2004 TOC Normalized Total PAHs

- 10.40 - 174.53
- Nondetect TOC Normalized Total PAH
- Operable Unit (OU)
- Site
- Wetland-Approximate
- Misc Wetland-Approximate
- Building
- Shoreline
- Road

Note:
Only the miscellaneous wetlands have labels.
Results units are mg/kg-oc.

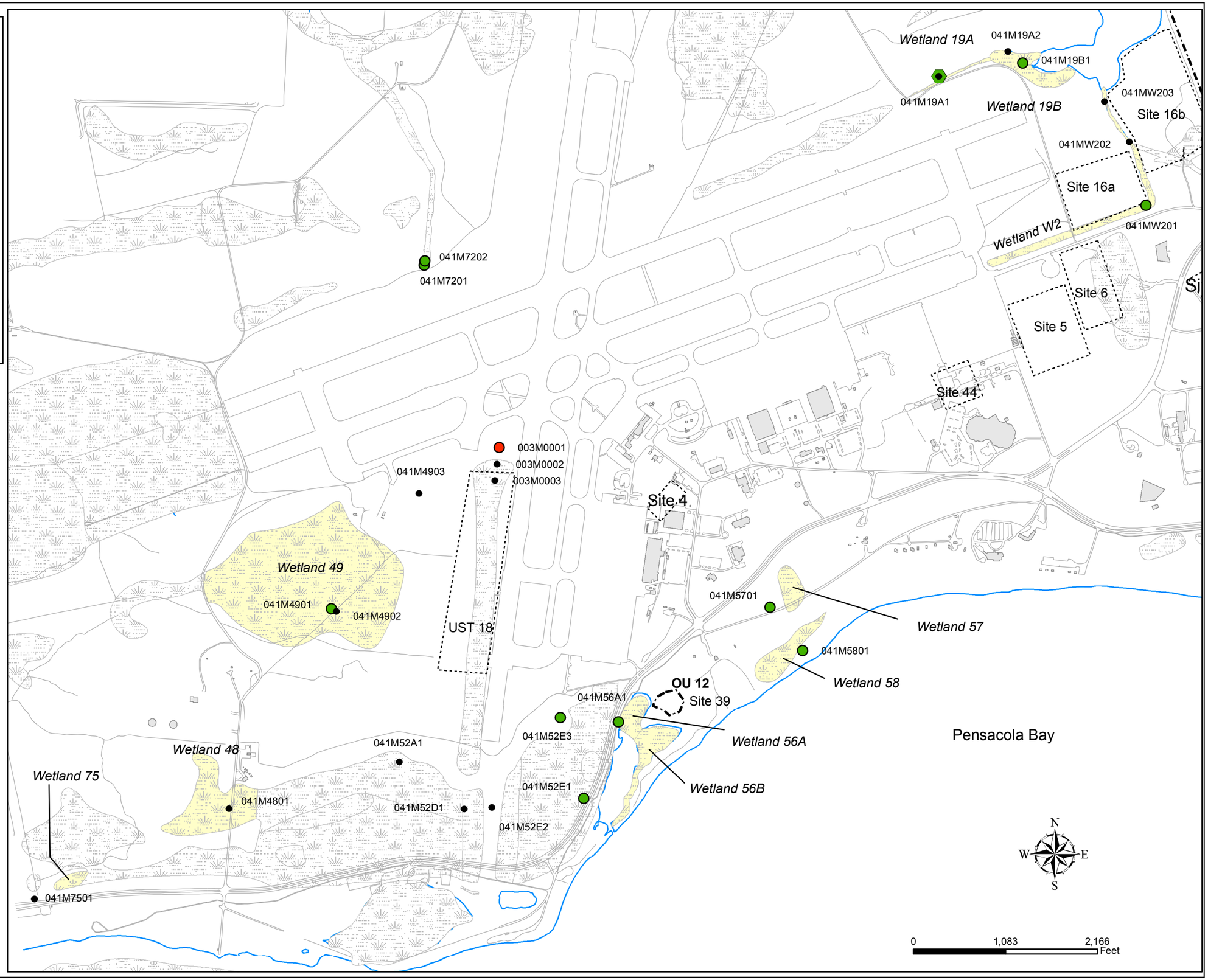

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FIGURE 15-6
Miscellaneous Wetlands
Sediment Swartz Normalized Total PAHs

Final Remedial Investigation Report
Site 41
NAS Pensacola, FL

Date: 3/9/05 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig15-6.mxd

Legend

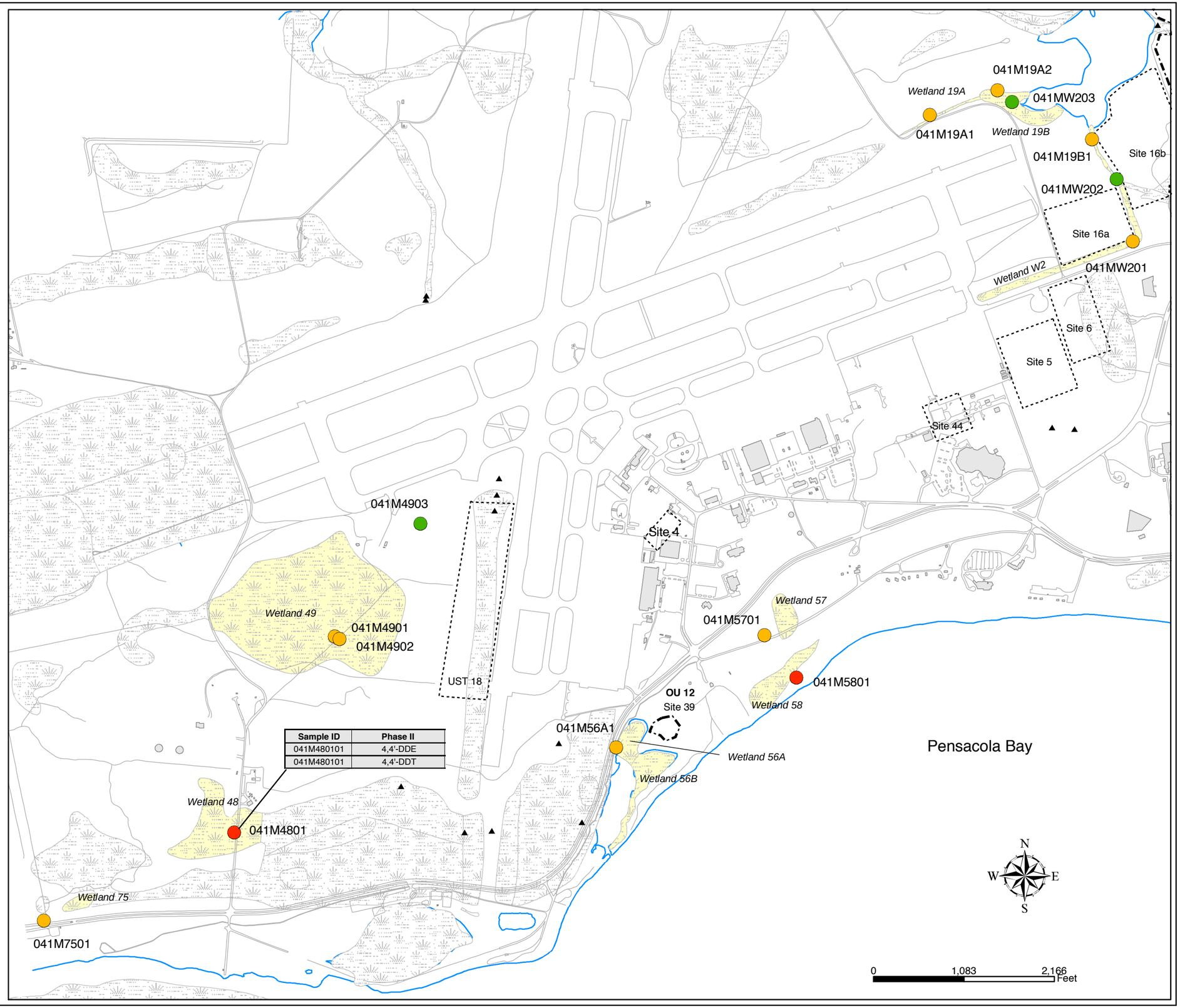
Misc Wetland Sediment Sample with ERM Category

Phase II Mean ERM Quotient Category

- 1
- 2
- 3
- Site 41 RI Sediment associated to another OU
- Site
- Operable Unit (OU)
- Misc Wetland in Site 41 RI- Approximate
- Wetland-Approximate
- Building
- Road
- Shoreline

Table indicates parameters that exceeded the ERM for each sample phase.				
Sample ID	Phase II	Phase III	Phase 2001	Phase 2004

Note:
Sample without a parameter table do not have parameters that exceeded the ERM value.
Only the misc wetlands have labels.



Sample ID	Phase II
041M480101	4,4'-DDE
041M480101	4,4'-DDT

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FIGURE 15-7
Miscellaneous Wetlands Sediment Sample ERM Quotient Categories and Parameters that Exceed the ERM

Final Remedial Investigation Report
Site 41
NAS Pensacola, FL

Date: 10/5/04 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig15-7.mxd

Legend

Sediment Sample

- Chemistry only
- Chemistry and Toxicity

Surface Water Sample

- Total and Dissolved Metals only
- Total and Dissolved Metals and VOCs
- Chemistry only
- Chemistry and Toxicity
- Species Diversity Sample
- Fish Tissue Sample
- Proposed Surface Water Sample Not Collected
- Operable Unit (OU)
- Site
- Wetland-Approximate
- Misc Wetland-Approximate
- Building
- Shoreline
- Road

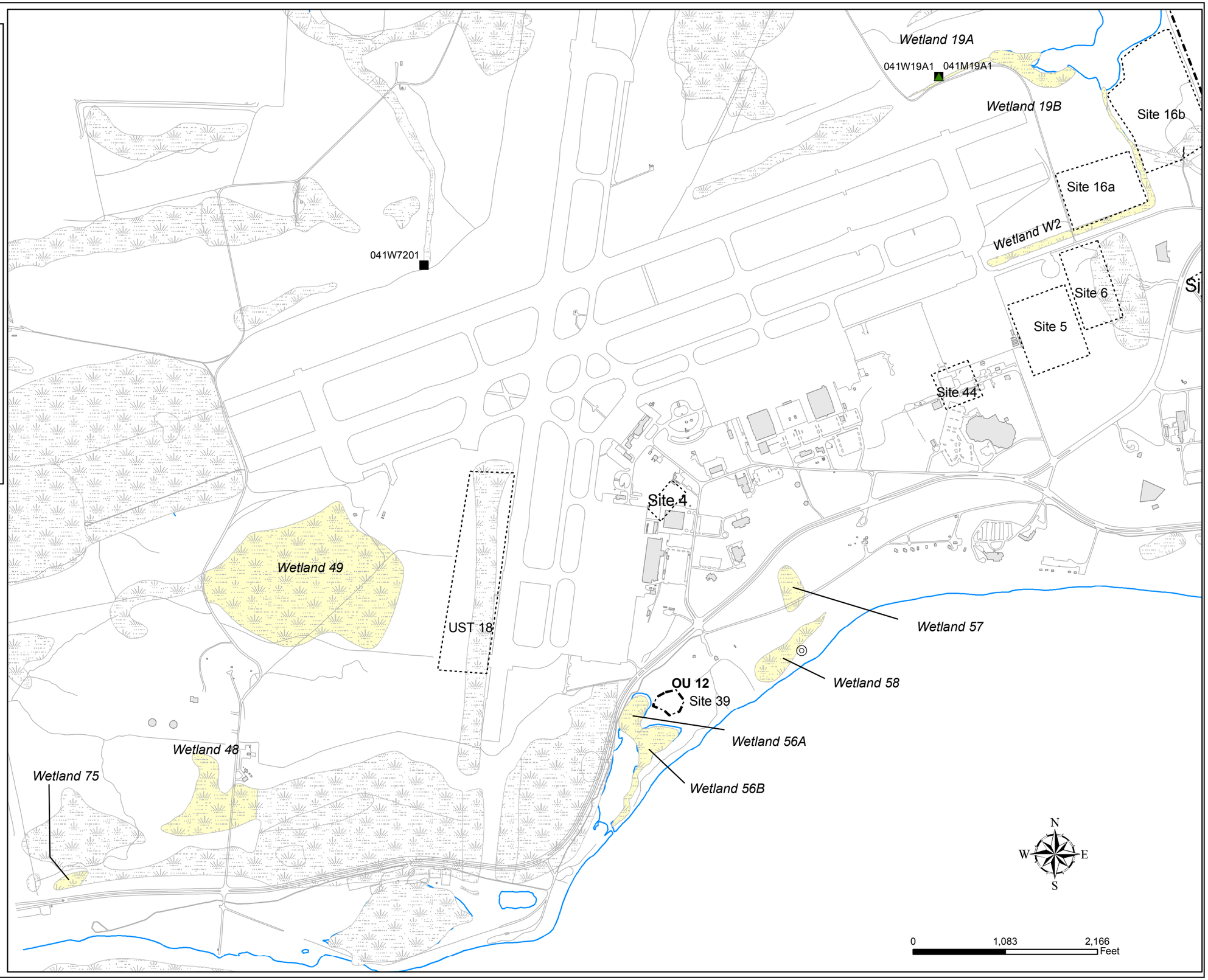

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FIGURE 15-8
Miscellaneous Wetlands
Chemistry and Toxicity Sample Locations

Final Remedial Investigation Report
Site 41
NAS Pensacola, FL

Date: 4/18/05 | Drwn by: CT | File: K:/GIS/Navy-Pensacola/CTO-036/Projects/Fig15-8.mxd

15.1 Wetland 19 — Screening Level Problem Formulation

15.1.1 Site Description and Habitats Present at Wetland 19

Wetland 19 is at the southwest end of Redoubt Bayou, which drains to the north into Bayou Grande. The area that makes up Wetland 19 is approximately 2.2 acres in size. Wetland 19 is a confluence of the surface water drainage from Wetland 20. This system drains surface water from the northeast side of Forrest Sherman Field and flows eastward through Wetland 19 into the southwest end of Redoubt Bayou. Surface water from Wetland 19A flows over a weir before discharging into Wetland 19B (an estuarine marsh) and then into Redoubt Bayou. A grassy right-of-way area along portions of Wetland 19 is periodically mowed (Figure 15-1).

The IR site potentially affecting Wetland 19 is Site 16 (Brush Disposal Site). Site 16 has been used for disposal of brush from pruning and tree trimming from the 1960s to the present. Site 16 occupies approximately 30 acres of a sparsely vegetated, open field immediately northeast of Sherman Field. It was reportedly used between the late 1960s to 1973 for the disposal of pruning and tree-trimming refuse. However, the area may have been used for garbage incineration and ash disposal. There was no evidence of chemical usage onsite. A visual inspection showed evidence of brush and several pieces of metal onsite.

Inorganic in site soil were similar to those identified at other sites in the area. Elevated soil PAH concentrations likely originated from a source not related to site activities (E/A&H, 1997a). Detected concentrations of aluminum and iron in groundwater were below their respective reference concentrations at all locations but one for each constituent. The EPA (USEPA Region 4, 1997c) and FDEP (FDEP, 1997a) approved alternative for Site 16 was no action.

Photograph 1 Wetland 19 — Facing Southwest

Parsons and Pruitt (USEPA, 1991a) divided Wetland 19 into two parts, Wetland 19A and 19B. Wetland 19A is described as a palustrine emergent system, and Wetland 19B is described as an estuarine emergent system. For the current report, Wetland 19 has been separated and will be discussed separately within this section (Wetland 19A and Wetland 19B).

15.1.2 Wetland 19 — Sample Location Description

Phase II Sediment Sample Location Description — Wetland 19A

Two sediment samples were collected and analyzed for the Wetland 19A ERA. Sample locations for Wetland 19A were located in areas of the wetland described as a palustrine emergent system (Figure 15-4). Table 15-1-1 (tables are located at the end of each section) provides a physical description of the sediments collected at Wetland 19A. Sediments at Wetland 19A varied at both locations. Sample location 041M19A101 was composed of brown silt with 0.423% TOC and sample location 041M19A201 was composed of light olive brown poorly graded sand, fine with 0.0674% TOC.

Phase IV Sediment Sample Location Description — Wetland19A

One additional sediment sample was collected and analyzed for the Wetland 19A ERA in 2004 due to elevated concentrations detected during the Phase II investigation. The sample location (041M19A101) for Wetland 19A was located in an area of the wetland where depositional areas and groundwater seeps could occur. This sample location is centrally located within the wetland (Figure 15-4). The TOC concentration equaled 0.17%, denoting the average expected organic content for this area.

Phase II Surface Water Sample Location Description — Wetland 19A

One surface water sample was collected at Wetland 19A, location 041W190101 (Figure 15-4), which was collocated with sediment location 041M19A101. The surface water sample was taken during the 1996 site investigation. Table 15-1-2 provides a physical description of the surface water collected at Wetland 19A. Surface water at Wetland 19A had a pH concentration of 6.20. Specific conductivity concentration was 0.103 mS/cm. Hardness as $CaCO_3$ reported a concentration of 71.8 mg/L, and salinity was 0%. Surface water at Wetland 19A had a turbidity reading of 41 NTUs.

Phase IV Surface Water Sample Location Description — Wetland 19A

One surface water sample was collected in 2004 at Wetland 19A, location 041W19A102 (Figure 15-4). The surface water sample was taken during the Phase IV site investigation. Due to sampling errors, physical description of the surface water was not recorded during this phase of the investigation.

Phase II Sediment Sample Location Description — Wetland 19B

Wetland 19B is an estuarine emergent system. A sediment samples was collected and analyzed for the Wetland 19B ERA. Sample location for Wetland 19B was located at the point where the wetland meets Redoubt Bayou (Figure 15-4). Table 15-1-3 provides a physical description of the sediments collected at Wetland 19B. Sediment at 041M19B101 was a very dark gray poorly graded sand, fine with a trace of silt. The TOC concentration for Wetland 19B was 0.21%.

Phase II Surface Water Sample Location Description — Wetland 19B

One surface water sample was collected at Wetland 19B (041W190301) and collocated with sediment sample 041M19B101 collected from this wetland (Figure 15-4). Table 15-1-4 provides a physical description of the surface water collected at Wetland 19B. Surface water at Wetland 19B had a pH concentration of 5.57. Specific conductivity concentration was 0.676 ms/cm. Hardness as $CaCO_3$ reported a concentration of 193 mg/L, and salinity was 0.35%. Surface water at Wetland 19B had a turbidity reading of 19 NTUs.

15.1.3 Nature and Extent of Contamination

Figure 15-4 presents the Phase II and Phase IV sediment and surface water sampling locations for Wetlands 19A and 19B.

Wetland 19A Phase II Sediment

Table 15-1-5 presents a summary of the Phase II analytical results of the two Wetland 19A sediment samples.

Metals — Seventeen metals were detected during Phase II sediment sampling at Wetland 19A. Location 041M19A101 had the greatest diversity of analytes detected and the highest concentrations of each analyte detected at the wetland. This location had all 17 metals detected, seven of which exceeded their applicable freshwater reference values. These included aluminum, arsenic, barium, cobalt, iron, manganese, and vanadium. Location 041M19A201 had 14 metals detected; none of these exceeded their reference values.

Pesticides and PCBs — Six pesticide compounds and the PCB aroclor-1260 were detected during Phase II sediment sampling at Wetland 19A. Total DDT was calculated for each location by adding the concentrations of 4,4′-DDD, 4,4′-DDE, and 4,4′-DDT. Likewise, a basewide total DDT reference concentration was calculated using the basewide concentrations for these same constituents. None of the pesticides detected exceeded the available basewide reference values.

Both locations had three different pesticide compounds detected at relatively low concentrations. Aroclor–1260 was detected in the sample from location 041M19A201 at a low concentration.

SVOCs — No SVOCs were detected during Phase II sediment sampling at Wetland 19A.

VOCs — One VOC, chloromethane, were detected during Phase II sediment sampling at Wetland 19A at sample location 041M19A201 at a low concentration.

Wetland 19A Phase IV Sediment

Table 15-1-6 presents a summary of the analytical results of the single Wetland 19A sediment sample collected during Phase IV investigation. Based on the Phase II analytical results, a confirmatory sample was collected in 2004 at location 041M19A101.

Metals — Seventeen metals were detected during sediment sampling performed during 2004 at Wetland 19A. Location 041M19A101, which exhibited elevated concentrations during Phase II, was revisited to confirm earlier results. This location had 17 metals detected; none of these exceeded their reference values. Overall, the concentrations reported during the Phase IV investigation show a remarkable decrease in concentrations. Although detected during Phase II sampling, Cobalt was not detected during this investigation. Antimony, not detected during the Phase II sampling, was detected at a low concentration during the Phase IV sampling event.

Pesticides and PCBs — Pesticide compounds or PCBs were not detected during the Phase IV sediment sampling performed at Wetland 19A.

SVOCs — Two SVOCs were detected during the recent 2004 sampling at Wetland 19A. Pentachlorophenol and phenanthrene were both detected at low concentrations in the sample from location 041M19A101. No SVOCs were reported during the Phase II sampling event.

VOCs — Carbon tetrachloride and chloroform were detected during the Phase IV sampling at Wetland 19A. Both were detected are relatively low concentrations. Neither compound was detected during previous sampling.

Summary of Phase II and Phase IV Sediment Sampling Results

Metals were more common and detected at higher concentrations at location 041M19A101, near the upstream western portion of the wetland. Pesticides, although widely distributed in the wetland, were

all detected at very low concentrations. The Phase IV analytical results showed a remarkable decrease in metals detected in Wetland 19A sediments as compared to the Phase II results.

Wetland 19A Phase II Surface Water

Table 15-1-7 presents a summary of the Phase II analytical results of the single Wetland 19A surface water sample.

Metals — Nineteen metals were detected in the Phase II surface water sample collected from location 041W190101 at Wetland 19A. Of these 19 detections, 16 were present at concentrations exceeding their respective fresh water reference values. These included aluminum, antimony, arsenic, barium, beryllium, calcium, chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, vanadium, and zinc.

Pesticides and PCBs — Pesticides compounds or PCBs were not detected in this surface water sample.

SVOCs — A single SVOC, di-n-butylphthalate, was detected in the surface water sample at a low concentration.

VOCs — No VOCs were detected in the Phase II surface water sample collected from Wetland 19A.

Wetland 19A Phase IV Surface Water

Table 15-1-8 presents a summary of the analytical results of the single Wetland 19A surface water sample collected during 2004. Based on the Phase II analytical results, a confirmatory sample was collected at location 041M19A102. This sample was analyzed for metals only.

Metals — Eleven metals were detected in the Phase IV surface water sample collected from location 041W19A102 at Wetland 19A. Of these 11 detections, only barium and manganese were present at concentrations exceeding their respective fresh water reference values. It is important to note that all concentrations decreased significantly from the Phase II results.

Wetland 19B Phase II Sediment

Table 15-1-9 presents a summary of the Phase II analytical results of the single Wetland 19B sediment sample.

Metals — Fourteen metals were detected during Phase II sediment sampling at Wetland 19B. Although location 041M19B101 had 14 analytes detected, none of these analytes were present at concentrations exceeding the estuarine reference values.

Pesticides and PCBs — Seven pesticide compounds and the PCB aroclor-1260 were detected during Phase II sediment sampling at Wetland 19B. Total DDT was calculated for each location by adding the concentrations of 4,4′-DDD, 4,4′-DDE, and 4,4′-DDT. Likewise, a basewide total DDT reference concentration was calculated using the basewide concentrations for these same constituents. All of the pesticides detected were at low concentrations, and none of the pesticides detected exceeded the available basewide reference values. Aroclor-1260 was also detected at a low concentration.

SVOCs — Two SVOCs were detected during Phase II sampling at Wetland 19B. Fluoranthene and pyrene were both detected at low concentrations in the sample from location 041M19B101.

VOCs — No VOCs were detected during the Phase II sediment sampling at Wetland 19B.

Wetland 19B Phase II Surface Water

Table 15-1-10 presents a summary of the Phase II analytical results of the single Wetland 19B surface water sample.

Metals — Thirteen metals were detected in the Phase II surface water sample collected from location 041W190301 at Wetland 19B. Of these 13 detections, only arsenic, iron, and manganese were present at concentrations exceeding their respective estuarine reference values.

Organics — There were no organic constituents detected in the Phase II surface water samples collected for the Wetland 19B investigation.

15.1.4 Ecological Risk Assessment

15.1.4.1 Phase II Investigation Summary — Wetland 19A

Sediment Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 15-1-11, the sediment samples were compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than 1 or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-1-12.

Baseline Problem Formulation — Wetland 19A Sediment COPC Refinement

During the COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs. This risk assessment presents a statement of potential risk for each of the COPCs.

The COPC refinement process included:

- Comparison of maximum concentrations to RVs
- Comparison of average concentrations to SVs and RVs
- Comparison to basewide (reference) concentrations for total DDT
- Comparison of inorganic constituents to reference wetland values
- Interpretative tool for metals
- Di Toro EqP SQGs for VOCs
- Comparison to Swartz consensus values
- Mean ERM quotients
- Description of exceedances of RVs and their extent

The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 15-1-13. COPCs retained during the ERA process are presented in Table 15-1-14. Additionally, the tables compare: 1) average concentrations to screening and refinement values to assess potential exposure across the entire wetland, and 2) Wetland 19A concentrations to reference concentrations.

For Wetland 19A, aluminum, arsenic, barium, cobalt, iron, manganese, and vanadium exceeded their Site 41 freshwater sediment reference concentrations. Appendix K shows that arsenic and barium concentrations were below the expected natural background conditions for both normalizers; therefore, both constituents were dropped as COPCs. This interpretative tool did not address aluminum, cobalt, manganese, vanadium, or iron as being a part of the normalizing equation.

Endosulfan I and heptachlor epoxide were detected and retained as COPCs during the ERA process due to lack of screening values. The VOC chloromethane was also detected and retained through the refinement process.

Table 15-1-15 presents the Mean ERL and ERM values, the Mean ERM Quotients, and the Mean ERM Quotient Category by individual sample location. Based on this approach, both sample locations (041M19A101 and 041M19A201) were determined to be Category 2, which, according to tests

evaluated in developing this methodology, had average survival rates of approximately 80% of control sediments; however, this category also has the highest level of uncertainly. Figure 15-7 also shows the Mean ERM category for each sediment sample location at Wetland 19A.

At Wetland 19A, aluminum, barium, iron, manganese, and vanadium were detected at both sample locations. All maximum detections occurred at sample location 041M19A101.

Endosulfan I and heptachlor epoxide were detected at sample location 041M19A101, with maximum detections of 5.3 µg/kg and 26 µg/kg, respectively. No background values were available for these compounds. Total BHC had a maximum concentration of 1.36 µg/kg at sample location 041M19A101 and was not retained through the ERA process.

Surface Water Screening — Level Risk-Estimation and Risk Calculation

As presented in Table 15-1-16, the surface water sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or with no screening values were carried forward to COPC refinement. A list of COPCs retained is presented in Table 15-1-17.

Baseline Problem Formulation — Wetland 19A Surface Water COPC Refinement

During the surface water COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as COPCs.

The COPC refinement process included:

- Comparison of maximum SV concentrations to average SV concentrations
- Comparison of inorganic constituents to reference wetland values
- Description of surface water exceedances and their extent

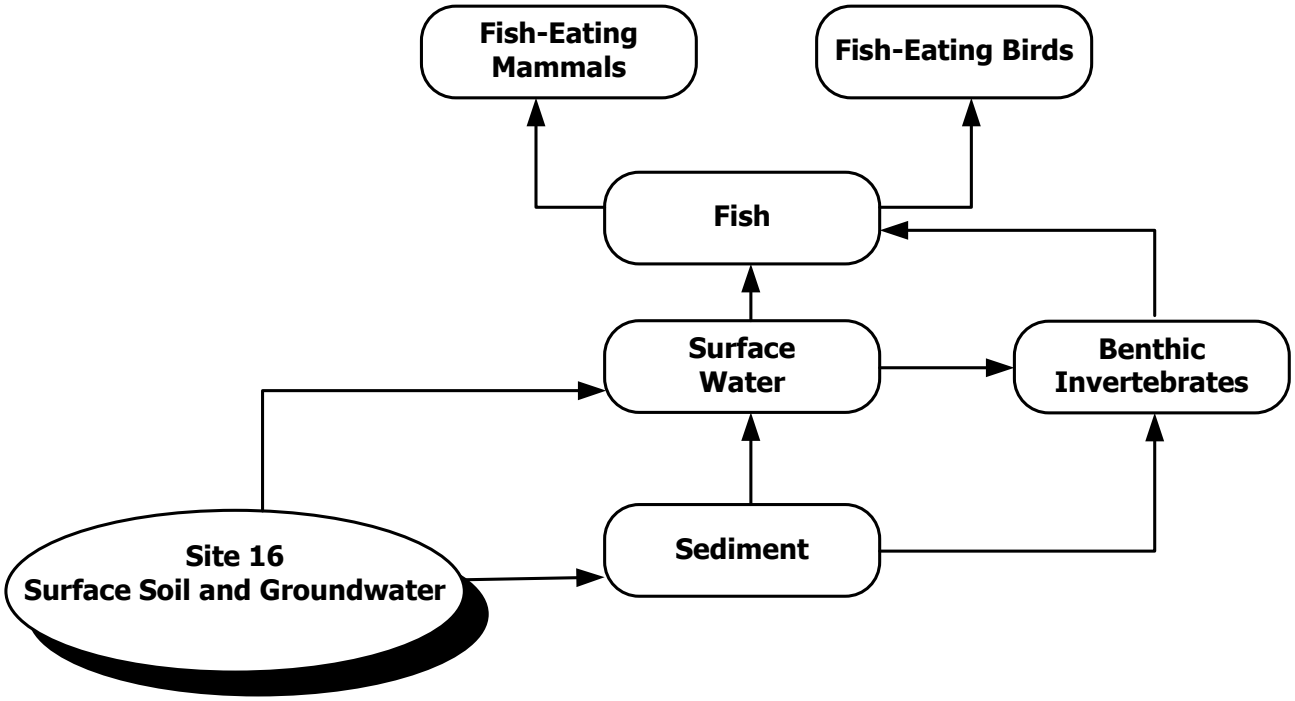
The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 15-1-18. Additionally, the tables compare average concentrations to screening and refinement values to assess potential exposure across the entire wetland. COPCs retained during the ERA process are presented in Table 15-1-19.

For Wetland 19A, aluminum, arsenic, barium, beryllium, calcium, chromium, cobalt, copper, iron, lead, manganese, mercury, vanadium, and zinc exceeded their Site 41 freshwater reference surface water concentrations at sample location 041W190101 (Table 15-1-20). Di-n-butylphthalate was also detected at this location and retained as a COPC.

At Wetland 19A during the Phase II investigation, five of the same constituents were detected and retained in sediment and surface water samples. These constituents were aluminum, cobalt, iron, manganese, and vanadium.

The conceptual model below symbolizes which environmental habitats may be impacted by Wetland 19A Phase II constituents retained during the ERA Process.

Wetland 19
Conceptual Site Model



15.1.4.2 Phase IV Investigation Summary — Wetland 19A

Sediment Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 15-1-20, the sediment sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-1-21.

Baseline Problem Formulation — Wetland 19A Sediment COPC Refinement

The same approach used to refine the Phase II Wetland 19A sediments (Section 15.1.4.1) was applied to the Phase IV/2004 Wetland 19A sediments.

The methods used in the COPC refinement for the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 15-1-22. A list of retained COPCs is presented in Table 15-1-23. Additionally, the tables compare: 1) average concentrations to screening and refinement values to assess potential exposure across the entire wetland, and 2) Wetland 19A concentrations to reference concentrations.

At Wetland 19A, total DDT was below the basewide level, indicating that 4,4'-DDT and its daughter products are not a concern for this wetland. For Wetland 19A, none of the inorganic constituents exceeded their Site 41 freshwater sediment reference concentrations. Carbon tetrachloride and chloroform were detected in sediment samples at Wetland 19A. When normalized to detected TOC concentrations, VOCs did not appear to be risk drivers for Wetland 19A. There were no PAHs detected as a group at this wetland. Pentachlorophenol was detected at sample location 041M19A101, with a detection of 68 mg/kg.

Table 15-1-24 presents the Mean ERL and ERM values, the Mean ERM Quotients, and the Mean ERM Quotient Category by individual sample location. Based on this approach, the sample location (041M19A101) was determined to be Category 2, which, according to tests evaluated in developing this methodology, had average survival rates of approximately 80% of control sediments; however, this Category also has the highest level of uncertainty. Figure 15-7 also shows the Mean ERM category for each sediment sample location at Wetland 19A.

Surface Water Screening — Level Risk-Estimation and Risk Calculation

As presented in Table 15-1-25, the surface water sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or

with no screening values are carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-1-26.

Baseline Problem Formulation — Wetland 19A Surface Water COPC Refinement

The same approach used to evaluate surface water during the Phase II (15.1.4.1) investigation was used to evaluate the Phase IV surface water.

The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 15-1-27. Additionally, the tables compare average concentrations to screening and refinement values to assess potential exposure across the entire wetland. COPCs retained through the ERA process are presented in Table 15-1-28.

For Wetland 19A, barium and manganese exceeded their Site 41 freshwater reference surface water concentrations at sample location 041W19A102 and were retained as COPCs (Table 15-1-28).

15.1.4.3 Comparison of Phase II and IV Sample Results — Wetland 19A

Both the Phase II and IV results indicated inorganic constituents and pesticides were of greatest concern at Wetland 19A; however, concentrations dropped among constituents between the two phases. There were no sediment constituents in common retained between the phases. Barium and manganese were the only constituents retained in surface water for both sampling efforts. Barium was detected at 041W19A101 with a concentration of 300 µg/L during the Phase II sampling event; however, it decreased during the Phase IV sampling effort to a concentration of 8.5 µg/L at sample location 041W19A102. Manganese was detected a sample location 041W19A101 with a concentration of 12,700 µg/L during the Phase II sampling effort and was detected at sample location 041W19A102 with a concentration of 18 µg/L during the Phase IV sampling event.

Based on the Phase II results described above, Wetland 19 was identified as a Blue-Coded Wetland in the approved *Final RI/FS SAP Addendum* (E/A&H, 1997d), indicating that contaminants were present generally below screening values, and contaminants did not appear to be site related. Blue-Coded Wetlands were not assessed further in Phase III. However, to assess potential risks from contaminants that bioaccumulate, the results from Wetland 19 will be used in the food-chain model for the remaining wetlands presented in Section 15.8.

15.1.4.4 Phase II Investigation Summary — Wetland 19B

Sediment Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 15-1-29, the sediment samples were compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-1-30.

Baseline Problem Formulation — Wetland 19B Sediment COPC Refinement

The same approach used to refine Wetland 19A sediments (Section 15.1.4.1) was applied to Wetland 19B sediments.

The methods used in the COPC refinement for the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 15-1-31. Additionally, the tables compare: 1) average concentrations to screening and refinement values to assess potential exposure across the entire wetland, and 2) Wetland 19B concentrations to reference concentrations. COPCs retained through the ERA process presented in Table 15-1-33.

For Wetland 19B, none of the constituents detected exceeded their Site 41 freshwater sediment reference concentrations. Heptachlor epoxide was detected and retained as a COPC due to a lack of screening criteria. No VOCs were detected at Wetland 19B; however, when normalized to detected TOC concentrations, PAHs did not appear to be a risk driver for this wetland.

Table 15-1-33 presents the Mean ERL and ERM values, the Mean ERM Quotients, and the Mean ERM Quotient Category by individual sample location. Figure 15-7 shows the Mean ERM Category for each sediment sample at Wetland 19B. Based on the methods and the approach detailed in Section 8, sample location 041M19B101 was determined to be Category 1, indicating the sediment at this location were considered to be nontoxic.

At Wetland 19B, a maximum concentration of 0.22 mg/kg of heptachlor epoxide was detected at sample location 041M19B101. There was no screening value for this constituent; therefore, this constituent was retained during the ERA process.

Surface Water Screening — Level Risk-Estimation and Risk Calculation

As presented in Table 15-1-34, the surface water sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-1-35.

Baseline Problem Formulation — Wetland 19B Surface Water COPC Refinement

The same approach used to refine Wetland 19A surface water (Section 15.1.4.1) was applied to Wetland 19B surface water.

The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 15-1-36. Additionally, the tables compare average concentrations to screening and refinement values to assess potential exposure across the entire wetland. COPCs retained after refinement are presented in Table 15-1-37.

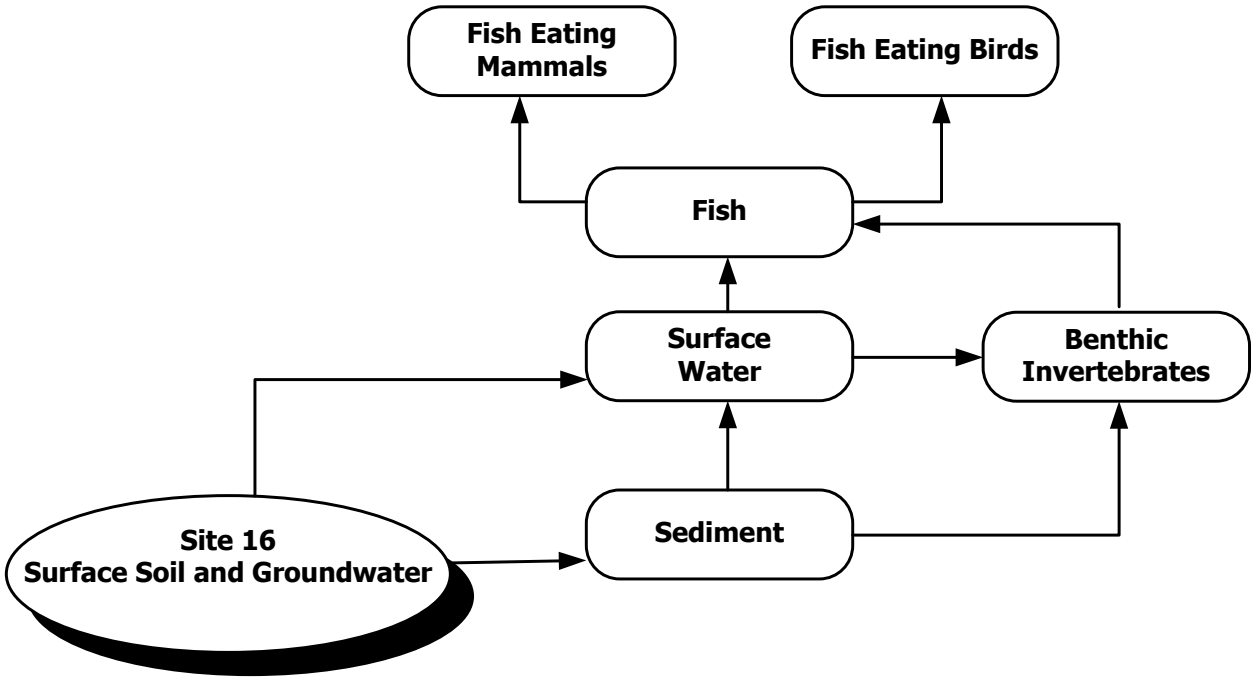
For Wetland 19B, iron and manganese exceeded their Site 41 freshwater reference concentrations (Table 15-1-37). Maximum detections of the essential nutrients calcium, magnesium, potassium, and sodium were all below reference wetland ranges and were not carried forward in the ERA Process.

At Wetland 19B, iron and manganese were detected at sample location 041W190301, with maximum concentrations of 4,030 µg/L and 26.3 µg/L, respectively. Both constituents exceeded their reference concentrations.

At Wetland 19B during the Phase II investigation, none of the same retained constituents were detected in sediment and surface water samples.

The conceptual model below symbolizes which environmental habitats may be impacted by Wetland 19B Phase II constituents retained during the ERA process.

Wetland 19
Conceptual Site Model



Based on the Phase II results described above, Wetland 19 was identified as a Blue-coded wetland in the approved *Final RI/FS SAP Addendum* (E/A&H, 1997d), indicating that contaminants were present generally below screening values, and contaminants did not appear to be site related. Blue-coded wetlands were not assessed further in Phase III. However, to assess potential risks from contaminants that bioaccumulate, the results from Wetland 19 will be used in the food-chain model for the remaining wetlands presented in Section 15.8.

15.1.5 Wetland 19 — Human Health Risk Assessment

Wetland 19 is described in Section 15.1.1, and the HHRA is summarized below.

15.1.5.1 Site Data

Section 15.1.3 summarizes the nature and extent of contamination for this wetland. Surface water and sediment data were collected at Wetland 19A and 19B during Phases II and IV of the RI. Sediment and surface water data for Wetland 19A are summarized in Tables 15-1-5 and 15-1-7 (Phase II data), and Tables 15-1-6 and 15-1-8 (Phase IV data). Sediment and surface water data for Wetland 19B are summarized in Tables 15-1-9 and 15-1-10 (Phase II data).

15.1.5.2 Conceptual Site Model

As described in Section 15.1.1, Wetland 19 is suspected of being impacted by Site 16, the Brush Disposal Area. Site 16 occupies approximately 30 acres of a sparsely vegetated, open field immediately northeast of Sherman Field. Because Wetland 19 is located in a restricted area of the base, the wetland is only accessible to Navy personnel, and fishing would not occur in this area.

Wetland 19A is intermittently flooded; therefore, contact with sediment and surface water is possible. Samples collected during the Phase IV sediment investigation at Wetland 19A are submerged year-round; therefore, there is no human exposure assessment. Wetland 19B is continually inundated. Therefore, in accordance with USEPA Region IV Supplemental Guidance to RAGS Bulletins (2000) described in Section 9, sediment exposure was not assessed for Wetland 19B, because it is assumed to be an insignificant exposure pathway. Contact with surface water while wading would be an exposure scenario.

The following scenarios and exposure pathways were evaluated for this wetland:

Wetland 19A

Scenario	Medium	Ingestion	Dermal
Maintenance	Surface water	√	√
	Sediment	√	√

Wetland 19B

Scenario	Medium	Ingestion	Dermal
Maintenance	Surface water	√	√

15.1.5.3 Risk Characterization

Wetland 19A

The adult maintenance worker scenario for surface water and sediment were assessed for this wetland as described in Section 9.

Wetland 19B

The adult maintenance worker scenario for surface water was assessed for this wetland as described in Section 9.

Wetland 19A

Phase II Data

Maintenance Worker

As shown in Tables 15-1-38 through 15-1-40, sediment ingestion and dermal contact risk estimates for maintenance workers exceed the FDEP risk threshold of 1E-6 for arsenic. Hazard indices were below 1.0.

As shown in Tables 15-1-41 through 15-1-43, surface water dermal contact risk estimates for maintenance workers exceeds the FDEP risk threshold of 1E-6 for arsenic. Hazard indices were below 1.0.

Summary of Wetland 19A Phase II Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Sediment	2.70E-02	3.82E-06
	Surface water	4.11E-01	1.93E-05

Based on Phase II data, arsenic was identified as COCs for Wetland 19A.

Wetland 19A

Phase IV Data

Maintenance Worker

As shown in Tables 15-1-44 through 15-1-46, surface water ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

Summary of Wetland 19A Phase IV Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Surface water	4.27E-03	N/A

Based on Phase IV data, no COCs for Wetland 19A were identified.

Wetland 19B

Phase II Data

Maintenance Worker

As shown in Tables 15-1-47 through 15-1-49, surface water ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

Summary of Wetland 19B Phase II Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Surface water	2.85E-03	N/A

Based on Phase II data, no COCs for Wetland 19B were identified.

Wetland 19 HHRA COC Summary

The following parameter was determined to be a COC in the HHRA for Wetland 19:

- Arsenic

15.1.6 Wetland 19A/19B — Complex Fate and Transport Analysis

Because these wetlands are contiguous, they were evaluated as a single complex. There are no borings or wells proximal to these wetlands; therefore, only the sediment/surface water transport pathways were completed.

Three sediment and two surface water samples were collected from this wetland complex and were used to evaluate the transport pathways. The wetland flows from the southwest to the northeast and empties into Bayou Grande.

Surface Water/Sediment Transport within the Wetlands:

To evaluate these pathways in the Wetland 19A/19B complex, upgradient sediment sample location 041M19A1 (sampled during Phase II) was compared to downgradient sediment locations 041M19A2 and 041M19B1 (sampled during Phase II). To evaluate the surface water pathway, upgradient surface water location 041W1901 was compared to downgradient surface water location 014W1903 (sampled during Phase II).

Wetland 19A

Surface Water — Evaluation of upgradient/downgradient Wetland 19 locations 041W1901 and 041W1903 indicated a decrease in detected inorganic parameters (19 metals and one organic versus 13 metals and zero organics, respectively). For metals, 10 parameters decreased in concentration and three constituents increased. Decreases were attributed to saltwater flushing of the system by Bayou Grande tidal currents (magnesium, potassium, and sodium, associated with saltwater,

exhibited significant increases). The only organic detected in the upgradient location was a phthalate and may be a laboratory artifact.

Sediment — Evaluation of Wetland 19 upgradient location 041M19A1 and downgradient location 041M19A2 indicated 17 metals and three organics detected in the upgradient location versus 14 metals and five organics in the downgradient location. TOC exhibited a marked decrease downgradient. For the metals, all 14 parameters in the downgradient location exhibited a decrease. For the organics, five compounds were present in 041M19A1 that were not detected in 041M19A2.

Evaluation of upgradient 041M19A2 with downgradient 041M19B1 indicates an increase in organic detections (14 metals and five organics at 041M19A2 versus 14 metals and 10 organics at 041M19B1). TOC exhibited an increase downgradient. For metals, all 14 parameters exhibited slight increases downgradient. For organics, six compounds were present at 041M19B1 that were not detected at 041M19A2. Of the four organics detected at both locations, all compounds exhibited a slight increase. The organics detected consisted of pesticides and BAP equivalents, all indicative of runoff from this area of Forrest Sherman Field.

Table 15-1-1
Wetland 19A Phase II
Sediment Physical Parameters

Parameters	041M19A101	041M19A201
TOC (%)	0.423	0.0674
Percent Solids (%)	15.9	76.9
Grain Size Analysis (percent of composition[1])		
Medium Sand	2	37
Fine Sand	10	62
Silt and Clay	88	1
Description	Brown Silt	Light Olive Brown Poorly Graded Sand, Fine

Note:

[1] = Derived from sieve analyses.

Table 15-1-2
Wetland 19A Phase II
Surface Water Physical Parameters

Parameters	041W190101
Hardness as CaCO3 (mg/L)	71.8
pH	6.2
Specific Conductivity (mS/cm)	0.103
Turbidity (NTU)	41
Salinity (%)	0

Notes:
mg/L = Milligrams per liter
pH = Hydrogen ion content
MS/cm = Millisiemens per centimeter
NTU = Nephelometric turbidity units
% = Percent

Table 15-1-3
Wetland 19B Phase II
Sediment Physical Parameters

Parameter	041M19B101
TOC (mg/kg)	0.21
Percent Solids (%)	76.2
Grain Size Analysis (percent of composition[1])	
Medium Sand	17
Fine Sand	79
Silt and Clay	4
Description	Very Dark Gray Poorly Graded Sand, Fine, Trace of Silt

Note:
[1]= Derived from sieve analyses.

Table 15-1-4
Wetland 19B Phase II
Surface Water Physical Parameters

Parameter	041W190301
Hardness as CaCO3 (mg/L)	193
pH	5.57
Specific Conductivity (mS/cm)	0.676
Turbidity (NTU)	19
Salinity (%)	0.35

Notes:
mg/L = Milligrams per liter
pH = Hydrogen ion content
MS/cm = Millisiemens per centimeter
NTU = Nephelometric turbidity units
% = Percent

Table 15-1-5
Wetland 19A Phase II
Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections		Range of Detections			Maximum Detection Location
			Number Detected	Number Analyzed	Minimum Detection	Maximum Detection	Average Detection	
Metals (mg/kg)								
Aluminum	13,610.0	1	2	2	494.0	18,900.0	9,700.0	041M19A101
Arsenic	6.620	1	2	2	0.170	15.70	7.940	041M19A101
Barium	14.0	1	2	2	0.580	30.20	15.40	041M19A101
Beryllium	0.840	0	1	2	0.480	0.480	0.258	041M19A101
Calcium	10,756.670	0	2	2	47.50	1,720.0	884.0	041M19A101
Chromium	39.370	0	2	2	1.20	16.50	8.850	041M19A101
Cobalt	2.80	1	1	2	3.40	3.40	1.730	041M19A101
Copper	19.50	0	2	2	0.780	10.70	5.740	041M19A101
Iron	11,911.670	1	2	2	545.0	16,800.0	8,670.0	041M19A101
Lead	82.470	0	2	2	1.20	16.20	8.70	041M19A101
Magnesium	7,513.330	0	2	2	30.10	572.0	301.0	041M19A101
Manganese	37.970	1	2	2	1.30	169.0	85.20	041M19A101
Nickel	9.280	0	1	2	7.0	7.0	3.650	041M19A101
Potassium	1,628.670	0	2	2	17.50	463.0	240.0	041M19A101
Sodium	18,993.330	0	2	2	18.60	137.0	77.80	041M19A101
Vanadium	28.670	1	2	2	0.990	35.40	18.20	041M19A101
Zinc	36.730	0	2	2	1.40	30.60	16.0	041M19A101
Pesticides and PCBs (g/kg)								
Aroclor-1260	N/A	0	1	2	1.10	1.10	4.050	041M19A201
Total PCBs	N/A	0	1	2	8.350	8.350	31.90	041M19A201
Dieldrin	N/A	0	1	2	0.20	0.20	0.450	041M19A201
Endosulfan I	N/A	0	1	2	5.30	5.30	2.670	041M19A101
Heptachlor epoxide	N/A	0	1	2	26.0	26.0	13.0	041M19A101
gamma-Chlordane	N/A	0	1	2	1.30	1.30	0.675	041M19A101
Total Chlordane	N/A	0	1	2	1.640	1.640	0.870	041M19A101
delta-BHC	N/A	0	1	2	0.110	0.110	0.225	041M19A201
Total BHC	N/A	0	1	2	0.260	0.260	0.810	041M19A201
4,4'-DDE	40.0	0	1	2	0.550	0.550	0.625	041M19A201
Total DDT	110.0	0	1	2	0.760	0.760	1.430	041M19A201
VOCs (g/kg)								
Chloromethane	N/A	0	1	2	2.0	2.0	2.0	041M19A201

Notes:
g/kg = micrograms per kilogram
mg/kg = milligram per kilogram
N/A = Not Applicable

Table 15-1-6
Wetland 19A Phase IV
Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Average Detection	Maximum Detection Location
Metals (mg/kg)								
Aluminum	13,610.0	0	1	1	910.0	910.0	910.0	041M19A101
Antimony	4.430	0	1	1	1.10	1.10	1.10	041M19A101
Arsenic	6.620	0	1	1	0.560	0.560	0.560	041M19A101
Barium	14.0	0	1	1	0.990	0.990	0.990	041M19A101
Beryllium	0.840	0	1	1	0.036	0.036	0.036	041M19A101
Calcium	10,756.670	0	1	1	50.0	50.0	50.0	041M19A101
Chromium	39.370	0	1	1	0.950	0.950	0.950	041M19A101
Copper	19.50	0	1	1	0.470	0.470	0.470	041M19A101
Iron	11,911.670	0	1	1	540.0	540.0	540.0	041M19A101
Lead	82.470	0	1	1	1.50	1.50	1.50	041M19A101
Magnesium	7,513.330	0	1	1	27.0	27.0	27.0	041M19A101
Manganese	37.970	0	1	1	1.60	1.60	1.60	041M19A101
Nickel	9.280	0	1	1	0.260	0.260	0.260	041M19A101
Potassium	1,628.670	0	1	1	21.0	21.0	21.0	041M19A101
Sodium	18,993.330	0	1	1	3.50	3.50	3.50	041M19A101
Vanadium	28.670	0	1	1	1.50	1.50	1.50	041M19A101
Zinc	36.730	0	1	1	1.30	1.30	1.30	041M19A101
PAHs (g/kg)								
Phenanthrene	N/A	0	1	1	5.60	5.60	5.60	041M19A101
Total PAHs	N/A	0	1	1	32.70	32.70	32.70	041M19A101
SVOCs (g/kg)								
Pentachlorophenol	N/A	0	1	1	68.0	68.0	68.0	041M19A101
VOCs (g/kg)								
Carbon tetrachloride	N/A	0	1	1	2.30	2.30	2.30	041M19A101
Chloroform	N/A	0	1	1	3.40	3.40	3.40	041M19A101

Notes:
g/kg = micrograms per kilogram
mg/kg = milligram per kilogram
N/A = Not Applicable

Table 15-1-7
Wetland 19A Phase II
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (g/L)								
Aluminum	1,090.25	1	1	1	111,000.0	111,000.0	111,000.0	041W190101
Antimony	4.0	1	1	1	19.2	19.2	19.2	041W190101
Arsenic	2.7	1	1	1	268.0	268.0	268.0	041W190101
Barium	3.68	1	1	1	300.0	300.0	300.0	041W190101
Beryllium	1.0	1	1	1	4.0	4.0	4.0	041W190101
Calcium	7,675.0	1	1	1	21,200.0	21,200.0	21,200.0	041W190101
Chromium	8.0	1	1	1	99.5	99.5	99.5	041W190101
Cobalt	3.0	1	1	1	38.5	38.5	38.5	041W190101
Copper	4.0	1	1	1	41.9	41.9	41.9	041W190101
Iron	2,360.0	1	1	1	332,000.0	332,000.0	332,000.0	041W190101
Lead	3.2	1	1	1	86.9	86.9	86.9	041W190101
Magnesium	20,260.0	0	1	1	4,570.0	4,570.0	4,570.0	041W190101
Manganese	13.2	1	1	1	12,700.0	12,700.0	12,700.0	041W190101
Mercury	0.13	1	1	1	0.6	0.6	0.6	041W190101
Nickel	12.0	1	1	1	25.8	25.8	25.8	041W190101
Potassium	6,995.0	0	1	1	2,720.0	2,720.0	2,720.0	041W190101
Sodium	182,200.0	0	1	1	4,730.0	4,730.0	4,730.0	041W190101
Vanadium	4.7	1	1	1	277.0	277.0	277.0	041W190101
Zinc	5.53	1	1	1	204.0	204.0	204.0	041W190101
SVOCs (g/L)								
Di-n-butylphthalate	N/A	0	1	1	28.0	28.0	28.0	041W190101

Notes:
g/L = micrograms per liter
N/A = Not Applicable

Table 15-1-8
Wetland 19A Phase IV
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (g/L)								
Aluminum	1,090.25	0	1	1	330.0	330.0	330.0	041W19A102
Barium	3.68	1	1	1	8.5	8.5	8.5	041W19A102
Beryllium	1.0	0	1	1	0.74	0.74	0.74	041W19A102
Calcium	7,675.0	0	1	1	6,400.0	6,400.0	6,400.0	041W19A102
Iron	2,360.0	0	1	1	1,000.0	1,000.0	1,000.0	041W19A102
Magnesium	20,260.0	0	1	1	1,100.0	1,100.0	1,100.0	041W19A102
Manganese	13.2	1	1	1	18.0	18.0	18.0	041W19A102
Potassium	6,995.0	0	1	1	780.0	780.0	780.0	041W19A102
Sodium	182,200.0	0	1	1	5,800.0	5,800.0	5,800.0	041W19A102
Vanadium	4.7	0	1	1	3.0	3.0	3.0	041W19A102
Zinc	5.53	0	1	1	1.6	1.6	1.6	041W19A102

Notes:
g/L = micrograms per liter
N/A = Not Applicable

Table 15-1-9
Wetland 19B
Phase II Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (mg/kg)								
Aluminum	4,274	0	1	1	976.0	976.0	976.0	041M19B101
Arsenic	2.14	0	1	1	0.830	0.830	0.830	041M19B101
Barium	3.84	0	1	1	0.760	0.760	0.760	041M19B101
Calcium	1,978.8	0	1	1	151.0	151.0	151.0	041M19B101
Chromium	13.1	0	1	1	3.0	3.0	3.0	041M19B101
Copper	8.44	0	1	1	1.60	1.60	1.60	041M19B101
Iron	2,684.4	0	1	1	1,840.0	1,840.0	1,840.0	041M19B101
Lead	21.04	0	1	1	3.80	3.80	3.80	041M19B101
Magnesium	2,943.6	0	1	1	270.0	270.0	270.0	041M19B101
Manganese	9.81	0	1	1	3.40	3.40	3.40	041M19B101
Potassium	899.72	0	1	1	88.90	88.90	88.90	041M19B101
Sodium	11,439.6	0	1	1	805.0	805.0	805.0	041M19B101
Vanadium	8.59	0	1	1	2.50	2.50	2.50	041M19B101
Zinc	14.36	0	1	1	4.80	4.80	4.80	041M19B101
PAHs (g/kg)								
Fluoranthene	N/A	0	1	1	28.0	28.0	28.0	041M19B101
Pyrene	N/A	0	1	1	28.0	28.0	28.0	041M19B101
Total PAHs	N/A	0	1	1	270.50	270.50	271.0	041M19B101
Pesticides and PCBs (g/kg)								
Aroclor-1260	N/A	0	1	1	4.20	4.20	4.20	041M19B101
Total PCBs	N/A	0	1	1	11.80	11.80	11.80	041M19B101
Dieldrin	N/A	0	1	1	0.210	0.210	0.210	041M19B101
Heptachlor epoxide	N/A	0	1	1	0.220	0.220	0.220	041M19B101
Endrin	N/A	0	1	1	0.270	0.270	0.270	041M19B101
Total Endrin	N/A	0	1	1	0.490	0.490	0.490	041M19B101
delta-BHC	N/A	0	1	1	0.310	0.310	0.310	041M19B101
Total BHC	N/A	0	1	1	0.475	0.475	0.475	041M19B101
4,4'-DDD	50.	0	1	1	0.710	0.710	0.710	041M19B101
4,4'-DDE	40.	0	1	1	1.20	1.20	1.20	041M19B101
4,4'-DDT	20.	0	1	1	0.340	0.340	0.340	041M19B101
Total DDT	110.	0	1	1	2.250	2.250	2.250	041M19B101

Notes:
g/kg = micrograms per kilogram
mg/kg = milligram per kilogram
N/A = Not Applicable

Table 15-1-10
Wetland 19B Phase II
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (g/L)								
Aluminum	2,927.50	0	1	1	2,140	2,140	2,140	041W190301
Antimony	4.15	0	1	1	2	2	2	041W190301
Arsenic	3.60	1	1	1	4.8	4.8	4.8	041W190301
Barium	9.43	0	1	1	7.4	7.4	7.4	041W190301
Calcium	76,800.00	0	1	1	17,200	17,200	17,200	041W190301
Iron	1,352.00	1	1	1	4,030	4,030	4,030	041W190301
Lead	13.75	0	1	1	5.6	5.6	5.6	041W190301
Magnesium	243,650.00	0	1	1	36,400	36,400	36,400	041W190301
Manganese	12.15	1	1	1	26.3	26.3	26.3	041W190301
Potassium	81,250.00	0	1	1	11,400	11,400	11,400	041W190301
Sodium	1,952,000.00	0	1	1	291,000	291,000	291,000	041W190301
Vanadium	6.69	0	1	1	4.4	4.4	4.4	041W190301
Zinc	12.88	0	1	1	7.1	7.1	7.1	041W190301

Notes:
g/L = micrograms per liter
N/A = Not Applicable

Table 15-1-11
Wetland 19A Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Metals (mg/kg)														
Aluminum	2	2			494	18,900	041M19A101	18,900			N/A		Yes	No SV
Antimony	0	2	0.335	0.335			ND	0.335	UJ	12	2	0.03	No	Max SQL< SV
Arsenic	**2**	**2**			**0.17**	**15.7**	**041M19A101**	**15.7**		**7.24**	**1, 2**	**2.17**	**Yes**	**Max Detect > SV**
Barium	2	2			0.58	30.2	041M19A101	30.2	J		N/A		Yes	No SV
Beryllium	1	2	0.035	0.035	0.48	0.48	041M19A101	0.48	J		N/A		Yes	No SV
Cadmium	0	2	0.105	0.455			ND	0.455	U	0.676	1	0.67	No	Max SQL< SV
Calcium	2	2			47.5	1,720	041M19A101	1,720			N/A		Yes	No SV
Chromium	2	2			1.2	16.5	041M19A101	16.5		52.3	1, 2	0.32	No	Max Detect < SV
Cobalt	1	2	0.065	0.065	3.4	3.4	041M19A101	3.4	J		N/A		Yes	No SV
Copper	2	2			0.78	10.7	041M19A101	10.7		18.7	1, 2	0.57	No	Max Detect < SV
Cyanide (CN)	0	2	0.325	1.55			ND	1.55	U		N/A		Yes	No SV
Iron	2	2			545	16,800	041M19A101	16,800			N/A		Yes	No SV
Lead	2	2			1.2	16.2	041M19A101	16.2		30.2	1, 2	0.54	No	Max Detect < SV
Magnesium	2	2			30.1	572	041M19A101	572	J		N/A		Yes	No SV
Manganese	2	2			1.3	169	041M19A101	169			N/A		Yes	No SV
Mercury	0	2	0.025	0.135			ND	0.135	U	0.13	1, 2	1.04	Yes	Max SQL > SV
Nickel	1	2	0.3	0.3	7	7	041M19A101	7	J	15.9	1, 2	0.44	No	Max Detect < SV
Potassium	2	2			17.5	463	041M19A101	463	J		N/A		Yes	No SV
Selenium	0	2	0.135	0.65			ND	0.65	UJ		N/A		Yes	No SV
Silver	0	2	0.165	0.85			ND	0.85	U	0.733	1	1.16	Yes	Max SQL > SV
Sodium	2	2			18.6	137	041M19A101	137	J		N/A		Yes	No SV
Thallium	0	2	0.135	0.65			ND	0.65	U		N/A		Yes	No SV
Vanadium	2	2			0.99	35.4	041M19A101	35.4			N/A		Yes	No SV
Zinc	2	2			1.4	30.6	041M19A101	30.6		124	1, 2	0.25	No	Max Detect < SV
PAHs (g/kg)														
2-Methylnaphthalene	0	2	20	135			ND	135	U	20.2	1	6.68	Yes	Max SQL > SV
Acenaphthene	0	2	10	65			ND	65	U	6.71	1	9.69	Yes	Max SQL > SV
Acenaphthylene	0	2	20	135			ND	135	U	5.87	1	23	Yes	Max SQL > SV
Anthracene	0	2	20	135			ND	135	U	46.9	1	2.88	Yes	Max SQL > SV
Benzo(a)anthracene	0	2	20	135			ND	135	U	74.8	1	1.8	Yes	Max SQL > SV
Benzo(a)pyrene	0	2	20	135			ND	135	U	88.8	1	1.52	Yes	Max SQL > SV
Chrysene	0	2	20	135			ND	135	U	108	1	1.25	Yes	Max SQL > SV
Dibenz(a,h)anthracene	0	2	20	135			ND	135	U	6.22	1	21.7	Yes	Max SQL > SV
Fluoranthene	0	2	20	135			ND	135	U	113	1	1.19	Yes	Max SQL > SV
Fluorene	0	2	10	65			ND	65	U	21.2	1	3.07	Yes	Max SQL > SV
Naphthalene	0	2	20	135			ND	135	U	34.6	1	3.9	Yes	Max SQL > SV
Phenanthrene	0	2	20	135			ND	135	U	86.7	1	1.56	Yes	Max SQL > SV
Pyrene	0	2	20	135			ND	135	U	153	1	0.88	No	Max SQL< SV
Total PAHs	0	2	240	1,620			ND	1,620	U	1684	1, 2	0.96	No	Max SQL< SV
TOC Normalized PAHs	0	2	356.08	381.8			ND	381.8	U	290	3	1.32	Yes	Max SQL > SV
PCBs (g/kg)														
Aroclor-1016	0	2	1.05	7			ND	7	U	21.6	N/A	0.32	No	Max SQL< SV
Aroclor-1221	0	2	2	13.5			ND	13.5	U	67	2	0.20	No	Max SQL< SV
Aroclor-1232	0	2	1.05	7			ND	7	U	21.6	N/A	0.32	No	Max SQL< SV
Aroclor-1242	0	2	1.05	7			ND	7	U	21.6	N/A	0.32	No	Max SQL< SV
Aroclor-1248	0	2	1.05	7			ND	7	U	21.6	N/A	0.32	No	Max SQL< SV
Aroclor-1254	0	2	1.05	7			ND	7	U	21.6	N/A	0.32	No	Max SQL< SV
Aroclor-1260	1	2	7	7	1.1	1.1	041M19A201	1.1	J	21.6	N/A	0.05	No	Max Detect < SV
Total PCBs	1	2	55.5	55.5	8.35	8.35	041M19A201	8.35		21.6	1	0.39	No	Max Detect < SV
Pesticides (g/kg)														
Aldrin	0	2	0.05	0.34			ND	0.34	U		N/A		Yes	No SV
Dieldrin	1	2	0.7	0.7	0.2	0.2	041M19A201	0.2	J	0.716	1	0.28	No	Max Detect < SV
Endosulfan I	1	2	0.05	0.05	5.3	5.3	041M19A101	5.3	J		N/A		Yes	No SV
Endosulfan II	0	2	0.105	0.7			ND	0.7	U		N/A		Yes	No SV
Endosulfan sulfate	0	2	0.105	0.7			ND	0.7	U		N/A		Yes	No SV
Heptachlor	0	2	0.05	0.34			ND	0.34	U		N/A		Yes	No SV
Heptachlor epoxide	1	2	0.05	0.05	26	26	041M19A101	26	DJ		N/A		Yes	No SV
Methoxychlor	0	2	0.5	3.4			ND	3.4	U		N/A		Yes	No SV
Toxaphene	0	2	10.5	70			ND	70	U		N/A		Yes	No SV
alpha-Chlordane	0	2	0.05	0.34			ND	0.34	U	1.7	1	0.2	No	Max SQL< SV
gamma-Chlordane	1	2	0.05	0.05	1.3	1.3	041M19A101	1.3	J	1.7	1	0.77	No	Max Detect < SV
Total Chlordane	1	2	0.1	0.1	1.64	1.64	041M19A101	1.64		1.7	1	0.97	No	Max Detect < SV
Endrin	0	2	0.105	0.7			ND	0.7	U	3.3	2	0.21	No	Max SQL< SV
Endrin aldehyde	0	2	0.105	0.7			ND	0.7	U	3.3	2	0.21	No	Max SQL< SV
Endrin ketone	0	2	0.105	0.7			ND	0.7	U	3.3	2	0.21	No	Max SQL< SV
Total Endrin	0	2	0.315	2.1			ND	2.1	U	3.3	2	0.64	No	Max SQL< SV
alpha-BHC	0	2	0.05	0.34			ND	0.34	UJ		N/A		Yes	No SV
beta-BHC	0	2	0.05	0.34			ND	0.34	U	0.32	N/A	1.06	Yes	Max SQL > SV
delta-BHC	1	2	0.34	0.34	0.11	0.11	041M19A201	0.11	J	0.32	N/A	0.34	No	Max Detect < SV
gamma-BHC (Lindane)	0	2	0.05	0.34			ND	0.34	U	0.32	1	1.06	Yes	Max SQL > SV
Total BHC	1	2	1.36	1.36	0.26	0.26	041M19A201	0.26		0.32	2	0.81	No	Max Detect < SV
4,4'-DDD	0	2	0.105	0.7			ND	0.7	U	1.22	1	0.57	No	Max SQL< SV
4,4'-DDE	1	2	0.7	0.7	0.55	0.55	041M19A201	0.55		2.07	1	0.27	No	Max Detect < SV
4,4'-DDT	0	2	0.105	0.7			ND	0.7	U	1.19	1	0.59	No	Max SQL< SV
Total DDT	1	2	2.1	2.1	0.76	0.76	041M19A201	0.76		3.3	2	0.23	No	Max Detect < SV
SVOCs (g/kg)														
1,2,4-Trichlorobenzene	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
1,2-Dichlorobenzene	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
1,3-Dichlorobenzene	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
1,4-Dichlorobenzene	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
2,4,5-Trichlorophenol	0	2	490	3,300			ND	3,300	U		N/A		Yes	No SV
2,4,6-Trichlorophenol	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
2,4-Dichlorophenol	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
2,4-Dimethylphenol	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
2,4-Dinitrophenol	0	2	490	3,300			ND	3,300	UJ		N/A		Yes	No SV
2,4-Dinitrotoluene	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
2,6-Dinitrotoluene	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
2-Chloronaphthalene	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
2-Chlorophenol	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	2	490	3,300			ND	3,300	UJ		N/A		Yes	No SV
2-Methylphenol (o-Cresol)	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
2-Nitroaniline	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
2-Nitrophenol	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
3,3'-Dichlorobenzidine	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
3-Nitroaniline	0	2	490	3,300			ND	3,300	U		N/A		Yes	No SV
4-Bromophenyl-phenylether	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
4-Chloro-3-methylphenol	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
4-Chloroaniline	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
4-Chlorophenylphenyl ether	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
4-Methylphenol (p-Cresol)	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
4-Nitroaniline	0	2	490	3,300			ND	3,300	U		N/A		Yes	No SV
4-Nitrophenol	0	2	490	3,300			ND	3,300	U		N/A		Yes	No SV
Benzo(b)fluoranthene	0	2	20	135			ND	135	U		N/A		Yes	No SV
Benzo(g,h,i)perylene	0	2	20	135			ND	135	U		N/A		Yes	No SV
Benzo(k)fluoranthene	0	2	20	135			ND	135	U		N/A		Yes	No SV
bis(2-Chloroethoxy)methane	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
bis(2-Chloroethyl)ether	0	2	20	135			ND	135	U		N/A		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	2	200	1,350			ND	1350	U	182	1, 2	7.42	Yes	Max SQL > SV
Butylbenzylphthalate	0	2	200	1,350			ND	1,350	U	182	1, 2	7.42	Yes	Max SQL > SV
Carbazole	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
Dibenzofuran	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
Diethylphthalate	0	2	200	1,350			ND	1,350	U	182	1, 2	7.42	Yes	Max SQL > SV
Dimethylphthalate	0	2	200	1,350			ND	1,350	U	182	1, 2	7.42	Yes	Max SQL > SV
Di-n-butylphthalate	0	2	200	1,350			ND	1,350	U	182	1, 2	7.42	Yes	Max SQL > SV
Di-n-octylphthalate	0	2	200	1,350			ND	1,350	U	182	1, 2	7.42	Yes	Max SQL > SV
Hexachlorobenzene	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
Hexachlorobutadiene	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
Hexachlorocyclopentadiene	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV

Table 15-1-11
Wetland 19A Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
SVOCs (g/kg) - cont.														
Hexachloroethane	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	2	20	135			ND	135	U		N/A		Yes	No SV
Isophorone	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
Nitrobenzene	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
N-Nitroso-di-n-propylamine	0	2	20	135			ND	135	U		N/A		Yes	No SV
N-Nitrosodiphenylamine	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
Pentachlorophenol	0	2	490	3,300			ND	3,300	U		N/A		Yes	No SV
Phenol	0	2	200	1,350			ND	1,350	U		N/A		Yes	No SV
VOCs (g/kg)														
1,1,1-Trichloroethane	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
1,1,2,2-Tetrachloroethane	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
1,1,2-Trichloroethane	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
1,1-Dichloroethane	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
1,1-Dichloroethene	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
1,2-Dichloroethane	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
1,2-Dichloroethene (total)	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
1,2-Dichloropropane	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
2-Butanone (MEK)	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
2-Hexanone	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Acetone	0	2	6	125			ND	125	U		N/A		Yes	No SV
Benzene	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Bromodichloromethane	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Bromoform	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Bromomethane	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Carbon disulfide	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Carbon tetrachloride	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Chlorobenzene	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Chloroethane	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Chloroform	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Chloromethane	1	2	38.5	38.5	2	2	041M19A201	2	J		N/A		Yes	No SV
cis-1,3-Dichloropropene	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Dibromochloromethane	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Ethylbenzene	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Methylene chloride	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Styrene	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Tetrachloroethene	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Toluene	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
trans-1,3-Dichloropropene	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Trichloroethene	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV
Vinyl chloride	0	2	2	11.5			ND	11.5	U		N/A		Yes	No SV
Xylene (Total)	0	2	6	38.5			ND	38.5	U		N/A		Yes	No SV

Notes:

Sources for Screening Values:
SV = Screening Value
1 = USEPA Region 4 Screening Value. Detailed explanation for SVs provided in Section 8.0.
2 = FDEP Threshold effects level

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available.
U or ND = Not Detected at or above the SQL
J = Estimated value
SHQ = Screening Hazard Quotient

D = Diluted Result
mg/kg = milligrams per kilograms
g/kg = micrograms per kilograms
mg/kg oc = milligrams per kilograms - organic carbon
UJ = Not detected. SQL is estimated.
Parameters in bold were detected and exceeded screening values.

Table 15-1-12
Wetland 19A Phase II
Sediment COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	Endosulfan I	None	Chloromethane
Arsenic	Heptachlor epoxide		
Barium			
Beryllium			
Calcium			
Cobalt			
Iron			
Magnesium			
Manganese			
Potassium			
Sodium			
Vanadium			
		Not Detected Parameters	
Cyanide (CN)	Aldrin	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane
Mercury	alpha-BHC	1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
Selenium	beta-BHC	1,3-Dichlorobenzene	1,1,2-Trichloroethane
Thallium	Endosulfan II	1,4-Dichlorobenzene	1,1-Dichloroethane
Silver	Endosulfan sulfate	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1-Dichloroethene
	gamma-BHC	2,4,5-Trichlorophenol	1,2-Dichloroethane
	Heptachlor	2,4,6-Trichlorophenol	1,2-Dichloroethene (total)
	Methoxychlor	2,4-Dichlorophenol	1,2-Dichloropropane
	Toxaphene	2,4-Dimethylphenol	2-Butanone (MEK)
		2,4-Dinitrophenol	2-Hexanone
		2,4-Dinitrotoluene	4-Methyl-2-Pentanone (MIBK)
		2,6-Dinitrotoluene	Acetone
		2-Chloronaphthalene	Benzene
		2-Chlorophenol	Bromodichloromethane
		2-Methyl-4,6-Dinitrophenol	Bromoform
		2-Methylnaphthalene	Bromomethane
		2-Methylphenol (o-Cresol)	Carbon disulfide
		2-Nitroaniline	Carbon tetrachloride
		2-Nitrophenol	Chlorobenzene
		3,3'-Dichlorobenzidine	Chloroethane
		3-Nitroaniline	Chloroform
		4-Bromophenyl-phenylether	cis-1,3-Dichloropropene
		4-Chloro-3-methylphenol	Dibromochloromethane
		4-Chloroaniline	Ethylbenzene
		4-Chlorophenylphenyl ether	Methylene chloride
		4-Methylphenol (p-Cresol)	Styrene
		4-Nitroaniline	Tetrachloroethene
		4-Nitrophenol	Toluene
		Acenaphthene	trans-1,3-Dichloropropene
		Acenaphthylene	Trichloroethene
		Anthracene	Vinyl chloride
		Benzo(a)anthracene	Xylene (Total)
		Benzo(a)pyrene	
		Benzo(b)fluoranthene	
		Benzo(g,h,i)perylene	
		Benzo(k)fluoranthene	
		bis(2-Chloroethoxy)methane	
		bis(2-Chloroethyl)ether	
		bis(2-Ethylhexyl)phthalate (BEHP)	
		Butylbenzylphthalate	
		Carbazole	
		Chrysene	
		Dibenz(a,h)anthracene	
		Dibenzofuran	
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-butylphthalate	
		Di-n-octylphthalate	
		Fluoranthene	
		Fluorene	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Indeno(1,2,3-cd)pyrene	
		Isophorone	
		Naphthalene	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenanthrene	
		Phenol	
		TOC-Normalized PAHs	

Table 15-1-13
Wetland 19A Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)
Metals (mg/kg)																						
Aluminum	2	2				9,700	494	18,900	18,900		041M19A101			NA					0	13,610	1	Yes
Arsenic	2	2				7.94	0.17	15.7	15.7		041M19A101	7.24	41.6	PEL	2.17	1.1	0.38	0.19	0	6.62	1	No
Barium	2	2				15.4	0.58	30.2	30.2	J	041M19A101			NA					0	14	1	Yes
Beryllium	1	2	0.035	0.035	0.035	0.258	0.48	0.48	0.48	J	041M19A101			NA					0	0.84	0	No
Calcium	2	2				884	47.5	1,720	1,720		041M19A101			NA					0	10,756.67	0	No
Cobalt	1	2	0.065	0.065	0.065	1.73	3.4	3.4	3.4	J	041M19A101			NA					0	2.8	1	Yes
Cyanide (CN)	0	2	0.938	0.325	1.55	0.938			1.55	U	ND			NA					0	5.22	0	No
Iron	2	2				8,670	545	16,800	16,800		041M19A101			NA					0	11,911.67	1	Yes
Magnesium	2	2				301	30.1	572	572	J	041M19A101			NA					0	7,513.33	0	No
Manganese	2	2				85.2	1.3	169	169		041M19A101			NA					0	37.97	1	Yes
Mercury	0	2	0.08	0.025	0.135	0.08			0.135	U	ND	0.13	0.696	PEL	1.04	0.62	0.19	0.11	0	0.55	0	No
Potassium	2	2				240	17.5	463	463	J	041M19A101			NA					0	1,628.67	0	No
Selenium	0	2	0.393	0.135	0.65	0.393			0.65	UJ	ND			NA					0	3.45	0	No
Silver	0	2	0.51	0.165	0.85	0.51			0.85	U	ND	0.73	1.77	PEL	1.16	0.70	0.48	0.29	0	2.1	0	No
Sodium	2	2				77.8	18.6	137	137	J	041M19A101			NA					0	18,993.33	0	No
Thallium	0	2	0.393	0.135	0.65	0.393			0.65	U	ND			NA					0	1.57	0	No
Vanadium	2	2				18.2	0.99	35.4	35.4		041M19A101			NA					0	28.67	1	Yes
PAHs (g/kg)																						
2-Methylnaphthalene	0	2	77.5	20	135	77.5			135	U	ND	20.2	201	PEL	6.68	3.84	0.67	0.39	0		0	No
Acenaphthene	0	2	37.5	10	65	37.5			65	U	ND	6.71	88.9	PEL	9.69	5.59	0.73	0.42	0		0	No
Acenaphthylene	0	2	77.5	20	135	77.5			135	U	ND	5.87	128	PEL	23	13.2	1.05	0.61	1		0	No
Anthracene	0	2	77.5	20	135	77.5			135	U	ND	46.9	245	PEL	2.88	1.65	0.55	0.32	0		0	No
Benzo(a)anthracene	0	2	77.5	20	135	77.5			135	U	ND	74.8	693	PEL	1.80	1.04	0.19	0.11	0		0	No
Benzo(a)pyrene	0	2	77.5	20	135	77.5			135	U	ND	88.8	763	PEL	1.52	0.87	0.18	0.10	0		0	No
Chrysene	0	2	77.5	20	135	77.5			135	U	ND	108	846	PEL	1.25	0.72	0.16	0.09	0		0	No
Dibenz(a,h)anthracene	0	2	77.5	20	135	77.5			135	U	ND	6.22	135	PEL	21.7	12.5	1	0.57	1		0	No
Fluoranthene	0	2	77.5	20	135	77.5			135	U	ND	113	1494	PEL	1.19	0.69	0.09	0.05	0		0	No
Fluorene	0	2	37.5	10	65	37.5			65	U	ND	21.2	144	PEL	3.07	1.77	0.45	0.26	0		0	No
Naphthalene	0	2	77.5	20	135	77.5			135	U	ND	34.6	391	PEL	3.90	2.24	0.35	0.20	0		0	No
Phenanthrene	0	2	77.5	20	135	77.5			135	U	ND	86.7	544	PEL	1.56	0.89	0.25	0.14	0		0	No
Pyrene	0	2	77.5	20	135	77.5			135	U	ND	153	1398	PEL	0.88	0.51	0.10	0.06	0		0	No
Total PAHs	0	2	927.5	240	1,620	927.5			1620	U	ND	1684	16770	PEL	0.96	0.55	0.10	0.06	0		0	No
TOC Normalized PAHs	0	2	368.94	356.08	381.8	368.94			381.8	U	ND	290	1,800	MEC	1.32	1.27	0.21	0.21	0		0	No
Pesticides (g/kg)																						
Aldrin	0	2	0.195	0.05	0.34	0.195			0.34	U	ND			NA					0		0	No
Endosulfan I	1	2	0.05	0.05	0.05	2.67	5.3	5.3	5.3	J	041M19A101			NA					0		0	Yes
Endosulfan II	0	2	0.403	0.105	0.7	0.403			0.7	U	ND			NA					0		0	No
Endosulfan sulfate	0	2	0.403	0.105	0.7	0.403			0.7	U	ND			NA					0		0	No
Heptachlor	0	2	0.195	0.05	0.34	0.195			0.34	U	ND			NA					0		0	No
Heptachlor epoxide	1	2	0.05	0.05	0.05	13	26	26	26	DJ	041M19A101			NA					0		0	Yes
Methoxychlor	0	2	1.95	0.5	3.4	1.95			3.4	U	ND			NA					0		0	No
Toxaphene	0	2	40.3	10.5	70	40.3			70	U	ND			NA					0		0	No
alpha-BHC	0	2	0.195	0.05	0.34	0.195			0.34	UJ	ND		0.99	PEL			0.34	0.20	0		0	No
beta-BHC	0	2	0.195	0.05	0.34	0.195			0.34	U	ND	0.32	0.99	PEL	1.06	0.61	0.34	0.20	0		0	No
gamma-BHC (Lindane)	0	2	0.195	0.05	0.34	0.195			0.34	U	ND	0.32	0.99	PEL	1.06	0.61	0.34	0.20	0		0	No
SVOCs (g/kg)																						
1,2,4-Trichlorobenzene	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
1,2-Dichlorobenzene	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
1,3-Dichlorobenzene	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
1,4-Dichlorobenzene	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
2,2'-oxybis(1-Chloropropane)/bis(2-chlor	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
2,4,5-Trichlorophenol	0	2	1,900	490	3,300	1,900			3,300	U	ND			NA					0		0	No
2,4,6-Trichlorophenol	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
2,4-Dichlorophenol	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
2,4-Dimethylphenol	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
2,4-Dinitrophenol	0	2	1,900	490	3,300	1,900			3,300	UJ	ND			NA					0		0	No
2,4-Dinitrotoluene	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
2,6-Dinitrotoluene	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
2-Chloronaphthalene	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
2-Chlorophenol	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
2-Methyl-4,6-Dinitrophenol	0	2	1,900	490	3,300	1,900			3,300	UJ	ND			NA					0		0	No
2-Methylphenol (o-Cresol)	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
2-Nitroaniline	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
2-Nitrophenol	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
3,3'-Dichlorobenzidine	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
3-Nitroaniline	0	2	1,900	490	3,300	1,900			3,300	U	ND			NA					0		0	No
4-Bromophenyl-phenylether	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
4-Chloro-3-methylphenol	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
4-Chloroaniline	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
4-Chlorophenylphenyl ether	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
4-Methylphenol (p-Cresol)	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
4-Nitroaniline	0	2	1,900	490	3,300	1,900			3,300	U	ND			NA					0		0	No
4-Nitrophenol	0	2	1,900	490	3,300	1,900			3,300	U	ND			NA					0		0	No
Benzo(b)fluoranthene	0	2	77.5	20	135	77.5			135	U	ND			NA					0		0	No
Benzo(g,h,i)perylene	0	2	77.5	20	135	77.5			135	U	ND			NA					0		0	No
Benzo(k)fluoranthene	0	2	77.5	20	135	77.5			135	U	ND			NA					0		0	No
bis(2-Chloroethoxy)methane	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
bis(2-Chloroethyl)ether	0	2	77.5	20	135	77.5			135	U	ND			NA					0		0	No
bis(2-Ethylhexyl)phthalate (BEHP)	0	2	775	200	1,350	775			1,350	U	ND	182	2,647	PEL	7.42	4.26	0.51	0.29	0		0	No
Butylbenzylphthalate	0	2	775	200	1,350	775			1,350	U	ND	182	2,647	PEL	7.42	4.26	0.51	0.29	0		0	No
Carbazole	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
Dibenzofuran	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
Diethylphthalate	0	2	775	200	1,350	775			1,350	U	ND	182	2,647	PEL	7.42	4.26	0.51	0.29	0		0	No

Table 15-1-13
Wetland 19A Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)
SVOCs (g/kg) - cont.																						
Dimethylphthalate	0	2	775	200	1,350	775			1,350	U	ND	182	2,647	PEL	7.42	4.26	0.51	0.29	0		0	No
Di-n-butylphthalate	0	2	775	200	1,350	775			1,350	U	ND	182	2,647	PEL	7.42	4.26	0.51	0.29	0		0	No
Di-n-octylphthalate	0	2	775	200	1,350	775			1,350	U	ND	182	2,647	PEL	7.42	4.26	0.51	0.29	0		0	No
Hexachlorobenzene	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
Hexachlorobutadiene	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
Hexachlorocyclopentadiene	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
Hexachloroethane	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
Indeno(1,2,3-cd)pyrene	0	2	77.5	20	135	77.5			135	U	ND			NA					0		0	No
Isophorone	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
Nitrobenzene	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
N-Nitroso-di-n-propylamine	0	2	77.5	20	135	77.5			135	U	ND			NA					0		0	No
N-Nitrosodiphenylamine	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
Pentachlorophenol	0	2	1,900	490	3,300	1,900			3,300	U	ND			NA					0		0	No
Phenol	0	2	775	200	1,350	775			1,350	U	ND			NA					0		0	No
VOCs (g/kg)																						
1,1,1-Trichloroethane	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
1,1,2,2-Tetrachloroethane	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
1,1,2-Trichloroethane	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
1,1-Dichloroethane	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
1,1-Dichloroethene	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
1,2-Dichloroethane	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
1,2-Dichloroethene (total)	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
1,2-Dichloropropane	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
2-Butanone (MEK)	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
2-Hexanone	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
4-Methyl-2-Pentanone (MIBK)	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Acetone	0	2	65.5	6	125	65.5			125	U	ND			NA					0		0	No
Benzene	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Bromodichloromethane	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Bromoform	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Bromomethane	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Carbon disulfide	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Carbon tetrachloride	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Chlorobenzene	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Chloroethane	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Chloroform	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Chloromethane	1	2	38.5	38.5	38.5	20.3	2	2	2	J	041M19A201			NA					0		0	Yes
cis-1,3-Dichloropropene	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Dibromochloromethane	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Ethylbenzene	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Methylene chloride	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Styrene	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Tetrachloroethene	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Toluene	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
trans-1,3-Dichloropropene	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Trichloroethene	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No
Vinyl chloride	0	2	6.75	2	11.5	6.75			11.5	U	ND			NA					0		0	No
Xylene (Total)	0	2	22.3	6	38.5	22.3			38.5	U	ND			NA					0		0	No

Notes:

Sources for Refinement Values (RVs):
PEL = FDEP Probable Effects Level
MEC = Swartz Midrange Effect Concentration

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL

J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
PEL = Probable effects level.

N/R = No refinement value available.
N/A = Not applicable.
Average result calculations include summing detections and one half the detection limits for not detected pa
As a result, some average detections may exceed the maximum detections

Table 15-1-14
Wetland 19A Phase II
Sediment COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
	Detected Parameters		
Aluminum	Endosulfan I	None	None
Barium	Heptachlor epoxide		
Cobalt			
Iron			
Manganese			
Vanadium			

Rationale
EPC > RC and no RV
EPC > RC, but < RV
EPC > RC and no RV
EPC < RC
EPC < RC
EPC > RC and no RV
Parameter Not Detected
EPC > RC and no RV
EPC < RC
EPC > RC and no RV
Parameter Not Detected
EPC < RC
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EPC < RC
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EPC > RC and no RV
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No SV, no RV, and no RC
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Rationale
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rameters.

Table 15-1-15
Wetland 19A Phase II
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M19A101	1/16/1996	mg/kg	15.7		Arsenic	8.2	70	0.22
041M19A101	1/16/1996	mg/kg	0.455	U	Cadmium	1.2	9.6	0.05
041M19A101	1/16/1996	mg/kg	16.5		Chromium	81	370	0.04
041M19A101	1/16/1996	mg/kg	10.7		Copper	34	270	0.04
041M19A101	1/16/1996	mg/kg	16.2		Lead	46.7	218	0.07
041M19A101	1/16/1996	mg/kg	0.135	U	Mercury	0.15	0.71	0.19
041M19A101	1/16/1996	mg/kg	7	J	Nickel	20.9	51.6	0.14
041M19A101	1/16/1996	mg/kg	0.85	U	Silver	1	3.7	0.23
041M19A101	1/16/1996	mg/kg	30.6		Zinc	150	410	0.07
041M19A101	1/16/1996	g/kg	0.7	U	4,4'-DDE	2.2	27	0.03
041M19A101	1/16/1996	g/kg	0.7	U	4,4'-DDT	1.58	46.1	0.02
041M19A101	1/16/1996	g/kg	55.5	U	Total PCBs	22.7	180	0.31
041M19A101	1/16/1996	g/kg	135	U	2-Methylnaphthalene	70	670	0.20
041M19A101	1/16/1996	g/kg	65	U	Acenaphthene	16	500	0.13
041M19A101	1/16/1996	g/kg	135	U	Acenaphthylene	44	640	0.21
041M19A101	1/16/1996	g/kg	135	U	Anthracene	85.3	1,100	0.12
041M19A101	1/16/1996	g/kg	135	U	Benzo(a)anthracene	261	1,600	0.08
041M19A101	1/16/1996	g/kg	135	U	Benzo(a)pyrene	430	1,600	0.08
041M19A101	1/16/1996	g/kg	135	U	Chrysene	384	2,800	0.05
041M19A101	1/16/1996	g/kg	135	U	Dibenz(a,h)anthracene	63.4	260	0.52
041M19A101	1/16/1996	g/kg	135	U	Fluoranthene	600	5,100	0.03
041M19A101	1/16/1996	g/kg	65	U	Fluorene	19	540	0.12
041M19A101	1/16/1996	g/kg	135	U	Naphthalene	160	2,100	0.06
041M19A101	1/16/1996	g/kg	135	U	Phenanthrene	240	1,500	0.09
041M19A101	1/16/1996	g/kg	135	U	Pyrene	665	2,600	0.05
041M19A101	1/16/1996				ERM Quotient Sum			3.16
041M19A101	1/16/1996				Mean ERM Quotient			0.13
041M19A101	1/16/1996				Mean ERM Quotient without ND			0.02
041M19A101	1/16/1996				Mean ERM Quotient Category			2
041M19A201	1/16/1996	mg/kg	0.17	J	Arsenic	8.2	70	0.00
041M19A201	1/16/1996	mg/kg	0.105	U	Cadmium	1.2	9.6	0.01
041M19A201	1/16/1996	mg/kg	1.2		Chromium	81	370	0.00
041M19A201	1/16/1996	mg/kg	0.78	J	Copper	34	270	0.00
041M19A201	1/16/1996	mg/kg	1.2		Lead	46.7	218	0.01
041M19A201	1/16/1996	mg/kg	0.025	U	Mercury	0.15	0.71	0.04
041M19A201	1/16/1996	mg/kg	0.3	U	Nickel	20.9	51.6	0.01
041M19A201	1/16/1996	mg/kg	0.165	U	Silver	1	3.7	0.04
041M19A201	1/16/1996	mg/kg	1.4		Zinc	150	410	0.00
041M19A201	1/16/1996	g/kg	0.55		4,4'-DDE	2.2	27	0.02
041M19A201	1/16/1996	g/kg	0.105	U	4,4'-DDT	1.58	46.1	0.00
041M19A201	1/16/1996	g/kg	8.35		Total PCBs	22.7	180	0.05
041M19A201	1/16/1996	g/kg	20	U	2-Methylnaphthalene	70	670	0.03
041M19A201	1/16/1996	g/kg	10	U	Acenaphthene	16	500	0.02
041M19A201	1/16/1996	g/kg	20	U	Acenaphthylene	44	640	0.03
041M19A201	1/16/1996	g/kg	20	U	Anthracene	85.3	1,100	0.02
041M19A201	1/16/1996	g/kg	20	U	Benzo(a)anthracene	261	1,600	0.01
041M19A201	1/16/1996	g/kg	20	U	Benzo(a)pyrene	430	1,600	0.01
041M19A201	1/16/1996	g/kg	20	U	Chrysene	384	2,800	0.01
041M19A201	1/16/1996	g/kg	20	U	Dibenz(a,h)anthracene	63.4	260	0.08
041M19A201	1/16/1996	g/kg	20	U	Fluoranthene	600	5,100	0.00
041M19A201	1/16/1996	g/kg	10	U	Fluorene	19	540	0.02
041M19A201	1/16/1996	g/kg	20	U	Naphthalene	160	2,100	0.01
041M19A201	1/16/1996	g/kg	20	U	Phenanthrene	240	1,500	0.01
041M19A201	1/16/1996	g/kg	20	U	Pyrene	665	2,600	0.01
041M19A201	1/16/1996				ERM Quotient Sum			0.44
041M19A201	1/16/1996				Mean ERM Quotient			0.02
041M19A201	1/16/1996				Mean ERM Quotient without ND			0.00
041M19A201	1/16/1996				Mean ERM Quotient Category			1

Notes:
ERL = Effects Range Low
ERM = Effects Range Median
mg/kg = milligrams per kilogram
g/kg = micrograms per kilogram
U = not detected at or above the SQL (value in table is 1/2 reported value)
J = estimated value
Shaded cells indicate constituent exceeds ERL.
Shaded and bold cells indicate constituent exceeds ERM.

Table 15-1-16
Wetland 19A Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
Metals (g/L)																
Aluminum	**1**	**1**				**111,000**	**111,000**	**111,000**	**041W190101**	**111,000**		**13**	**FDEP**	**8,540**	**Yes**	**Max Detect > SV**
Antimony	1	1				19.2	19.2	19.2	041W190101	19.2	J	160	EPA	0.12	No	Max Detect < SV
Arsenic	**1**	**1**				**268**	**268**	**268**	**041W190101**	**268**		**50**	**FDEP**	**5.36**	**Yes**	**Max Detect > SV**
Barium	1	1				300	300	300	041W190101	300			NA		Yes	No SV
Beryllium	**1**	**1**				**4**	**4**	**4**	**041W190101**	**4**	**J**	**0.13**	**FDEP**	**30.8**	**Yes**	**Max Detect > SV**
Cadmium	0	1	1	1	1	1			ND	1	U	0.66	EPA	1.52	Yes	Max SQL > SV
Calcium	1	1				21,200	21,200	21,200	041W190101	21,200			NA		Yes	No SV
Chromium	**1**	**1**				**99.5**	**99.5**	**99.5**	**041W190101**	**99.5**		**11**	**EPA**	**9.05**	**Yes**	**Max Detect > SV**
Cobalt	1	1				38.5	38.5	38.5	041W190101	38.5	J		NA		Yes	No SV
Copper	**1**	**1**				**41.9**	**41.9**	**41.9**	**041W190101**	**41.9**		**6.54**	**EPA**	**6.41**	**Yes**	**Max Detect > SV**
Cyanide (CN)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	5.2	EPA	0.48	No	Max SQL< SV
Iron	1	1				332,000	332,000	332,000	041W190101	332,000			NA		Yes	No SV
Lead	**1**	**1**				**86.9**	**86.9**	**86.9**	**041W190101**	**86.9**		**1.32**	**EPA**	**65.8**	**Yes**	**Max Detect > SV**
Magnesium	1	1				4,570	4,570	4,570	041W190101	4,570	J		NA		Yes	No SV
Manganese	1	1				12,700	12,700	12,700	041W190101	12,700			NA		Yes	No SV
Mercury	**1**	**1**				**0.59**	**0.59**	**0.59**	**041W190101**	**0.59**		**0.012**	**EPA**	**49.2**	**Yes**	**Max Detect > SV**
Nickel	1	1				25.8	25.8	25.8	041W190101	25.8	J	87.71	EPA	0.29	No	Max Detect < SV
Potassium	1	1				2,720	2,720	2,720	041W190101	2,720	J		NA		Yes	No SV
Selenium	0	1	2	2	2	2			ND	2	U	5	EPA	0.4	No	Max SQL< SV
Silver	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.012	EPA	208	Yes	Max SQL > SV
Sodium	1	1				4,730	4,730	4,730	041W190101	4,730	J		NA		Yes	No SV
Thallium	0	1	2	2	2	2			ND	2	U	4	EPA	0.5	No	Max SQL< SV
Vanadium	1	1				277	277	277	041W190101	277			NA		Yes	No SV
Zinc	**1**	**1**				**204**	**204**	**204**	**041W190101**	**204**		**58.91**	**EPA**	**3.46**	**Yes**	**Max Detect > SV**
Pesticides (g/L)																
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan I	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.056	EPA	0.45	No	Max SQL< SV
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0038	EPA	6.58	Yes	Max SQL > SV
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	Yes	Max SQL > SV
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	U		NA		Yes	No SV
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	11.6	Yes	Max SQL > SV
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	21.7	Yes	Max SQL > SV
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.08	EPA	0.31	No	Max SQL< SV
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA		Yes	No SV
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	Yes	Max SQL > SV
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	Yes	Max SQL > SV
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP	84.7	Yes	Max SQL > SV
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
PCBs (g/L)																
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1221	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	EPA	35.7	Yes	Max SQL > SV
Total PCB	0	1	4	4	4	4			ND	4	U		NA		Yes	No SV

Table 15-1-16
Wetland 19A Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
PCBs (g/L) - cont.																
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	43.8	EPA	0.06	No	Max SQL< SV
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.3	EPA	8.33	Yes	Max SQL > SV
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Di-n-butylphthalate	**1**	**1**				**28**	**28**	**28**	**041W190101**	**28**		**9.4**	**EPA**	**2.98**	**Yes**	**Max Detect > SV**
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
PAHs (g/L)																
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Table 15-1-16
Wetland 19A Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
PAHs (g/L) - cont.																
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	26	FDEP	0.02	No	Max SQL< SV
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA		Yes	No SV
VOCs (g/L)																
1,1,1-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	270	FDEP	0.00	No	Max SQL< SV
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3.2	FDEP	0.16	No	Max SQL< SV
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	15.8	EPA	0.03	No	Max SQL< SV
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3	FDEP	0.17	No	Max SQL< SV
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Benzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	53	EPA	0.01	No	Max SQL< SV
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	17	FDEP	0.03	No	Max SQL< SV
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chloroform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	289	EPA	0.00	No	Max SQL< SV
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Ethylbenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	453	EPA	0.00	No	Max SQL< SV
Methylene chloride	0	1	1.5	1.5	1.5	1.5			ND	1.5	U	1,580	FDEP	0.00	No	Max SQL< SV
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Toluene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	175	EPA	0.00	No	Max SQL< SV
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
N/R = No refinement value available.
N/A = Not Applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the maximum detections.
Parameters in bold were detected and exceeded the screening value.

Table 15-1-17
Wetland 19A Phase II
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	Di-n-butylphthalate	None
Arsenic			
Barium			
Beryllium			
Calcium			
Chromium			
Cobalt			
Copper			
Iron			
Lead			
Magnesium			
Manganese			
Mercury			
Potassium			
Sodium			
Vanadium			
Zinc			
		Not Detected Parameters	
Cadmium	Aldrin	1,2,4-Trichlorobenzene	1,1,2,2-Tetrachloroethane
Silver	Dieldrin	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1,2-Trichloroethane
	Endosulfan II	2,4,5-Trichlorophenol	1,1-Dichloroethane
	Endosulfan sulfate	2,4,6-Trichlorophenol	1,2-Dibromo-3-Chloropropane
	Heptachlor	2,4-Dichlorophenol	1,2-Dibromoethane
	Heptachlor epoxide	2,4-Dimethylphenol	1,2-Dichloroethane
	Methoxychlor	2,4-Dinitrophenol	1,2-Dichloropropane
	Toxaphene	2,4-Dinitrotoluene	1,3-Dichlorobenzene
	alpha-Chlordane	2,6-Dinitrotoluene	2-Hexanone
	gamma-Chlordane	2-Chloronaphthalene	4-Methyl-2-Pentanone (MIBK)
	Total Chlordane	2-Methyl-4,6-Dinitrophenol	Bromochloromethane
	Endrin	2-Methylphenol (o-Cresol)	Bromodichloromethane
	Endrin aldehyde	2-Nitroaniline	Bromoform
	Endrin ketone	2-Nitrophenol	Bromomethane
	Total Endrin	3,3'-Dichlorobenzidine	Carbon disulfide
	alpha-BHC	3-Nitroaniline	Carbon tetrachloride
	beta-BHC	4-Bromophenyl-phenylether	Chloroethane
	delta-BHC	4-Chloro-3-methylphenol	Chloromethane
	Total BHC	4-Chloroaniline	cis-1,2-Dichloroethene
	4,4'-DDD	4-Chlorophenylphenyl ether	cis-1,3-Dichloropropene
	4,4'-DDE	4-Methylphenol (p-Cresol)	Dibromochloromethane
	4,4'-DDT	4-Nitroaniline	Styrene
	Total DDT	4-Nitrophenol	Tetrachloroethene
	Aroclor-1016	Benzo(b)fluoranthene	trans-1,2-Dichloroethene
	Aroclor-1221	Benzo(g,h,i)perylene	trans-1,3-Dichloropropene
	Aroclor-1232	Benzo(k)fluoranthene	Trichloroethene
	Aroclor-1242	bis(2-Chloroethoxy)methane	Vinyl chloride
	Aroclor-1248	bis(2-Chloroethyl)ether	Xylene (Total)
	Aroclor-1254	bis(2-Ethylhexyl)phthalate (BEHP)	
	Aroclor-1260	Butylbenzylphthalate	
	Total PCBs	Dibenzofuran	
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Indeno(1,2,3-cd)pyrene	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	
		2-Methylnaphthalene	
		Acenaphthene	
		Acenaphthylene	
		Anthracene	
		Benzo(a)anthracene	
		Benzo(a)pyrene	
		Chrysene	
		Dibenz(a,h)anthracene	
		Fluoranthene	
		Fluorene	
		Phenanthrene	
		Pyrene	
		Total PAHs	

Table 15-1-18
Wetland 19A Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
Metals (g/L)																			
Aluminum	**1**	**1**				**111,000**	**111,000**	**111,000**	**041W190101**	**111,000**		**13**	**FDEP**	**8,538.46**	**8,540**	**1,090**	**1**	**Yes**	**Max Result > Ref. Conc.**
Arsenic	**1**	**1**				**268**	**268**	**268**	**041W190101**	**268**		**50**	**FDEP**	**5.36**	**5.36**	**2.7**	**1**	**Yes**	**Max Result > Ref. Conc.**
Barium	1	1				300	300	300	041W190101	300			NA			3.67	1	Yes	Max Result > Ref. Conc.
Beryllium	**1**	**1**				**4**	**4**	**4**	**041W190101**	**4**	**J**	**0.13**	**FDEP**	**31**	**30.8**	**1**	**1**	**Yes**	**Max Result > Ref. Conc.**
Cadmium	0	1	1	1	1	1			ND	1	U	0.66	EPA	2	1.52	3	0	No	Max SQL < Ref. Conc.
Calcium	1	1				21,200	21,200	21,200	041W190101	21,200			NA			7,680	1	No	Essential Nutrient
Chromium	**1**	**1**				**99.5**	**99.5**	**99.5**	**041W190101**	**99.5**		**11**	**EPA**	**9.05**	**9.05**	**8**	**1**	**Yes**	**Max Result > Ref. Conc.**
Cobalt	1	1				38.5	38.5	38.5	041W190101	38.5	J		NA			3	1	Yes	Max Result > Ref. Conc.
Copper	**1**	**1**				**41.9**	**41.9**	**41.9**	**041W190101**	**41.9**		**6.54**	**EPA**	**6.41**	**6.41**	**4**	**1**	**Yes**	**Max Result > Ref. Conc.**
Iron	1	1				332,000	332,000	332,000	041W190101	332,000			NA			2,360	1	Yes	Max Result > Ref. Conc.
Lead	**1**	**1**				**86.9**	**86.9**	**86.9**	**041W190101**	**86.9**		**1.32**	**EPA**	**66**	**65.8**	**3.2**	**1**	**Yes**	**Max Result > Ref. Conc.**
Magnesium	1	1				4,570	4,570	4,570	041W190101	4,570	J		NA			20,300	0	No	Max Result < Ref. Conc.
Manganese	1	1				12,700	12,700	12,700	041W190101	12,700			NA			13.2	1	Yes	Max Result > Ref. Conc.
Mercury	**1**	**1**				**0.59**	**0.59**	**0.59**	**041W190101**	**0.59**		**0.012**	**EPA**	**49.17**	**49.2**	**0.13**	**1**	**Yes**	**Max Result > Ref. Conc.**
Potassium	1	1				2,720	2,720	2,720	041W190101	2,720	J		NA			7,000	0	No	Max Result < Ref. Conc.
Silver	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.012	EPA	208.33	208	4	0	No	Max SQL < Ref. Conc.
Sodium	1	1				4,730	4,730	4,730	041W190101	4,730	J		NA			182,000	0	No	Max Result < Ref. Conc.
Vanadium	1	1				277	277	277	041W190101	277			NA			4.7	1	Yes	Max Result > Ref. Conc.
Zinc	**1**	**1**				**204**	**204**	**204**	**041W190101**	**204**		**58.91**	**EPA**	**3.46**	**3.46**	**5.53**	**1**	**Yes**	**Max Result > Ref. Conc.**
Pesticides (g/L)																			
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter not Detected
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter not Detected
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter not Detected
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter not Detected
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0038	EPA	7	6.58		0	No	Parameter not Detected
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	625		0	No	Parameter not Detected
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	U		NA				0	No	Parameter not Detected
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter not Detected
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter not Detected
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	12	11.6		0	No	Parameter not Detected
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter not Detected
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter not Detected
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	22	21.7		0	No	Parameter not Detected
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	No	Parameter not Detected
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter not Detected
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter not Detected
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter not Detected
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA				0	No	Parameter not Detected
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	167		0	No	Parameter not Detected
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	250		0	No	Parameter not Detected
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP	85	84.7		0	No	Parameter not Detected
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	No	Parameter not Detected
PCBs (g/L)																			
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Aroclor-1221	0	1	1	1	1	1			ND	1	U		NA				0	No	Parameter not Detected
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	EPA	36	35.7		0	No	Parameter not Detected
Total PCB	0	1	4	4	4	4			ND	4	U		NA				0	No	Parameter not Detected
SVOCs (g/L)																			
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter not Detected
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter not Detected
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter not Detected
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter not Detected
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter not Detected
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter not Detected
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected

Table 15-1-18
Wetland 19A Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
SVOCs (g/L) - cont.																			
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.3	EPA	8.33	8.33		0	No	Parameter not Detected
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
Di-n-butylphthalate	**1**	**1**				**28**	**28**	**28**	**041W190101**	**28**		**9.4**	**EPA**	**3**	**2.98**		**0**	**Yes**	**Max Result > SV**
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
PAHs (g/L)																			
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA				0	No	Parameter not Detected
VOCs (g/L)																			
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter not Detected
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter not Detected

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
PEL = Probable effects level.
N/R = No refinement value available.

N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the Max detections
Parameters in bold were detected and exceeded Ref. Conc.s.

Table 15-1-19
Wetland 19A Phase II
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	Di-n-butylphthalate	None
Arsenic			
Barium			
Beryllium			
Chromium			
Cobalt			
Copper			
Iron			
Lead			
Manganese			
Mercury			
Vanadium			
Zinc			

Table 15-1-20
Wetland 19A Phase IV
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Metals (mg/kg)														
Aluminum	1	1			910	910	041M19A101	910			N/A		Yes	No SV
Antimony	1	1			1.1	1.1	041M19A101	1.1	I	12	2	0.09	No	Max Detect < SV
Arsenic	1	1			0.56	0.56	041M19A101	0.56	I	7.24	1, 2	0.08	No	Max Detect < SV
Barium	1	1			0.99	0.99	041M19A101	0.99	I		N/A		Yes	No SV
Beryllium	1	1			0.036	0.036	041M19A101	0.036	I		N/A		Yes	No SV
Cadmium	0	1	0.0335	0.0335			ND	0.0335	U	0.676	1	0.05	No	Max SQL< SV
Calcium	1	1			50	50	041M19A101	50	I		N/A		Yes	No SV
Chromium	1	1			0.95	0.95	041M19A101	0.95	I	52.3	1, 2	0.02	No	Max Detect < SV
Cobalt	0	1	0.065	0.065			ND	0.065	U		N/A		Yes	No SV
Copper	1	1			0.47	0.47	041M19A101	0.47	I	18.7	1, 2	0.03	No	Max Detect < SV
Iron	1	1			540	540	041M19A101	540			N/A		Yes	No SV
Lead	1	1			1.5	1.5	041M19A101	1.5		30.2	1, 2	0.05	No	Max Detect < SV
Magnesium	1	1			27	27	041M19A101	27	I		N/A		Yes	No SV
Manganese	1	1			1.6	1.6	041M19A101	1.6			N/A		Yes	No SV
Mercury	0	1	0.0024	0.0024			ND	0.0024	U	0.13	1, 2	0.02	No	Max SQL< SV
Nickel	1	1			0.26	0.26	041M19A101	0.26	I	15.9	1, 2	0.02	No	Max Detect < SV
Potassium	1	1			21	21	041M19A101	21	I		N/A		Yes	No SV
Selenium	0	1	0.295	0.295			ND	0.295	U		N/A		Yes	No SV
Silver	0	1	0.06	0.06			ND	0.06	U	0.733	1	0.08	No	Max SQL< SV
Sodium	1	1			3.5	3.5	041M19A101	3.5	I		N/A		Yes	No SV
Thallium	0	1	0.425	0.425			ND	0.425	U		N/A		Yes	No SV
Vanadium	1	1			1.5	1.5	041M19A101	1.5			N/A		Yes	No SV
Zinc	1	1			1.3	1.3	041M19A101	1.3	I	124	1, 2	0.01	No	Max Detect < SV
PAHs (g/kg)														
2-Methylnaphthalene	0	1	1.4	1.4			ND	1.4	U	20.2	1	0.07	No	Max SQL< SV
Acenaphthene	0	1	2.35	2.35			ND	2.35	U	6.71	1	0.35	No	Max SQL< SV
Acenaphthylene	0	1	2.25	2.25			ND	2.25	U	5.87	1	0.38	No	Max SQL< SV
Anthracene	0	1	2.5	2.5			ND	2.5	U	46.9	1	0.05	No	Max SQL< SV
Benzo(a)anthracene	0	1	2	2			ND	2	U	74.8	1	0.03	No	Max SQL< SV
Benzo(a)pyrene	0	1	2.35	2.35			ND	2.35	U	88.8	1	0.03	No	Max SQL< SV
Chrysene	0	1	2.65	2.65			ND	2.65	U	108	1	0.02	No	Max SQL< SV
Dibenz(a,h)anthracene	0	1	2.3	2.3			ND	2.3	U	6.22	1	0.37	No	Max SQL< SV
Fluoranthene	0	1	2.25	2.25			ND	2.25	U	113	1	0.02	No	Max SQL< SV
Fluorene	0	1	2.05	2.05			ND	2.05	U	21.2	1	0.10	No	Max SQL< SV
Naphthalene	0	1	1.85	1.85			ND	1.85	U	34.6	1	0.05	No	Max SQL< SV
Phenanthrene	1	1			5.6	5.6	041M19A101	5.6	I	86.7	1	0.06	No	Max Detect < SV
Pyrene	0	1	3.15	3.15			ND	3.15	U	153	1	0.02	No	Max SQL< SV
Total PAHs	1	1			32.7	32.7	041M19A101	32.7		1,684	1, 2	0.019	No	Max Detect < SV
TOC Normalized PAHs	1	1			19.24	19.24	041M19A101	19.24		290	3	0.066	No	Max Detect < SV
PCBs (g/kg)														
Aroclor-1016	0	1	2.55	2.55			ND	2.55	U	21.6	N/A	0.12	No	Max SQL< SV
Aroclor-1221	0	1	11	11			ND	11	U	67	2	0.16	No	Max SQL< SV
Aroclor-1232	0	1	4.4	4.4			ND	4.4	U	21.6	N/A	0.20	No	Max SQL< SV
Aroclor-1242	0	1	4.4	4.4			ND	4.4	U	21.6	N/A	0.20	No	Max SQL< SV
Aroclor-1248	0	1	4.3	4.3			ND	4.3	U	21.6	N/A	0.20	No	Max SQL< SV
Aroclor-1254	0	1	4.4	4.4			ND	4.4	U	21.6	N/A	0.20	No	Max SQL< SV
Aroclor-1260	0	1	2.9	2.9			ND	2.9	U	21.6	N/A	0.13	No	Max SQL< SV
Total PCBs	0	1	34	34			ND	34	U	21.6	1	1.57	Yes	Max SQL > SV
Pesticides (g/kg)														
Aldrin	0	1	0.07	0.07			ND	0.07	U		N/A		Yes	No SV
Dieldrin	0	1	0.205	0.205			ND	0.205	U	0.716	1	0.29	No	Max SQL< SV
Endosulfan I	0	1	0.11	0.11			ND	0.11	U		N/A		Yes	No SV
Endosulfan II	0	1	0.145	0.145			ND	0.145	U		N/A		Yes	No SV
Endosulfan sulfate	0	1	0.29	0.29			ND	0.29	U		N/A		Yes	No SV
Heptachlor	0	1	0.185	0.185			ND	0.185	U		N/A		Yes	No SV
Heptachlor epoxide	0	1	0.11	0.11			ND	0.11	U		N/A		Yes	No SV
Methoxychlor	0	1	0.13	0.13			ND	0.13	U		N/A		Yes	No SV
Toxaphene	0	1	21.5	21.5			ND	21.5	U		N/A		Yes	No SV
alpha-Chlordane	0	1	0.07	0.07			ND	0.07	U	1.7	1	0.04	No	Max SQL< SV
gamma-Chlordane	0	1	0.085	0.085			ND	0.085	U	1.7	1	0.05	No	Max SQL< SV
Total Chlordane	0	1	0.155	0.155			ND	0.155	U	1.7	1	0.09	No	Max SQL< SV
Endrin	0	1	0.28	0.28			ND	0.28	U	3.3	2	0.08	No	Max SQL< SV
Endrin aldehyde	0	1	0.205	0.205			ND	0.205	U	3.3	2	0.06	No	Max SQL< SV
Endrin ketone	0	1	0.25	0.25			ND	0.25	U	3.3	2	0.08	No	Max SQL< SV
Total Endrin	0	1	0.735	0.735			ND	0.735	U	3.3	2	0.22	No	Max SQL< SV
alpha-BHC	0	1	0.16	0.16			ND	0.16	U		N/A		Yes	No SV
beta-BHC	0	1	0.19	0.19			ND	0.19	U	0.32	N/A	0.59	No	Max SQL< SV
delta-BHC	0	1	0.08	0.08			ND	0.08	U	0.32	N/A	0.25	No	Max SQL< SV
gamma-BHC (Lindane)	0	1	0.1	0.1			ND	0.1	U	0.32	1	0.31	No	Max SQL< SV
Total BHC	0	1	0.53	0.53			ND	0.53	U	0.32	2	1.66	Yes	Max SQL > SV
4,4'-DDD	0	1	0.23	0.23			ND	0.23	U	1.22	1	0.19	No	Max SQL< SV
4,4'-DDE	0	1	0.355	0.355			ND	0.355	U	2.07	1	0.17	No	Max SQL< SV
4,4'-DDT	0	1	0.205	0.205			ND	0.205	U	1.19	1	0.17	No	Max SQL< SV
Total DDT	0	1	0.79	0.79			ND	0.79	U	3.3	2	0.24	No	Max SQL< SV
SVOCs (g/kg)														
1,2,4-Trichlorobenzene	0	1	25	25			ND	25	U		N/A		Yes	No SV
1,2-Dichlorobenzene	0	1	15	15			ND	15	U		N/A		Yes	No SV
1,3-Dichlorobenzene	0	1	15	15			ND	15	U		N/A		Yes	No SV
1,4-Dichlorobenzene	0	1	16	16			ND	16	U		N/A		Yes	No SV
1-Methyl naphthalene	0	1	0.9	0.9			ND	0.9	U				Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	21	21			ND	21	U		N/A		Yes	No SV
2,4,5-Trichlorophenol	0	1	20.5	20.5			ND	20.5	U		N/A		Yes	No SV
2,4,6-Trichlorophenol	0	1	21	21			ND	21	U		N/A		Yes	No SV
2,4-Dichlorophenol	0	1	19	19			ND	19	U		N/A		Yes	No SV
2,4-Dimethylphenol	0	1	18.5	18.5			ND	18.5	U		N/A		Yes	No SV
2,4-Dinitrophenol	0	1	225	225			ND	225	U		N/A		Yes	No SV
2,4-Dinitrotoluene	0	1	14.5	14.5			ND	14.5	U		N/A		Yes	No SV
2,6-Dinitrotoluene	0	1	19	19			ND	19	U		N/A		Yes	No SV
2-Chloronaphthalene	0	1	24.5	24.5			ND	24.5	U		N/A		Yes	No SV
2-Chlorophenol	0	1	27	27			ND	27	U		N/A		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	1	20.5	20.5			ND	20.5	U		N/A		Yes	No SV
2-Methylphenol (o-Cresol)	0	1	30	30			ND	30	U		N/A		Yes	No SV
2-Nitroaniline	0	1	16.5	16.5			ND	16.5	U		N/A		Yes	No SV
2-Nitrophenol	0	1	17	17			ND	17	U		N/A		Yes	No SV
3,3'-Dichlorobenzidine	0	1	17	17			ND	17	U		N/A		Yes	No SV
3-Methylphenol/4-Methylphenol	0	1	26.5	26.5			ND	26.5	U				Yes	No SV
3-Nitroaniline	0	1	19.5	19.5			ND	19.5	U		N/A		Yes	No SV
4-Bromophenyl-phenylether	0	1	19.5	19.5			ND	19.5	U		N/A		Yes	No SV
4-Chloro-3-methylphenol	0	1	26.5	26.5			ND	26.5	U		N/A		Yes	No SV
4-Chloroaniline	0	1	19	19			ND	19	U		N/A		Yes	No SV
4-Chlorophenylphenyl ether	0	1	17	17			ND	17	U		N/A		Yes	No SV
4-Nitroaniline	0	1	17	17			ND	17	U		N/A		Yes	No SV
4-Nitrophenol	0	1	16.5	16.5			ND	16.5	U		N/A		Yes	No SV
Benzo(b)fluoranthene	0	1	2.5	2.5			ND	2.5	U		N/A		No	TOC Normalized PAHs<TEC
Benzo(g,h,i)perylene	0	1	1.6	1.6			ND	1.6	U		N/A		No	TOC Normalized PAHs<TEC
Benzo(k)fluoranthene	0	1	2.6	2.6			ND	2.6	U		N/A		No	TOC Normalized PAHs<TEC
bis(2-Chloroethoxy)methane	0	1	21	21			ND	21	U		N/A		Yes	No SV
bis(2-Chloroethyl)ether	0	1	24.5	24.5			ND	24.5	U		N/A		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	29	29			ND	29	U	182	1, 2	0.16	No	Max SQL< SV
Butylbenzylphthalate	0	1	21	21			ND	21	U	182	1, 2	0.12	No	Max SQL< SV
Carbazole	0	1	19.5	19.5			ND	19.5	U		N/A		Yes	No SV
Dibenzofuran	0	1	22.5	22.5			ND	22.5	U		N/A		Yes	No SV
Diethylphthalate	0	1	23	23			ND	23	U	182	1, 2	0.13	No	Max SQL< SV
Dimethylphthalate	0	1	23	23			ND	23	U	182	1, 2	0.13	No	Max SQL< SV
Di-n-butylphthalate	0	1	25.5	25.5			ND	25.5	U	182	1, 2	0.14	No	Max SQL< SV
Di-n-octylphthalate	0	1	21	21			ND	21	U	182	1, 2	0.12	No	Max SQL< SV
Hexachlorobenzene	0	1	25	25			ND	25	U		N/A		Yes	No SV
Hexachlorobutadiene	0	1	18	18			ND	18	U		N/A		Yes	No SV
Hexachlorocyclopentadiene	0	1	180	180			ND	180	U		N/A		Yes	No SV
Hexachloroethane	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	1	1.7	1.7			ND	1.7	U		N/A		No	TOC Normalized PAHs<TEC
Isophorone	0	1	17	17			ND	17	U		N/A		Yes	No SV
Nitrobenzene	0	1	20.5	20.5			ND	20.5	U		N/A		Yes	No SV
N-Nitroso-di-n-propylamine	0	1	19.5	19.5			ND	19.5	U		N/A		Yes	No SV

Table 15-1-20
Wetland 19A Phase IV
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
SVOCs (g/kg) - cont.														
N-Nitrosodiphenylamine	0	1	19.5	19.5			ND	19.5	U		N/A		Yes	No SV
Pentachlorophenol	1	1			68	68	041M19A101	68	J		N/A		Yes	No SV
Phenol	0	1	27	27			ND	27	U		N/A		Yes	No SV
VOCs (g/kg)														
1,1,1-Trichloroethane	0	1	0.5	0.5			ND	0.5	U		N/A		Yes	No SV
1,1,2,2-Tetrachloroethane	0	1	1.25	1.25			ND	1.25	U		N/A		Yes	No SV
1,1,2-Trichloroethane	0	1	1.1	1.1			ND	1.1	U		N/A		Yes	No SV
1,1-Dichloroethane	0	1	0.6	0.6			ND	0.6	U		N/A		Yes	No SV
1,1-Dichloroethene	0	1	1.05	1.05			ND	1.05	U		N/A		Yes	No SV
1,2-Dichloroethane	0	1	0.95	0.95			ND	0.95	U		N/A		Yes	No SV
1,2-Dichloropropane	0	1	0.75	0.75			ND	0.75	U		N/A		Yes	No SV
2-Butanone (MEK)	0	1	2.9	2.9			ND	2.9	U		N/A		Yes	No SV
2-Hexanone	0	1	3.15	3.15			ND	3.15	U		N/A		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	1	3.1	3.1			ND	3.1	U		N/A		Yes	No SV
Acetone	0	1	4.95	4.95			ND	4.95	U		N/A		Yes	No SV
Benzene	0	1	0.7	0.7			ND	0.7	U		N/A		Yes	No SV
Bromodichloromethane	0	1	0.8	0.8			ND	0.8	U		N/A		Yes	No SV
Bromoform	0	1	1.05	1.05			ND	1.05	U		N/A		Yes	No SV
Bromomethane	0	1	2.1	2.1			ND	2.1	U		N/A		Yes	No SV
Carbon disulfide	0	1	1.25	1.25			ND	1.25	U		N/A		Yes	No SV
Carbon tetrachloride	1	1			2.3	2.3	041M19A101	2.3	I		N/A		Yes	No SV
Chlorobenzene	0	1	0.8	0.8			ND	0.8	U		N/A		Yes	No SV
Chloroethane	0	1	1.05	1.05			ND	1.05	U		N/A		Yes	No SV
Chloroform	1	1			3.4	3.4	041M19A101	3.4	I		N/A		Yes	No SV
Chloromethane	0	1	0.85	0.85			ND	0.85	U		N/A		Yes	No SV
cis-1,2-Dichloroethene	0	1	0.7	0.7			ND	0.7	U				Yes	No SV
cis-1,3-Dichloropropene	0	1	0.75	0.75			ND	0.75	U		N/A		Yes	No SV
Dibromochloromethane	0	1	0.85	0.85			ND	0.85	U		N/A		Yes	No SV
Ethylbenzene	0	1	0.6	0.6			ND	0.6	U		N/A		Yes	No SV
Methylene chloride	0	1	1.5	1.5			ND	1.5	U		N/A		Yes	No SV
Styrene	0	1	0.7	0.7			ND	0.7	U		N/A		Yes	No SV
Tetrachloroethene	0	1	0.95	0.95			ND	0.95	U		N/A		Yes	No SV
Toluene	0	1	1.1	1.1			ND	1.1	U		N/A		Yes	No SV
trans-1,2-Dichloroethene	0	1	0.75	0.75			ND	0.75	U				Yes	No SV
trans-1,3-Dichloropropene	0	1	1	1			ND	1	U		N/A		Yes	No SV
Trichloroethene	0	1	0.7	0.7			ND	0.7	U		N/A		Yes	No SV
Vinyl chloride	0	1	0.85	0.85			ND	0.85	U		N/A		Yes	No SV
Xylene (Total)	0	1	1.85	1.85			ND	1.85	U		N/A		Yes	No SV

Notes:

Sources for Screening Values:
SV = Screening Value
1 = USEPA Region 4 Screening Value. Detailed explanation for SVs provided in Section 8.0.
2 = FDEP Threshold effects level

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available.
U or ND = Not Detected at or above the SQL
J = Estimated value
SHQ = Screening Hazard Quotient

D = Diluted Result
mg/kg = milligrams per kilograms
g/kg = micrograms per kilograms
mg/kg oc = milligrams per kilograms - organic carbon
UJ = Not detected. SQL is estimated.
Parameters in bold were detected and exceeded screening values.

Table 15-1-21
Wetland 19A Phase IV
Sediment COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	Pentachlorophenol	Carbon tetrachloride
Barium			Chloroform
Beryllium			
Calcium			
Iron			
Magnesium			
Manganese			
Potassium			
Sodium			
Vanadium			
		Not Detected Parameters	
Cobalt	Aldrin	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane
Selenium	alpha-BHC	1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
Thallium	Endosulfan I	1,3-Dichlorobenzene	1,1,2-Trichloroethane
	Endosulfan II	1,4-Dichlorobenzene	1,1-Dichloroethane
	Endosulfan sulfate	1-Methyl naphthalene	1,1-Dichloroethene
	Heptachlor	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,2-Dichloroethane
	Heptachlor epoxide	2,4,5-Trichlorophenol	1,2-Dichloropropane
	Methoxychlor	2,4,6-Trichlorophenol	2-Butanone (MEK)
	Total BHC	2,4-Dichlorophenol	2-Hexanone
	Toxaphene	2,4-Dimethylphenol	4-Methyl-2-Pentanone (MIBK)
	Total PCBs	2,4-Dinitrophenol	Acetone
		2,4-Dinitrotoluene	Benzene
		2,6-Dinitrotoluene	Bromodichloromethane
		2-Chloronaphthalene	Bromoform
		2-Chlorophenol	Bromomethane
		2-Methyl-4,6-Dinitrophenol	Carbon disulfide
		2-Methylphenol (o-Cresol)	Chlorobenzene
		2-Nitroaniline	Chloroethane
		2-Nitrophenol	Chloromethane
		3,3'-Dichlorobenzidine	cis-1,2-Dichloroethene
		3-Methylphenol/4-Methylphenol	cis-1,3-Dichloropropene
		3-Nitroaniline	Dibromochloromethane
		4-Bromophenyl-phenylether	Ethylbenzene
		4-Chloro-3-methylphenol	Methylene chloride
		4-Chloroaniline	Styrene
		4-Chlorophenylphenyl ether	Tetrachloroethene
		4-Nitroaniline	Toluene
		4-Nitrophenol	trans-1,2-Dichloroethene
		bis(2-Chloroethoxy)methane	trans-1,3-Dichloropropene
		bis(2-Chloroethyl)ether	Trichloroethene
		Carbazole	Vinyl chloride
		Dibenzofuran	Xylene (Total)
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Phenol	

Table 15-1-22
Wetland 19A Phase IV
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
Metals (mg/kg)																							
Aluminum	1	1				910	910	910	910		041M19A101			NA					0	13,610	0	No	EPC < RC
Barium	1	1				0.99	0.99	0.99	0.99	I	041M19A101			NA					0	14	0	No	EPC < RC
Beryllium	1	1				0.036	0.036	0.036	0.04	I	041M19A101			NA					0	0.84	0	No	EPC < RC
Calcium	1	1				50	50	50	50	I	041M19A101			NA					0	10,756.67	0	No	EPC < RC
Cobalt	0	1	0.065	0.065	0.065	0.065			0.07	U	ND			NA					0	2.8	0	No	Parameter Not Detected
Iron	1	1				540	540	540	540		041M19A101			NA					0	11,911.67	0	No	EPC < RC
Magnesium	1	1				27	27	27	27	I	041M19A101			NA					0	7,513.33	0	No	EPC < RC
Manganese	1	1				1.6	1.6	1.6	1.6		041M19A101			NA					0	37.97	0	No	EPC < RC
Potassium	1	1				21	21	21	21	I	041M19A101			NA					0	1,628.67	0	No	EPC < RC
Selenium	0	1	0.295	0.295	0.295	0.295			0.3	U	ND			NA					0	3.45	0	No	Parameter Not Detected
Sodium	1	1				3.5	3.5	3.5	3.5	I	041M19A101			NA					0	18,993.33	0	No	EPC < RC
Thallium	0	1	0.425	0.425	0.425	0.425			0.43	U	ND			NA					0	1.57	0	No	Parameter Not Detected
Vanadium	1	1				1.5	1.5	1.5	1.5		041M19A101			NA					0	28.67	0	No	EPC < RC
PCBs (g/kg)																							
Aroclor-1016	0	1	2.55	2.55	2.55	2.55			2.55	U	ND	21.6	189	PEL	0.12	0.12	0.01	0.01	0		0	No	EPC < RC
Aroclor-1221	0	1	11	11	11	11			11	U	ND	67	189	PEL	0.16	0.16	0.06	0.06	0		0	No	EPC < RC
Aroclor-1232	0	1	4.4	4.4	4.4	4.4			4.4	U	ND	21.6	189	PEL	0.20	0.20	0.02	0.02	0		0	No	EPC < RC
Aroclor-1242	0	1	4.4	4.4	4.4	4.4			4.4	U	ND	21.6	189	PEL	0.20	0.20	0.02	0.02	0		0	No	EPC < RC
Aroclor-1248	0	1	4.3	4.3	4.3	4.3			4.3	U	ND	21.6	189	PEL	0.20	0.20	0.02	0.02	0		0	No	EPC < RC
Aroclor-1254	0	1	4.4	4.4	4.4	4.4			4.4	U	ND	21.6	189	PEL	0.20	0.20	0.02	0.02	0		0	No	EPC < RC
Aroclor-1260	0	1	2.9	2.9	2.9	2.9			2.9	U	ND	21.6	189	PEL	0.13	0.13	0.02	0.02	0		0	No	EPC < RC
Total PCBs	0	1	34	34	34	34			34	U	ND	21.6	189	PEL	1.57	1.57	0.18	0.18	0		0	No	EPC < RC
Pesticides (g/kg)																							
Aldrin	0	1	0.07	0.07	0.07	0.07			0.07	U				NA					0		0	No	Parameter Not Detected
Endosulfan I	0	1	0.11	0.11	0.11	0.11			0.11	U				NA					0		0	No	Parameter Not Detected
Endosulfan II	0	1	0.145	0.145	0.145	0.145			0.15	U				NA					0		0	No	Parameter Not Detected
Endosulfan sulfate	0	1	0.29	0.29	0.29	0.29			0.29	U				NA					0		0	No	Parameter Not Detected
Heptachlor	0	1	0.185	0.185	0.185	0.185			0.19	U				NA					0		0	No	Parameter Not Detected
Heptachlor epoxide	0	1	0.11	0.11	0.11	0.11			0.11	U				NA					0		0	No	Parameter Not Detected
Methoxychlor	0	1	0.13	0.13	0.13	0.13			0.13	U				NA					0		0	No	Parameter Not Detected
Toxaphene	0	1	21.5	21.5	21.5	21.5			21.5	U				NA					0		0	No	Parameter Not Detected
alpha-BHC	0	1	0.16	0.16	0.16	0.16			0.16	U			0.99	PEL			0.16	0.16	0		0	No	Parameter Not Detected
beta-BHC	0	1	0.19	0.19	0.19	0.19			0.19	U		0.32	0.99	PEL	0.59	0.59	0.19	0.19	0		0	No	Parameter Not Detected
delta-BHC	0	1	0.08	0.08	0.08	0.08			0.08	U		0.32	0.99	PEL	0.25	0.25	0.08	0.08	0		0	No	Parameter Not Detected
gamma-BHC (Lindane)	0	1	0.1	0.1	0.1	0.1			0.1	U		0.32	0.99	PEL	0.31	0.31	0.10	0.10	0		0	No	Parameter Not Detected
Total BHC	0	1	0.53	0.53	0.53	0.53			0.53	U		0.32	0.99	PEL	1.66	1.66	0.54	0.54	0		0	No	Parameter Not Detected
SVOCs (g/kg)																							
1,2,4-Trichlorobenzene	0	1	25	25	25	25			25	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichlorobenzene	0	1	15	15	15	15			15	U	ND			NA					0		0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	1	15	15	15	15			15	U	ND			NA					0		0	No	Parameter Not Detected
1,4-Dichlorobenzene	0	1	16	16	16	16			16	U	ND			NA					0		0	No	Parameter Not Detected
1-Methyl naphthalene	0	1	0.9	0.9	0.9	0.9			0.9	U	ND			NA					0		0	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	21	21	21	21			21	U	ND			NA					0		0	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	1	20.5	20.5	20.5	20.5			20.5	U	ND			NA					0		0	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	1	21	21	21	21			21	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dichlorophenol	0	1	19	19	19	19			19	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dimethylphenol	0	1	18.5	18.5	18.5	18.5			18.5	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrophenol	0	1	225	225	225	225			225	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrotoluene	0	1	14.5	14.5	14.5	14.5			14.5	U	ND			NA					0		0	No	Parameter Not Detected
2,6-Dinitrotoluene	0	1	19	19	19	19			19	U	ND			NA					0		0	No	Parameter Not Detected
2-Chloronaphthalene	0	1	24.5	24.5	24.5	24.5			24.5	U	ND			NA					0		0	No	Parameter Not Detected
2-Chlorophenol	0	1	27	27	27	27			27	U	ND			NA					0		0	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	1	20.5	20.5	20.5	20.5			20.5	U	ND			NA					0		0	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	1	30	30	30	30			30	U	ND			NA					0		0	No	Parameter Not Detected
2-Nitroaniline	0	1	16.5	16.5	16.5	16.5			16.5	U	ND			NA					0		0	No	Parameter Not Detected
2-Nitrophenol	0	1	17	17	17	17			17	U	ND			NA					0		0	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	1	17	17	17	17			17	U	ND			NA					0		0	No	Parameter Not Detected
3-Methylphenol/4-Methylphenol	0	1	26.5	26.5	26.5	26.5			26.5	U	ND			NA					0		0	No	Parameter Not Detected
3-Nitroaniline	0	1	19.5	19.5	19.5	19.5			19.5	U	ND			NA					0		0	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	1	19.5	19.5	19.5	19.5			19.5	U	ND			NA					0		0	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	1	26.5	26.5	26.5	26.5			26.5	U	ND			NA					0		0	No	Parameter Not Detected
4-Chloroaniline	0	1	19	19	19	19			19	U	ND			NA					0		0	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	1	17	17	17	17			17	U	ND			NA					0		0	No	Parameter Not Detected
4-Nitroaniline	0	1	17	17	17	17			17	U	ND			NA					0		0	No	Parameter Not Detected
4-Nitrophenol	0	1	16.5	16.5	16.5	16.5			16.5	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	1	21	21	21	21			21	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	1	24.5	24.5	24.5	24.5			24.5	U	ND			NA					0		0	No	Parameter Not Detected
Carbazole	0	1	19.5	19.5	19.5	19.5			19.5	U	ND			NA					0		0	No	Parameter Not Detected
Dibenzofuran	0	1	22.5	22.5	22.5	22.5			22.5	U	ND			NA					0		0	No	Parameter Not Detected
Hexachlorobenzene	0	1	25	25	25	25			25	U	ND			NA					0		0	No	Parameter Not Detected
Hexachlorobutadiene	0	1	18	18	18	18			18	U	ND			NA					0		0	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	1	180	180	180	180			180	U	ND			NA					0		0	No	Parameter Not Detected
Hexachloroethane	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA					0		0	No	Parameter Not Detected
Isophorone	0	1	17	17	17	17			17	U	ND			NA					0		0	No	Parameter Not Detected
Nitrobenzene	0	1	20.5	20.5	20.5	20.5			20.5	U	ND			NA					0		0	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	1	19.5	19.5	19.5	19.5			19.5	U	ND			NA					0		0	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	1	19.5	19.5	19.5	19.5			19.5	U	ND			NA					0		0	No	Parameter Not Detected
Pentachlorophenol	1	1				68	68	68	68	J	041M19A101			NA					0		0	Yes	No SV, no RV, and no RC
Phenol	0	1	27	27	27	27			27	U	ND			NA					0		0	No	Parameter Not Detected
VOCs (g/kg)																							
1,1,1-Trichloroethane	0	1	0.5	0.5	0.5	0.5			0.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1,2,2-Tetrachloroethane	0	1	1.25	1.25	1.25	1.25			1.25	U	ND			NA					0		0	No	Parameter Not Detected
1,1,2-Trichloroethane	0	1	1.1	1.1	1.1	1.1			1.1	U	ND			NA					0		0	No	Parameter Not Detected
1,1-Dichloroethane	0	1	0.6	0.6	0.6	0.6			0.6	U	ND			NA					0		0	No	Parameter Not Detected
1,1-Dichloroethene	0	1	1.05	1.05	1.05	1.05			1.05	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloroethane	0	1	0.95	0.95	0.95	0.95			0.95	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloropropane	0	1	0.75	0.75	0.75	0.75			0.75	U	ND			NA					0		0	No	Parameter Not Detected
2-Butanone (MEK)	0	1	2.9	2.9	2.9	2.9			2.9	U	ND			NA					0		0	No	Parameter Not Detected

Table 15-1-22
Wetland 19A Phase IV
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
VOCs (g/kg) - cont.																							
2-Hexanone	0	1	3.15	3.15	3.15	3.15			3.15	U	ND			NA					0		0	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	1	3.1	3.1	3.1	3.1			3.1	U	ND			NA					0		0	No	Parameter Not Detected
Acetone	0	1	4.95	4.95	4.95	4.95			4.95	U	ND			NA					0		0	No	Parameter Not Detected
Benzene	0	1	0.7	0.7	0.7	0.7			0.7	U	ND			NA					0		0	No	Parameter Not Detected
Bromodichloromethane	0	1	0.8	0.8	0.8	0.8			0.8	U	ND			NA					0		0	No	Parameter Not Detected
Bromoform	0	1	1.05	1.05	1.05	1.05			1.05	U	ND			NA					0		0	No	Parameter Not Detected
Bromomethane	0	1	2.1	2.1	2.1	2.1			2.1	U	ND			NA					0		0	No	Parameter Not Detected
Carbon disulfide	0	1	1.25	1.25	1.25	1.25			1.25	U	ND			NA					0		0	No	Parameter Not Detected
Carbon tetrachloride	1	1				2.3	2.3	2.3	2.3	I	041M19A101			NA					0		0	Yes	No SV, no RV, and no RC
Chlorobenzene	0	1	0.8	0.8	0.8	0.8			0.8	U	ND			NA					0		0	No	Parameter Not Detected
Chloroethane	0	1	1.05	1.05	1.05	1.05			1.05	U	ND			NA					0		0	No	Parameter Not Detected
Chloroform	1	1				3.4	3.4	3.4	3.4	I	041M19A101			NA					0		0	Yes	No SV, no RV, and no RC
Chloromethane	0	1	0.85	0.85	0.85	0.85			0.85	U	ND			NA					0		0	No	Parameter Not Detected
cis-1,2-Dichloroethene	0	1	0.7	0.7	0.7	0.7			0.7	U	ND			NA					0		0	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	1	0.75	0.75	0.75	0.75			0.75	U	ND			NA					0		0	No	Parameter Not Detected
Dibromochloromethane	0	1	0.85	0.85	0.85	0.85			0.85	U	ND			NA					0		0	No	Parameter Not Detected
Ethylbenzene	0	1	0.6	0.6	0.6	0.6			0.6	U	ND			NA					0		0	No	Parameter Not Detected
Methylene chloride	0	1	1.5	1.5	1.5	1.5			1.5	U	ND			NA					0		0	No	Parameter Not Detected
Styrene	0	1	0.7	0.7	0.7	0.7			0.7	U	ND			NA					0		0	No	Parameter Not Detected
Tetrachloroethene	0	1	0.95	0.95	0.95	0.95			0.95	U	ND			NA					0		0	No	Parameter Not Detected
Toluene	0	1	1.1	1.1	1.1	1.1			1.1	U	ND			NA					0		0	No	Parameter Not Detected
trans-1,2-Dichloroethene	0	1	0.75	0.75	0.75	0.75			0.75	U	ND			NA					0		0	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	1	1	1	1	1			1	U	ND			NA					0		0	No	Parameter Not Detected
Trichloroethene	0	1	0.7	0.7	0.7	0.7			0.7	U	ND			NA					0		0	No	Parameter Not Detected
Vinyl chloride	0	1	0.85	0.85	0.85	0.85			0.85	U	ND			NA					0		0	No	Parameter Not Detected
Xylene (Total)	0	1	1.85	1.85	1.85	1.85			1.85	U	ND			NA					0		0	No	Parameter Not Detected

Notes:

Sources for Refinement Values (RVs):
PEL = FDEP Probable Effects Level
MEC = Swartz Midrange Effect Concentration

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
Parameters in bold were detected and exceeded screening values.

J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8)
HQ = Hazard Quotient.
PEL = Probable effects level.

N/R = No refinement value available.
N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the maximum detections
NAS Pensacola basewide levels used as reference values for 4,4'-DDT, 4,4'-DDD, 4,4'-DDE and total DDT.

Table 15-1-23
Wetland 19A Phase IV
Sediment COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
None	None	Pentachlorophenol	None

Table 15-1-24
Wetland 19A Phase IV
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M19A101	4/8/2004	UG/KG	1.4	U	2-Methylnaphthalene	70	670	0.00
041M19A101	4/8/2004	UG/KG	2.35	U	Acenaphthene	16	500	0.00
041M19A101	4/8/2004	UG/KG	2.25	U	Acenaphthylene	44	640	0.00
041M19A101	4/8/2004	UG/KG	2.5	U	Anthracene	85.3	1,100	0.00
041M19A101	4/8/2004	UG/KG	2	U	Benzo(a)anthracene	261	1,600	0.00
041M19A101	4/8/2004	UG/KG	2.35	U	Benzo(a)pyrene	430	1,600	0.00
041M19A101	4/8/2004	UG/KG	2.65	U	Chrysene	384	2,800	0.00
041M19A101	4/8/2004	UG/KG	2.3	U	Dibenz(a,h)anthracene	63.4	260	0.01
041M19A101	4/8/2004	UG/KG	2.25	U	Fluoranthene	600	5,100	0.00
041M19A101	4/8/2004	UG/KG	2.05	U	Fluorene	19	540	0.00
041M19A101	4/8/2004	UG/KG	1.85	U	Naphthalene	160	2,100	0.00
041M19A101	4/8/2004	UG/KG	5.6	I	Phenanthrene	240	1,500	0.00
041M19A101	4/8/2004	UG/KG	3.15	U	Pyrene	665	2,600	0.00
041M19A101	4/8/2004	UG/KG	0.355	U	4,4'-DDE	2.2	27	0.01
041M19A101	4/8/2004	UG/KG	0.205	U	4,4'-DDT	1.58	46.1	0.00
041M19A101	4/8/2004	MG/KG	0.56	I	Arsenic	8.2	70	0.01
041M19A101	4/8/2004	MG/KG	0.0335	U	Cadmium	1.2	9.6	0.00
041M19A101	4/8/2004	MG/KG	0.95	I	Chromium	81	370	0.00
041M19A101	4/8/2004	MG/KG	0.47	I	Copper	34	270	0.00
041M19A101	4/8/2004	MG/KG	1.5		Lead	46.7	218	0.01
041M19A101	4/8/2004	MG/KG	0.0024	U	Mercury	0.15	0.71	0.00
041M19A101	4/8/2004	MG/KG	0.26	I	Nickel	20.9	51.6	0.01
041M19A101	4/8/2004	MG/KG	0.06	U	Silver	1	3.7	0.02
041M19A101	4/8/2004	MG/KG	1.3	I	Zinc	150	410	0.00
041M19A101	4/8/2004				ERM Quotient Sum			0.29
041M19A101	4/8/2004				Mean ERM Quotient			0.01
041M19A101	4/8/2004				Mean ERM Quotient without ND			0.00
041M19A101	4/8/2004				Mean ERM Quotient Category			2

Notes:
ERL = Effects Range Low
ERM = Effects Range Median
mg/kg = milligrams per kilogram
g/kg = micrograms per kilogram
U = not detected at or above the SQL (value in table is 1/2 reported value)
J = estimated value
Shaded cells indicate constituent exceeds ERL.
Shaded and bold cells indicate constituent exceeds ERM.

Table 15-1-25
Wetland 19A Phase IV
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement ?	Rationale
Metals (g/L)																
Aluminum	**1**	**1**				**330**	**330**	**330**	**041W19A102**	**330**		**13**	**FDEP**	**25.4**	**Yes**	**Max Detect > SV**
Antimony	0	1	1.95	1.95	1.95	1.95			ND	1.95	U	160	EPA	0.01	No	Max SQL< SV
Arsenic	0	1	1.65	1.65	1.65	1.65			ND	1.65	U	50	FDEP	0.03	No	Max SQL< SV
Barium	1	1				8.5	8.5	8.5	041W19A102	8.5	I		NA		Yes	No SV
Beryllium	**1**	**1**				**0.74**	**0.74**	**0.74**	**041W19A102**	**0.74**	**I**	**0.13**	**FDEP**	**5.69**	**Yes**	**Max Detect > SV**
Cadmium	0	1	0.3	0.3	0.3	0.3			ND	0.3	U	0.66	EPA	0.46	No	Max SQL< SV
Calcium	1	1				6400	6,400	6,400	041W19A102	6,400			NA		Yes	No SV
Chromium	0	1	0.7	0.7	0.7	0.7			ND	0.7	U	11	EPA	0.06	No	Max SQL< SV
Cobalt	0	1	0.6	0.6	0.6	0.6			ND	0.6	U		NA		Yes	No SV
Copper	0	1	0.3	0.3	0.3	0.3			ND	0.3	U	6.54	EPA	0.05	No	Max SQL< SV
Iron	1	1				1000	1,000	1,000	041W19A102	1,000			NA		Yes	No SV
Lead	0	1	0.95	0.95	0.95	0.95			ND	0.95	U	1.32	EPA	0.72	No	Max SQL< SV
Magnesium	1	1				1100	1,100	1,100	041W19A102	1,100			NA		Yes	No SV
Manganese	1	1				18	18	18	041W19A102	18			NA		Yes	No SV
Mercury	0	1	0.039	0.039	0.039	0.039			ND	0.039	U	0.012	EPA	3.25	Yes	Max SQL > SV
Nickel	0	1	0.75	0.75	0.75	0.75			ND	0.75	U	87.71	EPA	0.01	No	Max SQL< SV
Potassium	1	1				780	780	780	041W19A102	780	I		NA		Yes	No SV
Selenium	0	1	2.65	2.65	2.65	2.65			ND	2.65	U	5	EPA	0.53	No	Max SQL< SV
Silver	0	1	0.55	0.55	0.55	0.55			ND	0.55	U	0.012	EPA	45.8	Yes	Max SQL > SV
Sodium	1	1				5800	5,800	5,800	041W19A102	5,800			NA		Yes	No SV
Thallium	0	1	3.8	3.8	3.8	3.8			ND	3.8	U	4	EPA	0.95	No	Max SQL< SV
Vanadium	1	1				3	3	3	041W19A102	3	I		NA		Yes	No SV
Zinc	1	1				1.6	1.6	1.6	041W19A102	1.6	I	58.91	EPA	0.03	No	Max Detect < SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
N/R = No refinement value available.
N/A = Not Applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the maximum detections.
Parameters in bold were detected and exceeded the screening value.

Table 15-1-26
Wetland 19A Phase IV
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	Not Analyzed	Not Analyzed	Not Analyzed
Barium			
Beryllium			
Calcium			
Iron			
Magnesium			
Manganese			
Potassium			
Sodium			
Vanadium			
		Not Detected Parameters	
Cobalt	Not Analyzed	Not Analyzed	Not Analyzed
Mercury			
Silver			

Table 15-1-27
Wetland 19A Phase IV
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
Metals (µg/L)																				
Aluminum	**1**	**1**				**330**	**330**	**330**	**041W19A102**	**330**		**13**	**FDEP**	**25.38**	**25.4**	**1,090**	**0**	**1**	**No**	**Max Result < Ref. Conc.**
Barium	1	1				8.5	8.5	8.5	041W19A102	8.5	I		NA			3.67	1	1	Yes	Max Result > Ref. Conc.
Beryllium	**1**	**1**				**0.74**	**0.74**	**0.74**	**041W19A102**	**0.74**	**I**	**0.13**	**FDEP**	**6**	**5.69**	**1**	**0**	**1**	**No**	**Max Result < Ref. Conc.**
Calcium	1	1				6,400	6,400	6,400	041W19A102	6,400			NA			7,680	0	1	No	Max Result < Ref. Conc.
Cobalt	0	1	0.6	0.6	0.6	0.6			ND	0.6	U		NA			3	0	1	No	Max Result < Ref. Conc.
Iron	1	1				1,000	1,000	1,000	041W19A102	1,000			NA			2,360	0	1	No	Max Result < Ref. Conc.
Magnesium	1	1				1,100	1,100	1,100	041W19A102	1,100			NA			20,300	0	1	No	Max Result < Ref. Conc.
Manganese	1	1				18	18	18	041W19A102	18			NA			13.2	1	1	Yes	Max Result > Ref. Conc.
Mercury	0	1	0.039	0.039	0.039	0.039			ND	0.039	U	0.012	EPA	3.25	3.25	0.13	0	1	No	Max Result < Ref. Conc.
Potassium	1	1				780	780	780	041W19A102	780	I		NA			7,000	0	1	No	Max Result < Ref. Conc.
Silver	0	1	0.55	0.55	0.55	0.55			ND	0.55	U	0.012	EPA	46	45.8	4	0	1	No	Max Result < Ref. Conc.
Sodium	1	1				5,800	5,800	5,800	041W19A102	5,800			NA			182,000	0	1	No	Max Result < Ref. Conc.
Vanadium	1	1				3	3	3	041W19A102	3	I		NA			4.7	0	1	No	Max Result < Ref. Conc.

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
PEL = Probable effects level.
N/R = No refinement value available.

N/A = Not Applicable.
Average result calculations include summing detections and one half the detect
parameters. As a result, some average detections may exceed the Max detecti
Parameters in bold were detected and exceeded Ref. Conc.s.

Table 15-1-28
Wetland 19A Phase IV
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
Detected Parameters			
Barium Manganese	Not Analyzed	Not Analyzed	Not Analyzed

Table 15-1-29
Wetland 19B Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement
Metals (mg/kg)													
Aluminum	1	1			976	976	041M19B101	976			N/A		Yes
Antimony	0	1	0.07	0.07			ND	0.07	UJ	12	2	0.01	No
Arsenic	1	1			0.83	0.83	041M19B101	0.83		7.24	1, 2	0.12	No
Barium	1	1			0.76	0.76	041M19B101	0.76	J		N/A		Yes
Beryllium	0	1	0.035	0.035			ND	0.035	U		N/A		Yes
Cadmium	0	1	0.07	0.07			ND	0.07	U	0.676	1	0.10	No
Calcium	1	1			151	151	041M19B101	151	J		N/A		Yes
Chromium	1	1			3	3	041M19B101	3		52.3	1, 2	0.06	No
Cobalt	0	1	0.07	0.07			ND	0.07	U		N/A		Yes
Copper	1	1			1.6	1.6	041M19B101	1.6	J	18.7	1, 2	0.09	No
Cyanide (CN)	0	1	0.325	0.325			ND	0.325	U		N/A		Yes
Iron	1	1			1,840	1,840	041M19B101	1840			N/A		Yes
Lead	1	1			3.8	3.8	041M19B101	3.8		30.2	1, 2	0.13	No
Magnesium	1	1			270	270	041M19B101	270	J		N/A		Yes
Manganese	1	1			3.4	3.4	041M19B101	3.4			N/A		Yes
Mercury	0	1	0.03	0.03			ND	0.03	U	0.13	1, 2	0.23	No
Nickel	0	1	0.315	0.315			ND	0.315	U	15.9	1, 2	0.02	No
Potassium	1	1			88.9	88.9	041M19B101	88.9	J		N/A		Yes
Selenium	0	1	0.14	0.14			ND	0.14	UJ		N/A		Yes
Silver	0	1	0.175	0.175			ND	0.175	U	0.733	1	0.24	No
Sodium	1	1			805	805	041M19B101	805			N/A		Yes
Thallium	0	1	0.14	0.14			ND	0.14	U		N/A		Yes
Vanadium	1	1			2.5	2.5	041M19B101	2.5	J		N/A		Yes
Zinc	1	1			4.8	4.8	041M19B101	4.8		124	1, 2	0.04	No
PAHs (g/kg)													
2-Methylnaphthalene	0	1	21.5	21.5			ND	21.5	U	20.2	1	1.06	No
Acenaphthene	0	1	10.5	10.5			ND	10.5	U	6.71	1	1.56	No
Acenaphthylene	0	1	21.5	21.5			ND	21.5	U	5.87	1	3.66	No
Anthracene	0	1	21.5	21.5			ND	21.5	U	46.9	1	0.46	No
Benzo(a)anthracene	0	1	21.5	21.5			ND	21.5	U	74.8	1	0.29	No
Benzo(a)pyrene	0	1	21.5	21.5			ND	21.5	U	88.8	1	0.24	No
Chrysene	0	1	21.5	21.5			ND	21.5	U	108	1	0.20	No
Dibenz(a,h)anthracene	0	1	21.5	21.5			ND	21.5	U	6.22	1	3.46	No
Fluoranthene	1	1			28	28	041M19B101	28	J	113	1	0.25	No
Fluorene	0	1	10.5	10.5			ND	10.5	U	21.2	1	0.50	No
Naphthalene	0	1	21.5	21.5			ND	21.5	U	34.6	1	0.62	No
Phenanthrene	0	1	21.5	21.5			ND	21.5	U	86.7	1	0.25	No
Pyrene	1	1			28	28	041M19B101	28	J	153	1	0.18	No
Total PAHs	1	1			271	271	041M19B101	271		1,684	1, 2	0.16	No
TOC Normalized PAHs	1	1			128.81	128.81	041M19B101	128.81		290	3	0.44	No
PCBs (g/kg)													
Aroclor-1016	0	1	1.1	1.1			ND	1.1	U	21.6	N/A	0.05	No
Aroclor-1221	0	1	2.1	2.1			ND	2.1	U	67	2	0.03	No
Aroclor-1232	0	1	1.1	1.1			ND	1.1	U	21.6	N/A	0.05	No
Aroclor-1242	0	1	1.1	1.1			ND	1.1	U	21.6	N/A	0.05	No
Aroclor-1248	0	1	1.1	1.1			ND	1.1	U	21.6	N/A	0.05	No
Aroclor-1254	0	1	1.1	1.1			ND	1.1	U	21.6	N/A	0.05	No
Aroclor-1260	1	1			4.2	4.2	041M19B101	4.2	J	21.6	N/A	0.19	No
Total PCBs	1	1			11.8	11.8	041M19B101	11.8		21.6	1	0.55	No
Pesticides (g/kg)													
Aldrin	0	1	0.055	0.055			ND	0.055	U		N/A		Yes
Dieldrin	1	1			0.21	0.21	041M19B101	0.21	J	0.716	1	0.29	No
Endosulfan I	0	1	0.055	0.055			ND	0.055	U		N/A		Yes
Endosulfan II	0	1	0.11	0.11			ND	0.11	U		N/A		Yes
Endosulfan sulfate	0	1	0.11	0.11			ND	0.11	U		N/A		Yes
Heptachlor	0	1	0.055	0.055			ND	0.055	U		N/A		Yes
Heptachlor epoxide	1	1			0.22	0.22	041M19B101	0.22	J		N/A		Yes
Methoxychlor	0	1	0.55	0.55			ND	0.55	U		N/A		Yes
Toxaphene	0	1	11	11			ND	11	U		N/A		Yes
alpha-Chlordane	0	1	0.055	0.055			ND	0.055	U	1.7	1	0.03	No
gamma-Chlordane	0	1	0.055	0.055			ND	0.055	U	1.7	1	0.03	No
Total Chlordane	0	1	0.11	0.11			ND	0.11	U	1.7	1	0.06	No
Endrin	1	1			0.27	0.27	041M19B101	0.27	J	3.3	2	0.08	No
Endrin aldehyde	0	1	0.11	0.11			ND	0.11	U	3.3	2	0.03	No
Endrin ketone	0	1	0.11	0.11			ND	0.11	U	3.3	2	0.03	No
Total Endrin	1	1			0.49	0.49	041M19B101	0.49		3.3	2	0.15	No
alpha-BHC	0	1	0.055	0.055			ND	0.055	UJ		N/A		Yes
beta-BHC	0	1	0.055	0.055			ND	0.055	U	0.32	N/A	0.17	No
delta-BHC	1	1			0.31	0.31	041M19B101	0.31	J	0.32	N/A	0.97	No
gamma-BHC (Lindane)	0	1	0.055	0.055			ND	0.055	U	0.32	1	0.17	No
Total BHC	**1**	**1**			**0.475**	**0.475**	**041M19B101**	**0.475**		**0.32**	**2**	**1.48**	**Yes**
4,4'-DDD	1	1			0.71	0.71	041M19B101	0.71		1.22	1	0.58	No
4,4'-DDE	1	1			1.2	1.2	041M19B101	1.2		2.07	1	0.58	No
4,4'-DDT	1	1			0.34	0.34	041M19B101	0.34	J	1.19	1	0.29	No
Total DDT	1	1			2.25	2.25	041M19B101	2.25		3.3	2	0.68	No
SVOCs (g/kg)													
1,2,4-Trichlorobenzene	0	1	215	215			ND	215	U		N/A		Yes
1,2-Dichlorobenzene	0	1	215	215			ND	215	U		N/A		Yes
1,3-Dichlorobenzene	0	1	215	215			ND	215	U		N/A		Yes
1,4-Dichlorobenzene	0	1	215	215			ND	215	U		N/A		Yes
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	215	215			ND	215	U		N/A		Yes
2,4,5-Trichlorophenol	0	1	500	500			ND	500	U		N/A		Yes
2,4,6-Trichlorophenol	0	1	215	215			ND	215	U		N/A		Yes
2,4-Dichlorophenol	0	1	215	215			ND	215	U		N/A		Yes
2,4-Dimethylphenol	0	1	215	215			ND	215	U		N/A		Yes
2,4-Dinitrophenol	0	1	500	500			ND	500	UJ		N/A		Yes
2,4-Dinitrotoluene	0	1	215	215			ND	215	U		N/A		Yes
2,6-Dinitrotoluene	0	1	215	215			ND	215	U		N/A		Yes
2-Chloronaphthalene	0	1	215	215			ND	215	U		N/A		Yes
2-Chlorophenol	0	1	215	215			ND	215	U		N/A		Yes
2-Methyl-4,6-Dinitrophenol	0	1	500	500			ND	500	UJ		N/A		Yes
2-Methylphenol (o-Cresol)	0	1	215	215			ND	215	U		N/A		Yes
2-Nitroaniline	0	1	215	215			ND	215	U		N/A		Yes
2-Nitrophenol	0	1	215	215			ND	215	U		N/A		Yes
3,3'-Dichlorobenzidine	0	1	215	215			ND	215	U		N/A		Yes
3-Nitroaniline	0	1	500	500			ND	500	U		N/A		Yes
4-Bromophenyl-phenylether	0	1	215	215			ND	215	U		N/A		Yes
4-Chloro-3-methylphenol	0	1	215	215			ND	215	U		N/A		Yes
4-Chloroaniline	0	1	215	215			ND	215	U		N/A		Yes
4-Chlorophenylphenyl ether	0	1	215	215			ND	215	U		N/A		Yes
4-Methylphenol (p-Cresol)	0	1	215	215			ND	215	U		N/A		Yes
4-Nitroaniline	0	1	500	500			ND	500	U		N/A		Yes
4-Nitrophenol	0	1	500	500			ND	500	U		N/A		Yes
Benzo(b)fluoranthene	0	1	21.5	21.5			ND	21.5	U		N/A		No
Benzo(g,h,i)perylene	0	1	21.5	21.5			ND	21.5	U		N/A		No
Benzo(k)fluoranthene	0	1	21.5	21.5			ND	21.5	U		N/A		No
bis(2-Chloroethoxy)methane	0	1	215	215			ND	215	U		N/A		Yes
bis(2-Chloroethyl)ether	0	1	21.5	21.5			ND	21.5	U		N/A		Yes
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	215	215			ND	215	U	182	1, 2	1.18	Yes
Butylbenzylphthalate	0	1	215	215			ND	215	U	182	1, 2	1.18	Yes
Carbazole	0	1	215	215			ND	215	U		N/A		Yes

Table 15-1-29
Wetland 19B Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement
SVOCs (g/kg) - cont.													
Dibenzofuran	0	1	215	215			ND	215	U		N/A		Yes
Diethylphthalate	0	1	215	215			ND	215	U	182	1, 2	1.18	Yes
Dimethylphthalate	0	1	215	215			ND	215	U	182	1, 2	1.18	Yes
Di-n-butylphthalate	0	1	215	215			ND	215	U	182	1, 2	1.18	Yes
Di-n-octylphthalate	0	1	215	215			ND	215	U	182	1, 2	1.18	Yes
Hexachlorobenzene	0	1	215	215			ND	215	U		N/A		Yes
Hexachlorobutadiene	0	1	215	215			ND	215	U		N/A		Yes
Hexachlorocyclopentadiene	0	1	215	215			ND	215	U		N/A		Yes
Hexachloroethane	0	1	215	215			ND	215	U		N/A		Yes
Indeno(1,2,3-cd)pyrene	0	1	21.5	21.5			ND	21.5	U		N/A		No
Isophorone	0	1	215	215			ND	215	U		N/A		Yes
Nitrobenzene	0	1	215	215			ND	215	U		N/A		Yes
N-Nitroso-di-n-propylamine	0	1	21.5	21.5			ND	21.5	U		N/A		Yes
N-Nitrosodiphenylamine	0	1	215	215			ND	215	U		N/A		Yes
Pentachlorophenol	0	1	500	500			ND	500	U		N/A		Yes
Phenol	0	1	215	215			ND	215	U		N/A		Yes
VOCs (g/kg)													
1,1,1-Trichloroethane	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
1,1,2,2-Tetrachloroethane	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
1,1,2-Trichloroethane	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
1,1-Dichloroethane	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
1,1-Dichloroethene	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
1,2-Dichloroethane	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
1,2-Dichloroethene (total)	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
1,2-Dichloropropane	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
2-Butanone (MEK)	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
2-Hexanone	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
4-Methyl-2-Pentanone (MIBK)	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Acetone	0	1	11.5	11.5			ND	11.5	U		N/A		Yes
Benzene	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Bromodichloromethane	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Bromoform	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Bromomethane	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Carbon disulfide	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Carbon tetrachloride	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Chlorobenzene	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Chloroethane	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Chloroform	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Chloromethane	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
cis-1,3-Dichloropropene	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Dibromochloromethane	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Ethylbenzene	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Methylene chloride	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Styrene	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Tetrachloroethene	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Toluene	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
trans-1,3-Dichloropropene	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Trichloroethene	0	1	6.5	6.5			ND	6.5	U		N/A		Yes
Vinyl chloride	0	1	2	2			ND	2	U		N/A		Yes
Xylene (Total)	0	1	6.5	6.5			ND	6.5	U		N/A		Yes

Notes:

Sources for Screening Values:
SV = Screening Value
1 = USEPA Region 4 Screening Value. Detailed explanation for SVs provided in Section 8.0.
2 = FDEP Threshold effects level

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available.
U or ND = Not Detected at or above the SQL
J = Estimated value
SHQ = Screening Hazard Quotient

D = Diluted Result
mg/kg = milligrams per kilograms
g/kg = micrograms per kilograms
mg/kg oc = milligrams per kilograms - organic ca
UJ = Not detected. SQL is estimated.
Parameters in bold were detected and exceeded s

Rationale
No SV
Max SQL< SV
Max Detect < SV
No SV
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ırbon

screening values.

Table 15-1-30
Wetland 19B Phase II
Sediment COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	Heptachlor epoxide	None	None
Barium	Total BHC		
Calcium			
Iron			
Magnesium			
Manganese			
Potassium			
Sodium			
Vanadium			
		Not Detected Parameters	
Beryllium	Aldrin	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane
Cobalt	alpha-BHC	1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
Cyanide (CN)	Endosulfan I	1,3-Dichlorobenzene	1,1,2-Trichloroethane
Selenium	Endosulfan II	1,4-Dichlorobenzene	1,1-Dichloroethane
Thallium	Endosulfan sulfate	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1-Dichloroethene
	Heptachlor	2,4,5-Trichlorophenol	1,2-Dichloroethane
	Methoxychlor	2,4,6-Trichlorophenol	1,2-Dichloroethene (total)
	Toxaphene	2,4-Dichlorophenol	1,2-Dichloropropane
		2,4-Dimethylphenol	2-Butanone (MEK)
		2,4-Dinitrophenol	2-Hexanone
		2,4-Dinitrotoluene	4-Methyl-2-Pentanone (MIBK)
		2,6-Dinitrotoluene	Acetone
		2-Chloronaphthalene	Benzene
		2-Chlorophenol	Bromodichloromethane
		2-Methyl-4,6-Dinitrophenol	Bromoform
		2-Methylphenol (o-Cresol)	Bromomethane
		2-Nitroaniline	Carbon disulfide
		2-Nitrophenol	Carbon tetrachloride
		3,3'-Dichlorobenzidine	Chlorobenzene
		3-Nitroaniline	Chloroethane
		4-Bromophenyl-phenylether	Chloroform
		4-Chloro-3-methylphenol	Chloromethane
		4-Chloroaniline	cis-1,3-Dichloropropene
		4-Chlorophenylphenyl ether	Dibromochloromethane
		4-Methylphenol (p-Cresol)	Ethylbenzene
		4-Nitroaniline	Methylene chloride
		4-Nitrophenol	Styrene
		bis(2-Chloroethoxy)methane	Tetrachloroethene
		bis(2-Chloroethyl)ether	Toluene
		bis(2-Ethylhexyl)phthalate (BEHP)	trans-1,3-Dichloropropene
		Butylbenzylphthalate	Trichloroethene
		Carbazole	Vinyl chloride
		Dibenzofuran	Xylene (Total)
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-butylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	

Table 15-1-31
Wetland 19B Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
Metals (mg/kg)																							
Aluminum	1	1				976	976	976	976		041M19B101			NA					0	4,274	0	No	EPC < RC
Barium	1	1				0.76	0.76	0.76	0.76	J	041M19B101			NA					0	3.84	0	No	EPC < RC
Beryllium	0	1	0.035	0.035	0.035	0.035			0.035	U	ND			NA					0	0.13	0	No	Parameter Not Detected
Calcium	1	1				151	151	151	151	J	041M19B101			NA					0	1,978.80	0	No	EPC < RC
Cobalt	0	1	0.07	0.07	0.07	0.07			0.07	U	ND			NA					0	0.91	0	No	Parameter Not Detected
Cyanide (CN)	0	1	0.325	0.325	0.325	0.325			0.325	U	ND			NA					0	1.29	0	No	Parameter Not Detected
Iron	1	1				1,840	1,840	1,840	1,840		041M19B101			NA					0	2,684.40	0	No	EPC < RC
Magnesium	1	1				270	270	270	270	J	041M19B101			NA					0	2,943.60	0	No	EPC < RC
Manganese	1	1				3.4	3.4	3.4	3.4		041M19B101			NA					0	9.81	0	No	EPC < RC
Potassium	1	1				88.9	88.9	88.9	88.9	J	041M19B101			NA					0	899.72	0	No	EPC < RC
Selenium	0	1	0.14	0.14	0.14	0.14			0.14	UJ	ND			NA					0	0.66	0	No	Parameter Not Detected
Sodium	1	1				805	805	805	805		041M19B101			NA					0	11,439.60	0	No	EPC < RC
Thallium	0	1	0.14	0.14	0.14	0.14			0.14	U	ND			NA					0	0.39	0	No	Parameter Not Detected
Vanadium	1	1				2.5	2.5	2.5	2.5	J	041M19B101			NA					0	8.59	0	No	EPC < RC
Pesticides (g/kg)																							
Aldrin	0	1	0.055	0.055	0.055	0.055			0.055	U	ND			NA					0		0	No	Parameter Not Detected
Endosulfan I	0	1	0.055	0.055	0.055	0.055			0.055	U	ND			NA					0		0	No	Parameter Not Detected
Endosulfan II	0	1	0.11	0.11	0.11	0.11			0.11	U	ND			NA					0		0	No	Parameter Not Detected
Endosulfan sulfate	0	1	0.11	0.11	0.11	0.11			0.11	U	ND			NA					0		0	No	Parameter Not Detected
Heptachlor	0	1	0.055	0.055	0.055	0.055			0.055	U	ND			NA					0		0	No	Parameter Not Detected
Heptachlor epoxide	1	1				0.22	0.22	0.22	0.22	J	041M19B101			NA					0		0	Yes	No SV, no RV, and no RC
Methoxychlor	0	1	0.55	0.55	0.55	0.55			0.55	U	ND			NA					0		0	No	Parameter Not Detected
Toxaphene	0	1	11	11	11	11			11	U	ND			NA					0		0	No	Parameter Not Detected
alpha-BHC	0	1	0.055	0.055	0.055	0.055			0.055	UJ	ND		0.99	PEL			0.06	0.06	0		0	No	Parameter Not Detected
beta-BHC	0	1	0.055	0.055	0.055	0.055			0.055	U		0.32	0.99	PEL	0.17	0.17	0.06	0.06	0		0	No	SV and RV HQ < 1
delta-BHC	1	1				0.31	0.31	0.31	0.31	J	041M19B101	0.32	0.99	PEL	0.97	0.97	0.31	0.31	0		0	No	SV and RV HQ < 1
gamma-BHC (Lindane)	0	1	0.055	0.055	0.055	0.055			0.055	U		0.32	0.99	PEL	0.17	0.17	0.06	0.06	0		0	No	SV and RV HQ < 1
Total BHC	1	1				0.475	0.475	0.475	0.475		041M19B101	0.32	0.99	PEL	1.48	1.48	0.48	0.48	0		0	No	RV HQ <1 and no RC
SVOCs (g/kg)																							
1,2,4-Trichlorobenzene	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichlorobenzene	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
1,4-Dichlorobenzene	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	1	500	500	500	500			500	U	ND			NA					0		0	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dichlorophenol	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dimethylphenol	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrophenol	0	1	500	500	500	500			500	UJ	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrotoluene	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
2,6-Dinitrotoluene	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
2-Chloronaphthalene	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
2-Chlorophenol	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	1	500	500	500	500			500	UJ	ND			NA					0		0	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
2-Nitroaniline	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
2-Nitrophenol	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
3-Nitroaniline	0	1	500	500	500	500			500	U	ND			NA					0		0	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
4-Chloroaniline	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
4-Nitroaniline	0	1	500	500	500	500			500	U	ND			NA					0		0	No	Parameter Not Detected
4-Nitrophenol	0	1	500	500	500	500			500	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	1	21.5	21.5	21.5	21.5			21.5	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	215	215	215	215			215	U	ND	182	2,647	PEL	1.18	1.18	0.08	0.08	0		0	No	Parameter Not Detected
Butylbenzylphthalate	0	1	215	215	215	215			215	U	ND	182	2,647	PEL	1.18	1.18	0.08	0.08	0		0	No	Parameter Not Detected
Carbazole	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
Dibenzofuran	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
Diethylphthalate	0	1	215	215	215	215			215	U	ND	182	2,647	PEL	1.18	1.18	0.08	0.08	0		0	No	Parameter Not Detected
Dimethylphthalate	0	1	215	215	215	215			215	U	ND	182	2,647	PEL	1.18	1.18	0.08	0.08	0		0	No	Parameter Not Detected
Di-n-butylphthalate	0	1	215	215	215	215			215	U	ND	182	2,647	PEL	1.18	1.18	0.08	0.08	0		0	No	Parameter Not Detected
Di-n-octylphthalate	0	1	215	215	215	215			215	U	ND	182	2,647	PEL	1.18	1.18	0.08	0.08	0		0	No	Parameter Not Detected
Hexachlorobenzene	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
Hexachlorobutadiene	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
Hexachloroethane	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
Isophorone	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
Nitrobenzene	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	1	21.5	21.5	21.5	21.5			21.5	U	ND			NA					0		0	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
Pentachlorophenol	0	1	500	500	500	500			500	U	ND			NA					0		0	No	Parameter Not Detected
Phenol	0	1	215	215	215	215			215	U	ND			NA					0		0	No	Parameter Not Detected
VOCs (g/kg)																							

Table 15-1-31
Wetland 19B Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
1,1,1-Trichloroethane	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1,2,2-Tetrachloroethane	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1,2-Trichloroethane	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1-Dichloroethane	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1-Dichloroethene	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloroethane	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloroethene (total)	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
VOCs (g/kg) - cont.																							
1,2-Dichloropropane	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
2-Butanone (MEK)	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
2-Hexanone	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Acetone	0	1	11.5	11.5	11.5	11.5			11.5	U	ND			NA					0		0	No	Parameter Not Detected
Benzene	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Bromodichloromethane	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Bromoform	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Bromomethane	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Carbon disulfide	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Carbon tetrachloride	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Chlorobenzene	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Chloroethane	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Chloroform	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Chloromethane	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Dibromochloromethane	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Ethylbenzene	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Methylene chloride	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Styrene	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Tetrachloroethene	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Toluene	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Trichloroethene	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected
Vinyl chloride	0	1	2	2	2	2			2	U	ND			NA					0		0	No	Parameter Not Detected
Xylene (Total)	0	1	6.5	6.5	6.5	6.5			6.5	U	ND			NA					0		0	No	Parameter Not Detected

Notes:

Sources for Refinement Values (RVs):
PEL = FDEP Probable Effects Level
MEC = Swartz Midrange Effect Concentration

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
Parameters in bold were detected and exceeded screening values.

J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
PEL = Probable effects level.

N/R = No refinement value available.
N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the maximum detections
NAS Pensacola basewide levels used as reference values for 4,4'-DDT, 4,4'-DDD, 4,4'-DDE and total DDT.

Table 15-1-32
Wetland 19B Phase II
Sediment COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
Detected Parameters			
None	Heptachlor epoxide	None	None

Table 15-1-33
Wetland 19B Phase II
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M19B101	1/16/1996	mg/kg	0.83		Arsenic	8.2	70	0.01
041M19B101	1/16/1996	mg/kg	0.07	U	Cadmium	1.2	9.6	0.01
041M19B101	1/16/1996	mg/kg	3		Chromium	81	370	0.01
041M19B101	1/16/1996	mg/kg	1.6	J	Copper	34	270	0.01
041M19B101	1/16/1996	mg/kg	3.8		Lead	46.7	218	0.02
041M19B101	1/16/1996	mg/kg	0.03	U	Mercury	0.15	0.71	0.04
041M19B101	1/16/1996	mg/kg	0.315	U	Nickel	20.9	51.6	0.01
041M19B101	1/16/1996	mg/kg	0.175	U	Silver	1	3.7	0.05
041M19B101	1/16/1996	mg/kg	4.8		Zinc	150	410	0.01
041M19B101	1/16/1996	g/kg	1.2		4,4'-DDE	2.2	27	0.04
041M19B101	1/16/1996	g/kg	0.34	J	4,4'-DDT	1.58	46.1	0.01
041M19B101	1/16/1996	g/kg	11.8		Total PCBs	22.7	180	0.07
041M19B101	1/16/1996	g/kg	21.5	U	2-Methylnaphthalene	70	670	0.03
041M19B101	1/16/1996	g/kg	10.5	U	Acenaphthene	16	500	0.02
041M19B101	1/16/1996	g/kg	21.5	U	Acenaphthylene	44	640	0.03
041M19B101	1/16/1996	g/kg	21.5	U	Anthracene	85.3	1,100	0.02
041M19B101	1/16/1996	g/kg	21.5	U	Benzo(a)anthracene	261	1,600	0.01
041M19B101	1/16/1996	g/kg	21.5	U	Benzo(a)pyrene	430	1,600	0.01
041M19B101	1/16/1996	g/kg	21.5	U	Chrysene	384	2,800	0.01
041M19B101	1/16/1996	g/kg	21.5	U	Dibenz(a,h)anthracene	63.4	260	0.08
041M19B101	1/16/1996	g/kg	28	J	Fluoranthene	600	5,100	0.01
041M19B101	1/16/1996	g/kg	10.5	U	Fluorene	19	540	0.02
041M19B101	1/16/1996	g/kg	21.5	U	Naphthalene	160	2,100	0.01
041M19B101	1/16/1996	g/kg	21.5	U	Phenanthrene	240	1,500	0.01
041M19B101	1/16/1996	g/kg	28	J	Pyrene	665	2,600	0.01
041M19B101	1/16/1996				ERM Quotient Sum			0.56
041M19B101	1/16/1996				Mean ERM Quotient			0.02
041M19B101	1/16/1996				Mean ERM Quotient without ND			0.01
041M19B101	1/16/1996				Mean ERM Quotient Category			1

Notes:
ERL = Effects Range Low
ERM = Effects Range Median
mg/kg = milligrams per kilogram
g/kg = micrograms per kilogram
U = not detected at or above the SQL (value in table is 1/2 reported value)
J = estimated value
Shaded cells indicate constituent exceeds ERL.
Shaded and bold cells indicate constituent exceeds ERM.

Table 15-1-34
Wetland 19B Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
Metals (g/L)																
Aluminum	1	1				2,140	2,140	2,140	041W190301	2,140			NA		Yes	No SV
Antimony	1	1				2	2	2	041W190301	2	J		NA		Yes	No SV
Arsenic	1	1				4.8	4.8	4.8	041W190301	4.8	J	36	EPA	0.13	No	Max Detect < SV
Barium	1	1				7.4	7.4	7.4	041W190301	7.4	J		NA		Yes	No SV
Beryllium	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Cadmium	0	1	1	1	1	1			ND	1	U	9.3	EPA	0.11	No	Max SQL< SV
Calcium	1	1				17,200	17,200	17,200	041W190301	17,200			NA		Yes	No SV
Chromium	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	50	EPA	0.05	No	Max SQL< SV
Cobalt	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Copper	0	1	2	2	2	2			ND	2	U	2.9	EPA	0.69	No	Max SQL< SV
Cyanide (CN)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	1	EPA	2.5	Yes	Max SQL > SV
Iron	1	1				4,030	4,030	4,030	041W190301	4,030			NA		Yes	No SV
Lead	1	1				5.6	5.6	5.6	041W190301	5.6		8.5	EPA	0.66	No	Max Detect < SV
Magnesium	1	1				36,400	36,400	36,400	041W190301	36,400			NA		Yes	No SV
Manganese	1	1				26.3	26.3	26.3	041W190301	26.3			NA		Yes	No SV
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.025	EPA	2.6	Yes	Max SQL > SV
Nickel	0	1	4.5	4.5	4.5	4.5			ND	4.5	U	8.3	EPA	0.54	No	Max SQL< SV
Potassium	1	1				11,400	11,400	11,400	041W190301	11,400			NA		Yes	No SV
Selenium	0	1	2	2	2	2			ND	2	U	71	EPA	0.03	No	Max SQL< SV
Silver	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.23	EPA	10.9	Yes	Max SQL > SV
Sodium	1	1				291,000	291,000	291,000	041W190301	291,000			NA		Yes	No SV
Thallium	0	1	2	2	2	2			ND	2	U	6.3	FDEP	0.32	No	Max SQL< SV
Vanadium	1	1				4.4	4.4	4.4	041W190301	4.4	J		NA		Yes	No SV
Zinc	1	1				7.1	7.1	7.1	041W190301	7.1	J	86	EPA	0.08	No	Max Detect < SV
Pesticides (g/L)																
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan I	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0087	EPA	2.87	Yes	Max SQL > SV
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0036	EPA	6.94	Yes	Max SQL > SV
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	Yes	Max SQL > SV
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	U		NA		Yes	No SV
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.004	EPA	12.5	Yes	Max SQL > SV
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	21.7	Yes	Max SQL > SV
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.005	FDEP	5	Yes	Max SQL > SV
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.016	EPA	1.56	Yes	Max SQL > SV
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA		Yes	No SV
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	Yes	Max SQL > SV
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	Yes	Max SQL > SV
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP	84.7	Yes	Max SQL > SV
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
PCBs (g/L)																
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1221	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	FDEP	35.7	Yes	Max SQL > SV
Total PCB	0	1	4	4	4	4			ND	4	U		NA		Yes	No SV

Table 15-1-34
Wetland 19B Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
SVOCs (g/L)																
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Di-n-butylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	3.4	EPA	0.74	No	Max SQL< SV
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
PAHs (g/L)																
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	23.5	EPA	0.02	No	Max SQL< SV
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA		Yes	No SV

Table 15-1-34
Wetland 19B Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
VOCs (g/L)																
1,1,1-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	270	FDEP	0.00	No	Max SQL< SV
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3.2	FDEP	0.16	No	Max SQL< SV
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	19.7	EPA	0.03	No	Max SQL< SV
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3	FDEP	0.17	No	Max SQL< SV
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Benzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	71.28	FDEP	0.01	No	Max SQL< SV
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	17	FDEP	0.03	No	Max SQL< SV
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chloroform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	470.8	FDEP	0.00	No	Max SQL< SV
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Ethylbenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	4.3	EPA	0.12	No	Max SQL< SV
Methylene chloride	0	1	2	2	2	2			ND	2	U	1,580	FDEP	0.00	No	Max SQL< SV
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Toluene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	37	EPA	0.01	No	Max SQL< SV
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
N/R = No refinement value available.
N/A = Not Applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the maximum detections.
Parameters in bold were detected and exceeded the screening value.

Table 15-1-35
Wetland 19B Phase II
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	None	None
Antimony			
Barium			
Calcium			
Iron			
Magnesium			
Manganese			
Potassium			
Sodium			
Vanadium			
		Not Detected Parameters	
Beryllium	Aldrin	1,2,4-Trichlorobenzene	1,1,2,2-Tetrachloroethane
Cobalt	Dieldrin	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1,2-Trichloroethane
Cyanide (CN)	Endosulfan I	2,4,5-Trichlorophenol	1,1-Dichloroethane
Mercury	Endosulfan II	2,4,6-Trichlorophenol	1,2-Dibromo-3-Chloropropane
Silver	Endosulfan sulfate	2,4-Dichlorophenol	1,2-Dibromoethane
	Heptachlor	2,4-Dimethylphenol	1,2-Dichloroethane
	Heptachlor epoxide	2,4-Dinitrophenol	1,2-Dichloropropane
	Methoxychlor	2,4-Dinitrotoluene	1,3-Dichlorobenzene
	Toxaphene	2,6-Dinitrotoluene	2-Hexanone
	alpha-Chlordane	2-Chloronaphthalene	4-Methyl-2-Pentanone (MIBK)
	gamma-Chlordane	2-Chlorophenol	Bromochloromethane
	Total Chlordane	2-Methyl-4,6-Dinitrophenol	Bromodichloromethane
	Endrin	2-Methylphenol (o-Cresol)	Bromoform
	Endrin aldehyde	2-Nitroaniline	Bromomethane
	Endrin ketone	2-Nitrophenol	Carbon disulfide
	Total Endrin	3,3'-Dichlorobenzidine	Carbon tetrachloride
	alpha-BHC	3-Nitroaniline	Chloroethane
	beta-BHC	4-Bromophenyl-phenylether	Chloromethane
	delta-BHC	4-Chloro-3-methylphenol	cis-1,2-Dichloroethene
	gamma-BHC (Lindane)	4-Chloroaniline	cis-1,3-Dichloropropene
	Total BHC	4-Chlorophenylphenyl ether	Dibromochloromethane
	4,4'-DDD	4-Methylphenol (p-Cresol)	Styrene
	4,4'-DDE	4-Nitroaniline	Tetrachloroethene
	4,4'-DDT	4-Nitrophenol	trans-1,2-Dichloroethene
	Total DDT	Benzo(b)fluoranthene	trans-1,3-Dichloropropene
	Aroclor-1016	Benzo(g,h,i)perylene	Trichloroethene
	Aroclor-1221	Benzo(k)fluoranthene	Vinyl chloride
	Aroclor-1232	bis(2-Chloroethoxy)methane	Xylene (Total)
	Aroclor-1242	bis(2-Chloroethyl)ether	
	Aroclor-1248	bis(2-Ethylhexyl)phthalate (BEHP)	
	Aroclor-1254	Butylbenzylphthalate	
	Aroclor-1260	Dibenzofuran	
	Total PCBs	Diethylphthalate	
		Dimethylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Indeno(1,2,3-cd)pyrene	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	
		2-Methylnaphthalene	
		Acenaphthene	
		Acenaphthylene	
		Anthracene	
		Benzo(a)anthracene	
		Benzo(a)pyrene	
		Chrysene	
		Dibenz(a,h)anthracene	
		Fluoranthene	
		Fluorene	
		Phenanthrene	
		Pyrene	
		Total PAHs	

Table 15-1-36
Wetland 19B Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
Metals (g/L)																				
Aluminum	1	1				2,140	2,140	2,140	041W190301	2,140			NA			2,930	0	1	No	Max Result < Ref. Conc.
Antimony	1	1				2	2	2	041W190301	2	J		NA			4.15	0	1	No	Max Result < Ref. Conc.
Barium	1	1				7.4	7.4	7.4	041W190301	7.4	J		NA			9.43	0	1	No	Max Result < Ref. Conc.
Beryllium	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA			0.82	0	1	No	Max Result < Ref. Conc.
Calcium	1	1				17,200	17,200	17,200	041W190301	17,200			NA			76,800	0	1	No	Max Result < Ref. Conc.
Cobalt	0	1	1	1	1	1			ND	1	U		NA			2.38	0	1	No	Max Result < Ref. Conc.
Cyanide (CN)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	1	EPA	2.5	2.5	4.1	0	1	No	Max Result < Ref. Conc.
Iron	1	1				4,030	4,030	4,030	041W190301	4,030			NA			1,350	1	1	Yes	Max Result > Ref. Conc.
Magnesium	1	1				36,400	36,400	36,400	041W190301	36,400			NA			244,000	0	1	No	Max Result < Ref. Conc.
Manganese	1	1				26.3	26.3	26.3	041W190301	26.3			NA			12.2	1	1	Yes	Max Result > Ref. Conc.
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.025	EPA	2.6	2.6	0.21	0	1	No	Max Result < Ref. Conc.
Potassium	1	1				11,400	11,400	11,400	041W190301	11,400			NA			81,300	0	1	No	Max Result < Ref. Conc.
Silver	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.23	EPA	11	10.9	3.01	0	1	No	Max Result < Ref. Conc.
Sodium	1	1				291,000	291,000	291,000	041W190301	291,000			NA			1,950,000	0	1	No	Max Result < Ref. Conc.
Vanadium	1	1				4.4	4.4	4.4	041W190301	4.4	J		NA			6.69	0	1	No	Max Result < Ref. Conc.
Pesticides (g/L)																				
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	Parameter not Detected
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	1	No	Parameter not Detected
Endosulfan I	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0087	EPA	3	2.87		0	1	No	Parameter not Detected
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	1	No	Parameter not Detected
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	1	No	Parameter not Detected
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0036	EPA	7	6.94		0	1	No	Parameter not Detected
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	625		0	1	No	Parameter not Detected
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	U		NA				0	1	No	Parameter not Detected
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	Parameter not Detected
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	Parameter not Detected
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.004	EPA	12.5	12.5		0	1	No	Parameter not Detected
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	1	No	Parameter not Detected
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	1	No	Parameter not Detected
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	22	21.7		0	1	No	Parameter not Detected
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	1	No	Parameter not Detected
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.005	FDEP	5	5		0	1	No	Parameter not Detected
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	Parameter not Detected
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	1	No	Parameter not Detected
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.016	EPA	2	1.56		0	1	No	Parameter not Detected
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA				0	1	No	Parameter not Detected
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	167		0	1	No	Parameter not Detected
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	250		0	1	No	Parameter not Detected
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP	85	84.7		0	1	No	Parameter not Detected
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	1	No	Parameter not Detected
PCBs (g/L)																				
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Aroclor-1221	0	1	1	1	1	1			ND	1	U		NA				0	1	No	Parameter not Detected
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	FDEP	36	35.7		0	1	No	Parameter not Detected
Total PCB	0	1	4	4	4	4			ND	4	U		NA				0	1	No	Parameter not Detected
SVOCs (g/L)																				
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-ch	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter not Detected
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter not Detected
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
2-Chlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter not Detected
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected

Table 15-1-36
Wetland 19B Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
SVOCs (g/L) - cont.																				
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter not Detected
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter not Detected
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter not Detected
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
PAHs (g/L)																				
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	23.5	EPA	0.02	0.02		0	1	No	Parameter not Detected
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA				0	1	No	Parameter not Detected
VOCs (g/L)																				
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter not Detected
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected

Table 15-1-36
Wetland 19B Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
VOCs (g/L) - cont.																				
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter not Detected

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL

UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8)
RV = Refinement value (detailed explanation of RVs provided in Section 8)
PEL = Probable effects level.
N/R = No refinement value available.

N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the Max detections
Parameters in bold were detected and exceeded Ref. Conc.s

Table 15-1-37
Wetland 19B Phase II
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Iron Manganese	None	None	None

Table 15-1-38
Wetland 19A Phase II
Sediment Dermal Exposure Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration (mg/kg)	Min. Qual.	Maximum Concentration (mg/kg)	Max. Qual.	Units	Location of Max.Conc.	Detection Frequency	Range of Detection Limits	Mean	ABS_{sd}	ABS_{sd} Source	DA_{event}: Child Trespasser	DA_{event}: Adult Maintenance Worker	DAD_{sd} (mg/kg-day): Child Trespasser	DAD_{sd} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	4.9E+02	=	1.9E+04	=	MG/KG	041M19A101	2 / 2	NAV	9.7E+03	1.0E-03	3	N/A	1.89E-06	N/A	4.00E-05
7440382	Arsenic	C	1.7E-01	J	1.6E+01	=	MG/KG	041M19A101	2 / 2	NAV	7.9E+00	3.0E-02	2	N/A	4.71E-08	N/A	3.56E-07
7440393	Barium	N	5.8E-01	J	3.0E+01	J	MG/KG	041M19A101	2 / 2	NAV	1.5E+01	1.0E-03	3	N/A	3.02E-09	N/A	6.39E-08
7440417	Beryllium	N	N/A	N/A	4.8E-01	J	MG/KG	041M19A101	1 / 2	N/A / 7.0E-02	2.6E-01	1.0E-03	3	N/A	4.80E-11	N/A	1.02E-09
7440484	Cobalt	C	N/A	N/A	3.4E+00	J	MG/KG	041M19A101	1 / 2	N/A / 1.3E-01	1.7E+00	1.0E-03	3	N/A	3.40E-10	N/A	2.57E-09
7439896	Iron	N	5.5E+02	=	1.7E+04	=	MG/KG	041M19A101	2 / 2	NAV	8.7E+03	1.0E-03	3	N/A	1.68E-06	N/A	3.56E-05
7439965	Manganese	N	1.3E+00	=	1.7E+02	=	MG/KG	041M19A101	2 / 2	NAV	8.5E+01	1.0E-03	3	N/A	1.69E-08	N/A	3.58E-07
7440622	Vanadium	N	9.9E-01	J	3.5E+01	=	MG/KG	041M19A101	2 / 2	NAV	1.8E+01	1.0E-03	3	N/A	3.54E-09	N/A	7.49E-08
72559	4,4'-DDE	C	N/A	N/A	5.5E-04	=	MG/KG	041M19A201	1 / 2	N/A / 1.4E-03	6.3E-04	3.0E-02	1	N/A	1.65E-12	N/A	1.25E-11
11096825	Aroclor-1260	C	N/A	N/A	1.1E-03	J	MG/KG	041M19A201	1 / 2	N/A / 1.4E-02	4.1E-03	1.4E-02	3	N/A	1.52E-12	N/A	1.15E-11
319868	delta-BHC	C	N/A	N/A	1.1E-04	J	MG/KG	041M19A201	1 / 2	N/A / 6.8E-04	2.3E-04	4.0E-02	2	N/A	4.40E-13	N/A	3.33E-12
60571	Dieldrin	C	N/A	N/A	2.0E-04	J	MG/KG	041M19A201	1 / 2	N/A / 1.4E-03	4.5E-04	1.0E-01	2	N/A	2.00E-12	N/A	1.51E-11
115297	Endosulfan I	N	N/A	N/A	5.3E-03	J	MG/KG	041M19A101	1 / 2	N/A / 1.0E-04	2.7E-03	1.0E-01	2	N/A	5.30E-11	N/A	1.12E-09
57749	gamma-Chlordane	C	N/A	N/A	1.3E-03	J	MG/KG	041M19A101	1 / 2	N/A / 1.0E-04	6.8E-04	4.0E-02	2	N/A	5.20E-12	N/A	3.93E-11
1024573	Heptachlor epoxide	C	N/A	N/A	2.6E-02	DJ	MG/KG	041M19A101	1 / 2	N/A / 1.0E-04	1.3E-02	1.0E-01	2	N/A	2.60E-10	N/A	1.97E-09
74873	Chloromethane	C	N/A	N/A	2.0E-03	J	MG/KG	041M19A201	1 / 2	N/A / 7.7E-02	2.0E-02	1.0E-02	3	N/A	2.00E-12	N/A	1.51E-11

Notes:
Equation for sediment risk:

$$DAD_{sd} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sd} = Dermal Absorbed Dose-soil contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event)
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Equation for DA_{event} for sediment contact:

$$DA_{event} = C_{sd} \times CF \times AF \times ABS_d$$

Where:

C_{sd} = Chemical concentration in sediment (mg/kg).
CF = Conversion factor (10^{-6} kg/mg).
AF = Adherence factor of sediment to soil (mg/cm2-event).
0.2 (children playing in wet soil) 0.1 (construction worker)
AB_{sd} = Dermal absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1;
(2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Exposure Parameters:
EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Table 15-1-39
Wetland 19A Phase II
Sediment Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/kg)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABSGI	ABSGI Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser Dermal Hazard Quotient	Child Trespasser Dermal Cancer Risk	Maintenance Worker Dermal Hazard Quotient	Maintenance Worker Dermal Cancer Risk
Sediment Dermal Risk	Aluminum	N	1.9E+04	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	N/A	N/A	4.0E-04	N/A
	Arsenic	C	1.6E+01	3.0E-04	1.5E+00	4.1E-01	3	1.2E-04	3.7E+00	N/A	N/A	2.9E-03	**1.3E-06**
	Barium	N	3.0E+01	7.0E-02	N/A	7.0E-02	1, 3	4.9E-03	N/A	N/A	N/A	1.3E-05	N/A
	Beryllium	N	4.8E-01	2.0E-03	N/A	7.0E-03	1	1.4E-05	N/A	N/A	N/A	7.3E-05	N/A
	Cobalt	C	3.4E+00	2.0E-02	N/A	8.0E-01	3	1.6E-02	N/A	N/A	N/A	1.6E-07	N/A
	Iron	N	1.7E+04	3.0E-01	N/A	1.5E-01	3	4.5E-02	N/A	N/A	N/A	7.9E-04	N/A
	Manganese	N	1.7E+02	2.4E-02	N/A	4.0E-02	1, 3	9.6E-04	N/A	N/A	N/A	3.7E-04	N/A
	Vanadium	N	3.5E+01	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	N/A	N/A	4.1E-04	N/A
	4,4'-DDE	C	5.5E-04	N/A	3.4E-01	3.0E-02	2	N/A	1.1E+01	N/A	N/A	N/A	1.4E-10
	Aroclor-1260	C	1.1E-03	N/A	2.0E+00	1.4E-01	2	N/A	1.4E+01	N/A	N/A	N/A	1.6E-10
	delta-BHC	C	1.1E-04	5.0E-04	6.3E+00	1.4E-02	3	7.1E-06	4.4E+02	N/A	N/A	4.7E-07	1.5E-09
	Dieldrin	C	2.0E-04	5.0E-05	1.6E+01	5.0E-01	3	2.5E-05	3.2E+01	N/A	N/A	6.0E-07	4.8E-10
	Endosulfan I	N	5.3E-03	6.0E-03	N/A	5.0E-01	3	3.0E-03	N/A	N/A	N/A	3.7E-07	N/A
	gamma-Chlordane	C	1.3E-03	5.0E-04	3.5E-01	8.0E-01	1	4.0E-04	4.4E-01	N/A	N/A	9.8E-08	1.7E-11
	Heptachlor epoxide	C	2.6E-02	5.0E-04	4.5E+00	1.1E-02	3	5.6E-06	4.0E+02	N/A	N/A	3.5E-04	7.9E-07
	Chloromethane	C	2.0E-03	N/A	1.3E-02	8.0E-01	3	N/A	1.6E-02	N/A	N/A	N/A	2.5E-13

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABSGI = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose-sources: (1) RAIS value; (2) adjusted for ABSGI.
Dermal SF = Dermal slope factor-sources: (1) RAIS value; (2) adjusted for ABSGI.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfDdermal = Dermal reference dose.
RFDoral = Oral reference dose.
ABSGI = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 15-1-40
Wetland 19A Phase II
Sediment Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/kg)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser Ingestion Hazard Quotient	Child Trespasser Ingestion Cancer Risk	Maintenance Worker Ingestion Hazard Quotient	Maintenance Worker Ingestion Cancer Risk
Sediment Incidental Ingestion	Aluminum	N	1.9E+04	1.0E+00	N/A	N/A	N/A	3.85E-03	N/A
	Arsenic	C	1.6E+01	3.0E-04	1.5E+00	N/A	N/A	3.80E-03	**1.71E-06**
	Barium	N	3.0E+01	7.0E-02	N/A	N/A	N/A	8.78E-05	N/A
	Beryllium	N	4.8E-01	2.0E-03	N/A	N/A	N/A	4.88E-05	N/A
	Cobalt	C	3.4E+00	2.0E-02	N/A	N/A	N/A	1.24E-05	N/A
	Iron	N	1.7E+04	3.0E-01	N/A	N/A	N/A	1.14E-02	N/A
	Manganese	N	1.7E+02	2.4E-02	N/A	N/A	N/A	1.43E-03	N/A
	Vanadium	N	3.5E+01	7.0E-03	N/A	N/A	N/A	1.03E-03	N/A
	4,4'-DDE	C	5.5E-04	N/A	3.4E-01	N/A	N/A	N/A	1.36E-11
	Aroclor-1260	C	1.1E-03	N/A	2.0E+00	N/A	N/A	N/A	1.60E-10
	delta-BHC	C	1.1E-04	5.0E-04	6.3E+00	N/A	N/A	1.60E-08	5.04E-11
	Dieldrin	C	2.0E-04	5.0E-05	1.6E+01	N/A	N/A	2.91E-07	2.33E-10
	Endosulfan I	N	5.3E-03	6.0E-03	N/A	N/A	N/A	1.80E-07	N/A
	gamma-Chlordane	C	1.3E-03	5.0E-04	3.5E-01	N/A	N/A	1.89E-07	3.31E-11
	Heptachlor epoxide	C	2.6E-02	5.0E-04	4.5E+00	N/A	N/A	3.78E-06	8.50E-09
	Chloromethane	C	2.0E-03	N/A	1.3E-02	N/A	N/A	N/A	1.89E-12

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI = chronic daily intake (mg/kg-day)

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, sediment risk:

$$CDI = \frac{EPC_{sd} \times IR_{sd} \times EF \times ED \times CF}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

= Oral reference dose.
= Oral slope factor.

Where:
CDI = Chronic daily intake (mg/kg-day).
EPCsd = Exposure point concentration in sediment (mg/kg).
IRsd = Incidental ingestion rate for sediment (mg/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
CF = Conversion factor (1E-6 kg/mg).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

Exposure Parameters:
IRsd = 100 mg/day for age groups greater than 6-years old.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Table 15-1-41
Wetland 19A Phase II
Surface Water Dermal Absorbed Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration (g/L)	Min. Qual.	Maximum Concentration (g/L)	Max. Qual.	Units	Location of Max.Conc.	Detection Frequency	Range of Detection Limits	Mean	Maximum concentration (mg/cm^3)	K_p	DA_{event}	DAD_{sw} (mg/kg-day): Child Trespasser	DAD_{sw} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	N/A	N/A	1.1E+05	=	UG/L	041W190101	1 / 1	NAV	1.1E+05	1.1E-01	1.0E-03	2.89E-04	N/A	6.11E-03
7440382	Arsenic	C	N/A	N/A	2.7E+02	=	UG/L	041W190101	1 / 1	NAV	2.7E+02	2.7E-04	1.0E-03	6.97E-07	N/A	5.27E-06
7440393	Barium	N	N/A	N/A	3.0E+02	=	UG/L	041W190101	1 / 1	NAV	3.0E+02	3.0E-04	1.0E-03	7.80E-07	N/A	1.65E-05
7440417	Beryllium	N	N/A	N/A	4.0E+00	J	UG/L	041W190101	1 / 1	NAV	4.0E+00	4.0E-06	1.0E-03	1.04E-08	N/A	2.20E-07
7440473	Chromium	N	N/A	N/A	1.0E+02	=	UG/L	041W190101	1 / 1	NAV	1.0E+02	1.0E-04	1.0E-03	2.59E-07	N/A	5.48E-06
7440484	Cobalt	C	N/A	N/A	3.9E+01	J	UG/L	041W190101	1 / 1	NAV	3.9E+01	3.9E-05	1.2E-03	1.20E-07	N/A	9.08E-07
7440508	Copper	N	N/A	N/A	4.2E+01	=	UG/L	041W190101	1 / 1	NAV	4.2E+01	4.2E-05	1.0E-03	1.09E-07	N/A	2.31E-06
7439896	Iron	N	N/A	N/A	3.3E+05	=	UG/L	041W190101	1 / 1	NAV	3.3E+05	3.3E-01	2.5E-04	2.16E-04	N/A	4.57E-03
7439921	Lead	N	N/A	N/A	8.7E+01	=	UG/L	041W190101	1 / 1	NAV	8.7E+01	8.7E-05	3.4E-04	7.68E-08	N/A	1.63E-06
7439965	Manganese	N	N/A	N/A	1.3E+04	=	UG/L	041W190101	1 / 1	NAV	1.3E+04	1.3E-02	1.0E-03	3.30E-05	N/A	6.99E-04
7487947	Mercury	N	N/A	N/A	5.9E-01	=	UG/L	041W190101	1 / 1	NAV	5.9E-01	5.9E-07	1.0E-03	1.53E-09	N/A	3.25E-08
7440622	Vanadium	N	N/A	N/A	2.8E+02	=	UG/L	041W190101	1 / 1	NAV	2.8E+02	2.8E-04	1.0E-03	7.20E-07	N/A	1.52E-05
7440666	Zinc	N	N/A	N/A	2.0E+02	=	UG/L	041W190101	1 / 1	NAV	2.0E+02	2.0E-04	6.0E-04	3.18E-07	N/A	6.74E-06
84742	Di-n-butylphthalate	N	N/A	N/A	2.8E+01	=	UG/L	041W190101	1 / 1	NAV	2.8E+01	2.8E-05	2.4E-02	6.89E-06	N/A	1.46E-04

Notes:

Equation for Dermal Absorbed Dose, surface water risk:

$$DAD_{sw} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sw} = Dermal absorbed dose-water contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event).
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).

EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Equation for DAevent for inorganics:

$$DA_{event} = K_p \times C_w \times t_{event}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: RAGS Part E, Exhibit B-3 or Exhibit B-4
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).

Equation for DAevent for organics:

$$DA_{event} = FA \times K_p \times C_w \left[\frac{t_{event}}{1 + B} + 2\tau_{event} \left(\frac{1 + 3B + 3B^2}{(1 + B)^2} \right) \right]$$

Where:

FA = Fraction absorbed water (dimensionless). From RAGS Part E, Exhibit B-4.
Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E, Exhibit B-4.
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).
t_{event} = Lag time per event (hr/event). From RAGS Part E, Exhibit B-4.
B = Dimensionless ratio of the permeability coefficient of a compound, calculated using the equation below:

$$B = \frac{K_p \sqrt{MW}}{2.6}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E.
MW = Molecular weight

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).
t_{event} = 2.6 hrs/dy (child trespasser/adult maintenance worker).

Table 15-1-42
Wetland 19A Phase II
Surface Water Dermal Exposure Risk-Child Tresspasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABS_{GI}	ABS_{GI} Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser: Dermal Hazard Quotient	Child Trespasser: Dermal Cancer Risk	Maintenance Worker: Dermal Hazard Quotient	Maintenance Worker: Dermal Cancer Risk
SW Dermal Risk	Aluminum	N	1.1E-01	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	N/A	N/A	6.1E-02	N/A
	Arsenic	C	2.7E-04	3.0E-04	1.5E+00	4.1E-01	2	1.2E-04	3.7E+00	N/A	N/A	4.3E-02	**1.9E-05**
	Barium	N	3.0E-04	7.0E-02	N/A	7.0E-02	1, 2	4.9E-03	N/A	N/A	N/A	3.4E-03	N/A
	Beryllium	N	4.0E-06	2.0E-03	N/A	7.0E-03	1	1.4E-05	N/A	N/A	N/A	1.6E-02	N/A
	Chromium	N	1.0E-04	3.0E-03	N/A	2.5E-02	1	7.5E-05	N/A	N/A	N/A	7.3E-02	N/A
	Cobalt	C	3.9E-05	2.0E-02	N/A	8.0E-01	3	1.6E-02	N/A	N/A	N/A	5.7E-05	N/A
	Copper	N	4.2E-05	4.0E-02	N/A	3.0E-01	3	1.2E-02	N/A	N/A	N/A	1.9E-04	N/A
	Iron	N	3.3E-01	N/A	N/A	1.5E-01	3	N/A	N/A	N/A	N/A	N/A	N/A
	Lead	N	8.7E-05	N/A	N/A	1.5E-01	3	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	1.3E-02	1.4E-01	N/A	4.0E-02	1	5.6E-03	N/A	N/A	N/A	1.2E-01	N/A
	Mercury	N	5.9E-07	3.0E-04	N/A	7.0E-02	1	2.1E-05	N/A	N/A	N/A	1.5E-03	N/A
	Vanadium	N	2.8E-04	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	N/A	N/A	8.4E-02	N/A
	Zinc	N	2.0E-04	3.0E-01	N/A	2.0E-01	2, 4	6.0E-02	N/A	N/A	N/A	1.1E-04	N/A
	Di-n-butylphthalate	N	2.8E-05	1.0E-01	N/A	3.1E-01	3	3.1E-02	N/A	N/A	N/A	4.7E-03	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose adjusted for ABS_{GI}.
Dermal SF = Dermal slope factoradjusted for ABS_{GI}.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfD_{dermal} = Dermal reference dose.
RFD_{oral} = Oral reference dose.
SFdermal = Dermal slope factor.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 15-1-43
Wetland 19A Phase II
Surface Water Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
SW Incidental Ingestion	Aluminum	N	1.1E-01	1.0E+00	N/A	N/A	N/A	2.3E-06	N/A
	Arsenic	C	2.7E-04	3.0E-04	1.5E+00	N/A	N/A	6.5E-06	2.9E-09
	Barium	N	3.0E-04	7.0E-02	N/A	N/A	N/A	8.7E-08	N/A
	Beryllium	N	4.0E-06	2.0E-03	N/A	N/A	N/A	4.1E-08	N/A
	Chromium	N	1.0E-04	3.0E-03	N/A	N/A	N/A	6.8E-07	N/A
	Cobalt	C	3.9E-05	2.0E-02	N/A	N/A	N/A	1.4E-08	N/A
	Copper	N	4.2E-05	4.0E-02	N/A	N/A	N/A	2.1E-08	N/A
	Iron	N	3.3E-01	N/A	N/A	N/A	N/A	N/A	N/A
	Lead	N	8.7E-05	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	1.3E-02	1.4E-01	N/A	N/A	N/A	1.8E-06	N/A
	Mercury	N	5.9E-07	3.0E-04	N/A	N/A	N/A	4.0E-08	N/A
	Vanadium	N	2.8E-04	7.0E-03	N/A	N/A	N/A	8.1E-07	N/A
	Zinc	N	2.0E-04	3.0E-01	N/A	N/A	N/A	1.4E-08	N/A
	Di-n-butylphthalate	N	2.8E-05	1.0E-01	N/A	N/A	N/A	5.7E-09	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI = Chronic daily intake

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, surface water risk:

$$CDI = \frac{EPC_{sw} \times IR_{sw} \times EF \times ED}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPC_{sw} = Exposure point concentration in surface water (mg/L).
IR_{sw} = Incidental ingestion rate for sediment (L/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
Irsw = 0.01 L/day exposure to surface water during wading for adolescents and adults.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Table 15-1-44
Wetland 19A Phase IV
Surface Water Dermal Absorbed Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration (g/L)	Min. Qual.	Maximum Concentration (g/L)	Max. Qual.	Units	Location of Max.Conc.	Detection Frequency	Range of Detection Limits	Mean	Maximum concentration (mg/cm^3)	K_p	DA_{event}	DAD_{sw} (mg/kg-day): Child Trespasser	DAD_{sw} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	N/A	N/A	3.3E+02	=	UG/L	041W19A102	1 / 1	NAV	3.3E+02	3.3E-04	1.0E-03	8.58E-07	N/A	1.82E-05
7440393	Barium	N	N/A	N/A	8.5E+00	I	UG/L	041W19A102	1 / 1	NAV	8.5E+00	8.5E-06	1.0E-03	2.21E-08	N/A	4.68E-07
7440417	Beryllium	N	N/A	N/A	7.4E-01	I	UG/L	041W19A102	1 / 1	NAV	7.4E-01	7.4E-07	1.0E-03	1.92E-09	N/A	4.07E-08
7439965	Manganese	N	N/A	N/A	1.8E+01	=	UG/L	041W19A102	1 / 1	NAV	1.8E+01	1.8E-05	1.0E-03	4.68E-08	N/A	9.91E-07
7440622	Vanadium	N	N/A	N/A	3.0E+00	I	UG/L	041W19A102	1 / 1	NAV	3.0E+00	3.0E-06	1.0E-03	7.80E-09	N/A	1.65E-07

Notes:

Equation for Dermal Absorbed Dose, surface water risk:

$$DAD_{sw} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sw} = Dermal absorbed dose-water contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event).
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).

EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Equation for DAevent for inorganics:

$$DA_{event} = K_p \times C_w \times t_{event}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: RAGS Part E, Exhibit B-3 or Exhibit B-4
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).

Equation for DAevent for organics:

$$DA_{event} = FA \times K_p \times C_w \left[\frac{t_{event}}{1 + B} + 2\tau_{event} \left(\frac{1 + 3B + 3B^2}{(1 + B)^2} \right) \right]$$

Where:

FA = Fraction absorbed water (dimensionless). From RAGS Part E, Exhibit B-4.
Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E, Exhibit B-4.
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).
t_{event} = Lag time per event (hr/event). From RAGS Part E, Exhibit B-4.
B = Dimensionless ratio of the permeability coefficient of a compound,
calculated using the equation below:

$$B = \frac{K_p \sqrt{MW}}{2.6}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E.
MW = Molecular weight

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).
t_{event} = 2.6 hrs/dy (child trespasser/adult maintenance worker).

Table 15-1-45
Wetland 19A Phase IV
Surface Water Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABS_{GI}	ABS_{GI} Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser: Dermal Hazard Quotient	Child Trespasser: Dermal Cancer Risk	Maintenance Worker: Dermal Hazard Quotient	Maintenance Worker: Dermal Cancer Risk
SW Dermal Risk	Aluminum	N	3.3E-04	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	N/A	N/A	1.8E-04	N/A
	Barium	N	8.5E-06	7.0E-02	N/A	7.0E-02	1, 2	4.9E-03	N/A	N/A	N/A	9.5E-05	N/A
	Beryllium	N	7.4E-07	2.0E-03	N/A	7.0E-03	1	1.4E-05	N/A	N/A	N/A	2.9E-03	N/A
	Manganese	N	1.8E-05	1.4E-01	N/A	4.0E-02	1	5.6E-03	N/A	N/A	N/A	1.8E-04	N/A
	Vanadium	N	3.0E-06	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	N/A	N/A	9.1E-04	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose adjusted for ABS_{GI}.
Dermal SF = Dermal slope factoradjusted for ABS_{GI}.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfD_{dermal} = Dermal reference dose.
RFD_{oral} = Oral reference dose.
SFdermal = Dermal slope factor.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 15-1-46
Wetland 19A Phase IV
Surface Water Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
SW Incidental Ingestion	Aluminum	N	3.3E-04	1.0E+00	N/A	N/A	N/A	6.7E-09	N/A
	Barium	N	8.5E-06	7.0E-02	N/A	N/A	N/A	2.5E-09	N/A
	Beryllium	N	7.4E-07	2.0E-03	N/A	N/A	N/A	7.5E-09	N/A
	Manganese	N	1.8E-05	1.4E-01	N/A	N/A	N/A	2.6E-09	N/A
	Vanadium	N	3.0E-06	7.0E-03	N/A	N/A	N/A	8.7E-09	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI = Chronic daily intake.

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, surface water risk:

$$CDI = \frac{EPC_{sw} \times IR_{sw} \times EF \times ED}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPC_{sw} = Exposure point concentration in surface water (mg/L).
IR_{sw} = Incidental ingestion rate for sediment (L/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
Irsw = 0.01 L/day exposure to surface water during wading for adolescents and adults.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Table 15-1-47
Wetland 19B Phase II
Surface Water Dermal Absorbed Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration (g/L)	Min. Qual.	Maximum Concentration (g/L)	Max. Qual.	Units	Location of Max.Conc.	Detection Frequency	Range of Detection Limits	Mean	Maximum concentration (mg/cm^3)	K_p	DA_{event}	DAD_{sw} (mg/kg-day): Child Trespasser	DAD_{sw} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	N/A	N/A	2.1E+03	=	UG/L	041W190301	1 / 1	NAV	2.1E+03	2.1E-03	1.0E-03	5.56E-06	N/A	1.18E-04
7440393	Barium	N	N/A	N/A	7.4E+00	J	UG/L	041W190301	1 / 1	NAV	7.4E+00	7.4E-06	1.0E-03	1.92E-08	N/A	4.07E-07
7439896	Iron	N	N/A	N/A	4.0E+03	=	UG/L	041W190301	1 / 1	NAV	4.0E+03	4.0E-03	2.5E-04	2.62E-06	N/A	5.54E-05
7439921	Lead	N	N/A	N/A	5.6E+00	=	UG/L	041W190301	1 / 1	NAV	5.6E+00	5.6E-06	3.4E-04	4.95E-09	N/A	1.05E-07
7439965	Manganese	N	N/A	N/A	2.6E+01	=	UG/L	041W190301	1 / 1	NAV	2.6E+01	2.6E-05	1.0E-03	6.84E-08	N/A	1.45E-06
7440622	Vanadium	N	N/A	N/A	4.4E+00	J	UG/L	041W190301	1 / 1	NAV	4.4E+00	4.4E-06	1.0E-03	1.14E-08	N/A	2.42E-07

Notes:

Equation for Dermal Absorbed Dose, surface water risk:

$$DAD_{sw} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sw} = Dermal absorbed dose-water contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event).
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).

EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Equation for DAevent for inorganics:

$$DA_{event} = K_p \times C_w \times t_{event}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: RAGS Part E, Exhibit B-3 or Exhibit B-4
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).

Equation for DAevent for organics:

$$DA_{event} = FA \times K_p \times C_w \left[\frac{t_{event}}{1 + B} + 2\tau_{event} \left(\frac{1 + 3B + 3B^2}{(1 + B)^2} \right) \right]$$

Where:

FA = Fraction absorbed water (dimensionless). From RAGS Part E, Exhibit B-4.
Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E, Exhibit B-4.
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).
t_{event} = Lag time per event (hr/event). From RAGS Part E, Exhibit B-4.
B = Dimensionless ratio of the permeability coefficient of a compound,
calculated using the equation below:

$$B = \frac{K_p \sqrt{MW}}{2.6}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E.
MW = Molecular weight

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker)
Cancer — 25,550 days (child trespasser/adult maintenance worker).
t_{event} = 2.6 hrs/dy (child trespasser/adult maintenance worker).

Table 15-1-48
Wetland 19B Phase II
Surface Water Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABS_{GI}	ABS_{GI} Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser: Dermal Hazard Quotient	Child Trespasser: Dermal Cancer Risk	Maintenance Worker: Dermal Hazard Quotient	Maintenance Worker: Dermal Cancer Risk
SW Dermal Risk	Aluminum	N	2.1E-03	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	N/A	N/A	1.2E-03	N/A
	Barium	N	7.4E-06	7.0E-02	N/A	7.0E-02	1, 2	4.9E-03	N/A	N/A	N/A	8.3E-05	N/A
	Iron	N	4.0E-03	N/A	N/A	1.5E-01	3	N/A	N/A	N/A	N/A	N/A	N/A
	Lead	N	5.6E-06	N/A	N/A	1.5E-01	3	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	2.6E-05	1.4E-01	N/A	4.0E-02	1	5.6E-03	N/A	N/A	N/A	2.6E-04	N/A
	Vanadium	N	4.4E-06	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	N/A	N/A	1.3E-03	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose adjusted for ABS_{GI}.
Dermal SF = Dermal slope factoradjusted for ABS_{GI}.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfD_{dermal} = Dermal reference dose.
RFD_{oral} = Oral reference dose.
SFdermal = Dermal slope factor.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 15-1-49
Wetland 19B Phase II
Surface Water Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
SW Incidental Ingestion	Aluminum	N	2.1E-03	1.0E+00	N/A	N/A	N/A	4.4E-08	N/A
	Barium	N	7.4E-06	7.0E-02	N/A	N/A	N/A	2.2E-09	N/A
	Iron	N	4.0E-03	N/A	N/A	N/A	N/A	N/A	N/A
	Lead	N	5.6E-06	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	2.6E-05	1.4E-01	N/A	N/A	N/A	3.8E-09	N/A
	Vanadium	N	4.4E-06	7.0E-03	N/A	N/A	N/A	1.3E-08	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI = Chronic daily intake.

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, surface water risk:

$$CDI = \frac{EPC_{sw} \times IR_{sw} \times EF \times ED}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPC_{sw} = Exposure point concentration in surface water (mg/L).
IR_{sw} = Incidental ingestion rate for sediment (L/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
Irsw = 0.01 L/day exposure to surface water during wading for adolescents and adults.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

15.2 Wetland 56 — Screening Level Problem Formulation

15.2.1 Site Description and Habitats Present at Wetland 56

Wetland 56 is south of Radford Boulevard near the Oak Grove Campground (Site 39). Parsons and Pruitt divided this wetland into two areas, Wetlands 56A and 56B (USEPA, 1991a). Wetland 56A is described as a palustrine emergent wetland in the back of Sherman's Inlet. Wetland 56B is described as an estuarine emergent marsh along the littoral areas of Sherman's Inlet.

Surface water from Wetland 56 drains into Pensacola Bay via Sherman's Inlet. Wetland 56A receives storm water from Forrest Sherman Field and has an active National Pollution Discharge Elimination System (NPDES) permit at the storm water outlet. Vegetation associated with Wetland 56A includes saw grass (*Cladium jamaicense*) and cattails (*Typha latifolia*). Black needlerush (*Juncus roemerianus*) is the dominant foliage in Wetland 56B. The northern edges of Wetland 56 are adjacent to the right-of-way for Radford Boulevard and are maintained by base landscaping contractors.

The IR sites potentially affecting Wetland 56 are Sites 4 and 39. An interim removal action removed contaminated soil at Site 39 (Oak Grove Campground) in 1994 (E/A&H, 1995e), and the site was approved for no further action by USEPA (USEPA Region 4, 1995b) and FDEP (FDEP, 1995b). Storm water runoff from Forrest Sherman Field may also contribute contaminates to Wetland 56.

In the 1950s, rubble from the former Fort Barrancas was disposed in the area of Site 4. The rubble included timber, pipes, mattresses, and other wastes. None of the wastes was documented as being incinerated before disposal. Elevated metals concentrations in site soil were similar to those identified at previously investigated sites in the eastern portion of NAS Pensacola (E/A&H, 1997e). The detected PAH contaminants were likely associated with routine activities, such as automobile traffic or the asphalt pavement (E/A&H, 1997e). The USEPA (USEPA Region 4, 1997b) and FDEP (FDEP, 1997c) approved remedial alternative for Site 4 was no action.

Photograph 1 Wetland 56 — Facing Southeast from the Northwest Shore

Photograph 2 Wetland 56 — Southeast End. Photo shows sign for NPDES discharge point. Storm water outfall from Sherman Field empties into this wetland at this point.

Photograph 3 Wetland 56 — Facing the NPDES Storm Water Outfall

15.2.2 Wetland 56 — Sample Location Description

Phase II Sediment Sample Location Description

One sediment sample was collected and analyzed for the Wetland 56 ERA. The sample location for Wetland 56 was located in an area of the wetland where depositional areas and groundwater seeps could occur. This sample location is centrally located within the wetland (Figure 15-4). Table 15-2-1 (tables are located at the end of each section) provides a physical description of the sediment sample collected at Wetland 56. The sample was a dark brown silty sand, primarily fine grained, with organics and a TOC concentration of 1.26%.

Phase II Surface Water Sample Location Description

One surface water sample was collected at Wetland 56 in 1996 for the ERA process. Sample location 041W56A101 (Figure 15-4) was collocated with sediment location 041M56A101. Surface water from Wetland 56 was analyzed for physical parameters, with results presented on Table 15-2-2. The pH concentration was reported as 5.48. Specific conductivity was 0.124 mS/cm, and turbidity was 6 NTUs.

15.2.3 Nature and Extent of Contamination

Phase II Sediment

Figure 15-4 presents the sediment sampling locations for Wetland 56. Table 15-2-3 summarizes the analytical results for the one Wetland 56 sediment samples.

Metals — Sixteen metals were detected during Phase II sediment sampling at Wetland 56. Although location 041M56A101 exhibited detections of 16 metals, none of these were reported at concentrations exceeding their respective freshwater reference values.

Pesticides and PCBs — Five pesticide compounds were detected during Phase II sediment sampling at Wetland 56 including 4,4′-DDE, 4,4′-DDT, and 4,4′-DDD. Total DDT was calculated for each location by adding the concentrations of 4,4′-DDD, 4,4′-DDE and 4,4′-DDT. Likewise, a basewide total DDT reference concentration was calculated using the basewide concentrations for these same constituents.

The individual concentration detected for 4,4′-DDD exceeded the basewide reference concentration; however, total DDT was below the basewide value. No other pesticides were detected at concentrations above the reference value. No PCBs were detected in the sediment sample collected during Phase II sampling.

SVOCs — Two SVOCs, bis(2-ethlyhexyl)phthalate and pyrene, were detected in the sediment sample collected during Phase II sampling at Wetland 56.

VOCs — VOCs were not detected in the sediment sample collected during Phase II sampling at Wetland 56.

Phase II Surface Water

Figure 15-4 presents the surface water sampling locations for Wetland 56. Table 15-2-4 summarizes the analytical results for the Wetland 56 surface water sample.

Metals — Eight metals were detected in the Phase II surface water sample collected from Wetland 56. Of these eight detections, barium and calcium were present at concentrations exceeding the appropriate fresh water reference value.

There were no organic constituents detected in surface water collected from Wetland 56 during the Phase II sampling effort.

15.2.4 Ecological Risk Assessment

Phase II Investigation Summary — Wetland 56

Sediment Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 15-2-5, the sediment sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-2-6.

Baseline Problem Formulation — Wetland 56 Sediment COPC Refinement

During the COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs. This risk assessment presents a statement of potential risk for each of the COPCs.

The COPC refinement process included:

- Comparison of maximum concentrations to RVs
- Comparison of average concentrations to SVs and RVs
- Comparison to basewide (reference) concentrations for total DDT
- Comparison of inorganic constituents to reference wetland values
- Interpretative tool for metals
- Di Toro EqP SQGs for VOCs
- Comparison to Swartz consensus values
- Mean ERM quotients
- Description of exceedances of RVs and their extent

The methods used in the COPC refinement in the Site 41 ERA process is detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 15-2-7. Additionally, the tables compare: 1) average concentrations to screening and refinement values to assess potential exposure across the entire wetland, and 2) Wetland 56 concentrations to reference concentrations.

At Wetland 56, 4,4'-DDD exceeded the basewide reference value; however, total DDT did not exceed the basewide level, indicating that 4,4'-DDT and its daughter products were not a concern for this wetland. None of the inorganic constituents exceeded the fresh water sediment reference values; therefore, the interpretative tool was not needed for Wetland 56.

VOCs were not detected at Wetland 56. PAHs, as a group, were not detected as well; therefore, comparison to TOC concentrations was not conducted.

Table 15-2-8 presents the Mean ERL and ERM values, the Mean ERM Quotients, and the Mean ERM Quotient Category by individual sample location. Based on this approach, the sample location (041M56A101) was determined to be Category 2, which, according to tests evaluated in developing this methodology, had average survival rates of approximately 80% of control sediments; however, this category also has the highest level of uncertainty. Figure 15-7 also shows the Mean ERM category for each sediment sample location at Wetland 56.

No COPCs were retained for sediment collected from Wetland 56.

Surface Water Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 15-2-9, the surface water sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than 1 or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-2-10.

Baseline Problem Formulation — Wetland 56 Surface Water COPC Refinement

During the surface water COPC refinement, additional information will be used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs.

The COPC refinement process included:

- Comparison of maximum SV concentrations to average SV concentrations
- Comparison of inorganic constituents to reference wetland values
- Description of surface water exceedances and their extent

The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 15-2-11. Additionally, the tables compare average concentrations to screening and refinement values to assess potential exposure across the entire wetland. A list of COPCs retained after refinement are presented in Table 15-2-12.

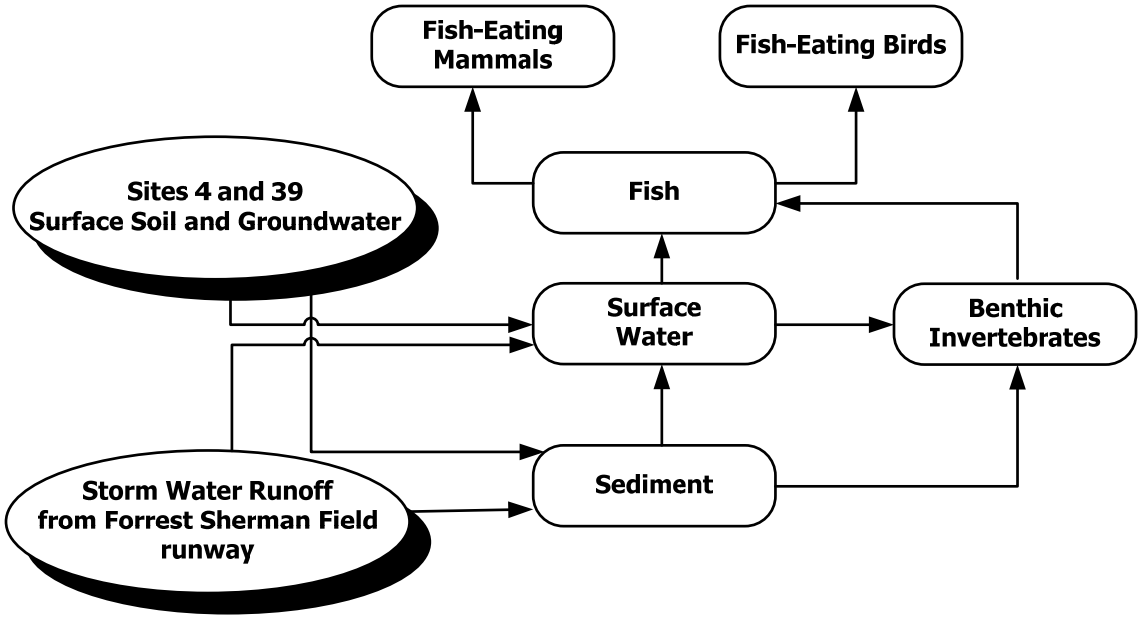
For Wetland 56, barium exceeded its Site 41 freshwater reference surface water concentration (Table 15-2-11) and was carried forward in the ERA process. Calcium also exceeded its reference concentration; however, calcium is an essential nutrient and is not carried forward.

There were no constituents retained in sediment during the Phase II investigation of Wetland 56.

Based on the Phase II results described above, Wetland 56 was identified as a Blue-Coded Wetland in the approved *Final RI/FS SAP Addendum* (E/A&H, 1997d), indicating that contaminants were present generally below screening values, and contaminants did not appear to be site related. Blue-Coded Wetlands were not assessed further in Phase III. However, to assess potential risks from contaminants that bioaccumulate, the results from Wetland 56 will be used in the remaining wetlands food-chain model presented in Section 15.8.

The conceptual model below symbolizes which environmental habitats may be impacted by Wetland 56 Phase II constituents retained during the ERA process.

Wetland 56
Conceptual Site Model



15.2.5 Wetland 56 — Human Health Risk Assessment

Wetland 56 is described in Section 15.2.1, and the HHRA is summarized below.

15.2.5.1 Site Data

Section 15.2.3 summarizes the nature and extent of contamination for this wetland. Surface water and sediment data were collected at Wetland 56 during Phases II of the RI. Surface water and sediment data for 56 are summarized in Tables 15-2-3 and 15-2-4.

15.2.5.2 Conceptual Site Model

As described in Section 15.2.1, Wetland 56 is located in an unrestricted area of the base; the wetland is accessible to Navy personnel and trespassers. Wetland 56 is continually inundated. Therefore, in accordance with USEPA Region IV Supplemental Guidance to RAGS Bulletins (2000) described in Section 9, sediment exposure was not assessed in this HHRA because it is assumed to be an insignificant exposure pathway. Based on the species present, depth of surface water, and available habitat, fishing could occur. Contact with surface water while, wading and game fish ingestion would be the likely exposure scenarios.

The following scenarios and exposure pathways were evaluated for this wetland:

Scenario	Medium	Ingestion	Dermal
Maintenance	Surface water	√	√
Trespasser	Surface water	√	√
Fishermen	Fish Tissue	√	NA

15.2.5.3 Risk Characterization

The child trespasser and adult maintenance worker scenarios for surface water and the recreational fishermen scenarios for game fish tissue ingestion were assessed for this wetland, as described in Section 9.

Phase II Data

Trespasser

As shown in Tables 15-2-13 through 15-2-15, surface water ingestion and dermal contact risk estimates for trespassers were below the FDEP risk threshold. Hazard indices were below 1.0.

Maintenance Worker

As shown in Tables 15-2-13 through 15-2-15, surface water ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

Recreational Fisherman

As shown in Table 15-2-16, game fish tissue ingestion risk estimates for recreational fishermen were below the FDEP risk threshold. Hazard indices were below 1.0.

Summary of Wetland 56 Phase II Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Surface water	4.87E-04	0.00E+00
Trespasser	Surface water	3.65E-04	0.00E+00
Fishermen	Fish tissue	1.92E-03	1.36E-06

Based on Phase II data, no COCs for Wetland 56 were identified.

Wetland 56 HHRA COC Summary

No COCs were identified in the HHRA for Wetland 56.

15.2.6 Wetland 56 — Fate and Transport Analysis

This wetland encompasses 56A and 56B, evaluated together as Wetland 56. It is located to the southeast of the north-south runway at Forrest Sherman Field. Two samples (one sediment sample and one surface water sample) from one location were collected in this wetland, near the head of the wetland. Externally, the wetland receives drainage from the northern portion of the east side of Wetland 52. Internally, the wetland complex drains from the northwest and flows southeast towards Pensacola Bay (see Figure 15-1).

The surface water COPCs retained after refinement for this wetland are summarized in Table 15-2-13. There were COPCs retained for sediment. Provided below are the associated soil borings and monitoring wells used for comparing data for the fate and transport analysis.

Monitoring Wells Associated with 56: 039GGI05, 039GGS01, 039GGS04, 039GGS03, 039GGI07, 039GGS02, 039GGI06

Borings Associated with 56: 039S0001, 039S0002, 039S0003, 039S0004, 039 S0005, 039S0006, 039S0007, 039S0008, 039S0009, 039S0010, 039S00011

Surface Water/Sediment Transport into the Wetlands Media:

Surface Water — There was no directly comparable storm water data from the area proximal to this wetland complex. Because of the lack of data, no definitive statement can be made regarding the validation of the pathway via storm water runoff into the wetland complex. The vast majority of surface water drainage to this wetland is from the northern portion of the eastern side of Wetland 52. The wetland may also be affected by storm water runoff and groundwater discharge from IR Site 39. Borings and wells from this site were evaluated as to potential impacts to the wetland.

Groundwater Discharge into the Wetland Media:

Surface Water — Based on the data from associated monitoring wells, the groundwater to surface water pathway was validated and significant for barium only.

Sediment — There were no detections of retained sediment parameters in associated groundwater samples.

Surface Water/Sediment Transport within the Wetlands:

Because only one sediment and one surface water sample was collected in this wetland, these pathways were not evaluated.

Table 15-2-1
Wetland 56A Phase II
Sediment Physical Parameters

Parameter	041M56A101
TOC (%)	1.26
Percent Solids (%)	66.1
Grain Size Analysis (percent of composition[1])	
Medium Sand	13
Fine Sand	77
Silt and Clay	10
Description	Dark Brown Silty Sand with Organics

Note:
[1] = Derived from sieve analyses.

Table 15-2-2
Wetland 56 Phase II
Surface Water Physical Parameters

Parameter	041W56A101
Hardness as CaCO3 (mg/L)	38.7
pH	5.48
Specific Conductivity (mS/cm)	0.124
Turbidity (NTU)	6
Salinity (%)	0

Notes:
mg/L = Milligrams per liter
pH = Hydrogen ion content
MS/cm = Millisiemens per centimeter
NTU = Nephelometric turbidity units
% = Percent

Table 15-2-3
Wetland 56 Phase II
Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (mg/kg)								
Aluminum	13,610.0	0	1	1	2,560.0	2,560.0	2,560.0	041M56A101
Arsenic	6.620	0	1	1	0.330	0.330	0.330	041M56A101
Barium	14.0	0	1	1	3.30	3.30	3.30	041M56A101
Calcium	10,756.670	0	1	1	682.0	682.0	682.0	041M56A101
Chromium	39.370	0	1	1	3.10	3.10	3.10	041M56A101
Cobalt	2.80	0	1	1	0.30	0.30	0.30	041M56A101
Copper	19.50	0	1	1	3.10	3.10	3.10	041M56A101
Iron	11,911.670	0	1	1	1,210.0	1,210.0	1,210.0	041M56A101
Lead	82.470	0	1	1	9.40	9.40	9.40	041M56A101
Magnesium	7,513.330	0	1	1	82.10	82.10	82.10	041M56A101
Manganese	37.970	0	1	1	3.20	3.20	3.20	041M56A101
Nickel	9.280	0	1	1	1.40	1.40	1.40	041M56A101
Potassium	1,628.670	0	1	1	52.0	52.0	52.0	041M56A101
Selenium	3.450	0	1	1	2.40	2.40	2.40	041M56A101
Vanadium	28.670	0	1	1	4.0	4.0	4.0	041M56A101
Zinc	36.730	0	1	1	5.90	5.90	5.90	041M56A101
PAHs (g/kg)								
Pyrene	N/A	0	1	1	36.0	36.0	36.0	041M56A101
Total PAHs	N/A	0	1	1	321.0	321.0	321.0	041M56A101
Pesticides and PCBs (g/kg)								
Endrin	N/A	0	1	1	0.390	0.390	0.390	041M56A101
Total Endrin	N/A	0	1	1	0.660	0.660	0.660	041M56A101
gamma-BHC (Lindane)	N/A	0	1	1	0.40	0.40	0.40	041M56A101
Total BHC	N/A	0	1	1	0.595	0.595	0.595	041M56A101
4,4'-DDD	50.0	1	1	1	53.0	53.0	53.0	041M56A101
4,4'-DDE	40.0	0	1	1	5.30	5.30	5.30	041M56A101
4,4'-DDT	20.0	0	1	1	2.80	2.80	2.80	041M56A101
Total DDT	110.0	0	1	1	61.10	61.10	61.10	041M56A101
SVOCs (g/kg)								
bis(2-Ethylhexyl)phthalate (BEHP)	N/A	0	1	1	51.0	51.0	51.0	041M56A101

Notes:
g/kg = micrograms per kilogram
mg/kg = milligram per kilogram
N/A = Not Applicable

Table 15-2-4
Wetland 56 Phase II
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (g/L)								
Aluminum	1,090.25	0	1	1	596.0	596.0	596.0	041W56A101
Barium	3.68	1	1	1	4.4	4.4	4.4	041W56A101
Calcium	7,675.0	1	1	1	12,700.0	12,700.0	12,700.0	041W56A101
Iron	2,360.0	0	1	1	682.0	682.0	682.0	041W56A101
Magnesium	20,260.0	0	1	1	1,710.0	1,710.0	1,710.0	041W56A101
Manganese	13.2	0	1	1	11.2	11.2	11.2	041W56A101
Potassium	6,995.0	0	1	1	676.0	676.0	676.0	041W56A101
Sodium	182,200.0	0	1	1	9,730.0	9,730.0	9,730.0	041W56A101

Notes:
g/L = micrograms per liter
N/A = Not Applicable

Table 15-2-5
Wetland 56 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Metals (mg/kg)														
Aluminum	1	1			2,560	2,560	041M56A101	2,560			N/A		Yes	No SV
Antimony	0	1	0.075	0.075			ND	0.075	UJ	12	2	0.01	No	Max SQL< SV
Arsenic	1	1			0.33	0.33	041M56A101	0.33	J	7.24	1, 2	0.05	No	Max Detect < SV
Barium	1	1			3.3	3.3	041M56A101	3.3	J		N/A		Yes	No SV
Beryllium	0	1	0.04	0.04			ND	0.04	U		N/A		Yes	No SV
Cadmium	0	1	0.075	0.075			ND	0.075	U	0.676	1	0.11	No	Max SQL< SV
Calcium	1	1			682	682	041M56A101	682			N/A		Yes	No SV
Chromium	1	1			3.1	3.1	041M56A101	3.1		52.3	1, 2	0.06	No	Max Detect < SV
Cobalt	1	1			0.3	0.3	041M56A101	0.3	J		N/A		Yes	No SV
Copper	1	1			3.1	3.1	041M56A101	3.1		18.7	1, 2	0.17	No	Max Detect < SV
Cyanide (CN)	0	1	0.375	0.375			ND	0.375	U		N/A		Yes	No SV
Iron	1	1			1,210	1,210	041M56A101	1,210			N/A		Yes	No SV
Lead	1	1			9.4	9.4	041M56A101	9.4		30.2	1, 2	0.31	No	Max Detect < SV
Magnesium	1	1			82.1	82.1	041M56A101	82.1	J		N/A		Yes	No SV
Manganese	1	1			3.2	3.2	041M56A101	3.2			N/A		Yes	No SV
Mercury	0	1	0.035	0.035			ND	0.035	U	0.13	1, 2	0.27	No	Max SQL< SV
Nickel	1	1			1.4	1.4	041M56A101	1.4	J	15.9	1, 2	0.09	No	Max Detect < SV
Potassium	1	1			52	52	041M56A101	52	J		N/A		Yes	No SV
Selenium	1	1			2.4	2.4	041M56A101	2.4	J		N/A		Yes	No SV
Silver	0	1	0.19	0.19			ND	0.19	U	0.733	1	0.26	No	Max SQL< SV
Sodium	0	1	6.95	6.95			ND	6.95	U		N/A		Yes	No SV
Thallium	0	1	0.15	0.15			ND	0.15	U		N/A		Yes	No SV
Vanadium	1	1			4	4	041M56A101	4			N/A		Yes	No SV
Zinc	1	1			5.9	5.9	041M56A101	5.9		124	1, 2	0.05	No	Max Detect < SV
PAHs (g/kg)														
2-Methylnaphthalene	0	1	26	26			ND	26	U	20.2	1	1.29	No	TOC Normalized PAHs<TEC
Acenaphthene	0	1	12.5	12.5			ND	12.5	U	6.71	1	1.86	No	TOC Normalized PAHs<TEC
Acenaphthylene	0	1	26	26			ND	26	U	5.87	1	4.43	No	TOC Normalized PAHs<TEC
Anthracene	0	1	26	26			ND	26	U	46.9	1	0.55	No	TOC Normalized PAHs<TEC
Benzo(a)anthracene	0	1	26	26			ND	26	U	74.8	1	0.35	No	TOC Normalized PAHs<TEC
Benzo(a)pyrene	0	1	26	26			ND	26	U	88.8	1	0.29	No	TOC Normalized PAHs<TEC
Chrysene	0	1	26	26			ND	26	U	108	1	0.24	No	TOC Normalized PAHs<TEC
Dibenz(a,h)anthracene	0	1	26	26			ND	26	U	6.22	1	4.18	No	TOC Normalized PAHs<TEC
Fluoranthene	0	1	26	26			ND	26	U	113	1	0.23	No	TOC Normalized PAHs<TEC
Fluorene	0	1	12.5	12.5			ND	12.5	U	21.2	1	0.59	No	TOC Normalized PAHs<TEC
Naphthalene	0	1	26	26			ND	26	U	34.6	1	0.75	No	TOC Normalized PAHs<TEC
Phenanthrene	0	1	26	26			ND	26	U	86.7	1	0.3	No	TOC Normalized PAHs<TEC
Pyrene	1	1			36	36	041M56A101	36	J	153	1	0.24	No	TOC Normalized PAHs<TEC
Total PAHs	1	1			321	321	041M56A101	321		1684	1, 2	0.19	No	TOC Normalized PAHs<TEC
TOC Normalized PAHs	1	1			25.48	25.48	041M56A101	25.48		290	3	0.09	No	Max Detect < SV
PCBs (g/kg)														
Aroclor-1016	0	1	1.35	1.35			ND	1.35	U	21.6	N/A	0.06	No	Max SQL< SV
Aroclor-1221	0	1	2.7	2.7			ND	2.7	U	67	2	0.04	No	Max SQL< SV
Aroclor-1232	0	1	1.35	1.35			ND	1.35	U	21.6	N/A	0.06	No	Max SQL< SV
Aroclor-1242	0	1	1.35	1.35			ND	1.35	U	21.6	N/A	0.06	No	Max SQL< SV
Aroclor-1248	0	1	1.35	1.35			ND	1.35	U	21.6	N/A	0.06	No	Max SQL< SV
Aroclor-1254	0	1	1.35	1.35			ND	1.35	U	21.6	N/A	0.06	No	Max SQL< SV
Aroclor-1260	0	1	1.35	1.35			ND	1.35	U	21.6	N/A	0.06	No	Max SQL< SV
Total PCBs	0	1	10.8	10.8			ND	10.8	U	21.6	1	0.5	No	Max SQL< SV
Pesticides (g/kg)														
Aldrin	0	1	0.065	0.065			ND	0.065	U		N/A		Yes	No SV
Dieldrin	0	1	0.135	0.135			ND	0.135	U	0.716	1	0.19	No	Max SQL< SV
Endosulfan I	0	1	0.065	0.065			ND	0.065	U		N/A		Yes	No SV
Endosulfan II	0	1	0.135	0.135			ND	0.135	U		N/A		Yes	No SV
Endosulfan sulfate	0	1	0.135	0.135			ND	0.135	U		N/A		Yes	No SV
Heptachlor	0	1	0.065	0.065			ND	0.065	U		N/A		Yes	No SV
Heptachlor epoxide	0	1	0.065	0.065			ND	0.065	U		N/A		Yes	No SV
Methoxychlor	0	1	0.65	0.65			ND	0.65	U		N/A		Yes	No SV
Toxaphene	0	1	13.5	13.5			ND	13.5	U		N/A		Yes	No SV
alpha-Chlordane	0	1	0.065	0.065			ND	0.065	U	1.7	1	0.04	No	Max SQL< SV
gamma-Chlordane	0	1	0.065	0.065			ND	0.065	U	1.7	1	0.04	No	Max SQL< SV
Total Chlordane	0	1	0.13	0.13			ND	0.13	U	1.7	1	0.08	No	Max SQL< SV
Endrin	1	1			0.39	0.39	041M56A101	0.39	J	3.3	2	0.12	No	Max Detect < SV
Endrin aldehyde	0	1	0.135	0.135			ND	0.135	U	3.3	2	0.04	No	Max SQL< SV
Endrin ketone	0	1	0.135	0.135			ND	0.135	U	3.3	2	0.04	No	Max SQL< SV
Total Endrin	1	1			0.66	0.66	041M56A101	0.66		3.3	2	0.2	No	Max Detect < SV
alpha-BHC	0	1	0.065	0.065			ND	0.065	U		N/A		Yes	No SV
beta-BHC	0	1	0.065	0.065			ND	0.065	U	0.32	N/A	0.20	No	Max SQL< SV
delta-BHC	0	1	0.065	0.065			ND	0.065	U	0.32	N/A	0.20	No	Max SQL< SV
gamma-BHC (Lindane)	**1**	**1**			**0.4**	**0.4**	**041M56A101**	**0.4**	**J**	**0.32**	**1**	**1.25**	**Yes**	**Max Detect > SV**
Total BHC	**1**	**1**			**0.595**	**0.595**	**041M56A101**	**0.595**		**0.32**	**2**	**1.86**	**Yes**	**Max Detect > SV**
4,4'-DDD	**1**	**1**			**53**	**53**	**041M56A101**	**53**	**D**	**1.22**	**1**	**43.4**	**Yes**	**Max Detect > SV**
4,4'-DDE	**1**	**1**			**5.3**	**5.3**	**041M56A101**	**5.3**	**DJ**	**2.07**	**1**	**2.56**	**Yes**	**Max Detect > SV**
4,4'-DDT	**1**	**1**			**2.8**	**2.8**	**041M56A101**	**2.8**		**1.19**	**1**	**2.35**	**Yes**	**Max Detect > SV**
Total DDT	**1**	**1**			**61.1**	**61.1**	**041M56A101**	**61.1**		**3.3**	**2**	**18.5**	**Yes**	**Max Detect > SV**
SVOCs (g/kg)														
1,2,4-Trichlorobenzene	0	1	260	260			ND	260	U		N/A		Yes	No SV
1,2-Dichlorobenzene	0	1	260	260			ND	260	U		N/A		Yes	No SV
1,3-Dichlorobenzene	0	1	260	260			ND	260	U		N/A		Yes	No SV
1,4-Dichlorobenzene	0	1	260	260			ND	260	U		N/A		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	260	260			ND	260	U		N/A		Yes	No SV
2,4,5-Trichlorophenol	0	1	650	650			ND	650	U		N/A		Yes	No SV
2,4,6-Trichlorophenol	0	1	260	260			ND	260	U		N/A		Yes	No SV
2,4-Dichlorophenol	0	1	260	260			ND	260	U		N/A		Yes	No SV
2,4-Dimethylphenol	0	1	260	260			ND	260	U		N/A		Yes	No SV
2,4-Dinitrophenol	0	1	650	650			ND	650	U		N/A		Yes	No SV
2,4-Dinitrotoluene	0	1	260	260			ND	260	U		N/A		Yes	No SV
2,6-Dinitrotoluene	0	1	260	260			ND	260	U		N/A		Yes	No SV
2-Chloronaphthalene	0	1	260	260			ND	260	U		N/A		Yes	No SV
2-Chlorophenol	0	1	260	260			ND	260	U		N/A		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	1	650	650			ND	650	U		N/A		Yes	No SV
2-Methylphenol (o-Cresol)	0	1	260	260			ND	260	U		N/A		Yes	No SV
2-Nitroaniline	0	1	260	260			ND	260	U		N/A		Yes	No SV
2-Nitrophenol	0	1	260	260			ND	260	U		N/A		Yes	No SV
3,3'-Dichlorobenzidine	0	1	260	260			ND	260	U		N/A		Yes	No SV
3-Nitroaniline	0	1	650	650			ND	650	U		N/A		Yes	No SV
4-Bromophenyl-phenylether	0	1	260	260			ND	260	U		N/A		Yes	No SV
4-Chloro-3-methylphenol	0	1	260	260			ND	260	U		N/A		Yes	No SV
4-Chloroaniline	0	1	260	260			ND	260	U		N/A		Yes	No SV
4-Chlorophenylphenyl ether	0	1	260	260			ND	260	U		N/A		Yes	No SV
4-Methylphenol (p-Cresol)	0	1	260	260			ND	260	U		N/A		Yes	No SV
4-Nitroaniline	0	1	650	650			ND	650	U		N/A		Yes	No SV
4-Nitrophenol	0	1	650	650			ND	650	U		N/A		Yes	No SV
Benzo(b)fluoranthene	0	1	26	26			ND	26	U		N/A		No	TOC Normalized PAHs<TEC
Benzo(g,h,i)perylene	0	1	26	26			ND	26	U		N/A		No	TOC Normalized PAHs<TEC
Benzo(k)fluoranthene	0	1	26	26			ND	26	U		N/A		No	TOC Normalized PAHs<TEC
bis(2-Chloroethoxy)methane	0	1	260	260			ND	260	U		N/A		Yes	No SV
bis(2-Chloroethyl)ether	0	1	26	26			ND	26	U		N/A		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	1	1			51	51	041M56A101	51	J	182	1, 2	0.28	No	Max Detect < SV
Butylbenzylphthalate	0	1	260	260			ND	260	U	182	1, 2	1.43	Yes	Max SQL > SV
Carbazole	0	1	260	260			ND	260	U		N/A		Yes	No SV
Dibenzofuran	0	1	260	260			ND	260	U		N/A		Yes	No SV
Diethylphthalate	0	1	260	260			ND	260	U	182	1, 2	1.43	Yes	Max SQL > SV
Dimethylphthalate	0	1	260	260			ND	260	U	182	1, 2	1.43	Yes	Max SQL > SV
Di-n-butylphthalate	0	1	260	260			ND	260	U	182	1, 2	1.43	Yes	Max SQL > SV
Di-n-octylphthalate	0	1	260	260			ND	260	U	182	1, 2	1.43	Yes	Max SQL > SV

Table 15-2-5
Wetland 56 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
SVOCs (g/kg) - cont.														
Hexachlorobenzene	0	1	260	260			ND	260	U		N/A		Yes	No SV
Hexachlorobutadiene	0	1	260	260			ND	260	U		N/A		Yes	No SV
Hexachlorocyclopentadiene	0	1	260	260			ND	260	U		N/A		Yes	No SV
Hexachloroethane	0	1	260	260			ND	260	U		N/A		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	1	26	26			ND	26	U		N/A		No	TOC Normalized PAHs<TEC
Isophorone	0	1	260	260			ND	260	U		N/A		Yes	No SV
Nitrobenzene	0	1	260	260			ND	260	U		N/A		Yes	No SV
N-Nitroso-di-n-propylamine	0	1	26	26			ND	26	U		N/A		Yes	No SV
N-Nitrosodiphenylamine	0	1	260	260			ND	260	U		N/A		Yes	No SV
Pentachlorophenol	0	1	650	650			ND	650	U		N/A		Yes	No SV
Phenol	0	1	260	260			ND	260	U		N/A		Yes	No SV
VOCs (g/kg)														
1,1,1-Trichloroethane	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
1,1,2,2-Tetrachloroethane	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
1,1,2-Trichloroethane	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
1,1-Dichloroethane	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
1,1-Dichloroethene	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
1,2-Dichloroethane	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
1,2-Dichloroethene (total)	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
1,2-Dichloropropane	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
2-Butanone (MEK)	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
2-Hexanone	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Acetone	0	1	43.5	43.5			ND	43.5	U		N/A		Yes	No SV
Benzene	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Bromodichloromethane	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Bromoform	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Bromomethane	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Carbon disulfide	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Carbon tetrachloride	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Chlorobenzene	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Chloroethane	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Chloroform	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Chloromethane	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
cis-1,3-Dichloropropene	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Dibromochloromethane	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Ethylbenzene	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Methylene chloride	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Styrene	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Tetrachloroethene	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Toluene	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
trans-1,3-Dichloropropene	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Trichloroethene	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV
Vinyl chloride	0	1	4	4			ND	4	U		N/A		Yes	No SV
Xylene (Total)	0	1	12.5	12.5			ND	12.5	U		N/A		Yes	No SV

Notes:

Sources for Screening Values:
SV = Screening Value
1 = USEPA Region 4 Screening Value. Detailed explanation for SVs provided in Section 8.0.
2 = FDEP Threshold effects level

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available.
U or ND = Not Detected at or above the SQL
J = Estimated value
SHQ = Screening Hazard Quotient

D = Diluted Result
mg/kg = milligrams per kilograms
g/kg = micrograms per kilograms
mg/kg oc = milligrams per kilograms - organic carbon
UJ = Not detected. SQL is estimated.
Parameters in bold were detected and exceeded screening values.

Table 15-2-6
Wetland 56 Phase II
Sediment COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
Detected Parameters			
Aluminum	4,4'-DDD	None	None
Barium	4,4'-DDE		
Calcium	4,4'-DDT		
Cobalt	gamma-BHC (Lindane)		
Iron	Total BHC		
Magnesium	Total DDT		
Manganese			
Potassium			
Selenium			
Vanadium			
Not Detected Parameters			
Beryllium	Aldrin	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane
Cyanide (CN)	alpha-BHC	1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
Sodium	Endosulfan I	1,3-Dichlorobenzene	1,1,2-Trichloroethane
Thallium	Endosulfan II	1,4-Dichlorobenzene	1,1-Dichloroethane
	Endosulfan sulfate	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1-Dichloroethene
	Heptachlor	2,4,5-Trichlorophenol	1,2-Dichloroethane
	Heptachlor epoxide	2,4,6-Trichlorophenol	1,2-Dichloroethene (total)
	Methoxychlor	2,4-Dichlorophenol	1,2-Dichloropropane
	Toxaphene	2,4-Dimethylphenol	2-Butanone (MEK)
		2,4-Dinitrophenol	2-Hexanone
		2,4-Dinitrotoluene	4-Methyl-2-Pentanone (MIBK)
		2,6-Dinitrotoluene	Acetone
		2-Chloronaphthalene	Benzene
		2-Chlorophenol	Bromodichloromethane
		2-Methyl-4,6-Dinitrophenol	Bromoform
		2-Methylphenol (o-Cresol)	Bromomethane
		2-Nitroaniline	Carbon disulfide
		2-Nitrophenol	Carbon tetrachloride
		3,3'-Dichlorobenzidine	Chlorobenzene
		3-Nitroaniline	Chloroethane
		4-Bromophenyl-phenylether	Chloroform
		4-Chloro-3-methylphenol	Chloromethane
		4-Chloroaniline	cis-1,3-Dichloropropene
		4-Chlorophenylphenyl ether	Dibromochloromethane
		4-Methylphenol (p-Cresol)	Ethylbenzene
		4-Nitroaniline	Methylene chloride
		4-Nitrophenol	Styrene
		bis(2-Chloroethoxy)methane	Tetrachloroethene
		bis(2-Chloroethyl)ether	Toluene
		Butylbenzylphthalate	trans-1,3-Dichloropropene
		Carbazole	Trichloroethene
		Dibenzofuran	Vinyl chloride
		Diethylphthalate	Xylene (Total)
		Dimethylphthalate	
		Di-n-butylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	

Table 15-2-7
Wetland 56 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result HQ	SV	Average Result SV HQ	Maximum Result HQ	RV	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
Metals (mg/kg)																									
Aluminum	1	1				2,560	2,560	2,560	2,560		041M56A101			NA							0	13,610	0	No	EPC < RC
Barium	1	1				3.3	3.3	3.3	3.3	J	041M56A101			NA							0	14	0	No	EPC < RC
Beryllium	0	1	0.04	0.04	0.04	0.04			0.04	U	ND			NA							0	0.84	0	No	Parameter Not Detected
Calcium	1	1				682	682	682	682		041M56A101			NA							0	10,756.67	0	No	EPC < RC
Cobalt	1	1				0.3	0.3	0.3	0.3	J	041M56A101			NA							0	2.8	0	No	EPC < RC
Cyanide (CN)	0	1	0.375	0.375	0.375	0.375			0.375	U	ND			NA							0	5.22	0	No	Parameter Not Detected
Iron	1	1				1,210	1,210	1,210	1,210		041M56A101			NA							0	11,911.67	0	No	EPC < RC
Magnesium	1	1				82.1	82.1	82.1	82.1	J	041M56A101			NA							0	7,513.33	0	No	EPC < RC
Manganese	1	1				3.2	3.2	3.2	3.2		041M56A101			NA							0	37.97	0	No	EPC < RC
Potassium	1	1				52	52	52	52	J	041M56A101			NA							0	1,628.67	0	No	EPC < RC
Selenium	1	1				2.4	2.4	2.4	2.4	J	041M56A101			NA							0	3.45	0	No	EPC < RC
Sodium	0	1	6.95	6.95	6.95	6.95			6.95	U	ND			NA							0	18,993.33	0	No	Parameter Not Detected
Thallium	0	1	0.15	0.15	0.15	0.15			0.15	U	ND			NA							0	1.57	0	No	Parameter Not Detected
Vanadium	1	1				4	4	4	4		041M56A101			NA							0	28.67	0	No	EPC < RC
Pesticides (g/kg)																									
Aldrin	0	1	0.065	0.065	0.065	0.065			0.065	U	ND			NA							0		0	No	Parameter Not Detected
Endosulfan I	0	1	0.065	0.065	0.065	0.065			0.065	U	ND			NA							0		0	No	Parameter Not Detected
Endosulfan II	0	1	0.135	0.135	0.135	0.135			0.135	U	ND			NA							0		0	No	Parameter Not Detected
Endosulfan sulfate	0	1	0.135	0.135	0.135	0.135			0.135	U	ND			NA							0		0	No	Parameter Not Detected
Heptachlor	0	1	0.065	0.065	0.065	0.065			0.065	U	ND			NA							0		0	No	Parameter Not Detected
Heptachlor epoxide	0	1	0.065	0.065	0.065	0.065			0.065	U	ND			NA							0		0	No	Parameter Not Detected
Methoxychlor	0	1	0.65	0.65	0.65	0.65			0.65	U	ND			NA							0		0	No	Parameter Not Detected
Toxaphene	0	1	13.5	13.5	13.5	13.5			13.5	U	ND			NA							0		0	No	Parameter Not Detected
alpha-BHC	0	1	0.065	0.065	0.065	0.065			0.065	U	ND		0.99	PEL				0.07		0.07	0		0	No	Parameter Not Detected
beta-BHC	0	1	0.065	0.065	0.065	0.065			0.065	U	ND	0.32	0.99	PEL	0.20		0.20	0.07		0.07	0		0	No	Parameter Not Detected
delta-BHC	0	1	0.065	0.065	0.065	0.065			0.065	U	ND	0.32	0.99	PEL	0.20		0.20	0.07		0.07	0		0	No	Parameter Not Detected
gamma-BHC (Lindane)	1	1				0.4	0.4	0.4	0.4	J	041M56A101	0.32	0.99	PEL	1.25		1.25	0.40		0.40	0		0	No	RV HQ <1 and no RC
Total BHC	1	1				0.595	0.595	0.595	0.595		041M56A101	0.32	0.99	PEL	1.86		1.86	0.60		0.60	0		0	No	RV HQ <1 and no RC
4,4'-DDD	**1**	**1**				**53**	**53**	**53**	**53**	**D**	**041M56A101**	**1.22**	**7.81**	**PEL**	**43.4**		**43.4**	**6.79**		**6.79**	**1**	**50**	**1**	**No**	**Total DDT<RC**
4,4'-DDE	1	1				5.3	5.3	5.3	5.3	DJ	041M56A101	2.07	374	PEL	2.56		2.56	0.01		0.01	0	40	0	No	EPC < RC and RV
4,4'-DDT	1	1				2.8	2.8	2.8	2.8		041M56A101	1.19	4.77	PEL	2.35		2.35	0.59		0.59	0	20	0	No	EPC < RC and RV
Total DDT	**1**	**1**				**61.1**	**61.1**	**61.1**	**61.1**		**041M56A101**	**3.3**	**51.7**	**PEL**	**18.5**		**18.5**	**1.18**		**1.18**	**1**	**110**	**0**	**No**	**EPC > RV, but < RC**
SVOCs (g/kg)																									
1,2,4-Trichlorobenzene	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
1,2-Dichlorobenzene	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
1,4-Dichlorobenzene	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	1	650	650	650	650			650	U	ND			NA							0		0	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
2,4-Dichlorophenol	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
2,4-Dimethylphenol	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
2,4-Dinitrophenol	0	1	650	650	650	650			650	U	ND			NA							0		0	No	Parameter Not Detected
2,4-Dinitrotoluene	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
2,6-Dinitrotoluene	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
2-Chloronaphthalene	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
2-Chlorophenol	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	1	650	650	650	650			650	U	ND			NA							0		0	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
2-Nitroaniline	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
2-Nitrophenol	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
3-Nitroaniline	0	1	650	650	650	650			650	U	ND			NA							0		0	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
4-Chloroaniline	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
4-Nitroaniline	0	1	650	650	650	650			650	U	ND			NA							0		0	No	Parameter Not Detected
4-Nitrophenol	0	1	650	650	650	650			650	U	ND			NA							0		0	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	1	26	26	26	26			26	U	ND			NA							0		0	No	Parameter Not Detected
Butylbenzylphthalate	0	1	260	260	260	260			260	U	ND	182	2647	PEL	1.43		1.43	0.10		0.10	0		0	No	Parameter Not Detected
Carbazole	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
Dibenzofuran	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
Diethylphthalate	0	1	260	260	260	260			260	U	ND	182	2647	PEL	1.43		1.43	0.10		0.10	0		0	No	Parameter Not Detected
Dimethylphthalate	0	1	260	260	260	260			260	U	ND	182	2647	PEL	1.43		1.43	0.10		0.10	0		0	No	Parameter Not Detected
Di-n-butylphthalate	0	1	260	260	260	260			260	U	ND	182	2647	PEL	1.43		1.43	0.10		0.10	0		0	No	Parameter Not Detected
Di-n-octylphthalate	0	1	260	260	260	260			260	U	ND	182	2647	PEL	1.43		1.43	0.10		0.10	0		0	No	Parameter Not Detected
Hexachlorobenzene	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
Hexachlorobutadiene	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
Hexachloroethane	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
Isophorone	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
Nitrobenzene	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	1	26	26	26	26			26	U	ND			NA							0		0	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected
Pentachlorophenol	0	1	650	650	650	650			650	U	ND			NA							0		0	No	Parameter Not Detected
Phenol	0	1	260	260	260	260			260	U	ND			NA							0		0	No	Parameter Not Detected

Table 15-2-7
Wetland 56 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result HQ	SV	Average Result SV HQ	Maximum Result HQ	RV	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
VOCs (g/kg)																									
1,1,1-Trichloroethane	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
1,1,2,2-Tetrachloroethane	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
1,1,2-Trichloroethane	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
1,1-Dichloroethane	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
1,1-Dichloroethene	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
1,2-Dichloroethane	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
1,2-Dichloroethene (total)	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
1,2-Dichloropropane	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
2-Butanone (MEK)	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
2-Hexanone	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Acetone	0	1	43.5	43.5	43.5	43.5			43.5	U	ND			NA							0		0	No	Parameter Not Detected
Benzene	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Bromodichloromethane	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Bromoform	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Bromomethane	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Carbon disulfide	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Carbon tetrachloride	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Chlorobenzene	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Chloroethane	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Chloroform	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Chloromethane	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Dibromochloromethane	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Ethylbenzene	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Methylene chloride	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Styrene	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Tetrachloroethene	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Toluene	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Trichloroethene	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected
Vinyl chloride	0	1	4	4	4	4			4	U	ND			NA							0		0	No	Parameter Not Detected
Xylene (Total)	0	1	12.5	12.5	12.5	12.5			12.5	U	ND			NA							0		0	No	Parameter Not Detected

Notes:

Sources for Refinement Values (RVs):
PEL = FDEP Probable Effects Level
MEC = Swartz Midrange Effect Concentration

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
Parameters in bold were detected and exceeded screening values.

J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
PEL = Probable effects level.

N/R = No refinement value available.
N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the maximum detections
NAS Pensacola basewide levels used as reference values for 4,4'-DDT, 4,4'-DDD, 4,4'-DDE and total DDT.

Table 15-2-8
Wetland 56 Phase II
Sediment COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
None	None	None	None

Table 15-2-9
Wetland 56 Phase II
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M56A101	1/24/1996	mg/kg	0.33	J	Arsenic	8.2	70	0.00
041M56A101	1/24/1996	mg/kg	0.075	U	Cadmium	1.2	9.6	0.01
041M56A101	1/24/1996	mg/kg	3.1		Chromium	81	370	0.01
041M56A101	1/24/1996	mg/kg	3.1		Copper	34	270	0.01
041M56A101	1/24/1996	mg/kg	9.4		Lead	46.7	218	0.04
041M56A101	1/24/1996	mg/kg	0.035	U	Mercury	0.15	0.71	0.05
041M56A101	1/24/1996	mg/kg	1.4	J	Nickel	20.9	51.6	0.03
041M56A101	1/24/1996	mg/kg	0.19	U	Silver	1	3.7	0.05
041M56A101	1/24/1996	mg/kg	5.9		Zinc	150	410	0.01
041M56A101	1/24/1996	g/kg	5.3	DJ	4,4'-DDE	2.2	27	0.20
041M56A101	1/24/1996	g/kg	2.8		4,4'-DDT	1.58	46.1	0.06
041M56A101	1/24/1996	g/kg	10.8	U	Total PCBs	22.7	180	0.06
041M56A101	1/24/1996	g/kg	26	U	2-Methylnaphthalene	70	670	0.04
041M56A101	1/24/1996	g/kg	12.5	U	Acenaphthene	16	500	0.03
041M56A101	1/24/1996	g/kg	26	U	Acenaphthylene	44	640	0.04
041M56A101	1/24/1996	g/kg	26	U	Anthracene	85.3	1,100	0.02
041M56A101	1/24/1996	g/kg	26	U	Benzo(a)anthracene	261	1,600	0.02
041M56A101	1/24/1996	g/kg	26	U	Benzo(a)pyrene	430	1,600	0.02
041M56A101	1/24/1996	g/kg	26	U	Chrysene	384	2,800	0.01
041M56A101	1/24/1996	g/kg	26	U	Dibenz(a,h)anthracene	63.4	260	0.10
041M56A101	1/24/1996	g/kg	26	U	Fluoranthene	600	5,100	0.01
041M56A101	1/24/1996	g/kg	12.5	U	Fluorene	19	540	0.02
041M56A101	1/24/1996	g/kg	26	U	Naphthalene	160	2,100	0.01
041M56A101	1/24/1996	g/kg	26	U	Phenanthrene	240	1,500	0.02
041M56A101	1/24/1996	g/kg	36	J	Pyrene	665	2,600	0.01
041M56A101	1/24/1996				ERM Quotient Sum			0.88
041M56A101	1/24/1996				Mean ERM Quotient			0.04
041M56A101	1/24/1996				Mean ERM Quotient without ND			0.02
041M56A101	1/24/1996				Mean ERM Quotient Category			2

Notes:
ERL = Effects Range Low
ERM = Effects Range Median
mg/kg = milligrams per kilogram
g/kg = micrograms per kilogram
U = not detected at or above the SQL (value in table is 1/2 reported value)
J = estimated value
Shaded cells indicate constituent exceeds ERL.
Shaded and bold cells indicate constituent exceeds ERM.

Table 15-2-10
Wetland 56 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
Metals (g/L)																
Aluminum	**1**	**1**				**596**	**596**	**596**	**041W56A101**	**596**		**13**	**FDEP**	**45.8**	**Yes**	**Max Detect > SV**
Antimony	0	1	1	1	1	1			ND	1	UJ	160	EPA	0.01	No	Max SQL< SV
Arsenic	0	1	1	1	1	1			ND	1	U	50	FDEP	0.02	No	Max SQL< SV
Barium	1	1				4.4	4.4	4.4	041W56A101	4.4	J		NA		Yes	No SV
Beryllium	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.13	FDEP	3.85	Yes	Max SQL > SV
Cadmium	0	1	1	1	1	1			ND	1	UJ	0.66	EPA	1.52	Yes	Max SQL > SV
Calcium	1	1				12,700	12,700	12,700	041W56A101	12,700			NA		Yes	No SV
Chromium	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	11	EPA	0.23	No	Max SQL< SV
Cobalt	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Copper	0	1	2	2	2	2			ND	2	U	6.54	EPA	0.31	No	Max SQL< SV
Cyanide (CN)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	5.2	EPA	0.48	No	Max SQL< SV
Iron	1	1				682	682	682	041W56A101	682			NA		Yes	No SV
Lead	0	1	1	1	1	1			ND	1	U	1.32	EPA	0.76	No	Max SQL< SV
Magnesium	1	1				1,710	1,710	1,710	041W56A101	1,710	J		NA		Yes	No SV
Manganese	1	1				11.2	11.2	11.2	041W56A101	11.2	J		NA		Yes	No SV
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.012	EPA	5.42	Yes	Max SQL > SV
Nickel	0	1	4.5	4.5	4.5	4.5			ND	4.5	U	87.71	EPA	0.05	No	Max SQL< SV
Potassium	1	1				676	676	676	041W56A101	676	J		NA		Yes	No SV
Selenium	0	1	2	2	2	2			ND	2	U	5	EPA	0.4	No	Max SQL< SV
Silver	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.012	EPA	208	Yes	Max SQL > SV
Sodium	1	1				9,730	9,730	9,730	041W56A101	9,730			NA		Yes	No SV
Thallium	0	1	2	2	2	2			ND	2	U	4	EPA	0.5	No	Max SQL< SV
Vanadium	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Zinc	0	1	2	2	2	2			ND	2	U	58.91	EPA	0.03	No	Max SQL< SV
Pesticides (g/L)																
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA		Yes	No SV
Endosulfan I	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.056	EPA	0.45	No	Max SQL< SV
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA		Yes	No SV
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA		Yes	No SV
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.0038	EPA	6.58	Yes	Max SQL > SV
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.00004	FDEP	625	Yes	Max SQL > SV
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	UJ		NA		Yes	No SV
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA		Yes	No SV
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	11.6	Yes	Max SQL > SV
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA		Yes	No SV
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA		Yes	No SV
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0023	EPA	21.7	Yes	Max SQL > SV
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.08	EPA	0.31	No	Max SQL< SV
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA		Yes	No SV
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0003	FDEP	167	Yes	Max SQL > SV
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0002	FDEP	250	Yes	Max SQL > SV
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.00059	FDEP	84.7	Yes	Max SQL > SV
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
PCBs (g/L)																
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
Aroclor-1221	0	1	1	1	1	1			ND	1	UJ		NA		Yes	No SV
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ	0.014	EPA	35.7	Yes	Max SQL > SV
Total PCB	0	1	4	4	4	4			ND	4	U		NA		Yes	No SV

Table 15-2-10
Wetland 56 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
SVOCs (g/L)																
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	43.8	EPA	0.06	No	Max SQL< SV
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.3	EPA	8.33	Yes	Max SQL > SV
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Di-n-butylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	9.4	EPA	0.27	No	Max SQL< SV
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
PAHs (g/L)																
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	26	FDEP	0.02	No	Max SQL< SV
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Table 15-2-10
Wetland 56 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA		Yes	No SV
VOCs (g/L)																
1,1,1-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	270	FDEP	0.00	No	Max SQL< SV
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3.2	FDEP	0.16	No	Max SQL< SV
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	15.8	EPA	0.03	No	Max SQL< SV
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3	FDEP	0.17	No	Max SQL< SV
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Benzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	53	EPA	0.01	No	Max SQL< SV
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	17	FDEP	0.03	No	Max SQL< SV
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chloroform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	289	EPA	0.00	No	Max SQL< SV
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Ethylbenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	453	EPA	0.00	No	Max SQL< SV
Methylene chloride	0	1	1	1	1	1			ND	1	U	1580	FDEP	0.00	No	Max SQL< SV
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Toluene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	175	EPA	0.00	No	Max SQL< SV
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL

J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8)
HQ = Hazard Quotient.
N/R = No refinement value available.
N/A = Not Applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result some average detections may exceed the maximum maximum detections.
Parameters in bold were detected and exceeded the screening value

Table 15-2-11
Wetland 56 Phase II
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	None	None
Barium			
Calcium			
Iron			
Magnesium			
Manganese			
Potassium			
Sodium			
		Not Detected Parameters	
Beryllium	Aldrin	1,2,4-Trichlorobenzene	1,1,2,2-Tetrachloroethane
Cadmium	Dieldrin	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1,2-Trichloroethane
Cobalt	Endosulfan II	2,4,5-Trichlorophenol	1,1-Dichloroethane
Mercury	Endosulfan sulfate	2,4,6-Trichlorophenol	1,2-Dibromo-3-Chloropropane
Silver	Heptachlor	2,4-Dichlorophenol	1,2-Dibromoethane
Vanadium	Heptachlor epoxide	2,4-Dimethylphenol	1,2-Dichloroethane
	Methoxychlor	2,4-Dinitrophenol	1,2-Dichloropropane
	Toxaphene	2,4-Dinitrotoluene	1,3-Dichlorobenzene
	alpha-Chlordane	2,6-Dinitrotoluene	2-Hexanone
	gamma-Chlordane	2-Chloronaphthalene	4-Methyl-2-Pentanone (MIBK)
	Total Chlordane	2-Methyl-4,6-Dinitrophenol	Bromochloromethane
	Endrin	2-Methylphenol (o-Cresol)	Bromodichloromethane
	Endrin aldehyde	2-Nitroaniline	Bromoform
	Endrin ketone	2-Nitrophenol	Bromomethane
	Total Endrin	3,3'-Dichlorobenzidine	Carbon disulfide
	alpha-BHC	3-Nitroaniline	Carbon tetrachloride
	beta-BHC	4-Bromophenyl-phenylether	Chloroethane
	delta-BHC	4-Chloro-3-methylphenol	Chloromethane
	Total BHC	4-Chloroaniline	cis-1,2-Dichloroethene
	4,4'-DDD	4-Chlorophenylphenyl ether	cis-1,3-Dichloropropene
	4,4'-DDE	4-Methylphenol (p-Cresol)	Dibromochloromethane
	4,4'-DDT	4-Nitroaniline	Styrene
	Total DDT	4-Nitrophenol	Tetrachloroethene
	Aroclor-1016	Benzo(b)fluoranthene	trans-1,2-Dichloroethene
	Aroclor-1221	Benzo(g,h,i)perylene	trans-1,3-Dichloropropene
	Aroclor-1232	Benzo(k)fluoranthene	Trichloroethene
	Aroclor-1242	bis(2-Chloroethoxy)methane	Vinyl chloride
	Aroclor-1248	bis(2-Chloroethyl)ether	Xylene (Total)
	Aroclor-1254	bis(2-Ethylhexyl)phthalate (BEHP)	
	Aroclor-1260	Butylbenzylphthalate	
	Total PCBs	Dibenzofuran	
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Indeno(1,2,3-cd)pyrene	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	
		2-Methylnaphthalene	
		Acenaphthene	
		Acenaphthylene	
		Anthracene	
		Benzo(a)anthracene	
		Benzo(a)pyrene	
		Chrysene	
		Dibenz(a,h)anthracene	
		Fluoranthene	
		Fluorene	
		Phenanthrene	
		Pyrene	
		Total PAHs	

Table 15-2-12
Wetland 56 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
Metals (g/L)																			
Aluminum	**1**	**1**				**596**	**596**	**596**	**041W56A101**	**596**		**13**	**FDEP**	**46**	**45.8**	**1,090.25**	**0**	**No**	**Max Result < Ref. Conc.**
Barium	1	1				4.4	4.4	4.4	041W56A101	4.4	J		NA			3.68	1	Yes	Max Result > Ref. Conc.
Beryllium	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.13	FDEP	4	3.85	1	0	No	Max SQL < Ref. Conc.
Cadmium	0	1	1	1	1	1			ND	1	UJ	0.66	EPA	2	1.52	3	0	No	Max SQL < Ref. Conc.
Calcium	1	1				12,700	12,700	12,700	041W56A101	12,700			NA			7,675	1	No	Essential Nutrient
Cobalt	0	1	1	1	1	1			ND	1	U		NA			3	0	No	Max SQL < Ref. Conc.
Iron	1	1				682	682	682	041W56A101	682			NA			2,360	0	No	Max Result < Ref. Conc.
Magnesium	1	1				1,710	1,710	1,710	041W56A101	1,710	J		NA			20,260	0	No	Max Result < Ref. Conc.
Manganese	1	1				11.2	11.2	11.2	041W56A101	11.2	J		NA			13.2	0	No	Max Result < Ref. Conc.
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.012	EPA	5.42	5.42	0.13	0	No	Max SQL < Ref. Conc.
Potassium	1	1				676	676	676	041W56A101	676	J		NA			6,995	0	No	Max Result < Ref. Conc.
Silver	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.012	EPA	208.33	208	4	0	No	Max SQL < Ref. Conc.
Sodium	1	1				9,730	9,730	9,730	041W56A101	9,730			NA			182,200	0	No	Max Result < Ref. Conc.
Vanadium	0	1	1	1	1	1			ND	1	U		NA			4.7	0	No	Max SQL < Ref. Conc.
Pesticides (g/L)																			
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	No	Parameter Not Detected
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA				0	No	Parameter Not Detected
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA				0	No	Parameter Not Detected
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA				0	No	Parameter Not Detected
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.0038	EPA	7	6.58		0	No	Parameter Not Detected; Max SQL > SV
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.00004	FDEP	625	625		0	No	Parameter Not Detected; Max SQL > SV
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	UJ		NA				0	No	Parameter Not Detected
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA				0	No	Parameter Not Detected
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	No	Parameter Not Detected
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	No	Parameter Not Detected
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	12	11.6		0	No	Parameter Not Detected; Max SQL > SV
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA				0	No	Parameter Not Detected
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA				0	No	Parameter Not Detected
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0023	EPA	22	21.7		0	No	Parameter Not Detected; Max SQL > SV
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	No	Parameter Not Detected
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	No	Parameter Not Detected
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	No	Parameter Not Detected
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	No	Parameter Not Detected
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.08	EPA	0.31	0.31		0	No	Parameter Not Detected; Max SQL < SV
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA				0	No	Parameter Not Detected
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0003	FDEP	167	167		0	No	Parameter Not Detected; Max SQL > SV
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0002	FDEP	250	250		0	No	Parameter Not Detected; Max SQL > SV
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.00059	FDEP	85	84.7		0	No	Parameter Not Detected; Max SQL > SV
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	No	Parameter Not Detected
PCBs (g/L)																			
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	No	Parameter Not Detected
Aroclor-1221	0	1	1	1	1	1			ND	1	UJ		NA				0	No	Parameter Not Detected
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	No	Parameter Not Detected
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	No	Parameter Not Detected
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	No	Parameter Not Detected
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	No	Parameter Not Detected
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ	0.014	EPA	36	35.7		0	No	Parameter Not Detected; Max SQL > SV
Total PCB	0	1	4	4	4	4			ND	4	U		NA				0	No	Parameter Not Detected
SVOCs (g/L)																			
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlc	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected

Table 15-2-12
Wetland 56 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
SVOCs (g/L) - cont.																			
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.3	EPA	8.33	8.33		0	No	Parameter Not Detected; Max SQL > SV
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
PAHs (g/L)																			
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	26	FDEP	0.02	0.02		0	No	Parameter Not Detected; Max SQL < SV
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA				0	No	Parameter Not Detected
VOCs (g/L)																			
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected

Table 15-2-12
Wetland 56 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
VOCs (g/L) - cont.																			
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
PEL = Probable effects level.
N/R = No refinement value available.

N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the Max detections.
Parameters in bold were detected and exceeded Ref. Conc.s.

Table 15-2-13
Wetland 56 Phase II
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Barium	None	None	None

Table 15-2-14
Wetland 56 Phase II
Surface Water Dermal Absorbed Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration (g/L)	Min. Qual.	Maximum Concentration (g/L)	Max. Qual.	Units	Location of Max.Conc.	Detection Frequency	Range of Detection Limits	Mean	Maximum Concentration (mg/cm^3)	K_p	DA_{event}	DAD_{sw} (mg/kg-day): Child Trespasser	DAD_{sw} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	N/A	N/A	6.0E+02	=	UG/L	041W56A101	1 / 1	NAV	6.0E+02	6.0E-04	1.0E-03	1.55E-06	2.45E-05	3.28E-05
7440393	Barium	N	N/A	N/A	4.4E+00	J	UG/L	041W56A101	1 / 1	NAV	4.4E+00	4.4E-06	1.0E-03	1.14E-08	1.81E-07	2.42E-07
7439965	Manganese	N	N/A	N/A	1.1E+01	J	UG/L	041W56A101	1 / 1	NAV	1.1E+01	1.1E-05	1.0E-03	2.91E-08	4.61E-07	6.16E-07

Notes:

Equation for Dermal Absorbed Dose, surface water risk:

$$DAD_{sw} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sw} = Dermal absorbed dose-water contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event).
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).

EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr carcinogenic effects AT = 70 yr x 365 dy/yr.

Equation for DAevent for inorganics:

$$DA_{event} = K_p \times C_w \times t_{event}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: RAGS Part E, Exhibit B-3 or Exhibit B-4
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).

Equation for DAevent for organics:

$$DA_{event} = FA \times K_p \times C_w \left[\frac{t_{event}}{1 + B} + 2\tau_{event} \left(\frac{1 + 3B + 3B^2}{(1 + B)^2} \right) \right]$$

Where:

FA = Fraction absorbed water (dimensionless). From RAGS Part E, Exhibit B-4.
Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E, Exhibit B-4.
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).
t_{event} = Lag time per event (hr/event). From RAGS Part E, Exhibit B-4.
B = Dimensionless ratio of the permeability coefficient of a compound, calculated using the equation below:

$$B = \frac{K_p \sqrt{MW}}{2.6}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E.
MW = Molecular weight

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer - 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer - 25,550 days (child trespasser/adult maintenance worker).
t_{event} = 2.6 hrs/dy (child trespasser/adult maintenance worker).

Table 15-2-15
Wetland 56 Phase II
Surface Water Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABS_{GI}	ABS_{GI} Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
										Dermal Hazard Quotient	Dermal Cancer Risk	Dermal Hazard Quotient	Dermal Cancer Risk
SW Dermal Risk	Aluminum	N	6.0E-04	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	2.5E-04	N/A	3.3E-04	N/A
	Barium	N	4.4E-06	7.0E-02	N/A	7.0E-02	1, 2	4.9E-03	N/A	3.7E-05	N/A	4.9E-05	N/A
	Manganese	N	1.1E-05	1.4E-01	N/A	4.0E-02	1	5.6E-03	N/A	8.2E-05	N/A	1.1E-04	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose adjusted for ABS_{GI}.
Dermal SF = Dermal slope factoradjusted for ABS_{GI}.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfD_{dermal} = Dermal reference dose.
RFD_{oral} = Oral reference dose.
SFdermal = Dermal slope factor.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 15-2-16
Wetland 56 Phase II
Surface Water Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
SW Incidental Ingestion	Aluminum	N	6.0E-04	1.0E+00	N/A	1.9E-08	N/A	1.2E-08	N/A
	Barium	N	4.4E-06	7.0E-02	N/A	2.0E-09	N/A	1.3E-09	N/A
	Manganese	N	1.1E-05	1.4E-01	N/A	2.5E-09	N/A	1.6E-09	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI = Chronic daily intake

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, surface water risk:

$$CDI = \frac{EPC_{sw} \times IR_{sw} \times EF \times ED}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPC_{sw} = Exposure point concentration in surface water (mg/L).
IR_{sw} = Incidental ingestion rate for sediment (L/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
Irsw = 0.01 L/day exposure to surface water during wading for adolescents and adults.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Table 15-2-17
Wetland 56 Phase II
Fish Tissue Ingestion Exposure Recreational and Subsistence Fishermen

Exposure Route	COPC		Sediment Concentration (mg/kg)	BSAF	Estimated Tissue Concentration [a] (mg/kg)	Trophic Transfer Factor	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Recreational Ingestion Hazard Quotient	Recreational Ingestion Cancer Risk
Fish Tissue Ingestion	Aluminum	N	2,560	N/A	N/A	N/A	1.00E+00	N/A	N/A	N/A
	Barium	N	3.3	N/A	N/A	N/A	7.00E-02	N/A	N/A	N/A
	Cobalt	C	0.3	N/A	N/A	N/A	2.00E-02	N/A	N/A	N/A
	Iron	N	1,210	0.00046	5.57E-01	1.00E+00	3.00E-01	N/A	1.53E-04	N/A
	Manganese	N	3.2	N/A	N/A	N/A	2.40E-02	N/A	N/A	N/A
	Selenium	N	2.4	N/A	N/A	N/A	5.00E-03	N/A	N/A	N/A
	Vanadium	N	4	N/A	N/A	N/A	7.00E-03	N/A	N/A	N/A
	4,4'-DDD	C	0.053	1.93	1.02E-01	3.08E+00	N/A	2.40E-01	N/A	8.89E-07
	4,4'-DDE	C	0.0053	1.93	1.02E-02	3.64E+00	N/A	3.40E-01	N/A	1.49E-07
	4,4'-DDT	C	0.0028	1.93	5.40E-03	3.69E+00	5.00E-04	3.40E-01	4.69E-04	7.97E-08
	Endrin	N	0.00039	4.01	1.56E-03	1.60E+00	3.00E-04	N/A	6.87E-04	N/A
	gamma-BHC (Lindane)	C	0.004	3.55091	1.42E-02	1.08E+00	3.00E-04	1.30E+00	6.01E-04	2.34E-07
	bis(2-Ethylhexyl)phthalate (BEHP)	C	0.051	0.184	9.38E-03	2.27E+00	2.00E-02	1.40E-02	1.25E-05	3.51E-09
	Pyrene	N	0.036	N/A	N/A	N/A	N/A	3.00E-02	N/A	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
a = Tissue concentration determined as described in Section 8 of the text; see Table 9-5

$$CDI = \frac{EPC_t \times IR_t \times EF \times ED \times CF}{BW \times AT}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPC_t = Exposure point concentration in sediment (mg/kg).
IR_t = Incidental ingestion rate for sediment (mg/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
CF = conversion factor (0.001 kg/g)
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

Exposure Parameters:
IR_t = Fish tissue ingestion rate for sediment (recreational: 26 g/day; subsistence: 170 g/day).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Risk calculation equation, cancer:

$$Risk = CDI \times SF_{oral}$$

Risk calculation equation, non cancer:

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

15.3 Wetland 57 — Screening Level Problem Formulation

15.3.1 Site Description and Habitats Present at Wetland 57

Wetland 57 is north of the Oak Grove Campground (Site 39) and due south of Forrest Sherman Field. This area serves as a minor drainage pathway for the surrounding area (Figure 15-1).

Parsons and Pruitt (USEPA, 1991a) identified Wetland 57 as a palustrine, forested emergent system containing slash pine (*Pinus elliotti*) and sweet bay magnolia (*Magnolia virginiana*).

The IR site potentially affecting Wetland 57 is Site 4. In the 1950s, rubble from the former Fort Barrancas was disposed in the area of Site 4. The rubble included timber, pipes, mattresses, and other wastes. None of the wastes was documented as being incinerated before disposal. Elevated metals concentrations in site soil were similar to those identified at previously investigated sites in the eastern portion of NAS Pensacola (E/A&H, 1997e). The detected PAH contaminants were likely associated with routine activities, such as automobile traffic or the asphalt pavement (E/A&H, 1997e). The USEPA (USEPA Region 4, 1997b) and FDEP (FDEP, 1997c) approved remedial alternative for Site 4 was no action.

15.3.2 Wetland 57 — Sample Location Description

Phase II Sediment Sample Location Description

One sediment samples was collected and analyzed for the Wetland 57 ERA. The sample location is shown on Figure 15-4. Table 15-3-1 provides a physical description of the sediment collected at Wetland 57. Sediment at Wetland 57 was described as dark grayish brown poorly graded fine sand with a TOC concentration of 2.6%.

Phase II Surface Water Sample Location Description

One surface water sample was collected at Wetland 57, location 041W570101 (Figure 15-4), which was collocated with sediment location 041M570101. The surface water sample was taken during the 1995 site investigation. Table 15-3-2 provides a physical description of the surface water collected at Wetland 57. Surface water at Wetland 57 had a pH concentration of 6.44. Specific conductivity concentration was 0.455 mS/cm. Hardness as $CaCO_3$ reported a concentration of 55 mg/L, and salinity was 0.01%. Surface water at Wetland 57 had a turbidity reading of 280 NTUs.

15.3.3 Nature and Extent of Contamination

Phase II Sediment

Figure 15-4 presents the Phase II sediment sampling location for Wetland 57. Table 15-3-3 presents a summary of the analytical results of the one Phase II sediment sample.

Metals — Eighteen metals were detected during Phase II sediment sampling at Wetland 57. The inorganic detections at location 041M570101, located at the east end of the wetland, were all below the freshwater reference concentrations.

Pesticides and PCBs — Six pesticide compounds and the PCB aroclor-1260 were detected during Phase II sediment sampling at Wetland 57. Total DDT was calculated for each location by adding the concentrations of 4,4′-DDD, 4,4′-DDE, and 4,4′-DDT. Likewise, a basewide total DDT reference concentration was calculated using the basewide concentrations for these same constituents.

Concentrations of 4,4′-DDD, 4,4′-DDE, 4,4′-DDT, and the total DDT concentrations were below the basewide reference concentration. Similarly low concentrations of total DDT's metabolites (aldrin, beta-BHC, and gamma-BHC) were also detected. Reference concentrations for these pesticides and aroclor-1260 were not available.

SVOCs — Three SVOCs were detected during the Phase II sediment sampling, namely benzo(b)fluoranthene, fluoranthene, and pyrene. SVOC concentrations were relatively low with the maximum detection of 72 µg/kg. No reference concentrations exist for the detected SVOC compounds.

VOCs — One VOC was detected in the sediment collected from Wetland 57 during Phase II sampling. Acetone, a common laboratory artifact, was detected at low concentrations (49 mg/kg). No freshwater reference concentration exists for acetone.

Phase II Surface Water

Figure 15-4 presents the Phase II surface water sampling location for Wetland 57. Table 15-3-4 present a summary of the analytical results of the one Phase II surface water sample.

Metals — Twelve metals were detected in the Phase II surface water sample taken from Wetland 57. Sample 041W570101, collocated with the sediment sample, was collected from the east end of the wetland. Nine of the detected metals exceeded the freshwater reference concentration, namely aluminum, barium, calcium, copper, iron, lead, manganese, vanadium, and zinc with the highest exceedance being attributed to manganese.

Pesticides and PCBs — No pesticides or PCBs were detected during Phase II surface water sampling at Wetland 57.

SVOCs — No SVOCs were not detected during Phase II surface water sampling at Wetland 57.

VOCs — Methylene chloride, a common laboratory artifact, was the only VOC detected during Phase II surface water sampling at relatively low concentrations (150 µg/L). No freshwater reference concentration exists for methylene chloride.

15.3.4 Ecological Risk Assessment

Phase II Investigation Summary — Wetland 57

Sediment Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 15-3-5, the sediment sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than 1 or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-3-6.

Baseline Problem Formulation — Wetland 57 Sediment COPC Refinement

During the COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs. This risk assessment presents a statement of potential risk for each of the COPCs.

The COPC refinement process included:

- Comparison of maximum concentrations to RVs
- Comparison of average concentrations to SVs and RVs
- Comparison to basewide (reference) concentrations for total DDT
- Comparison of inorganic constituents to reference wetland values
- Interpretative tool for metals
- Di Toro EqP SQGs for VOCs
- Comparison to Swartz consensus values
- Mean ERM quotients
- Description of exceedances of RVs and their extent

The methods used in the COPC refinement in the Site 41 ERA process is detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 15-3-7. Additionally, the tables compare: 1) average concentrations to screening and refinement values to assess potential exposure across the entire wetland, and 2) Wetland 57 concentrations to reference concentrations. COPCs retained after refinement are presented in Table 15-3-8.

At Wetland 57, total DDT and its daughter products were below the basewide level, indicating that these constituents are not a concern for this wetland. None of the inorganic constituents exceeded their Site 41 freshwater sediment reference concentrations; therefore, the interpretative tool for metals

was not applicable. Aldrin, benzo(b)fluoranthene, and acetone were retained during the ERA process due to lack of screening criteria. When normalized to detected TOC concentrations, both VOCs and PAHs did not appear to be risk drivers for Wetland 57.

Table 15-3-9 presents the Mean ERL and ERM values, the Mean ERM Quotients, and the Mean ERM Quotient Category by individual sample location. Based on this approach, sample location 041M570101 was determined to be Category 2, which, according to tests evaluated in developing this methodology, had average survival rates of approximately 80% of control sediments; however, this category also has the highest level of uncertainty. Figure 15-7 also shows the Mean ERM category for the sediment sample location at Wetland 57.

At Wetland 57, aldrin, benzo(b)fluoranthene, and acetone was detected at the sediment sample location 041M570101 with detections of 0.2 µg/kg, 41 µg/kg, and 49 µg/kg, respectively. No background values or screening values were available for these compounds.

Surface Water Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 15-3-10, the surface water sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than 1 or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-3-11.

Baseline Problem Formulation — Wetland 57 Surface Water COPC Refinement

During the surface water COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs.

The COPC refinement process included:

- Comparison of maximum SV concentrations to average SV concentrations
- Comparison of inorganic constituents to reference wetland values
- Description of surface water exceedances and their extent

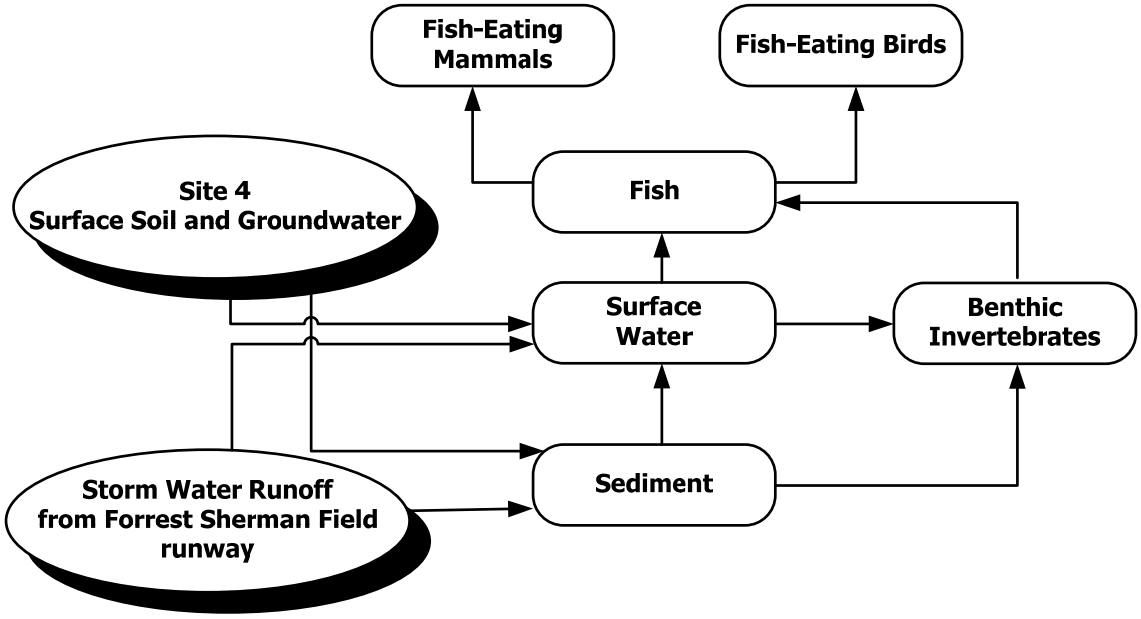
The methods used in the COPC refinement in the Site 41 ERA Process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values are presented in Table 15-3-12. Additionally, the tables compare average concentrations to screening and refinement values to assess potential exposure across the entire wetland. COPCs retained after refinement are presented in Table 15-3-13.

For Wetland 57, aluminum, barium, copper, iron, lead, manganese, and vanadium exceeded their Site 41 freshwater reference surface water concentrations (Table 15-3-12) and were carried forward. Calcium also its reference concentration; however, calcium is an essential nutrient and was not retained.
At Wetland 57 during the Phase II investigation, none of the same constituents was detected in sediment and surface water samples.

Based on the Phase II results described above, Wetland 57 was identified as a Blue-Coded Wetland in the approved *Final RI/FS SAP Addendum* (E/A&H, 1997d), indicating that contaminants were present generally below screening values, and contaminants did not appear to be site related. Blue-Coded Wetlands were not assessed further in Phase III. However, to assess potential risks from contaminants that bioaccumulate, the results from Wetland 57 will be used in the remaining wetlands food-chain model presented in Section 15.8.

The conceptual model below symbolizes which environmental habitats, may be impacted by Wetland 57 Phase II constituents are retained during the ERA process.

Wetland 57
Conceptual Site Model



15.3.5 Wetland 57 — Human Health Risk Assessment

Wetland 57 is described in Section 15.3.1, and the HHRA is summarized below.

15.3.5.1 Site Data

Section 15.3.3 summarizes the nature and extent of contamination for this wetland. Surface water and sediment data were collected at Wetland 57 during Phase II of the RI. Surface water and sediment data for 57 are summarized in Tables 15-3-3 and 15-3-4.

15.3.5.2 Conceptual Site Model

As described in Section 15.3.1, Wetland 57 is north of the Oak Grove Campground (Site 39) and due south of Forrest Sherman Field. Because Wetland 57 is located in an unrestricted area of the base, the wetland is accessible to Navy personnel and trespassers. Wetland 57 intermittently floods; therefore, contact with sediment and surface water is possible.

The following scenarios and exposure pathways were evaluated for this wetland:

Scenario	Medium	Ingestion	Dermal
Trespassers	Surface water	√	√
	Sediment	√	√
Maintenance	Surface water	√	√
	Sediment	√	√

15.3.5.3 Risk Characterization

The child trespasser and the adult maintenance worker scenario for surface water and sediment were assessed for this wetland as described in Section 9.

Phase II Data

Trespasser

As shown in Tables 15-3-14 through 15-3-16, sediment ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

As shown in Tables 15-3-17 through 15-3-19, surface water ingestion and dermal contact risk estimates for trespassers were below the FDEP risk threshold. Hazard indices were below 1.0.

Maintenance Worker

As shown in Tables 15-3-14 through 15-3-16, sediment ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

As shown in Tables 15-3-17 through 15-3-19, surface water ingestion and dermal contact risk estimates for trespassers were below the FDEP risk threshold. Hazard indices were below 1.0.

Summary of Wetland 57 Phase II Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Sediment	4.79E-03	3.99E-08
	Surface water	1.15E-02	9.48E-07
Trespassers	Sediment	7.38E-03	2.72E-08
	Surface water	7.63E-03	2.84E-07

Based on Phase II data, no COCs for Wetland 57 were identified.

Wetland 57 HHRA COC Summary

No COCs were identified in the HHRA for Wetland 57.

15.3.6 Wetland 57 — Fate and Transport Analysis

Forrest Sherman Field area lies on the western portion of NAS Pensacola, and hosts a number of wetlands surrounding the operational runways running southwest-northeast and north-south. These included Wetlands 19A, 19B, 48, 49, 52, 56, 57, 58, 72, W1, and W2. For the general location of these wetlands, and the location of the surface water sediment, and nearby soil and groundwater samples, see Figure 15-4.

The potential sources for these wetlands include:

- Storm water drainage and runoff from Forrest Sherman Field
- Storm water runoff, surface soil transport, and groundwater discharge from UST Site 18, OU 12, Site 5, and Sites 16a and b
- Tidal flux from Bayou Grande and Pensacola Bay also plays a role for those wetlands close to the shorelines

A number of these wetlands are somewhat isolated from known IR sites by either being located upgradient or side gradient and/or being a significant distance away. Additionally, some of these wetlands had only one surface water and/or sediment sample collected. For these wetlands, no evaluation of the inter- or intra-wetland soil-to-sediment, groundwater-to-surface water, groundwater-to-sediment, or sediment/surface water transport pathways were completed due to a lack of data. These wetlands included 48, 57, and 58.

Table 15-3-1
Wetland 57 Phase II
Sediment Physical Parameters

Parameter	041M57101
TOC (%)	2.6
Percent Solids (%)	50.8
Grain Size Analysis (percent of composition1)	
Medium Sand	15
Fine Sand	74
Silt and Clay	11
Description	Dark Grayish Brown Poorly Graded Sand, Fine

Note:
[1] = Derived from sieve analyses.

Table 15-3-2
Wetland 57 Phase II
Surface Water Physical Parameters

Parameter	041W57101
Hardness as CaCO3 (mg/L)	55
pH	6.44
Specific Conductivity (mS/cm)	0.455
Turbidity (NTU)	280
Salinity (%)	0.01

Notes:
mg/L = Milligrams per liter
pH = Hydrogen ion content
MS/cm = Millisiemens per centimeter

NTU = Nephelometric turbidity units
% = Percent

Table 15-3-3
Wetland 57 Phase II
Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Average Detection	Maximum Detection Location
Metals (mg/kg)								
Aluminum	13,610.0	0	1	1	5,520.0	5,520.0	5,520.0	041M570101
Arsenic	6.620	0	1	1	1.60	1.60	1.60	041M570101
Barium	14.0	0	1	1	11.30	11.30	11.30	041M570101
Calcium	10,756.670	0	1	1	2,720.0	2,720.0	2,720.0	041M570101
Chromium	39.370	0	1	1	4.80	4.80	4.80	041M570101
Cobalt	2.80	0	1	1	0.450	0.450	0.450	041M570101
Copper	19.50	0	1	1	4.90	4.90	4.90	041M570101
Iron	11,911.670	0	1	1	3,790.0	3,790.0	3,790.0	041M570101
Lead	82.470	0	1	1	17.70	17.70	17.70	041M570101
Magnesium	7,513.330	0	1	1	214.0	214.0	214.0	041M570101
Manganese	37.970	0	1	1	15.80	15.80	15.80	041M570101
Mercury	0.550	0	1	1	0.140	0.140	0.140	041M570101
Nickel	9.280	0	1	1	2.0	2.0	2.0	041M570101
Potassium	1,628.670	0	1	1	117.0	117.0	117.0	041M570101
Selenium	3.450	0	1	1	1.60	1.60	1.60	041M570101
Sodium	18,993.330	0	1	1	48.80	48.80	48.80	041M570101
Vanadium	28.670	0	1	1	9.20	9.20	9.20	041M570101
Zinc	36.730	0	1	1	14.70	14.70	14.70	041M570101
PAHs (g/kg)								
Fluoranthene	N/A	0	1	1	68.0	68.0	68.0	041M570101
Pyrene	N/A	0	1	1	72.0	72.0	72.0	041M570101
Total PAHs	N/A	0	1	1	493.50	493.50	494.0	041M570101
Pesticides and PCBs (g/kg)								
Aroclor-1260	N/A	0	1	1	3.70	3.70	3.70	041M570101
Total PCBs	N/A	0	1	1	16.50	16.50	16.50	041M570101
Aldrin	N/A	0	1	1	0.20	0.20	0.20	041M570101
beta-BHC	N/A	0	1	1	0.190	0.190	0.190	041M570101
gamma-BHC (Lindane)	N/A	0	1	1	0.40	0.40	0.40	041M570101
Total BHC	N/A	0	1	1	0.770	0.770	0.770	041M570101
4,4'-DDD	50.0	0	1	1	3.30	3.30	3.30	041M570101
4,4'-DDE	40.0	0	1	1	7.20	7.20	7.20	041M570101
4,4'-DDT	20.0	0	1	1	1.20	1.20	1.20	041M570101
Total DDT	110.0	0	1	1	11.70	11.70	11.70	041M570101
SVOCs (g/kg)								
Benzo(b)fluoranthene	N/A	0	1	1	41.0	41.0	41.0	041M570101
VOCs (g/kg)								
Acetone	N/A	0	1	1	49.0	49.0	49.0	041M570101

Notes:
g/kg = micrograms per kilogram
mg/kg = milligram per kilogram
N/A = Not Applicable

Table 15-3-4
Wetland 57 Phase II
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections		Range of Detections		Average Detection	Maximum Detection Location
			Number Detected	Number Analyzed	Minimum Detection	Maximum Detection		
Metals (g/L)								
Aluminum	1,090.25	1	1	1	7,390.0	7,390.0	7,390.0	041W570101
Barium	3.68	1	1	1	25.3	25.3	25.3	041W570101
Calcium	7,675.0	1	1	1	19,400.0	19,400.0	19,400.0	041W570101
Copper	4.0	1	1	1	7.2	7.2	7.2	041W570101
Iron	2,360.0	1	1	1	7,360.0	7,360.0	7,360.0	041W570101
Lead	3.2	1	1	1	16.9	16.9	16.9	041W570101
Magnesium	20,260.0	0	1	1	1,570.0	1,570.0	1,570.0	041W570101
Manganese	13.2	1	1	1	134.0	134.0	134.0	041W570101
Potassium	6,995.0	0	1	1	1,040.0	1,040.0	1,040.0	041W570101
Sodium	182,200.0	0	1	1	6,470.0	6,470.0	6,470.0	041W570101
Vanadium	4.7	1	1	1	12.2	12.2	12.2	041W570101
Zinc	5.53	1	1	1	17.5	17.5	17.5	041W570101
VOCs (g/L)								
Methylene chloride	N/A	0	1	1	150.0	150.0	150.0	041W570101

Notes:
g/L = micrograms per liter
N/A = Not Applicable

Table 15-3-5
Wetland 57 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Metals (mg/kg)														
Aluminum	1	1			5,520	5,520	041M570101	5,520			N/A		Yes	No SV
Arsenic	1	1			1.6	1.6	041M570101	1.6		7.24	1, 2	0.22	No	Max Detect < SV
Barium	1	1			11.3	11.3	041M570101	11.3	J		N/A		Yes	No SV
Beryllium	0	1	0.05	0.05			ND	0.05	U		N/A		Yes	No SV
Cadmium	0	1	0.155	0.155			ND	0.155	U	0.676	1	0.23	No	Max SQL< SV
Calcium	1	1			2,720	2,720	041M570101	2,720			N/A		Yes	No SV
Chromium	1	1			4.8	4.8	041M570101	4.8	J	52.3	1, 2	0.09	No	Max Detect < SV
Cobalt	1	1			0.45	0.45	041M570101	0.45	J		N/A		Yes	No SV
Copper	1	1			4.9	4.9	041M570101	4.9		18.7	1, 2	0.26	No	Max Detect < SV
Cyanide (CN)	0	1	0.475	0.475			ND	0.475	U		N/A		Yes	No SV
Iron	1	1			3,790	3,790	041M570101	3,790			N/A		Yes	No SV
Lead	1	1			17.7	17.7	041M570101	17.7		30.2	1, 2	0.59	No	Max Detect < SV
Magnesium	1	1			214	214	041M570101	214	J		N/A		Yes	No SV
Manganese	1	1			15.8	15.8	041M570101	15.8			N/A		Yes	No SV
Mercury	**1**	**1**			**0.14**	**0.14**	**041M570101**	**0.14**	**J**	**0.13**	**1, 2**	**1.08**	**Yes**	**Max Detect > SV**
Nickel	1	1			2	2	041M570101	2	J	15.9	1, 2	0.13	No	Max Detect < SV
Potassium	1	1			117	117	041M570101	117	J		N/A		Yes	No SV
Selenium	1	1			1.6	1.6	041M570101	1.6			N/A		Yes	No SV
Silver	0	1	0.205	0.205			ND	0.205	U	0.733	1	0.28	No	Max SQL< SV
Sodium	1	1			48.8	48.8	041M570101	48.8	J		N/A		Yes	No SV
Thallium	0	1	0.155	0.155			ND	0.155	UJ		N/A		Yes	No SV
Vanadium	1	1			9.2	9.2	041M570101	9.2			N/A		Yes	No SV
Zinc	1	1			14.7	14.7	041M570101	14.7		124	1, 2	0.12	No	Max Detect < SV
PAHs (g/kg)														
2-Methylnaphthalene	0	1	35.5	35.5			ND	35.5	U	20.2	1	1.76	No	TOC Normalized PAHs<TEC
Acenaphthene	0	1	17	17			ND	17	U	6.71	1	2.53	No	TOC Normalized PAHs<TEC
Acenaphthylene	0	1	35.5	35.5			ND	35.5	U	5.87	1	6.05	No	TOC Normalized PAHs<TEC
Anthracene	0	1	35.5	35.5			ND	35.5	U	46.9	1	0.76	No	TOC Normalized PAHs<TEC
Benzo(a)anthracene	0	1	35.5	35.5			ND	35.5	U	74.8	1	0.48	No	TOC Normalized PAHs<TEC
Benzo(a)pyrene	0	1	35.5	35.5			ND	35.5	U	88.8	1	0.4	No	TOC Normalized PAHs<TEC
Chrysene	0	1	35.5	35.5			ND	35.5	U	108	1	0.33	No	TOC Normalized PAHs<TEC
Dibenz(a,h)anthracene	0	1	35.5	35.5			ND	35.5	U	6.22	1	5.71	No	TOC Normalized PAHs<TEC
Fluoranthene	1	1			68	68	041M570101	68	J	113	1	0.60	No	TOC Normalized PAHs<TEC
Fluorene	0	1	17	17			ND	17	U	21.2	1	0.80	No	TOC Normalized PAHs<TEC
Naphthalene	0	1	35.5	35.5			ND	35.5	U	34.6	1	1.03	No	TOC Normalized PAHs<TEC
Phenanthrene	0	1	35.5	35.5			ND	35.5	U	86.7	1	0.41	No	TOC Normalized PAHs<TEC
Pyrene	1	1			72	72	041M570101	72		153	1	0.47	No	TOC Normalized PAHs<TEC
Total PAHs	1	1			494	494	041M570101	494		1,684	1, 2	0.29	No	TOC Normalized PAHs<TEC
TOC Normalized PAHs	1	1			18.98	18.98	041M570101	18.98		290	3	0.07	No	Max Detect < SV
PCBs (g/kg)														
Aroclor-1016	0	1	1.85	1.85			ND	1.85	U	21.6	N/A	0.09	No	Max SQL< SV
Aroclor-1221	0	1	3.55	3.55			ND	3.55	U	67	2	0.05	No	Max SQL< SV
Aroclor-1232	0	1	1.85	1.85			ND	1.85	U	21.6	N/A	0.09	No	Max SQL< SV
Aroclor-1242	0	1	1.85	1.85			ND	1.85	U	21.6	N/A	0.09	No	Max SQL< SV
Aroclor-1248	0	1	1.85	1.85			ND	1.85	U	21.6	N/A	0.09	No	Max SQL< SV
Aroclor-1254	0	1	1.85	1.85			ND	1.85	U	21.6	N/A	0.09	No	Max SQL< SV
Aroclor-1260	1	1			3.7	3.7	041M570101	3.7		21.6	N/A	0.17	No	Max Detect < SV
Total PCBs	1	1			16.5	16.5	041M570101	16.5		21.6	1	0.76	No	Max Detect < SV
Pesticides (g/kg)														
Aldrin	1	1			0.2	0.2	041M570101	0.2	J		N/A		Yes	No SV
Dieldrin	0	1	0.185	0.185			ND	0.185	U	0.716	1	0.26	No	Max SQL< SV
Endosulfan I	0	1	0.185	0.185			ND	0.185	U		N/A		Yes	No SV
Endosulfan II	0	1	0.185	0.185			ND	0.185	U		N/A		Yes	No SV
Endosulfan sulfate	0	1	0.185	0.185			ND	0.185	U		N/A		Yes	No SV
Heptachlor	0	1	0.09	0.09			ND	0.09	U		N/A		Yes	No SV
Heptachlor epoxide	0	1	0.09	0.09			ND	0.09	U		N/A		Yes	No SV
Methoxychlor	0	1	0.9	0.9			ND	0.9	UJ		N/A		Yes	No SV
Toxaphene	0	1	9	9			ND	9	U		N/A		Yes	No SV
alpha-Chlordane	0	1	0.09	0.09			ND	0.09	U	1.7	1	0.05	No	Max SQL< SV
gamma-Chlordane	0	1	0.09	0.09			ND	0.09	U	1.7	1	0.05	No	Max SQL< SV
Total Chlordane	0	1	0.18	0.18			ND	0.18	U	1.7	1	0.11	No	Max SQL< SV
Endrin	0	1	0.185	0.185			ND	0.185	U	3.3	2	0.06	No	Max SQL< SV
Endrin aldehyde	0	1	0.185	0.185			ND	0.185	U	3.3	2	0.06	No	Max SQL< SV
Endrin ketone	0	1	0.185	0.185			ND	0.185	U	3.3	2	0.06	No	Max SQL< SV
Total Endrin	0	1	0.555	0.555			ND	0.555	U	3.3	2	0.17	No	Max SQL< SV
alpha-BHC	0	1	0.09	0.09			ND	0.09	U		N/A		Yes	No SV
beta-BHC	1	1			0.19	0.19	041M570101	0.19	J	0.32	N/A	0.59	No	Max Detect < SV
delta-BHC	0	1	0.09	0.09			ND	0.09	U	0.32	N/A	0.28	No	Max SQL< SV
gamma-BHC (Lindane)	**1**	**1**			**0.4**	**0.4**	**041M570101**	**0.4**	**J**	**0.32**	**1**	**1.25**	**Yes**	**Max Detect > SV**
Total BHC	**1**	**1**			**0.77**	**0.77**	**041M570101**	**0.77**		**0.32**	**2**	**2.41**	**Yes**	**Max Detect > SV**
4,4'-DDD	**1**	**1**			**3.3**	**3.3**	**041M570101**	**3.3**	**J**	**1.22**	**1**	**2.7**	**Yes**	**Max Detect > SV**
4,4'-DDE	**1**	**1**			**7.2**	**7.2**	**041M570101**	**7.2**	**J**	**2.07**	**1**	**3.48**	**Yes**	**Max Detect > SV**
4,4'-DDT	**1**	**1**			**1.2**	**1.2**	**041M570101**	**1.2**	**J**	**1.19**	**1**	**1.01**	**Yes**	**Max Detect > SV**
Total DDT	**1**	**1**			**11.7**	**11.7**	**041M570101**	**11.7**		**3.3**	**2**	**3.55**	**Yes**	**Max Detect > SV**
SVOCs (g/kg)														
1,2,4-Trichlorobenzene	0	1	355	355			ND	355	U		N/A		Yes	No SV
1,2-Dichlorobenzene	0	1	355	355			ND	355	U		N/A		Yes	No SV
1,3-Dichlorobenzene	0	1	355	355			ND	355	U		N/A		Yes	No SV
1,4-Dichlorobenzene	0	1	355	355			ND	355	U		N/A		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	355	355			ND	355	U		N/A		Yes	No SV
2,4,5-Trichlorophenol	0	1	850	850			ND	850	U		N/A		Yes	No SV
2,4,6-Trichlorophenol	0	1	355	355			ND	355	U		N/A		Yes	No SV
2,4-Dichlorophenol	0	1	355	355			ND	355	U		N/A		Yes	No SV
2,4-Dimethylphenol	0	1	355	355			ND	355	U		N/A		Yes	No SV
2,4-Dinitrophenol	0	1	850	850			ND	850	U		N/A		Yes	No SV
2,4-Dinitrotoluene	0	1	355	355			ND	355	U		N/A		Yes	No SV
2,6-Dinitrotoluene	0	1	355	355			ND	355	U		N/A		Yes	No SV
2-Chloronaphthalene	0	1	355	355			ND	355	U		N/A		Yes	No SV
2-Chlorophenol	0	1	355	355			ND	355	U		N/A		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	1	850	850			ND	850	U		N/A		Yes	No SV
2-Methylphenol (o-Cresol)	0	1	355	355			ND	355	U		N/A		Yes	No SV
2-Nitroaniline	0	1	355	355			ND	355	U		N/A		Yes	No SV
2-Nitrophenol	0	1	355	355			ND	355	U		N/A		Yes	No SV
3,3'-Dichlorobenzidine	0	1	355	355			ND	355	U		N/A		Yes	No SV
3-Nitroaniline	0	1	850	850			ND	850	U		N/A		Yes	No SV
4-Bromophenyl-phenylether	0	1	355	355			ND	355	U		N/A		Yes	No SV
4-Chloro-3-methylphenol	0	1	355	355			ND	355	U		N/A		Yes	No SV
4-Chloroaniline	0	1	355	355			ND	355	U		N/A		Yes	No SV
4-Chlorophenylphenyl ether	0	1	355	355			ND	355	U		N/A		Yes	No SV
4-Methylphenol (p-Cresol)	0	1	355	355			ND	355	U		N/A		Yes	No SV
4-Nitroaniline	0	1	850	850			ND	850	U		N/A		Yes	No SV
4-Nitrophenol	0	1	850	850			ND	850	U		N/A		Yes	No SV
Benzo(b)fluoranthene	1	1			41	41	041M570101	41	J		N/A		No	TOC Normalized PAHs<TEC
Benzo(g,h,i)perylene	0	1	35.5	35.5			ND	35.5	U		N/A		No	TOC Normalized PAHs<TEC
Benzo(k)fluoranthene	0	1	35.5	35.5			ND	35.5	U		N/A		No	TOC Normalized PAHs<TEC
bis(2-Chloroethoxy)methane	0	1	355	355			ND	355	U		N/A		Yes	No SV
bis(2-Chloroethyl)ether	0	1	35.5	35.5			ND	35.5	U		N/A		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	355	355			ND	355	U	182	1, 2	1.95	Yes	Max SQL > SV
Butylbenzylphthalate	0	1	355	355			ND	355	U	182	1, 2	1.95	Yes	Max SQL > SV
Carbazole	0	1	355	355			ND	355	U		N/A		Yes	No SV
Dibenzofuran	0	1	355	355			ND	355	U		N/A		Yes	No SV
Diethylphthalate	0	1	355	355			ND	355	U	182	1, 2	1.95	Yes	Max SQL > SV
Dimethylphthalate	0	1	355	355			ND	355	U	182	1, 2	1.95	Yes	Max SQL > SV
Di-n-butylphthalate	0	1	355	355			ND	355	U	182	1, 2	1.95	Yes	Max SQL > SV
Di-n-octylphthalate	0	1	355	355			ND	355	U	182	1, 2	1.95	Yes	Max SQL > SV
Hexachlorobenzene	0	1	355	355			ND	355	U		N/A		Yes	No SV
Hexachlorobutadiene	0	1	355	355			ND	355	U		N/A		Yes	No SV
Hexachlorocyclopentadiene	0	1	355	355			ND	355	U		N/A		Yes	No SV
Hexachloroethane	0	1	355	355			ND	355	U		N/A		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	1	35.5	35.5			ND	35.5	U		N/A		No	TOC Normalized PAHs<TEC
Isophorone	0	1	355	355			ND	355	U		N/A		Yes	No SV
Nitrobenzene	0	1	355	355			ND	355	U		N/A		Yes	No SV
N-Nitroso-di-n-propylamine	0	1	35.5	35.5			ND	35.5	U		N/A		Yes	No SV
N-Nitrosodiphenylamine	0	1	355	355			ND	355	U		N/A		Yes	No SV
Pentachlorophenol	0	1	850	850			ND	850	U		N/A		Yes	No SV
Phenol	0	1	355	355			ND	355	U		N/A		Yes	No SV

Table 15-3-5
Wetland 57 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
VOCs (g/kg)														
1,1,1-Trichloroethane	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
1,1,2,2-Tetrachloroethane	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
1,1,2-Trichloroethane	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
1,1-Dichloroethane	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
1,1-Dichloroethene	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
1,2-Dichloroethane	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
1,2-Dichloroethene (total)	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
1,2-Dichloropropane	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
2-Butanone (MEK)	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
2-Hexanone	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Acetone	1	1			49	49	041M570101	49			N/A		Yes	No SV
Benzene	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Bromodichloromethane	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Bromoform	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Bromomethane	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Carbon disulfide	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Carbon tetrachloride	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Chlorobenzene	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Chloroethane	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Chloroform	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Chloromethane	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
cis-1,3-Dichloropropene	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Dibromochloromethane	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Ethylbenzene	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Methylene chloride	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Styrene	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Tetrachloroethene	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Toluene	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
trans-1,3-Dichloropropene	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Trichloroethene	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Vinyl chloride	0	1	3	3			ND	3	U		N/A		Yes	No SV
Xylene (Total)	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV

Notes:

Sources for Screening Values:
SV = Screening Value
1 = USEPA Region 4 Screening Value. Detailed explanation for SVs provided in Section 8.0.
2 = FDEP Threshold effects level

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available.
U or ND = Not Detected at or above the SQL
J = Estimated value
SHQ = Screening Hazard Quotient

D = Diluted Result
mg/kg = milligrams per kilograms
g/kg = micrograms per kilograms
mg/kg oc = milligrams per kilograms - organic carbon
UJ = Not detected. SQL is estimated.
Parameters in bold were detected and exceeded screening values.

Table 15-3-6
Wetland 57 Phase II
Sediment COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	4,4'-DDD	None	Acetone
Barium	4,4'-DDE		
Calcium	4,4'-DDT		
Cobalt	Aldrin		
Iron	gamma-BHC (Lindane)		
Magnesium	Total BHC		
Manganese	Total DDT		
Mercury			
Potassium			
Selenium			
Sodium			
Vanadium			
		Not Detected Parameters	
Beryllium	alpha-BHC	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane
Cyanide (CN)	Endosulfan I	1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
Thallium	Endosulfan II	1,3-Dichlorobenzene	1,1,2-Trichloroethane
	Endosulfan sulfate	1,4-Dichlorobenzene	1,1-Dichloroethane
	Heptachlor	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1-Dichloroethene
	Heptachlor epoxide	2,4,5-Trichlorophenol	1,2-Dichloroethane
	Methoxychlor	2,4,6-Trichlorophenol	1,2-Dichloroethene (total)
	Toxaphene	2,4-Dichlorophenol	1,2-Dichloropropane
		2,4-Dimethylphenol	2-Butanone (MEK)
		2,4-Dinitrophenol	2-Hexanone
		2,4-Dinitrotoluene	4-Methyl-2-Pentanone (MIBK)
		2,6-Dinitrotoluene	Benzene
		2-Chloronaphthalene	Bromodichloromethane
		2-Chlorophenol	Bromoform
		2-Methyl-4,6-Dinitrophenol	Bromomethane
		2-Methylphenol (o-Cresol)	Carbon disulfide
		2-Nitroaniline	Carbon tetrachloride
		2-Nitrophenol	Chlorobenzene
		3,3'-Dichlorobenzidine	Chloroethane
		3-Nitroaniline	Chloroform
		4-Bromophenyl-phenylether	Chloromethane
		4-Chloro-3-methylphenol	cis-1,3-Dichloropropene
		4-Chloroaniline	Dibromochloromethane
		4-Chlorophenylphenyl ether	Ethylbenzene
		4-Methylphenol (p-Cresol)	Methylene chloride
		4-Nitroaniline	Styrene
		4-Nitrophenol	Tetrachloroethene
		bis(2-Chloroethoxy)methane	Toluene
		bis(2-Chloroethyl)ether	trans-1,3-Dichloropropene
		bis(2-Ethylhexyl)phthalate (BEHP)	Trichloroethene
		Butylbenzylphthalate	Vinyl chloride
		Carbazole	Xylene (Total)
		Dibenzofuran	
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-butylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	

Table 15-3-7
Wetland 57 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
Metals (mg/kg)																							
Aluminum	1	1				5,520	5,520	5,520	5,520		041M570101			NA					0	13,610	0	No	EPC < RC
Barium	1	1				11.3	11.3	11.3	11.3	J	041M570101			NA					0	14	0	No	EPC < RC
Beryllium	0	1	0.05	0.05	0.05	0.05			0.05	U	ND			NA					0	0.84	0	No	Parameter Not Detected
Calcium	1	1				2,720	2,720	2,720	2,720		041M570101			NA					0	10,756.67	0	No	EPC < RC
Cobalt	1	1				0.45	0.45	0.45	0.45	J	041M570101			NA					0	2.8	0	No	EPC < RC
Cyanide (CN)	0	1	0.475	0.475	0.475	0.475			0.475	U	ND			NA					0	5.22	0	No	Parameter Not Detected
Iron	1	1				3,790	3,790	3,790	3,790		041M570101			NA					0	11,911.67	0	No	EPC < RC
Magnesium	1	1				214	214	214	214	J	041M570101			NA					0	7,513.33	0	No	EPC < RC
Manganese	1	1				15.8	15.8	15.8	15.8		041M570101			NA					0	37.97	0	No	EPC < RC
Mercury	1	1				0.14	0.14	0.14	0.14	J	041M570101	0.13	0.696	PEL	1.08	1.08	0.20	0.20	0	0.55	0	No	EPC < RC and RV
Potassium	1	1				117	117	117	117	J	041M570101			NA					0	1,628.67	0	No	EPC < RC
Selenium	1	1				1.6	1.6	1.6	1.6		041M570101			NA					0	3.45	0	No	EPC < RC
Sodium	1	1				48.8	48.8	48.8	48.8	J	041M570101			NA					0	18,993.33	0	No	EPC < RC
Thallium	0	1	0.155	0.155	0.155	0.155			0.155	UJ	ND			NA					0	1.57	0	No	Parameter Not Detected
Vanadium	1	1				9.2	9.2	9.2	9.2		041M570101			NA					0	28.67	0	No	EPC < RC
Pesticides (g/kg)																							
Aldrin	1	1				0.2	0.2	0.2	0.2	J	041M570101			NA					0		0	Yes	No SV, no RV, and no RC
Endosulfan I	0	1	0.185	0.185	0.185	0.185			0.185	U	ND			NA					0		0	No	Parameter Not Detected
Endosulfan II	0	1	0.185	0.185	0.185	0.185			0.185	U	ND			NA					0		0	No	Parameter Not Detected
Endosulfan sulfate	0	1	0.185	0.185	0.185	0.185			0.185	U	ND			NA					0		0	No	Parameter Not Detected
Heptachlor	0	1	0.09	0.09	0.09	0.09			0.09	U	ND			NA					0		0	No	Parameter Not Detected
Heptachlor epoxide	0	1	0.09	0.09	0.09	0.09			0.09	U	ND			NA					0		0	No	Parameter Not Detected
Methoxychlor	0	1	0.9	0.9	0.9	0.9			0.9	UJ	ND			NA					0		0	No	Parameter Not Detected
Toxaphene	0	1	9	9	9	9			9	U	ND			NA					0		0	No	Parameter Not Detected
alpha-BHC	0	1	0.09	0.09	0.09	0.09			0.09	U	ND		0.99	PEL			0.09	0.09	0		0	No	Parameter Not Detected
beta-BHC	1	1				0.19	0.19	0.19	0.19	J	041M570101	0.32	0.99	PEL	0.59	0.59	0.19	0.19	0		0	No	RV HQ <1 and no RC
gamma-BHC (Lindane)	1	1				0.4	0.4	0.4	0.4	J	041M570101	0.32	0.99	PEL	1.25	1.25	0.40	0.40	0		0	No	RV HQ <1 and no RC
Total BHC	1	1				0.77	0.77	0.77	0.77		041M570101	0.32	0.99	PEL	2.41	2.41	0.78	0.78	0		0	No	RV HQ <1 and no RC
4,4'-DDD	1	1				3.3	3.3	3.3	3.3	J	041M570101	1.22	7.81	PEL	2.7	2.7	0.42	0.42	0	50	0	No	EPC < RC and RV
4,4'-DDE	1	1				7.2	7.2	7.2	7.2	J	041M570101	2.07	374	PEL	3.48	3.48	0.02	0.02	0	40	0	No	EPC < RC and RV
4,4'-DDT	1	1				1.2	1.2	1.2	1.2	J	041M570101	1.19	4.77	PEL	1.01	1.01	0.25	0.25	0	20	0	No	EPC < RC and RV
Total DDT	1	1				11.7	11.7	11.7	11.7		041M570101	3.3	51.7	PEL	3.55	3.55	0.23	0.23	0	110	0	No	EPC < RC and RV
SVOCs (g/kg)																							
1,2,4-Trichlorobenzene	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichlorobenzene	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
1,4-Dichlorobenzene	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	1	850	850	850	850			850	U	ND			NA					0		0	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dichlorophenol	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dimethylphenol	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrophenol	0	1	850	850	850	850			850	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrotoluene	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
2,6-Dinitrotoluene	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
2-Chloronaphthalene	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
2-Chlorophenol	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	1	850	850	850	850			850	U	ND			NA					0		0	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
2-Nitroaniline	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
2-Nitrophenol	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
3-Nitroaniline	0	1	850	850	850	850			850	U	ND			NA					0		0	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
4-Chloroaniline	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
4-Nitroaniline	0	1	850	850	850	850			850	U	ND			NA					0		0	No	Parameter Not Detected
4-Nitrophenol	0	1	850	850	850	850			850	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	1	35.5	35.5	35.5	35.5			35.5	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	355	355	355	355			355	U	ND	182	2,647	PEL	1.95	1.95	0.13	0.13	0		0	No	Parameter Not Detected
Butylbenzylphthalate	0	1	355	355	355	355			355	U	ND	182	2,647	PEL	1.95	1.95	0.13	0.13	0		0	No	Parameter Not Detected
Carbazole	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
Dibenzofuran	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
Diethylphthalate	0	1	355	355	355	355			355	U	ND	182	2,647	PEL	1.95	1.95	0.13	0.13	0		0	No	Parameter Not Detected
Dimethylphthalate	0	1	355	355	355	355			355	U	ND	182	2,647	PEL	1.95	1.95	0.13	0.13	0		0	No	Parameter Not Detected
Di-n-butylphthalate	0	1	355	355	355	355			355	U	ND	182	2,647	PEL	1.95	1.95	0.13	0.13	0		0	No	Parameter Not Detected
Di-n-octylphthalate	0	1	355	355	355	355			355	U	ND	182	2,647	PEL	1.95	1.95	0.13	0.13	0		0	No	Parameter Not Detected
Hexachlorobenzene	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
Hexachlorobutadiene	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
Hexachloroethane	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
Isophorone	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected

Table 15-3-7
Wetland 57 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
Nitrobenzene	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	1	35.5	35.5	35.5	35.5			35.5	U	ND			NA					0		0	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
Pentachlorophenol	0	1	850	850	850	850			850	U	ND			NA					0		0	No	Parameter Not Detected
Phenol	0	1	355	355	355	355			355	U	ND			NA					0		0	No	Parameter Not Detected
VOCs (g/kg)																							
1,1,1-Trichloroethane	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1,2,2-Tetrachloroethane	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1,2-Trichloroethane	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1-Dichloroethane	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
1,1-Dichloroethene	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloroethane	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloroethene (total)	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloropropane	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
2-Butanone (MEK)	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
2-Hexanone	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Acetone	1	1				49	49	49	49		041M570101			NA					0		0	Yes	No SV, no RV, and no RC
Benzene	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Bromodichloromethane	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Bromoform	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Bromomethane	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Carbon disulfide	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Carbon tetrachloride	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Chlorobenzene	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Chloroethane	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Chloroform	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Chloromethane	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Dibromochloromethane	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Ethylbenzene	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Methylene chloride	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Styrene	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Tetrachloroethene	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Toluene	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Trichloroethene	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Vinyl chloride	0	1	3	3	3	3			3	U	ND			NA					0		0	No	Parameter Not Detected
Xylene (Total)	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected

Notes:

Sources for Refinement Values (RVs):
PEL = FDEP Probable Effects Level
MEC = Swartz Midrange Effect Concentration

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
Parameters in bold were detected and exceeded screening values.

J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
PEL = Probable effects level.

N/R = No refinement value available.
N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the maximum detections
NAS Pensacola basewide levels used as reference values for 4,4'-DDT, 4,4'-DDD, 4,4'-DDE and total DDT.

Table 15-3-8
Wetland 57 Phase II
Sediment COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
Detected Parameters			
None	Aldrin	None	None

Table 15-3-9
Wetland 57 Phase II
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M570101	11/29/1995	mg/kg	1.6		Arsenic	8.2	70	0.02
041M570101	11/29/1995	mg/kg	0.155	U	Cadmium	1.2	9.6	0.02
041M570101	11/29/1995	mg/kg	4.8	J	Chromium	81	370	0.01
041M570101	11/29/1995	mg/kg	4.9		Copper	34	270	0.02
041M570101	11/29/1995	mg/kg	17.7		Lead	46.7	218	0.08
041M570101	11/29/1995	mg/kg	0.14	J	Mercury	0.15	0.71	0.20
041M570101	11/29/1995	mg/kg	2	J	Nickel	20.9	51.6	0.04
041M570101	11/29/1995	mg/kg	0.205	U	Silver	1	3.7	0.06
041M570101	11/29/1995	mg/kg	14.7		Zinc	150	410	0.04
041M570101	11/29/1995	g/kg	7.2	J	4,4'-DDE	2.2	27	0.27
041M570101	11/29/1995	g/kg	1.2	J	4,4'-DDT	1.58	46.1	0.03
041M570101	11/29/1995	g/kg	16.5		Total PCBs	22.7	180	0.09
041M570101	11/29/1995	g/kg	35.5	U	2-Methylnaphthalene	70	670	0.05
041M570101	11/29/1995	g/kg	17	U	Acenaphthene	16	500	0.03
041M570101	11/29/1995	g/kg	35.5	U	Acenaphthylene	44	640	0.06
041M570101	11/29/1995	g/kg	35.5	U	Anthracene	85.3	1,100	0.03
041M570101	11/29/1995	g/kg	35.5	U	Benzo(a)anthracene	261	1,600	0.02
041M570101	11/29/1995	g/kg	35.5	U	Benzo(a)pyrene	430	1,600	0.02
041M570101	11/29/1995	g/kg	35.5	U	Chrysene	384	2,800	0.01
041M570101	11/29/1995	g/kg	35.5	U	Dibenz(a,h)anthracene	63.4	260	0.14
041M570101	11/29/1995	g/kg	68	J	Fluoranthene	600	5,100	0.01
041M570101	11/29/1995	g/kg	17	U	Fluorene	19	540	0.03
041M570101	11/29/1995	g/kg	35.5	U	Naphthalene	160	2,100	0.02
041M570101	11/29/1995	g/kg	35.5	U	Phenanthrene	240	1,500	0.02
041M570101	11/29/1995	g/kg	72		Pyrene	665	2,600	0.03
041M570101	11/29/1995				ERM Quotient Sum			1.34
041M570101	11/29/1995				Mean ERM Quotient			0.05
041M570101	11/29/1995				Mean ERM Quotient without ND			0.03
041M570101	11/29/1995				Mean ERM Quotient Category			2

Notes:
ERL = Effects Range Low
ERM = Effects Range Median
mg/kg = milligrams per kilogram
g/kg = micrograms per kilogram
U = not detected at or above the SQL (value in table is 1/2 reported value)
J = estimated value
Shaded cells indicate constituent exceeds ERL.
Shaded and bold cells indicate constituent exceeds ERM.

Table 15-3-10
Wetland 57 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement	Rationale
Metals (g/L)																
Aluminum	**1**	**1**				**7390**	**7390**	**7390**	**041W570101**	**7390**		**13**	**FDEP**	**568**	**Yes**	**Max Detect > SV**
Arsenic	0	1	0.1	0.1	0.1	0.1			ND	0.1	U	50	FDEP	0.00	No	Max SQL< SV
Barium	1	1				25.3	25.3	25.3	041W570101	25.3	J		NA		Yes	No SV
Beryllium	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.13	FDEP	0.39	No	Max SQL< SV
Cadmium	0	1	0.15	0.15	0.15	0.15			ND	0.15	U	0.66	EPA	0.23	No	Max SQL< SV
Calcium	1	1				19400	19400	19400	041W570101	19400			NA		Yes	No SV
Chromium	0	1	4	4	4	4			ND	4	U	11	EPA	0.36	No	Max SQL< SV
Cobalt	0	1	1.5	1.5	1.5	1.5			ND	1.5	U		NA		Yes	No SV
Copper	**1**	**1**				**7.2**	**7.2**	**7.2**	**041W570101**	**7.2**	**J**	**6.54**	**EPA**	**1.1**	**Yes**	**Max Detect > SV**
Cyanide (CN)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	5.2	EPA	0.48	No	Max SQL< SV
Iron	1	1				7360	7360	7360	041W570101	7360			NA		Yes	No SV
Lead	**1**	**1**				**16.9**	**16.9**	**16.9**	**041W570101**	**16.9**		**1.32**	**EPA**	**12.8**	**Yes**	**Max Detect > SV**
Magnesium	1	1				1570	1570	1570	041W570101	1570	J		NA		Yes	No SV
Manganese	1	1				134	134	134	041W570101	134			NA		Yes	No SV
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.012	EPA	5.42	Yes	Max SQL > SV
Nickel	0	1	6	6	6	6			ND	6	U	87.71	EPA	0.07	No	Max SQL< SV
Potassium	1	1				1040	1040	1040	041W570101	1040	J		NA		Yes	No SV
Selenium	0	1	1.5	1.5	1.5	1.5			ND	1.5	U	5	EPA	0.3	No	Max SQL< SV
Silver	0	1	2	2	2	2			ND	2	U	0.012	EPA	167	Yes	Max SQL > SV
Sodium	1	1				6470	6470	6470	041W570101	6470			NA		Yes	No SV
Thallium	0	1	1.5	1.5	1.5	1.5			ND	1.5	UJ	4	EPA	0.38	No	Max SQL< SV
Vanadium	1	1				12.2	12.2	12.2	041W570101	12.2	J		NA		Yes	No SV
Zinc	1	1				17.5	17.5	17.5	041W570101	17.5	J	58.91	EPA	0.30	No	Max Detect < SV
Pesticides (g/L)																
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan I	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.056	EPA	0.45	No	Max SQL< SV
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0038	EPA	6.58	Yes	Max SQL > SV
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	Yes	Max SQL > SV
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	UJ		NA		Yes	No SV
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	11.6	Yes	Max SQL > SV
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	21.7	Yes	Max SQL > SV
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.08	EPA	0.31	No	Max SQL< SV
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA		Yes	No SV
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	Yes	Max SQL > SV
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	Yes	Max SQL > SV
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.00059	FDEP	84.7	Yes	Max SQL > SV
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
PCBs (g/L)																
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1221	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	EPA	35.7	Yes	Max SQL > SV
Total PCB	0	1	4	4	4	4			ND	4	U		NA		Yes	No SV
SVOCs (g/L)																
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	15.8	EPA	0.16	No	Max SQL< SV
1,3-Dichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	3	FDEP	0.83	No	Max SQL< SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV

Table 15-3-10
Wetland 57 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement	Rationale
SVOCs (g/L) - cont.																
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	43.8	EPA	0.06	No	Max SQL< SV
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA		Yes	No SV
3-Nitroaniline	0	1	10	10	10	10			ND	10	UJ		NA		Yes	No SV
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA		Yes	No SV
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.3	EPA	8.33	Yes	Max SQL > SV
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Di-n-butylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	9.4	EPA	0.27	No	Max SQL< SV
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
PAHs (g/L)																
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	26	FDEP	0.02	No	Max SQL< SV
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA		Yes	No SV
VOCs (g/L)																
1,1,1-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	270	FDEP	0.00	No	Max SQL< SV
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3.2	FDEP	0.16	No	Max SQL< SV
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	15.8	EPA	0.03	No	Max SQL< SV
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3	FDEP	0.17	No	Max SQL< SV
2-Butanone (MEK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Acetone	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA		Yes	No SV
Benzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	53	EPA	0.01	No	Max SQL< SV

Table 15-3-10
Wetland 57 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement	Rationale
VOCs (g/L) - cont.																
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	17	FDEP	0.03	No	Max SQL< SV
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chloroform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	289	EPA	0.00	No	Max SQL< SV
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Ethylbenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	453	EPA	0.00	No	Max SQL< SV
Methylene chloride	1	1				150	150	150	041W570101	150	D	1580	FDEP	0.09	No	Max Detect < SV
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Toluene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	175	EPA	0.00	No	Max SQL< SV
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
N/R = No refinement value available.
N/A = Not applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the maximum detections
Parameters in bold were detected and exceeded the screening value

Table 15-3-11
Wetland 57 Phase II
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	None	None
Barium			
Calcium			
Copper			
Iron			
Lead			
Magnesium			
Manganese			
Potassium			
Sodium			
Vanadium			
		Not Detected Parameters	
Cobalt	Aldrin	1,2,4-Trichlorobenzene	1,1,2,2-Tetrachloroethane
Mercury	Dieldrin	1,3-Dichlorobenzene	1,1,2-Trichloroethane
Silver	Endosulfan II	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1-Dichloroethane
	Endosulfan sulfate	2,4,5-Trichlorophenol	1,2-Dibromo-3-Chloropropane
	Heptachlor	2,4,6-Trichlorophenol	1,2-Dibromoethane
	Heptachlor epoxide	2,4-Dichlorophenol	1,2-Dichloroethane
	Methoxychlor	2,4-Dimethylphenol	1,2-Dichloropropane
	Toxaphene	2,4-Dinitrophenol	1,3-Dichlorobenzene
	alpha-Chlordane	2,4-Dinitrotoluene	2-Butanone (MEK)
	gamma-Chlordane	2,6-Dinitrotoluene	2-Hexanone
	Total Chlordane	2-Chloronaphthalene	4-Methyl-2-Pentanone (MIBK)
	Endrin	2-Methyl-4,6-Dinitrophenol	Acetone
	Endrin aldehyde	2-Methylnaphthalene	Bromochloromethane
	Endrin ketone	2-Methylphenol (o-Cresol)	Bromodichloromethane
	Total Endrin	2-Nitroaniline	Bromoform
	alpha-BHC	2-Nitrophenol	Bromomethane
	beta-BHC	3,3'-Dichlorobenzidine	Carbon disulfide
	delta-BHC	3-Nitroaniline	Carbon tetrachloride
	Total BHC	4-Bromophenyl-phenylether	Chloroethane
	4,4'-DDD	4-Chloro-3-methylphenol	Chloromethane
	4,4'-DDE	4-Chloroaniline	cis-1,2-Dichloroethene
	4,4'-DDT	4-Chlorophenylphenyl ether	cis-1,3-Dichloropropene
	Total DDT	4-Methylphenol (p-Cresol)	Dibromochloromethane
	Aroclor-1016	4-Nitroaniline	Styrene
	Aroclor-1221	4-Nitrophenol	Tetrachloroethene
	Aroclor-1232	Acenaphthene	trans-1,2-Dichloroethene
	Aroclor-1242	Acenaphthylene	trans-1,3-Dichloropropene
	Aroclor-1248	Anthracene	Trichloroethene
	Aroclor-1254	Benzo(a)anthracene	Vinyl chloride
	Aroclor-1260	Benzo(a)pyrene	Xylene (Total)
	Total PCBs	Benzo(b)fluoranthene	
		Benzo(g,h,i)perylene	
		Benzo(k)fluoranthene	
		bis(2-Chloroethoxy)methane	
		bis(2-Chloroethyl)ether	
		bis(2-Ethylhexyl)phthalate (BEHP)	
		Butylbenzylphthalate	
		Chrysene	
		Dibenz(a,h)anthracene	
		Dibenzofuran	
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-octylphthalate	
		Fluoranthene	
		Fluorene	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Indeno(1,2,3-cd)pyrene	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenanthrene	
		Phenol	
		Pyrene	
		Total PAHs	

Table 15-3-12
Wetland 57 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
Metals (g/L)																			
Aluminum	**1**	**1**				**7,390**	**7,390**	**7,390**	**041W570101**	**7,390**		**13**	**FDEP**	**568.46**	**568**	**1,090.25**	**1**	**Yes**	**Max Result > Ref. Conc.**
Barium	1	1				25.3	25.3	25.3	041W570101	25.3	J		NA			3.68	1	Yes	Max Result > Ref. Conc.
Calcium	1	1				19,400	19,400	19,400	041W570101	19,400			NA			7675	1	No	Essential Nutrient
Cobalt	0	1	1.5	1.5	1.5	1.5			ND	1.5	U		NA			3	0	No	Max SQL < Ref. Conc.
Copper	**1**	**1**				**7.2**	**7.2**	**7.2**	**041W570101**	**7.2**	**J**	**6.54**	**EPA**	**1.10**	**1.10**	**4**	**1**	**Yes**	**Max Result > Ref. Conc.**
Iron	1	1				7,360	7,360	7,360	041W570101	7,360			NA			2,360	1	Yes	Max Result > Ref. Conc.
Lead	**1**	**1**				**16.9**	**16.9**	**16.9**	**041W570101**	**16.9**		**1.32**	**EPA**	**13**	**12.8**	**3.2**	**1**	**Yes**	**Max Result > Ref. Conc.**
Magnesium	1	1				1,570	1,570	1,570	041W570101	1,570	J		NA			20,260	0	No	Max Result < Ref. Conc.
Manganese	1	1				134	134	134	041W570101	134			NA			13.2	1	Yes	Max Result > Ref. Conc.
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.012	EPA	5.42	5.42	0.13	0	No	Max SQL < Ref. Conc.
Potassium	1	1				1,040	1,040	1,040	041W570101	1,040	J		NA			6,995	0	No	Max Result < Ref. Conc.
Silver	0	1	2	2	2	2			ND	2	U	0.012	EPA	167	167	4	0	No	Max SQL < Ref. Conc.
Sodium	1	1				6,470	6,470	6,470	041W570101	6,470			NA			182,200	0	No	Max Result < Ref. Conc.
Vanadium	1	1				12.2	12.2	12.2	041W570101	12.2	J		NA			4.7	1	Yes	Max Result > Ref. Conc.
Pesticides (g/L)																			
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0038	EPA	7	6.58		0	No	Parameter Not Detected; Max SQL > SV
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	625		0	No	Parameter Not Detected; Max SQL > SV
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	UJ		NA				0	No	Parameter Not Detected
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	12	11.6		0	No	Parameter Not Detected; Max SQL > SV
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	22	21.7		0	No	Parameter Not Detected; Max SQL > SV
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	No	Parameter Not Detected
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA				0	No	Parameter Not Detected
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	167		0	No	Parameter Not Detected; Max SQL > SV
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	250		0	No	Parameter Not Detected; Max SQL > SV
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.00059	FDEP		84.7		0	No	Parameter Not Detected; Max SQL > SV
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	No	Parameter Not Detected
PCBs (g/L)																			
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1221	0	1	1	1	1	1			ND	1	U		NA				0	No	Parameter Not Detected
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	EPA	36	35.7		0	No	Parameter Not Detected; Max SQL > SV
Total PCB	0	1	4	4	4	4			ND	4	U		NA				0	No	Parameter Not Detected
SVOCs (g/L)																			
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA				0	No	Parameter Not Detected
3-Nitroaniline	0	1	10	10	10	10			ND	10	UJ		NA				0	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA				0	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected

Table 15-3-12
Wetland 57 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
SVOCs (g/L) - cont.																			
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.3	EPA	8.33	8.33		0	No	Parameter Not Detected; Max SQL > SV
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
PAHs (g/L)																			
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	26	FDEP	0.02	0.02		0	No	Max SQL < SV
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA				0	No	Parameter Not Detected
VOCs (g/L)																			
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
2-Butanone (MEK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Acetone	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA				0	No	Parameter Not Detected
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL

UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
PEL = Probable effects level.
N/R = No refinement value available.

N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the Max detections.
Parameters in bold were detected and exceeded Ref. Conc.s.

Table 15-3-13
Wetland 57 Phase II
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	None	None
Iron			
Lead			
Manganese			
Barium			
Copper			
Vanadium			

15.4 Wetland 58 — Screening Level Problem Formulation

15.4.1 Site Description and Habitats Present at Wetland 58

Wetland 58 is near the shoreline of the Intracoastal Waterway, southwest of Lighthouse Point and east of the Oak Grove campground (Site 39). Parsons and Pruitt (USEPA, 1991a) described this area as a palustrine shrub-scrub with the dominant vegetation made up of titi (*Cyrilla racemiflora*) and buttonbush (*Cephalanthus occidentalis*).

Wetland 58 is adjacent to an isolated location of the Intercoastal Waterway at NAS Pensacola. It is a heavily vegetated interdunal swale, upgradient from the shoreline, and is seasonally saturated during the rainy season. A seaward breach allows surface water to flow into the Intercostal Waterway. This wetland is a fresh water wetland and is rarely tidally influenced; however, it does appear to wash out during severe storms.

The IR site potentially affecting Wetland 57 is Site 4. In the 1950s, rubble from the former Fort Barrancas was disposed in the area of Site 4. The rubble included timber, pipes, mattresses, and other wastes. None of the wastes was documented as being incinerated before disposal. Elevated metals concentrations in site soil were similar to those identified at previously investigated sites in the eastern portion of NAS Pensacola (E/A&H, 1997e). The detected PAH contaminants were likely associated with routine activities, such as automobile traffic or the asphalt pavement (E/A&H, 1997e). The USEPA (USEPA Region 4, 1997b) and FDEP (FDEP, 1997c) approved remedial alternative for Site 4 was no action.

Photograph 1 Wetland 58 — Moisture loving vegetation. No standing water visible.

Photograph 2 Shoreline in the Area of Wetland 58

15.4.2 Wetland 58 — Sample Location Description

Phase II Sediment Sample Location Description

One sediment sample was collected and analyzed for the Wetland 58 ERA, 041M580101. The sample location for Wetland 58 was located in an area of the wetland where depositional areas and groundwater seeps could occur. This sample location is centrally located within the wetland (Figure 15-4). Table 15-4-1 (tables are located at the end of each section) provides a physical description of the sediments collected at Wetland 58. Sediment at Wetland 58 was composed of a poorly graded medium to fine grained sand with a TOC concentration of 0.491%.

Phase II Surface Water Sample Location Description

One surface water sample was collected at Wetland 58, location 041W580101 (Figure 15-4), which was collocated with sediment location 041M580101. This sample was collected in January 1996. Surface water from Wetland 58 was analyzed for physical parameters, with results presented in Table 15-4-2. Surface water at Wetland 58 had a pH concentration of 6.73. Specific conductivity concentration was 0.135 mS/cm. Hardness as $CaCO_3$ reported a concentration of 40 mg/L, and salinity was 0%. Surface water at Wetland 58 had a turbidity reading of 0 NTUs.

15.4.3 Nature and Extent of Contamination

Phase II Sediment

Figure 15-4 presents the Phase II sediment sampling location for Wetland 58. Tables 15-4-3 present a summary of the analytical results of the one Phase II sediment sample.

Metals — Fifteen metals were detected during Phase II sediment sampling at Wetland 58. Sample 041M580101, located at the southeast edge of the wetland, did not contain inorganic constituents above the freshwater reference concentrations.

Pesticides and PCBs — No pesticide compounds were detected during Phase II sediment sampling at Wetland 58. The PCB aroclor-1260 was detected at relatively low concentrations (0.66 µg/kg) in the sediment. Aroclor-1260 does not have a reference concentration.

SVOCs — Thirteen SVOCs were detected during the Phase II sediment sampling. However, SVOC concentrations were relatively low. No reference concentrations exist for the detected SVOC compounds.

VOCs — One VOC was detected in sample 041M580101 collected during Phase II sampling. Acetone, a common laboratory artifact, was detected at low concentrations (520 µg/kg). No freshwater reference concentration exists for acetone.

Phase II Surface Water

Figure 15-4 presents the Phase II surface water sampling location for Wetland 58. Tables 15-4-4 present a summary of the analytical results of the one Phase II surface water sample.

Metals — Eleven metals were detected in the Phase II surface water sample taken from Wetland 58. Sample 041W580101, collocated with the sediment sample, was collected from the southeast edge of the wetland. Arsenic, calcium, copper, iron, lead, and vanadium exceeded the freshwater reference concentration. Most of the detected inorganic concentrations only slightly exceeded the reference concentration, except iron, lead, and vanadium, which were detected at approximately twice the reference concentration.

Organics — There were no organic constituents detected in surface water collected during the Phase II investigation at Wetland 58.

15.4.4 Ecological Risk Assessment

Phase II Investigation Summary — Wetland 58

Sediment Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 15-4-5, the sediment sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than 1 or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-4-6.

Baseline Problem Formulation — Wetland 58 Sediment COPC Refinement

During the COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs.

This risk assessment will present a statement of potential risk for each of the preliminary COPCs.

The COPC refinement process included:

- Comparison of maximum concentrations to RVs
- Comparison of average concentrations to SVs and RVs
- Comparison to basewide (reference) concentrations for total DDT
- Comparison of inorganic constituents to reference wetland values
- Interpretative tool for metals
- Di Toro EqP SQGs for VOCs
- Comparison to Swartz consensus values
- Mean ERM quotients
- Description of exceedances of RVs and their extent

The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 15-4-7. Additionally, the tables compare: 1) average concentrations to screening and refinement values to assess potential exposure across the entire wetland, and 2) Wetland 58 concentrations to reference concentrations. COPCs retained after refinement are presented in Table 15-4-8.

At Wetland 58, total DDT did not exceed the basewide level, indicating that 4,4'-DDT and its daughter products were not a potential concern for this wetland. No contaminates exceeded their Site 41 freshwater sediment reference concentrations. Since none of the inorganic constituents exceeded their SV, the interpretive tool was not needed for Wetland 58.

Several organic constituents were detected and retained during the ERA refinement process. Those constituents included: acenaphthene, carbazole, dibenzofuran, and acetone. When normalized to detected TOC concentrations, VOCs do not appear to be risk drivers for Wetland 58. Total PAHs, as a group, were not detected above screening values; therefore, comparison to Swartz consensus values was not applicable.

Table 15-4-9 presents the Mean ERL and ERM values, the Mean ERM Quotients, and the Mean ERM Quotient Category by individual sample location. Based on this approach, the sample location (041M580101) was determined to be Category 2, which is the category that includes the studies where about 50% of samples were found to be toxic and average survival was about 60-70%. Figure 15-7 also shows the Mean ERM category for each sediment sample location at Wetland 58.

At Wetland 58, acenaphthene, carbazole, dibenzofuran, and acetone were detected, but no screening values were available to evaluate potential ecotoxicity.

Surface Water Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 15-4-10, the surface water sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than 1 or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-4-11.

Baseline Problem Formulation — Wetland 58 Surface Water COPC Refinement

During the surface water COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as COPCs.

The COPC refinement process included:

- Comparison of maximum SV concentrations to average SV concentrations
- Comparison of inorganic constituents to reference wetland values
- Description of surface water exceedances and their extent

The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 15-4-12. Additionally, the tables compare average concentrations to screening and refinement values to assess

potential exposure across the entire wetland. COPCs retained after refinement are presented in Table 15-4-13.

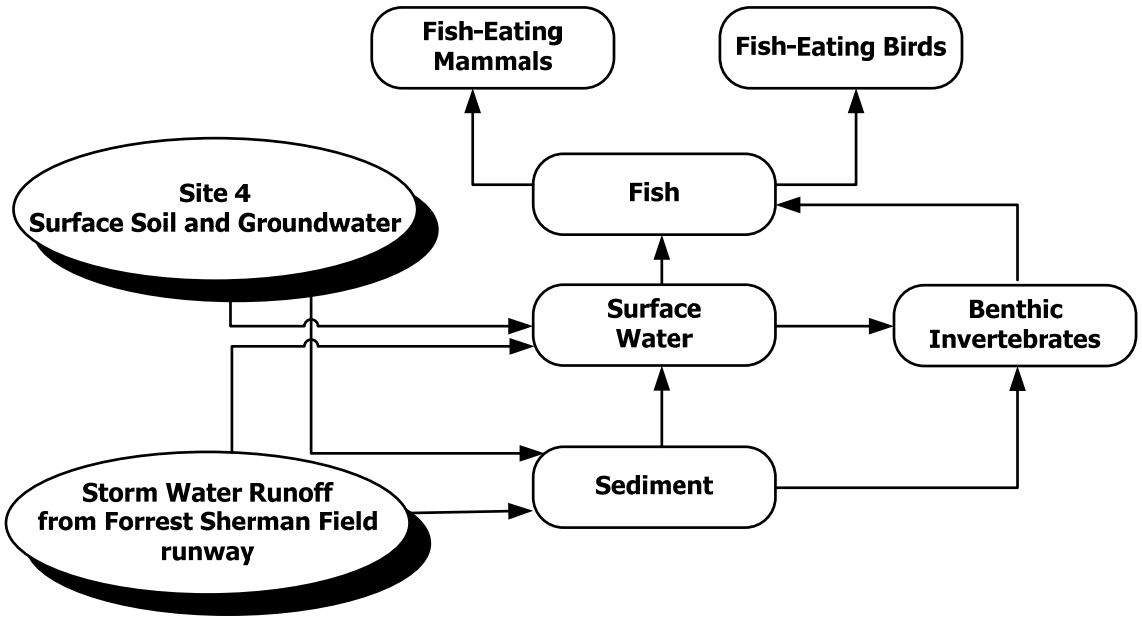
For Wetland 58, iron, lead, and vanadium exceeded their Site 41 freshwater reference surface water concentrations (Table 15-4-12). Calcium also exceeded its reference concentration; however, calcium is an essential nutrient and is not carried forward in the process.

None of the same constituents were retained in both sediment and surface water samples collected at Wetland 58.

Based on the Phase II results described above, Wetland 58 was identified as a Blue-Coded Wetland in the approved *Final RI/FS SAP Addendum* (EnSafe, 1997d), indicating that contaminants were present generally below screening values, and contaminants did not appear to be site related. Blue-Coded Wetlands were not assessed further in Phase III. However, to assess potential risks from contaminants that bioaccumulate, the results from Wetland 58 will be used in the remaining wetlands food-chain model presented in Section 15.8.

The conceptual model below symbolizes which environmental habitats may be impacted by Wetland 58 Phase II constituents retained during the ERA process.

Wetland 58
Conceptual Site Model



15.4.5 Wetland 58 — Human Health Risk Assessment

Wetland 58 is described in Section 15.4.1, and the HHRA is summarized below.

15.4.5.1 Site Data

Section 15.4.3 summarizes the nature and extent of contamination for this wetland. Surface water and sediment data were collected at Wetland 58 during Phase II of the RI. Surface water and sediment data for 58 are summarized in Tables 15-4-3 and 15-4-4.

15.4.5.2 Conceptual Site Model

As described in Section 15.4.1, Wetland 58 is adjacent to an isolated location of the Intracoastal Waterway at NAS Pensacola. Because Wetland 58 is located in an unrestricted area of the base, the wetland is accessible to Navy personnel and trespassers. Wetland 58 intermittently floods; therefore, contact with sediment and surface water is possible.

The following scenarios and exposure pathways were evaluated for this wetland:

Scenario	Medium	Ingestion	Dermal
Trespassers	Surface water	√	√
	Sediment	√	√
Maintenance	Surface water	√	√
	Sediment	√	√

15.4.5.3 Risk Characterization

The child trespasser and the adult maintenance worker scenario for surface water and sediment were assessed for this wetland as described in Section 9.

Phase II Data

Trespasser

As shown in Tables 15-4-14 through 15-4-16, sediment ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

As shown in Tables 15-4-17 through 15-4-19, surface water ingestion and dermal contact risk estimates for trespassers were below the FDEP risk threshold. Hazard indices were below 1.0.

Maintenance Worker

As shown in Tables 15-4-14 through 15-4-16, sediment ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

As shown in Tables 15-4-17 through 15-4-19, surface water ingestion and dermal contact risk estimates for trespassers were below the FDEP risk threshold. Hazard indices were below 1.0.

Summary of Wetland 58 Phase II Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Sediment	8.58E-04	7.85E-09
	Surface water	3.84E-03	N/A
Trespassers	Sediment	1.33E-03	1.13E-08
	Surface water	2.87E-03	N/A

Based on Phase II data, no COCs for Wetland 58 were identified.

Wetland 58 HHRA COC Summary

No COCs were identified in the HHRA for Wetland 58.

15.4.6 Wetland 58 — Fate and Transport Analysis

Forrest Sherman Field area lies on the western portion of NAS Pensacola and hosts a number of wetlands surrounding the operational runways that run southwest-northeast and north-south. These included Wetlands 19A, 19B, 48, 49, 52, 56, 57, 58, 72, W1, and W2. For the general location of these wetlands and the location of the surface water, sediment, and nearby soil and groundwater samples, see Figure 15-4. The potential sources for these wetlands included:

- storm water drainage and runoff from Forrest Sherman Field
- storm water runoff, surface soil transport, and groundwater discharge from UST Site 18, OU12, Site 5, and Sites 16a and b
- tidal flux from Bayou Grande and Pensacola Bay also plays a role for those wetlands close to the shorelines

A number of these wetlands are somewhat isolated from known IR sites by either being located upgradient or side gradient, and/or being a significant distance away. Additionally, some of these wetlands had only one surface water and/or sediment sample collected. For these wetlands, evaluation of the inter- or intra-wetland soil-to-sediment, groundwater-to-surface water, groundwater-to-sediment, or sediment/surface water transport pathways were not completed due to a lack of data. These wetlands included 48, 57, and 58.

Table 15-4-1
Wetland 58 Phase II
Sediment Physical Parameters

Parameter		041M580101
TOC (%)		0.491
Percent Solids (%)		68.9
Grain Size Analysis (percent of composition[1])		
	Medium Sand	37
	Fine Sand	61
	Clay	2
	Description	Poorly Graded Sand, medium to fine

Note:
[1] = Derived from sieve analyses.

Table 15-4-2
Wetland 58 Phase II
Surface Water Physical Parameters

Parameter	041W58101
Hardness as CaCO3 (mg/L)	40
pH	6.73
Specific Conductivity (mS/cm)	0.135
Turbidity (NTU)	0
Salinity (%)	0

Notes:

mg/L = Milligrams per liter
pH = Hydrogen ion content
MS/cm = Millisiemens per centimeter
NTU = Nephelometric turbidity units
% = Percent

Table 15-4-3
Wetland 58 Phase II
Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (mg/kg)								
Aluminum	13,610.0	0	1	1	1,360.0	1,360.0	1,360.0	041M580101
Arsenic	6.620	0	1	1	0.270	0.270	0.270	041M580101
Barium	14.0	0	1	1	1.20	1.20	1.20	041M580101
Calcium	10,756.670	0	1	1	230.0	230.0	230.0	041M580101
Chromium	39.370	0	1	1	1.20	1.20	1.20	041M580101
Copper	19.50	0	1	1	1.80	1.80	1.80	041M580101
Iron	11,911.670	0	1	1	548.0	548.0	548.0	041M580101
Lead	82.470	0	1	1	7.80	7.80	7.80	041M580101
Magnesium	7,513.330	0	1	1	70.0	70.0	70.0	041M580101
Manganese	37.970	0	1	1	1.20	1.20	1.20	041M580101
Nickel	9.280	0	1	1	1.20	1.20	1.20	041M580101
Potassium	1,628.670	0	1	1	41.20	41.20	41.20	041M580101
Selenium	3.450	0	1	1	0.410	0.410	0.410	041M580101
Vanadium	28.670	0	1	1	2.50	2.50	2.50	041M580101
Zinc	36.730	0	1	1	2.30	2.30	2.30	041M580101
PAHs (g/kg)								
2-Methylnaphthalene	N/A	0	1	1	110.0	110.0	110.0	041M580101
Acenaphthene	N/A	0	1	1	110.0	110.0	110.0	041M580101
Anthracene	N/A	0	1	1	84.0	84.0	84.0	041M580101
Fluoranthene	N/A	0	1	1	110.0	110.0	110.0	041M580101
Fluorene	N/A	0	1	1	120.0	120.0	120.0	041M580101
Naphthalene	N/A	0	1	1	220.0	220.0	220.0	041M580101
Phenanthrene	N/A	0	1	1	250.0	250.0	250.0	041M580101
Pyrene	N/A	0	1	1	70.0	70.0	70.0	041M580101
Total PAHs	N/A	0	1	1	1,189.0	1,189.0	1,190.0	041M580101
Pesticides and PCBs (g/kg)								
Aroclor-1260	N/A	0	1	1	0.660	0.660	0.660	041M580101
Total PCBs	N/A	0	1	1	8.710	8.710	8.710	041M580101
SVOCs (g/kg)								
bis(2-Ethylhexyl)phthalate (BEHP)	N/A	0	1	1	34.0	34.0	34.0	041M580101
Butylbenzylphthalate	N/A	0	1	1	25.0	25.0	25.0	041M580101
Carbazole	N/A	0	1	1	40.0	40.0	40.0	041M580101
Dibenzofuran	N/A	0	1	1	88.0	88.0	88.0	041M580101
Di-n-butylphthalate	N/A	0	1	1	42.0	42.0	42.0	041M580101
VOCs (g/kg)								
Acetone	N/A	0	1	1	520.0	520.0	520.0	041M580101

Notes:
g/kg = micrograms per kilogram
mg/kg = milligram per kilogram
N/A = Not Applicable

Table 15-4-4
Wetland 58 Phase II
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (g/L)								
Aluminum	1,090.25	0	1	1	1,090.0	1,090.0	1,090.0	041W580101
Arsenic	2.7	1	1	1	3.1	3.1	3.1	041W580101
Barium	3.68	0	1	1	3.4	3.4	3.4	041W580101
Calcium	7,675.0	1	1	1	9,230.0	9,230.0	9,230.0	041W580101
Copper	4.0	1	1	1	5.2	5.2	5.2	041W580101
Iron	2,360.0	1	1	1	4,070.0	4,070.0	4,070.0	041W580101
Lead	3.2	1	1	1	7.4	7.4	7.4	041W580101
Magnesium	20,260.0	0	1	1	4,110.0	4,110.0	4,110.0	041W580101
Potassium	6,995.0	0	1	1	1,420.0	1,420.0	1,420.0	041W580101
Sodium	182,200.0	0	1	1	11,400.0	11,400.0	11,400.0	041W580101
Vanadium	4.7	1	1	1	10.6	10.6	10.6	041W580101

Notes:
g/L = micrograms per liter
N/A = Not Applicable

Table 15-4-5
Wetland 58 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Metals (mg/kg)														
Aluminum	1	1			1,360	1,360	041M580101	1,360			N/A		Yes	No SV
Antimony	0	1	0.075	0.075			ND	0.075	UJ	12	2	0.01	No	Max SQL< SV
Arsenic	1	1			0.27	0.27	041M580101	0.27	J	7.24	1, 2	0.04	No	Max Detect < SV
Barium	1	1			1.2	1.2	041M580101	1.2	J		N/A		Yes	No SV
Beryllium	0	1	0.035	0.035			ND	0.035	U		N/A		Yes	No SV
Cadmium	0	1	0.075	0.075			ND	0.075	U	0.676	1	0.11	No	Max SQL< SV
Calcium	1	1			230	230	041M580101	230	J		N/A		Yes	No SV
Chromium	1	1			1.2	1.2	041M580101	1.2		52.3	1, 2	0.02	No	Max Detect < SV
Cobalt	0	1	0.075	0.075			ND	0.075	U		N/A		Yes	No SV
Copper	1	1			1.8	1.8	041M580101	1.8		18.7	1, 2	0.10	No	Max Detect < SV
Cyanide (CN)	0	1	0.355	0.355			ND	0.355	U		N/A		Yes	No SV
Iron	1	1			548	548	041M580101	548			N/A		Yes	No SV
Lead	1	1			7.8	7.8	041M580101	7.8		30.2	1, 2	0.26	No	Max Detect < SV
Magnesium	1	1			70	70	041M580101	70	J		N/A		Yes	No SV
Manganese	1	1			1.2	1.2	041M580101	1.2			N/A		Yes	No SV
Mercury	0	1	0.03	0.03			ND	0.03	U	0.13	1, 2	0.23	No	Max SQL< SV
Nickel	1	1			1.2	1.2	041M580101	1.2	J	15.9	1, 2	0.08	No	Max Detect < SV
Potassium	1	1			41.2	41.2	041M580101	41.2	J		N/A		Yes	No SV
Selenium	1	1			0.41	0.41	041M580101	0.41	J		N/A		Yes	No SV
Silver	0	1	0.18	0.18			ND	0.18	U	0.733	1	0.25	No	Max SQL< SV
Sodium	0	1	11.4	11.4			ND	11.4	U		N/A		Yes	No SV
Thallium	0	1	0.145	0.145			ND	0.145	U		N/A		Yes	No SV
Vanadium	1	1			2.5	2.5	041M580101	2.5	J		N/A		Yes	No SV
Zinc	1	1			2.3	2.3	041M580101	2.3		124	1, 2	0.02	No	Max Detect < SV
PAHs (g/kg)														
2-Methylnaphthalene	**1**	**1**			**110**	**110**	**041M580101**	**110**		**20.2**	**1**	**5.45**	No	TOC Normalized PAHs<TEC
Acenaphthene	**1**	**1**			**110**	**110**	**041M580101**	**110**		**6.71**	**1**	**16.4**	No	TOC Normalized PAHs<TEC
Acenaphthylene	0	1	23	23			ND	23	U	5.87	1	3.92	No	TOC Normalized PAHs<TEC
Anthracene	**1**	**1**			**84**	**84**	**041M580101**	**84**		**46.9**	**1**	**1.79**	No	TOC Normalized PAHs<TEC
Benzo(a)anthracene	0	1	23	23			ND	23	U	74.8	1	0.31	No	TOC Normalized PAHs<TEC
Benzo(a)pyrene	0	1	23	23			ND	23	U	88.8	1	0.26	No	TOC Normalized PAHs<TEC
Chrysene	0	1	23	23			ND	23	U	108	1	0.21	No	TOC Normalized PAHs<TEC
Dibenz(a,h)anthracene	0	1	23	23			ND	23	U	6.22	1	3.7	No	TOC Normalized PAHs<TEC
Fluoranthene	1	1			110	110	041M580101	110		113	1	0.97	No	TOC Normalized PAHs<TEC
Fluorene	**1**	**1**			**120**	**120**	**041M580101**	**120**		**21.2**	**1**	**5.66**	No	TOC Normalized PAHs<TEC
Naphthalene	**1**	**1**			**220**	**220**	**041M580101**	**220**		**34.6**	**1**	**6.36**	No	TOC Normalized PAHs<TEC
Phenanthrene	**1**	**1**			**250**	**250**	**041M580101**	**250**		**86.7**	**1**	**2.88**	No	TOC Normalized PAHs<TEC
Pyrene	1	1			70	70	041M580101	70		153	1	0.46	No	TOC Normalized PAHs<TEC
Total PAHs	1	1			1,190	1,190	041M580101	1,190		1684	1, 2	0.71	No	TOC Normalized PAHs<TEC
TOC Normalized PAHs	1	1			242.16	242.16	041M580101	242.16		290	3	0.84	No	Max Detect < SV
PCBs (g/kg)														
Aroclor-1016	0	1	1.15	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Aroclor-1221	0	1	2.3	2.3			ND	2.3	U	67	2	0.03	No	Max SQL< SV
Aroclor-1232	0	1	1.15	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Aroclor-1242	0	1	1.15	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Aroclor-1248	0	1	1.15	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Aroclor-1254	0	1	1.15	1.15			ND	1.15	U	21.6	N/A	0.05	No	Max SQL< SV
Aroclor-1260	1	1			0.66	0.66	041M580101	0.66	J	21.6	N/A	0.03	No	Max Detect < SV
Total PCBs	1	1			8.71	8.71	041M580101	8.71		21.6	1	0.40	No	Max Detect < SV
Pesticides (g/kg)														
Aldrin	0	1	0.06	0.06			ND	0.06	U		N/A		Yes	No SV
Dieldrin	0	1	0.115	0.115			ND	0.115	U	0.716	1	0.16	No	Max SQL< SV
Endosulfan I	0	1	0.06	0.06			ND	0.06	U		N/A		Yes	No SV
Endosulfan II	0	1	0.115	0.115			ND	0.115	U		N/A		Yes	No SV
Endosulfan sulfate	0	1	0.115	0.115			ND	0.115	U		N/A		Yes	No SV
Heptachlor	0	1	0.06	0.06			ND	0.06	U		N/A		Yes	No SV
Heptachlor epoxide	0	1	0.06	0.06			ND	0.06	U		N/A		Yes	No SV
Methoxychlor	0	1	0.6	0.6			ND	0.6	U		N/A		Yes	No SV
Toxaphene	0	1	12	12			ND	12	U		N/A		Yes	No SV
alpha-Chlordane	0	1	0.06	0.06			ND	0.06	U	1.7	1	0.04	No	Max SQL< SV
gamma-Chlordane	0	1	0.06	0.06			ND	0.06	U	1.7	1	0.04	No	Max SQL< SV
Total Chlordane	0	1	0.12	0.12			ND	0.12	U	1.7	1	0.07	No	Max SQL< SV
Endrin	0	1	0.115	0.115			ND	0.115	U	3.3	2	0.03	No	Max SQL< SV
Endrin aldehyde	0	1	0.115	0.115			ND	0.115	U	3.3	2	0.03	No	Max SQL< SV
Endrin ketone	0	1	0.115	0.115			ND	0.115	U	3.3	2	0.03	No	Max SQL< SV
Total Endrin	0	1	0.345	0.345			ND	0.345	U	3.3	2	0.11	No	Max SQL< SV

Table 15-4-5
Wetland 58 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Pesticides (g/kg) - cont.														
alpha-BHC	0	1	0.06	0.06			ND	0.06	U		N/A		Yes	No SV
beta-BHC	0	1	0.06	0.06			ND	0.06	U	0.32	N/A	0.19	No	Max SQL< SV
delta-BHC	0	1	0.06	0.06			ND	0.06	U	0.32	N/A	0.19	No	Max SQL< SV
gamma-BHC (Lindane)	0	1	0.06	0.06			ND	0.06	U	0.32	1	0.19	No	Max SQL< SV
Total BHC	0	1	0.24	0.24			ND	0.24	U	0.32	2	0.75	No	Max SQL< SV
4,4'-DDD	0	1	0.115	0.115			ND	0.115	U	1.22	1	0.09	No	Max SQL< SV
4,4'-DDE	0	1	0.115	0.115			ND	0.115	U	2.07	1	0.06	No	Max SQL< SV
4,4'-DDT	0	1	0.115	0.115			ND	0.115	U	1.19	1	0.10	No	Max SQL< SV
Total DDT	0	1	0.345	0.345			ND	0.345	U	3.3	2	0.11	No	Max SQL< SV
SVOCs (g/kg)														
1,2,4-Trichlorobenzene	0	1	230	230			ND	230	U		N/A		Yes	No SV
1,2-Dichlorobenzene	0	1	230	230			ND	230	U		N/A		Yes	No SV
1,3-Dichlorobenzene	0	1	230	230			ND	230	U		N/A		Yes	No SV
1,4-Dichlorobenzene	0	1	230	230			ND	230	U		N/A		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	230	230			ND	230	U		N/A		Yes	No SV
2,4,5-Trichlorophenol	0	1	550	550			ND	550	U		N/A		Yes	No SV
2,4,6-Trichlorophenol	0	1	230	230			ND	230	U		N/A		Yes	No SV
2,4-Dichlorophenol	0	1	230	230			ND	230	U		N/A		Yes	No SV
2,4-Dimethylphenol	0	1	230	230			ND	230	U		N/A		Yes	No SV
2,4-Dinitrophenol	0	1	550	550			ND	550	U		N/A		Yes	No SV
2,4-Dinitrotoluene	0	1	230	230			ND	230	U		N/A		Yes	No SV
2,6-Dinitrotoluene	0	1	230	230			ND	230	U		N/A		Yes	No SV
2-Chloronaphthalene	0	1	230	230			ND	230	U		N/A		Yes	No SV
2-Chlorophenol	0	1	230	230			ND	230	U		N/A		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	1	550	550			ND	550	U		N/A		Yes	No SV
2-Methylphenol (o-Cresol)	0	1	230	230			ND	230	U		N/A		Yes	No SV
2-Nitroaniline	0	1	230	230			ND	230	U		N/A		Yes	No SV
2-Nitrophenol	0	1	230	230			ND	230	U		N/A		Yes	No SV
3,3'-Dichlorobenzidine	0	1	230	230			ND	230	U		N/A		Yes	No SV
3-Nitroaniline	0	1	550	550			ND	550	U		N/A		Yes	No SV
4-Bromophenyl-phenylether	0	1	230	230			ND	230	U		N/A		Yes	No SV
4-Chloro-3-methylphenol	0	1	230	230			ND	230	U		N/A		Yes	No SV
4-Chloroaniline	0	1	230	230			ND	230	U		N/A		Yes	No SV
4-Chlorophenylphenyl ether	0	1	230	230			ND	230	U		N/A		Yes	No SV
4-Methylphenol (p-Cresol)	0	1	230	230			ND	230	U		N/A		Yes	No SV
4-Nitroaniline	0	1	550	550			ND	550	U		N/A		Yes	No SV
4-Nitrophenol	0	1	550	550			ND	550	U		N/A		Yes	No SV
Benzo(b)fluoranthene	0	1	23	23			ND	23	U		N/A		No	TOC Normalized PAHs<TEC
Benzo(g,h,i)perylene	0	1	23	23			ND	23	U		N/A		No	TOC Normalized PAHs<TEC
Benzo(k)fluoranthene	0	1	23	23			ND	23	U		N/A		No	TOC Normalized PAHs<TEC
bis(2-Chloroethoxy)methane	0	1	230	230			ND	230	U		N/A		Yes	No SV
bis(2-Chloroethyl)ether	0	1	23	23			ND	23	U		N/A		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	1	1			34	34	041M580101	34	J	182	1, 2	0.19	No	Max Detect < SV
Butylbenzylphthalate	1	1			25	25	041M580101	25	J	182	1, 2	0.14	No	Max Detect < SV
Carbazole	1	1			40	40	041M580101	40	J		N/A		Yes	No SV
Dibenzofuran	1	1			88	88	041M580101	88	J		N/A		Yes	No SV
Diethylphthalate	0	1	230	230			ND	230	U	182	1, 2	1.26	Yes	Max SQL > SV
Dimethylphthalate	0	1	230	230			ND	230	U	182	1, 2	1.26	Yes	Max SQL > SV
Di-n-butylphthalate	1	1			42	42	041M580101	42	J	182	1, 2	0.23	No	Max Detect < SV
Di-n-octylphthalate	0	1	230	230			ND	230	U	182	1, 2	1.26	Yes	Max SQL > SV
Hexachlorobenzene	0	1	230	230			ND	230	U		N/A		Yes	No SV
Hexachlorobutadiene	0	1	230	230			ND	230	U		N/A		Yes	No SV
Hexachlorocyclopentadiene	0	1	230	230			ND	230	U		N/A		Yes	No SV
Hexachloroethane	0	1	230	230			ND	230	U		N/A		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	1	23	23			ND	23	U		N/A		No	TOC Normalized PAHs<TEC
Isophorone	0	1	230	230			ND	230	U		N/A		Yes	No SV
Nitrobenzene	0	1	230	230			ND	230	U		N/A		Yes	No SV
N-Nitroso-di-n-propylamine	0	1	23	23			ND	23	U		N/A		Yes	No SV
N-Nitrosodiphenylamine	0	1	230	230			ND	230	U		N/A		Yes	No SV
Pentachlorophenol	0	1	550	550			ND	550	U		N/A		Yes	No SV
Phenol	0	1	230	230			ND	230	U		N/A		Yes	No SV

Table 15-4-5
Wetland 58 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
VOCs (g/kg)														
1,1,1-Trichloroethane	0	1	28	28			ND	28	U		N/A		Yes	No SV
1,1,2,2-Tetrachloroethane	0	1	28	28			ND	28	U		N/A		Yes	No SV
1,1,2-Trichloroethane	0	1	28	28			ND	28	U		N/A		Yes	No SV
1,1-Dichloroethane	0	1	28	28			ND	28	U		N/A		Yes	No SV
1,1-Dichloroethene	0	1	28	28			ND	28	U		N/A		Yes	No SV
1,2-Dichloroethane	0	1	28	28			ND	28	U		N/A		Yes	No SV
1,2-Dichloroethene (total)	0	1	28	28			ND	28	U		N/A		Yes	No SV
1,2-Dichloropropane	0	1	28	28			ND	28	U		N/A		Yes	No SV
2-Butanone (MEK)	0	1	28	28			ND	28	U		N/A		Yes	No SV
2-Hexanone	0	1	28	28			ND	28	U		N/A		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	1	28	28			ND	28	U		N/A		Yes	No SV
Acetone	1	1			520	520	041M580101	520			N/A		Yes	No SV
Benzene	0	1	28	28			ND	28	U		N/A		Yes	No SV
Bromodichloromethane	0	1	28	28			ND	28	U		N/A		Yes	No SV
Bromoform	0	1	28	28			ND	28	U		N/A		Yes	No SV
Bromomethane	0	1	28	28			ND	28	U		N/A		Yes	No SV
Carbon disulfide	0	1	28	28			ND	28	U		N/A		Yes	No SV
Carbon tetrachloride	0	1	28	28			ND	28	U		N/A		Yes	No SV
Chlorobenzene	0	1	28	28			ND	28	U		N/A		Yes	No SV
Chloroethane	0	1	28	28			ND	28	U		N/A		Yes	No SV
Chloroform	0	1	28	28			ND	28	U		N/A		Yes	No SV
Chloromethane	0	1	28	28			ND	28	U		N/A		Yes	No SV
cis-1,3-Dichloropropene	0	1	28	28			ND	28	U		N/A		Yes	No SV
Dibromochloromethane	0	1	28	28			ND	28	U		N/A		Yes	No SV
Ethylbenzene	0	1	28	28			ND	28	U		N/A		Yes	No SV
Methylene chloride	0	1	28	28			ND	28	U		N/A		Yes	No SV
Styrene	0	1	28	28			ND	28	U		N/A		Yes	No SV
Tetrachloroethene	0	1	28	28			ND	28	U		N/A		Yes	No SV
Toluene	0	1	28	28			ND	28	U		N/A		Yes	No SV
trans-1,3-Dichloropropene	0	1	28	28			ND	28	U		N/A		Yes	No SV
Trichloroethene	0	1	28	28			ND	28	U		N/A		Yes	No SV
Vinyl chloride	0	1	8.5	8.5			ND	8.5	U		N/A		Yes	No SV
Xylene (Total)	0	1	28	28			ND	28	U		N/A		Yes	No SV

Notes:

Sources for Screening Values:
SV = Screening Value
1 = USEPA Region 4 Screening Value. Detailed explanation for SVs provided in Section 8.0.
2 = FDEP Threshold effects level

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available.
U or ND = Not Detected at or above the SQL
J = Estimated value
SHQ = Screening Hazard Quotient

D = Diluted Result
mg/kg = milligrams per kilograms
g/kg = micrograms per kilograms
mg/kg oc = milligrams per kilograms - organic carbon
UJ = Not detected. SQL is estimated.
Parameters in bold were detected and exceeded screening values.

Table 15-4-6
Wetland 58 Phase II
Sediment COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	Carbazole	Acetone
Barium		Dibenzofuran	
Calcium			
Iron			
Magnesium			
Manganese			
Potassium			
Selenium			
Vanadium			
		Not Detected Parameters	
Beryllium	Aldrin	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane
Cobalt	alpha-BHC	1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
Cyanide (CN)	Endosulfan I	1,3-Dichlorobenzene	1,1,2-Trichloroethane
Sodium	Endosulfan II	1,4-Dichlorobenzene	1,1-Dichloroethane
Thallium	Endosulfan sulfate	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1-Dichloroethene
	Heptachlor	2,4,5-Trichlorophenol	1,2-Dichloroethane
	Heptachlor epoxide	2,4,6-Trichlorophenol	1,2-Dichloroethene (total)
	Methoxychlor	2,4-Dichlorophenol	1,2-Dichloropropane
	Toxaphene	2,4-Dimethylphenol	2-Butanone (MEK)
		2,4-Dinitrophenol	2-Hexanone
		2,4-Dinitrotoluene	4-Methyl-2-Pentanone (MIBK)
		2,6-Dinitrotoluene	Benzene
		2-Chloronaphthalene	Bromodichloromethane
		2-Chlorophenol	Bromoform
		2-Methyl-4,6-Dinitrophenol	Bromomethane
		2-Methylphenol (o-Cresol)	Carbon disulfide
		2-Nitroaniline	Carbon tetrachloride
		2-Nitrophenol	Chlorobenzene
		3,3'-Dichlorobenzidine	Chloroethane
		3-Nitroaniline	Chloroform
		4-Bromophenyl-phenylether	Chloromethane
		4-Chloro-3-methylphenol	cis-1,3-Dichloropropene
		4-Chloroaniline	Dibromochloromethane
		4-Chlorophenylphenyl ether	Ethylbenzene
		4-Methylphenol (p-Cresol)	Methylene chloride
		4-Nitroaniline	Styrene
		4-Nitrophenol	Tetrachloroethene
		bis(2-Chloroethoxy)methane	Toluene
		bis(2-Chloroethyl)ether	trans-1,3-Dichloropropene
		Diethylphthalate	Trichloroethene
		Dimethylphthalate	Vinyl chloride
		Di-n-octylphthalate	Xylene (Total)
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	

Table 15-4-7
Wetland 58 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
Metals (mg/kg)																							
Aluminum	1	1				1,360	1,360	1,360	1,360		041M580101			NA					0	13,610	0	No	EPC < RC
Barium	1	1				1.2	1.2	1.2	1.2	J	041M580101			NA					0	14	0	No	EPC < RC
Beryllium	0	1	0.035	0.035	0.035	0.035			0.035	U	ND			NA					0	0.84	0	No	Parameter Not Detected
Calcium	1	1				230	230	230	230	J	041M580101			NA					0	10,756.67	0	No	EPC < RC
Cobalt	0	1	0.075	0.075	0.075	0.075			0.075	U	ND			NA					0	2.8	0	No	Parameter Not Detected
Cyanide (CN)	0	1	0.355	0.355	0.355	0.355			0.355	U	ND			NA					0	5.22	0	No	Parameter Not Detected
Iron	1	1				548	548	548	548		041M580101			NA					0	11,911.67	0	No	EPC < RC
Magnesium	1	1				70	70	70	70	J	041M580101			NA					0	7,513.33	0	No	EPC < RC
Manganese	1	1				1.2	1.2	1.2	1.2		041M580101			NA					0	37.97	0	No	EPC < RC
Potassium	1	1				41.2	41.2	41.2	41.2	J	041M580101			NA					0	1,628.67	0	No	EPC < RC
Selenium	1	1				0.41	0.41	0.41	0.41	J	041M580101			NA					0	3.45	0	No	EPC < RC
Sodium	0	1	11.4	11.4	11.4	11.4			11.4	U	ND			NA					0	18,993.33	0	No	Parameter Not Detected
Thallium	0	1	0.145	0.145	0.145	0.145			0.145	U	ND			NA					0	1.57	0	No	Parameter Not Detected
Vanadium	1	1				2.5	2.5	2.5	2.5	J	041M580101			NA					0	28.67	0	No	EPC < RC
Pesticides (g/kg)																							
Aldrin	0	1	0.06	0.06	0.06	0.06			0.06	U	ND			NA					0		0	No	Parameter Not Detected
Endosulfan I	0	1	0.06	0.06	0.06	0.06			0.06	U	ND			NA					0		0	No	Parameter Not Detected
Endosulfan II	0	1	0.115	0.115	0.115	0.115			0.115	U	ND			NA					0		0	No	Parameter Not Detected
Endosulfan sulfate	0	1	0.115	0.115	0.115	0.115			0.115	U	ND			NA					0		0	No	Parameter Not Detected
Heptachlor	0	1	0.06	0.06	0.06	0.06			0.06	U	ND			NA					0		0	No	Parameter Not Detected
Heptachlor epoxide	0	1	0.06	0.06	0.06	0.06			0.06	U	ND			NA					0		0	No	Parameter Not Detected
Methoxychlor	0	1	0.6	0.6	0.6	0.6			0.6	U	ND			NA					0		0	No	Parameter Not Detected
Toxaphene	0	1	12	12	12	12			12	U	ND			NA					0		0	No	Parameter Not Detected
alpha-BHC	0	1	0.06	0.06	0.06	0.06			0.06	U	ND		0.99	PEL			0.06	0.06	0		0	No	Parameter Not Detected
SVOCs (g/kg)																							
1,2,4-Trichlorobenzene	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichlorobenzene	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
1,4-Dichlorobenzene	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	1	550	550	550	550			550	U	ND			NA					0		0	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dichlorophenol	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dimethylphenol	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrophenol	0	1	550	550	550	550			550	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrotoluene	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
2,6-Dinitrotoluene	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
2-Chloronaphthalene	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
2-Chlorophenol	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	1	550	550	550	550			550	U	ND			NA					0		0	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
2-Nitroaniline	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
2-Nitrophenol	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
3-Nitroaniline	0	1	550	550	550	550			550	U	ND			NA					0		0	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
4-Chloroaniline	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
4-Nitroaniline	0	1	550	550	550	550			550	U	ND			NA					0		0	No	Parameter Not Detected
4-Nitrophenol	0	1	550	550	550	550			550	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	1	23	23	23	23			23	U	ND			NA					0		0	No	Parameter Not Detected
Carbazole	1	1				40	40	40	40	J	041M580101			NA					0		0	Yes	No SV, no RV, and no RC
Dibenzofuran	1	1				88	88	88	88	J	041M580101			NA					0		0	Yes	No SV, no RV, and no RC
Diethylphthalate	0	1	230	230	230	230			230	U	ND	182	2,647	PEL	1.26	1.26	0.09	0.09	0		0	No	Parameter Not Detected
Dimethylphthalate	0	1	230	230	230	230			230	U	ND	182	2,647	PEL	1.26	1.26	0.09	0.09	0		0	No	Parameter Not Detected
Di-n-octylphthalate	0	1	230	230	230	230			230	U	ND	182	2,647	PEL	1.26	1.26	0.09	0.09	0		0	No	Parameter Not Detected
Hexachlorobenzene	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
Hexachlorobutadiene	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
Hexachloroethane	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
Isophorone	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
Nitrobenzene	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	1	23	23	23	23			23	U	ND			NA					0		0	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected
Pentachlorophenol	0	1	550	550	550	550			550	U	ND			NA					0		0	No	Parameter Not Detected
Phenol	0	1	230	230	230	230			230	U	ND			NA					0		0	No	Parameter Not Detected

Table 15-4-7
Wetland 58 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
VOCs (g/kg)																							
1,1,1-Trichloroethane	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
1,1,2,2-Tetrachloroethane	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
1,1,2-Trichloroethane	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
1,1-Dichloroethane	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
1,1-Dichloroethene	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloroethane	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloroethene (total)	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloropropane	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
2-Butanone (MEK)	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
2-Hexanone	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Acetone	1	1				520	520	520	520		041M580101			NA					0		0	Yes	No SV, no RV, and no RC
Benzene	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Bromodichloromethane	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Bromoform	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Bromomethane	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Carbon disulfide	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Carbon tetrachloride	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Chlorobenzene	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Chloroethane	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Chloroform	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Chloromethane	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Dibromochloromethane	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Ethylbenzene	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Methylene chloride	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Styrene	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Tetrachloroethene	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Toluene	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Trichloroethene	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected
Vinyl chloride	0	1	8.5	8.5	8.5	8.5			8.5	U	ND			NA					0		0	No	Parameter Not Detected
Xylene (Total)	0	1	28	28	28	28			28	U	ND			NA					0		0	No	Parameter Not Detected

Notes:

Sources for Refinement Values (RVs):
PEL = FDEP Probable Effects Level
MEC = Swartz Midrange Effect Concentration

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
Parameters in bold were detected and exceeded screening values.

Supporting Information:
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
PEL = Probable effects level.

N/R = No refinement value available.
N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the maximum detections
NAS Pensacola basewide levels used as reference values for 4,4'-DDT, 4,4'-DDD, 4,4'-DDE and total DDT.

Table 15-4-8
Wetland 58 Phase II
Sediment COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
Detected Parameters			
None	None	Carbazole Dibenzofuran	None

Table 15-4-9
Wetland 58 Phase II
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M580101	1/24/1996	mg/kg	0.27	J	Arsenic	8.2	70	0.00
041M580101	1/24/1996	mg/kg	0.075	U	Cadmium	1.2	9.6	0.01
041M580101	1/24/1996	mg/kg	1.2		Chromium	81	370	0.00
041M580101	1/24/1996	mg/kg	1.8		Copper	34	270	0.01
041M580101	1/24/1996	mg/kg	7.8		Lead	46.7	218	0.04
041M580101	1/24/1996	mg/kg	0.03	U	Mercury	0.15	0.71	0.04
041M580101	1/24/1996	mg/kg	1.2	J	Nickel	20.9	51.6	0.02
041M580101	1/24/1996	mg/kg	0.18	U	Silver	1	3.7	0.05
041M580101	1/24/1996	mg/kg	2.3		Zinc	150	410	0.01
041M580101	1/24/1996	g/kg	0.115	U	4,4'-DDE	2.2	27	0.00
041M580101	1/24/1996	g/kg	0.115	U	4,4'-DDT	1.58	46.1	0.00
041M580101	1/24/1996	g/kg	8.71		Total PCBs	22.7	180	0.05
041M580101	1/24/1996	g/kg	110		2-Methylnaphthalene	70	670	0.16
041M580101	1/24/1996	g/kg	110		Acenaphthene	16	500	0.22
041M580101	1/24/1996	g/kg	23	U	Acenaphthylene	44	640	0.04
041M580101	1/24/1996	g/kg	84		Anthracene	85.3	1,100	0.08
041M580101	1/24/1996	g/kg	23	U	Benzo(a)anthracene	261	1,600	0.01
041M580101	1/24/1996	g/kg	23	U	Benzo(a)pyrene	430	1,600	0.01
041M580101	1/24/1996	g/kg	23	U	Chrysene	384	2,800	0.01
041M580101	1/24/1996	g/kg	23	U	Dibenz(a,h)anthracene	63.4	260	0.09
041M580101	1/24/1996	g/kg	110		Fluoranthene	600	5,100	0.02
041M580101	1/24/1996	g/kg	120		Fluorene	19	540	0.22
041M580101	1/24/1996	g/kg	220		Naphthalene	160	2,100	0.10
041M580101	1/24/1996	g/kg	250		Phenanthrene	240	1,500	0.17
041M580101	1/24/1996	g/kg	70		Pyrene	665	2,600	0.03
041M580101	1/24/1996				ERM Quotient Sum			1.40
041M580101	1/24/1996				Mean ERM Quotient			0.06
041M580101	1/24/1996				Mean ERM Quotient without ND			0.05
041M580101	1/24/1996				Mean ERM Quotient Category			3

Notes:
ERL = Effects Range Low
ERM = Effects Range Median
mg/kg = milligrams per kilogram
g/kg = micrograms per kilogram
U = not detected at or above the SQL (value in table is 1/2 reported value)
J = estimated value
Shaded cells indicate constituent exceeds ERL.
Shaded and bold cells indicate constituent exceeds ERM.

Table 15-4-10
Wetland 58 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
Metals (g/L)																
Aluminum	**1**	**1**				**1,090**	**1,090**	**1,090**	**041W580101**	**1,090**		**13**	**FDEP**	**83.8**	**Yes**	**Max Detect > SV**
Antimony	0	1	1	1	1	1			ND	1	UJ	160	EPA	0.01	No	Max SQL< SV
Arsenic	1	1				3.1	3.1	3.1	041W580101	3.1	J	50	FDEP	0.06	No	Max Detect < SV
Barium	1	1				3.4	3.4	3.4	041W580101	3.4	J		NA		Yes	No SV
Beryllium	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.13	FDEP	3.85	Yes	Max SQL > SV
Cadmium	0	1	1	1	1	1			ND	1	UJ	0.66	EPA	1.52	Yes	Max SQL > SV
Calcium	1	1				9,230	9,230	9,230	041W580101	9,230			NA		Yes	No SV
Chromium	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	11	EPA	0.23	No	Max SQL< SV
Cobalt	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Copper	1	1				5.2	5.2	5.2	041W580101	5.2	J	6.54	EPA	0.80	No	Max Detect < SV
Cyanide (CN)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	5.2	EPA	0.48	No	Max SQL< SV
Iron	1	1				4,070	4,070	4,070	041W580101	4,070			NA		Yes	No SV
Lead	**1**	**1**				**7.4**	**7.4**	**7.4**	**041W580101**	**7.4**		**1.32**	**EPA**	**5.61**	**Yes**	**Max Detect > SV**
Magnesium	1	1				4110	4110	4110	041W580101	4110	J		NA		Yes	No SV
Manganese	0	1	2.45	2.45	2.45	2.45			ND	2.45	U		NA		Yes	No SV
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.012	EPA	5.42	Yes	Max SQL > SV
Nickel	0	1	4.5	4.5	4.5	4.5			ND	4.5	U	87.71	EPA	0.05	No	Max SQL< SV
Potassium	1	1				1,420	1,420	1,420	041W580101	1,420	J		NA		Yes	No SV
Selenium	0	1	2	2	2	2			ND	2	U	5	EPA	0.4	No	Max SQL< SV
Silver	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.012	EPA	208	Yes	Max SQL > SV
Sodium	1	1				11,400	11,400	11,400	041W580101	11,400			NA		Yes	No SV
Thallium	0	1	2	2	2	2			ND	2	U	4	EPA	0.5	No	Max SQL< SV
Vanadium	1	1				10.6	10.6	10.6	041W580101	10.6	J		NA		Yes	No SV
Zinc	0	1	2	2	2	2			ND	2	U	58.91	EPA	0.03	No	Max SQL< SV
Pesticides (g/L)																
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan I	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.056	EPA	0.45	No	Max SQL< SV
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0038	EPA	6.58	Yes	Max SQL > SV
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	Yes	Max SQL > SV
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	U		NA		Yes	No SV
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	11.6	Yes	Max SQL > SV
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	21.7	Yes	Max SQL > SV
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.08	EPA	0.31	No	Max SQL< SV
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA		Yes	No SV
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	Yes	Max SQL > SV
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	Yes	Max SQL > SV
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP	84.7	Yes	Max SQL > SV
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
PCBs (g/L)																
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1221	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	EPA	35.7	Yes	Max SQL > SV
Total PCB	0	1	4	4	4	4			ND	4	U		NA		Yes	No SV
SVOCs (g/L)																
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
SVOCs (g/L) - cont.																
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV

Table 15-4-10
Wetland 58 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	43.8	EPA	0.06	No	Max SQL< SV
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.3	EPA	8.33	Yes	Max SQL > SV
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Di-n-butylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	9.4	EPA	0.27	No	Max SQL< SV
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
PAHs (g/L)																
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	26	FDEP	0.02	No	Max SQL< SV
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA		Yes	No SV
VOCs (g/L)																
1,1,1-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	270	FDEP	0.00	No	Max SQL< SV
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3.2	FDEP	0.16	No	Max SQL< SV
VOCs (g/L) - cont.																
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	15.8	EPA	0.03	No	Max SQL< SV

Table 15-4-10
Wetland 58 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3	FDEP	0.17	No	Max SQL< SV
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Benzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	53	EPA	0.01	No	Max SQL< SV
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	17	FDEP	0.03	No	Max SQL< SV
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chloroform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	289	EPA	0.00	No	Max SQL< SV
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Ethylbenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	453	EPA	0.00	No	Max SQL< SV
Methylene chloride	0	1	1	1	1	1			ND	1	U	1,580	FDEP	0.00	No	Max SQL< SV
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Toluene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	175	EPA	0.00	No	Max SQL< SV
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8)
HQ = Hazard Quotient.
N/R = No refinement value available.
N/A = Not Applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the maximum detections.
Parameters in bold were detected and exceeded the screening value.

Table 15-4-11
Wetland 58 Phase II
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	None	None
Barium			
Calcium			
Iron			
Lead			
Magnesium			
Potassium			
Sodium			
Vanadium			
		Not Detected Parameters	
Beryllium	Aldrin	1,2,4-Trichlorobenzene	1,1,2,2-Tetrachloroethane
Cadmium	Dieldrin	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1,2-Trichloroethane
Cobalt	Endosulfan II	2,4,5-Trichlorophenol	1,1-Dichloroethane
Manganese	Endosulfan sulfate	2,4,6-Trichlorophenol	1,2-Dibromo-3-Chloropropane
Mercury	Heptachlor	2,4-Dichlorophenol	1,2-Dibromoethane
Silver	Heptachlor epoxide	2,4-Dimethylphenol	1,2-Dichloroethane
	Methoxychlor	2,4-Dinitrophenol	1,2-Dichloropropane
	Toxaphene	2,4-Dinitrotoluene	1,3-Dichlorobenzene
	alpha-Chlordane	2,6-Dinitrotoluene	2-Hexanone
	gamma-Chlordane	2-Chloronaphthalene	4-Methyl-2-Pentanone (MIBK)
	Total Chlordane	2-Methyl-4,6-Dinitrophenol	Bromochloromethane
	Endrin	2-Methylphenol (o-Cresol)	Bromodichloromethane
	Endrin aldehyde	2-Nitroaniline	Bromoform
	Endrin ketone	2-Nitrophenol	Bromomethane
	Total Endrin	3,3'-Dichlorobenzidine	Carbon disulfide
	alpha-BHC	3-Nitroaniline	Carbon tetrachloride
	beta-BHC	4-Bromophenyl-phenylether	Chloroethane
	delta-BHC	4-Chloro-3-methylphenol	Chloromethane
	Total BHC	4-Chloroaniline	cis-1,2-Dichloroethene
	4,4'-DDD	4-Chlorophenylphenyl ether	cis-1,3-Dichloropropene
	4,4'-DDE	4-Methylphenol (p-Cresol)	Dibromochloromethane
	4,4'-DDT	4-Nitroaniline	Styrene
	Total DDT	4-Nitrophenol	Tetrachloroethene
	Aroclor-1016	Benzo(b)fluoranthene	trans-1,2-Dichloroethene
	Aroclor-1221	Benzo(g,h,i)perylene	trans-1,3-Dichloropropene
	Aroclor-1232	Benzo(k)fluoranthene	Trichloroethene
	Aroclor-1242	bis(2-Chloroethoxy)methane	Vinyl chloride
	Aroclor-1248	bis(2-Chloroethyl)ether	Xylene (Total)
	Aroclor-1254	bis(2-Ethylhexyl)phthalate (BEHP)	
	Aroclor-1260	Butylbenzylphthalate	
	Total PCBs	Dibenzofuran	
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Indeno(1,2,3-cd)pyrene	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	
		2-Methylnaphthalene	
		Acenaphthene	
		Acenaphthylene	
		Anthracene	
		Benzo(a)anthracene	
		Benzo(a)pyrene	
		Chrysene	
		Dibenz(a,h)anthracene	
		Fluoranthene	
		Fluorene	
		Phenanthrene	
		Pyrene	
		Total PAHs	

Table 15-4-12
Wetland 58 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
Metals (g/L)																			
Aluminum	**1**	**1**				**1,090**	**1,090**	**1,090**	**041W580101**	**1,090**		**13**	**FDEP**	**84**	**83.8**	**1,090.25**	**0**	**No**	**Max Result < Ref. Conc.**
Barium	1	1				3.4	3.4	3.4	041W580101	3.4	J		NA			3.68	0	No	Max Result < Ref. Conc.
Beryllium	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.13	FDEP	4	3.85	1	0	No	Max SQL < Ref. Conc.
Cadmium	0	1	1	1	1	1			ND	1	UJ	0.66	EPA	2	1.52	3	0	No	Max SQL < Ref. Conc.
Calcium	1	1				9,230	9,230	9,230	041W580101	9,230			NA			7,675	1	No	Essential Nutrient
Cobalt	0	1	1	1	1	1			ND	1	U		NA			3	0	No	Max SQL < Ref. Conc.
Iron	1	1				4,070	4,070	4,070	041W580101	4,070			NA			2,360	1	Yes	Max Result > Ref. Conc.
Lead	**1**	**1**				**7.4**	**7.4**	**7.4**	**041W580101**	**7.4**		**1.32**	**EPA**	**6**	**5.61**	**3.2**	**1**	**Yes**	**Max Result > Ref. Conc.**
Magnesium	1	1				4,110	4,110	4,110	041W580101	4,110	J		NA			20,260	0	No	Max Result < Ref. Conc.
Manganese	0	1	2.45	2.45	2.45	2.45			ND	2.45	U		NA			13.2	0	No	Max SQL < Ref. Conc.
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.012	EPA	5.42	5.42	0.13	0	No	Max SQL < Ref. Conc.
Potassium	1	1				1,420	1,420	1,420	041W580101	1,420	J		NA			6,995	0	No	Max Result < Ref. Conc.
Silver	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.012	EPA	208.33	208	4	0	No	Max SQL < Ref. Conc.
Sodium	1	1				11,400	11,400	11,400	041W580101	11,400			NA			182,200	0	No	Max Result < Ref. Conc.
Vanadium	1	1				10.6	10.6	10.6	041W580101	10.6	J		NA			4.7	1	Yes	Max Result > Ref. Conc.
Pesticides (g/L)																			
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0038	EPA	7	6.58		0	No	Parameter Not Detected; Max SQL > SV
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	625		0	No	Parameter Not Detected; Max SQL > SV
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	U		NA				0	No	Parameter Not Detected
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	12	11.6		0	No	Parameter Not Detected; Max SQL > SV
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	22	21.7		0	No	Parameter Not Detected; Max SQL > SV
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	No	Parameter Not Detected
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.08	EPA	0.31	0.31		0	No	Parameter Not Detected; Max SQL < SV
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA				0	No	Parameter Not Detected
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	167		0	No	Parameter Not Detected; Max SQL > SV
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	250		0	No	Parameter Not Detected; Max SQL > SV
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP	85	84.7		0	No	Parameter Not Detected; Max SQL > SV
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	No	Parameter Not Detected
PCBs (g/L)																			
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1221	0	1	1	1	1	1			ND	1	U		NA				0	No	Parameter Not Detected
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	EPA	36	35.7		0	No	Parameter Not Detected; Max SQL > SV
Total PCB	0	1	4	4	4	4			ND	4	U		NA				0	No	Parameter Not Detected
SVOCs (g/L)																			
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected

Table 15-4-12
Wetland 58 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
SVOCs (g/L) - cont.																			
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.3	EPA	8.33	8.33		0	No	Parameter Not Detected; Max SQL > SV
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
PAHs (g/L)																			
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	26	FDEP	0.02	0.02		0	No	Parameter Not Detected; Max SQL < SV
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA				0	No	Parameter Not Detected
VOCs (g/L)																			
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected

Table 15-4-12
Wetland 58 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
VOCs (g/L) - cont.																			
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL

UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
PEL = Probable effects level.
N/R = No refinement value available.

N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters
As a result, some average detections may exceed the Max detections
Parameters in bold were detected and exceeded Ref. Conc.s

Table 15-4-13
Wetland 58 Phase II
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Iron	None	None	None
Lead			
Vanadium			

15.5 Wetland W2 — Screening Level Problem Formulation

15.5.1 Site Description and Habitats Present at Wetland W2

Wetland W2, also known as the Southeast Drainage Ditch, drains surface and storm water from the northeastern end of Forrest Sherman Field and the Barrancas Cemetery area into the southern portion of Redoubt Bayou (Figure 15-1).

Parsons and Pruitt (USEPA, 1991a) had not classified or described Wetland W2; however, E&E, Inc. added the site to the list (E&E, 1992). Wetland W2 contains emergent vegetation such as cattails (*Typha latifolia*) and duck potato (*Sagittaria sp*). Vegetation is periodically cleared from this system to facilitate free flow of water. The Wetland W2 drainage system received surface water from the cemetery area via buried twin eight-foot diameter culverts, which pass under Taylor Road, emerging on the northwest side of Site 1 adjacent to Wetland 1. This feature continues to the southwest as an open drainage ditch for approximately 1,000 feet until it intersects Wetland W2 about 900 feet upstream from Redoubt Bayou. Wetland W2 is tidally influenced from Redoubt Bayou to this intersection. An active NPDES permit location exists where the two ditches intersect. During the Site 41 RI, the wetland and associated drainage area were sampled and results were reported.

The IR sites potentially affecting Wetland W2 are Sites 1 (OU 1), 5, 6, and 16.

As described in Section 10, the Site 1 landfill was used from the mid-1950s until 1976 as the predominant disposal site for all solid wastes generated on the base. Based on the data collected during the Site 1 RI, the *Final ROD* (EnSafe, 1998a) issued on August 19, 1998, outlined three RAOs for the OU 1 site:

- Protection of groundwater from leachable compounds
- Restoration of groundwater and prevention of further contamination of shallow/intermediate groundwater
- Prevention of further contamination of surface water in Wetland 3

The following remedial actions were selected for the site:

- Institutional controls to restrict groundwater use and intrusive activities
- Implementation of a groundwater monitoring program to ensure that natural processes are effectively reducing the concentrations of organic compounds to attain performance standards

- A groundwater interceptor system to treat the iron-contaminated groundwater that is migrating from the landfill and discharging to Wetland 3

The long-term monitoring plan was implemented by TetraTech NUS. Groundwater was monitored for the following constituents: 1,1,2,2-tetrachlorethane, benzene, chlorobenzene, vinyl chloride, xylenes, aluminum, cadmium, chromium, iron, manganese, and nickel.

Based upon collected data, the Third Annual Groundwater Monitoring Report recommended continued monitoring for benzene, xylenes, vinyl chloride, aluminum, cadmium, iron, and manganese (TtNUS, 2003). The other constituents no longer exceeded MCLs and were dropped from the monitoring plan. Treatment of iron at Wetland 3 is discussed in Section 10.2.

Site 5 (Borrow Pit) occupies an area approximately 650 by 800 feet and is bordered to the north and south by wooded areas and on the east by Site 6. Site 5 was a cover material source for Site 1, the Sanitary Landfill. Concentrations detected during the Site 5 investigation were low (E/A&H, 1995a). A previous UST investigation at Site 3221NE, adjacent to the northwest corner of Site 5, showed that the contaminants were not associated with Site 5 (E/A&H, 1995a). Site 3221NE will be addressed under the Florida Petroleum Program. The USEPA (USEPA Region 4, 1995a) and FDEP (1995a) approved remedial alternative for Site 5 was no action.

Site 6 (Fort Redoubt Rubble Disposal Area) is covered by concrete and asphalt rubble, scrap wood, brush piles, metal, plastic, and other debris. There are no paved areas on site. Site 6 is an active construction rubble debris landfill subject to State of Florida solid waste regulations. Therefore, the site was not investigated under the IR program. FDEP concurred with the finding in 1997 (FDEP, 1997d).

Site 16 (Brush Disposal Site) consists of the disposal site for tree pruning and trimming from the late 1960s. Site 16 occupies approximately 30 acres of a sparsely vegetated, open field immediately northeast of Sherman Field. It was reportedly used during the late 1960s to 1973 for the disposal of pruning and tree-trimming refuse. However, the area may have been used for garbage incineration and ash disposal. There was no evidence of chemical usage onsite. A visual inspection showed evidence of brush and several pieces of metal onsite.

Inorganic constituents in Site 16 soil were similar to those identified at other sites in the area (E/A&H, 1997a). Elevated soil PAH concentrations likely originated from a source not related to site activities (E/A&H, 1997a). Detected concentrations of aluminum and iron in groundwater were below their respective reference concentrations at all locations but one for each constituent

(E/A&H, 1997a). The USEPA (USEPA Region 4, 1997c) and FDEP (FDEP, 1997a) approved alternative for Site 16 was no action.

Photograph 1 Wetland W2 — Facing North

15.5.2 Wetland W2 — Sample Location Description

Sediment Sample Location Description

Three sediment samples were collected and analyzed for the Wetland W2 ERA. Sample locations for Wetland W2 were located along the southwest portion of the open drainage ditch, at the convergence of Wetland W2 and surrounding drainage area, as well as at the mouth of the drainage system and Redoubt Bayou (Figure 15-4). Table 15-5-1 (tables are located at the end of each section) provides a physical description of the sediments collected at Wetland W2. Sediments at Wetland W2 were mostly composed of fine-grained sand to medium fine-grained sand. The sediment location near Redoubt Bayou was mostly composed of dark brown silty sand with organics (041MW20101 and 041MW20301) to brown poorly graded sand, medium, trace of silt (041MW20201). TOC concentrations ranged from 0.511% at 041MW20201 to 16.5% at the 041MW20301, nearest the bayou.

Surface Water Sample Location Description

One surface water sample was collected at Wetland W2, location 041WW20201 (Figure 15-4), which was collocated with sediment location 041MW20201. The surface water sample was collected during

the 1996 site investigation. Table 15-5-2 provides a physical description of the surface water collected at Wetland W2. Surface water at Wetland W2 had a pH concentration of 6.22. Specific conductivity concentration was 0.35 mS/cm. Hardness as $CaCO_3$ reported a concentration of 43.3 mg/L, and salinity was 0.04%. Surface water at Wetland W2 had a turbidity reading of 6 NTUs.

15.5.3 Nature and Extent of Contamination

Phase II Sediment

Figure 15-4 presents the Phase II sediment sampling locations for Wetland W2. Table 15-5-3 presents a summary of the analytical results of the three Phase II sediment samples.

Metals — Nineteen metals were detected during Phase II sediment sampling at Wetland W2. The distribution of inorganic detections and reference value exceedances were primarily centered at location 041MW20301, near the north edge of the wetland and the Redoubt Bayou. Of the 19 metals detected, nine exceeded the estuarine reference values. Location 041MW20101, near the southern edge of the wetland, exhibited reference value exceedances for two analytes. Barium and selenium were the common analytes exceeding the reference values at the four locations. Location 041MW20201, near the center of the wetland contained the fewest metal detections (15), none of which exceeded the reference concentration.

Pesticides and PCBs — Eight pesticide compounds and the PCB aroclor-1260 were detected during Phase II sediment sampling at Wetland W2. Total DDT was calculated for each location by adding the concentrations of 4,4′-DDD, 4,4′-DDE, and 4,4′-DDT. Likewise, a basewide total DDT reference concentration was calculated using the basewide concentrations for these same constituents.

The greatest number of pesticides detected in Wetland W2 sediments during Phase II sampling was situated near the south end of the wetland at location 041MW20101. The number of detections and concentrations decreased proceeding north along the wetland, with four pesticide compounds detected at the center (location 041MW20201), and one detected at the north end (location 041MW20301). None of the detections exceeded reference concentrations. Aroclor-1260 was detected at three locations at relatively low concentrations. A reference concentration has not been established for aroclor-1260.

SVOCs — Nine SVOCs (including PAHs) were detected in sediment samples collected during Phase II sampling at Wetland W2. The distribution of detections and concentrations generally mirrored the pesticide detections. Location 041MW20101, located at the southern edge of the wetland, contained eight SVOCs. The most commonly detected compounds were bis(2-ethylhexyl)phthalate, butylbenzylphthalate, and di-n-butylphthalate. No reference concentration has been established for the detected compounds.

VOCs — One VOC was detected in sediments collected from Wetland W2 during Phase II sampling. Acetone, a common laboratory artifact, was detected at 041MW20301, located at the northern edge of the wetland. A reference concentration has not been established for acetone.

Phase II Surface Water

Figure 15-4 presents the Phase II surface sampling locations for Wetland W2. Table 15-5-4 presents a summary of the analytical results of the one Phase II surface water sample.

Metals — Ten metals were detected in the Phase II surface water sample collected from Wetland W2. Manganese was the only metal detected above its estuarine reference concentration. Sample 41WW20201, located at the center of the wetland, contained one exceedance for manganese.

Pesticides and PCBs — No pesticides or PCBs were detected during Phase II surface water sampling at Wetland W2.

SVOCs — One SVOC, 2-methylnaphthalene, was detected at a relatively low concentration during Phase II surface water sampling at Wetland W2. No reference concentration is established for 2-methylnaphthalene.

VOCs — VOCs were not detected during Phase II surface water sampling at Wetland W2.

15.5.4 Ecological Risk Assessment

Phase II Investigation Summary — Wetland W2

Sediment Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 15-5-5, the sediment samples were compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than 1 or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-5-6.

Baseline Problem Formulation — Wetland W2 Sediment COPC Refinement

During the COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs. This risk assessment presents a statement of potential risk for each of the COPCs.

The COPC refinement process included:

- Comparison of maximum concentrations to RVs
- Comparison of average concentrations to SVs and RVs

- Comparison to basewide (reference) concentrations for total DDT
- Comparison of inorganic constituents to reference wetland values
- Regression analysis for metals
- Di Toro EqP SQGs for VOCs
- Comparison to Swartz consensus values
- Mean ERM quotients
- Description of exceedances of RVs and their extent

The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 15-5-7. Additionally, the tables compare: 1) average concentrations to screening and refinement values to assess potential exposure across the entire wetland, and 2) Wetland W2 concentrations to reference concentrations. COPCs retained after refinement are presented in Table 15-5-8.

At Wetland W2, total DDT and its daughter products were below the basewide level, indicating these constituents were not a concern for this wetland. For Wetland W2, aluminum, arsenic, barium, beryllium, cobalt, iron, selenium, and vanadium exceeded their Site 41 estuarine sediment reference concentrations. The following constituents were retained as COPCs: aluminum, barium, beryllium, cobalt, iron, selenium, and vanadium. Based on regression analysis, the barium concentration at sample location 041MW20101 was identified as an outlier when normalized to iron concentrations.

Several organic constituents were detected and retained as COPCs due to a lack of screening criteria: aldrin, endrin, total endrin, benzo(b)fluoranthene, indeno(1,2,3-cd)pyrene, and acetone. When normalized to detected TOC concentrations, both VOCs and PAHs do not appear to be risk drivers for Wetland W2.

Table 15-5-9 presents the Mean ERL and ERM values, the Mean ERM Quotients, and the Mean ERM Quotient Category by individual sample location. Based on this approach, two of the three sample locations (041MW20101 and 041MW20301) were determined to be Category 2, which, according to tests evaluated in developing this methodology, had average survival rates of approximately 80% of control sediments; however, this category also has the highest level of uncertainty. Sample location 041MW20201 was determined to be a Category 1, indicating sediment at this location were considered nontoxic. Figure 15-7 also shows the Mean ERM category for each sediment sample location at Wetland W2.

At Wetland W2, beryllium and cobalt were detected at two of the three sample locations, with a maximum detection of 0.35 mg/kg and 3.3 mg/kg, respectively, occurring at sample location 041MW20301. Aluminum had a maximum concentration of 6,700 mg/kg; iron had a

detection of 5,130 mg/kg; and vanadium was reported with a maximum concentration of 27 mg/kg. These constituents' maximum concentrations occurred at sample location 041MW20301. The following constituents and concentrations were reported at sample location 041MW20101: barium with a maximum detection of 11.5 mg/kg; and selenium had a maximum concentration of 1.6 mg/kg.

Aldrin was detected at one of the three sample locations, with a detection of 0.23 µg/kg occurring at 041MW20101. No background values were available for this compound. Endrin and total endrin were detected in two of the sample locations, with the maximum concentration reported for sample location 041MW20301. Screening criteria is no available for these constituents. Benzo(b)fluoranthene and indeno(1,2,3-cd)pyrene were detected at sample location 041MW20101, with maximum concentration of 28 µg/kg and 26 µg/kg, respectively. There were no background values available for these constituents.

Surface Water Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 15-5-10, the surface water sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than one or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-5-11.

Baseline Problem Formulation — Wetland W2 Surface Water COPC Refinement

During the surface water COPC refinement, additional information will be used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs. The COPC refinement process included:

- Comparison of maximum SV concentrations to average SV concentrations
- Comparison of inorganic constituents to reference wetland values
- Description of surface water exceedances and their extent

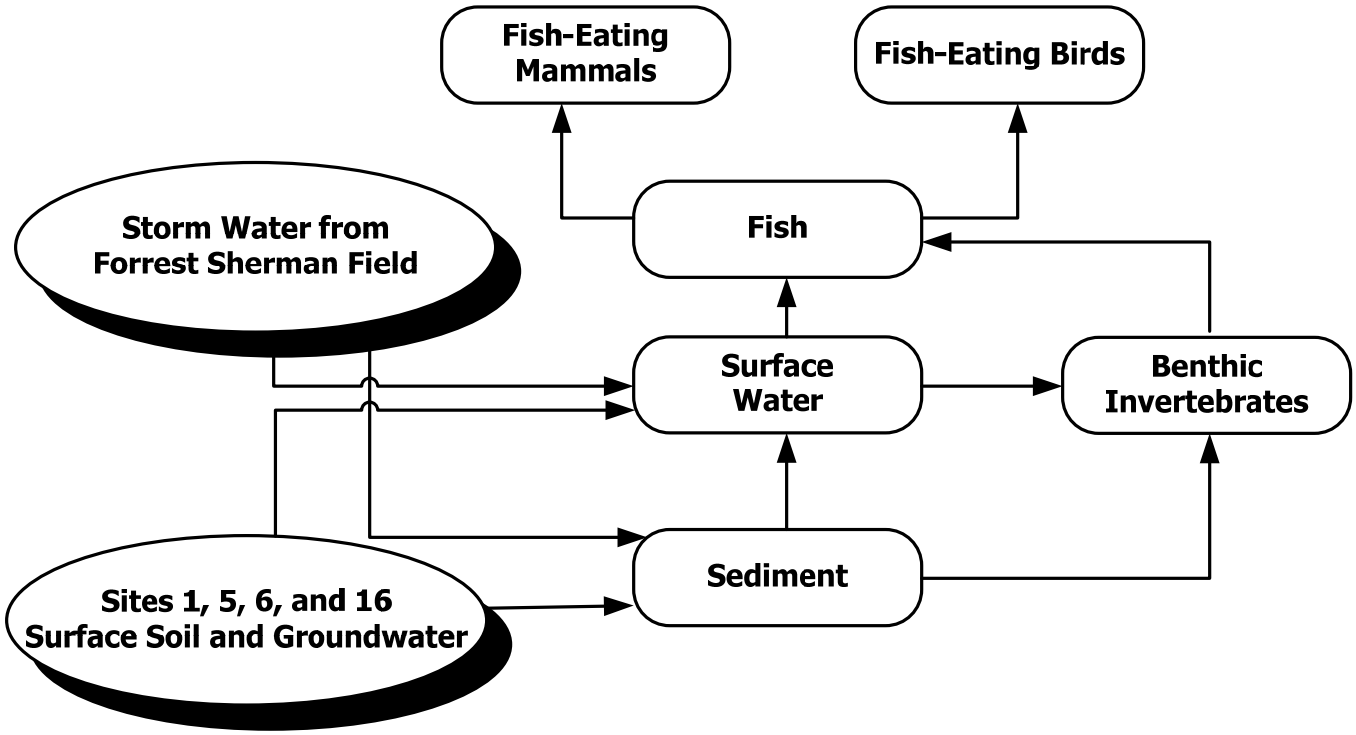
The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 15-5-12. Additionally, the tables compare average concentrations to screening and refinement values to assess potential exposure across the entire wetland. A list of COPCs retained after refinement are presented in Table 15-5-13.

For Wetland W2, manganese exceeded its Site 41 estuarine reference surface water concentration (Table 15-5-12). 2-Methylnaphthalene and total PAH were detected and retained as COPCs during the ERA process.

Based on the Phase II results described above, Wetland W2 was identified as a Blue-Coded Wetland in the approved *Final RI/FS SAP Addendum* (E/A&H, 1997d), indicating that contaminants were present generally below screening values, and contaminants did not appear to be site related. Blue-Coded Wetlands were not assessed further in Phase III. However, to assess potential risks from contaminants that bioaccumulate, the results from Wetland W2 will be used in the food-chain model for the remaining wetlands presented in Section 15.8.

The conceptual model below symbolizes which environmental habitats, may be impacted by Wetland W2 Phase II constituents retained during the ERA process.

Wetland W2
Conceptual Site Model



15.5.5 Wetland W2 — Human Health Risk Assessment

Wetland W2 is described in Section 15.5.1, and the HHRA is summarized below.

15.5.5.1 Site Data

Section 15.6.3 summarizes the nature and extent of contamination for this wetland. Surface water and sediment data were collected at Wetland W2 during Phase II. Sediment and surface water data for W2 are summarized in Tables 15-5-3 and 15-5-4.

15.5.5.2 Conceptual Site Model

As described in Section 15.5.1, Wetland W2, also known as the Southeast Drainage Ditch, drains surface and storm water from the northeastern end of Forrest Sherman Field and the Barrancas Cemetery area into the southern portion of Redoubt Bayou. Because Wetland W2 is located in a restricted area of the base, the wetland is only accessible to Navy personnel.

Wetland W2 is continually inundated; therefore, in accordance with USEPA Region IV Supplemental Guidance to RAGS Bulletins (2000) described in Section 9, sediment exposure was not assessed in this HHRA, because it is assumed to be an insignificant exposure pathway.

The following scenarios and exposure pathways were evaluated for this wetland:

Scenario	Medium	Ingestion	Dermal
Maintenance	Surface water	√	√

15.5.5.3 Risk Characterization

The adult maintenance worker scenario for surface water was assessed for this wetland as described in Section 9.

Phase II Data

Maintenance Worker

As shown in Tables 15-5-14 and 15-5-16, surface water ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

Summary of Wetland W2 Phase II Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Surface water	6.92E-04	N/A

Based on Phase II data, no COCs for Wetland W2 were identified.

Wetland W2 HHRA COC Summary

No COCs were identified in the HHRA for Wetland W2.

15.5.6 Wetland W2 — Fate and Transport Analysis

This wetland is a drainage feature that borders the southeastern and northwestern boundaries of the northeast-southwest runway of Forrest Sherman Field. Four samples (three sediment samples and one surface water sample) were collected in the portion of this wetland that flows to the northwest.

The wetland receives drainage from the northeastern portion of the northeast-southwest Forrest Sherman Field runway and receives storm water drainage and groundwater discharge from IR Sites 5 and 16 (see Figure 15-1).

The sediment and surface water COPCs retained after refinement for this wetland are summarized in Tables 15-5-8 and 15-5-13 respectively. Provided below are the associated soil borings and monitoring wells used for comparing data for the fate and transport analysis.

Monitoring Wells Associated with W2: 005GGS01, 005GGS02, 005GGS04, 005GGS03, 016GGS08, 016GGS06, 016GGS07, 016GGS03, 016GGS05

Borings Associated with W2: 005S0001, 005S0002, 005S0004, 005S0005, 005S0003, 016S0008, 016S0009, 016S0006, 016S0007, 016S0003, 016S0012, 016S0011, 016S0005

Surface Water/Sediment Transport into the Wetlands Media:

Surface Water — There was no directly comparable storm water data from the area proximal to this wetland complex. Because of the lack of data, no definitive statement can be made regarding the validation of the storm water runoff pathway into the wetland complex. The vast majority of surface water drainage to this wetland is runoff from the northeast-southwest runway at Forrest Sherman Field. The wetland is also be affected by storm water runoff and groundwater discharge from Sites 5 and 16. Borings and wells from these sites were evaluated as potential impacts to the wetland.

Sediment — Based on the data from surface soil in associated borings, this pathway was validated for the following parameters:

Phase II
Aluminum
Barium
Beryllium
Cobalt
Iron
Selenium
Vanadium
Aldrin
Benzo(b)fluoranthene
Indeno(1,2,3-cd)pyrene

Groundwater Discharge into the Wetland Media:

Surface Water — Based on the data from associated wells, the groundwater to surface water pathway was validated and significant for the following parameters (note that 1993 data are not used due to the potential bias from sampling methodology):

Phase II
Manganese

Sediment — Based on the data from associated wells, the groundwater to sediment pathway was validated and significant for the following parameters (note that 1993 data are not used due to the potential bias from sampling methodology):

Phase II
Aluminum
Beryllium
Iron
Vanadium

Surface Water/Sediment Transport within the Wetlands:

Surface Water — Because there was only one surface water sample collected in this wetland, this pathway could not be evaluated.

Sediment — To evaluate this pathway, upgradient sediment sample location041MW201 was compared to downgradient sample locations 041MW202 and 041MW203.

Evaluation of locations 041MW201 and 041MW202 indicated a decrease in detected parameters downgradient (18 metals and 17 organics upgradient versus 15 metals and eight organics

downgradient). TOC exhibited a marked decrease downgradient. For metals, one parameter was present in the downgradient location that was not detected in the upgradient location. Of the 14 metals detected at both locations all exhibited a marked decrease. For the organics, six compounds exhibited a decrease downgradient and two compounds exhibited an increase; decreases in organics were only moderate. The organics detected consist of low level PCBs, pesticides, and phthalates. PCBs and the pesticides were consistent with application residuals and storm water runoff, and the phthalates may be laboratory artifacts.

Evaluation of locations 041MW202 and 041MW203 indicate an increase in inorganic detections and a decrease in organics (15 metals and eight organics upgradient versus 18 metals and four organics downgradient). TOC exhibited a marked increase. For the metals, three parameters were present downgradient that were not detected in the upgradient location. Of the 15 parameters detected in both locations, all 15 exhibited a marked increase. For the organics, three compounds were present in the downgradient locations that were not detected in the upgradient location. Only one organic detected at both exhibited an increase. Detected organics at both locations were similar and consistent with pesticide application residuals and potential laboratory artifacts (phthalates).

Table 15-5-1
Wetland W2 Phase II
Sediment Physical Parameters

Parameter	041MW20101	041MW20201	041MW20301
TOC (%)	1.68	0.511	16.5
Percent Solids (%)	69.3	71.5	17
Grain Size Analysis (percent of composition[1])			
Medium Sand	16	29	10
Fine Sand	72	70	51
Silt and Clay	12	1	39
Description	Dark Brown Silty Sand with organics	Brown Poorly Graded Sand, Medium, Trace of Silt	Dark Brown Silty Sand with Organics

Note:
[1] = Derived from sieve analyses.

Table 15-5-2
Wetland W2 Phase II
Surface Water Physical Parameters

Parameter	041WW20201
Hardness as CaCO3 (mg/L)	43.3
pH	6.22
Specific Conductivity (mS/cm)	0.35
Turbidity (NTU)	6
Salinity (%)	0.04

Notes:
mg/L = Milligrams per liter
pH = Hydrogen ion content
MS/cm = Millisiemens per centimeter
NTU = Nephelometric turbidity units
% = Percent

Table 15-5-3
Wetland W2
Phase II Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections		Range of Detections		Average Detection	Maximum Detection Location
			Number Detected	Number Analyzed	Minimum Detection	Maximum Detection		
Metals (mg/kg)								
Aluminum	4,274.0	1	3	3	607.0	6,700.0	3,620.0	041MW20301
Arsenic	2.140	1	2	3	0.50	14.10	4.890	041MW20301
Barium	3.840	2	3	3	1.0	11.50	6.270	041MW20101
Beryllium	0.130	1	2	3	0.080	0.350	0.155	041MW20301
Cadmium	0.390	0	1	3	0.180	0.180	0.187	041MW20101
Calcium	1,978.80	0	3	3	285.0	1,250.0	623.0	041MW20301
Chromium	13.10	0	3	3	0.760	10.20	5.450	041MW20301
Cobalt	0.910	1	2	3	0.240	3.30	1.20	041MW20301
Copper	8.440	0	3	3	1.30	4.70	3.070	041MW20301
Iron	2,684.40	1	3	3	209.0	5,130.0	2,050.0	041MW20301
Lead	21.040	0	3	3	2.30	17.10	9.50	041MW20101
Magnesium	2,943.60	0	3	3	93.50	1,660.0	636.0	041MW20301
Manganese	9.810	0	3	3	1.20	6.0	3.40	041MW20301
Nickel	3.690	1	3	3	0.80	9.20	3.770	041MW20301
Potassium	899.720	0	3	3	32.0	503.0	208.0	041MW20301
Selenium	0.660	2	3	3	0.460	1.60	1.120	041MW20101
Sodium	11,439.60	0	2	3	254.0	2,430.0	896.0	041MW20301
Vanadium	8.590	1	3	3	1.20	27.0	11.30	041MW20301
Zinc	14.360	0	3	3	4.90	10.40	7.670	041MW20301
PAHs (g/kg)								
Chrysene	N/A	0	1	3	40.0	40.0	81.80	041MW20101
Fluoranthene	N/A	0	1	3	47.0	47.0	84.20	041MW20101
Pyrene	N/A	0	1	3	82.0	82.0	95.80	041MW20101
Total PAHs	N/A	0	1	3	362.0	362.0	941.0	041MW20101
Pesticides and PCBs (g/kg)								
Aroclor-1260	N/A	0	3	3	1.70	5.60	3.70	041MW20301
Total PCBs	N/A	0	3	3	9.350	37.350	19.30	041MW20301
Aldrin	N/A	0	1	3	0.230	0.230	0.170	041MW20101
Dieldrin	N/A	0	1	3	0.340	0.340	0.30	041MW20101
alpha-Chlordane	N/A	0	2	3	0.140	0.220	0.197	041MW20201
Total Chlordane	N/A	0	2	3	0.195	0.270	0.308	041MW20201
Endrin	N/A	0	2	3	0.770	2.50	1.130	041MW20301
Total Endrin	N/A	0	2	3	0.990	3.410	1.570	041MW20301
delta-BHC	N/A	0	1	3	0.630	0.630	0.303	041MW20101
Total BHC	N/A	0	1	3	0.795	0.795	0.638	041MW20101
4,4'-DDD	50.0	0	2	3	0.860	5.80	2.370	041MW20101
4,4'-DDE	40.0	0	2	3	0.380	2.40	1.080	041MW20101
4,4'-DDT	20.0	0	2	3	0.280	3.50	1.410	041MW20101
Total DDT	110.0	0	2	3	1.520	11.70	4.860	041MW20101
SVOCs (g/kg)								
Benzo(b)fluoranthene	N/A	0	1	3	28.0	28.0	77.80	041MW20101
bis(2-Ethylhexyl)phthalate (BEHP)	N/A	0	2	3	55.0	460.0	788.0	041MW20101
Butylbenzylphthalate	N/A	0	2	3	21.0	32.0	634.0	041MW20101
Diethylphthalate	N/A	0	1	3	220.0	220.0	213.0	041MW20301
Di-n-butylphthalate	N/A	0	2	3	33.0	39.0	641.0	041MW20101
Indeno(1,2,3-cd)pyrene	N/A	0	1	3	26.0	26.0	77.20	041MW20101
VOCs (g/kg)								
Acetone	N/A	0	1	3	210.0	210.0	83.70	041MW20301

Notes:
g/kg = micrograms per kilogram
mg/kg = milligram per kilogram
N/A = Not Applicable

Table 15-5-4
Wetland W2 Phase II
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Range of Detections: Average Detection	Maximum Detection Location
Metals (g/L)								
Aluminum	2,927.5	0	1	1	213.0	213.0	213.0	041WW20201
Barium	9.43	0	1	1	8.2	8.2	8.2	041WW20201
Calcium	76,800.0	0	1	1	15,000.0	15,000.0	15,000.0	041WW20201
Copper	7.03	0	1	1	6.8	6.8	6.8	041WW20201
Iron	1,352.0	0	1	1	309.0	309.0	309.0	041WW20201
Magnesium	243,650.0	0	1	1	1,450.0	1,450.0	1,450.0	041WW20201
Manganese	12.15	1	1	1	17.2	17.2	17.2	041WW20201
Potassium	81,250.0	0	1	1	1,870.0	1,870.0	1,870.0	041WW20201
Sodium	1,952,000.0	0	1	1	5,260.0	5,260.0	5,260.0	041WW20201
Zinc	12.88	0	1	1	8.8	8.8	8.8	041WW20201
SVOCs (g/L)								
2-Methylnaphthalene	N/A	0	1	1	1.0	1.0	1.0	041WW20201
Total PAH	N/A	0	1	1	7.0	7.0	7.0	041WW20201

Notes:
g/L = micrograms per liter
N/A = Not Applicable

Table 15-5-5
Wetland W2 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Metals (mg/kg)														
Aluminum	3	3			607	6,700	041MW20301	6,700			N/A		Yes	No SV
Antimony	0	3	0.07	1.55			ND	1.55	UJ	12	2	0.13	No	Max SQL< SV
Arsenic	**2**	**3**	**0.07**	**0.07**	**0.5**	**14.1**	**041MW20301**	**14.1**		**7.24**	**1, 2**	**1.95**	**Yes**	**Max Detect > SV**
Barium	3	3			1	11.5	041MW20101	11.5	J		N/A		Yes	No SV
Beryllium	2	3	0.035	0.035	0.08	0.35	041MW20301	0.35	J		N/A		Yes	No SV
Cadmium	1	3	0.07	0.31	0.18	0.18	041MW20101	0.18	J	0.676	1	0.27	No	Max Detect < SV
Calcium	3	3			285	1,250	041MW20301	1,250	J		N/A		Yes	No SV
Chromium	3	3			0.76	10.2	041MW20301	10.2		52.3	1, 2	0.20	No	Max Detect < SV
Cobalt	2	3	0.07	0.07	0.24	3.3	041MW20301	3.3	J		N/A		Yes	No SV
Copper	3	3			1.3	4.7	041MW20301	4.7	J	18.7	1, 2	0.25	No	Max Detect < SV
Cyanide (CN)	0	3	0.325	1.45			ND	1.45	U		N/A		Yes	No SV
Iron	3	3			209	5,130	041MW20301	5,130			N/A		Yes	No SV
Lead	3	3			2.3	17.1	041MW20101	17.1		30.2	1, 2	0.57	No	Max Detect < SV
Magnesium	3	3			93.5	1,660	041MW20301	1,660			N/A		Yes	No SV
Manganese	3	3			1.2	6	041MW20301	6			N/A		Yes	No SV
Mercury	0	3	0.025	0.135			ND	0.135	U	0.13	1, 2	1.04	Yes	Max SQL > SV
Nickel	3	3			0.8	9.2	041MW20301	9.2	J	15.9	1, 2	0.58	No	Max Detect < SV
Potassium	3	3			32	503	041MW20301	503	J		N/A		Yes	No SV
Selenium	3	3			0.46	1.6	041MW20101	1.6	J		N/A		Yes	No SV
Silver	0	3	0.175	0.75			ND	0.75	U	0.733	1	1.02	Yes	Max SQL > SV
Sodium	2	3	3.15	3.15	254	2,430	041MW20301	2,430			N/A		Yes	No SV
Thallium	0	3	0.14	0.6			ND	0.6	U		N/A		Yes	No SV
Vanadium	3	3			1.2	27	041MW20301	27			N/A		Yes	No SV
Zinc	3	3			4.9	10.4	041MW20301	10.4		124	1, 2	0.08	No	Max Detect < SV
PAHs (g/kg)														
2-Methylnaphthalene	0	3	20.5	185			ND	185	U	20.2	1	9.16	No	TOC Normalized PAHs<TEC
Acenaphthene	0	3	10	90			ND	90	U	6.71	1	13.4	No	TOC Normalized PAHs<TEC
Acenaphthylene	0	3	20.5	185			ND	185	U	5.87	1	31.5	No	TOC Normalized PAHs<TEC
Anthracene	0	3	20.5	185			ND	185	U	46.9	1	3.94	No	TOC Normalized PAHs<TEC
Benzo(a)anthracene	0	3	20.5	185			ND	185	U	74.8	1	2.47	No	TOC Normalized PAHs<TEC
Benzo(a)pyrene	0	3	20.5	185			ND	185	U	88.8	1	2.08	No	TOC Normalized PAHs<TEC
Chrysene	1	3	20.5	185	40	40	041MW20101	40	J	108	1	0.37	No	TOC Normalized PAHs<TEC
Dibenz(a,h)anthracene	0	3	20.5	185			ND	185	U	6.22	1	29.7	No	TOC Normalized PAHs<TEC
Fluoranthene	1	3	20.5	185	47	47	041MW20101	47		113	1	0.42	No	TOC Normalized PAHs<TEC
Fluorene	0	3	10	90			ND	90	U	21.2	1	4.25	No	TOC Normalized PAHs<TEC
Naphthalene	0	3	20.5	185			ND	185	U	34.6	1	5.35	No	TOC Normalized PAHs<TEC
Phenanthrene	0	3	20.5	185			ND	185	U	86.7	1	2.13	No	TOC Normalized PAHs<TEC
Pyrene	1	3	20.5	185	82	82	041MW20101	82		153	1	0.54	No	TOC Normalized PAHs<TEC
Total PAHs	1	3	246	2,220	362	362	041MW20101	362		1,684	1, 2	0.22	No	TOC Normalized PAHs<TEC
TOC Normalized PAHs	1	3	13.42	48.04	21.55	21.55	041MW20101	21.55		290	3	0.07	No	Max Detect < SV
PCBs (g/kg)														
Aroclor-1016	0	3	1.05	4.55			ND	4.55	U	21.6	N/A	0.21	No	Max SQL< SV
Aroclor-1221	0	3	2.05	9			ND	9	U	67	2	0.13	No	Max SQL< SV
Aroclor-1232	0	3	1.05	4.55			ND	4.55	U	21.6	N/A	0.21	No	Max SQL< SV
Aroclor-1242	0	3	1.05	4.55			ND	4.55	U	21.6	N/A	0.21	No	Max SQL< SV
Aroclor-1248	0	3	1.05	4.55			ND	4.55	U	21.6	N/A	0.21	No	Max SQL< SV
Aroclor-1254	0	3	1.05	4.55			ND	4.55	U	21.6	N/A	0.21	No	Max SQL< SV
Aroclor-1260	3	3			1.7	5.6	041MW20301	5.6	J	21.6	N/A	0.26	No	Max Detect < SV
Total PCBs	**3**	**3**			**9.35**	**37.3**	**041MW20301**	**37.3**		**21.6**	**1**	**1.73**	**Yes**	**Max Detect > SV**
Pesticides (g/kg)														
Aldrin	1	3	0.05	0.23	0.23	0.23	041MW20101	0.23	J		N/A		Yes	No SV
Dieldrin	1	3	0.105	0.455	0.34	0.34	041MW20101	0.34	J	0.716	1	0.48	No	Max Detect < SV
Endosulfan I	0	3	0.05	0.23			ND	0.23	U		N/A		Yes	No SV
Endosulfan II	0	3	0.105	0.455			ND	0.455	U		N/A		Yes	No SV
Endosulfan sulfate	0	3	0.105	0.455			ND	0.455	U		N/A		Yes	No SV
Heptachlor	0	3	0.05	0.23			ND	0.23	U		N/A		Yes	No SV
Heptachlor epoxide	0	3	0.05	0.23			ND	0.23	U		N/A		Yes	No SV
Methoxychlor	0	3	0.5	2.3			ND	2.3	U		N/A		Yes	No SV
Toxaphene	0	3	10.5	46.5			ND	46.5	U		N/A		Yes	No SV
alpha-Chlordane	2	3	0.23	0.23	0.14	0.22	041MW20201	0.22		1.7	1	0.13	No	Max Detect < SV
gamma-Chlordane	0	3	0.05	0.23			ND	0.23	U	1.7	1	0.14	No	Max SQL< SV
Total Chlordane	2	3	0.46	0.46	0.195	0.27	041MW20201	0.27		1.7	1	0.16	No	Max Detect < SV
Endrin	2	3	0.105	0.105	0.77	2.5	041MW20301	2.5	J	3.3	2	0.76	No	Max Detect < SV
Endrin aldehyde	0	3	0.105	0.455			ND	0.455	U	3.3	2	0.14	No	Max SQL< SV
Endrin ketone	0	3	0.105	0.455			ND	0.455	U	3.3	2	0.14	No	Max SQL< SV
Total Endrin	**2**	**3**	**0.315**	**0.315**	**0.99**	**3.41**	**041MW20301**	**3.41**		**3.3**	**2**	**1.03**	**Yes**	**Max Detect > SV**
alpha-BHC	0	3	0.05	0.23			ND	0.23	U		N/A		Yes	No SV
beta-BHC	0	3	0.05	0.23			ND	0.23	U	0.32	N/A	0.72	No	Max SQL< SV
delta-BHC	**1**	**3**	**0.05**	**0.23**	**0.63**	**0.63**	**041MW20101**	**0.63**		**0.32**	**2**	**1.97**	**Yes**	**Max Detect > SV**
gamma-BHC (Lindane)	0	3	0.05	0.23			ND	0.23	U	0.32	1	0.72	No	Max SQL< SV
Total BHC	**1**	**3**	**0.2**	**0.92**	**0.795**	**0.795**	**041MW20101**	**0.795**		**0.32**	**2**	**2.48**	**Yes**	**Max Detect > SV**
4,4'-DDD	**2**	**3**	**0.455**	**0.455**	**0.86**	**5.8**	**041MW20101**	**5.8**	**D**	**1.22**	**1**	**4.75**	**Yes**	**Max Detect > SV**
4,4'-DDE	**2**	**3**	**0.455**	**0.455**	**0.38**	**2.4**	**041MW20101**	**2.4**	**J**	**2.07**	**1**	**1.16**	**Yes**	**Max Detect > SV**
4,4'-DDT	**2**	**3**	**0.455**	**0.455**	**0.28**	**3.5**	**041MW20101**	**3.5**	**J**	**1.19**	**1**	**2.94**	**Yes**	**Max Detect > SV**
Total DDT	**2**	**3**	**1.37**	**1.37**	**1.52**	**11.7**	**041MW20101**	**11.7**		**3.3**	**2**	**3.55**	**Yes**	**Max Detect > SV**
SVOCs (g/kg)														
1,2,4-Trichlorobenzene	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
1,2-Dichlorobenzene	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
1,3-Dichlorobenzene	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
1,4-Dichlorobenzene	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
2,4,5-Trichlorophenol	0	3	500	4,450			ND	4,450	U		N/A		Yes	No SV
2,4,6-Trichlorophenol	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
2,4-Dichlorophenol	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
2,4-Dimethylphenol	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
2,4-Dinitrophenol	0	3	500	4,450			ND	4,450	U		N/A		Yes	No SV
2,4-Dinitrotoluene	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
2,6-Dinitrotoluene	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
2-Chloronaphthalene	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
2-Chlorophenol	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	3	500	4,450			ND	4,450	U		N/A		Yes	No SV
2-Methylphenol (o-Cresol)	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
2-Nitroaniline	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
2-Nitrophenol	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
3,3'-Dichlorobenzidine	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
3-Nitroaniline	0	3	500	4,450			ND	4,450	U		N/A		Yes	No SV
4-Bromophenyl-phenylether	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
4-Chloro-3-methylphenol	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
4-Chloroaniline	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
4-Chlorophenylphenyl ether	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
4-Methylphenol (p-Cresol)	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
4-Nitroaniline	0	3	500	4,450			ND	4,450	U		N/A		Yes	No SV
4-Nitrophenol	0	3	500	4,450			ND	4,450	U		N/A		Yes	No SV
Benzo(b)fluoranthene	1	3	20.5	185	28	28	041MW20101	28	J		N/A		No	TOC Normalized PAHs<TEC
Benzo(g,h,i)perylene	0	3	20.5	185			ND	185	U		N/A		No	TOC Normalized PAHs<TEC
Benzo(k)fluoranthene	0	3	20.5	185			ND	185	U		N/A		No	TOC Normalized PAHs<TEC
bis(2-Chloroethoxy)methane	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
bis(2-Chloroethyl)ether	0	3	20.5	185			ND	185	U		N/A		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	**2**	**3**	**1,850**	**1,850**	**55**	**460**	**041MW20101**	**460**		**182**	**1, 2**	**2.53**	**Yes**	**Max Detect > SV**
Butylbenzylphthalate	2	3	1,850	1,850	21	32	041MW20101	32	J	182	1, 2	0.18	No	Max Detect < SV
Carbazole	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
Dibenzofuran	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
Diethylphthalate	**1**	**3**	**205**	**215**	**220**	**220**	**041MW20301**	**220**	**J**	**182**	**1, 2**	**1.21**	**Yes**	**Max Detect > SV**
Dimethylphthalate	0	3	205	1,850			ND	1,850	U	182	1, 2	10.2	Yes	Max SQL > SV
Di-n-butylphthalate	2	3	1,850	1,850	33	39	041MW20101	39	J	182	1, 2	0.21	No	Max Detect < SV
Di-n-octylphthalate	0	3	205	1,850			ND	1,850	U	182	1, 2	10.2	Yes	Max SQL > SV
Hexachlorobenzene	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
Hexachlorobutadiene	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
Hexachlorocyclopentadiene	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
Hexachloroethane	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
Indeno(1,2,3-cd)pyrene	1	3	20.5	185	26	26	041MW20101	26	J		N/A		No	TOC Normalized PAHs<TEC
Isophorone	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
Nitrobenzene	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
N-Nitroso-di-n-propylamine	0	3	20.5	185			ND	185	U		N/A		Yes	No SV
N-Nitrosodiphenylamine	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV
Pentachlorophenol	0	3	500	4,450			ND	4,450	U		N/A		Yes	No SV
Phenol	0	3	205	1,850			ND	1,850	U		N/A		Yes	No SV

Table 15-5-5
Wetland W2 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
VOCs (g/kg)														
1,1,1-Trichloroethane	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
1,1,2,2-Tetrachloroethane	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
1,1,2-Trichloroethane	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
1,1-Dichloroethane	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
1,1-Dichloroethene	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
1,2-Dichloroethane	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
1,2-Dichloroethene (total)	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
1,2-Dichloropropane	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
2-Butanone (MEK)	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
2-Hexanone	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Acetone	1	3	14	27	210	210	041MW20301	210			N/A		Yes	No SV
Benzene	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Bromodichloromethane	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Bromoform	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Bromomethane	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Carbon disulfide	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Carbon tetrachloride	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Chlorobenzene	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Chloroethane	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Chloroform	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Chloromethane	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
cis-1,3-Dichloropropene	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Dibromochloromethane	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Ethylbenzene	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Methylene chloride	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Styrene	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Tetrachloroethene	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Toluene	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
trans-1,3-Dichloropropene	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Trichloroethene	0	3	6.5	24			ND	24	U		N/A		Yes	No SV
Vinyl chloride	0	3	2	7			ND	7	U		N/A		Yes	No SV
Xylene (Total)	0	3	6.5	24			ND	24	U		N/A		Yes	No SV

Notes:

Sources for Screening Values:
SV = Screening Value
1 = USEPA Region 4 Screening Value. Detailed explanation for SVs provided in Section 8.0.
2 = FDEP Threshold effects level

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available.
U or ND = Not Detected at or above the SQL
J = Estimated value
SHQ = Screening Hazard Quotient

D = Diluted Result
mg/kg = milligrams per kilograms
g/kg = micrograms per kilograms
mg/kg oc = milligrams per kilograms - organic carbon
UJ = Not detected. SQL is estimated.
Parameters in bold were detected and exceeded screening values.

Table 15-5-6
Wetland W2 Phase II
Sediment COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	4,4'-DDD	bis(2-Ethylhexyl)phthalate (BEHP)	Acetone
Arsenic	4,4'-DDE	Diethylphthalate	
Barium	4,4'-DDT		
Beryllium	Aldrin		
Calcium	delta-BHC		
Cobalt	Total BHC		
Iron	Total DDT		
Magnesium	Total Endrin		
Manganese	Total PCBs		
Potassium			
Selenium			
Sodium			
Vanadium			
		Not Detected Parameters	
Cyanide (CN)	alpha-BHC	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane
Thallium	Endosulfan I	1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
Mercury	Endosulfan II	1,3-Dichlorobenzene	1,1,2-Trichloroethane
Silver	Endosulfan sulfate	1,4-Dichlorobenzene	1,1-Dichloroethane
	Heptachlor	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1-Dichloroethene
	Heptachlor epoxide	2,4,5-Trichlorophenol	1,2-Dichloroethane
	Methoxychlor	2,4,6-Trichlorophenol	1,2-Dichloroethene (total)
	Toxaphene	2,4-Dichlorophenol	1,2-Dichloropropane
		2,4-Dimethylphenol	2-Butanone (MEK)
		2,4-Dinitrophenol	2-Hexanone
		2,4-Dinitrotoluene	4-Methyl-2-Pentanone (MIBK)
		2,6-Dinitrotoluene	Benzene
		2-Chloronaphthalene	Bromodichloromethane
		2-Chlorophenol	Bromoform
		2-Methyl-4,6-Dinitrophenol	Bromomethane
		2-Methylphenol (o-Cresol)	Carbon disulfide
		2-Nitroaniline	Carbon tetrachloride
		2-Nitrophenol	Chlorobenzene
		3,3'-Dichlorobenzidine	Chloroethane
		3-Nitroaniline	Chloroform
		4-Bromophenyl-phenylether	Chloromethane
		4-Chloro-3-methylphenol	cis-1,3-Dichloropropene
		4-Chloroaniline	Dibromochloromethane
		4-Chlorophenylphenyl ether	Ethylbenzene
		4-Methylphenol (p-Cresol)	Methylene chloride
		4-Nitroaniline	Styrene
		4-Nitrophenol	Tetrachloroethene
		bis(2-Chloroethoxy)methane	Toluene
		bis(2-Chloroethyl)ether	trans-1,3-Dichloropropene
		Carbazole	Trichloroethene
		Dibenzofuran	Vinyl chloride
		Dimethylphthalate	Xylene (Total)
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	

Table 15-5-7
Wetland W2 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
Metals (mg/kg)																							
Aluminum	3	3				3,620	607	6,700	6,700		041MW20301			NA					0	4,274	1	Yes	EPC > RC and no RV
Arsenic	2	3	0.07	0.07	0.07	4.89	0.5	14.1	14.1		041MW20301	7.24	41.6	PEL	1.95	0.68	0.34	0.12	0	2.14	1	No	EPC > RC, but < RV
Barium	3	3				6.27	1	11.5	11.5	J	041MW20101			NA					0	3.84	2	Yes	EPC > RC and no RV
Beryllium	2	3	0.035	0.035	0.035	0.155	0.08	0.35	0.35	J	041MW20301			NA					0	0.13	1	Yes	EPC > RC and no RV
Calcium	3	3				623	285	1,250	1,250	J	041MW20301			NA					0	1,978.80	0	No	EPC < RC
Cobalt	2	3	0.07	0.07	0.07	1.2	0.24	3.3	3.3	J	041MW20301			NA					0	0.91	1	Yes	EPC > RC and no RV
Cyanide (CN)	0	3	0.708	0.325	1.45	0.708			1.45	U	ND			NA					0	1.29	0	No	Parameter Not Detected
Iron	3	3				2,050	209	5,130	5,130		041MW20301			NA					0	2,684.40	1	Yes	EPC > RC and no RV
Magnesium	3	3				636	93.5	1,660	1,660		041MW20301			NA					0	2,943.60	0	No	EPC < RC
Manganese	3	3				3.4	1.2	6	6		041MW20301			NA					0	9.81	0	No	EPC < RC
Mercury	0	3	0.065	0.025	0.135	0.065			0.135	U	ND	0.13	0.696	PEL	1.04	0.5	0.19	0.09	0	0.11	1	No	Parameter Not Detected
Potassium	3	3				208	32	503	503	J	041MW20301			NA					0	899.72	0	No	EPC < RC
Selenium	3	3				1.12	0.46	1.6	1.6	J	041MW20101			NA					0	0.66	2	Yes	EPC > RC and no RV
Silver	0	3	0.37	0.175	0.75	0.37			0.75	U	ND	0.733	1.77	PEL	1.02	0.50	0.42	0.21	0	0.52	1	No	Parameter Not Detected
Sodium	2	3	3.15	3.15	3.15	896	254	2,430	2,430		041MW20301			NA					0	11,439.60	0	No	EPC < RC
Thallium	0	3	0.295	0.14	0.6	0.295			0.6	U	ND			NA					0	0.39	0	No	Parameter Not Detected
Vanadium	3	3				11.3	1.2	27	27		041MW20301			NA					0	8.59	1	Yes	EPC > RC and no RV
PCBs (g/kg)																							
Aroclor-1016	0	3	2.23	1.05	4.55	2.23			4.55	U	ND	21.6	189	PEL	0.21	0.10	0.02	0.01	0		0	No	Parameter Not Detected
Aroclor-1221	0	3	4.4	2.05	9	4.4			9	U	ND	67	189	PEL	0.13	0.07	0.05	0.02	0		0	No	Parameter Not Detected
Aroclor-1232	0	3	2.23	1.05	4.55	2.23			4.55	U	ND	21.6	189	PEL	0.21	0.10	0.02	0.01	0		0	No	Parameter Not Detected
Aroclor-1242	0	3	2.23	1.05	4.55	2.23			4.55	U	ND	21.6	189	PEL	0.21	0.10	0.02	0.01	0		0	No	Parameter Not Detected
Aroclor-1248	0	3	2.23	1.05	4.55	2.23			4.55	U	ND	21.6	189	PEL	0.21	0.10	0.02	0.01	0		0	No	Parameter Not Detected
Aroclor-1254	0	3	2.23	1.05	4.55	2.23			4.55	U	ND	21.6	189	PEL	0.21	0.10	0.02	0.01	0		0	No	Parameter Not Detected
Aroclor-1260	3	3				3.7	1.7	5.6	5.6	J	041MW20301	21.6	189	PEL	0.26	0.17	0.03	0.02	0		0	No	RV HQ <1 and no RC
Total PCBs	3	3				19.3	9.35	37.3	37.3		041MW20301	21.6	189	PEL	1.73	0.89	0.20	0.10	0		0	No	RV HQ <1 and no RC
Pesticides (g/kg)																							
Aldrin	1	3	0.14	0.05	0.23	0.17	0.23	0.23	0.23	J	041MW20101			NA					0		0	Yes	No SV, no RV, and no RC
Endosulfan I	0	3	0.112	0.05	0.23	0.112			0.23	U	ND			NA					0		0	No	Parameter Not Detected
Endosulfan II	0	3	0.223	0.105	0.455	0.223			0.455	U	ND			NA					0		0	No	Parameter Not Detected
Endosulfan sulfate	0	3	0.223	0.105	0.455	0.223			0.455	U	ND			NA					0		0	No	Parameter Not Detected
Heptachlor	0	3	0.112	0.05	0.23	0.112			0.23	U	ND			NA					0		0	No	Parameter Not Detected
Heptachlor epoxide	0	3	0.112	0.05	0.23	0.112			0.23	U	ND			NA					0		0	No	Parameter Not Detected
Methoxychlor	0	3	1.12	0.5	2.3	1.12			2.3	U	ND			NA					0		0	No	Parameter Not Detected
Toxaphene	0	3	22.7	10.5	46.5	22.7			46.5	U	ND			NA					0		0	No	Parameter Not Detected
Endrin	2	3	0.105	0.105	0.105	1.13	0.77	2.5	2.5	J	041MW20301	3.3		NA	0.76	0.34			0		0	No	RV HQ <1 and no RC
Endrin aldehyde	0	3	0.223	0.105	0.455	0.223			0.455	U	ND	3.3		NA	0.14	0.07			0		0	No	Parameter Not Detected
Endrin ketone	0	3	0.223	0.105	0.455	0.223			0.455	U	ND	3.3		NA	0.14	0.07			0		0	No	Parameter Not Detected
Total Endrin	2	3	0.315	0.315	0.315	1.57	0.99	3.41	3.41		041MW20301	3.3		NA	1.03	0.48			0		0	Yes	No RV or RC and EPC > SV
alpha-BHC	0	3	0.112	0.05	0.23	0.112			0.23	U	ND		0.99	PEL			0.23	0.11	0		0	No	Parameter Not Detected
beta-BHC	0	3	0.112	0.05	0.23	0.112			0.23	U	ND	0.32	0.99	PEL	0.72	0.35	0.23	0.11	0		0	No	Parameter Not Detected
delta-BHC	1	3	0.14	0.05	0.23	0.303	0.63	0.63	0.63		041MW20101	0.32	0.99	PEL	1.97	0.95	0.64	0.31	0		0	No	RV HQ <1 and no RC
gamma-BHC (Lindane)	0	3	0.112	0.05	0.23	0.112			0.23	U	ND	0.32	0.99	PEL	0.72	0.35	0.23	0.11	0		0	No	Parameter Not Detected
Total BHC	1	3	0.56	0.2	0.92	0.638	0.795	0.795	0.795		041MW20101	0.32	0.99	PEL	2.48	1.99	0.80	0.65	0		0	No	RV HQ <1 and no RC
4,4'-DDD	2	3	0.455	0.455	0.455	2.37	0.86	5.8	5.8	D	041MW20101	1.22	7.81	PEL	4.75	1.94	0.74	0.30	0	50	0	No	EPC < RC and RV
4,4'-DDE	2	3	0.455	0.455	0.455	1.08	0.38	2.4	2.4	J	041MW20101	2.07	374	PEL	1.16	0.52	0.01	0.00	0	40	0	No	EPC < RC and RV
4,4'-DDT	2	3	0.455	0.455	0.455	1.41	0.28	3.5	3.5	J	041MW20101	1.19	4.77	PEL	2.94	1.19	0.73	0.30	0	20	0	No	EPC < RC and RV
Total DDT	2	3	1.37	1.37	1.37	4.86	1.52	11.7	11.7		041MW20101	3.3	51.7	PEL	3.55	1.47	0.23	0.09	0	110	0	No	EPC < RC and RV
SVOCs (g/kg)																							
1,2,4-Trichlorobenzene	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichlorobenzene	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
1,4-Dichlorobenzene	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	3	1,820	500	4,450	1,820			4,450	U	ND			NA					0		0	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dichlorophenol	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dimethylphenol	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrophenol	0	3	1,820	500	4,450	1,820			4,450	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrotoluene	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
2,6-Dinitrotoluene	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
2-Chloronaphthalene	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
2-Chlorophenol	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	3	1,820	500	4,450	1,820			4,450	U	ND			NA					0		0	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
2-Nitroaniline	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
2-Nitrophenol	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
3-Nitroaniline	0	3	1,820	500	4,450	1,820			4,450	U	ND			NA					0		0	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	3	757	205	1,850	757			1,850	U	ND			NA					0		0	No	Parameter Not Detected

Table 15-5-7
Wetland W2 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result HQ	SV	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
SVOCs (g/kg) - cont.																								
4-Chloroaniline	0	3	757	205	1,850	757			1,850	U	ND			NA						0		0	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	3	757	205	1,850	757			1,850	U	ND			NA						0		0	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	3	757	205	1,850	757			1,850	U	ND			NA						0		0	No	Parameter Not Detected
4-Nitroaniline	0	3	1,820	500	4,450	1,820			4,450	U	ND			NA						0		0	No	Parameter Not Detected
4-Nitrophenol	0	3	1,820	500	4,450	1,820			4,450	U	ND			NA						0		0	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	3	757	205	1,850	757			1,850	U	ND			NA						0		0	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	3	76	21	185	76			185	U	ND			NA						0		0	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	2	3	1,850	1,850	1,850	788	55	460	460		041MW20101	182	2,647	PEL	2.53		4.33	0.17	0.30	0		0	No	RV HQ <1 and no RC
Carbazole	0	3	757	205	1,850	757			1,850	U	ND			NA						0		0	No	Parameter Not Detected
Dibenzofuran	0	3	757	205	1,850	757			1,850	U	ND			NA						0		0	No	Parameter Not Detected
Diethylphthalate	1	3	210	205	215	213	220	220	220	J	041MW20301	182	2,647	PEL	1.21		1.17	0.08	0.08	0		0	No	RV HQ <1 and no RC
Dimethylphthalate	0	3	757	205	1,850	757			1,850	U	ND	182	2,647	PEL	10.2		4.16	0.70	0.29	0		0	No	Parameter Not Detected
Di-n-octylphthalate	0	3	757	205	1,850	757			1,850	U	ND	182	2,647	PEL	10.2		4.16	0.70	0.29	0		0	No	Parameter Not Detected
Hexachlorobenzene	0	3	757	205	1,850	757			1,850	U	ND			NA						0		0	No	Parameter Not Detected
Hexachlorobutadiene	0	3	757	205	1,850	757			1,850	U	ND			NA						0		0	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	3	757	205	1,850	757			1,850	U	ND			NA						0		0	No	Parameter Not Detected
Hexachloroethane	0	3	757	205	1,850	757			1,850	U	ND			NA						0		0	No	Parameter Not Detected
Isophorone	0	3	757	205	1,850	757			1,850	U	ND			NA						0		0	No	Parameter Not Detected
Nitrobenzene	0	3	757	205	1,850	757			1,850	U	ND			NA						0		0	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	3	76	21	185	76			185	U	ND			NA						0		0	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	3	757	205	1,850	757			1,850	U	ND			NA						0		0	No	Parameter Not Detected
Pentachlorophenol	0	3	1,820	500	4,450	1,820			4,450	U	ND			NA						0		0	No	Parameter Not Detected
Phenol	0	3	757	205	1,850	757			1,850	U	ND			NA						0		0	No	Parameter Not Detected
VOCs (g/kg)																								
1,1,1-Trichloroethane	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
1,1,2,2-Tetrachloroethane	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
1,1,2-Trichloroethane	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
1,1-Dichloroethane	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
1,1-Dichloroethene	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
1,2-Dichloroethane	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
1,2-Dichloroethene (total)	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
1,2-Dichloropropane	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
2-Butanone (MEK)	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
2-Hexanone	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Acetone	1	3	20.5	14	27	83.7	210	210	210		041MW20301			NA						0		0	Yes	No SV, no RV, and no RC
Benzene	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Bromodichloromethane	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Bromoform	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Bromomethane	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Carbon disulfide	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Carbon tetrachloride	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Chlorobenzene	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Chloroethane	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Chloroform	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Chloromethane	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Dibromochloromethane	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Ethylbenzene	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Methylene chloride	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Styrene	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Tetrachloroethene	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Toluene	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Trichloroethene	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected
Vinyl chloride	0	3	4.5	2	7	4.5			7	U	ND			NA						0		0	No	Parameter Not Detected
Xylene (Total)	0	3	15.3	6.5	24	15.3			24	U	ND			NA						0		0	No	Parameter Not Detected

Notes:

Sources for Refinement Values (RVs):
PEL = FDEP Probable Effects Level
MEC = Swartz Midrange Effect Concentration

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result
Parameters in bold were detected and exceeded screening values.

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
PEL = Probable effects level.

N/R = No refinement value available.
N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the maximum detections
NAS Pensacola base wide levels used as reference values for 4,4'-DDT, 4,4'-DDD, 4,4'-DDE and total DDT.

Table 15-5-8
Wetland W2 Phase II
Sediment COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	Aldrin	None	None
Barium	Total Endrin		
Beryllium			
Cobalt			
Iron			
Selenium			
Vanadium			

Table 15-5-9
Wetland W2 Phase II
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041MW20101	1/24/1996	mg/kg	0.5	J	Arsenic	8.2	70	0.01
041MW20101	1/24/1996	mg/kg	0.18	J	Cadmium	1.2	9.6	0.02
041MW20101	1/24/1996	mg/kg	5.4		Chromium	81	370	0.01
041MW20101	1/24/1996	mg/kg	3.2		Copper	34	270	0.01
041MW20101	1/24/1996	mg/kg	17.1		Lead	46.7	218	0.08
041MW20101	1/24/1996	mg/kg	0.035	U	Mercury	0.15	0.71	0.05
041MW20101	1/24/1996	mg/kg	1.3	J	Nickel	20.9	51.6	0.03
041MW20101	1/24/1996	mg/kg	0.18	U	Silver	1	3.7	0.05
041MW20101	1/24/1996	mg/kg	7.7		Zinc	150	410	0.02
041MW20101	1/24/1996	g/kg	2.4	J	4,4'-DDE	2.2	27	0.09
041MW20101	1/24/1996	g/kg	3.5	J	4,4'-DDT	1.58	46.1	0.08
041MW20101	1/24/1996	g/kg	9.35		Total PCBs	22.7	180	0.05
041MW20101	1/24/1996	g/kg	21.5	U	2-Methylnaphthalene	70	670	0.03
041MW20101	1/24/1996	g/kg	10.5	U	Acenaphthene	16	500	0.02
041MW20101	1/24/1996	g/kg	21.5	U	Acenaphthylene	44	640	0.03
041MW20101	1/24/1996	g/kg	21.5	U	Anthracene	85.3	1,100	0.02
041MW20101	1/24/1996	g/kg	21.5	U	Benzo(a)anthracene	261	1,600	0.01
041MW20101	1/24/1996	g/kg	21.5	U	Benzo(a)pyrene	430	1,600	0.01
041MW20101	1/24/1996	g/kg	40	J	Chrysene	384	2,800	0.01
041MW20101	1/24/1996	g/kg	21.5	U	Dibenz(a,h)anthracene	63.4	260	0.08
041MW20101	1/24/1996	g/kg	47		Fluoranthene	600	5,100	0.01
041MW20101	1/24/1996	g/kg	10.5	U	Fluorene	19	540	0.02
041MW20101	1/24/1996	g/kg	21.5	U	Naphthalene	160	2,100	0.01
041MW20101	1/24/1996	g/kg	21.5	U	Phenanthrene	240	1,500	0.01
041MW20101	1/24/1996	g/kg	82		Pyrene	665	2,600	0.03
041MW20101	1/24/1996				ERM Quotient Sum			0.80
041MW20101	1/24/1996				Mean ERM Quotient			0.03
041MW20101	1/24/1996				Mean ERM Quotient without ND			0.02
041MW20101	1/24/1996				Mean ERM Quotient Category			2
041MW20201	1/24/1996	mg/kg	0.07	U	Arsenic	8.2	70	0.00
041MW20201	1/24/1996	mg/kg	0.07	U	Cadmium	1.2	9.6	0.01
041MW20201	1/24/1996	mg/kg	0.76		Chromium	81	370	0.00
041MW20201	1/24/1996	mg/kg	1.3	J	Copper	34	270	0.00
041MW20201	1/24/1996	mg/kg	2.3		Lead	46.7	218	0.01
041MW20201	1/24/1996	mg/kg	0.025	U	Mercury	0.15	0.71	0.04
041MW20201	1/24/1996	mg/kg	0.8	J	Nickel	20.9	51.6	0.02
041MW20201	1/24/1996	mg/kg	0.175	U	Silver	1	3.7	0.05
041MW20201	1/24/1996	mg/kg	4.9		Zinc	150	410	0.01
041MW20201	1/24/1996	g/kg	0.38	J	4,4'-DDE	2.2	27	0.01
041MW20201	1/24/1996	g/kg	0.28	J	4,4'-DDT	1.58	46.1	0.01
041MW20201	1/24/1996	g/kg	11.1		Total PCBs	22.7	180	0.06
041MW20201	1/24/1996	g/kg	20.5	U	2-Methylnaphthalene	70	670	0.03
041MW20201	1/24/1996	g/kg	10	U	Acenaphthene	16	500	0.02
041MW20201	1/24/1996	g/kg	20.5	U	Acenaphthylene	44	640	0.03
041MW20201	1/24/1996	g/kg	20.5	U	Anthracene	85.3	1,100	0.02
041MW20201	1/24/1996	g/kg	20.5	U	Benzo(a)anthracene	261	1,600	0.01
041MW20201	1/24/1996	g/kg	20.5	U	Benzo(a)pyrene	430	1,600	0.01
041MW20201	1/24/1996	g/kg	20.5	U	Chrysene	384	2,800	0.01
041MW20201	1/24/1996	g/kg	20.5	U	Dibenz(a,h)anthracene	63.4	260	0.08
041MW20201	1/24/1996	g/kg	20.5	U	Fluoranthene	600	5,100	0.00
041MW20201	1/24/1996	g/kg	10	U	Fluorene	19	540	0.02
041MW20201	1/24/1996	g/kg	20.5	U	Naphthalene	160	2,100	0.01
041MW20201	1/24/1996	g/kg	20.5	U	Phenanthrene	240	1,500	0.01
041MW20201	1/24/1996	g/kg	20.5	U	Pyrene	665	2,600	0.01
041MW20201	1/24/1996				ERM Quotient Sum			0.48
041MW20201	1/24/1996				Mean ERM Quotient			0.02
041MW20201	1/24/1996				Mean ERM Quotient without ND			0.01
041MW20201	1/24/1996				Mean ERM Quotient Category			1

Table 15-5-9
Wetland W2 Phase II
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041MW20301	1/24/1996	mg/kg	14.1		Arsenic	8.2	70	0.20
041MW20301	1/24/1996	mg/kg	0.31	UJ	Cadmium	1.2	9.6	0.03
041MW20301	1/24/1996	mg/kg	10.2		Chromium	81	370	0.03
041MW20301	1/24/1996	mg/kg	4.7	J	Copper	34	270	0.02
041MW20301	1/24/1996	mg/kg	9.1		Lead	46.7	218	0.04
041MW20301	1/24/1996	mg/kg	0.135	U	Mercury	0.15	0.71	0.19
041MW20301	1/24/1996	mg/kg	9.2	J	Nickel	20.9	51.6	0.18
041MW20301	1/24/1996	mg/kg	0.75	U	Silver	1	3.7	0.20
041MW20301	1/24/1996	mg/kg	10.4		Zinc	150	410	0.03
041MW20301	1/24/1996	g/kg	0.455	U	4,4'-DDE	2.2	27	0.02
041MW20301	1/24/1996	g/kg	0.455	U	4,4'-DDT	1.58	46.1	0.01
041MW20301	1/24/1996	g/kg	37.35		Total PCBs	22.7	180	0.21
041MW20301	1/24/1996	g/kg	185	U	2-Methylnaphthalene	70	670	0.28
041MW20301	1/24/1996	g/kg	90	U	Acenaphthene	16	500	0.18
041MW20301	1/24/1996	g/kg	185	U	Acenaphthylene	44	640	0.29
041MW20301	1/24/1996	g/kg	185	U	Anthracene	85.3	1,100	0.17
041MW20301	1/24/1996	g/kg	185	U	Benzo(a)anthracene	261	1,600	0.12
041MW20301	1/24/1996	g/kg	185	U	Benzo(a)pyrene	430	1,600	0.12
041MW20301	1/24/1996	g/kg	185	U	Chrysene	384	2,800	0.07
041MW20301	1/24/1996	g/kg	185	U	Dibenz(a,h)anthracene	63.4	260	0.71
041MW20301	1/24/1996	g/kg	185	U	Fluoranthene	600	5,100	0.04
041MW20301	1/24/1996	g/kg	90	U	Fluorene	19	540	0.17
041MW20301	1/24/1996	g/kg	185	U	Naphthalene	160	2,100	0.09
041MW20301	1/24/1996	g/kg	185	U	Phenanthrene	240	1,500	0.12
041MW20301	1/24/1996	g/kg	185	U	Pyrene	665	2,600	0.07
041MW20301	1/24/1996				ERM Quotient Sum			3.56
041MW20301	1/24/1996				Mean ERM Quotient			0.14
041MW20301	1/24/1996				Mean ERM Quotient without ND			0.03
041MW20301	1/24/1996				Mean ERM Quotient Category			2

Notes:
ERL = Effects Range Low
ERM = Effects Range Median
mg/kg = milligrams per kilogram
g/kg = micrograms per kilogram
U = not detected at or above the SQL (value in table is 1/2 reported value)
J = estimated value
Shaded cells indicate constituent exceeds ERL.
Shaded and bold cells indicate constituent exceeds ERM.

Table 15-5-10
Wetland W2 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
Metals (g/L)																
Aluminum	1	1				213	213	213	041WW20201	213			NA		Yes	No SV
Antimony	0	1	1	1	1	1			ND	1	UJ		NA		Yes	No SV
Arsenic	0	1	1	1	1	1			ND	1	U	36	EPA	0.03	No	Max SQL< SV
Barium	1	1				8.2	8.2	8.2	041WW20201	8.2	J		NA		Yes	No SV
Beryllium	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Cadmium	0	1	1	1	1	1			ND	1	UJ	9.3	EPA	0.11	No	Max SQL< SV
Calcium	1	1				15,000	15,000	15,000	041WW20201	15,000			NA		Yes	No SV
Chromium	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	50	EPA	0.05	No	Max SQL< SV
Cobalt	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Copper	**1**	**1**				**6.8**	**6.8**	**6.8**	**041WW20201**	**6.8**	**J**	**2.9**	**EPA**	**2.34**	**Yes**	**Max Detect > SV**
Cyanide (CN)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	1	EPA	2.5	Yes	Max SQL > SV
Iron	1	1				309	309	309	041WW20201	309			NA		Yes	No SV
Lead	0	1	1	1	1	1			ND	1	U	8.5	EPA	0.12	No	Max SQL< SV
Magnesium	1	1				1,450	1,450	1,450	041WW20201	1,450	J		NA		Yes	No SV
Manganese	1	1				17.2	17.2	17.2	041WW20201	17.2			NA		Yes	No SV
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.025	EPA	2.6	Yes	Max SQL > SV
Nickel	0	1	4.5	4.5	4.5	4.5			ND	4.5	U	8.3	EPA	0.54	No	Max SQL< SV
Potassium	1	1				1,870	1,870	1,870	041WW20201	1,870	J		NA		Yes	No SV
Selenium	0	1	2	2	2	2			ND	2	U	71	EPA	0.03	No	Max SQL< SV
Silver	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.23	EPA	10.9	Yes	Max SQL > SV
Sodium	1	1				5,260	5,260	5,260	041WW20201	5,260			NA		Yes	No SV
Thallium	0	1	2	2	2	2			ND	2	U	6.3	FDEP	0.32	No	Max SQL< SV
Vanadium	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Zinc	1	1				8.8	8.8	8.8	041WW20201	8.8	J	86	EPA	0.10	No	Max Detect < SV
Pesticides (g/L)																
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA		Yes	No SV
Endosulfan I	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.0087	EPA	2.87	Yes	Max SQL > SV
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA		Yes	No SV
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA		Yes	No SV
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.0036	EPA	6.94	Yes	Max SQL > SV
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.00004	FDEP	625	Yes	Max SQL > SV
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	UJ		NA		Yes	No SV
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA		Yes	No SV
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.004	EPA	12.5	Yes	Max SQL > SV
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA		Yes	No SV
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA		Yes	No SV
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0023	EPA	21.7	Yes	Max SQL > SV
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.005	FDEP	5	Yes	Max SQL > SV
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA		Yes	No SV
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.016	EPA	1.56	Yes	Max SQL > SV
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA		Yes	No SV
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0003	FDEP	167	Yes	Max SQL > SV
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0002	FDEP	250	Yes	Max SQL > SV
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.00059	FDEP	84.7	Yes	Max SQL > SV
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
PCBs (g/L)																
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
Aroclor-1221	0	1	1	1	1	1			ND	1	UJ		NA		Yes	No SV
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ	0.014	FDEP	35.7	Yes	Max SQL > SV
Total PCB	0	1	4	4	4	4			ND	4	U		NA		Yes	No SV

Table 15-5-10
Wetland W2 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
SVOCs (g/L)																
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Di-n-butylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	3.4	EPA	0.74	No	Max SQL< SV
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA		Yes	No SV
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
PAHs (g/L)																
2-Methylnaphthalene	1	1				1	1	1	041WW20201	1			NA		Yes	No SV
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	23.5	EPA	0.02	No	Max SQL< SV

Table 15-5-10
Wetland W2 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
PAHs (g/L) - cont.																
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Total PAH	1	1				7	7	7	041WW20201	7			NA		Yes	No SV
VOCs (g/L)																
1,1,1-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	270	FDEP	0.00	No	Max SQL< SV
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3.2	FDEP	0.16	No	Max SQL< SV
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	19.7	EPA	0.03	No	Max SQL< SV
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3	FDEP	0.17	No	Max SQL< SV
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Benzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	71.28	FDEP	0.01	No	Max SQL< SV
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	17	FDEP	0.03	No	Max SQL< SV
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chloroform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	470.8	FDEP	0.00	No	Max SQL< SV
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Ethylbenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	4.3	EPA	0.12	No	Max SQL< SV
Methylene chloride	0	1	1	1	1	1			ND	1	U	1,580	FDEP	0.00	No	Max SQL< SV
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Toluene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	37	EPA	0.01	No	Max SQL< SV
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
N/R = No refinement value available.
N/A = Not Applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the maximum detections.
Parameters in bold were detected and exceeded the screening value.

Table 15-5-11
Wetland W2 Phase II
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	2-Methylnaphthalene	None
Barium		Total PAHs	
Calcium			
Copper			
Iron			
Magnesium			
Manganese			
Potassium			
Sodium			
		Not Detected Parameters	
Antimony	Aldrin	1,2,4-Trichlorobenzene	1,1,2,2-Tetrachloroethane
Beryllium	Dieldrin	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1,2-Trichloroethane
Cobalt	Endosulfan I	2,4,5-Trichlorophenol	1,1-Dichloroethane
Cyanide (CN)	Endosulfan II	2,4,6-Trichlorophenol	1,2-Dibromo-3-Chloropropane
Mercury	Endosulfan sulfate	2,4-Dichlorophenol	1,2-Dibromoethane
Silver	Heptachlor	2,4-Dimethylphenol	1,2-Dichloroethane
Vanadium	Heptachlor epoxide	2,4-Dinitrophenol	1,2-Dichloropropane
	Methoxychlor	2,4-Dinitrotoluene	1,3-Dichlorobenzene
	Toxaphene	2,6-Dinitrotoluene	2-Hexanone
	alpha-Chlordane	2-Chloronaphthalene	4-Methyl-2-Pentanone (MIBK)
	gamma-Chlordane	2-Chlorophenol	Bromochloromethane
	Total Chlordane	2-Methyl-4,6-Dinitrophenol	Bromodichloromethane
	Endrin	2-Methylphenol (o-Cresol)	Bromoform
	Endrin aldehyde	2-Nitroaniline	Bromomethane
	Endrin ketone	2-Nitrophenol	Carbon disulfide
	Total Endrin	3,3'-Dichlorobenzidine	Carbon tetrachloride
	alpha-BHC	3-Nitroaniline	Chloroethane
	beta-BHC	4-Bromophenyl-phenylether	Chloromethane
	delta-BHC	4-Chloro-3-methylphenol	cis-1,2-Dichloroethene
	gamma-BHC (Lindane)	4-Chloroaniline	cis-1,3-Dichloropropene
	Total BHC	4-Chlorophenylphenyl ether	Dibromochloromethane
	4,4'-DDD	4-Methylphenol (p-Cresol)	Styrene
	4,4'-DDE	4-Nitroaniline	Tetrachloroethene
	4,4'-DDT	4-Nitrophenol	trans-1,2-Dichloroethene
	Total DDT	Benzo(b)fluoranthene	trans-1,3-Dichloropropene
	Aroclor-1016	Benzo(g,h,i)perylene	Trichloroethene
	Aroclor-1221	Benzo(k)fluoranthene	Vinyl chloride
	Aroclor-1232	bis(2-Chloroethoxy)methane	Xylene (Total)
	Aroclor-1242	bis(2-Chloroethyl)ether	
	Aroclor-1248	bis(2-Ethylhexyl)phthalate (BEHP)	
	Aroclor-1254	Butylbenzylphthalate	
	Aroclor-1260	Dibenzofuran	
	Total PCBs	Diethylphthalate	
		Dimethylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Indeno(1,2,3-cd)pyrene	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	
		Acenaphthene	
		Acenaphthylene	
		Anthracene	
		Benzo(a)anthracene	
		Benzo(a)pyrene	
		Chrysene	
		Dibenz(a,h)anthracene	
		Fluoranthene	
		Fluorene	
		Phenanthrene	
		Pyrene	

Table 15-5-12
Wetland W2 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
Metals (g/L)																				
Aluminum	1	1				213	213	213	041WW20201	213			NA			2,930	0	1	No	Max Result < Ref. Conc.
Antimony	0	1	1	1	1	1			ND	1	UJ		NA			4.15	0	1	No	Max SQL < Ref. Conc.
Barium	1	1				8.2	8.2	8.2	041WW20201	8.2	J		NA			9.43	0	1	No	Max Result < Ref. Conc.
Beryllium	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA			0.82	0	1	No	Max SQL < Ref. Conc.
Calcium	1	1				15,000	15,000	15,000	041WW20201	15,000			NA			76,800	0	1	No	Max Result < Ref. Conc.
Cobalt	0	1	1	1	1	1			ND	1	U		NA			2.38	0	1	No	Max SQL < Ref. Conc.
Copper	**1**	**1**				**6.8**	**6.8**	**6.8**	**041WW20201**	**6.8**	**J**	**2.9**	**EPA**	**2.34**	**2.34**	**7.02**	**0**	**1**	**No**	**Max Result < Ref. Conc.**
Cyanide (CN)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	1	EPA	2.5	2.5	4.1	0	1	No	Max SQL < Ref. Conc.
Iron	1	1				309	309	309	041WW20201	309			NA			1,350	0	1	No	Max Result < Ref. Conc.
Magnesium	1	1				1,450	1,450	1,450	041WW20201	1,450	J		NA			244,000	0	1	No	Max Result < Ref. Conc.
Manganese	1	1				17.2	17.2	17.2	041WW20201	17.2			NA			12.2	1	1	Yes	Max Result > Ref. Conc.
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.025	EPA	2.6	2.6	0.21	0	1	No	Max SQL < Ref. Conc.
Potassium	1	1				1,870	1,870	1870	041WW20201	1870	J		NA			81,300	0	1	No	Max Result < Ref. Conc.
Silver	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.23	EPA	11	10.9	3.01	0	1	No	Max SQL < Ref. Conc.
Sodium	1	1				5,260	5,260	5,260	041WW20201	5,260			NA			1,950,000	0	1	No	Max Result < Ref. Conc.
Vanadium	0	1	1	1	1	1			ND	1	U		NA			6.69	0	1	No	Max SQL < Ref. Conc.
Pesticides (g/L)																				
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	1	No	Parameter Not Detected
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA				0	1	No	Parameter Not Detected
Endosulfan I	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.0087	EPA	3	2.87		0	1	No	Parameter Not Detected
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA				0	1	No	Parameter Not Detected
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA				0	1	No	Parameter Not Detected
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.0036	EPA	7	6.94		0	1	No	Parameter Not Detected
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.00004	FDEP	625	625		0	1	No	Parameter Not Detected
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	UJ		NA				0	1	No	Parameter Not Detected
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA				0	1	No	Parameter Not Detected
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	1	No	Parameter Not Detected
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	1	No	Parameter Not Detected
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.004	EPA	12.5	12.5		0	1	No	Parameter Not Detected
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA				0	1	No	Parameter Not Detected
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ		NA				0	1	No	Parameter Not Detected
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0023	EPA	22	21.7		0	1	No	Parameter Not Detected
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	1	No	Parameter Not Detected
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.005	FDEP	5	5		0	1	No	Parameter Not Detected
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	1	No	Parameter Not Detected
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ		NA				0	1	No	Parameter Not Detected
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	UJ	0.016	EPA	1.56	1.56		0	1	No	Parameter Not Detected
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA				0	1	No	Parameter Not Detected
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0003	FDEP	167	167		0	1	No	Parameter Not Detected
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.0002	FDEP	250	250		0	1	No	Parameter Not Detected
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	UJ	0.00059	FDEP	85	84.7		0	1	No	Parameter Not Detected
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	1	No	Parameter Not Detected
PCBs (g/L)																				
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	1	No	Parameter Not Detected
Aroclor-1221	0	1	1	1	1	1			ND	1	UJ		NA				0	1	No	Parameter Not Detected
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	1	No	Parameter Not Detected
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	1	No	Parameter Not Detected
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	1	No	Parameter Not Detected
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	1	No	Parameter Not Detected
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	UJ	0.014	FDEP	36	35.7		0	1	No	Parameter Not Detected
Total PCB	0	1	4	4	4	4			ND	4	U		NA				0	1	No	Parameter Not Detected
SVOCs (g/L)																				
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter Not Detected
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2-Chlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected

Table 15-5-12
Wetland W2 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Number Analyzed	Retained for Refinement?	Rationale
SVOCs (g/L) - cont.																				
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter Not Detected
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	1	No	Parameter Not Detected
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA				0	1	No	Parameter Not Detected
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
PAHs (g/L)																				
2-Methylnaphthalene	1	1				1	1	1	041WW20201	1			NA				0	1	Yes	No SV; no RV
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	23.5	EPA	0.02	0.02		0	1	No	Parameter Not Detected
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Total PAH	1	1				7	7	7	041WW20201	7			NA				0	1	Yes	No SV; no RV
VOCs (g/L)																				
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	1	No	Parameter Not Detected
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	1	No	Parameter Not Detected

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL

UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
PEL = Probable effects level.
N/R = No refinement value available.

N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the Max detections.
Parameters in bold were detected and exceeded Ref. Conc.s.

Table 15-5-13
Wetland W2 Phase II
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Manganese	None	2-Methylnaphthalene Total PAHs	None

Table 15-5-14
Wetland W2 Phase II
Surface Water Dermal Absorbed Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration (g/L)	Min. Qual.	Maximum Concentration (g/L)	Max. Qual.	Units	Location of Max.Conc.	Detection Frequency	Range of Detection Limits	Mean	Maximum Concentration (mg/cm^3)	K_p	DA_{event}	DAD_{sw} (mg/kg-day): Child Trespasser	DAD_{sw} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	N/A	N/A	2.1E+02	=	UG/L	041WW20201	1 / 1	NAV	2.1E+02	2.1E-04	1.0E-03	5.54E-07	8.77E-06	1.17E-05
7440393	Barium	N	N/A	N/A	8.2E+00	J	UG/L	041WW20201	1 / 1	NAV	8.2E+00	8.2E-06	1.0E-03	2.13E-08	3.37E-07	4.51E-07
7439965	Manganese	N	N/A	N/A	1.7E+01	=	UG/L	041WW20201	1 / 1	NAV	1.7E+01	1.7E-05	1.0E-03	4.47E-08	7.08E-07	9.47E-07
91576	2-Methylnaphthalene	N	N/A	N/A	1.0E+00	=	UG/L	041WW20201	1 / 1	NAV	1.0E+00	1.0E-06	1.4E-01	5.93E-07	9.39E-06	1.26E-05

Notes:

Equation for Dermal Absorbed Dose, surface water risk:

$$DAD_{sw} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sw} = Dermal absorbed dose-water contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event).
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr carcinogenic effects AT = 70 yr x 365 dy/yr.

Equation for DAevent for inorganics:

$$DA_{event} = K_p \times C_w \times t_{event}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr). Source: RAGS Part E, Exhibit B-3 or Exhibit B-4
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).

Equation for DAevent for organics:

$$DA_{event} = FA \times K_p \times C_w \left[\frac{t_{event}}{1 + B} + 2\tau_{event} \left(\frac{1 + 3B + 3B^2}{(1 + B)^2} \right) \right]$$

Where:

FA = Fraction absorbed water (dimensionless). From RAGS Part E, Exhibit B-4.
Kp = Dermal permeability coefficient of compound in water (cm/hr). Source: (1) RAGS Part E, Exhibit B-4.
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).
t_{event} = Lag time per event (hr/event). From RAGS Part E, Exhibit B-4.
B = Dimensionless ratio of the permeability coefficient of a compound, calculated using the equation below:

$$B = \frac{K_p \sqrt{MW}}{2.6}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr). Source: (1) RAGS Part E.
MW = Molecular weight

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker). Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker). Cancer — 25,550 days (child trespasser/adult maintenance worker).
t_{event} = 2.6 hrs/dy (child trespasser/adult maintenance worker).

Table 15-5-15
Wetland W2 Phase II
Surface Water Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABS_{GI}	ABS_{GI} Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
										Dermal Hazard Quotient	Dermal Cancer Risk	Dermal Hazard Quotient	Dermal Cancer Risk
SW Dermal Risk	Aluminum	N	2.1E-04	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	N/A	N/A	1.2E-04	N/A
	Barium	N	8.2E-06	7.0E-02	N/A	7.0E-02	1, 2	4.9E-03	N/A	N/A	N/A	9.2E-05	N/A
	Manganese	N	1.7E-05	1.4E-01	N/A	4.0E-02	1	5.6E-03	N/A	N/A	N/A	1.7E-04	N/A
	2-Methylnaphthalene	N	1.0E-06	8.0E-02	N/A	5.0E-01	3	4.0E-02	N/A	N/A	N/A	3.1E-04	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose adjusted for ABS_{GI}.
Dermal SF = Dermal slope factor adjusted for ABSGI.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfD_{dermal} = Dermal reference dose.
RFD_{oral} = Oral reference dose.
SFdermal = Dermal slope factor.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 15-5-16
Wetland W2 Phase II
Surface Water Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

						Child Trespasser		Maintenance Worker	
Exposure Route	**COPC**		**Maximum concentration (mg/cm^3)**	**Oral RfD (mg/kg-day)**	**Oral SF (mg/kg-day)-1**	**Ingestion Hazard Quotient**	**Ingestion Cancer Risk**	**Ingestion Hazard Quotient**	**Ingestion Cancer Risk**
SW Incidental Ingestion	Aluminum	N	2.1E-04	1.0E+00	N/A	N/A	N/A	4.3E-09	N/A
	Barium	N	8.2E-06	7.0E-02	N/A	N/A	N/A	2.4E-09	N/A
	Manganese	N	1.7E-05	1.4E-01	N/A	N/A	N/A	2.5E-09	N/A
	2-Methylnaphthalene	N	1.0E-06	8.0E-02	N/A	N/A	N/A	2.5E-10	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, surface water risk:

$$CDI = \frac{EPC_{sw} \times IR_{sw} \times EF \times ED}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPC_{sw} = Exposure point concentration in surface water (mg/L).
IR_{sw} = Incidental ingestion rate for sediment (L/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
Irsw = 0.01 L/day exposure to surface water during wading for adolescents and adults.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

15.6 Wetland 48 — Screening Level Problem Formulation

15.6.1 Site Description and Habitats Present at Wetland 48

Wetland 48 is in a mostly undeveloped portion of NAS Pensacola, north of Radford Boulevard, and south of the NAS Pensacola Fuel Farm. It is a thickly vegetated palustrine forested wetland.

The IR site potentially affecting Wetland 48 is Site 37. Site 37 (Sherman Field Fuel Farm Area) is located south of the western end of Forrest Sherman Field. The site consists of an approximately 3.5-acre, fenced area around the former fuel farm including four cut-and-cover storage tanks (Tank Nos. 1884, 1886, 1887, and 1888). The petroleum storage tank system was installed in 1945 and used to store JP-4 Jet Fuel. The fuel storage tanks were abandoned in place in 1995 after a new fuel facility was constructed adjacent to the south side of the original fuel farm. An equipment malfunction in 1983 resulted in the release of approximately 48,000 gallons of JP-4 Jet Fuel. Initial recovery efforts by NAS Pensacola personnel included the installation of four recovery ditches along the fence line in the northwestern corner resulting in the recovery of approximately 600-700 gallons of free product. However, recovery efforts were discontinued by direction of the NAS Pensacola Fire Marshall due to the proximity of open excavations containing free product to the active fuel farm area. Additional recovery efforts in August 1983 included the installation of a product/groundwater recovery well system from approximately 50 to 140 feet west-northwest of the fuel farm. The system proved unsatisfactory, apparently due to its location, and recovery operations were discontinued.

Photograph 1 Wetland 48 — Facing south-southeast

Parsons and Pruitt described this area as a palustrine forested system (USEPA, 1991a). Wetland 48 appears to be fed by surface water and groundwater sources. Surface water drains to the east into Wetland 52, passing through a culvert under the access road to the fuel farm. A sediment sample collected in this area was mostly sandy, with a TOC value of 4.43%.

15.6.2 Wetland 48 — Sample Location Description

Phase II Sediment Sample Location Description

One sediment sample (041M480101) was collected and analyzed for the Wetland 48 ERA. The sample location for wetland 48 was located in an area of the wetland where depositional areas and groundwater seeps could occur. This sample location is centrally located within the wetland (Figure 15-4). Table 15-6-1 (tables are located at the end of each section) provides a physical description of the sediments collected at Wetland 48. Sediment at 041M480101 was a black silty sand with organics. The TOC concentration was 4.43%.

Phase II Surface Water Sample Location Description

In January 1996 one surface water sample was collected at Wetland 48, location 041W480101 (Figure 15-4), which was collocated with sediment location 041M480101. Surface water from Wetland 48 was analyzed for physical parameters, with results presented on Table 15-6-2. Surface water at Wetland 48 reported a pH concentration of 3.96, specific conductivity of 0.078 mS/CM, and turbidity of 3 NTUs.

15.6.3 Nature and Extent of Contamination

Phase II Sediment

Figure 15-4 presents the sediment sampling locations for Wetland 48. Table 15-6-3 summarizes the analytical results for the one Wetland 48 sediment samples.

Metals — Fifteen metals were detected during Phase II sediment sampling at Wetland 48. Although location 041M480101 exhibited detections of 15 metals, none of these were reported at concentrations exceeding their respective freshwater reference values.

Pesticides and PCBs — Three pesticide compounds were detected during Phase II sediment sampling at Wetland 48. Total DDT was calculated for each location by adding the concentrations of 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT. Likewise, a basewide total DDT reference concentration was calculated using the basewide concentrations for these same constituents.

Location 041M480101 had three pesticides detected at elevated concentrations. These included 4,4′-DDE, 4,4′-DDT, and 4,4′-DDD. The individual concentrations detected all exceeded their basewide reference concentrations, as well as the total DDT reference value. No PCBs were detected in the sediment sample collected during Phase II sampling.

SVOCs — SVOCs were not detected in the sediment sample collected during Phase II sampling at Wetland 48.

VOCs — No VOCs were detected in the sediment sample collected during Phase II sampling at Wetland 48.

Phase II Surface Water

Figure 15-4 presents the surface water sampling locations for Wetland 48. Table 15-6-4 summarizes the analytical results for the one Wetland 48 surface water samples.

Metals — Five metals were detected in the Phase II surface water sample collected from Wetland 48. Of these five detections, none were present at concentrations exceeding their respective fresh water reference values.

Organics — There were no organic constituents detected in the Phase II surface water collected at Wetland 48.

15.6.4 Ecological Risk Assessment

Phase II Investigation Summary — Wetland 48

Sediment Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 15-6-5, the sediment sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than 1 or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-6-6.

Baseline Problem Formulation — Wetland 48 Sediment COPC Refinement

During the COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as preliminary COPCs. This risk assessment presents a statement of potential risk for each of the COPCs.

The COPC refinement process included:

- Comparison of maximum concentrations to RVs
- Comparison of average concentrations to SVs and RVs
- Comparison to basewide (reference) concentrations for total DDT
- Comparison of inorganic constituents to reference wetland values
- Interpretative tool for metals
- Di Toro EqP SQGs for VOCs
- Comparison to Swartz consensus values
- Mean ERM quotients
- Description of exceedances of RVs and their extent

The methods used in the COPC refinement in the Site 41 ERA process is detailed in Section 8. Comparison of maximum detected concentrations with refinement values are presented in Table 15-6-7. Additionally, the tables compare: 1) average concentrations to screening and refinement values to assess potential exposure across the entire wetland, and 2) Wetland 48 concentrations to reference concentrations. A list of COPCs retained after refinement are presented in Table 15-6-8.

At Wetland 48, total DDT exceeded the basewide level, indicating that 4,4'-DDT and its daughter products were a concern for this wetland and were retained as COPCs. For Wetland 48, none of the inorganic constituents exceeded their Site 41 freshwater sediment reference concentrations; therefore, the interpretative tool for metals was not addressed.

There were no VOCs detected in Wetland 48 sediment. As a group, the PAHs were not detected at Wetland 48; therefore, comparison to Swartz consensus values was not conducted.

Table 15-6-9 presents the Mean ERL and ERM values, the Mean ERM Quotients, and the Mean ERM Quotient Category by individual sample location. Based on this approach, the sample location (041M480101) was determined to be Category 3, which is the category that includes the studies where about 50% of samples were found to be toxic and average survival was about 60-70%. Figure 15-7 also shows the Mean ERM category for each sediment sample location at Wetland 48.

At Wetland 48, 4,4′-DDD, 4,4′-DDE, and 4,4′-DDT were detected with a maximum detection of 2,600 mg/kg occurring at sample location 041M480101. Total DDT was further evaluated in the food chain model to wetlands in this area.

Surface Water Screening — Level Risk-Estimation and Risk Calculation

As presented in Table 15-6-10, the surface water sample was compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than 1 or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-6-11.

Baseline Problem Formulation — Wetland 48 Surface Water COPC Refinement

During the surface water COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as COPCs.

The COPC refinement process included:

- Comparison of maximum SV concentrations to average SV concentrations
- Comparison of inorganic constituents to reference wetland values
- Description of surface water exceedances and their extent

The methods used in the COPC refinement in the Site 41 ERA process is detailed in Section 8.

Comparison of maximum detected concentrations with refinement values is presented in Table 15-6-12. Additionally, the tables compare average concentrations to screening and refinement values to assess potential exposure across the entire wetland.

For Wetland 48, none of the detected constituents exceeded the fresh water reference concentrations; therefore, there were no constituents retained as COPCs for surface water (Table 15-6-12).

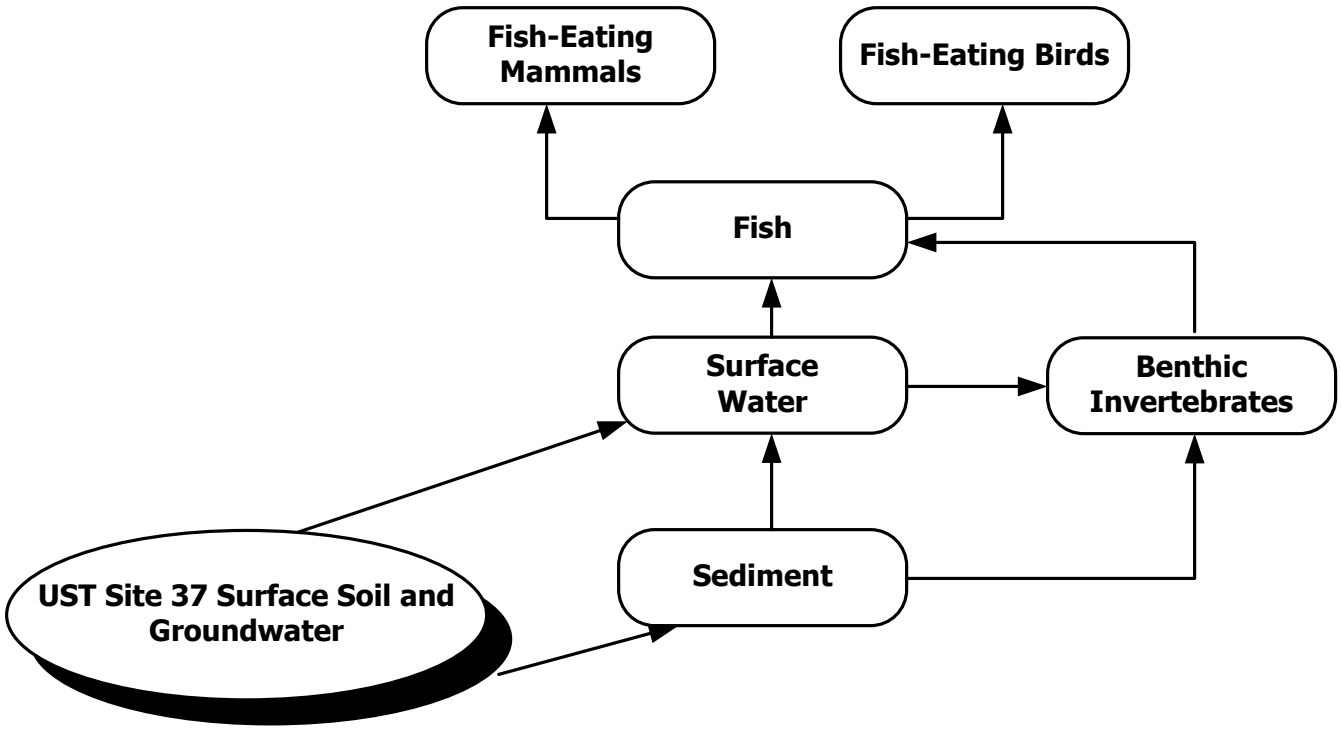
At Wetland 48 during the Phase II investigation, none of the same constituents were detected in sediment and surface water samples.

As summarized in the approved *Final RI/FS SAP Addendum* (E/A&H, 1997d), Wetland 48 was identified as an Orange-Coded Wetland based on the Phase II results, indicating contamination that was possibly related to nearby IR sites, but with limited contaminants exceeding sediment criteria and reference concentrations. Contaminants detected in these wetlands were also considered to be possible sources of ecological risk. Wetland 48 was also classified as a Group E wetland. Based on similar contaminants and physical characteristics, the other Group E wetlands include 49. These wetlands do not appear to be impacted from any IR sites and are subject to periodic intermittent flooding. However, to assess

potential risks from contaminants that bioaccumulate, the results from Wetland 48 will be used in the remaining wetlands food-chain model presented in Section 15.8.

The conceptual model below symbolizes which environmental habitats may be impacted by Wetland 48 Phase II constituents retained during the ERA process.

Wetland 48
Conceptual Site Model



15.6.5 Wetland 48 — Human Health Risk Assessment

Wetland 48 is described in Section 15.6.1, and the HHRA is summarized below.

15.6.5.1 Site Data

Section 15.6.3 summarizes the nature and extent of contamination for this wetland. Surface water and sediment data were collected at Wetland 48 during Phases II of the RI. Surface water and sediment data for 48 are summarized in Tables 15-6-3 and 15-6-4.

15.6.5.2 Conceptual Site Model

As described in Section 15.6.1, Wetland 48 is in a mostly undeveloped portion of NAS Pensacola, north of Radford Boulevard, and south of the NAS Pensacola Fuel Farm. Because Wetland 48 is located in a restricted area of the base, the wetland is only accessible to Navy personnel. Wetland 48 is intermittently flooded; therefore, contact with sediment and surface water is possible.

The following scenarios and exposure pathways were evaluated for this wetland:

Scenario	Medium	Ingestion	Dermal
Maintenance	Surface water	√	√
	Sediment	√	√

15.6.5.3 Risk Characterization

The adult maintenance worker scenario for surface water and sediment were assessed for this wetland as described in Section 9.

Phase II Data

Maintenance Worker

As shown in Tables 15-6-13 through 15-6-15, sediment ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

As shown in Tables 15-6-16 through 15-6-18, surface water ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

Summary of Wetland 48 Phase II Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Sediment	1.08E-03	7.59E-07
	Surface water	2.85E-05	N/A

Based on Phase II data, no COCs for Wetland 48 were identified.

Wetland 48 HHRA COC Summary

No COCs were identified in the HHRA for Wetland 48.

15.6.6 Wetland 48 — Fate and Transport Analysis

Forrest Sherman Field area lies on the western portion of NAS Pensacola and hosts a number of wetlands surrounding the operational runways that run southwest-northeast and north-south. These included Wetlands 19A, 19B, 48, 49, 52, 56, 57, 58, 72, W1, and W2. For the general location of these wetlands and the location of the surface water, sediment, and nearby soil and groundwater samples, see Figure 15-4. The potential sources for these wetlands included:

- storm water drainage and runoff from Forrest Sherman Field
- storm water runoff, surface soil transport, and groundwater discharge from UST Site 18, OU 12, Site 5, and Sites 16a and b
- tidal flux from Bayou Grande and Pensacola Bay also plays a role for those wetlands close to the shorelines

A number of these wetlands are somewhat isolated from known IR sites by either being located upgradient or side gradient, and/or being a significant distance away. Additionally, some of these wetlands have had only one surface water and/or sediment sample collected. For these wetlands, evaluation of the inter- to intra-wetland soil-to-sediment, groundwater-to-surface water, groundwater-to-sediment, or sediment/surface water transport pathways were not completed due to a lack of data. These wetlands included 48, 57, and 58.

Table 15-6-1
Wetland 48 Phase II
Sediment Physical Parameters

Parameter	041M480101
TOC (%)	4.43
Percent Solids (%)	55.4
Grain Size Analysis (percent of composition[1])	
Medium Sand	31
Fine Sand	59
Silt and Clay	10
Description	Black Salty Sand with Organics

Note:
[1] = Derived from sieve analyses.

Table 15-6-2
Wetland 48 Phase II
Surface Water Physical Parameters

Parameter	041W480101
Hardness as CaCO3 (mg/L)	6.6
pH	3.96
Specific Conductivity (mS/cm)	0.078
Turbidity (NTU)	3
Salinity (%)	0

Notes:
mg/L = Milligrams per liter
pH = Hydrogen ion content
MS/cm = Millisiemens per centimeter
NTU = Nephelometric turbidity units
% = Percent

Table 15-6-3
Wetland 48
Phase II Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Average Detection	Maximum Detection Location
Metals (mg/kg)								
Aluminum	13,610.0	0	1	1	1,400.0	1,400.0	1,400.0	041M480101
Arsenic	6.620	0	1	1	0.550	0.550	0.550	041M480101
Barium	14.0	0	1	1	3.50	3.50	3.50	041M480101
Cadmium	1.80	0	1	1	0.30	0.30	0.30	041M480101
Calcium	10,756.670	0	1	1	499.0	499.0	499.0	041M480101
Chromium	39.370	0	1	1	1.10	1.10	1.10	041M480101
Copper	19.50	0	1	1	1.10	1.10	1.10	041M480101
Iron	11,911.670	0	1	1	290.0	290.0	290.0	041M480101
Lead	82.470	0	1	1	17.40	17.40	17.40	041M480101
Magnesium	7,513.330	0	1	1	84.90	84.90	84.90	041M480101
Manganese	37.970	0	1	1	1.50	1.50	1.50	041M480101
Potassium	1,628.670	0	1	1	14.40	14.40	14.40	041M480101
Selenium	3.450	0	1	1	0.710	0.710	0.710	041M480101
Vanadium	28.670	0	1	1	2.40	2.40	2.40	041M480101
Zinc	36.730	0	1	1	6.30	6.30	6.30	041M480101
Pesticides and PCBs (g/kg)								
4,4'-DDD	50.0	1	1	1	2,600.0	2,600.0	2,600.0	041M480101
4,4'-DDE	40.0	1	1	1	620.0	620.0	620.0	041M480101
4,4'-DDT	20.0	1	1	1	240.0	240.0	240.0	041M480101
Total DDT	110.0	1	1	1	3,460.0	3,460.0	3,460.0	041M480101

Notes:
g/kg = micrograms per kilogram
mg/kg = milligram per kilogram
N/A = Not Applicable

Table 15-6-4
Wetland 48 Phase II
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections		Range of Detections			Maximum Detection Location
			Number Detected	Number Analyzed	Minimum Detection	Maximum Detection	Average Detection	
Metals (g/L)								
Calcium	7,675.0	0	1	1	977.0	977.0	977.0	041W480101
Iron	2,360.0	0	1	1	285.0	285.0	285.0	041W480101
Magnesium	20,260.0	0	1	1	1,020.0	1,020.0	1,020.0	041W480101
Manganese	13.2	0	1	1	2.9	2.9	2.9	041W480101
Sodium	182,200.0	0	1	1	7,480.0	7,480.0	7,480.0	041W480101

Notes:
g/L = micrograms per liter
N/A = Not Applicable

Table 15-6-5
Wetland 48 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Metals (mg/kg)														
Aluminum	1	1			1,400	1,400	041M480101	1,400			N/A		Yes	No SV
Antimony	0	1	0.095	0.095			ND	0.095	UJ	12	2	0.01	No	Max SQL< SV
Arsenic	1	1			0.55	0.55	041M480101	0.55	J	7.24	1, 2	0.08	No	Max Detect < SV
Barium	1	1			3.5	3.5	041M480101	3.5	J		N/A		Yes	No SV
Beryllium	0	1	0.045	0.045			ND	0.045	U		N/A		Yes	No SV
Cadmium	1	1			0.3	0.3	041M480101	0.3	J	0.676	1	0.44	No	Max Detect < SV
Calcium	1	1			499	499	041M480101	499			N/A		Yes	No SV
Chromium	1	1			1.1	1.1	041M480101	1.1		52.3	1, 2	0.02	No	Max Detect < SV
Cobalt	0	1	0.095	0.095			ND	0.095	U		N/A		Yes	No SV
Copper	1	1			1.1	1.1	041M480101	1.1	J	18.7	1, 2	0.06	No	Max Detect < SV
Cyanide (CN)	0	1	0.44	0.44			ND	0.44	U		N/A		Yes	No SV
Iron	1	1			290	290	041M480101	290			N/A		Yes	No SV
Lead	1	1			17.4	17.4	041M480101	17.4		30.2	1, 2	0.58	No	Max Detect < SV
Magnesium	1	1			84.9	84.9	041M480101	84.9	J		N/A		Yes	No SV
Manganese	1	1			1.5	1.5	041M480101	1.5			N/A		Yes	No SV
Mercury	0	1	0.04	0.04			ND	0.04	U	0.13	1, 2	0.31	No	Max SQL< SV
Nickel	0	1	0.425	0.425			ND	0.425	U	15.9	1, 2	0.03	No	Max SQL< SV
Potassium	1	1			14.4	14.4	041M480101	14.4	J		N/A		Yes	No SV
Selenium	1	1			0.71	0.71	041M480101	0.71			N/A		Yes	No SV
Silver	0	1	0.235	0.235			ND	0.235	U	0.733	1	0.32	No	Max SQL< SV
Sodium	0	1	48.1	48.1			ND	48.1	U		N/A		Yes	No SV
Thallium	0	1	0.19	0.19			ND	0.19	UJ		N/A		Yes	No SV
Vanadium	1	1			2.4	2.4	041M480101	2.4	J		N/A		Yes	No SV
Zinc	1	1			6.3	6.3	041M480101	6.3		124	1, 2	0.05	No	Max Detect < SV
PAHs (g/kg)														
2-Methylnaphthalene	0	1	205	205			ND	205	U	20.2	1	10.1	No	TOC Normalized PAHs <TEC
Acenaphthene	0	1	100	100			ND	100	U	6.71	1	14.9	No	TOC Normalized PAHs <TEC
Acenaphthylene	0	1	205	205			ND	205	U	5.87	1	34.9	No	TOC Normalized PAHs <TEC
Anthracene	0	1	205	205			ND	205	U	46.9	1	4.37	No	TOC Normalized PAHs <TEC
Benzo(a)anthracene	0	1	205	205			ND	205	U	74.8	1	2.74	No	TOC Normalized PAHs <TEC
Benzo(a)pyrene	0	1	205	205			ND	205	U	88.8	1	2.31	No	TOC Normalized PAHs <TEC
Chrysene	0	1	205	205			ND	205	U	108	1	1.9	No	TOC Normalized PAHs <TEC
Dibenz(a,h)anthracene	0	1	205	205			ND	205	U	6.22	1	33	No	TOC Normalized PAHs <TEC
Fluoranthene	0	1	205	205			ND	205	U	113	1	1.81	No	TOC Normalized PAHs <TEC
Fluorene	0	1	100	100			ND	100	U	21.2	1	4.72	No	TOC Normalized PAHs <TEC
Naphthalene	0	1	205	205			ND	205	U	34.6	1	5.92	No	TOC Normalized PAHs <TEC
Phenanthrene	0	1	205	205			ND	205	U	86.7	1	2.36	No	TOC Normalized PAHs <TEC
Pyrene	0	1	205	205			ND	205	U	153	1	1.34	No	TOC Normalized PAHs <TEC
Total PAHs	0	1	2,460	2,460			ND	2,460	U	1,684	1, 2	1.46	No	TOC Normalized PAHs <TEC
TOC Normalized PAHs	0	1	55.42	55.42			ND	55.42	U	290	3	0.19	No	Max SQL< SV
PCBs (g/kg)														
Aroclor-1016	0	1	105	105			ND	105	U	21.6	N/A	4.86	Yes	Max SQL > SV
Aroclor-1221	0	1	205	205			ND	205	U	67	2	3.06	Yes	Max SQL > SV
Aroclor-1232	0	1	105	105			ND	105	U	21.6	N/A	4.86	Yes	Max SQL > SV
Aroclor-1242	0	1	105	105			ND	105	U	21.6	N/A	4.86	Yes	Max SQL > SV
Aroclor-1248	0	1	105	105			ND	105	U	21.6	N/A	4.86	Yes	Max SQL > SV
Aroclor-1254	0	1	105	105			ND	105	U	21.6	N/A	4.86	Yes	Max SQL > SV
Aroclor-1260	0	1	105	105			ND	105	U	21.6	N/A	4.86	Yes	Max SQL > SV
Total PCBs	0	1	835	835			ND	835	U	21.6	1	38.7	Yes	Max SQL > SV
Pesticides (g/kg)														
Aldrin	0	1	5	5			ND	5	U		N/A		Yes	No SV
Dieldrin	0	1	10.5	10.5			ND	10.5	U	0.716	1	14.7	Yes	Max SQL > SV
Endosulfan I	0	1	5	5			ND	5	U		N/A		Yes	No SV
Endosulfan II	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Endosulfan sulfate	0	1	10.5	10.5			ND	10.5	U		N/A		Yes	No SV
Heptachlor	0	1	5	5			ND	5	U		N/A		Yes	No SV
Heptachlor epoxide	0	1	5	5			ND	5	U		N/A		Yes	No SV
Methoxychlor	0	1	50	50			ND	50	U		N/A		Yes	No SV
Toxaphene	0	1	1,050	1,050			ND	1,050	U		N/A		Yes	No SV
alpha-Chlordane	0	1	5	5			ND	5	U	1.7	1	2.94	Yes	Max SQL > SV
gamma-Chlordane	0	1	5	5			ND	5	U	1.7	1	2.94	Yes	Max SQL > SV
Total Chlordane	0	1	10	10			ND	10	U	1.7	1	5.88	Yes	Max SQL > SV
Endrin	0	1	10.5	10.5			ND	10.5	U	3.3	2	3.18	Yes	Max SQL > SV
Endrin aldehyde	0	1	10.5	10.5			ND	10.5	U	3.3	2	3.18	Yes	Max SQL > SV
Endrin ketone	0	1	10.5	10.5			ND	10.5	U	3.3	2	3.18	Yes	Max SQL > SV
Total Endrin	0	1	31.5	31.5			ND	31.5	U	3.3	2	9.55	Yes	Max SQL > SV
alpha-BHC	0	1	5	5			ND	5	U		N/A		Yes	No SV
beta-BHC	0	1	5	5			ND	5	U	0.32	N/A	15.6	Yes	Max SQL > SV
delta-BHC	0	1	5	5			ND	5	U	0.32	N/A	15.6	Yes	Max SQL > SV
gamma-BHC (Lindane)	0	1	5	5			ND	5	U	0.32	1	15.6	Yes	Max SQL > SV
Total BHC	0	1	20	20			ND	20	U	0.32	2	62.5	Yes	Max SQL > SV
4,4'-DDD	**1**	**1**			**2,600**	**2,600**	**041M480101**	**2,600**	**DJ**	**1.22**	**1**	**2,130**	**Yes**	**Max Detect > SV**
4,4'-DDE	**1**	**1**			**620**	**620**	**041M480101**	**620**	**DJ**	**2.07**	**1**	**300**	**Yes**	**Max Detect > SV**
4,4'-DDT	**1**	**1**			**240**	**240**	**041M480101**	**240**	**J**	**1.19**	**1**	**202**	**Yes**	**Max Detect > SV**
Total DDT	**1**	**1**			**3,460**	**3,460**	**041M480101**	**3,460**		**3.3**	**2**	**1,050**	**Yes**	**Max Detect > SV**
SVOCs (g/kg)														
1,2,4-Trichlorobenzene	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
1,2-Dichlorobenzene	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
1,3-Dichlorobenzene	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
1,4-Dichlorobenzene	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
2,4,5-Trichlorophenol	0	1	5,000	5,000			ND	5,000	U		N/A		Yes	No SV
2,4,6-Trichlorophenol	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
2,4-Dichlorophenol	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
2,4-Dimethylphenol	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
2,4-Dinitrophenol	0	1	5,000	5,000			ND	5,000	UJ		N/A		Yes	No SV
2,4-Dinitrotoluene	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
2,6-Dinitrotoluene	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
2-Chloronaphthalene	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
2-Chlorophenol	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	1	5,000	5,000			ND	5,000	U		N/A		Yes	No SV
2-Methylphenol (o-Cresol)	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
2-Nitroaniline	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
2-Nitrophenol	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
3,3'-Dichlorobenzidine	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
3-Nitroaniline	0	1	5,000	5,000			ND	5,000	U		N/A		Yes	No SV
4-Bromophenyl-phenylether	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
4-Chloro-3-methylphenol	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
4-Chloroaniline	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
4-Chlorophenylphenyl ether	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
4-Methylphenol (p-Cresol)	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
4-Nitroaniline	0	1	5,000	5,000			ND	5,000	U		N/A		Yes	No SV
4-Nitrophenol	0	1	5,000	5,000			ND	5,000	U		N/A		Yes	No SV
Benzo(b)fluoranthene	0	1	205	205			ND	205	U		N/A		No	TOC Normalized PAHs <TEC
Benzo(g,h,i)perylene	0	1	205	205			ND	205	U		N/A		No	TOC Normalized PAHs <TEC
Benzo(k)fluoranthene	0	1	205	205			ND	205	U		N/A		No	TOC Normalized PAHs <TEC
bis(2-Chloroethoxy)methane	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
bis(2-Chloroethyl)ether	0	1	205	205			ND	205	U		N/A		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2,050	2,050			ND	2,050	U	182	1, 2	11.3	Yes	Max SQL > SV
Butylbenzylphthalate	0	1	2,050	2,050			ND	2,050	U	182	1, 2	11.3	Yes	Max SQL > SV
Carbazole	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
Dibenzofuran	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
Diethylphthalate	0	1	2,050	2,050			ND	2,050	U	182	1, 2	11.3	Yes	Max SQL > SV

Table 15-6-5
Wetland 48 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
SVOCs (g/kg) - cont.														
Dimethylphthalate	0	1	2,050	2,050			ND	2,050	U	182	1, 2	11.3	Yes	Max SQL > SV
Di-n-butylphthalate	0	1	2,050	2,050			ND	2,050	U	182	1, 2	11.3	Yes	Max SQL > SV
Di-n-octylphthalate	0	1	2,050	2,050			ND	2,050	U	182	1, 2	11.3	Yes	Max SQL > SV
Hexachlorobenzene	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
Hexachlorobutadiene	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
Hexachlorocyclopentadiene	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
Hexachloroethane	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	1	205	205			ND	205	U		N/A		No	TOC Normalized PAHs <TEC
Isophorone	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
Nitrobenzene	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
N-Nitroso-di-n-propylamine	0	1	205	205			ND	205	U		N/A		Yes	No SV
N-Nitrosodiphenylamine	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
Pentachlorophenol	0	1	5,000	5,000			ND	5,000	U		N/A		Yes	No SV
Phenol	0	1	2,050	2,050			ND	2,050	U		N/A		Yes	No SV
VOCs (g/kg)														
1,1,1-Trichloroethane	0	1	7	7			ND	7	U		N/A		Yes	No SV
1,1,2,2-Tetrachloroethane	0	1	7	7			ND	7	U		N/A		Yes	No SV
1,1,2-Trichloroethane	0	1	7	7			ND	7	U		N/A		Yes	No SV
1,1-Dichloroethane	0	1	7	7			ND	7	U		N/A		Yes	No SV
1,1-Dichloroethene	0	1	7	7			ND	7	U		N/A		Yes	No SV
1,2-Dichloroethane	0	1	7	7			ND	7	U		N/A		Yes	No SV
1,2-Dichloroethene (total)	0	1	7	7			ND	7	U		N/A		Yes	No SV
1,2-Dichloropropane	0	1	7	7			ND	7	U		N/A		Yes	No SV
2-Butanone (MEK)	0	1	7	7			ND	7	U		N/A		Yes	No SV
2-Hexanone	0	1	7	7			ND	7	U		N/A		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	1	7	7			ND	7	U		N/A		Yes	No SV
Acetone	0	1	11	11			ND	11	U		N/A		Yes	No SV
Benzene	0	1	7	7			ND	7	U		N/A		Yes	No SV
Bromodichloromethane	0	1	7	7			ND	7	U		N/A		Yes	No SV
Bromoform	0	1	7	7			ND	7	U		N/A		Yes	No SV
Bromomethane	0	1	7	7			ND	7	U		N/A		Yes	No SV
Carbon disulfide	0	1	7	7			ND	7	U		N/A		Yes	No SV
Carbon tetrachloride	0	1	7	7			ND	7	U		N/A		Yes	No SV
Chlorobenzene	0	1	7	7			ND	7	U		N/A		Yes	No SV
Chloroethane	0	1	7	7			ND	7	U		N/A		Yes	No SV
Chloroform	0	1	7	7			ND	7	U		N/A		Yes	No SV
Chloromethane	0	1	7	7			ND	7	U		N/A		Yes	No SV
cis-1,3-Dichloropropene	0	1	7	7			ND	7	U		N/A		Yes	No SV
Dibromochloromethane	0	1	7	7			ND	7	U		N/A		Yes	No SV
Ethylbenzene	0	1	7	7			ND	7	U		N/A		Yes	No SV
Methylene chloride	0	1	7	7			ND	7	U		N/A		Yes	No SV
Styrene	0	1	7	7			ND	7	U		N/A		Yes	No SV
Tetrachloroethene	0	1	7	7			ND	7	U		N/A		Yes	No SV
Toluene	0	1	7	7			ND	7	U		N/A		Yes	No SV
trans-1,3-Dichloropropene	0	1	7	7			ND	7	U		N/A		Yes	No SV
Trichloroethene	0	1	7	7			ND	7	U		N/A		Yes	No SV
Vinyl chloride	0	1	2	2			ND	2	U		N/A		Yes	No SV
Xylene (Total)	0	1	7	7			ND	7	U		N/A		Yes	No SV

Notes:

Sources for Screening Values:
SV = Screening Value
1 = USEPA Region 4 Screening Value.
Detailed explanation for SVs provided in Section 8.0.
2 = FDEP Threshold effects level

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available.
U or ND = Not Detected at or above the SQL
J = Estimated value
SHQ = Screening Hazard Quotient

D = Diluted Result
mg/kg = milligrams per kilograms
g/kg = micrograms per kilograms
mg/kg oc = milligrams per kilograms - organic carbon
UJ = Not detected. SQL is estimated.
Parameters in bold were detected and exceeded screening values.

Table 15-6-6
Wetland 48 Phase II
Sediment COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	4,4'-DDD	None	None
Barium	4,4'-DDE		
Calcium	4,4'-DDT		
Iron	Total DDT		
Magnesium			
Manganese			
Potassium			
Selenium			
Vanadium			
		Not Detected Parameters	
Beryllium	Aldrin	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane
Cobalt	alpha-BHC	1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
Cyanide (CN)	alpha-Chlordane	1,3-Dichlorobenzene	1,1,2-Trichloroethane
Sodium	beta-BHC	1,4-Dichlorobenzene	1,1-Dichloroethane
Thallium	delta-BHC	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1-Dichloroethene
	Dieldrin	2,4,5-Trichlorophenol	1,2-Dichloroethane
	Endosulfan I	2,4,6-Trichlorophenol	1,2-Dichloroethene (total)
	Endosulfan II	2,4-Dichlorophenol	1,2-Dichloropropane
	Endosulfan sulfate	2,4-Dimethylphenol	2-Butanone (MEK)
	Endrin	2,4-Dinitrophenol	2-Hexanone
	Endrin aldehyde	2,4-Dinitrotoluene	4-Methyl-2-Pentanone (MIBK)
	Endrin ketone	2,6-Dinitrotoluene	Acetone
	gamma-BHC (Lindane)	2-Chloronaphthalene	Benzene
	gamma-Chlordane	2-Chlorophenol	Bromodichloromethane
	Heptachlor	2-Methyl-4,6-Dinitrophenol	Bromoform
	Heptachlor epoxide	2-Methylphenol (o-Cresol)	Bromomethane
	Methoxychlor	2-Nitroaniline	Carbon disulfide
	Total BHC	2-Nitrophenol	Carbon tetrachloride
	Total Chlordane	3,3'-Dichlorobenzidine	Chlorobenzene
	Total Endrin	3-Nitroaniline	Chloroethane
	Toxaphene	4-Bromophenyl-phenylether	Chloroform
	Aroclor-1016	4-Chloro-3-methylphenol	Chloromethane
	Aroclor-1221	4-Chloroaniline	cis-1,3-Dichloropropene
	Aroclor-1232	4-Chlorophenylphenyl ether	Dibromochloromethane
	Aroclor-1242	4-Methylphenol (p-Cresol)	Ethylbenzene
	Aroclor-1248	4-Nitroaniline	Methylene chloride
	Aroclor-1254	4-Nitrophenol	Styrene
	Aroclor-1260	bis(2-Chloroethoxy)methane	Tetrachloroethene
	Total PCBs	bis(2-Chloroethyl)ether	Toluene
		bis(2-Ethylhexyl)phthalate (BEHP)	trans-1,3-Dichloropropene
		Butylbenzylphthalate	Trichloroethene
		Carbazole	Vinyl chloride
		Dibenzofuran	Xylene (Total)
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-butylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	

Table 15-6-7
Wetland 48 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
Metals (mg/kg)																							
Aluminum	1	1				1,400	1,400	1,400	1,400		041M480101			NA					0	13,610	0	No	EPC < RC
Barium	1	1				3.5	3.5	3.5	3.5	J	041M480101			NA					0	14	0	No	EPC < RC
Beryllium	0	1	0.045	0.045	0.045	0.045			0.045	U	ND			NA					0	0.84	0	No	Parameter Not Detected
Calcium	1	1				499	499	499	499		041M480101			NA					0	10,756.67	0	No	EPC < RC
Cobalt	0	1	0.095	0.095	0.095	0.095			0.095	U	ND			NA					0	2.8	0	No	Parameter Not Detected
Cyanide (CN)	0	1	0.44	0.44	0.44	0.44			0.44	U	ND			NA					0	5.22	0	No	Parameter Not Detected
Iron	1	1				290	290	290	290		041M480101			NA					0	11,911.67	0	No	EPC < RC
Magnesium	1	1				84.9	84.9	84.9	84.9	J	041M480101			NA					0	7513.33	0	No	EPC < RC
Manganese	1	1				1.5	1.5	1.5	1.5		041M480101			NA					0	37.97	0	No	EPC < RC
Potassium	1	1				14.4	14.4	14.4	14.4	J	041M480101			NA					0	1,628.67	0	No	EPC < RC
Selenium	1	1				0.71	0.71	0.71	0.71		041M480101			NA					0	3.45	0	No	EPC < RC
Sodium	0	1	48.1	48.1	48.1	48.1			48.1	U	ND			NA					0	18,993.33	0	No	Parameter Not Detected
Thallium	0	1	0.19	0.19	0.19	0.19			0.19	UJ	ND			NA					0	1.57	0	No	Parameter Not Detected
Vanadium	1	1				2.4	2.4	2.4	2.4	J	041M480101			NA					0	28.67	0	No	EPC < RC
PCBs (g/kg)																							
Aroclor-1016	0	1	105	105	105	105			105	U	ND	21.6	189	PEL	4.86	4.86	0.56	0.56	0		0	No	Parameter Not Detected
Aroclor-1221	0	1	205	205	205	205			205	U	ND	67	189	PEL	3.06	3.06	1.08	1.08	0		0	No	Parameter Not Detected; Max SQL > RV
Aroclor-1232	0	1	105	105	105	105			105	U	ND	21.6	189	PEL	4.86	4.86	0.56	0.56	0		0	No	Parameter Not Detected
Aroclor-1242	0	1	105	105	105	105			105	U	ND	21.6	189	PEL	4.86	4.86	0.56	0.56	0		0	No	Parameter Not Detected
Aroclor-1248	0	1	105	105	105	105			105	U	ND	21.6	189	PEL	4.86	4.86	0.56	0.56	0		0	No	Parameter Not Detected
Aroclor-1254	0	1	105	105	105	105			105	U	ND	21.6	189	PEL	4.86	4.86	0.56	0.56	0		0	No	Parameter Not Detected
Aroclor-1260	0	1	105	105	105	105			105	U	ND	21.6	189	PEL	4.86	4.86	0.56	0.56	0		0	No	Parameter Not Detected
Total PCBs	0	1	835	835	835	835			835	U	ND	21.6	189	PEL	38.7	38.7	4.42	4.42	0		0	No	Parameter Not Detected; Max SQL > RV
Pesticides (g/kg)																							
Aldrin	0	1	5	5	5	5			5	U	ND			NA					0		0	No	Parameter Not Detected
Dieldrin	0	1	10.5	10.5	10.5	10.5			10.5	U	ND	0.716	4.3	PEL	14.7	14.7	2.44	2.44	0		0	No	Parameter Not Detected; Max SQL > RV
Endosulfan I	0	1	5	5	5	5			5	U	ND			NA					0		0	No	Parameter Not Detected
Endosulfan II	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Endosulfan sulfate	0	1	10.5	10.5	10.5	10.5			10.5	U	ND			NA					0		0	No	Parameter Not Detected
Heptachlor	0	1	5	5	5	5			5	U	ND			NA					0		0	No	Parameter Not Detected
Heptachlor epoxide	0	1	5	5	5	5			5	U	ND			NA					0		0	No	Parameter Not Detected
Methoxychlor	0	1	50	50	50	50			50	U	ND			NA					0		0	No	Parameter Not Detected
Toxaphene	0	1	1,050	1,050	1,050	1,050			1,050	U	ND			NA					0		0	No	Parameter Not Detected
alpha-Chlordane	0	1	5	5	5	5			5	U	ND	1.7	4.79	PEL	2.94	2.94	1.04	1.04	0		0	No	Parameter Not Detected; Max SQL > RV
gamma-Chlordane	0	1	5	5	5	5			5	U	ND	1.7	4.79	PEL	2.94	2.94	1.04	1.04	0		0	No	Parameter Not Detected; Max SQL > RV
Total Chlordane	0	1	10	10	10	10			10	U	ND	1.7	4.79	PEL	5.88	5.88	2.09	2.09	0		0	No	Parameter Not Detected; Max SQL > RV
Endrin	0	1	10.5	10.5	10.5	10.5			10.5	U	ND	3.3		NA	3.18	3.18			0		0	No	Parameter Not Detected
Endrin aldehyde	0	1	10.5	10.5	10.5	10.5			10.5	U	ND	3.3		NA	3.18	3.18			0		0	No	Parameter Not Detected
Endrin ketone	0	1	10.5	10.5	10.5	10.5			10.5	U	ND	3.3		NA	3.18	3.18			0		0	No	Parameter Not Detected
Total Endrin	0	1	31.5	31.5	31.5	31.5			31.5	U	ND	3.3		NA	9.55	9.55			0		0	No	Parameter Not Detected
alpha-BHC	0	1	5	5	5	5			5	U	ND		0.99	PEL			5.05	5.05	0		0	No	Parameter Not Detected; Max SQL > RV
beta-BHC	0	1	5	5	5	5			5	U	ND	0.32	0.99	PEL	15.6	15.6	5.05	5.05	0		0	No	Parameter Not Detected; Max SQL > RV
delta-BHC	0	1	5	5	5	5			5	U	ND	0.32	0.99	PEL	15.6	15.6	5.05	5.05	0		0	No	Parameter Not Detected; Max SQL > RV
gamma-BHC (Lindane)	0	1	5	5	5	5			5	U	ND	0.32	0.99	PEL	15.6	15.6	5.05	5.05	0		0	No	Parameter Not Detected; Max SQL > RV
Total BHC	0	1	20	20	20	20			20	U	ND	0.32	0.99	PEL	62.5	62.5	20.2	20.2	0		0	No	Parameter Not Detected; Max SQL > RV
4,4'-DDD	**1**	**1**				**2,600**	**2,600**	**2,600**	**2,600**	**DJ**	**041M480101**	**1.22**	**7.81**	**PEL**	**2,130**	**2,130**	**333**	**333**	**1**	**50**	**1**	**Yes**	**EPC > RV and RC**
4,4'-DDE	**1**	**1**				**620**	**620**	**620**	**620**	**DJ**	**041M480101**	**2.07**	**374**	**PEL**	**300**	**300**	**1.66**	**1.66**	**1**	**40**	**1**	**Yes**	**EPC > RV and RC**
4,4'-DDT	**1**	**1**				**240**	**240**	**240**	**240**	**J**	**041M480101**	**1.19**	**4.77**	**PEL**	**202**	**202**	**50.3**	**50.3**	**1**	**20**	**1**	**Yes**	**EPC > RV and RC**
Total DDT	**1**	**1**				**3,460**	**3,460**	**3,460**	**3,460**		**041M480101**	**3.3**	**51.7**	**PEL**	**1,050**	**1,050**	**66.9**	**66.9**	**1**	**110**	**1**	**Yes**	**EPC > RV and RC**
SVOCs (g/kg)																							
1,2,4-Trichlorobenzene	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichlorobenzene	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
1,4-Dichlorobenzene	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	1	5,000	5,000	5,000	5,000			5,000	U	ND			NA					0		0	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dichlorophenol	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dimethylphenol	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrophenol	0	1	5,000	5,000	5,000	5,000			5,000	UJ	ND			NA					0		0	No	Parameter Not Detected
2,4-Dinitrotoluene	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
2,6-Dinitrotoluene	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
2-Chloronaphthalene	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
2-Chlorophenol	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	1	5,000	5,000	5,000	5,000			5,000	U	ND			NA					0		0	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
2-Nitroaniline	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
2-Nitrophenol	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
3-Nitroaniline	0	1	5,000	5,000	5,000	5,000			5,000	U	ND			NA					0		0	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected

Table 15-6-7
Wetland 48 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)	Rationale
SVOCs (g/kg) - cont.																							
4-Chloro-3-methylphenol	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
4-Chloroaniline	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
4-Nitroaniline	0	1	5,000	5,000	5,000	5,000			5,000	U	ND			NA					0		0	No	Parameter Not Detected
4-Nitrophenol	0	1	5,000	5,000	5,000	5,000			5,000	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	1	205	205	205	205			205	U	ND			NA					0		0	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2,050	2,050	2,050	2,050			2,050	U	ND	182	2,647	PEL	11.3	11.3	0.77	0.77	0		0	No	Parameter Not Detected
Butylbenzylphthalate	0	1	2,050	2,050	2,050	2,050			2,050	U	ND	182	2,647	PEL	11.3	11.3	0.77	0.77	0		0	No	Parameter Not Detected
Carbazole	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
Dibenzofuran	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
Diethylphthalate	0	1	2,050	2,050	2,050	2,050			2,050	U	ND	182	2,647	PEL	11.3	11.3	0.77	0.77	0		0	No	Parameter Not Detected
Dimethylphthalate	0	1	2,050	2,050	2,050	2,050			2,050	U	ND	182	2,647	PEL	11.3	11.3	0.77	0.77	0		0	No	Parameter Not Detected
Di-n-butylphthalate	0	1	2,050	2,050	2,050	2,050			2,050	U	ND	182	2,647	PEL	11.3	11.3	0.77	0.77	0		0	No	Parameter Not Detected
Di-n-octylphthalate	0	1	2,050	2,050	2,050	2,050			2,050	U	ND	182	2,647	PEL	11.3	11.3	0.77	0.77	0		0	No	Parameter Not Detected
Hexachlorobenzene	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
Hexachlorobutadiene	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
Hexachloroethane	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
Isophorone	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
Nitrobenzene	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	1	205	205	205	205			205	U	ND			NA					0		0	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
Pentachlorophenol	0	1	5,000	5,000	5,000	5,000			5,000	U	ND			NA					0		0	No	Parameter Not Detected
Phenol	0	1	2,050	2,050	2,050	2,050			2,050	U	ND			NA					0		0	No	Parameter Not Detected
VOCs (g/kg)																							
1,1,1-Trichloroethane	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
1,1,2,2-Tetrachloroethane	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
1,1,2-Trichloroethane	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
1,1-Dichloroethane	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
1,1-Dichloroethene	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloroethane	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloroethene (total)	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
1,2-Dichloropropane	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
2-Butanone (MEK)	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
2-Hexanone	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Acetone	0	1	11	11	11	11			11	U	ND			NA					0		0	No	Parameter Not Detected
Benzene	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Bromodichloromethane	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Bromoform	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Bromomethane	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Carbon disulfide	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Carbon tetrachloride	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Chlorobenzene	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Chloroethane	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Chloroform	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Chloromethane	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Dibromochloromethane	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Ethylbenzene	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Methylene chloride	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Styrene	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Tetrachloroethene	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Toluene	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Trichloroethene	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected
Vinyl chloride	0	1	2	2	2	2			2	U	ND			NA					0		0	No	Parameter Not Detected
Xylene (Total)	0	1	7	7	7	7			7	U	ND			NA					0		0	No	Parameter Not Detected

Notes:

Sources for Refinement Values (RVs):
PEL = FDEP Probable Effects Level
MEC = Swartz Midrange Effect Concentration

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
Parameters in bold were detected and exceeded screening values.

J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
PEL = Probable effects level.

N/R = No refinement value available.
N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters.
As a result, some average detections may exceed the maximum detections
NAS Pensacola base wide levels used as reference values for 4,4'-DDT, 4,4'-DDD, 4,4'-DDE and total DDT.

Table 15-6-8
Wetland 48 Phase II
Sediment COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
	Detected Parameters		
None	4,4'-DDD 4,4'-DDE 4,4'-DDT Total DDT	None	None

Table 15-6-9
Wetland 48 Phase II
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M480101	1/22/1996	mg/kg	0.55	J	Arsenic	8.2	70	0.01
041M480101	1/22/1996	mg/kg	0.3	J	Cadmium	1.2	9.6	0.03
041M480101	1/22/1996	mg/kg	1.1		Chromium	81	370	0.00
041M480101	1/22/1996	mg/kg	1.1	J	Copper	34	270	0.00
041M480101	1/22/1996	mg/kg	17.4		Lead	46.7	218	0.08
041M480101	1/22/1996	mg/kg	0.04	U	Mercury	0.15	0.71	0.06
041M480101	1/22/1996	mg/kg	0.425	U	Nickel	20.9	51.6	0.01
041M480101	1/22/1996	mg/kg	0.235	U	Silver	1	3.7	0.06
041M480101	1/22/1996	mg/kg	6.3		Zinc	150	410	0.02
041M480101	**1/22/1996**	**g/kg**	**620**	**DJ**	**4,4'-DDE**	**2.2**	**27**	**22.96**
041M480101	**1/22/1996**	**g/kg**	**240**	**J**	**4,4'-DDT**	**1.58**	**46.1**	**5.21**
041M480101	1/22/1996	g/kg	835	U	Total PCBs	22.7	180	4.64
041M480101	1/22/1996	g/kg	205	U	2-Methylnaphthalene	70	670	0.31
041M480101	1/22/1996	g/kg	100	U	Acenaphthene	16	500	0.20
041M480101	1/22/1996	g/kg	205	U	Acenaphthylene	44	640	0.32
041M480101	1/22/1996	g/kg	205	U	Anthracene	85.3	1,100	0.19
041M480101	1/22/1996	g/kg	205	U	Benzo(a)anthracene	261	1,600	0.13
041M480101	1/22/1996	g/kg	205	U	Benzo(a)pyrene	430	1,600	0.13
041M480101	1/22/1996	g/kg	205	U	Chrysene	384	2,800	0.07
041M480101	1/22/1996	g/kg	205	U	Dibenz(a,h)anthracene	63.4	260	0.79
041M480101	1/22/1996	g/kg	205	U	Fluoranthene	600	5,100	0.04
041M480101	1/22/1996	g/kg	100	U	Fluorene	19	540	0.19
041M480101	1/22/1996	g/kg	205	U	Naphthalene	160	2,100	0.10
041M480101	1/22/1996	g/kg	205	U	Phenanthrene	240	1,500	0.14
041M480101	1/22/1996	g/kg	205	U	Pyrene	665	2,600	0.08
041M480101	1/22/1996				ERM Quotient Sum			35.75
041M480101	1/22/1996				Mean ERM Quotient			1.43
041M480101	1/22/1996				Mean ERM Quotient without ND			1.13
041M480101	1/22/1996				Mean ERM Quotient Category			3

Notes:
ERL = Effects Range Low
ERM = Effects Range Median
mg/kg = milligrams per kilogram
g/kg = micrograms per kilogram
U = not detected at or above the SQL (value in table is 1/2 reported value)
J = estimated value
Shaded cells indicate constituent exceeds ERL.
Shaded and bold cells indicate constituent exceeds ERM.

Table 15-6-10
Wetland 48 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Qual	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
Metals (g/L)																
Aluminum	0	1	178	178	178	178			ND	178	U	13	FDEP	13.7	Yes	Max SQL > SV
Antimony	0	1	1	1	1	1			ND	1	UJ	160	EPA	0.01	No	Max SQL< SV
Arsenic	0	1	1.35	1.35	1.35	1.35			ND	1.35	U	50	FDEP	0.03	No	Max SQL< SV
Barium	0	1	2.6	2.6	2.6	2.6			ND	2.6	U		NA		Yes	No SV
Beryllium	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.13	FDEP	3.85	Yes	Max SQL > SV
Cadmium	0	1	1	1	1	1			ND	1	U	0.66	EPA	1.52	Yes	Max SQL > SV
Calcium	1	1				977	977	977	041W480101	977	J		NA		Yes	No SV
Chromium	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	11	EPA	0.23	No	Max SQL< SV
Cobalt	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Copper	0	1	2	2	2	2			ND	2	U	6.54	EPA	0.31	No	Max SQL< SV
Cyanide (CN)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	5.2	EPA	0.48	No	Max SQL< SV
Iron	1	1				285	285	285	041W480101	285			NA		Yes	No SV
Lead	0	1	1	1	1	1			ND	1	U	1.32	EPA	0.76	No	Max SQL< SV
Magnesium	1	1				1,020	1,020	1,020	041W480101	1,020	J		NA		Yes	No SV
Manganese	1	1				2.9	2.9	2.9	041W480101	2.9	J		NA		Yes	No SV
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.012	EPA	5.42	Yes	Max SQL > SV
Nickel	0	1	4.5	4.5	4.5	4.5			ND	4.5	U	87.71	EPA	0.05	No	Max SQL< SV
Potassium	0	1	58	58	58	58			ND	58	U		NA		Yes	No SV
Selenium	0	1	2	2	2	2			ND	2	U	5	EPA	0.4	No	Max SQL< SV
Silver	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.012	EPA	208	Yes	Max SQL > SV
Sodium	1	1				7,480	7,480	7,480	041W480101	7,480			NA		Yes	No SV
Thallium	0	1	2	2	2	2			ND	2	U	4	EPA	0.5	No	Max SQL< SV
Vanadium	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Zinc	0	1	19.1	19.05	19.05	19.1			ND	19.05	U	58.91	EPA	0.32	No	Max SQL< SV
Pesticides (g/L)																
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan I	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.056	EPA	0.45	No	Max SQL< SV
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0038	EPA	6.58	Yes	Max SQL > SV
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	Yes	Max SQL > SV
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	U		NA		Yes	No SV
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	11.6	Yes	Max SQL > SV
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	21.7	Yes	Max SQL > SV
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.08	EPA	0.31	No	Max SQL< SV
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA		Yes	No SV
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	Yes	Max SQL > SV
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	Yes	Max SQL > SV
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP	84.7	Yes	Max SQL > SV
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
PCBs (g/L)																
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1221	0	1	1	1	1	1			ND	1	U		NA		Yes	No SV
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Table 15-6-10
Wetland 48 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Qual	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
PCBs (g/L) - cont.																
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	EPA	35.7	Yes	Max SQL > SV
Total PCB	0	1	4	4	4	4			ND	4	U		NA		Yes	No SV
SVOCs (g/L)																
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	43.8	EPA	0.06	No	Max SQL< SV
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA		Yes	No SV
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.3	EPA	8.33	Yes	Max SQL > SV
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Di-n-butylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	9.4	EPA	0.27	No	Max SQL< SV
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA		Yes	No SV
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
PAHs (g/L)																
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Table 15-6-10
Wetland 48 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Qual	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
PAHs (g/L) - cont.																
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	26	FDEP	0.02	No	Max SQL< SV
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA		Yes	No SV
VOCs (g/L)																
1,1,1-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	270	FDEP	0.00	No	Max SQL< SV
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3.2	FDEP	0.16	No	Max SQL< SV
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	15.8	EPA	0.03	No	Max SQL< SV
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	3	FDEP	0.17	No	Max SQL< SV
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Benzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	53	EPA	0.01	No	Max SQL< SV
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	17	FDEP	0.03	No	Max SQL< SV
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chloroform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	289	EPA	0.00	No	Max SQL< SV
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Ethylbenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	453	EPA	0.00	No	Max SQL< SV
Methylene chloride	0	1	1.5	1.5	1.5	1.5			ND	1.5	U	1,580	FDEP	0.00	No	Max SQL< SV
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Toluene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	175	EPA	0.00	No	Max SQL< SV
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8)
HQ = Hazard Quotient.
N/R = No refinement value available.

Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exce the maximum detections.
Parameters in bold were detected and exceeded the screening value.

Table 15-6-11
Wetland 48 Phase II
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Calcium	None	None	None
Iron			
Magnesium			
Manganese			
Sodium			
		Not Detected Parameters	
Aluminum	Aldrin	1,2,4-Trichlorobenzene	1,1,2,2-Tetrachloroethane
Barium	Dieldrin	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1,2-Trichloroethane
Beryllium	Endosulfan II	2,4,5-Trichlorophenol	1,1-Dichloroethane
Cadmium	Endosulfan sulfate	2,4,6-Trichlorophenol	1,2-Dibromo-3-Chloropropane
Cobalt	Heptachlor	2,4-Dichlorophenol	1,2-Dibromoethane
Mercury	Heptachlor epoxide	2,4-Dimethylphenol	1,2-Dichloroethane
Potassium	Methoxychlor	2,4-Dinitrophenol	1,2-Dichloropropane
Silver	Toxaphene	2,4-Dinitrotoluene	1,3-Dichlorobenzene
Vanadium	alpha-Chlordane	2,6-Dinitrotoluene	2-Hexanone
	gamma-Chlordane	2-Chloronaphthalene	4-Methyl-2-Pentanone (MIBK)
	Total Chlordane	2-Methyl-4,6-Dinitrophenol	Bromochloromethane
	Endrin	2-Methylphenol (o-Cresol)	Bromodichloromethane
	Endrin aldehyde	2-Nitroaniline	Bromoform
	Endrin ketone	2-Nitrophenol	Bromomethane
	Total Endrin	3,3'-Dichlorobenzidine	Carbon disulfide
	alpha-BHC	3-Nitroaniline	Carbon tetrachloride
	beta-BHC	4-Bromophenyl-phenylether	Chloroethane
	delta-BHC	4-Chloro-3-methylphenol	Chloromethane
	Total BHC	4-Chloroaniline	cis-1,2-Dichloroethene
	4,4'-DDD	4-Chlorophenylphenyl ether	cis-1,3-Dichloropropene
	4,4'-DDE	4-Methylphenol (p-Cresol)	Dibromochloromethane
	4,4'-DDT	4-Nitroaniline	Styrene
	Total DDT	4-Nitrophenol	Tetrachloroethene
	Aroclor-1016	Benzo(b)fluoranthene	trans-1,2-Dichloroethene
	Aroclor-1221	Benzo(g,h,i)perylene	trans-1,3-Dichloropropene
	Aroclor-1232	Benzo(k)fluoranthene	Trichloroethene
	Aroclor-1242	bis(2-Chloroethoxy)methane	Vinyl chloride
	Aroclor-1248	bis(2-Chloroethyl)ether	Xylene (Total)
	Aroclor-1254	bis(2-Ethylhexyl)phthalate (BEHP)	
	Aroclor-1260	Butylbenzylphthalate	
	Total PCBs	Dibenzofuran	
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Indeno(1,2,3-cd)pyrene	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	
		2-Methylnaphthalene	
		Acenaphthene	
		Acenaphthylene	
		Anthracene	
		Benzo(a)anthracene	
		Benzo(a)pyrene	
		Chrysene	
		Dibenz(a,h)anthracene	
		Fluoranthene	
		Fluorene	
		Phenanthrene	
		Pyrene	
		Total PAHs	

Table 15-6-12
Wetland 48 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
Metals (g/L)																			
Aluminum	0	1	178	178	178	178			ND	178	U	13	FDEP	14	13.7	1,090.25	0	No	Max SQL < Ref. Conc.
Barium	0	1	2.6	2.6	2.6	2.6			ND	2.6	U		NA			3.68	0	No	Max SQL < Ref. Conc.
Beryllium	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.13	FDEP	4	3.85	1	0	No	Max SQL < Ref. Conc.
Cadmium	0	1	1	1	1	1			ND	1	U	0.66	EPA	2	1.52	3	0	No	Max SQL < Ref. Conc.
Calcium	1	1				977	977	977	041W480101	977	J		NA			7,675	0	No	Max Result < Ref. Conc.
Cobalt	0	1	1	1	1	1			ND	1	U		NA			3	0	No	Max SQL < Ref. Conc.
Iron	1	1				285	285	285	041W480101	285			NA			2,360	0	No	Max Result < Ref. Conc.
Magnesium	1	1				1,020	1,020	1,020	041W480101	1,020	J		NA			20,260	0	No	Max Result < Ref. Conc.
Manganese	1	1				2.9	2.9	2.9	041W480101	2.9	J		NA			13.2	0	No	Max Result < Ref. Conc.
Mercury	0	1	0.065	0.065	0.065	0.065			ND	0.065	U	0.012	EPA	5.42	5.42	0.13	0	No	Max SQL < Ref. Conc.
Potassium	0	1	58	58	58	58			ND	58	U		NA			6,995	0	No	Max SQL < Ref. Conc.
Silver	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.012	EPA	208.33	208	4	0	No	Max SQL < Ref. Conc.
Sodium	1	1				7,480	7,480	7,480	041W480101	7,480			NA			182,200	0	No	Max Result < Ref. Conc.
Vanadium	0	1	1	1	1	1			ND	1	U		NA			4.7	0	No	Max SQL < Ref. Conc.
Pesticides (g/L)																			
Aldrin	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
Dieldrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endosulfan II	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endosulfan sulfate	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Heptachlor	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.0038	EPA	7	6.58		0	No	Parameter Not Detected; Max SQL > SV
Heptachlor epoxide	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	625		0	No	Parameter Not Detected; Max SQL > SV
Methoxychlor	0	1	0.25	0.25	0.25	0.25			ND	0.25	U		NA				0	No	Parameter Not Detected
Toxaphene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
alpha-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
gamma-Chlordane	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
Total Chlordane	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	12	11.6		0	No	Parameter Not Detected; Max SQL > SV
Endrin	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endrin aldehyde	0	1	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endrin ketone	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	22	21.7		0	No	Parameter Not Detected; Max SQL > SV
Total Endrin	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	No	Parameter Not Detected
alpha-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
beta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
delta-BHC	0	1	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
gamma-BHC (Lindane)	0	1	0.025	0.025	0.025	0.025			ND	0.025	U	0.08	EPA	0.31	0.31		0	No	Parameter Not Detected; Max SQL > SV
Total BHC	0	1	0.1	0.1	0.1	0.1			ND	0.1	U		NA				0	No	Parameter Not Detected
4,4'-DDD	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	167		0	No	Parameter Not Detected; Max SQL > SV
4,4'-DDE	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	250		0	No	Parameter Not Detected; Max SQL > SV
4,4'-DDT	0	1	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP	85	84.7		0	No	Parameter Not Detected; Max SQL > SV
Total DDT	0	1	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	No	Parameter Not Detected
PCBs (g/L)																			
Aroclor-1016	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1221	0	1	1	1	1	1			ND	1	U		NA				0	No	Parameter Not Detected
Aroclor-1232	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1242	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1248	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1254	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1260	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	EPA	36	35.7		0	No	Parameter Not Detected; Max SQL > SV
Total PCB	0	1	4	4	4	4			ND	4	U		NA				0	No	Parameter Not Detected
SVOCs (g/L)																			
1,2,4-Trichlorobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dichlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dimethylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2,4-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,6-Dinitrotoluene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Chloronaphthalene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Nitroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Nitrophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
3-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected

Table 15-6-12
Wetland 48 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
SVOCs (g/L) - cont.																			
4-Bromophenyl-phenylether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chloroaniline	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Nitroaniline	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
4-Nitrophenol	0	1	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
Benzo(b)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(g,h,i)perylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(k)fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U	0.3	EPA	8.33	8.33		0	No	Parameter Not Detected; Max SQL > SV
Butylbenzylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Dibenzofuran	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Diethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Dimethylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Di-n-octylphthalate	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Hexachlorobutadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	1	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA				0	No	Parameter Not Detected
Hexachloroethane	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Indeno(1,2,3-cd)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Isophorone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Nitrobenzene	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Pentachlorophenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Phenol	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
PAHs (g/L)																			
2-Methylnaphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Acenaphthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Acenaphthylene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(a)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(a)pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chrysene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Dibenz(a,h)anthracene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Fluoranthene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Fluorene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Naphthalene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U	26	FDEP	0.02	0.02		0	No	Parameter Not Detected; Max SQL > SV
Phenanthrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Pyrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Total PAH	0	1	6.5	6.5	6.5	6.5			ND	6.5	U		NA				0	No	Parameter Not Detected
VOCs (g/L)																			
1,1,2,2-Tetrachloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,1,2-Trichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,1-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dibromo-3-Chloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dibromoethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dichloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dichloropropane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
2-Hexanone	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	1	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Bromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromodichloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromoform	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromomethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Carbon disulfide	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Carbon tetrachloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chloroethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
cis-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected

Table 15-6-12
Wetland 48 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
VOCs (g/L) - cont.																			
Dibromochloromethane	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Styrene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Tetrachloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
trans-1,2-Dichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Trichloroethene	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Vinyl chloride	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Xylene (Total)	0	1	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
PEL = Probable effects level.
N/R = No refinement value available.

N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the Max detections.
Parameters in bold were detected and exceeded Ref. Conc.s.

Table 15-6-13
Wetland 48 Phase II
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
Detected Parameters			
None	None	None	None

Table 15-6-14
Wetland 48 Phase II
Sediment Dermal Exposure Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration	Min. Qual.	Maximum Concentration	Max. Qual.	Units	Location of Max.Conc.	Detection Frequency	Range of Detection Limits	Mean	ABS_{sd}	ABS_{sd} Source	DA_{event}: Child Trespasser	DA_{event}: Adult Maintenance Worker	DAD_{sd} (mg/kg-day): Child Trespasser	DAD_{sd} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	N/A	N/A	1.4E+03	=	MG/KG	041M480101	1 / 1	NAV	1.4E+03	1.0E-03	3	N/A	1.40E-07	N/A	2.96E-06
7440393	Barium	N	N/A	N/A	3.5E+00	J	MG/KG	041M480101	1 / 1	NAV	3.5E+00	1.0E-03	3	N/A	3.50E-10	N/A	7.41E-09
7439896	Iron	N	N/A	N/A	2.9E+02	=	MG/KG	041M480101	1 / 1	NAV	2.9E+02	1.0E-03	3	N/A	2.90E-08	N/A	6.14E-07
7439965	Manganese	N	N/A	N/A	1.5E+00	=	MG/KG	041M480101	1 / 1	NAV	1.5E+00	1.0E-03	3	N/A	1.50E-10	N/A	3.17E-09
7782492	Selenium	N	N/A	N/A	7.1E-01	=	MG/KG	041M480101	1 / 1	NAV	7.1E-01	1.0E-03	3	N/A	7.10E-11	N/A	1.50E-09
7440622	Vanadium	N	N/A	N/A	2.4E+00	J	MG/KG	041M480101	1 / 1	NAV	2.4E+00	1.0E-03	3	N/A	2.40E-10	N/A	5.08E-09
72548	4,4'-DDD	C	N/A	N/A	2.6E+00	DJ	MG/KG	041M480101	1 / 1	NAV	2.6E+00	3.0E-02	1	N/A	7.80E-09	N/A	5.90E-08
72559	4,4'-DDE	C	N/A	N/A	6.2E-01	DJ	MG/KG	041M480101	1 / 1	NAV	6.2E-01	3.0E-02	1	N/A	1.86E-09	N/A	1.41E-08
50293	4,4'-DDT	C	N/A	N/A	2.4E-01	J	MG/KG	041M480101	1 / 1	NAV	2.4E-01	3.0E-02	1	N/A	7.20E-10	N/A	5.44E-09

Notes:
Equation for sediment risk:

$$DAD_{sd} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sd} = Dermal Absorbed Dose-soil contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event)
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer – 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer – 25,550 days (child trespasser/adult maintenance worker).

Equation for DA_{event} for sediment contact:

$$DA_{event} = C_{sd} \times CF \times AF \times ABS_d$$

Where:

C_{sd} = Chemical concentration in sediment (mg/kg).
CF = Conversion factor (10^{-6} kg/mg).
AF = Adherence factor of sediment to soil (mg/cm2-event).
0.2 (children playing in wet soil) 0.1 (construction worker)
AB_{sd} = Dermal absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1;
(2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Table 15-6-15
Wetland 48 Phase II
Sediment Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/kg)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABSGI	ABSGI Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser: Dermal Hazard Quotient	Child Trespasser: Dermal Cancer Risk	Maintenance Worker: Dermal Hazard Quotient	Maintenance Worker: Dermal Cancer Risk
Sediment Dermal Risk	Aluminum	N	1.4E+03	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	N/A	N/A	3.0E-05	N/A
	Barium	N	3.5E+00	7.0E-02	N/A	7.0E-02	1, 3	4.9E-03	N/A	N/A	N/A	1.5E-06	N/A
	Iron	N	2.9E+02	3.0E-01	N/A	1.5E-01	3	4.5E-02	N/A	N/A	N/A	1.4E-05	N/A
	Manganese	N	1.5E+00	2.4E-02	N/A	4.0E-02	1, 3	9.6E-04	N/A	N/A	N/A	3.3E-06	N/A
	Selenium	N	7.1E-01	5.0E-03	N/A	5.5E-01	1	2.8E-03	N/A	N/A	N/A	5.5E-07	N/A
	Vanadium	N	2.4E+00	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	N/A	N/A	2.8E-05	N/A
	4,4'-DDD	C	2.6E+00	N/A	2.4E-01	3.0E-02	2	N/A	8.0E+00	N/A	N/A	N/A	4.7E-07
	4,4'-DDE	C	6.2E-01	N/A	3.4E-01	3.0E-02	2	N/A	1.1E+01	N/A	N/A	N/A	1.6E-07
	4,4'-DDT	C	2.4E-01	5.0E-04	3.4E-01	3.0E-02	2	1.5E-05	1.1E+01	N/A	N/A	3.6E-04	6.2E-08

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABSGI = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose-sources: (1) RAIS value; (2) adjusted for ABSGI.
Dermal SF = Dermal slope factor-sources: (1) RAIS value; (2) adjusted for ABSGI.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfDdermal = Dermal reference dose.
RFDoral = Oral reference dose.
ABSGI = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 15-6-16
Wetland 48 Phase II
Sediment Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

						Child Trespasser		Maintenance Worker	
Exposure Route	**COPC**		**Maximum Concentration (mg/kg)**	**Oral RfD (mg/kg-day)**	**Oral SF (mg/kg-day)-1**	**Ingestion Hazard Quotient**	**Ingestion Cancer Risk**	**Ingestion Hazard Quotient**	**Ingestion Cancer Risk**
Sediment Incidental Ingestion	Aluminum	N	1.4E+03	1.0E+00	N/A	N/A	N/A	2.85E-04	N/A
	Barium	N	3.5E+00	7.0E-02	N/A	N/A	N/A	1.02E-05	N/A
	Iron	N	2.9E+02	3.0E-01	N/A	N/A	N/A	1.97E-04	N/A
	Manganese	N	1.5E+00	2.4E-02	N/A	N/A	N/A	1.27E-05	N/A
	Selenium	N	7.1E-01	5.0E-03	N/A	N/A	N/A	2.89E-05	N/A
	Vanadium	N	2.4E+00	7.0E-03	N/A	N/A	N/A	6.98E-05	N/A
	4,4'-DDD	C	2.6E+00	N/A	2.4E-01	N/A	N/A	N/A	4.54E-08
	4,4'-DDE	C	6.2E-01	N/A	3.4E-01	N/A	N/A	N/A	1.53E-08
	4,4'-DDT	C	2.4E-01	5.0E-04	3.4E-01	N/A	N/A	3.49E-05	5.93E-09

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI = Chronic daily intake (mg/kg-day)

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, sediment risk:

$$CDI = \frac{EPC_{sd} \times IR_{sd} \times EF \times ED \times CF}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPCsd = Exposure point concentration in sediment (mg/kg).
IRsd = Incidental ingestion rate for sediment (mg/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
CF = Conversion factor (1E-6 kg/mg).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
IRsd = 100 mg/day for age groups greater than 6-years old.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Table 15-6-17
Wetland 48 Phase II
Surface Water Dermal Absorbed Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration	Min. Qual.	Maximum Concentration	Max. Qual.	Units	Location of Max. Conc.	Detection Frequency	Range of Detection Limits	Mean	Maximum Concentration	K_p	DA_{event}	DAD_{sw} (mg/kg-day): Child Trespasser	DAD_{sw} (mg/kg-day): Adult Maintenance
7439965	Manganese	N	N/A	N/A	2.9E+00	J	UG/L	041W480101	1 / 1	NAV	2.9E+00	2.9E-06	1.0E-03	7.54E-09	N/A	1.60E-07

Notes:

Equation for Dermal Absorbed Dose, surface water risk:

$$DAD_{sw} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sw} = Dermal absorbed dose-water contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event).
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Equation for DAevent for inorganics:

$$DA_{event} = K_p \times C_w \times t_{event}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: RAGS Part E, Exhibit B-3 or Exhibit B-4
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).

Equation for DAevent for organics:

$$DA_{event} = FA \times K_p \times C_w \left[\frac{t_{event}}{1 + B} + 2\tau_{event} \left(\frac{1 + 3B + 3B^2}{(1 + B)^2} \right) \right]$$

Where:

FA = Fraction absorbed water (dimensionless). From RAGS Part E, Exhibit B-4.
Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E, Exhibit B-4.
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).
t_{event} = Lag time per event (hr/event). From RAGS Part E, Exhibit B-4.
B = Dimensionless ratio of the permeability coefficient of a compound, calculated using the equation below:

$$B = \frac{K_p \sqrt{MW}}{2.6}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E.
MW = Molecular weight

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).
t_{event} = 2.6 hrs/dy (child trespasser/adult maintenance worker).

Table 15-6-18
Wetland 48 Phase II
Surface Water Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABS_{GI}	ABS_{GI} Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
										Dermal Hazard Quotient	Dermal Cancer Risk	Dermal Hazard Quotient	Dermal Cancer Risk
SW Dermal Risk	Manganese	N	2.9E-06	1.4E-01	N/A	4.0E-02	1	5.6E-03	N/A	N/A	N/A	2.8E-05	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose adjusted for ABS_{GI}.
Dermal SF = Dermal slope factor adjusted for ABSGI.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfD_{dermal} = Dermal reference dose.
RFD_{oral} = Oral reference dose.
SFdermal = Dermal slope factor.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 15-6-19
Wetland 48 Phase II
Surface Water Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

						Child Trespasser		Maintenance Worker	
Exposure Route	**COPC**		**Maximum concentration (mg/cm^3)**	**Oral RfD (mg/kg-day)**	**Oral SF (mg/kg-day)-1**	**Ingestion Hazard Quotient**	**Ingestion Cancer Risk**	**Ingestion Hazard Quotient**	**Ingestion Cancer Risk**
SW Incidental Ingestion	Manganese	N	2.9E-06	1.4E-01	N/A	N/A	N/A	4.2E-10	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, surface water risk:

$$CDI = \frac{EPC_{sw} \times IR_{sw} \times EF \times ED}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPC_{sw} = Exposure point concentration in surface water (mg/L).
IR_{sw} = Incidental ingestion rate for sediment (L/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
Irsw = 0.01 L/day exposure to surface water during wading for adolescents and adults.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

15.7 Wetland 49 — Screening Level Problem Formulation

15.7.1 Site Description and Habitats Present at Wetland 49

Wetland 49 is located southwest of Forrest Sherman Field. Wetland 49 is surrounded to the north and east by the grassy fields bordering the fringes of the Forrest Sherman Field runways, which are periodically mowed. To the south is a wooded zone containing mostly scrub oaks and pines. The northern fringe of the wetland is more seasonally wet than the drier southern portion. A shallow sheet flow of water in the northern portion at the south end of Wetland 49 ranges from zero to about one foot in depth and from five to 25 feet in width. A clearing at the southeast end of the wetland also is seasonally inundated during wet weather (Figure 15-1).

Photograph 1 Wetland 49 — Facing Northwest

Parsons and Pruitt (USEPA, 1991a) identified Wetland 49 as a palustrine, forested system dominated by pines and cypress tress. During the Site 41 RI, the wetland was sampled and analytical results were reported.

The IR site potentially affecting Wetland 49 is Site 19. Site 19 (Fuel Farm Pipeline Leak) was the site where a leak occurred in 1958 between an underground fuel pipeline, which led from the fuel farm to the aircraft refueling facility at Forrest Sherman Field. This leak resulted in the direct discharge of

860,000 gallons of fuel oil, which resulted in trees and other vegetation being killed in a 200 by 400 foot area. The leak occurred near Wetland 49. Wetland 49 is west of UST 18 (Crash Crew Training Area), to the northeast of Site 37/UST 24 (Sherman Field Fuel Farm Area), and is partially encompassed by Site 19.

15.7.2 Wetland 49 — Sample Location Description

Phase II Sediment Sample Location Description

Three sediment samples were collected and analyzed for the Wetland 49 ERA. Sample locations for Wetland 49 were located in areas of the wetland where depositional areas and groundwater seeps could occur. These sample locations are centrally located within the wetland (Figure 15-4). Table 15-7-1 (tables are located at the end of each section) provides a physical description of the sediments collected at Wetland 49. Sediments at Wetland 49 were composed of dark brown sand, some silt and organics (041M490101 and 041M490301) to very dark gray sandy silt (041M490201). TOC concentrations ranged from 0.811% (041M490101) to 1.48% (041M490301).

Phase II Surface Water Sample Location Description

Two surface water sample was collected at Wetland 49 (Figure 15-4), location 041W490101, collocated with sediment location 041M490101, and location 041W490301, collocated with sediment location 041M490301. The surface water samples were taken during the 1996 site investigation. Table 15-7-2 provides a physical description of the surface water collected at Wetland 49. Surface water at Wetland 49 had a pH concentration ranging from 4.95 to 5.21. Specific conductivity concentrations ranged from 0.054 to 0.079 mS/cm. Hardness as $CaCO_3$ concentrations ranged from 6.3 to 14.3, and salinity was 0%. Surface water had turbidity concentrations of 25 NTUs at both locations.

15.7.3 Nature and Extent of Contamination

Phase II Sediment

Figure 15-4 presents the sediment sampling locations for Wetland 49. Table 15-7-3 summarizes the analytical results for the three Wetland 49 sediment samples.

Metals — Seventeen inorganic constituents were detected during sediment sampling at Wetland 49. None of the metals detected were at a concentration exceeding their freshwater reference value. The greatest number of inorganic detections at Wetland 49 was at location 041M490201, where 16 analytes were detected. Locations 041M490101 and 041M490301 had 15 and 14 detections, respectively. The metals at Wetland 49 are widespread across the site area, with all detections below the applicable reference values.

Pesticides and PCBs — Four pesticide compounds were detected during sediment sampling at Wetland 49. No PCBs were detected in any of the three samples. Total DDT was calculated for each location by adding the concentrations of 4,4′-DDD, 4,4′-DDE, and 4,4′-DDT. Likewise, a basewide total DDT reference concentration was calculated using the basewide concentrations for these same constituents.

Locations 041M490101 and 041M490201 each exhibited concentrations of 4,4′-DDD exceeding the applicable basewide reference value. In addition, the total DDT concentration at location 041M490101 also exceeded the basewide reference value. Concentrations of 4,4′-DDE and 4,4′-DDT, also detected in these two samples, were below reference values. Location 041M490201 had a detection of heptachlor epoxide present at a relatively low concentration. Pesticide compounds were common at the southwest end of the wetland.

SVOCs — Four SVOCs were detected at location 041M490101. No other location exhibited detections of SVOCs. The concentration of bis(2-ethylhexyl)phthalate was elevated. The concentrations of butylbenzylphthalate, di-n-butylphthalate, and pyrene were much lower. All SVOCs detections were from sample location 041M490101, near the southwest end of the wetland.

VOCs — A single VOC, chloromethane, was detected at a low concentration at location 041M490301. The other two locations exhibited no detections of VOCs.

Summary of Phase II Sediment Sampling at Wetland 49

The distribution of metals across Wetland 49 was widespread, but concentrations were low. Pesticides and SVOCs were only detected at the southwest end of the wetland, where as a single VOC was detected at the north end of the wetland.

Phase II Surface Water

Figure 15-4 presents the surface water sampling locations for Wetland 49. Table 15-7-4 summarizes the analytical results for the two Wetland 48 surface water samples.

Metals — Nine metals were detected in the surface water from samples collected from Wetland 49. Sample location 041W490101 exhibited seven of these analytes, while sample location 041W490301 had eight metals detected. The only surface water exceedance for Wetland 49 was aluminum detected at sample location 041W490301.

Pesticides and PCBs — Pesticide compounds or PCBs were not detected in the Phase II surface water samples collected from Wetland 49.

SVOCs — No SVOCs were detected during surface water sampling at Wetland 49.

VOCs — Acetone was the only VOC detected in the Wetland 49 surface water samples collected during Phase II. The constituent was detected at both surface water locations.

15.7.4 Ecological Risk Assessment

Phase II Investigation Summary — Wetland 49

Sediment Screening — Level Risk-Exposure Estimation and Risk Calculation

As presented in Table 15-7-5, the sediment samples were compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than 1 or with no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-7-6.

Baseline Problem Formulation — Wetland 49 Sediment COPC Refinement

During the COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as COPCs. This risk assessment presents a statement of potential risk for each of the COPCs.

The COPC refinement process included:

- Comparison of maximum concentrations to RVs
- Comparison of average concentrations to SVs and RVs
- Comparison to basewide (reference) concentrations for total DDT
- Comparison of inorganic constituents to reference wetland values
- Interpretative tool for metals
- Di Toro EqP SQGs for VOCs
- Comparison to Swartz consensus values
- Mean ERM quotients
- Description of exceedances of RVs and their extent

The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8. Comparison of maximum detected concentrations with refinement values is presented in Table 15-7-7.

Additionally, the tables compare: 1) average concentrations to screening and refinement values to assess potential exposure across the entire wetland, and 2) Wetland 49 concentrations to reference concentrations. A list of COPCs retained after refinement are presented in Table 15-7-8.

At Wetland 49, 4,4'-DDD and total DDT were above the basewide level, indicating a potential concern for this wetland. For Wetland 49, none of the detected inorganic constituents exceeded their Site 41 freshwater sediment reference concentrations.

The only VOC detected was chloromethane, which does not have any Di Toro concentrations. As a group, the PAHs were not detected. However, when normalized to detected TOC concentrations, PAHs do not appear to be a risk driver for Wetland 49.

Table 15-7-9 presents the Mean ERL and ERM values, the Mean ERM Quotients, and the Mean ERM Quotient Category by individual sample location. Based on this approach, two of the three sample locations (041M490101 and 041M490201) were determined to be Category 2, which, according to tests evaluated in developing this methodology, had average survival rates of approximately 80% of control sediments; however, this category also has the highest level of uncertainly. Sample location 041M490301 was determined to be a Category 1, indicating the sediment at this location were considered to be nontoxic. Figure 15-7 also shows the Mean ERM category for each sediment sample location at Wetland 49.

At Wetland 49, 4,4'-DDD was detected in two of the three sample locations, with maximum detections of 94 µg/kg. The highest detection was reported at sample location 041M490101. Total DDT was also calculated with a maximum concentration of 113.2 µg/kg. As a result, total DDT will be included in the food chain models conducted for the wetlands in this area.

BEHP was detected at one sample location, with a detection of 1,700 µg/kg, also occurring at 041M490101. Heptachlor epoxide and chloromethane were retained as COPCs for Wetland 49 sediments due to a lack of screening values for comparison. Heptachlor epoxide was detected in one of the three sediments locations (041M490201), with a maximum concentration of 1.1 µg/kg. Chloromethane was detected at sediment location 041M490301, with a maximum concentration of 2 µg/kg.

Surface Water Screening — Level Risk-Estimation and Risk Calculation

As presented in Table 15-7-10, the surface water samples were compared with screening values in accordance with the procedures described in Section 8. All parameters with HQs greater than 1 or with

no screening values were carried forward to COPC refinement. A list of all COPCs after screening is included in Table 15-7-11.

Baseline Problem Formulation — Wetland 49 Surface Water COPC Refinement

During the surface water COPC refinement, additional information was used to help evaluate the potential for risk at Site 41 based on exposure to the constituents included as COPCs.

The COPC refinement process included:

- Comparison of maximum SV concentrations to average SV concentrations
- Comparison of inorganic constituents to reference wetland values
- Description of surface water exceedances and their extent

The methods used in the COPC refinement in the Site 41 ERA process are detailed in Section 8.

Comparison of maximum detected concentrations with refinement values is presented in Table 15-7-12. Additionally, the tables compare average concentrations to screening and refinement values to assess potential exposure across the entire wetland. COPCs retained after refinement are included in Table 15-7-13.

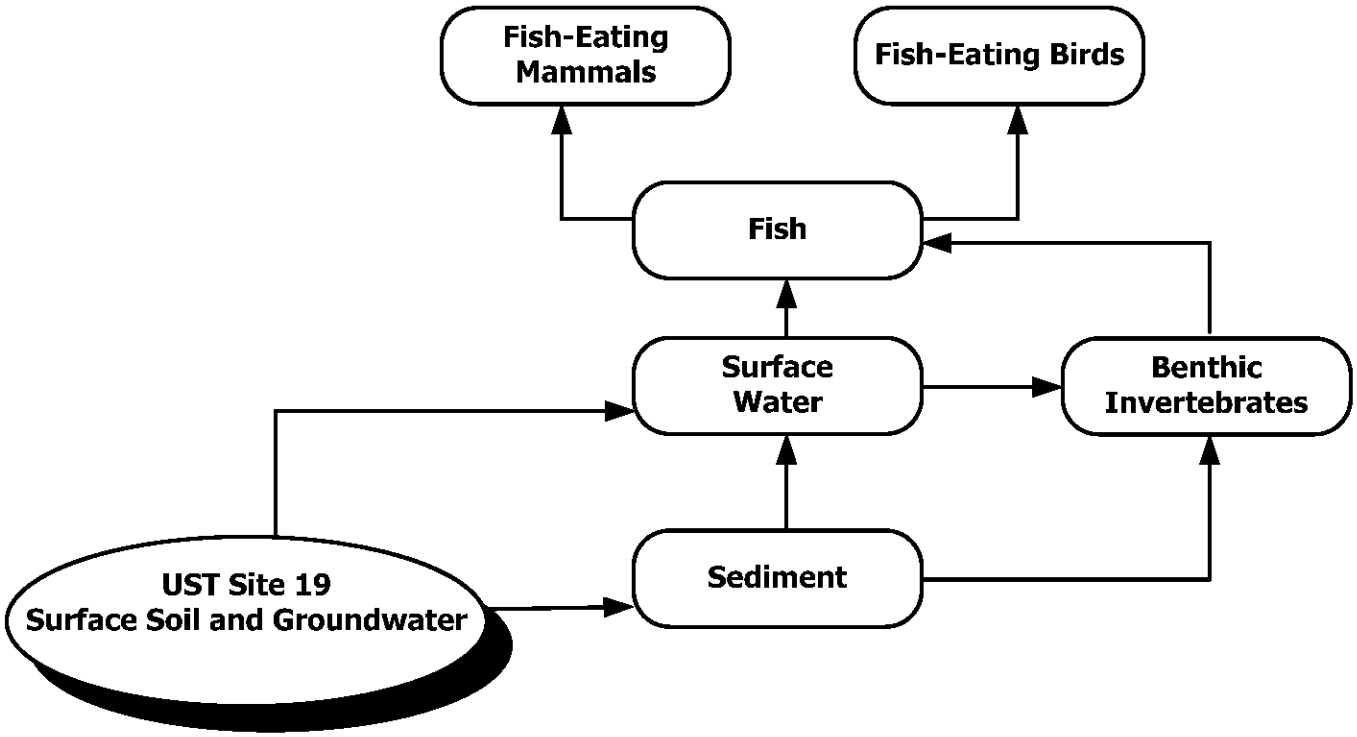
For Wetland 49, aluminum exceeded its Site 41 freshwater reference surface water concentration (Table 15-7-12). Acetone was also detected and retained due to a lack of screening criteria for the constituent.

None of the same constituents was retained for sediment and surface water at Wetland 49.

As summarized in the approved *Final RI/FS SAP Addendum* (E/A&H, 1997d), Wetland 49 was identified as an Orange-Coded Wetland based on the Phase II results, indicating contamination that was possibly related to nearby IR sites, but with limited contaminants exceeding sediment criteria and reference concentrations. Contaminants detected in these wetlands were also considered to be possible sources of ecological risk. Wetland 49 was also classified as a Group E wetland. Based on similar contaminants and physical characteristics, the other Group E wetlands include 48. These freshwater wetlands are on the western side of the base and do not appear to be impacted from any IR sites. However, to assess potential risks from contaminants that bioaccumulate, the results from Wetland 49 will be used in the remaining wetlands food-chain model presented in Section 15.8.

The conceptual model below symbolizes which environmental habitats may be impacted by Wetland 49 Phase II constituents retained during the ERA process.

Wetland 49
Conceptual Site Model



15.7.5 Wetland 49 — Human Health Risk Assessment

Wetland 49 is described in Section 15.8.1, and the HHRA is summarized below.

15.7.5.1 Site Data

Section 15.7.3 summarizes the nature and extent of contamination for this wetland. Surface water and sediment data were collected at Wetland 49 during Phases II of the RI. Surface water and sediment data for 49 are summarized in Tables 15-7-3 and 15-7-4.

15.7.5.2 Conceptual Site Model

As described in Section 15.7.1, Wetland 49 is located southwest of Forrest Sherman Field. Because Wetland 49 is located in a restricted area of the base, the wetland is only accessible to Navy personnel. Wetland 49 intermittently floods; therefore, contact with sediment and surface water is possible.

The following scenarios and exposure pathways were evaluated for this wetland:

Scenario	Medium	Ingestion	Dermal
Maintenance	Surface water	√	√
	Sediment	√	√

15.7.5.3 Risk Characterization

The adult maintenance worker scenario for surface water and sediment were assessed for this wetland as described in Section 9.

Phase II Data

Maintenance Worker

As shown in Tables 15-7-14 through 15-7-16, sediment ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

As shown in Tables 15-7-17 through 15-7-19, surface water ingestion and dermal contact risk estimates for maintenance workers were below the FDEP risk threshold. Hazard indices were below 1.0.

Summary of Wetland 49 Phase II Risk Estimates

Scenario	Medium	Hazard Index	Risk
Maintenance	Sediment	1.62E-03	7.83E-08
	Surface water	1.78E-03	N/A

Based on Phase II data, no COCs for Wetland 49 were identified.

Wetland 49 HHRA COC Summary

No COCs were identified in the HHRA for Wetland 49.

15.7.6 Wetland 49 — Fate and Transport Analysis

There were no borings or wells proximal to this wetland; therefore, only the sediment/surface water transport pathways within the wetland were completed. Three sediment and two surface water samples were collected from this wetland, and are used to evaluate the transport pathways. The wetland occupies an area immediately south of the southwest end of the northeast-southwest Forrest Sherman runway. Most of the flow within this wetland is expected to be northeast to southwest.

Surface Water/Sediment Transport within the Wetlands:

To evaluate these pathways in Wetland 49, upgradient sediment sample location 041M4903 (sampled during Phase II) was compared to downgradient sediment location 041M4901 and further downgradient location 041M4902 (sampled during Phase II). To evaluate the surface water pathway, upgradient surface water location 041W4903 was compared to downgradient surface water location 041W4901 (sampled during Phase II).

Surface Water — Evaluation of Wetland 49 upgradient location 041W4903 and downgradient location 041W4901 indicated detections of eight metals and one organic upgradient versus seven metals and one organic downgradient. There was no trend in any of the detected parameters. For metals detected in the downgradient location, one parameter increased, one constituent was not detected in the upgradient location, one parameter remained the same, and four metals decreased. Acetone was detected at low concentrations in both locations and was likely a lab artifact.

Sediment — Evaluation of Wetland 49 upgradient location 041M4903 with downgradient location 041M4901 indicated an increase in detected parameters (14 metals and one organic versus 15 metals and seven organics, respectively). From upgradient to downgradient, there was a marked decrease in TOC. For metals, 13 parameters exhibited an increase, one constituent decreased, and one parameter was not detected in the downgradient sample. For the organics, seven compounds present in the downgradient sample were not detected in the upgradient sample, namely pesticides and SVOCs.

Evaluation of upgradient location 041M4901 with downgradient location 041M4902 indicated 15 metals and seven organics upgradient versus 16 metals and four organics downgradient. There was slight increase in TOC downgradient. From upgradient to downgradient metal detections, eight parameters increased, four metals decreased, two constituents remained the same, and two metals were not detected. For organics, two compounds decreased, one compound increased, and one organic was not detected. Overall, there were no marked changes in the number of detections or the detected concentrations, clearly demonstrating the mixing capabilities of the wetland.

Table 15-7-1
Wetland 49 Phase II
Sediment Physical Parameters

Parameter		041M490101	041M490201	041M490301
TOC (%)		0.811	1.26	1.48
Percent Solids (%)		73.2	71.3	72.7
Grain Size Analysis (percent of composition[1])				
	Medium Sand	31	26	27
	Fine Sand	58	57	66
	Silt and Clay	11	17	7
	Description	Dark Brown Sand, Some Silt and Organics	Very Dark Gray Sandy Silt	Dark Brown Sand, Some Silt and Organics

Note:
[1] = Derived from sieve analyses.

Table 15-7-2
Wetland 49 Phase II
Surface Water Physical Parameters

Parameter	041W490101	041W490301
% SOLID	0	0
Hardness as CaCO3	14.3	6.3
pH	5.21	4.95
Specific Conductivity (mS/cm)	0.054	0.079
Turbidity (NTU)	25	25
Salinity (%)	0	0

Notes:
mg/L = Milligrams per liter
pH = Hydrogen ion content
MS/cm = Millisiemens per centimeter
NTU = Nephelometric turbidity units
% = Percent

Table 15-7-3
Wetland 49 Phase II
Sediment Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections: Number Detected	Frequency of Detections: Number Analyzed	Range of Detections: Minimum Detection	Range of Detections: Maximum Detection	Average Detection	Maximum Detection Location
Metals (mg/kg)								
Aluminum	13,610.0	0	3	3	1,500.0	3,560.0	2,690.0	041M490201
Arsenic	6.620	0	1	3	0.210	0.210	0.117	041M490201
Barium	14.0	0	3	3	1.70	5.60	4.30	041M490201
Calcium	10,756.670	0	3	3	14.40	1,630.0	676.0	041M490201
Chromium	39.370	0	3	3	0.990	2.60	2.030	041M490201
Cobalt	2.80	0	3	3	0.150	0.20	0.173	041M490101
Copper	19.50	0	3	3	0.490	1.60	1.10	041M490101
Iron	11,911.670	0	3	3	407.0	707.0	554.0	041M490201
Lead	82.470	0	3	3	2.70	7.20	5.570	041M490101
Magnesium	7,513.330	0	3	3	43.30	123.0	81.80	041M490201
Manganese	37.970	0	3	3	0.940	7.0	3.380	041M490201
Mercury	0.550	0	1	3	0.060	0.060	0.040	041M490101
Nickel	9.280	0	1	3	0.910	0.910	0.518	041M490201
Potassium	1,628.670	0	3	3	26.20	66.0	50.60	041M490201
Sodium	18,993.330	0	3	3	17.90	30.40	22.20	041M490201
Vanadium	28.670	0	3	3	2.10	3.0	2.630	041M490201
Zinc	36.730	0	3	3	0.960	7.60	5.020	041M490101
PAHs (g/kg)								
Pyrene	N/A	0	1	3	21.0	21.0	22.80	041M490101
Total PAHs	N/A	0	1	3	246.0	246.0	272.0	041M490101
Pesticides and PCBs (g/kg)								
Heptachlor epoxide	N/A	0	1	3	1.10	1.10	0.553	041M490201
4,4'-DDD	50.0	2	2	3	59.0	94.0	51.0	041M490101
4,4'-DDE	40.0	0	2	3	9.20	18.0	9.110	041M490101
4,4'-DDT	20.0	0	2	3	1.20	3.0	1.440	041M490201
Total DDT	110.0	1	2	3	71.20	113.20	61.60	041M490101
SVOCs (g/kg)								
bis(2-Ethylhexyl)phthalate (BEHP)	N/A	0	1	3	1,700.0	1,700.0	725.0	041M490101
Butylbenzylphthalate	N/A	0	1	3	30.0	30.0	168.0	041M490101
Di-n-butylphthalate	N/A	0	1	3	39.0	39.0	171.0	041M490101
VOCs (g/kg)								
Chloromethane	N/A	0	1	3	2.0	2.0	13.70	041M490301

Notes:
g/kg = micrograms per kilogram
mg/kg = milligram per kilogram
N/A = Not Applicable

Table 15-7-4
Wetland 49 Phase II
Surface Water Analytical Results

Parameter	Reference Concentration (if applicable)	Number Greater Than Reference Concentration	Frequency of Detections		Range of Detections			Maximum Detection Location
			Number Detected	Number Analyzed	Minimum Detection	Maximum Detection	Average Detection	
Metals (g/L)								
Aluminum	1,090.25	1	1	2	1,800.0	1,800.0	1,800.0	041W490301
Calcium	7,675.0	0	2	2	692.0	4,500.0	2,600.0	041W490101
Iron	2,360.0	0	2	2	73.0	821.0	447.0	041W490301
Lead	3.2	0	1	2	3.1	3.1	3.1	041W490301
Magnesium	20,260.0	0	2	2	733.0	1,100.0	917.0	041W490301
Manganese	13.2	0	2	2	1.9	7.4	4.7	041W490301
Potassium	6,995.0	0	1	2	180.0	180.0	180.0	041W490101
Sodium	182,200.0	0	2	2	6,750.0	13,100.0	9,930.0	041W490301
Vanadium	4.7	0	2	2	2.3	2.3	2.3	041W490301
VOCs (g/L)								
Acetone	N/A	0	2	2	4.0	6.0	5.0	041W490301

Notes:
g/L = micrograms per liter
N/A = Not Applicable

Table 15-7-5
Wetland 49 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
Metals (mg/kg)														
Aluminum	3	3			1,500	3,560	041M490201	3,560			N/A		Yes	No SV
Antimony	0	3	0.07	0.075			ND	0.075	UJ	12	2	0.01	No	Max SQL< SV
Arsenic	1	3	0.07	0.07	0.21	0.21	041M490201	0.21	J	7.24	1, 2	0.03	No	Max Detect < SV
Barium	3	3			1.7	5.6	041M490201	5.6	J		N/A		Yes	No SV
Beryllium	0	3	0.035	0.035			ND	0.035	U		N/A		Yes	No SV
Cadmium	0	3	0.075	0.1			ND	0.1	U	0.676	1	0.15	No	Max SQL< SV
Calcium	3	3			14.4	1,630	041M490201	1,630			N/A		Yes	No SV
Chromium	3	3			0.99	2.6	041M490201	2.6		52.3	1, 2	0.05	No	Max Detect < SV
Cobalt	3	3			0.15	0.2	041M490101	0.2	J		N/A		Yes	No SV
Copper	3	3			0.49	1.6	041M490101	1.6	J	18.7	1, 2	0.09	No	Max Detect < SV
Cyanide (CN)	0	3	0.33	0.34			ND	0.34	U		N/A		Yes	No SV
Iron	3	3			407	707	041M490201	707			N/A		Yes	No SV
Lead	3	3			2.7	7.2	041M490101	7.2		30.2	1, 2	0.24	No	Max Detect < SV
Magnesium	3	3			43.3	123	041M490201	123	J		N/A		Yes	No SV
Manganese	3	3			0.94	7	041M490201	7			N/A		Yes	No SV
Mercury	1	3	0.03	0.03	0.06	0.06	041M490101	0.06	J	0.13	1, 2	0.46	No	Max Detect < SV
Nickel	1	3	0.32	0.325	0.91	0.91	041M490201	0.91	J	15.9	1, 2	0.06	No	Max Detect < SV
Potassium	3	3			26.2	66	041M490201	66	J		N/A		Yes	No SV
Selenium	0	3	0.14	0.145			ND	0.145	UJ		N/A		Yes	No SV
Silver	0	3	0.175	0.185			ND	0.185	U	0.733	1	0.25	No	Max SQL< SV
Sodium	3	3			17.9	30.4	041M490201	30.4	J		N/A		Yes	No SV
Thallium	0	3	0.14	0.145			ND	0.145	U		N/A		Yes	No SV
Vanadium	3	3			2.1	3	041M490201	3	J		N/A		Yes	No SV
Zinc	3	3			0.96	7.6	041M490101	7.6		124	1, 2	0.06	No	Max Detect < SV
PAHs (g/kg)														
2-Methylnaphthalene	0	3	20.5	24.5			ND	24.5	U	20.2	1	1.21	No	TOC Normalized PAHs < TEC
Acenaphthene	0	3	10	12			ND	12	U	6.71	1	1.79	No	TOC Normalized PAHs < TEC
Acenaphthylene	0	3	20.5	24.5			ND	24.5	U	5.87	1	4.17	No	TOC Normalized PAHs < TEC
Anthracene	0	3	20.5	24.5			ND	24.5	U	46.9	1	0.52	No	Max SQL< SV
Benzo(a)anthracene	0	3	20.5	24.5			ND	24.5	U	74.8	1	0.33	No	Max SQL< SV
Benzo(a)pyrene	0	3	20.5	24.5			ND	24.5	U	88.8	1	0.28	No	Max SQL< SV
Chrysene	0	3	20.5	24.5			ND	24.5	U	108	1	0.23	No	Max SQL< SV
Dibenz(a,h)anthracene	0	3	20.5	24.5			ND	24.5	U	6.22	1	3.94	No	TOC Normalized PAHs < TEC
Fluoranthene	0	3	20.5	24.5			ND	24.5	U	113	1	0.22	No	Max SQL< SV
Fluorene	0	3	10	12			ND	12	U	21.2	1	0.57	No	Max SQL< SV
Naphthalene	0	3	20.5	24.5			ND	24.5	U	34.6	1	0.71	No	Max SQL< SV
Phenanthrene	0	3	20.5	24.5			ND	24.5	U	86.7	1	0.28	No	Max SQL< SV
Pyrene	1	3	23	24.5	21	21	041M490101	21	J	153	1	0.14	No	Max Detect < SV
Total PAHs	1	3	275	294	246	246	041M490101	246		1,684	1, 2	0.15	No	Max Detect < SV
TOC Normalized PAHs	1	3	18.58	23.29	30.33	30.33	041M490101	30.33		290	3	0.11	No	Max Detect < SV
PCBs (g/kg)														
Aroclor-1016	0	3	1.2	10.5			ND	10.5	U	21.6	N/A	0.49	No	Max SQL< SV
Aroclor-1221	0	3	2.3	20			ND	20	U	67	2	0.30	No	Max SQL< SV
Aroclor-1232	0	3	1.2	10.5			ND	10.5	U	21.6	N/A	0.49	No	Max SQL< SV
Aroclor-1242	0	3	1.2	10.5			ND	10.5	U	21.6	N/A	0.49	No	Max SQL< SV
Aroclor-1248	0	3	1.2	10.5			ND	10.5	U	21.6	N/A	0.49	No	Max SQL< SV
Aroclor-1254	0	3	1.2	10.5			ND	10.5	U	21.6	N/A	0.49	No	Max SQL< SV
Aroclor-1260	0	3	1.2	10.5			ND	10.5	U	21.6	N/A	0.49	No	Max SQL< SV
Total PCBs	0	3	9.5	83			ND	83	U	21.6	1	3.84	Yes	Max SQL > SV
Pesticides (g/kg)														
Aldrin	0	3	0.06	0.5			ND	0.5	U		N/A		Yes	No SV
Dieldrin	0	3	0.12	1.05			ND	1.05	U	0.716	1	1.47	Yes	Max SQL > SV
Endosulfan I	0	3	0.06	0.5			ND	0.5	U		N/A		Yes	No SV
Endosulfan II	0	3	0.12	1.05			ND	1.05	U		N/A		Yes	No SV
Endosulfan sulfate	0	3	0.12	1.05			ND	1.05	U		N/A		Yes	No SV
Heptachlor	0	3	0.06	0.5			ND	0.5	U		N/A		Yes	No SV
Heptachlor epoxide	1	3	0.06	0.5	1.1	1.1	041M490201	1.1	J		N/A		Yes	No SV
Methoxychlor	0	3	0.6	5			ND	5	U		N/A		Yes	No SV
Toxaphene	0	3	12	105			ND	105	U		N/A		Yes	No SV
alpha-Chlordane	0	3	0.06	0.5			ND	0.5	U	1.7	1	0.29	No	Max SQL< SV
gamma-Chlordane	0	3	0.06	0.5			ND	0.5	U	1.7	1	0.29	No	Max SQL< SV
Total Chlordane	0	3	0.12	1			ND	1	U	1.7	1	0.59	No	Max SQL< SV
Endrin	0	3	0.12	1.05			ND	1.05	U	3.3	2	0.32	No	Max SQL< SV
Endrin aldehyde	0	3	0.12	1.05			ND	1.05	U	3.3	2	0.32	No	Max SQL< SV
Endrin ketone	0	3	0.12	1.05			ND	1.05	U	3.3	2	0.32	No	Max SQL< SV
Total Endrin	0	3	0.36	3.15			ND	3.15	U	3.3	2	0.96	No	Max SQL< SV
alpha-BHC	0	3	0.06	0.5			ND	0.5	UJ		N/A		Yes	No SV
beta-BHC	0	3	0.06	0.5			ND	0.5	U	0.32	N/A	1.56	Yes	Max SQL > SV
delta-BHC	0	3	0.06	0.5			ND	0.5	U	0.32	N/A	1.56	Yes	Max SQL > SV
gamma-BHC (Lindane)	0	3	0.06	0.5			ND	0.5	U	0.32	1	1.56	Yes	Max SQL > SV
Total BHC	0	3	0.24	2			ND	2	U	0.32	2	6.25	Yes	Max SQL > SV
4,4'-DDD	**2**	**3**	**0.12**	**0.12**	**59**	**94**	**041M490101**	**94**	**DJ**	**1.22**	**1**	**77**	**Yes**	**Max Detect > SV**
4,4'-DDE	**2**	**3**	**0.12**	**0.12**	**9.2**	**18**	**041M490101**	**18**		**2.07**	**1**	**8.7**	**Yes**	**Max Detect > SV**
4,4'-DDT	**2**	**3**	**0.12**	**0.12**	**1.2**	**3**	**041M490201**	**3**	**J**	**1.19**	**1**	**2.52**	**Yes**	**Max Detect > SV**
Total DDT	**2**	**3**	**0.36**	**0.36**	**71.2**	**113**	**041M490101**	**113**		**3.3**	**2**	**34.3**	**Yes**	**Max Detect > SV**
SVOCs (g/kg)														
1,2,4-Trichlorobenzene	0	3	205	245			ND	245	U		N/A		Yes	No SV
1,2-Dichlorobenzene	0	3	205	245			ND	245	U		N/A		Yes	No SV
1,3-Dichlorobenzene	0	3	205	245			ND	245	U		N/A		Yes	No SV
1,4-Dichlorobenzene	0	3	205	245			ND	245	U		N/A		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	3	205	245			ND	245	U		N/A		Yes	No SV
2,4,5-Trichlorophenol	0	3	495	600			ND	600	U		N/A		Yes	No SV
2,4,6-Trichlorophenol	0	3	205	245			ND	245	U		N/A		Yes	No SV
2,4-Dichlorophenol	0	3	205	245			ND	245	U		N/A		Yes	No SV
2,4-Dimethylphenol	0	3	205	245			ND	245	U		N/A		Yes	No SV
2,4-Dinitrophenol	0	3	495	600			ND	600	UJ		N/A		Yes	No SV
2,4-Dinitrotoluene	0	3	205	245			ND	245	U		N/A		Yes	No SV
2,6-Dinitrotoluene	0	3	205	245			ND	245	U		N/A		Yes	No SV
2-Chloronaphthalene	0	3	205	245			ND	245	U		N/A		Yes	No SV
2-Chlorophenol	0	3	205	245			ND	245	U		N/A		Yes	No SV
2-Methyl-4,6-Dinitrophenol	0	3	495	600			ND	600	UJ		N/A		Yes	No SV
2-Methylphenol (o-Cresol)	0	3	205	245			ND	245	U		N/A		Yes	No SV
2-Nitroaniline	0	3	205	245			ND	245	U		N/A		Yes	No SV
2-Nitrophenol	0	3	205	245			ND	245	U		N/A		Yes	No SV
3,3'-Dichlorobenzidine	0	3	205	245			ND	245	U		N/A		Yes	No SV
3-Nitroaniline	0	3	495	600			ND	600	U		N/A		Yes	No SV
4-Bromophenyl-phenylether	0	3	205	245			ND	245	U		N/A		Yes	No SV
4-Chloro-3-methylphenol	0	3	205	245			ND	245	U		N/A		Yes	No SV
4-Chloroaniline	0	3	205	245			ND	245	U		N/A		Yes	No SV
4-Chlorophenylphenyl ether	0	3	205	245			ND	245	U		N/A		Yes	No SV
4-Methylphenol (p-Cresol)	0	3	205	245			ND	245	U		N/A		Yes	No SV
4-Nitroaniline	0	3	495	600			ND	600	U		N/A		Yes	No SV
4-Nitrophenol	0	3	495	600			ND	600	U		N/A		Yes	No SV
Benzo(b)fluoranthene	0	3	20.5	24.5			ND	24.5	U		N/A		No	TOC Normalized PAHs < TEC
Benzo(g,h,i)perylene	0	3	20.5	24.5			ND	24.5	U		N/A		No	TOC Normalized PAHs < TEC
Benzo(k)fluoranthene	0	3	20.5	24.5			ND	24.5	U		N/A		No	TOC Normalized PAHs < TEC
bis(2-Chloroethoxy)methane	0	3	205	245			ND	245	U		N/A		Yes	No SV
bis(2-Chloroethyl)ether	0	3	20.5	24.5			ND	24.5	U		N/A		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	**1**	**3**	**230**	**245**	**1,700**	**1,700**	**041M490101**	**1,700**		**182**	**1, 2**	**9.34**	**Yes**	**Max Detect > SV**
Butylbenzylphthalate	1	3	230	245	30	30	041M490101	30	J	182	1, 2	0.17	No	Max Detect < SV
Carbazole	0	3	205	245			ND	245	U		N/A		Yes	No SV
Dibenzofuran	0	3	205	245			ND	245	U		N/A		Yes	No SV
Diethylphthalate	0	3	205	245			ND	245	U	182	1, 2	1.35	Yes	Max SQL > SV
Dimethylphthalate	0	3	205	245			ND	245	U	182	1, 2	1.35	Yes	Max SQL > SV
Di-n-butylphthalate	1	3	230	245	39	39	041M490101	39	J	182	1, 2	0.21	No	Max Detect < SV

Table 15-7-5
Wetland 49 Phase II
Sediment Screening

Parameter	Number Detected	Number Analyzed	Min SQL	Max SQL	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	SV	Source	SHQ	Retained for Refinement	Rationale
SVOCs (g/kg) - cont.														
Di-n-octylphthalate	0	3	205	245			ND	245	U	182	1, 2	1.35	Yes	Max SQL > SV
Hexachlorobenzene	0	3	205	245			ND	245	U		N/A		Yes	No SV
Hexachlorobutadiene	0	3	205	245			ND	245	U		N/A		Yes	No SV
Hexachlorocyclopentadiene	0	3	205	245			ND	245	U		N/A		Yes	No SV
Hexachloroethane	0	3	205	245			ND	245	U		N/A		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	3	20.5	24.5			ND	24.5	U		N/A		No	TOC Normalized PAHs < TEC
Isophorone	0	3	205	245			ND	245	U		N/A		Yes	No SV
Nitrobenzene	0	3	205	245			ND	245	U		N/A		Yes	No SV
N-Nitroso-di-n-propylamine	0	3	20.5	24.5			ND	24.5	U		N/A		Yes	No SV
N-Nitrosodiphenylamine	0	3	205	245			ND	245	U		N/A		Yes	No SV
Pentachlorophenol	0	3	495	600			ND	600	U		N/A		Yes	No SV
Phenol	0	3	205	245			ND	245	U		N/A		Yes	No SV
VOCs (g/kg)														
1,1,1-Trichloroethane	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
1,1,2,2-Tetrachloroethane	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
1,1,2-Trichloroethane	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
1,1-Dichloroethane	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
1,1-Dichloroethene	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
1,2-Dichloroethane	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
1,2-Dichloroethene (total)	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
1,2-Dichloropropane	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
2-Butanone (MEK)	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
2-Hexanone	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
4-Methyl-2-Pentanone (MIBK)	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Acetone	0	3	7	32.5			ND	32.5	U		N/A		Yes	No SV
Benzene	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Bromodichloromethane	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Bromoform	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Bromomethane	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Carbon disulfide	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Carbon tetrachloride	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Chlorobenzene	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Chloroethane	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Chloroform	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Chloromethane	1	3	6.5	32.5	2	2	041M490301	2	J		N/A		Yes	No SV
cis-1,3-Dichloropropene	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Dibromochloromethane	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Ethylbenzene	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Methylene chloride	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Styrene	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Tetrachloroethene	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Toluene	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
trans-1,3-Dichloropropene	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Trichloroethene	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV
Vinyl chloride	0	3	2	9.5			ND	9.5	U		N/A		Yes	No SV
Xylene (Total)	0	3	6.5	32.5			ND	32.5	U		N/A		Yes	No SV

Notes:

Sources for Screening Values:
SV = Screening Value
1 = USEPA Region 4 Screening Value.
Detailed explanation for SVs provided in Section 8.0.
2 = FDEP Threshold effects level

Supporting Information:
SQL = Sample Quantitation Limit
HQ = Hazard Quotient
N/A = No screening value available.
U or ND = Not Detected at or above the SQL
J = Estimated value
SHQ = Screening Hazard Quotient

D = Diluted Result
mg/kg = milligrams per kilograms
g/kg = micrograms per kilograms
mg/kg oc = milligrams per kilograms - organic carbon
UJ = Not detected. SQL is estimated.
Parameters in bold were detected and exceeded screening values.

Table 15-7-6
Wetland 49 Phase II
Sediment COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	4,4'-DDD	bis(2-Ethylhexyl)phthalate (BEHP)	Chloromethane
Barium	4,4'-DDE		
Calcium	4,4'-DDT		
Cobalt	Heptachlor epoxide		
Iron	Total DDT		
Magnesium			
Manganese			
Potassium			
Sodium			
Vanadium			
		Not Detected Parameters	
Beryllium	Aldrin	1,2,4-Trichlorobenzene	1,1,1-Trichloroethane
Cyanide (CN)	alpha-BHC	1,2-Dichlorobenzene	1,1,2,2-Tetrachloroethane
Selenium	beta-BHC	1,3-Dichlorobenzene	1,1,2-Trichloroethane
Thallium	delta-BHC	1,4-Dichlorobenzene	1,1-Dichloroethane
	Dieldrin	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1-Dichloroethene
	Endosulfan I	2,4,5-Trichlorophenol	1,2-Dichloroethane
	Endosulfan II	2,4,6-Trichlorophenol	1,2-Dichloroethene (total)
	Endosulfan sulfate	2,4-Dichlorophenol	1,2-Dichloropropane
	gamma-BHC (Lindane)	2,4-Dimethylphenol	2-Butanone (MEK)
	Heptachlor	2,4-Dinitrophenol	2-Hexanone
	Methoxychlor	2,4-Dinitrotoluene	4-Methyl-2-Pentanone (MIBK)
	Total BHC	2,6-Dinitrotoluene	Acetone
	Toxaphene	2-Chloronaphthalene	Benzene
	Total PCBs	2-Chlorophenol	Bromodichloromethane
		2-Methyl-4,6-Dinitrophenol	Bromoform
		2-Methylnaphthalene	Bromomethane
		2-Methylphenol (o-Cresol)	Carbon disulfide
		2-Nitroaniline	Carbon tetrachloride
		2-Nitrophenol	Chlorobenzene
		3,3'-Dichlorobenzidine	Chloroethane
		3-Nitroaniline	Chloroform
		4-Bromophenyl-phenylether	cis-1,3-Dichloropropene
		4-Chloro-3-methylphenol	Dibromochloromethane
		4-Chloroaniline	Ethylbenzene
		4-Chlorophenylphenyl ether	Methylene chloride
		4-Methylphenol (p-Cresol)	Styrene
		4-Nitroaniline	Tetrachloroethene
		4-Nitrophenol	Toluene
		Benzo(b)fluoranthene	trans-1,3-Dichloropropene
		Benzo(g,h,i)perylene	Trichloroethene
		Benzo(k)fluoranthene	Vinyl chloride
		bis(2-Chloroethoxy)methane	Xylene (Total)
		bis(2-Chloroethyl)ether	
		Carbazole	
		Dibenzofuran	
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	

Table 15-7-7
Wetland 49 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)
Metals (mg/kg)																						
Aluminum	3	3				2,690	1,500	3,560	3,560		041M490201			NA					0	13,610	0	No
Barium	3	3				4.3	1.7	5.6	5.6	J	041M490201			NA					0	14	0	No
Beryllium	0	3	0.035	0.035	0.035	0.035			0.035	U	ND			NA					0	0.84	0	No
Calcium	3	3				676	14.4	1,630	1,630		041M490201			NA					0	10,756.67	0	No
Cobalt	3	3				0.173	0.15	0.2	0.2	J	041M490101			NA					0	2.8	0	No
Cyanide (CN)	0	3	0.337	0.33	0.34	0.337			0.34	U	ND			NA					0	5.22	0	No
Iron	3	3				554	407	707	707		041M490201			NA					0	11,911.67	0	No
Magnesium	3	3				81.8	43.3	123	123	J	041M490201			NA					0	7513.33	0	No
Manganese	3	3				3.38	0.94	7	7		041M490201			NA					0	37.97	0	No
Potassium	3	3				50.6	26.2	66	66	J	041M490201			NA					0	1,628.67	0	No
Selenium	0	3	0.143	0.14	0.145	0.143			0.145	UJ	ND			NA					0	3.45	0	No
Sodium	3	3				22.2	17.9	30.4	30.4	J	041M490201			NA					0	18,993.33	0	No
Thallium	0	3	0.143	0.14	0.145	0.143			0.145	U	ND			NA					0	1.57	0	No
Vanadium	3	3				2.63	2.1	3	3	J	041M490201			NA					0	28.67	0	No
PCBs (g/kg)																						
Aroclor-1016	0	3	6.07	1.2	10.5	6.07			10.5	U	ND	21.6	189	PEL	0.49	0.28	0.06	0.03	0		0	No
Aroclor-1221	0	3	11.6	2.3	20	11.6			20	U	ND	67	189	PEL	0.30	0.17	0.11	0.06	0		0	No
Aroclor-1232	0	3	6.07	1.2	10.5	6.07			10.5	U	ND	21.6	189	PEL	0.49	0.28	0.06	0.03	0		0	No
Aroclor-1242	0	3	6.07	1.2	10.5	6.07			10.5	U	ND	21.6	189	PEL	0.49	0.28	0.06	0.03	0		0	No
Aroclor-1248	0	3	6.07	1.2	10.5	6.07			10.5	U	ND	21.6	189	PEL	0.49	0.28	0.06	0.03	0		0	No
Aroclor-1254	0	3	6.07	1.2	10.5	6.07			10.5	U	ND	21.6	189	PEL	0.49	0.28	0.06	0.03	0		0	No
Aroclor-1260	0	3	6.07	1.2	10.5	6.07			10.5	U	ND	21.6	189	PEL	0.49	0.28	0.06	0.03	0		0	No
Total PCBs	0	3	48	9.5	83	48			83	U	ND	21.6	189	PEL	3.84	2.22	0.44	0.25	0		0	No
Pesticides (g/kg)																						
Aldrin	0	3	0.29	0.06	0.5	0.29			0.5	U	ND			NA					0		0	No
Dieldrin	0	3	0.607	0.12	1.05	0.607			1.05	U	ND	0.7	4.3	PEL	1.5	0.87	0.24	0.14	0		0	No
Endosulfan I	0	3	0.29	0.06	0.5	0.29			0.5	U	ND			NA					0		0	No
Endosulfan II	0	3	0.607	0.12	1.05	0.607			1.05	U	ND			NA					0		0	No
Endosulfan sulfate	0	3	0.607	0.12	1.05	0.607			1.05	U	ND			NA					0		0	No
Heptachlor	0	3	0.29	0.06	0.5	0.29			0.5	U	ND			NA					0		0	No
Heptachlor epoxide	1	3	0.28	0.06	0.5	0.553	1.1	1.1	1.1	J	041M490201			NA					0		0	Yes
Methoxychlor	0	3	2.9	0.6	5	2.9			5	U	ND			NA					0		0	No
Toxaphene	0	3	60.7	12	105	60.7			105	U	ND			NA					0		0	No
alpha-BHC	0	3	0.29	0.06	0.5	0.29			0.5	UJ	ND		0.99	PEL			0.51	0.29	0		0	No
beta-BHC	0	3	0.29	0.06	0.5	0.29			0.5	U	ND	0.32	0.99	PEL	1.56	0.91	0.51	0.29	0		0	No
delta-BHC	0	3	0.29	0.06	0.5	0.29			0.5	U	ND	0.32	0.99	PEL	1.56	0.91	0.51	0.29	0		0	No
gamma-BHC (Lindane)	0	3	0.29	0.06	0.5	0.29			0.5	U	ND	0.32	0.99	PEL	1.56	0.91	0.51	0.29	0		0	No
Total BHC	0	3	1.16	0.24	2	1.16			2	U	ND	0.32	0.99	PEL	6.25	3.62	2.02	1.17	0		0	No
4,4'-DDD	**2**	**3**	**0.12**	**0.12**	**0.12**	**51**	**59**	**94**	**94**	**DJ**	**041M490101**	**1.22**	**7.81**	**PEL**	**77**	**41.8**	**12**	**6.54**	**2**	**50**	**2**	**Yes**
4,4'-DDE	2	3	0.12	0.12	0.12	9.11	9.2	18	18		041M490101	2.07	374	PEL	8.7	4.4	0.05	0.02	0	40	0	No
4,4'-DDT	2	3	0.12	0.12	0.12	1.44	1.2	3	3	J	041M490201	1.19	4.77	PEL	2.52	1.21	0.63	0.30	0	20	0	No
Total DDT	**2**	**3**	**0.36**	**0.36**	**0.36**	**61.6**	**71.2**	**113**	**113**		**041M490101**	**3.3**	**51.7**	**PEL**	**34.3**	**18.7**	**2.19**	**1.19**	**2**	**110**	**1**	**Yes**
SVOCs (g/kg)																						
1,2,4-Trichlorobenzene	0	3	227	205	245	227			245	U	ND			NA					0		0	No
1,2-Dichlorobenzene	0	3	227	205	245	227			245	U	ND			NA					0		0	No
1,3-Dichlorobenzene	0	3	227	205	245	227			245	U	ND			NA					0		0	No
1,4-Dichlorobenzene	0	3	227	205	245	227			245	U	ND			NA					0		0	No
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	3	227	205	245	227			245	U	ND			NA					0		0	No
2,4,5-Trichlorophenol	0	3	548	495	600	548			600	U	ND			NA					0		0	No
2,4,6-Trichlorophenol	0	3	227	205	245	227			245	U	ND			NA					0		0	No
2,4-Dichlorophenol	0	3	227	205	245	227			245	U	ND			NA					0		0	No
2,4-Dimethylphenol	0	3	227	205	245	227			245	U	ND			NA					0		0	No
2,4-Dinitrophenol	0	3	548	495	600	548			600	UJ	ND			NA					0		0	No
2,4-Dinitrotoluene	0	3	227	205	245	227			245	U	ND			NA					0		0	No
2,6-Dinitrotoluene	0	3	227	205	245	227			245	U	ND			NA					0		0	No
2-Chloronaphthalene	0	3	227	205	245	227			245	U	ND			NA					0		0	No
2-Chlorophenol	0	3	227	205	245	227			245	U	ND			NA					0		0	No
2-Methyl-4,6-Dinitrophenol	0	3	548	495	600	548			600	UJ	ND			NA					0		0	No
2-Methylphenol (o-Cresol)	0	3	227	205	245	227			245	U	ND			NA					0		0	No
2-Nitroaniline	0	3	227	205	245	227			245	U	ND			NA					0		0	No
2-Nitrophenol	0	3	227	205	245	227			245	U	ND			NA					0		0	No
3,3'-Dichlorobenzidine	0	3	227	205	245	227			245	U	ND			NA					0		0	No
3-Nitroaniline	0	3	548	495	600	548			600	U	ND			NA					0		0	No
4-Bromophenyl-phenylether	0	3	227	205	245	227			245	U	ND			NA					0		0	No
4-Chloro-3-methylphenol	0	3	227	205	245	227			245	U	ND			NA					0		0	No
4-Chloroaniline	0	3	227	205	245	227			245	U	ND			NA					0		0	No
4-Chlorophenylphenyl ether	0	3	227	205	245	227			245	U	ND			NA					0		0	No
4-Methylphenol (p-Cresol)	0	3	227	205	245	227			245	U	ND			NA					0		0	No
4-Nitroaniline	0	3	548	495	600	548			600	U	ND			NA					0		0	No
4-Nitrophenol	0	3	548	495	600	548			600	U	ND			NA					0		0	No
bis(2-Chloroethoxy)methane	0	3	227	205	245	227			245	U	ND			NA					0		0	No
bis(2-Chloroethyl)ether	0	3	22.7	20.5	24.5	22.7			24.5	U	ND			NA					0		0	No

Table 15-7-7
Wetland 49 Phase II
Sediment Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Min SQL	Max SQL	Average Result	Minimum Detected	Maximum Detected	EPC	Q	Maximum Detection Location	SV	Refinement Value	Refinement Value Source	Maximum Result SV HQ	Average Result SV HQ	Maximum Result RV HQ	Average Result RV HQ	Number Detected > RV	Reference Concentration	Number Detected > Reference Concentration	COPC Retained (Y/N)
bis(2-Ethylhexyl)phthalate (BEHP)	1	3	238	230	245	725	1,700	1,700	1,700		041M490101	182	2,647	PEL	9.34	3.98	0.64	0.27	0		0	No
Carbazole	0	3	227	205	245	227			245	U	ND			NA					0		0	No
Dibenzofuran	0	3	227	205	245	227			245	U	ND			NA					0		0	No
Diethylphthalate	0	3	227	205	245	227			245	U	ND	182	2,647	PEL	1.35	1.25	0.09	0.09	0		0	No
Dimethylphthalate	0	3	227	205	245	227			245	U	ND	182	2,647	PEL	1.35	1.25	0.09	0.09	0		0	No
Di-n-octylphthalate	0	3	227	205	245	227			245	U	ND	182	2,647	PEL	1.35	1.25	0.09	0.09	0		0	No
Hexachlorobenzene	0	3	227	205	245	227			245	U	ND			NA					0		0	No
Hexachlorobutadiene	0	3	227	205	245	227			245	U	ND			NA					0		0	No
Hexachlorocyclopentadiene	0	3	227	205	245	227			245	U	ND			NA					0		0	No
Hexachloroethane	0	3	227	205	245	227			245	U	ND			NA					0		0	No
Isophorone	0	3	227	205	245	227			245	U	ND			NA					0		0	No
Nitrobenzene	0	3	227	205	245	227			245	U	ND			NA					0		0	No
N-Nitroso-di-n-propylamine	0	3	22.7	20.5	24.5	22.7			24.5	U	ND			NA					0		0	No
N-Nitrosodiphenylamine	0	3	227	205	245	227			245	U	ND			NA					0		0	No
Pentachlorophenol	0	3	548	495	600	548			600	U	ND			NA					0		0	No
Phenol	0	3	227	205	245	227			245	U	ND			NA					0		0	No
VOCs (g/kg)																						
1,1,1-Trichloroethane	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
1,1,2,2-Tetrachloroethane	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
1,1,2-Trichloroethane	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
1,1-Dichloroethane	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
1,1-Dichloroethene	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
1,2-Dichloroethane	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
1,2-Dichloroethene (total)	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
1,2-Dichloropropane	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
2-Butanone (MEK)	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
2-Hexanone	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
4-Methyl-2-Pentanone (MIBK)	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Acetone	0	3	17	7	32.5	17			32.5	U	ND			NA					0		0	No
Benzene	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Bromodichloromethane	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Bromoform	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Bromomethane	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Carbon disulfide	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Carbon tetrachloride	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Chlorobenzene	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Chloroethane	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Chloroform	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Chloromethane	1	3	19.5	6.5	32.5	13.7	2	2	2	J	041M490301			NA					0		0	Yes
cis-1,3-Dichloropropene	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Dibromochloromethane	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Ethylbenzene	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Methylene chloride	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Styrene	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Tetrachloroethene	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Toluene	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
trans-1,3-Dichloropropene	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Trichloroethene	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No
Vinyl chloride	0	3	4.5	2	9.5	4.5			9.5	U	ND			NA					0		0	No
Xylene (Total)	0	3	15.5	6.5	32.5	15.5			32.5	U	ND			NA					0		0	No

Notes:

Sources for Refinement Values (RVs):
PEL = FDEP Probable Effects Level
MEC = Swartz Midrange Effect Concentration

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result
Parameters in bold were detected and exceeded screening values.

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
PEL = Probable effects level.

N/R = No refinement value available.
N/A = Not Applicable.
Average result calculations include summing detections and one half the detection lin
As a result, some average detections may exceed the maximum detections
NAS Pensacola base wide levels used as reference values for 4,4'-DDT, 4,4'-DDD, 4,4

Rationale
EPC < RC
EPC < RC
Parameter Not Detected
EPC < RC
EPC < RC
Parameter Not Detected
EPC < RC
EPC < RC
EPC < RC
EPC < RC
Parameter Not Detected
EPC < RC
Parameter Not Detected
EPC < RC
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Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
No SV, no RV, and no RC
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected; Max SQL > RV
EPC > RV and RC
EPC < RC and RV
EPC < RC and RV
EPC > RV and RC
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
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Rationale
RV HQ <1 and no RC
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
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Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
No SV, no RV, and no RC
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected
Parameter Not Detected

nits for not detected parameters.

'-DDE and total DDT.

Table 15-7-8
Wetland 49 Phase II
Sediment COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
	Detected Parameters		
None	Heptachlor epoxide 4,4'-DDD Total DDT	None	None

Table 15-7-9
Wetland 49 Phase II
Mean ERM Quotient

Sample ID	Sample Date	Units	Result	VQUAL	Parameter	ERL	ERM	ERM Quotient
041M490101	1/16/1996	mg/kg	0.07	U	Arsenic	8.2	70	0.00
041M490101	1/16/1996	mg/kg	0.075	U	Cadmium	1.2	9.6	0.01
041M490101	1/16/1996	mg/kg	2.5		Chromium	81	370	0.01
041M490101	1/16/1996	mg/kg	1.6	J	Copper	34	270	0.01
041M490101	1/16/1996	mg/kg	7.2		Lead	46.7	218	0.03
041M490101	1/16/1996	mg/kg	0.06	J	Mercury	0.15	0.71	0.08
041M490101	1/16/1996	mg/kg	0.325	U	Nickel	20.9	51.6	0.01
041M490101	1/16/1996	mg/kg	0.18	U	Silver	1	3.7	0.05
041M490101	1/16/1996	mg/kg	7.6		Zinc	150	410	0.02
041M490101	1/16/1996	g/kg	18		4,4'-DDE	2.2	27	0.67
041M490101	1/16/1996	g/kg	1.2	J	4,4'-DDT	1.58	46.1	0.03
041M490101	1/16/1996	g/kg	83	U	Total PCBs	22.7	180	0.46
041M490101	1/16/1996	g/kg	20.5	U	2-Methylnaphthalene	70	670	0.03
041M490101	1/16/1996	g/kg	10	U	Acenaphthene	16	500	0.02
041M490101	1/16/1996	g/kg	20.5	U	Acenaphthylene	44	640	0.03
041M490101	1/16/1996	g/kg	20.5	U	Anthracene	85.3	1,100	0.02
041M490101	1/16/1996	g/kg	20.5	U	Benzo(a)anthracene	261	1,600	0.01
041M490101	1/16/1996	g/kg	20.5	U	Benzo(a)pyrene	430	1,600	0.01
041M490101	1/16/1996	g/kg	20.5	U	Chrysene	384	2,800	0.01
041M490101	1/16/1996	g/kg	20.5	U	Dibenz(a,h)anthracene	63.4	260	0.08
041M490101	1/16/1996	g/kg	20.5	U	Fluoranthene	600	5,100	0.00
041M490101	1/16/1996	g/kg	10	U	Fluorene	19	540	0.02
041M490101	1/16/1996	g/kg	20.5	U	Naphthalene	160	2,100	0.01
041M490101	1/16/1996	g/kg	20.5	U	Phenanthrene	240	1,500	0.01
041M490101	1/16/1996	g/kg	21	J	Pyrene	665	2,600	0.01
041M490101	1/16/1996				ERM Quotient Sum			1.63
041M490101	1/16/1996				Mean ERM Quotient			0.07
041M490101	1/16/1996				Mean ERM Quotient without ND			0.03
041M490101	1/16/1996				Mean ERM Quotient Category			2
041M490201	1/16/1996	mg/kg	0.21	J	Arsenic	8.2	70	0.00
041M490201	1/16/1996	mg/kg	0.075	U	Cadmium	1.2	9.6	0.01
041M490201	1/16/1996	mg/kg	2.6		Chromium	81	370	0.01
041M490201	1/16/1996	mg/kg	1.2	J	Copper	34	270	0.00
041M490201	1/16/1996	mg/kg	6.8		Lead	46.7	218	0.03
041M490201	1/16/1996	mg/kg	0.03	U	Mercury	0.15	0.71	0.04
041M490201	1/16/1996	mg/kg	0.91	J	Nickel	20.9	51.6	0.02
041M490201	1/16/1996	mg/kg	0.185	U	Silver	1	3.7	0.05
041M490201	1/16/1996	mg/kg	6.5		Zinc	150	410	0.02
041M490201	1/16/1996	g/kg	9.2		4,4'-DDE	2.2	27	0.34
041M490201	1/16/1996	g/kg	3	J	4,4'-DDT	1.58	46.1	0.07
041M490201	1/16/1996	g/kg	51.5	U	Total PCBs	22.7	180	0.29
041M490201	1/16/1996	g/kg	24.5	U	2-Methylnaphthalene	70	670	0.04
041M490201	1/16/1996	g/kg	12	U	Acenaphthene	16	500	0.02
041M490201	1/16/1996	g/kg	24.5	U	Acenaphthylene	44	640	0.04
041M490201	1/16/1996	g/kg	24.5	U	Anthracene	85.3	1,100	0.02
041M490201	1/16/1996	g/kg	24.5	U	Benzo(a)anthracene	261	1,600	0.02
041M490201	1/16/1996	g/kg	24.5	U	Benzo(a)pyrene	430	1,600	0.02
041M490201	1/16/1996	g/kg	24.5	U	Chrysene	384	2,800	0.01
041M490201	1/16/1996	g/kg	24.5	U	Dibenz(a,h)anthracene	63.4	260	0.09
041M490201	1/16/1996	g/kg	24.5	U	Fluoranthene	600	5,100	0.00
041M490201	1/16/1996	g/kg	12	U	Fluorene	19	540	0.02
041M490201	1/16/1996	g/kg	24.5	U	Naphthalene	160	2,100	0.01
041M490201	1/16/1996	g/kg	24.5	U	Phenanthrene	240	1,500	0.02
041M490201	1/16/1996	g/kg	24.5	U	Pyrene	665	2,600	0.01
041M490201	1/16/1996				ERM Quotient Sum			1.19
041M490201	1/16/1996				Mean ERM Quotient			0.05
041M490201	1/16/1996				Mean ERM Quotient without ND			0.02
041M490201	1/16/1996				Mean ERM Quotient Category			2
041M490301	1/16/1996	mg/kg	0.07	U	Arsenic	8.2	70	0.00
041M490301	1/16/1996	mg/kg	0.1	U	Cadmium	1.2	9.6	0.01
041M490301	1/16/1996	mg/kg	0.99		Chromium	81	370	0.00
041M490301	1/16/1996	mg/kg	0.49	J	Copper	34	270	0.00
041M490301	1/16/1996	mg/kg	2.7		Lead	46.7	218	0.01
041M490301	1/16/1996	mg/kg	0.03	U	Mercury	0.15	0.71	0.04
041M490301	1/16/1996	mg/kg	0.32	U	Nickel	20.9	51.6	0.01
041M490301	1/16/1996	mg/kg	0.175	U	Silver	1	3.7	0.05
041M490301	1/16/1996	mg/kg	0.96	J	Zinc	150	410	0.00
041M490301	1/16/1996	g/kg	0.12	U	4,4'-DDE	2.2	27	0.00
041M490301	1/16/1996	g/kg	0.12	U	4,4'-DDT	1.58	46.1	0.00
041M490301	1/16/1996	g/kg	9.5	U	Total PCBs	22.7	180	0.05
041M490301	1/16/1996	g/kg	23	U	2-Methylnaphthalene	70	670	0.03
041M490301	1/16/1996	g/kg	11	U	Acenaphthene	16	500	0.02
041M490301	1/16/1996	g/kg	23	U	Acenaphthylene	44	640	0.04
041M490301	1/16/1996	g/kg	23	U	Anthracene	85.3	1,100	0.02
041M490301	1/16/1996	g/kg	23	U	Benzo(a)anthracene	261	1,600	0.01
041M490301	1/16/1996	g/kg	23	U	Benzo(a)pyrene	430	1,600	0.01
041M490301	1/16/1996	g/kg	23	U	Chrysene	384	2,800	0.01
041M490301	1/16/1996	g/kg	23	U	Dibenz(a,h)anthracene	63.4	260	0.09
041M490301	1/16/1996	g/kg	23	U	Fluoranthene	600	5,100	0.00
041M490301	1/16/1996	g/kg	11	U	Fluorene	19	540	0.02
041M490301	1/16/1996	g/kg	23	U	Naphthalene	160	2,100	0.01
041M490301	1/16/1996	g/kg	23	U	Phenanthrene	240	1,500	0.02
041M490301	1/16/1996	g/kg	23	U	Pyrene	665	2,600	0.01
041M490301	1/16/1996				ERM Quotient Sum			0.48
041M490301	1/16/1996				Mean ERM Quotient			0.02
041M490301	1/16/1996				Mean ERM Quotient without ND			0.00
041M490301	1/16/1996				Mean ERM Quotient Category			1

Notes:
ERL = Effects Range Low
ERM = Effects Range Median
mg/kg = milligrams per kilogram
g/kg = micrograms per kilogram
U = not detected at or above the SQL (value in table is 1/2 reported value)
J = estimated value
Shaded cells indicate constituent exceeds ERL.
Shaded and bold cells indicate constituent exceeds ERM.

Table 15-7-10
Wetland 49 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
Metals (g/L)																
Aluminum	**1**	**2**	**363**	**362.5**	**362.5**	**1,080**	**1,800**	**1,800**	**041W490301**	**1,800**	**J**	**13**	**FDEP**	**138**	**Yes**	**Max Detect > SV**
Antimony	0	2	1	1	1	1			ND	1	U	160	EPA	0.01	No	Max SQL< SV
Arsenic	0	2	1.85	1	2.7	1.85			ND	2.7	U	50	FDEP	0.05	No	Max SQL< SV
Barium	0	2	2.83	2.05	3.6	2.83			ND	3.6	U		NA		Yes	No SV
Beryllium	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	0.13	FDEP	3.85	Yes	Max SQL > SV
Cadmium	0	2	1	1	1	1			ND	1	U	0.66	EPA	1.52	Yes	Max SQL > SV
Calcium	2	2				2,600	692	4,500	041W490101	4,500	J		NA		Yes	No SV
Chromium	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	11	EPA	0.23	No	Max SQL< SV
Cobalt	0	2	1	1	1	1			ND	1	U		NA		Yes	No SV
Copper	0	2	2	2	2	2			ND	2	U	6.54	EPA	0.31	No	Max SQL< SV
Cyanide (CN)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	5.2	EPA	0.48	No	Max SQL< SV
Iron	2	2				447	73	821	041W490301	821			NA		Yes	No SV
Lead	**1**	**2**	**1**	**1**	**1**	**2.05**	**3.1**	**3.1**	**041W490301**	**3.1**		**1.32**	**EPA**	**2.35**	**Yes**	**Max Detect > SV**
Magnesium	2	2				917	733	1,100	041W490301	1,100	J		NA		Yes	No SV
Manganese	2	2				4.65	1.9	7.4	041W490301	7.4	J		NA		Yes	No SV
Mercury	0	2	0.065	0.065	0.065	0.065			ND	0.065	U	0.012	EPA	5.42	Yes	Max SQL > SV
Nickel	0	2	4.5	4.5	4.5	4.5			ND	4.5	U	87.71	EPA	0.05	No	Max SQL< SV
Potassium	1	2	58	58	58	119	180	180	041W490101	180	J		NA		Yes	No SV
Selenium	0	2	2	2	2	2			ND	2	U	5	EPA	0.4	No	Max SQL< SV
Silver	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	0.012	EPA	208	Yes	Max SQL > SV
Sodium	2	2				9,930	6,750	13,100	041W490301	13,100			NA		Yes	No SV
Thallium	0	2	2	2	2	2			ND	2	U	4	EPA	0.5	No	Max SQL< SV
Vanadium	2	2				2.3	2.3	2.3	041W490301	2.3	J		NA		Yes	No SV
Zinc	0	2	13.1	7.85	18.25	13.1			ND	18.25	U	58.91	EPA	0.31	No	Max SQL< SV
Pesticides (g/L)																
Aldrin	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Dieldrin	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan I	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.056	EPA	0.45	No	Max SQL< SV
Endosulfan II	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endosulfan sulfate	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Heptachlor	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.0038	EPA	6.58	Yes	Max SQL > SV
Heptachlor epoxide	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	Yes	Max SQL > SV
Methoxychlor	0	2	0.25	0.25	0.25	0.25			ND	0.25	U		NA		Yes	No SV
Toxaphene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
alpha-Chlordane	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-Chlordane	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
Total Chlordane	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	11.6	Yes	Max SQL > SV
Endrin	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin aldehyde	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA		Yes	No SV
Endrin ketone	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	21.7	Yes	Max SQL > SV
Total Endrin	0	2	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
alpha-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
beta-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
delta-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA		Yes	No SV
gamma-BHC (Lindane)	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.08	EPA	0.31	No	Max SQL< SV
Total BHC	0	2	0.1	0.1	0.1	0.1			ND	0.1	U		NA		Yes	No SV
4,4'-DDD	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	Yes	Max SQL > SV
4,4'-DDE	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	Yes	Max SQL > SV
4,4'-DDT	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP	84.7	Yes	Max SQL > SV
Total DDT	0	2	0.15	0.15	0.15	0.15			ND	0.15	U		NA		Yes	No SV
PCBs (g/L)																
Aroclor-1016	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1221	0	2	1	1	1	1			ND	1	U		NA		Yes	No SV
Aroclor-1232	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1242	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1248	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1254	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Aroclor-1260	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	EPA	35.7	Yes	Max SQL > SV
Total PCB	0	2	4	4	4	4			ND	4	U		NA		Yes	No SV

Table 15-7-10
Wetland 49 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
SVOCs (g/L)																
1,2,4-Trichlorobenzene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4,5-Trichlorophenol	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4,6-Trichlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dichlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dimethylphenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,4-Dinitrophenol	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
2,4-Dinitrotoluene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2,6-Dinitrotoluene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chloronaphthalene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Chlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	43.8	EPA	0.06	No	Max SQL< SV
2-Methyl-4,6-Dinitrophenol	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
2-Methylphenol (o-Cresol)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitroaniline	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
2-Nitrophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3,3'-Dichlorobenzidine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
3-Nitroaniline	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Bromophenyl-phenylether	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloro-3-methylphenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chloroaniline	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Chlorophenylphenyl ether	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Methylphenol (p-Cresol)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
4-Nitroaniline	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
4-Nitrophenol	0	2	10	10	10	10			ND	10	U		NA		Yes	No SV
Benzo(b)fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(g,h,i)perylene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(k)fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Chloroethoxy)methane	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
bis(2-Chloroethyl)ether	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
bis(2-Ethylhexyl)phthalate (BEHP)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	0.3	EPA	8.33	Yes	Max SQL > SV
Butylbenzylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dibenzofuran	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Diethylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Dimethylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Di-n-butylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	9.4	EPA	0.27	No	Max SQL< SV
Di-n-octylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Hexachlorobutadiene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Hexachlorocyclopentadiene	0	2	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA		Yes	No SV
Hexachloroethane	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Indeno(1,2,3-cd)pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Isophorone	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Nitrobenzene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitroso-di-n-propylamine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
N-Nitrosodiphenylamine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Pentachlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Phenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
PAHs (g/L)																
2-Methylnaphthalene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Acenaphthylene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Benzo(a)pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chrysene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibenz(a,h)anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Fluorene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Naphthalene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	26	FDEP	0.02	No	Max SQL< SV

Table 15-7-10
Wetland 49 Phase II
Surface Water Screening

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Maximum SQL	Average Result	Minimum Detected	Maximum Detected	Maximum Detection Location	EPC	Q	Screening Value	Source	Screening HQ	Retained for Refinement?	Rationale
PAHs (g/L) - cont.																
Phenanthrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Total PAH	0	2	6.5	6.5	6.5	6.5			ND	6.5	U		NA		Yes	No SV
VOCs (g/L)																
1,1,1-Trichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	270	FDEP	0.00	No	Max SQL< SV
1,1,2,2-Tetrachloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1,2-Trichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,1-Dichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	3.2	FDEP	0.16	No	Max SQL< SV
1,2-Dibromo-3-Chloropropane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dibromoethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	15.8	EPA	0.03	No	Max SQL< SV
1,2-Dichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,2-Dichloropropane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,3-Dichlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
1,4-Dichlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	3	FDEP	0.17	No	Max SQL< SV
4-Methyl-2-Pentanone (MIBK)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA		Yes	No SV
Acetone	2	2				5	4	6	041W490301	6	J		NA		Yes	No SV
Benzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	53	EPA	0.01	No	Max SQL< SV
Bromochloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromodichloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromoform	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Bromomethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon disulfide	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Carbon tetrachloride	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	17	FDEP	0.03	No	Max SQL< SV
Chloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Chloroform	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	289	EPA	0.00	No	Max SQL< SV
Chloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA		Yes	No SV
cis-1,2-Dichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
cis-1,3-Dichloropropene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Dibromochloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Ethylbenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	453	EPA	0.00	No	Max SQL< SV
Methylene chloride	0	2	1.75	1.5	2	1.75			ND	2	U	1,580	FDEP	0.00	No	Max SQL< SV
Styrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Tetrachloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Toluene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	175	EPA	0.00	No	Max SQL< SV
trans-1,2-Dichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
trans-1,3-Dichloropropene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Trichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Vinyl chloride	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV
Xylene (Total)	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA		Yes	No SV

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
J = Estimated Value
UJ = Not detected. SQL is estimated.
D = Diluted Result

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
HQ = Hazard Quotient.
N/R = No refinement value available.
N/A = Not Applicable.

Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the maximum detections.
Parameters in bold were detected and exceeded the screening value.

Table 15-7-11
Wetland 49 Phase II
Surface Water COPCs Retained After Screening

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
		Detected Parameters	
Aluminum	None	None	Acetone
Calcium			
Iron			
Lead			
Magnesium			
Manganese			
Potassium			
Sodium			
Vanadium			
		Not Detected Parameters	
Barium	Aldrin	1,2,4-Trichlorobenzene	1,1,2,2-Tetrachloroethane
Beryllium	Dieldrin	2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	1,1,2-Trichloroethane
Cadmium	Endosulfan II	2,4,5-Trichlorophenol	1,1-Dichloroethane
Cobalt	Endosulfan sulfate	2,4,6-Trichlorophenol	1,2-Dibromo-3-Chloropropane
Mercury	Heptachlor	2,4-Dichlorophenol	1,2-Dibromoethane
Silver	Heptachlor epoxide	2,4-Dimethylphenol	1,2-Dichloroethane
	Methoxychlor	2,4-Dinitrophenol	1,2-Dichloropropane
	Toxaphene	2,4-Dinitrotoluene	1,3-Dichlorobenzene
	alpha-Chlordane	2,6-Dinitrotoluene	4-Methyl-2-Pentanone (MIBK)
	gamma-Chlordane	2-Chloronaphthalene	Bromochloromethane
	Total Chlordane	2-Methyl-4,6-Dinitrophenol	Bromodichloromethane
	Endrin	2-Methylphenol (o-Cresol)	Bromoform
	Endrin aldehyde	2-Nitroaniline	Bromomethane
	Endrin ketone	2-Nitrophenol	Carbon disulfide
	Total Endrin	3,3'-Dichlorobenzidine	Carbon tetrachloride
	alpha-BHC	3-Nitroaniline	Chloroethane
	beta-BHC	4-Bromophenyl-phenylether	Chloromethane
	delta-BHC	4-Chloro-3-methylphenol	cis-1,2-Dichloroethene
	Total BHC	4-Chloroaniline	cis-1,3-Dichloropropene
	4,4'-DDD	4-Chlorophenylphenyl ether	Dibromochloromethane
	4,4'-DDE	4-Methylphenol (p-Cresol)	Styrene
	4,4'-DDT	4-Nitroaniline	Tetrachloroethene
	Total DDT	4-Nitrophenol	trans-1,2-Dichloroethene
	Aroclor-1016	Benzo(b)fluoranthene	trans-1,3-Dichloropropene
	Aroclor-1221	Benzo(g,h,i)perylene	Trichloroethene
	Aroclor-1232	Benzo(k)fluoranthene	Vinyl chloride
	Aroclor-1242	bis(2-Chloroethoxy)methane	Xylene (Total)
	Aroclor-1248	bis(2-Chloroethyl)ether	
	Aroclor-1254	bis(2-Ethylhexyl)phthalate (BEHP)	
	Aroclor-1260	Butylbenzylphthalate	
	Total PCBs	Dibenzofuran	
		Diethylphthalate	
		Dimethylphthalate	
		Di-n-octylphthalate	
		Hexachlorobenzene	
		Hexachlorobutadiene	
		Hexachlorocyclopentadiene	
		Hexachloroethane	
		Indeno(1,2,3-cd)pyrene	
		Isophorone	
		Nitrobenzene	
		N-Nitroso-di-n-propylamine	
		N-Nitrosodiphenylamine	
		Pentachlorophenol	
		Phenol	
		2-Methylnaphthalene	
		Acenaphthene	
		Acenaphthylene	
		Anthracene	
		Benzo(a)anthracene	
		Benzo(a)pyrene	
		Chrysene	
		Dibenz(a,h)anthracene	
		Fluoranthene	
		Fluorene	
		Phenanthrene	
		Pyrene	
		Total PAHs	

Table 15-7-12
Wetland 49 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screenin g Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
Metals (g/L)																			
Aluminum	**1**	**2**	**363**	**362.5**	**362.5**	**1,080**	**1,800**	**1,800**	**041W490301**	**1,800**	**J**	**13**	**FDEP**	**138.46**	**83.2**	**1,090.25**	**1**	**Yes**	**Max Result > Ref. Conc.**
Barium	0	2	2.83	2.05	3.6	2.83			ND	3.6	U		NA			3.68	0	No	Max SQL < Ref. Conc.
Beryllium	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	0.13	FDEP	4	3.85	1	0	No	Max SQL < Ref. Conc.
Cadmium	0	2	1	1	1	1			ND	1	U	0.66	EPA	2	1.52	3	0	No	Max SQL < Ref. Conc.
Calcium	2	2				2,600	692	4,500	041W490101	4,500	J		NA			7,675	0	No	Max Result < Ref. Conc.
Cobalt	0	2	1	1	1	1			ND	1	U		NA			3	0	No	Max SQL < Ref. Conc.
Iron	2	2				447	73	821	041W490301	821			NA			2,360	0	No	Max Result < Ref. Conc.
Lead	**1**	**2**	**1**	**1**	**1**	**2.05**	**3.1**	**3.1**	**041W490301**	**3.1**		**1.32**	**EPA**	**2.35**	**1.55**	**3.2**	**0**	**No**	**Max Result < Ref. Conc.**
Magnesium	2	2				917	733	1,100	041W490301	1,100	J		NA			20,260	0	No	Max Result < Ref. Conc.
Manganese	2	2				4.65	1.9	7.4	041W490301	7.4	J		NA			13.2	0	No	Max Result < Ref. Conc.
Mercury	0	2	0.065	0.065	0.065	0.065			ND	0.065	U	0.012	EPA	5.42	5.42	0.13	0	No	Max SQL < Ref. Conc.
Potassium	1	2	58	58	58	119	180	180	041W490101	180	J		NA			6,995	0	No	Max Result < Ref. Conc.
Silver	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	0.012	EPA	208.33	208	4	0	No	Max SQL < Ref. Conc.
Sodium	2	2				9,930	6,750	13,100	041W490301	13,100			NA			182,200	0	No	Max Result < Ref. Conc.
Vanadium	2	2				2.3	2.3	2.3	041W490301	2.3	J		NA			4.7	0	No	Max Result < Ref. Conc.
Pesticides (g/L)																			
Aldrin	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
Dieldrin	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endosulfan II	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endosulfan sulfate	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Heptachlor	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.0038	EPA	7	6.58		0	No	Parameter Not Detected; Max SQL > SV
Heptachlor epoxide	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.00004	FDEP	625	625		0	No	Parameter Not Detected; Max SQL > SV
Methoxychlor	0	2	0.25	0.25	0.25	0.25			ND	0.25	U		NA				0	No	Parameter Not Detected
Toxaphene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
alpha-Chlordane	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
gamma-Chlordane	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
Total Chlordane	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0043	EPA	12	11.6		0	No	Parameter Not Detected; Max SQL > SV
Endrin	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endrin aldehyde	0	2	0.05	0.05	0.05	0.05			ND	0.05	U		NA				0	No	Parameter Not Detected
Endrin ketone	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0023	EPA	22	21.7		0	No	Parameter Not Detected; Max SQL > SV
Total Endrin	0	2	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	No	Parameter Not Detected
alpha-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
beta-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
delta-BHC	0	2	0.025	0.025	0.025	0.025			ND	0.025	U		NA				0	No	Parameter Not Detected
gamma-BHC (Lindane)	0	2	0.025	0.025	0.025	0.025			ND	0.025	U	0.08	EPA	0.31	0.31		0	No	Parameter Not Detected
Total BHC	0	2	0.1	0.1	0.1	0.1			ND	0.1	U		NA				0	No	Parameter Not Detected
4,4'-DDD	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0003	FDEP	167	167		0	No	Parameter Not Detected; Max SQL > SV
4,4'-DDE	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.0002	FDEP	250	250		0	No	Parameter Not Detected; Max SQL > SV
4,4'-DDT	0	2	0.05	0.05	0.05	0.05			ND	0.05	U	0.00059	FDEP	85	84.7		0	No	Parameter Not Detected; Max SQL > SV
Total DDT	0	2	0.15	0.15	0.15	0.15			ND	0.15	U		NA				0	No	Parameter Not Detected
PCBs (g/L)																			
Aroclor-1016	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1221	0	2	1	1	1	1			ND	1	U		NA				0	No	Parameter Not Detected
Aroclor-1232	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1242	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1248	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1254	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Aroclor-1260	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	0.014	EPA	36	35.7		0	No	Parameter Not Detected; Max SQL > SV
Total PCB	0	2	4	4	4	4			ND	4	U		NA				0	No	Parameter Not Detected
SVOCs (g/L)																			
1,2,4-Trichlorobenzene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,2'-oxybis(1-Chloropropane)/bis(2-chlor)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4,5-Trichlorophenol	0	2	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2,4,6-Trichlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dichlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dimethylphenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,4-Dinitrophenol	0	2	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2,4-Dinitrotoluene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2,6-Dinitrotoluene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Chloronaphthalene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Methyl-4,6-Dinitrophenol	0	2	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
2-Methylphenol (o-Cresol)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Nitroaniline	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
2-Nitrophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
3,3'-Dichlorobenzidine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
3-Nitroaniline	0	2	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
4-Bromophenyl-phenylether	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chloro-3-methylphenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chloroaniline	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Chlorophenylphenyl ether	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Methylphenol (p-Cresol)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
4-Nitroaniline	0	2	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected
4-Nitrophenol	0	2	10	10	10	10			ND	10	U		NA				0	No	Parameter Not Detected

Table 15-7-12
Wetland 49 Phase II
Surface Water Refinement

Parameter	Number Detected	Number Analyzed	Average SQL	Minimum SQL	Max SQL	Average Result	Minimum Detected	Max Detected	Maximum Detection Location	EPC	Q	Screenin g Value	Source	Max Screening HQ	Average Screening HQ	Ref. Conc.	Number Detected > Ref. Conc.	Retained for Refinement?	Rationale
SVOCs (g/L) - cont.																			
Benzo(b)fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(g,h,i)perylene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(k)fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
bis(2-Chloroethoxy)methane	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
bis(2-Chloroethyl)ether	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
bis(2-Ethylhexyl)phthalate (BEHP)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U	0.3	EPA	8.33	8.33		0	No	Parameter Not Detected; Max SQL > SV
Butylbenzylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Dibenzofuran	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Diethylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Dimethylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Di-n-octylphthalate	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Hexachlorobutadiene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Hexachlorocyclopentadiene	0	2	2.5	2.5	2.5	2.5			ND	2.5	UJ		NA				0	No	Parameter Not Detected
Hexachloroethane	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Indeno(1,2,3-cd)pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Isophorone	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Nitrobenzene	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
N-Nitroso-di-n-propylamine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
N-Nitrosodiphenylamine	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Pentachlorophenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Phenol	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
PAHs (g/L)																			
2-Methylnaphthalene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Acenaphthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Acenaphthylene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(a)anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Benzo(a)pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chrysene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Dibenz(a,h)anthracene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Fluoranthene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Fluorene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Naphthalene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U	26	FDEP	0.02	0.02		0	No	Parameter Not Detected
Phenanthrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Pyrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Total PAH	0	2	6.5	6.5	6.5	6.5			ND	6.5	U		NA				0	No	Parameter Not Detected
VOCs (g/L)																			
1,1,2,2-Tetrachloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,1,2-Trichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,1-Dichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dibromo-3-Chloropropane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dibromoethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dichloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,2-Dichloropropane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
1,3-Dichlorobenzene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
4-Methyl-2-Pentanone (MIBK)	0	2	2.5	2.5	2.5	2.5			ND	2.5	U		NA				0	No	Parameter Not Detected
Acetone	2	2				5	4	6	041W490301	6	J		NA				0	Yes	No SV
Bromochloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromodichloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromoform	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Bromomethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Carbon disulfide	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Carbon tetrachloride	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chloroethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Chloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	UJ		NA				0	No	Parameter Not Detected
cis-1,2-Dichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
cis-1,3-Dichloropropene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Dibromochloromethane	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Styrene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Tetrachloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
trans-1,2-Dichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
trans-1,3-Dichloropropene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Trichloroethene	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Vinyl chloride	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected
Xylene (Total)	0	2	0.5	0.5	0.5	0.5			ND	0.5	U		NA				0	No	Parameter Not Detected

Notes:

Sources for Screening Values (SVs):
EPA = Ambient Water Quality Criteria
FDEP = Surface Water Quality Criteria

Supporting Information:
SQL = Sample Quanitation Limit
HQ = Hazard Quotient
N/A = No screening value available
U or ND = Not Detected at or above the SQL
UJ = Not detected. SQL is estimated.
D = Diluted Result
J = Estimated Value

Supporting Information:
SV = Screening value (detailed explanation for SVs provided in Section 8).
RV = Refinement value (detailed explanation of RVs provided in Section 8).
PEL = Probable effects level.
N/R = No refinement value available.
N/A = Not Applicable.
Average result calculations include summing detections and one half the detection limits for not detected parameters. As a result, some average detections may exceed the Max detections
Parameters in bold were detected and exceeded Ref. Conc.s.

Table 15-7-13
Wetland 49 Phase II
Surface Water COPCs Retained After Refinement

Metals	Pesticides/PCBs	SVOCs/PAHs	VOCs
Detected Parameters			
Aluminum	None	None	Acetone

Table 15-7-14
Wetland 49 Phase II
Sediment Dermal Exposure Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration	Min. Qual.	Maximum Concentration	Max. Qual.	Units	Location of Max. Conc.	Detection Frequency	Range of Detection Limits	Mean	ABS_{sd}	ABS_{sd} Source	DA_{event}: Child Trespasser	DA_{event}: Adult Maintenance Worker	DAD_{sd} (mg/kg-day): Child Trespasser	DAD_{sd} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	1.5E+03	=	3.6E+03	=	MG/KG	041M490201	3 / 3	NAV	2.7E+03	1.0E-03	3	N/A	3.56E-07	N/A	7.54E-06
7440393	Barium	N	1.7E+00	J	5.6E+00	J	MG/KG	041M490201	3 / 3	NAV	4.3E+00	1.0E-03	3	N/A	5.60E-10	N/A	1.19E-08
7440484	Cobalt	C	1.5E-01	J	2.0E-01	J	MG/KG	041M490101	3 / 3	NAV	1.7E-01	1.0E-03	3	N/A	2.00E-11	N/A	1.51E-10
7439896	Iron	N	4.1E+02	=	7.1E+02	=	MG/KG	041M490201	3 / 3	NAV	5.5E+02	1.0E-03	3	N/A	7.07E-08	N/A	1.50E-06
7439965	Manganese	N	9.4E-01	J	7.0E+00	=	MG/KG	041M490201	3 / 3	NAV	3.4E+00	1.0E-03	3	N/A	7.00E-10	N/A	1.48E-08
7440622	Vanadium	N	2.1E+00	J	3.0E+00	J	MG/KG	041M490201	3 / 3	NAV	2.6E+00	1.0E-03	3	N/A	3.00E-10	N/A	6.35E-09
72548	4,4'-DDD	C	5.9E-02	DJ	9.4E-02	DJ	MG/KG	041M490101	2 / 3	N/A / 2.4E-04	5.1E-02	3.0E-02	1	N/A	2.82E-10	N/A	2.13E-09
72559	4,4'-DDE	C	9.2E-03	=	1.8E-02	=	MG/KG	041M490101	2 / 3	N/A / 2.4E-04	9.1E-03	3.0E-02	1	N/A	5.40E-11	N/A	4.08E-10
50293	4,4'-DDT	C	1.2E-03	J	3.0E-03	J	MG/KG	041M490201	2 / 3	N/A / 2.4E-04	1.4E-03	3.0E-02	1	N/A	9.00E-12	N/A	6.80E-11
1024573	Heptachlor epoxide	C	N/A	N/A	1.1E-03	J	MG/KG	041M490201	1 / 3	1.2E-04 / 1.0E-03	5.5E-04	1.0E-01	2	N/A	1.10E-11	N/A	8.32E-11
117817	bis(2-Ethylhexyl)phthalate (BEHP)	C	N/A	N/A	1.7E+00	=	MG/KG	041M490101	1 / 3	4.6E-01 / 4.9E-01	7.3E-01	1.0E-01	1	N/A	1.70E-08	N/A	1.29E-07
85687	Butylbenzylphthalate	N	N/A	N/A	3.0E-02	J	MG/KG	041M490101	1 / 3	4.6E-01 / 4.9E-01	1.7E-01	1.0E-01	2	N/A	3.00E-10	N/A	6.35E-09
84742	Di-n-butylphthalate	N	N/A	N/A	3.9E-02	J	MG/KG	041M490101	1 / 3	4.6E-01 / 4.9E-01	1.7E-01	1.0E-01	2	N/A	3.90E-10	N/A	8.25E-09
129000	Pyrene	N	N/A	N/A	2.1E-02	J	MG/KG	041M490101	1 / 3	4.6E-02 / 4.9E-02	2.3E-02	1.0E-02	3	N/A	2.10E-11	N/A	4.44E-10
74873	Chloromethane	C	N/A	N/A	2.0E-03	J	MG/KG	041M490301	1 / 3	1.3E-02 / 6.5E-02	1.4E-02	1.0E-02	3	N/A	2.00E-12	N/A	1.51E-11

Notes:
Equation for sediment risk:

$$DAD_{sd} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:
DAD_{sd} = Dermal Absorbed Dose-soil contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event)
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Exposure Parameters:
EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Equation for DA_{event} for sediment contact:

$$DA_{event} = C_{sd} \times CF \times AF \times ABS_d$$

Where:
C_{sd} = Chemical concentration in sediment (mg/kg).
CF = Conversion factor (10^{-6} kg/mg).
AF = Adherence factor of sediment to soil (mg/cm2-event).
0.2 (children playing in wet soil) 0.1 (construction worker)
AB_{sd} = Dermal absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1;
(2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Table 15-7-15
Wetland 49 Phase II
Sediment Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/kg)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABSGI	ABSGI Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser: Dermal Hazard Quotient	Child Trespasser: Dermal Cancer Risk	Maintenance Worker: Dermal Hazard Quotient	Maintenance Worker: Dermal Cancer Risk
Sediment Dermal Risk	Aluminum	N	3.6E+03	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	N/A	N/A	7.5E-05	N/A
	Barium	N	5.6E+00	7.0E-02	N/A	7.0E-02	1, 3	4.9E-03	N/A	N/A	N/A	2.4E-06	N/A
	Cobalt	C	2.0E-01	2.0E-02	N/A	8.0E-01	3	1.6E-02	N/A	N/A	N/A	9.4E-09	N/A
	Iron	N	7.1E+02	3.0E-01	N/A	1.5E-01	3	4.5E-02	N/A	N/A	N/A	3.3E-05	N/A
	Manganese	N	7.0E+00	2.4E-02	N/A	4.0E-02	1, 3	9.6E-04	N/A	N/A	N/A	1.5E-05	N/A
	Vanadium	N	3.0E+00	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	N/A	N/A	3.5E-05	N/A
	4,4'-DDD	C	9.4E-02	N/A	2.4E-01	3.0E-02	2	N/A	8.0E+00	N/A	N/A	N/A	1.7E-08
	4,4'-DDE	C	1.8E-02	N/A	3.4E-01	3.0E-02	2	N/A	1.1E+01	N/A	N/A	N/A	4.6E-09
	4,4'-DDT	C	3.0E-03	5.0E-04	3.4E-01	3.0E-02	2	1.5E-05	1.1E+01	N/A	N/A	4.5E-06	7.7E-10
	Heptachlor epoxide	C	1.1E-03	5.0E-04	4.5E+00	1.1E-02	3	5.6E-06	4.0E+02	N/A	N/A	1.5E-05	3.3E-08
	bis(2-Ethylhexyl)phthalate (BEHP)	C	1.7E+00	2.0E-02	1.4E-02	1.0E-01	2	2.0E-03	1.4E-01	N/A	N/A	6.4E-05	1.8E-08
	Butylbenzylphthalate	N	3.0E-02	2.0E-01	N/A	1.7E-02	3	3.5E-03	N/A	N/A	N/A	1.8E-06	N/A
	Di-n-butylphthalate	N	3.9E-02	1.0E-01	N/A	3.1E-01	3	3.1E-02	N/A	N/A	N/A	2.7E-07	N/A
	Pyrene	N	2.1E-02	N/A	3.0E-02	3.1E-01	3	N/A	9.7E-02	N/A	N/A	N/A	4.3E-11
	Chloromethane	C	2.0E-03	N/A	1.3E-02	8.0E-01	3	N/A	1.6E-02	N/A	N/A	N/A	2.5E-13

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABSGI = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose-sources: (1) RAIS value; (2) adjusted for ABSGI.
Dermal SF = Dermal slope factor-sources: (1) RAIS value; (2) adjusted for ABSGI.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfDdermal = Dermal reference dose.
RFDoral = Oral reference dose.
ABSGI = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 15-7-16
Wetland 49 Phase II
Sediment Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/kg)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
						Ingestion Hazard Quotient	Ingestion Cancer Risk	Ingestion Hazard Quotient	Ingestion Cancer Risk
Sediment Incidental Ingestion	Aluminum	N	3.6E+03	1.0E+00	N/A	N/A	N/A	7.25E-04	N/A
	Barium	N	5.6E+00	7.0E-02	N/A	N/A	N/A	1.63E-05	N/A
	Cobalt	C	2.0E-01	2.0E-02	N/A	N/A	N/A	7.27E-07	N/A
	Iron	N	7.1E+02	3.0E-01	N/A	N/A	N/A	4.80E-04	N/A
	Manganese	N	7.0E+00	2.4E-02	N/A	N/A	N/A	5.94E-05	N/A
	Vanadium	N	3.0E+00	7.0E-03	N/A	N/A	N/A	8.72E-05	N/A
	4,4'-DDD	C	9.4E-02	N/A	2.4E-01	N/A	N/A	N/A	1.64E-09
	4,4'-DDE	C	1.8E-02	N/A	3.4E-01	N/A	N/A	N/A	4.45E-10
	4,4'-DDT	C	3.0E-03	5.0E-04	3.4E-01	N/A	N/A	4.36E-07	7.41E-11
	Heptachlor epoxide	C	1.1E-03	5.0E-04	4.5E+00	N/A	N/A	1.60E-07	3.60E-10
	bis(2-Ethylhexyl)phthalate (BEHP)	C	1.7E+00	2.0E-02	1.4E-02	N/A	N/A	6.18E-06	1.73E-09
	Butylbenzylphthalate	N	3.0E-02	2.0E-01	N/A	N/A	N/A	3.05E-08	N/A
	Di-n-butylphthalate	N	3.9E-02	1.0E-01	N/A	N/A	N/A	7.94E-08	N/A
	Pyrene	N	2.1E-02	N/A	3.0E-02	N/A	N/A	N/A	1.28E-10
	Chloromethane	C	2.0E-03	N/A	1.3E-02	N/A	N/A	N/A	1.89E-12

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI = Chronic daily intake (mg/kg-day)

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, sediment risk:

$$CDI = \frac{EPC_{sd} \times IR_{sd} \times EF \times ED \times CF}{BW \times AT}$$

$$\text{Hazard Quotient} = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPCsd = Exposure point concentration in sediment (mg/kg).
IRsd = Incidental ingestion rate for sediment (mg/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
CF = Conversion factor (1E-6 kg/mg).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
IRsd = 100 mg/day for age groups greater than 6-years old.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

Table 15-7-17
Wetland 49 Phase II
Surface Water Dermal Absorbed Dose-Child Trespasser and Adult Maintenance Worker

CAS Number	Chemical		Minimum Concentration	Min. Qual.	Maximum Concentration	Max. Qual.	Units	Location of Max. Conc.	Detection Frequency	Range of Detection Limits	Mean	Maximum Concentration	K_p	DA_{event}	DAD_{sw} (mg/kg-day): Child Trespasser	DAD_{sw} (mg/kg-day): Adult Maintenance Worker
7429905	Aluminum	N	N/A	N/A	1.8E+03	J	UG/L	041W490301	1 / 2	N/A / 7.3E+02	1.1E+03	1.8E-03	1.0E-03	4.68E-06	N/A	9.91E-05
7439921	Lead	N	N/A	N/A	3.1E+00	=	UG/L	041W490301	1 / 2	N/A / 2.0E+00	2.1E+00	3.1E-06	3.4E-04	2.74E-09	N/A	5.80E-08
7439965	Manganese	N	1.9E+00	J	7.4E+00	J	UG/L	041W490301	2 / 2	NAV	4.7E+00	7.4E-06	1.0E-03	1.92E-08	N/A	4.07E-07
7440622	Vanadium	N	2.3E+00	J	2.3E+00	J	UG/L	041W490301	2 / 2	NAV	2.3E+00	2.3E-06	1.0E-03	5.98E-09	N/A	1.27E-07
67641	Acetone	N	4.0E+00	J	6.0E+00	J	UG/L	041W490301	2 / 2	NAV	5.0E+00	6.0E-06	5.7E-04	1.12E-08	N/A	2.37E-07

Notes:

Equation for Dermal Absorbed Dose, surface water risk:

$$DAD_{sw} = \frac{DA_{event} \times EV \times ED \times EF \times SA}{BW \times AT}$$

Where:

DAD_{sw} = Dermal absorbed dose-water contact (mg/kg-day).
DA_{event} = Dermal absorbed dose per event (mg/cm2-event).
SA = Skin surface area available for contact (cm2).
EV = Event frequency (events/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr
carcinogenic effects AT = 70 yr x 365 dy/yr.

Equation for DAevent for inorganics:

$$DA_{event} = K_p \times C_w \times t_{event}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: RAGS Part E, Exhibit B-3 or Exhibit B-4
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).

Equation for DAevent for organics:

$$DA_{event} = FA \times K_p \times C_w \left[\frac{t_{event}}{1 + B} + 2\tau_{event} \left(\frac{1 + 3B + 3B^2}{(1 + B)^2} \right) \right]$$

Where:

FA = Fraction absorbed water (dimensionless). From RAGS Part E, Exhibit B-4.
Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E, Exhibit B-4.
Cw = Chemical concentration in water (mg/cm3).
t_{event} = Event duration (hr/event).
t_{event} = Lag time per event (hr/event). From RAGS Part E, Exhibit B-4.
B = Dimensionless ratio of the permeability coefficient of a compound, calculated using the equation below:

$$B = \frac{K_p \sqrt{MW}}{2.6}$$

Where:

Kp = Dermal permeability coefficient of compound in water (cm/hr).
Source: (1) RAGS Part E.
MW = Molecular weight

Exposure Parameters:

EV = 1 event per day (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
EF = 52 dys/yr (child trespasser/adult maintenance worker).
SA = 5,000 cm2(child trespasser); 10,400 cm2 (adult maintenance worker).
Source: Tables 6-6 and 6-8 Exposure Factors Handbook.
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).
t_{event} = 2.6 hrs/dy (child trespasser/adult maintenance worker).

Table 15-7-18
Wetland 49 Phase II
Surface Water Dermal Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	ABS_{GI}	ABS_{GI} Source	Dermal RfD (mg/kg-day)	Dermal SF (mg/kg-day)-1	Child Trespasser		Maintenance Worker	
										Dermal Hazard Quotient	Dermal Cancer Risk	Dermal Hazard Quotient	Dermal Cancer Risk
SW Dermal Risk	Aluminum	N	1.8E-03	1.0E+00	N/A	1.0E-01	2	1.0E-01	N/A	N/A	N/A	9.9E-04	N/A
	Lead	N	3.1E-06	N/A	N/A	1.5E-01	3	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	7.4E-06	1.4E-01	N/A	4.0E-02	1	5.6E-03	N/A	N/A	N/A	7.3E-05	N/A
	Vanadium	N	2.3E-06	7.0E-03	N/A	2.6E-02	1	1.8E-04	N/A	N/A	N/A	7.0E-04	N/A
	Acetone	N	6.0E-06	1.0E-01	N/A	1.0E-01	2	1.0E-02	N/A	N/A	N/A	2.4E-05	N/A

Notes:

Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.
Dermal RfD = Dermal reference dose adjusted for ABS_{GI}.
Dermal SF = Dermal slope factor adjusted for ABSGI.

Equations for Dermal Reference Dose and Dermal Slope Factor, surface water risk:

$$RfD_{dermal} = RfD_{oral} \times ABS_{GI}$$

$$SF_{dermal} = \frac{RfD_{oral}}{ABS_{GI}}$$

Where:
RfD_{dermal} = Dermal reference dose.
RFD_{oral} = Oral reference dose.
SFdermal = Dermal slope factor.
ABS_{GI} = GI absorption fraction from following sources, in order of choice: (1) RAGS Part E, Exhibit 4-1; (2) 2002 USEPA Region 9 RBC Table; (3) RAIS; (4) USEPA Region 4 OTS supplemental values.

Risk calculation equation, cancer:

$$Risk = DAD_{sw} \times SF_{dermal}$$

Risk calculation equation, noncancer:

$$Hazard\ Quotient = \frac{DAD_{sw}}{RfD_{dermal}}$$

Table 15-7-19
Wetland 49 Phase II
Surface Water Incidental Ingestion Exposure Risk-Child Trespasser and Adult Maintenance Worker

Exposure Route	COPC		Maximum Concentration (mg/cm^3)	Oral RfD (mg/kg-day)	Oral SF (mg/kg-day)-1	Child Trespasser: Ingestion Hazard Quotient	Child Trespasser: Ingestion Cancer Risk	Maintenance Worker: Ingestion Hazard Quotient	Maintenance Worker: Ingestion Cancer Risk
SW Incidental Ingestion	Aluminum	N	1.8E-03	1.0E+00	N/A	N/A	N/A	3.7E-08	N/A
	Lead	N	3.1E-06	N/A	N/A	N/A	N/A	N/A	N/A
	Manganese	N	7.4E-06	1.4E-01	N/A	N/A	N/A	1.1E-09	N/A
	Vanadium	N	2.3E-06	7.0E-03	N/A	N/A	N/A	6.7E-09	N/A
	Acetone	N	6.0E-06	1.0E-01	N/A	N/A	N/A	1.2E-09	N/A

Notes:
Oral RfD = Oral reference dose from: (1) IRIS; or (2) RAIS.
Oral SF = Oral Slope Factor from (1) IRIS; or (2) RAIS.
CDI

$$Risk = CDI \times SF_{oral}$$

Equation for Chronic Daily Intake, surface water risk:

$$CDI = \frac{EPC_{sw} \times IR_{sw} \times EF \times ED}{BW \times AT}$$

$$Hazard\ Quotient = \frac{CDI}{RfD_{oral}}$$

Where:
CDI = Chronic daily intake (mg/kg-day).
EPC_{sw} = Exposure point concentration in surface water (mg/L).
IR_{sw} = Incidental ingestion rate for sediment (L/day).
EF = Exposure frequency (days/year).
ED = Exposure duration (years).
BW = Body weight (kg) 70 kg (adult) 45 kg (child).
AT = Averaging time (days) noncarcinogenic effects AT = ED x 365 dy/yr.
carcinogenic effects AT = 70 yr x 365 dy/yr.

= Oral reference dose.
= Oral slope factor.

Exposure Parameters:
Irsw = 0.01 L/day exposure to surface water during wading for adolescents and adults.
EF = 52 dys/yr (child trespasser/adult maintenance worker).
ED = 10 yrs (child trespasser); 25 yrs (adult maintenance worker).
BW = 45 kg (child trespasser); 70 kg (adult maintenance worker).
AT = Noncancer — 3,650 days (child trespasser); 9,125 days (adult maintenance worker).
Cancer — 25,550 days (child trespasser/adult maintenance worker).

15.8 Miscellaneous Wetlands Evaluation

The wetlands included in this evaluation (Wetlands 19, 48, 49, 56, 57, 58, and W2) were grouped together and were evaluated collectively to help determine where the highest probabilities of unacceptable risk may occur and whether that risk is likely to be related to releases from IR sites at NAS Pensacola. The evaluations in this section included:

- **Food-Chain Models:** Many of the upper-level predators likely to be exposed within Site 41 wetlands would likely be exposed to constituents in more than one wetland. To evaluate this scenario, food-chain models were developed using constituent concentrations from the miscellaneous wetlands.

- **Mean ERM Quotients:** This methodology is an effective way to pinpoint areas of potential risk from a mixture of constituents. It is also useful in identifying locations most likely to be impacted by direct toxicity. Mean ERM quotients are presented on Figure 15-7.

- **Basewide Total DDT-Level Comparison:** A basewide level was established for total DDT at NAS Pensacola. A comparison of site concentrations to the basewide levels is presented in Figure 15-5 and will be discussed on a basewide level in this section.

- **TOC-Normalized PAH Concentrations:** PAHs are widespread across NAS Pensacola and have been evaluated based on their potential for adverse effects when the TOC at each sample location is taken into account. This method has been summarized in Figure 15-6 to identify locations where PAHs may occur at levels most likely to cause adverse effects.

15.8.1 Miscellaneous Wetlands Food-Chain Modeling

To evaluate the potential for risk to upper-trophic-level receptors that forage within and around the miscellaneous wetlands, food-chain models were prepared following the methodology presented in Section 8. No prey items were collected from the miscellaneous wetlands during the RI; therefore, all the tissue concentrations utilized in the food-chain models were estimated using literature-based BSAFs (Table 8-6 — tables are located at the end of each section). According to USEPA guidance, constituents for which no BSAF could be located, a BSAF of 1 was assumed for accumulation purposes. The exposure concentrations for sediment and surface water utilized in the food-chain models are included in Appendix M.

Tables 15-8-1 through 15-8-3 show the results of the food-chain models for the following receptor groups:

- Piscivorous Birds (green heron used as representative species) (Table 15-8-1)
- Piscivorous Mammals (mink used as representative species) (Table 15-8-2)
- Predatory Fish (red drum used as representative species) (Table 15-8-3)

15.8.1.1 Food-Chain Modeling Results

The following assessment endpoints were proposed and approved in the *Final RI/FS SAP, Site 41* (E/A&H, 1995g).

Assessment Endpoint 1 — Health and Viability of Piscivorous Bird Communities that Forage Throughout Miscellaneous Wetlands

The only constituent that generated HQs greater than 1 for the piscivorous bird community was total DDT. The total DDT HQs within these wetlands range from 1.4 (max concentration NOAEL HQ) to less than 1 for the average concentration LOAEL HQ, indicating a potential for adverse effects to piscivorous birds. The maximum total DDT concentration in sediment was detected within Wetland 48 (041M4801; 3,460 g/kg) and was much higher than any other detected concentration. The next highest concentration of total DDT within the remaining wetlands was at Wetland 49 (113 g/kg).

Assessment Endpoint 2 — Health and Viability of Piscivorous Mammal Communities that Forage Throughout Miscellaneous Wetlands

The only constituent generating a HQ greater than 1 for the piscivorous mammal community was total DDT. The total DDT NOAEL HQ calculated using the maximum concentration (from Wetland 48, 041M4801) was 1.34. This HQ greater than 1 indicated the potential for adverse effects to the piscivorous mammal communities that may forage throughout the miscellaneous wetlands. However, based on the HQs, the only location that would generate this potential for adverse effects is the maximum location in Wetland 48.

Assessment Endpoint 3 — Health and Viability of Predatory Fish Communities that Forage in and around Miscellaneous Wetlands

Mercury generated an HQ of 2.4 for the NOAEL HQ calculated using the maximum concentration (0.14 mg/kg), the LOAEL HQ using the maximum concentration, and the NOAEL HQ calculated using the average concentration (0.06 mg/kg). However, the only detection in all of the miscellaneous wetlands was the concentration from the maximum location (041M5701). Therefore,

while this location may present a potential for adverse effects, it is unlikely that this limited distribution and low HQs would impact the health and viability of the predatory fish communities that forage within the miscellaneous wetlands.

15.8.2 Mean ERM Quotients

Of the 13 sediment sample locations, eight locations were within the mean ERM Category 2, and one location was within Category 3. The only location that had any individual ERM exceedances was Wetland 48 sample 041M4801 (only for DDE and DDT). Using this methodology, most of the wetlands incorporated within the miscellaneous wetlands have high uncertainty and require additional lines of evidence for evaluation. However, based on the mean ERM quotient methodology, it is likely that some level of direct toxicity may be present within Wetland 48.

15.8.3 Basewide Total DDT-Levels

Two locations in the miscellaneous wetlands exceeded the basewide levels. The largest concentration was in Wetland 48 at sample location 041M4801 (3,460 g/kg) and the other exceedance was in Wetland 49 with a concentration of 113.2 g/kg.

15.8.4 TOC-Normalized Total PAHs Concentrations

No detected TOC–normalized PAHs within the miscellaneous wetlands exceeded the Swartz TEC; therefore, they are not likely to pose any unacceptable levels of risk related to exposure to PAHs.

15.8.5 Conclusions

Some potential for limited adverse impacts exists through exposure to total DDT and mercury via the food web within the miscellaneous wetlands. However, the potential for adverse impacts appears to occur only at one sample location for each constituent (041M4801 for total DDT and 041M5701 for mercury). Based on these results, no further actions are recommended for any of the wetlands in this group.

Table 15-8-1
Remaining Wetlands FCM (Phase 2)
Receptor: Green Heron (Butorides virescens)

Sediment Ingestion Rate[a] : 0.00023 kg/day
Surface Water Ingestion Rat 0.0227 L/day
Food Ingestion Rate[c]: 0.0115 kg/day

Body Weight[d]: 0.241 kg

Contaminant	Sediment Concentrations mg/kg	Surface Water Concentrations mg/L	Tissue Concentrations mg/kg	Sediment Exposure mg/day	Water Exposure mg/day	Prey Exposure mg/day	Total Exposure mg/day	Daily Dose mg/kgBW/day	NOAEL mg/kdBW/day	LOAEL mg/kdBW/day	NOAEL HQ	LOAEL HQ
Mercury												
Max	0.14	0.0006	0.2800	0.0000322	0.0000	0.0032	0.00326582	0.0136	0.44	0.86	3.08E-02	1.58E-02
Actual Detections	0.14	0	0.2800	0.0000322	0.0000	0.0032	0.0032522	0.0135	0.059	0.35	2.29E-01	3.86E-02
Average	0.06	0.0001	0.1200	0.0000138	0.0000	0.0014	0.00139607	0.0058	0.44	0.86	1.32E-02	6.74E-03
Total BHC												
Max	0.0010	0	0.0010	0.00000023	0.0000	0.0000	0.00001173	0.0000	0.563	2.25	8.65E-05	2.16E-05
Actual Detections	0.001	0	0.0010	0.00000023	0.0000	0.0000	0.00001173	0.0000	0.563	2.25	8.65E-05	2.16E-05
Average	0.0023	0.0001	0.0023	0.000000529	0.0000	0.0000	0.000029249	0.0001	0.563	2.25	2.16E-04	5.39E-05
Total Chlordane												
Max	0.0003	0	0.0007	0.000000069	0.0000	0.0000	8.1765E-06	0.0000	2.14	10.7	1.59E-05	3.17E-06
Actual Detections	0.0003	0	0.0007	0.000000069	0.0000	0.0000	8.1765E-06	0.0000	2.14	10.7	1.59E-05	3.17E-06
Average	0.0012	0.0001	0.0028	0.000000276	0.0000	0.0000	0.000034976	0.0001	2.14	10.7	6.78E-05	1.36E-05
Dieldrin												
Max	0.00003	0	0.0001	6.9E-09	0.0000	0.0000	1.67325E-06	0.0000	0.044	0.44	1.58E-04	1.58E-05
Average	0.0011	0.0001	0.0053	0.000000253	0.0000	0.0001	6.36225E-05	0.0003	0.044	0.44	6.00E-03	6.00E-04
Total DDT												
Max	3.46	0	14.8434	0.0007958	0.0000	0.1707	0.1714949	0.7116	0.051	0.512	**1.40E+01**	**1.39E+00**
Actual Detections	3.46	0	14.8434	0.0007958	0.0000	0.1707	0.1714949	0.7116	0.2	0.4	**3.56E+00**	**1.78E+00**
Average	0.2875	0.0002	1.2334	0.000066125	0.0000	0.0142	0.014254478	0.0591	0.051	0.512	**1.16E+00**	1.16E-01
Total Endrin												
Max	0.00432	0	0.0043	9.936E-07	0.0000	0.0000	5.06736E-05	0.0002	0.01	0.1	2.10E-02	2.10E-03
Actual Detections	0.00432	0	0.0043	9.936E-07	0.0000	0.0000	5.06736E-05	0.0002	0.01	0.1	2.10E-02	2.10E-03
Average	0.0037	0.0001	0.0037	0.000000851	0.0000	0.0000	0.000045671	0.0002	0.01	0.1	1.90E-02	1.90E-03
Total PCB												
Max	0.0691	0	0.1133	0.000015893	0.0000	0.0013	0.001319119	0.0055	0.112	1.12	4.89E-02	4.89E-03
Actual Detections	0.0691	0	0.1133	0.000015893	0.0000	0.0013	0.001319119	0.0055	0.42	0.94	1.30E-02	5.82E-03
Average	0.0947	0.004	0.1553	0.000021781	0.0001	0.0018	0.001898623	0.0079	0.112	1.12	7.03E-02	7.03E-03

Notes:
Sediment Exposure = Sediment Concentration * Sediment Ingestion Rate (mg/day)
Surface Water Exposure = Surface Water Concentration * Water Ingestion Rate (mg/day)
Prey Exposure = Tissue Concentration * Food Ingestion Rate (mg/day)
Total Exposure = Sediment Exposure + Surface Water Exposure + Prey Exposure (mg/day)

Daily Dose = Total Exposure / Body Weight (mg/kgBW/day)

NOAEL HQ = Daily Dose/NOAEL (mg/kgBW/day)
LOAEL HQ = Daily Dose/LOAEL (mg/kgBW/day)

a Estimated based on the results of Beyer et al 1994.
b Calder and Braun 1983.
c Kushlan 1978
d Niethammer and Kaiser 1983.

Table 15-8-2
Remaining Wetlands FCM (Phase 2)
Receptor: Mink (Mustella vison)

Sediment Ingestion Rate[a] : 0.003 kg/day
Surface Water Ingestion Rate[b]: 0.0578 L/day
Food Ingestion Rate[c]: 0.029 kg/day

Body Weight[d]: 0.55 kg

Contaminant	Sediment Concentrations mg/kg	Surface Water Concentrations mg/L	Tissue Concentrations mg/kg	Sediment Exposure mg/day	Water Exposure mg/day	Prey Exposure mg/day	Total Exposure mg/day	Daily Dose mg/kgBW/day	NOAEL mg/kdBW/day	LOAEL mg/kdBW/day	NOAEL HQ	LOAEL HQ
Mercury												
Max	0.14	0.0006	0.2800	0.00042	0.0000	0.0081	0.00857468	0.0156	0.032	0.16	4.87E-01	9.74E-02
Actual Detections	0.14	0	0.2800	0.00042	0.0000	0.0081	0.00854	0.0155	0.015	0.075	**1.04E+00**	2.07E-01
Average	0.06	0.0001	0.1200	0.00018	0.0000	0.0035	0.00366578	0.0067	0.032	0.16	2.08E-01	4.17E-02
Total BHC												
Max	0.0010	0	0.0010	0.000003	0.0000	0.0000	0.000032	0.0001	0.014	0.14	4.16E-03	4.16E-04
Actual Detections	0.001	0	0.0010	0.000003	0.0000	0.0000	0.000032	0.0001	0.014	0.14	4.16E-03	4.16E-04
Average	0.0023	0.0001	0.0023	0.0000069	0.0000	0.0001	0.00007938	0.0001	0.014	0.14	1.03E-02	1.03E-03
Total Chlordane												
Max	0.0003	0	0.0007	0.0000009	0.0000	0.0000	0.000021345	0.0000	3.9	7.8	9.95E-06	4.98E-06
Actual Detections	0.0003	0	0.0007	0.0000009	0.0000	0.0000	0.000021345	0.0000	4.58	9.16	8.47E-06	4.24E-06
Average	0.0012	0.0001	0.0028	0.0000036	0.0000	0.0001	0.00009116	0.0002	3.9	7.8	4.25E-05	2.12E-05
Dieldrin												
Max	0.00003	0	0.0001	0.00000009	0.0000	0.0000	4.2921E-06	0.0000	0.015	0.15	5.20E-04	5.20E-05
Average	0.0011	0.0001	0.0053	0.0000033	0.0000	0.0002	0.000163157	0.0003	0.015	0.15	1.98E-02	1.98E-03
Total DDT												
Max	3.46	0	14.8434	0.01038	0.0000	0.4305	0.4408386	0.8015	0.6	3	**1.34E+00**	2.67E-01
Actual Detections	3.46	0	14.8434	0.01038	0.0000	0.4305	0.4408386	0.8015	0.8	4	**1.00E+00**	2.00E-01
Average	0.2875	0.0002	1.2334	0.0008625	0.0000	0.0358	0.036641935	0.0666	0.6	3	1.11E-01	2.22E-02
Total Endrin												
Max	0.00432	0	0.0043	0.00001296	0.0000	0.0001	0.00013824	0.0003	0.092	0.92	2.73E-03	2.73E-04
Actual Detections	0.00432	0	0.0043	0.00001296	0.0000	0.0001	0.00013824	0.0003	0.092	0.92	2.73E-03	2.73E-04
Average	0.0037	0.0001	0.0037	0.0000111	0.0000	0.0001	0.00012418	0.0002	0.092	0.92	2.45E-03	2.45E-04
Total PCB												
Max	0.0691	0	0.1133	0.0002073	0.0000	0.0033	0.003493696	0.0064	0.05	0.1	1.27E-01	6.35E-02
Actual Detections	0.0691	0	0.1133	0.0002073	0.0000	0.0033	0.003493696	0.0064	0.15	0.31	4.23E-02	2.05E-02
Average	0.0947	0.004	0.1553	0.0002841	0.0002	0.0045	0.005019232	0.0091	0.05	0.1	1.83E-01	9.13E-02

Notes:
Sediment Exposure = Sediment Concentration * Sediment Ingestion Rate (mg/day)
Surface Water Exposure = Surface Water Concentration * Water Ingestion Rate (mg/day)
Prey Exposure = Tissue Concentration * Food Ingestion Rate (mg/day)
Total Exposure = Sediment Exposure + Surface Water Exposure + Prey Exposure (mg/day)

Daily Dose = Total Exposure / Body Weight (mg/kgBW/day)

NOAEL HQ = Daily Dose/NOAEL (mg/kgBW/day)
LOAEL HQ = Daily Dose/LOAEL (mg/kgBW/day)

a Guilday 1957.
b Based on Morrison 1957.
c Chew 1951.
d Estimated based on the results of Beyer et al. 1994.

Table 15-8-3
Remaining Wetlands Phase II Data
Red Drum Exposure Model

	MeHg in Sediment (Cs) (ppm)	MeHg in Forage Fish (Cf) (ppm)a	MeHg in Crustaceans (Ccr) (ppm)	MeHg in Invertebrates (Cinv) (ppm)	MeHg in Red Drum Tissue (ppm)	NOAEL HQ	LOAEL HQ
Remaining Maximum	0.14	0.168	0.0392	0.014	0.36	**2.40**	**1.20**
Remaining Average	0.06	0.072	0.0168	0.006	0.15	**1.03**	0.51

Note:
a = Forage Fish tissue concentrations calculated BSAF of 2.0 from Evans and Engel 1994.

16.0 CONCLUSIONS AND RECOMMENDATIONS

The objectives of the Site 41 RI were to identify the nature and extent of contamination in sediment and surface water for all wetlands listed in Groups A-E and to evaluate human health and ecological risk. The following section summarizes the findings of the RI and makes appropriate recommendations.

Table 16-1 summarizes the results of the ecological risk assessments and human health risk assessments for each wetland. The table lists the following:

- Ecological COCs retained
- Refinement HQs greater than one for those retained COCs
- Locations with refinement HQs greater than one
- Mean ERM quotient categories
- TOC normalized PAH results
- Site-wide DDT results
- Results of Acute Toxicity Tests
- Results of Sublethal Toxicity Tests
- Locations of Toxic Effects
- FCM results
- HHRA COCs
- Recommendation for the Wetland

As summarized in Table 16-1, the following wetlands are recommended for an FS:

- Wetland 3
- Wetland 5A
- Wetland 64
- Wetland 10 (contingent on confirmatory sampling at location 033M00401)

The following wetlands are being assessed under the FDEP petroleum program, therefore CERCLA has no authority to proceed:

- Wetland 12 (Bilge Water Spill)
- Wetland W1 (UST 18)

All other wetlands are recommended for NFA based on the weight of evidence from the various techniques used to analyze the data and that Navy policy prohibits investigation of wetlands not directly linked to Navy CERCLA/RCRA sites.

Table 16-1
Weight of Evidence

OU/Group	Wetland	Total Samples Locations	Phase Summarized	List of Eco COCs	Max Refinement HQs > 1	Sample Locations Exceeding RV	ERM Quotient Categories		Exceeds TOC normalized PAH value	Exceeds Site-wide DDT level	Stat Sig Acute Tox	Stat Sig Sublethal Tox	Location of Tox Results	FCM Results	HHRA COCs	Recommendation	Rationale
									PHASE III/PHASE IV								
																FS	Section 4 of the RI identifies this wetland as a Red-coded wetland included in Group B.
1	3	2	III						No PAHs Detected	No	No	Yes - Growth	041M030701		Arsenic		
				Barium	No	NA									Methylene Chloride		A groundwater optimization study is currently underway at Wetland 3. FS should be focused on determining if toxicity is related to constituents related to Site 1 Landfill.
				Cadmium	2.2	041M030701	Cat. 1	0									
				Iron	No	NA	Cat. 2	2									
				Manganese	No	NA	Cat. 3	0									
				Selenium	No	NA	Cat. 4	0									
					No	NA											
				Endosulfan sulfate	No	NA											
				Total Endrin	No	NA								Total Endrin FCM Max. NOAEL HQ<1			
					No	NA											
				Carbon Disulfide	No	NA											
					No	NA											
	16	1	III						Exceeds TEC; Less than MEC	No	No	No	NA		Aroclor 1254	NFA	Section 4 of the RI identifies this wetland as a Red-coded wetland included in Group C. Wetland 16 served as one representative wetlands identified to represent all wetlands in Group C.
				Aluminum	No	NA											
				Barium	No	NA											
				Beryllium	No	NA	Cat. 1	0									
				Iron	No	NA	Cat. 2	1									
				Manganese	No	NA	Cat. 3	0									
				Potassium	No	NA	Cat. 4	0									
				Selenium	No	NA											
				Vanadium	No	NA											Phase III results do not indicate contamination warranting further investigation in the Group C wetlands.
					No	NA											
				Endrin	No	NA											
				Total Endrin	No	NA								Total Endrin FCM Max. NOAEL HQ<1			
					No	NA											
	18B	1	III						No PAHs Detected	Yes	No	No	NA		Arsenic	NFA	Section 4 of the RI identifies this wetland as a Red-coded wetland included in group C. Wetland 18 served as one representative wetlands identified to represent all wetlands in Group C.
				Iron	No	NA											
				Manganese	No	NA	Cat. 1	0									
				Selenium	No	NA	Cat. 2	1									
							Cat. 3	0									
				4,4'-DDT	23.1	041M18B101	Cat. 4	0									
				Total DDT	2.9	041M18B101								Total DDT FCM Max. NOAEL HQ <1			
																	Phase III results do not indicate contamination warranting further
2	5A	3	III						Exceeds TEC; Less than MEC	Yes	No	Yes - Weight	041M5A0505 041M5A0506		None	FS	Section 4 of the RI identifies this wetland as a Red-coded wetland included in Group B.
				Antimony	No	NA											
				Barium	No	NA											
				Copper	1	041M5A0501											The FS recommended for this site is to address the sublethal effects to benthic invertebrates.
				Lead	2.3	041M5A0501											
				Zinc	1.5	041M5A0501	Cat. 1	0									
							Cat. 2	3									
				Endosulfan I	No	NA	Cat. 3	0									
				Endosulfan sulfate	No	NA	Cat. 4	0									
				gamma-Chlordane	1.65	041M5A0401											
				Total Chlordane	2.59	041M5A0401								Total Chlordane FCM Max NOAEL HQ <1			
				Endrin	No	NA											
				Total Endrin	No	NA								Total Endrin FCM Max. NOAEL HQ<1			
				Total BHC	4.18	041M5A0401								Total BHC FCM Max. NOAEL HQ<1			
				4,4'-DDD	12.8	041M5A0401											
				4,4'-DDT	1.51	041M5A0401											
				Total DDT	3.18	041M5A0401								Total DDT FCM Max. NOAEL HQ<1			
	5B	5	IV						No	Yes	No	No	NA		N-Nitroso-di-n-propylanine		Section 4 of the RI report identifies this wetland as a Red-coded wetland included in Group D.
				Barium	No	NA									Pyrene		
				Cadmium	7.4	041M5B0202 041M5B0601									Trichloroethene		Phase IV site specific toxicity tests do not indicate constituents present are causing adverse acute or chronic effects on benthic macroinvertebrates.
				Chromium	2.9	041M5B0202	Cat. 1	2									
				Cobalt	No	NA	Cat. 2	3									
				Lead	3.8	041M5B0202	Cat. 3	0									
				Silver	3.6	041M5B0202	Cat. 4	0									
														Total PCBs FCM Max. NOAEL HQ<1			

Table 16-1
Weight of Evidence

OU/Group	Wetland	Total Samples Locations	Phase Summarized	List of Eco COCs	Max Refinement HQs > 1	Sample Locations Exceeding RV	ERM Quotient Categories		Exceeds TOC normalized PAH value	Exceeds Site-wide DDT level	Stat Sig Acute Tox	Stat Sig Sublethal Tox	Location of Tox Results	FCM Results	HHRA COCs	Recommendation	Rationale
				Total PCBs	1.1	041M5B0601											
				Dieldrin	23.3	041M5B0601 041M5B0202 041M5B0301 041M5B0401 041M5B0501								Dieldrin FCM Max. NOAEL HQ<1			
				beta-BHC	2.9	041M5B0601											
				Total BHC	3.5	041M5B0601								Total BHC FCM Max. NOAEL HQ<1			
				3-Methylphenol/4-Methylphenol	No	NA											
				Vinyl Chloride	No	NA											
	64	3	III						Less than TEC	Yes	Yes	Yes - Weight	041M6404 (Acute) 041M6406 (Acute) 041M6405 (Weight)		4,4'-DDE 4,4'-DDD 4,4'-DDT	FS	Section 4 of the RI identifies this wetland as a Red-coded wetland included as Group A.
				Aluminum	No	NA											
				Barium	No	NA	Cat. 1	0									
				Beryllium	No	NA	Cat. 2	0							Aldrin		The FS for Wetland 64 should focus on 1) direct toxicity to benthic invertebrates in the proximity of sample IDs 041M6404, 041M6405 and 041M6406; and 2) uptake of mercury in predatory fish.
				Cadmium	5	041M640601 041M640401 041M640501	Cat. 3	2							alpha-BHC		
				Chromium	5.4	041M640601 041M640401 041M640502	Cat. 4	1							delta-BHC		
				Cobalt	No	NA									alpha-Chlordane		
				Copper	1.4	041M640501 041M640601									Aroclor 1254		
				Iron	No	NA									Aroclor 1260		
				Lead	3.1	041M640401 041M640601 041M640501									gamma-Chlordane		
				Manganese	No	NA									BEHP		
				Selenium	No	NA											
				Silver	1.7	041M640501 041M640401 041M640601											
				Vanadium	No	NA											
				Zinc	1.7	041M640401 041M640601 041M640501											
				Aroclor-1260	1.6	041M640401 041M640501											
				Total PCBs	6.5	041M640401 041M640501 041M640601								Total PCBs FCM Max. NOAEL HQ<1			
				Dieldrin	4.7	041M640401 041M640501 041M640601								Total Dieldrin FCM Max. NAOEL HQ<1			
				Endosulfan I													
				Total Chlordane	2.4	041M640401								Total Chlordane FCM Max. NOAEL HQ<1			
				Total BHC	21.9	041M640401 041M640601											
				4,4'-DDD	11.4	041M640401 041M640601 041M640501											
				Total DDT	3.8	041M640401 041M640601 041M640501								Total DDT FCM Max. NOAEL HQ<1			
				bis(2-Ethylhexyl)phthalate (BEHP)	1.5	041M640601 041M640401											
				Carbazole	No	NA											
				Dibenzofuran	No	NA											
							PHASE II										
1	1A	3	II						No PAHs Detected	No	Not Collected	Not Collected	NA		None	NFA	Section 4 of the RI identifies this wetland as an Orange-coded wetland included in Group D.
				Aluminum	No	NA	Category 1	0									
				Barium	No	NA	Category 2	3									
				Vanadium	No	NA	Category 3	0									Constituent levels in this wetland do not warrant further investigation.
							Category 4	0									

Table 16-1
Weight of Evidence

OU/Group	Wetland	Total Samples Locations	Phase Summarized	List of Eco COCs	Max Refinement HQs > 1	Sample Locations Exceeding RV	ERM Quotient Categories		Exceeds TOC normalized PAH value	Exceeds Site-wide DDT level	Stat Sig Acute Tox	Stat Sig Sublethal Tox	Location of Tox Results	FCM Results	HHRA COCs	Recommendation	Rationale
																	not warrant further investigation.
				Dieldrin	1.6	041M010201								Dieldrin FCM Max NOAELHQ<1			
	1B	2	II						Greater than TEC; less than MEC	No	Not Collected	Not Collected	NA		Benzo(a)pyrene Benzo(b)fluoranthene	NFA	Section 4 of the RI identifies this wetland as an Orange-coded wetland included in Group D. This wetland is permitted under the base NPDES permit and should be regulated under that program.
				Barium	No	NA											
				Lead	1.8	041M010401	Cat. 1	0									
				Zinc	1.1	041M010401	Cat. 2	1									
							Cat. 3	1									
				Endosulfan sulfate	No	NA	Cat. 4	0									
				Methoxychlor	No	NA											
				alpha-Chlordane	1.3	041M010401											
				gamma-Chlordane	2	041M010401											
				Total Chlordane	3.3	041M010401								Total Chlordane FCM Max. NOAEL HQ<1			
				bis(2-Ethylhexyl)phthalate (BEHP)	1.3	041M010401											
				Carbazole	No	NA											
	4D	5	II						Exceeded TEC; Less than MEC	Yes	Not Collected	Not Collected	NA		Arsenic	NFA	Section 4 of the RI identifies this wetland as a Red-coded wetland included in Group C. During Phase III Wetlands 16 and 18 were sampled to represent all Group C wetlands and results of the Phase III sampling indicate no need for further evaluation.
				Aluminum	No	NA											
				Barium	No	NA											
				Beryllium	No	NA	Cat. 1	2									
				Cobalt	No	NA	Cat. 2	2									
				Iron	No	NA	Cat. 3	1									
				Lead	3.1	041M4D201 041M4D101 041M4D401	Cat. 4	0									
				Manganese	No	NA											
				Selenium	No	NA											
				Vanadium	No	NA											
				Endosulfan sulfate	No	NA											
				delta-BHC	16.2	041M4D101 041M4D401 041M4D201											
				Total BHC	16.7	041M4D101 041M4D401 041M4D201 041M4D301								Total BHC FCM Max. NOAEL HQ<1			
				4,4'-DDD	14.1	041M4D401 041M4D101 041M4D201											
				Total DDT	3.5	041M4D401 041M4D101								Total DDT FCM Max NOAEL HQ = 9.7			
				Diethylphthalate	26.8	041M4D401											
				Carbon Disulfide	No	NA											
				Carbazol	No	NA											
	15	4	II						Less than TEC	Yes	Not Collected	Not Collected	NA		Arsenic Aroclor 1260 delta-BHC 4,4'-DDD 4,4'-DDE	NFA	Section 4 of the RI identifies this wetland as a Orange-coded wetland included in Group C. During Phase III Wetlands 16 and 18 were sampled to represent all Group C wetlands and results of the Phase III sampling indicate no need for further evaluation.
				Aluminum	No	NA											
				Arsenic	3.4	041M150301											
				Barium	No	NA	Cat. 1	0									
				Beryllium	No	NA	Cat. 2	3									
				Cobalt	No	NA	Cat. 3	1									
				Iron	No	NA	Cat. 4	0									
				Lead	1.9	041M150201											
				Manganese	No	NA											
				Selenium	No	NA											
				Vanadium	No	NA											
				Endosulfan I	No	NA											
				Heptachlor	No	NA											
				Endrin	No	NA											
				Endrin aldehyde	No	NA											
				Endrin ketone	No	NA											
				Total Endrin	No	NA								Total Endrin FCM Max. NOAEL HO<1			
				beta-BHC	1.4	041M150201											
				delta-BHC	5.6	041M150301											
				Total BHC	6.5	041M150301 041M150201 041M150101								Total BHC FCM Max. NOAEL HQ<1			
				4,4'-DDD	25.6	041M150301 041M150101 041M150201											

Table 16-1
Weight of Evidence

OU/Group	Wetland	Total Samples Locations	Phase Summarized	List of Eco COCs	Max Refinement HQs > 1	Sample Locations Exceeding RV	ERM Quotient Categories		Exceeds TOC normalized PAH value	Exceeds Site-wide DDT level	Stat Sig Acute Tox	Stat Sig Sublethal Tox	Location of Tox Results	FCM Results	HHRA COCs	Recommendation	Rationale
				Total DDT	8.4	041M150101 041M150301 041M150201								Total DDT FCM Max NOAEL HQ = 9.7			
				2,2'-oxybis(1-Chloropropane)/bis(2-chlor	No	NA											
				2,4-Dimethylphenol	No	NA											
				2-Methylphenol (o-Cresol)	No	NA											
				4-Methylphenol (p-Cresol)	No	NA											
				Phenol	No	NA											
					No	NA											
	17	3	II						No PAHs Detected	No	Not Collected	Not Collected	NA			NFA	Section 4 identifies this wetland as a Blue-coded wetland.
				None	No	NA	Cat. 1	3							None		
							Cat. 2	0									Constituent levels do not warrant further investigation.
							Cat. 3	0									
							Cat. 4	0									
	18A	4	II						Less than TEC	Yes	Not Collected	Not Collected	NA		Arsenic Benzene	NFA	Section 4 of the RI identifies this wetland as a Red-coded wetland in Group C.
				Barium	No	NA											
				Iron	No	NA	Cat. 1	0									
				Manganese	No	NA	Cat. 2	3									During Phase III Wetlands 16 and 18 were sampled to represent all Group C wetlands and results of the Phase III sampling indicate no need for further evaluation.
				Selenium	No	NA	Cat. 3	1									
							Cat. 4	0									
				Aldrin													
				alpha-Chlordane	2.5	001M1801 041M18A201											
				gamma-Chlordane	2	001M1801											
				Total Chlordane	4.5	001M1801 041M18A201								Total Chlordane FCM Max. NOAEL HQ <1			
				Endrin	No	NA											
				Endrin ketone	No	NA											
				Total Endrin	No	NA								Total Endrin FCM Max. NOAEL HQ<1			
				beta-BHC	1.3	041M18A201											
				Total BHC	3.1	041M18A201											
				4,4'-DDD	119	041M18A101 001M1801											
				4,4'-DDT	252	041M18A101 041M18A0201											
				Total DDT	46.4	041M18A101 041M18A0201 001M1801								Total DDT FCM Max NOAEL HQ = 9.7			
				1,4-Dichlorobenzene	No	NA											
				4-Methylphenol (p-Cresol)	No	NA											
OU2	6	12	II						Less than TEC	Yes	None Collected	None Collected	NA		BEHP	NFA	Section 4 of the RI identifies this wetland as a Orange-coded wetland included in Group D.
				Barium	No	NA	Cat. 1	3									
				Cadmium	1.3	041M060701	Cat. 2	9									
				Cobalt	No	NA	Cat. 3	0									
				Lead	1.3	041M060701	Cat. 4	0									
				Aldrin	No	NA											Since this wetland functions primarily as a drainage ditch and FCMs indicate acceptable risk levels to receptors, there is no need for further investigation at this wetland.
				Dieldrin	2.3	041M060701 041M060801 041M060601								Dieldrin FCM Max. NOAEL HQ<1			
				Heptachlor	No	NA											
				Endrin	No	NA											
				Total Endrin	No	NA								Total Endrin FCM Max. NOAEL HQ<1			
				beta-BHC	2.8	041M060301 041M060701											
				Total BHC	3.4	041M060301 041M060701								Total BHC FCM Max. NOAEL HQ<1			
				4,4'-DDT	54.5	041M060101 04M060301 010M000101 041M060701 041M060601											
				Total DDT	7.6	041M060101 041M060301 010M000101 141M060701								Total DDT FCM Max. NOAEL HQ=1.1			
				1,1-Dichloroethane	No	NA											
				Chloroethane	No	NA											

Table 16-1
Weight of Evidence

OU/Group	Wetland	Total Samples Locations	Phase Summarized	List of Eco COCs	Max Refinement HQs > 1	Sample Locations Exceeding RV	ERM Quotient Categories		Exceeds TOC normalized PAH value	Exceeds Site-wide DDT level	Stat Sig Acute Tox	Stat Sig Sublethal Tox	Location of Tox Results	FCM Results	HHRA COCs	Recommendation	Rationale
OU10	10	7	II						Greater than TEC; Less than MEC	Yes	None Collected	None Collected	NA		None	FS	Section 4 of the RI identifies this wetland as a Red-coded wetland included in Group D. A pre-requisite to conducting the FS at this site is to verify the elevated levels of inorganics at location 033M004001 at the mouth of the drainage ditch and the bay. If constituent levels are not confirmed, Wetland 10 should be recommended for NFA.
				Barium	No	NA	Cat. 1	2									
				Cadmium	8.2	033M004001	Cat. 2	5									
				Chromium	7.4	033M004001	Cat. 3	0									
				Cobalt	No	NA	Cat. 4	0									
				Lead	1.4	033M004001											
				Manganese	No	NA											
				Nickel	1.2	033M004001											
				Total PCBs	1.1	033M002001								Total PCBs FCM Max. NOAEL HQ<1			
				Aldrin	No	NA											
				Endosulfan I	No	NA											
				Heptachlor	No	NA											
				Heptachlor epoxide	No	NA											
				Endrin	No	NA											
				Endrin aldehyde	No	NA											
				Total Endrin	No	NA								Total Endrin FCM Max. NOAEL HQ<1			
				Total BHC	3.6	033M003001 033M001001 033M002001											
				4,4'-DDD	15.4	033M003001 033M001001 033M002001 033M004001											
				4,4'-DDT	10.1	033M003001 033M004001 033M002001 033M001001											
				Total DDT	5.1	033M003001 033M002001 033M001001								Total DDT FCM Max. NOAEL HQ<1			
				1,2-Dichlorobenzene													
				1,4-Dichlorobenzene													
	12	2	II						Exceeds TEC; Less than MEC	No	None Collected	None Collected	NA		None	Pursue under different regulatory program.	Section 4 of the RI identifies this wetland as a Red-coded wetland. PAH constituents detected; however, currently being investigated under the Florida Petroleum Program. No further investigation required for this RI.
				Endosulfan I	No	NA	Cat. 1	1									
				Endosulfan sulfate	No	NA	Cat. 2	0									
				Endrin aldehyde	No	NA	Cat. 3	1									
				Endrin ketone	No	NA	Cat. 4	0									
				Total Endrin	No	NA								Total Endrin FCM Max. NOAEL HQ<1			
				delta-BHC	1.1	041M120101											
				Total BHC	2.1	041M120101								Total BHC FCM Max. NOAEL HQ<1			
	13	1	II						Less than TEC	No	None Collected	None Collected	NA		None	NFA	Section 4 of the RI identifies this wetland as a Blue-coded wetland. Constituent levels do not warrant further investigation.
				None	No	NA	Cat. 1	1									
							Cat. 2	0									
							Cat. 3	0									
							Cat. 4	0									
Cheveliar Field	63A	5	II						Less than TEC	No	None Collected	None Collected	NA		None	NFA	Section 4 of the RI identifies this wetland as an Orange-coded wetland included in Group C. During Phase III Wetlands 16 and 18 were sampled to represent all Group C wetlands and results of the Phase III sampling indicate no need for further evaluation.
				Aluminum	No	NA	Cat. 1	4									
				Barium	No	NA	Cat. 2	1									
				Cadmium	1.8	041M63A301	Cat. 3	0									
				Iron	No	NA	Cat. 4	0									
				Manganese	No	NA											
				Vanadium	No	NA											
				Aroclor-1260	1.4	041M63A501											
				Total PCBs	1.5	041M63A501								Total PCBs FCM Max. NOAEL HQ<1			
				Endosulfan sulfate	No	NA											
	63B	4	II						Less than TEC	No	None Collected	None Collected	NA		None	NFA	Section 4 of the RI identifies this wetland as a Blue-coded wetland. Constituent levels do not warrant further investigation.
				Barium	No	NA	Cat. 1	3									
							Cat. 2	2									
				Endosulfan Sulfate	No	NA	Cat. 3	0									
							Cat. 4	0									

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OU/Group	Wetland	Total Samples Locations	Phase Summarized	List of Eco COCs	Max Refinement HQs > 1	Sample Locations Exceeding RV	ERM Quotient Categories		Exceeds TOC normalized PAH value	Exceeds Site-wide DDT level	Stat Sig Acute Tox	Stat Sig Sublethal Tox	Location of Tox Results	FCM Results	HHRA COCs	Recommendation	Rationale
				Dibenzofuran	No	NA											further investigation.
UST 18	52	5	II						Less than TEC	No	None Collected	None Collected	NA		None		Section 4 of the RI identifies this wetland as a Blue-coded wetland.
				Barium	No	NA	Cat. 1	3									
				Selenium	No	NA	Cat. 2	2									
							Cat. 3	0									Constituent levels do not warrant further investigation.
				Aldrin	No	NA	Cat. 4	0									
				Dieldrin										Dieldrin FCM Max. NOAEL HQ<1			
				Endosulfan I	No	NA											
				Endosulfan sulfate	No	NA											
				4-Methylphenol (p-Cresol)	No	NA											
				Carbazole	No	NA											
				Dibenzofuran	No	NA											
	72	2	II						Less than TEC	No	None Collected	None Collected	NA		None	NFA	Section 4 of the RI identifies this wetland as a Blue-coded wetland.
				None	No	NA	Cat. 1	1									
							Cat. 2	1									
							Cat. 3	0									Constituent levels do not warrant further investigation.
							Cat. 4	0									
	W1	3	II						Exceeds TEC; Less than MEC	No	None Collected	None Collected	NA		Benzene	NFA	Section 4 of the RI identifies this wetland as a Red-coded wetland included in Group D.
				Barium	No		Cat. 1	2									
				Lead	4.7	003M000101	Cat. 2	0									
				Selenium	No		Cat. 3	1									
							Cat. 4	0									Refinement of constituents (primarily FCM) does not indicate further evaluation is necessary at this wetland.
				Aldrin	No	NA											
				Endosulfan I	No	NA											
				Endosulfan sulfate	No	NA											
				Heptachlor	No	NA											
				Heptachlor epoxide	No	NA											
				Endrin	No	NA											This wetland is currently being investigated under the FDEP Petroleum Program.
				Endrin aldehyde	No	NA											
				Endrin ketone	No	NA											
				Total Endrin	No	NA								Total Endrin FCM Max. NOAEL HO<1			
				beta-BHC	1.5	003M000101											
				Total BHC	2.8	003M000301								Total BHC FCM Max. NOAEL HO<1			
Remaining Wetlands	19A	2	II						None Detected	No	None Collected	None Collected	NA		Arsenic	NFA	Section 4 of the RI identifies this wetland as a Blue-coded wetland.
				Aluminum	No	NA	Cat. 1	1									
				Barium	No	NA	Cat. 2	1									
				Cobalt	No	NA	Cat. 3	0									Constituent levels do not warrant further investigation.
				Iron	No	NA	Cat. 4	0									
				Manganese	No	NA											
				Vanadium	No	NA											
				Endosulfan I	No	NA											
				Heptachlor epoxide	No	NA											
	19B	1	II						None Detected	No	None Collected	None Collected	NA		None	NFA	Section 4 of the RI identifies this wetland as a Blue-coded wetland.
				Heptachlor epoxide	No	NA	Cat. 1	1									
							Cat. 2	0									
							Cat. 3	0									Constituent levels do not warrant further investigation.
							Cat. 4	0									
	56	1	II						None Detected	No	None Collected	None Collected	NA		None	NFA	Section 4 of the RI identifies this wetland as a Blue-coded wetland.
				None	No	NA	Cat. 1	0									
							Cat. 2	1									
							Cat. 3	0									Constituent levels do not warrant further investigation.
							Cat. 4	0									
	57	1	II						None Detected	No	None Collected	None Collected	NA		None		Section 4 of the RI identifies this wetland as a Blue-coded wetland.
				Aldrin	No	NA	Cat. 1	0									
							Cat. 2	1									
							Cat. 3	0									Constituent levels do not warrant further investigation.
							Cat. 4	0									
	58	1	II						Less than TEC	No	None Collected	None Collected	NA		None	NFA	Section 4 of the RI identifies this wetland as a Blue-coded wetland.
				Carbazole	No	NA	Cat. 1	1									
				Dibenzofuran	No	NA	Cat. 2	0									
							Cat. 3	0									Constituent levels do not warrant further investigation.
							Cat. 4	0									

Table 16-1
Weight of Evidence

OU/Group	Wetland	Total Samples Locations	Phase Summarized	List of Eco COCs	Max Refinement HQs > 1	Sample Locations Exceeding RV	ERM Quotient Categories		Exceeds TOC normalized PAH value	Exceeds Site-wide DDT level	Stat Sig Acute Tox	Stat Sig Sublethal Tox	Location of Tox Results	FCM Results	HHRA COCs	Recommendation	Rationale
	W2	3	II						Less than TEC	No	None Collected	None Collected	NA		None	NFA	Section 4 of the RI identifies this wetland as a Blue-coded wetland.
				Aluminum	No	NA	Cat. 1	1									
				Barium	No	NA	Cat. 2	2									
				Beryllium	No	NA	Cat. 3	0									Constituent levels do not warrant further investigation.
				Cobalt	No	NA	Cat. 4	0									
				Iron	No	NA											
				Selenium	No	NA											
				Vanadium	No	NA											
				Aldrin	No	NA											
				Total Endrin	No	NA								Total Endrin FCM Max. NOAEL HQ<1			
	48	1	II						None Detected	Yes	None Collected	None Collected	NA		None	NFA	Section 4 of the RI identifies this wetland as a Blue-coded wetland.
				4,4'-DDD	333	041M0480101	Cat. 1	0									
				4,4'-DDE	1.7	041M0480101	Cat. 2	0									
				4,4'-DDT	50.3	041M0480101	Cat. 3	1									Constituent levels indicate potential risk; however, the constituents driving risk are not attributable to nearby IR sites. Most likely source is application of road side pesticides (DDT)
				Total DDT	66.9	041M0480101	Cat. 4	0						Total DDT Max. NOAEL HQ=14.0			
	49	3	II						Less than TEC	Yes	None Collected	None Collected	NA		None		Section 4 of the RI identifies this wetland as a Blue-coded wetland.
				Heptachlor epoxide	No	NA	Cat. 1	1									
				4,4'-DDD	12	041M0490101 041M0490201	Cat. 2	2									
				Total DDT	2.2	041M0490101 041M0490201	Cat. 3	0						Total DDT Max. NOAEL HQ=14.0			Constituent levels indicate potential risk; however, the constituents driving risk are not attributable to nearby IR sites. Most likely source is application of road side pesticides (DDT)
							Cat. 4	0									

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18.0 FLORIDA PROFESSIONAL GEOLOGIST SEAL

I have reviewed this Remedial Investigation Report for NAS Pensacola Site 41, Pensacola, Florida, with regard to geologic characterization, data collection, and interpretation, and seal it in accordance with Chapter 492 of the Florida Statutes. In sealing this document, I certify the geological information contained in it is accurate to the best of my knowledge, and the geological methods and procedures included herein are consistent with currently accepted geological practices.

Name:	Jeffrey B. Lunceford
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Expiration Date:	July 31, 2006

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8-17-05

FINAL REMEDIAL INVESTIGATION REPORT
SITE 41 — OPERABLE UNIT 16 — NAS PENSACOLA WETLANDS

NAVAL AIR STATION
PENSACOLA, FLORIDA

SOUTHNAVFACENGCOM
CONTRACT NUMBER: N62467-89-D-0318

CTO-036

VOLUME VIII OF XI
APPENDIX A

Prepared for:

Comprehensive Long-Term
Environmental Action Navy
Naval Air Station
Pensacola, Florida

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August 17, 2005
Revised November 16, 2007

Appendix A

Terrestrial Site Investigation Summary

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	011I004	011I006		011I015		011LF01	011LF02		011LF03	011LF04	011LF05	011LF06	011LF07	011LF08		011LF09		011LF10	011LF11
SAMPLE ID	011SI00404	011SI00602	011SI00606	011SI01501	011SI01506	011SLF0109	011SLF0207	011SLF0209	011SLF0303	011SLF0405	011SLF0503	011SLF0604	011SLF0707	011SLF0806	011SLF0808	011SLF0905	011SLF0906	011SLF1006	011SLF1105
SAMPLE DATE	9/29/1993	9/29/1993	9/29/1993	10/15/1993	10/15/1993	8/31/1993	9/1/1993	9/1/1993	9/7/1993	9/7/1993	9/8/1993	9/8/1993	9/2/1993	9/2/1993	9/2/1993	9/3/1993	9/3/1993	9/1/1993	9/9/1993
METAL																			
Aluminum	261J	345J	578J	2170	5800	3080	2020	201	3340J	6870J	1340J	2340J	841	1770	25.3U	3490J	1250J	3740	69.5U
Antimony	5.8U	5.8U	6U	6.1U	6.2U	6.6UJ	6.6U	7.5U	10.9J	36.3	5.3U	7U	5.2U	7.8U	7.6U	8U	7U	7.4U	6U
Arsenic	0.41U	0.46U	0.42U	0.41U	1.5J	15.8	0.49J	0.5U	4.7UJ	15.2UJ	1.7UJ	4.1UJ	0.37U	0.77U	0.51U	0.73UJ	0.42UJ	1.3J	0.41U
Barium	0.39U	0.66U	1U	1.5U	8.2U	147	6.1J	0.82U	482	1150	132	50.4	3.5U	10.6J	0.51U	14.4J	13.4	31.8J	0.4U
Beryllium	0.19U	0.19U	0.21U	0.2U	0.21U	0.22UJ	0.22U	0.25U	0.25U	0.32U	0.18U	0.23U	0.17U	0.26U	0.25U	0.27U	0.23U	0.25U	0.2U
Cadmium	0.97U	0.97U	1U	1U	7.4	1.8J	1.1U	1.2U	79.3J	86.9J	1.6J	5.1J	0.92	3	1.3U	3J	1.2UJ	129	1U
Calcium	51UJ	34.3UJ	41UJ	211U	60900	10700	109U	105U	13400	14900	9180	6510	1060U	3590	70.1U	4670	1500U	11400	43U
Chromium	4	1.9U	2	2.3	12.4	7.3	5.1	2.5U	90.8J	206J	11.3J	13.7J	3.8	4.8	2.5U	72.9J	2.5J	14.4	2U
Cobalt	3.9U	3.9U	4U	4.1U	4.1U	4.4U	4.4U	5U	6.4J	14.7J	3.5U	4.7U	3.5U	5.2U	5.1U	5.3U	4.7U	4.9U	4U
Copper	1.9U	1.9U	2U	2U	4.2J	22.7	12	2.5U	252	1420	27.1	62.8	1.7U	7.2	2.5U	10.2	4.8J	33.6	2J
Cyanide (CN)	1U	0.99U	1U	1U	6.7	1.1U	1.1U	1.2U	1.4U	2.1	1.2U	1.2U	1.1U	1.5U	1.3U	1.3U	1.2U	1.2U	1.1U
Iron	215J	485J	292J	1100	4480	2870	1220	486	15300J	58600J	2240J	3320J	599	919J	55.2J	2250J	1570J	3770	76J
Lead	1.9J	0.38U	7J	2.3	16.9	198J	64.8	1.7	1850J	1670J	423J	332J	24.6J	33.7J	1.2J	69.7	46.6J	300	0.41U
Magnesium	17U	23.5U	36U	28.8U	514U	590U	65.8U	47U	864J	1670	1020	523J	49.5U	152U	7.6U	226U	205U	531U	12U
Manganese	1.7U	1.4U	0.93U	27	119	76.2	4.3U	2.2U	1400	579	39.2	29.7	7.9U	6.5U	0.51U	34.8	14.1U	7.4	0.4U
Mercury	0.09U	0.08U	0.09U	0.09U	0.09U	0.09U	0.1U	0.1U	0.46	1.6	0.12U	0.1U	0.1U	0.13U	0.1U	0.13U	0.11U	0.1U	0.09UJ
Molybdenum	2.3U	2.3U	2.5U	2.4U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	3.9U	3.9U	4.2U	4.1U	4.1U	4.4U	4.4U	5U	9.8J	43.3	4.3J	4.7U	3.5U	5.2U	5.1U	5.3U	4.7U	6.4J	4U
Potassium	194U	195U	208U	203U	205U	219U	220U	249U	255U	315U	175U	234U	174U	261U	254U	226U	234U	247U	199U
Selenium	0.41U	0.38U	0.42U	0.41U	0.41U	20.1	0.44U	0.5U	0.57UJ	0.85J	0.42UJ	0.35UJ	0.37U	0.56U	0.51U	0.53UJ	0.37UJ	0.49U	0.41U
Silver	0.97U	0.97U	1U	1U	1.2J	1.1U	1.1U	1.2U	43.5	35.5	0.88U	1.2U	0.87U	1.3U	1.3U	1.3U	1.2U	1.2U	1U
Sodium	47.4U	51.5U	63U	73.3U	489U	52U	44.1U	57.2U	140U	414U	35.1U	46.9U	34.8U	52.2U	50.8U	62.8U	46.8U	61.5U	39.8U
Thallium	0.41U	0.38U	0.42U	0.41U	0.41U	8.7U	0.44U	0.5U	0.57U	0.6U	0.42U	0.35U	0.37U	0.56U	0.51U	0.53U	1.9U	0.049U	0.41UJ
Vanadium	1.9U	1.9U	2U	2.9J	11	5.1J	3.1J	2.5U	7.7U	11.7J	5.5J	4.3J	1.7U	2.9J	2.5U	6.1J	3.2J	5.5J	2U
Zinc	1.8U	1.5U	1U	4.6U	8.9U	299	17U	3.4U	3150J	3130J	219J	188J	47.6	21.8U	11.3U	45J	16.8U	139U	4.5U

SHORT ID	011LF12	011LF13	011LF29	011RA01	011RA02	011RA03	011RA04	011RA05	011RA06	011RA07	011RA08	011RA09	011RA10	011RA11	011RA12	011RA13	011S001		
SAMPLE ID	011SLF1206	011SLF1305	011SLF2909	011SRA0101	011SRA0201	011SRA0301	011SRA0401	011SRA0501	011SRA0601	011SRA0701	011SRA0801	011SRA0901	011SRA1001	011SRA1101	011SRA1201	011SRA1301	011SS00101	011SS00104	011SS00106
SAMPLE DATE	9/9/1993	9/8/1993	9/1/1993	8/30/1993	8/30/1993	8/30/1993	8/30/1993	9/8/1993	9/8/1993	9/2/1993	9/2/1993	9/3/1993	9/1/1993	9/9/1993	9/9/1993	9/8/1993	9/13/1993	9/15/1993	9/15/1993
METAL																			
Aluminum	486	4170J	251	1050	341	1750	194	4740J	6430J	3390	3030	3490J	1020	109	1540	5480J	9910	17000	195
Antimony	6.1U	6.7J	6.3U	6.1UJ	6.1UJ	6.2UJ	6.1UJ	6.6U	6.6U	6.2U	5.4U	5.2U	6.1U	5.2U	7.4U	5.8U	6.2U	10U	6.1U
Arsenic	1.1J	11UJ	0.42U	0.47	0.41U	0.41U	0.41U	3.8UJ	3.6UJ	0.41U	2.4U	0.75UJ	0.41U	0.36U	0.36U	2.8UJ	3	3.5	0.4U
Barium	13.6J	383	0.42U	6.6J	0.67U	4.8U	0.66U	134	72.9	24.2J	22.2J	5.8J	1.1U	0.35U	15.8J	58.8	12.2J	14.3J	0.57U
Beryllium	0.2U	0.24J	0.21U	0.2U	0.2UJ	0.21UJ	0.2UJ	0.22U	0.37J	0.32J	0.31J	0.17U	0.2U	0.17U	0.19U	0.19U	0.26J	0.26J	0.2U
Cadmium	6.4	36.3J	1.1U	1U	1U	2J	1U	23.3J	15.9J	2.3	11.1	1.9J	1U	0.87U	0.93U	12.7J	1.3	1U	1U
Calcium	306J	30300	21U	1490U	34.1U	86.7U	21.7U	3950	3220U	14900	2780	2560U	72.6U	26.1U	1830	4100	2640	15400	57.9U
Chromium	3	18J	2.1U	2.5	4.1	13.4	4.7	1610J	305J	13	41.4	5.3J	2U	2.3	5.4	29.3J	15.3	22.9	2U
Cobalt	4.1U	4.9J	4.2U	4.1U	4.1U	4.1U	4.1U	4.4U	4.4U	4.1U	3.6U	3.5U	4.1U	3.5U	3.7U	3.9U	4.2U	4.2U	4.1U
Copper	2UJ	954	2.1U	3.7J	2U	8.4	2U	50	22	4.3J	28.2	3.3J	2U	1.7UJ	4.1J	41	35.9J	10.4J	2J
Cyanide (CN)	1.2U	1.3U	1.1U	1U	1U	1U	1U	1.2U	1.1U	1.1U	1.1U	1.1U	1U	1U	1U	1.1U	1U	1U	1.1U
Iron	334J	16200J	375	958	262	889	275	5980J	5930J	2160J	5030J	2330J	611	119J	1150J	5460J	6600J	11700	133J
Lead	407	3080J	0.42U	3.8J	4.2J	83.2J	6.6J	790J	131J	89.5J	413J	15.7J	1.2	1.3	488	463J	37.4	27.1	0.43J
Magnesium	34.7U	1690	7.5U	91.9U	20.2U	68.3U	21.2U	451U	779J	1360	287J	82.3U	35.8U	6.5U	68.4U	304U	279J	300J	8.2U
Manganese	2.6U	226	0.7U	11.5U	1U	3.3U	0.7U	65.5	91.9	82.3	38.4	53.4	2U	0.39U	33.3	63.5	61.1	79.1	1U
Mercury	0.1J	0.12U	0.1U	0.1U	0.1U	0.09U	0.09U	0.13	0.1U	0.11U	0.66	0.09U	0.08U	0.08UJ	0.09UJ	0.8	0.09UJ	0.09UJ	0.1UJ
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	4.1U	11.3	4.2U	4.1U	4.1U	4.1U	4.1U	6.2J	5.7J	4.1U	16.9	3.5U	4.1U	3.5U	3.7U	4.3J	6.5J	4.4J	4.1U
Potassium	203U	218J	211U	204U	203U	206U	204U	219U	221U	227J	181U	174U	203U	173U	186U	194U	208U	209U	204U
Selenium	0.44U	0.63J	0.42U	0.41UR	0.41UR	0.41UR	0.41UR	0.62J	0.43UJ	0.41U	0.4U	0.54J	0.41U	0.36U	0.36U	0.43UJ	0.4U	0.4U	0.4U
Silver	1U	0.99U	1.1U	1U	1U	1U	1U	5.8	1.1U	1U	7.3U	0.87U	1U	0.87U	0.93U	1.5J	1U	1U	1U
Sodium	40.5U	80.8U	42.2U	42.9U	45.4U	41.1U	40.7U	43.9U	44.2U	88.5U	154U	34.9U	40.7U	34.6U	137U	38.8U	41.7U	97.7U	40.8U
Thallium	0.44UJ	0.46U	0.42U	0.41U	0.41U	0.41U	0.41U	0.41U	0.43U	0.41U	0.4U	0.44U	0.41U	0.36UJ	0.36UJ	0.43U	0.4UJ	0.4UJ	0.4UJ
Vanadium	2U	8.9J	2.2J	2.1J	2U	2.2J	2U	11.5	14.5	4.7J	6.4J	6.1J	2U	1.7U	2.2J	11.9	20.8	25.6	2U
Zinc	15.8U	1370J	2.9U	18.5U	36.3U	24.2U	4.8U	157J	88.2J	174	61.7	20.6J	4.3U	5.2U	11.3U	177J	45.1U	33.7U	1U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	011S003			011S007	011S011		011S013	0120002				0120003				0120004			
SAMPLE ID	*011SS00301*	*011SS00304*	*011SS00306*	*011SS00703*	*011SS01101*	*011SS01106*	*011SS01301*	*012S000201*	*012S000205*	*012S000210*	*012S000215*	*012S000301*	*012S000305*	*012S000310*	*012S000315*	*012S000401*	*012S000405*	*012S000410*	*012S000415*
SAMPLE DATE	*9/13/1993*	*9/16/1993*	*9/16/1993*	*9/21/1993*	*9/16/1993*	*9/16/1993*	*9/20/1993*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*
METAL																			
Aluminum	6710	296U	90.8	1130	26700	1950	21700	1310J	651J	388J	125J	4410J	420J	243J	282J	2440J	1440J	7440J	592J
Antimony	6.3U	6.2UJ	6.6UJ	6.7UJ	6.6UJ	9.5UJ	607UJ	12.5	0.39U	0.38U	0.43U	1.2U	0.38U	0.37U	0.4U	0.4U	0.41U	0.4U	0.42U
Arsenic	1.9J	0.41UJ	0.44UJ	0.46UJ	4.1J	7.9J	2.7J	0.65UJ	0.65UJ	0.65UJ	0.72UJ	0.65U	0.64UJ	0.62UJ	0.67UJ	0.67UJ	0.66UJ	0.68UJ	0.71UJ
Barium	5U	0.45U	0.44U	7.5J	9.2J	83.5	7.4J	3.8J	1.5J	1.2J	0.42U	32.4J	1.2J	0.55J	0.77J	7J	3.5J	12.1J	1J
Beryllium	0.21U	0.21U	0.22U	0.22U	0.28J	0.32U	0.22U	0.04U	0.04U	0.04U	0.04U	0.04U	0.04U	0.04U	0.04U	0.04U	0.04U	0.06U	0.04U
Cadmium	1U	1U	1.1U	2U	1.1U	5.6U	1.1U	0.31U	0.06U	0.06U	0.07U	5.1	0.2U	0.06U	0.14U	5.1	2.1	0.06U	0.18U
Calcium	279U	41.3U	40.1U	110U	508U	821U	357U	7250	2980	549J	138J	6340	3220	62.8J	10600	21700	3720	1010J	487J
Chromium	8.5	2.1UJ	2.2UJ	13.8J	33.1J	4.1J	24.3J	3.5	1.7J	3	1.6J	50.3	7.4	1.1J	7.7	9.8	5.8	6.2	3.6
Cobalt	4.2U	4.1U	4.4U	4.5U	4.4U	6.4U	4.5U	0.15J	0.16J	0.12U	0.13U	1.1J	0.13J	0.12U	0.13U	0.71J	0.31J	0.93J	0.13U
Copper	2.1UJ	2.1U	2.2U	21.7	7.5	34.4	6.9	4J	1.3J	0.83J	0.32J	269	7	0.5J	4J	26J	11.9J	2.6J	3.2J
Cyanide (CN)	1.1U	NS	NS	NS	NS	NS	NS	0.52U	0.52U	0.52U	0.56U	0.52U	0.51U	0.51U	0.53U	0.52U	0.52U	0.54U	0.56U
Iron	4300J	170U	68.9	529	21100	3600	12700	1610	758	277	168	6760	907	270	434	2450	1370	1620	657
Lead	14.6	0.41U	0.44U	63.4	32.5	19.1	5.5	28.5	3.3	2.2	0.67J	95.9	5.8	0.87	4.8	53.5	17.1	5.1	5
Magnesium	76.4U	15.2J	9.5J	34.3J	113J	133J	118J	108J	49.6J	26.6U	8U	148J	30.9U	14.9U	50.3J	259J	98.8J	259J	21U
Manganese	32.6	2.1U	1.3U	2.1U	29.7	12.6	30.9	12.8	6.3	2.5J	1.3J	91.9	7.8	2.9	5.3	26	15.4	16.7	4.3
Mercury	0.1UJ	0.09U	0.1U	0.1U	0.11U	0.15U	0.1U	0.1U	0.1U	0.1U	0.11U	0.32	0.1U	0.09U	0.1U	0.1U	0.1U	0.1U	0.11U
Molybdenum	NS	2.5U	2.7U	2.7U	2.6U	3.8U	2.7U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	4.2U	4.1U	4.4U	4.5U	5.1J	6.4U	4.6J	0.72J	0.29U	0.45J	0.31U	14.3	2J	0.27U	2.3J	6.4J	2.9J	2.8J	0.73J
Potassium	209U	206U	221U	223U	221U	318U	241J	43.3J	36J	31.8J	27.6J	61.9J	23.3U	28.3J	33.3J	80.1J	56J	168J	29J
Selenium	0.42U	0.41U	0.44U	0.46U	0.44U	0.64U	0.45U	0.9U	0.9U	0.89U	0.99U	0.89U	0.89U	0.85U	0.92U	0.92U	0.91U	0.93U	0.98U
Silver	1U	1U	1.1U	1.1U	1.1	1.6U	1.1U	0.1U	0.1U	0.1U	0.11U	0.1U	0.1U	0.1U	0.53J	0.1U	0.1U	0.11U	0.11U
Sodium	41.8U	82.1U	78.7U	99U	91.6U	143U	114U	191U	215J	199U	237J	263J	150U	215J	286J	392J	232J	185U	193U
Thallium	0.42UJ	0.41U	0.44U	0.46U	0.44U	0.64U	0.45U	0.92U	0.92U	0.91U	1U	0.91U	0.91U	0.87U	0.94U	0.94U	0.93U	0.95U	1U
Vanadium	11.7	2.1U	2.2U	2.2U	47.9	4.8J	34.5	2.3J	1.2J	0.43U	0.18U	5.3J	0.6J	0.32U	0.45U	4J	2.1J	5.1J	0.73J
Zinc	12.5U	1.3U	1.1U	62.9	3.1U	215U	1.3U	12.8J	4.9J	2.6UJ	1UJ	138J	6.7J	1.5UJ	8.6J	36.5J	16.5J	4.6J	5.5J

SHORT ID	0120005				0120006				0120007				0120008			
SAMPLE ID	*012S000501*	*012S000505*	*012S000510*	*012S000515*	*012S000601*	*012S000605*	*012S000610*	*012S000615*	*012S000701*	*012S000705*	*012S000710*	*012S000715*	*012S000801*	*012S000805*	*012S000810*	*012S000814*
SAMPLE DATE	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/18/1995*	*4/18/1995*	*4/18/1995*	*4/18/1995*	*12/9/1992*	*12/9/1992*	*4/25/1995*	*12/9/1992*
METAL																
Aluminum	1030J	399J	7750J	434J	1230J	247J	306J	133J	5420J	3360J	1560J	198J	3930J	1700J	2500J	562
Antimony	0.39U	0.39U	0.4U	0.41U	0.65UJ	0.39UJ	0.39J	0.4UJ	6.9J	2.8U	0.85U	0.42UJ	1.2J	0.52J	0.38UJ	0.39U
Arsenic	0.65UJ	0.66UJ	0.67UJ	0.69UJ	0.86UJ	0.65UJ	0.65UJ	0.68UJ	2.4J	0.67UJ	0.65UJ	0.71UJ	0.65U	0.65U	0.65U	0.65U
Barium	4.1J	1.1J	10.3J	0.91J	8.5J	1.4J	1UJ	0.4U	19.7J	12.1J	4J	0.61U	12.5J	6.9J	6.6J	1.9J
Beryllium	0.04U	0.04U	0.04U	0.04U	0.05U	0.04U	0.04U	0.04U	0.06U	0.08J	0.04U	0.04U	0.04U	0.04U	0.04U	0.04U
Cadmium	2.2	0.06U	0.06U	0.06U	6J	0.2UJ	0.47UJ	0.06UJ	11.2	10.4	4.4	0.07UJ	17.3	6.8	2.5	0.07U
Calcium	54300	227J	534J	81.3J	60800	795J	6130	1040J	68800	10000	6220	117U	16700J	3160J	16800J	147J
Chromium	4.4	1.1J	5.8	1.4J	10.9	1.4J	2J	1.3J	15.1	13.1	5.3	1.1U	21.3J	8.7J	5.3J	1.6J
Cobalt	0.32J	0.12U	0.61J	0.13U	0.68J	0.12U	0.12U	0.13U	0.73J	0.51J	0.18J	0.13U	0.9J	0.53J	0.4J	0.15J
Copper	58.5J	0.56J	1.5J	0.34J	39.5J	0.99UJ	4.5J	1.3UJ	129J	89	39.3J	0.81UJ	132	32.5	14.6	1.3J
Cyanide (CN)	0.51U	0.51U	0.53U	0.56U	0.67U	0.51U	0.52U	0.53U	0.53U	0.53U	0.52U	0.56U	0.52U	0.51U	0.52U	0.67
Iron	840	365	699	230	2500	250	255	130	3560	4090	1670	235	5760J	1660J	915J	220
Lead	14.3	1.2	3.1	0.68	68.6	2.1U	6.4	2.9	174	133	55.1	3	191J	63.6J	28.5J	1.6
Magnesium	310J	24.4U	170J	16.1U	480J	15.9U	41.7U	14.3U	444J	1080	145J	11.4U	186J	76.8J	127J	17U
Manganese	31.2	4.9	6.3	1.9J	52.1	3.6	5	1.6J	56	49.4	29.7	1.9J	58.3J	15.5J	28.5J	1.4J
Mercury	0.09U	0.1U	0.1U	0.11U	0.12U	0.1U	0.1U	0.09U	0.6	0.92	0.09U	0.11U	0.18	0.11	0.1U	0.1U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	0.62J	0.29U	2.1J	0.3U	3.7J	0.28U	0.3J	0.31J	5J	2J	1.2J	0.31U	7J	1.8J	1.8J	0.28U
Potassium	62.2J	29.7J	129J	34.1J	71.1J	27.3U	33.6U	31U	124J	84.7J	35.5J	24.2U	72.2J	37.1J	48.8J	25.6U
Selenium	0.89U	0.9U	0.92U	0.95U	1.2U	0.89U	0.9U	0.94U	0.92U	0.93U	0.9U	0.98U	0.9U	0.9U	0.89U	0.89U
Silver	0.1U	0.1U	0.1U	0.11U	0.13U	0.1U	0.1U	0.11U	0.1U	0.11U	0.1U	0.11U	0.1U	0.1U	0.1U	0.1U
Sodium	773J	157U	218J	210J	848J	156U	199U	169U	998J	326J	198U	169U	299J	185U	291J	184U
Thallium	0.91U	0.92U	0.94U	0.97U	1.2UJ	0.91UJ	0.92UJ	0.96UJ	0.94U	0.95U	0.92U	1UJ	0.92U	0.92U	0.91U	0.91U
Vanadium	1.5J	0.57J	3.5J	0.34J	1.9J	0.34J	0.28J	0.15J	7.1J	4.3J	1.9J	0.3J	5.4J	2.4J	1.8J	0.29U
Zinc	17.6J	1.9UJ	3UJ	1.9UJ	63.4	2.5U	7.6	3.2U	215J	541J	139J	3.9J	146	66	24.8	2.6J

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0120009			0120010				0120011			0120012				0120013			
SAMPLE ID	*012S000901*	*012S000905*	*012S000910*	*012S001001*	*012S001005*	*012S001010*	*012S001012*	*012S001101*	*012S001105*	*012S001110*	*012S001201*	*012S001205*	*012S001210*	*012S001212*	*012S001301*	*012S001305*	*012S001310*	*012S001312*
SAMPLE DATE	*4/20/1995*	*4/20/1995*	*4/20/1995*	*12/11/1992*	*4/25/1995*	*12/11/1992*	*4/25/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*
METAL																		
Aluminum	4040J	748J	437J	15100	4000J	1390	472J	2810J	845J	554J	6020J	537J	535J	313J	5190J	1590J	876J	403J
Antimony	2.1J	1.8UJ	0.39U	3.5J	0.39UJ	0.48J	0.39UJ	1.1UJ	0.39UJ	0.4UJ	0.4UJ	0.37UJ	0.47UJ	0.38UJ	0.59J	0.4UJ	0.4UJ	0.4UJ
Arsenic	1.7J	0.65UJ	0.66UJ	2.8	0.65U	0.65U	0.66U	0.71UJ	0.66UJ	0.67UJ	0.67UJ	0.63UJ	0.78UJ	0.65UJ	0.66U	0.67UJ	0.67UJ	0.67U
Barium	57.4	10.6J	3.6J	22J	7.4J	2.3J	1.2J	8.7J	4.1J	1.9J	8.4J	1.4J	1.1J	0.66U	11.3J	6.7J	4.8J	2J
Beryllium	0.13U	0.04U	0.04U	0.16U	0.04U	0.04U	0.04U	0.04U	0.04U	0.04U	0.05U	0.04U	0.05U	0.04U	0.07U	0.04U	0.04U	0.04U
Cadmium	49.4J	13.9J	0.78J	562	66.5	10.5	28.2	3.2J	0.19UJ	0.06UJ	2.1J	0.06UJ	0.07UJ	0.06UJ	15.5	11.3J	4.6J	1.8
Calcium	22100	2040	643J	25100	2770J	141J	142J	11800	339J	566J	2850	129U	372J	88U	65600J	2830	237J	137J
Chromium	25	10.8	1.7J	70.8	8.4J	2.2	2.8J	15.3	3.6	2.5	15.2	1.5J	2.2J	1.3J	17.7J	8.1	5.7	5.3J
Cobalt	8.8J	0.41J	0.12U	1.9J	0.46J	0.13J	0.12U	0.21J	0.12U	0.16J	0.32J	0.12U	0.15U	0.12U	0.79J	0.2J	0.14J	0.13U
Copper	370J	133J	3.3J	516	26.8	3.9J	29.7	45J	1.6UJ	1.2UJ	5.5J	0.4UJ	0.6UJ	0.29UJ	54.8	6.3J	5.1J	5.6
Cyanide (CN)	0.53U	0.52U	0.52U	0.78	0.53U	0.52U	0.52U	0.56U	0.53U	0.53U	0.54U	0.51U	0.61U	0.52U	0.54U	0.53U	0.53U	0.53U
Iron	15700	3040	419	20800	3540J	1210	630J	2050	913	437	3910	857	636	322	3540J	1320	651	767J
Lead	341	74	5.2	198	36J	7.9	5.1J	131	7.7	2.9	75	2.5U	1.9U	1.6U	55.7J	7.7	1.8U	0.82J
Magnesium	1430	58.7U	24.2U	383J	89.7J	25.5U	20U	248J	53.2U	30.3U	162J	42.6U	34.5U	14.8U	479J	51.8U	31.1U	15.9U
Manganese	182	29.5	4.2	272	37.6J	11.3	6.7J	36.2	5.5	8.6	32.9	8.5	7.2	4	85.7J	22.2	8.5	3.7J
Mercury	1.1	1.7	0.1U	0.1	0.11U	0.1U	0.1U	0.11U	0.09U	0.09U	0.1U	0.09U	0.12U	0.09U	0.11U	0.1U	0.1U	0.11U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	17.7	6.5J	0.4J	25.7	3.5J	0.61J	0.6J	0.31U	0.33J	0.29U	0.72J	0.28U	0.34U	0.28U	2J	0.81J	0.79J	0.45J
Potassium	179J	26.9U	31.3J	157J	66.2J	31.2J	34.4J	91.7J	42.1U	33.8U	87.3J	33.8U	29.7U	24.8U	99.3J	48.9U	32.9U	25.5U
Selenium	0.94U	0.89U	0.91U	0.95U	0.9U	0.9U	0.91U	0.97U	0.91U	0.92U	0.92U	0.87U	1.1U	0.89U	1.2U	0.92U	0.92U	0.93U
Silver	0.11U	0.12J	0.1U	0.11U	0.1U	0.1U	0.1U	0.11U	0.1U	0.1U	0.1U	0.1U	0.12U	0.1U	0.1U	0.1U	0.11U	0.11U
Sodium	490U	181U	225J	500J	177U	172U	191U	229U	162U	183U	160U	151U	161U	147U	799J	186U	150U	190U
Thallium	0.96UJ	0.91UJ	0.93U	0.97U	0.92U	0.92U	0.93U	0.99UJ	0.93UJ	0.94UJ	0.94UJ	0.89UJ	1.1UJ	0.91UJ	0.93U	0.94UJ	0.95UJ	0.95U
Vanadium	5.5J	1J	0.46J	17	5.8J	2J	0.6U	4.5J	1.1J	0.61J	10J	0.86J	0.67J	0.34J	7.5J	2.4J	0.82J	0.53U
Zinc	680	136	13.4J	619	89.7	9.7	17	65.7	5.1	3.8J	34.4	4.8	2.8J	2.1U	194	94.6	28.8	12.3

SHORT ID	0120014				0120015				0120016				0250001			0250002	
SAMPLE ID	*012S001401*	*012S001405*	*012S001410*	*012S001412*	*012S001501*	*012S001505*	*012S001510*	*012S001512*	*012S001601*	*012S001605*	*012S001610*	*012S001612*	*025S000100*	*025S000101*	*025S000108*	*025S000202*	*025S000204*
SAMPLE DATE	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*6/11/1993*	*6/11/1993*	*6/11/1993*	*6/14/1993*	*6/14/1993*
METAL																	
Aluminum	16100J	2810J	724J	291J	15300J	1700J	2730J	2970J	324J	1850J	14800J	510J	1890	1910	2410	2150J	1720
Antimony	0.41UJ	0.4UJ	0.39UJ	0.39UJ	1.1J	0.38UJ	0.4UJ	0.41UJ	0.4UJ	0.39UJ	11.4J	0.39UJ	9.3U	9.3U	9.7U	7.4U	9.5U
Arsenic	2.1J	0.89J	0.66U	0.66U	1.4J	0.65U	0.68U	0.7U	0.67U	0.66U	4.7	0.66U	0.61U	0.72	0.63U	0.61U	0.62U
Barium	19J	42.6	1.7J	0.57J	29.7J	89.1	3.8J	4.8J	2.1J	3.4J	28.7J	0.77J	5.1	3.1	3.6	2.8	1.9
Beryllium	0.1U	0.06U	0.04U	0.04U	0.43J	0.08U	0.04U	0.04U	0.04U	0.04U	0.27U	0.04U	0.41U	0.4U	0.42U	0.2U	0.41U
Cadmium	0.33U	1.3	0.06U	0.06U	4.5	0.2U	0.06U	1.8	0.06U	2.4	243	0.06U	1U	1U	1.1U	1U	1U
Calcium	6240J	14800J	526J	326J	30100J	3890J	105J	499J	175J	817J	55800J	82.1J	319	3260	175	267	124
Chromium	18.2J	7.3J	2J	1.7J	32.6	2.2J	4.5J	4J	1.1J	2.2J	203J	1.4J	3.1	2	2.1U	1.6U	2.1U
Cobalt	1.2J	1.1J	0.14J	0.12U	1J	0.23J	0.2J	0.3J	0.13U	0.24J	3.7J	0.13J	1.8U	1.8U	1.9U	1.6U	1.9U
Copper	12.2	34.4	1.6J	0.74U	37.3	1.8J	2.2J	5.4J	0.6U	4.9J	515	0.64U	5.1U	5U	5.3U	0.83	5.1U
Cyanide (CN)	0.55U	0.54U	0.52U	0.52U	0.54U	0.51U	0.54U	2.2	1.1	0.52U	0.52U	3.9	0.51U	0.5U	0.53U	0.51U	0.51U
Iron	8030J	2520J	240J	210J	9220J	1260J	532J	1230J	399J	1450J	42600J	161J	1380	1330	1640	1430J	1250
Lead	20.3J	77.7J	2.9J	1J	275	44.9J	16.5J	42.3J	6.7J	10.6J	883J	0.65J	22.7	8.6	1.4	4.5J	0.88
Magnesium	228J	1260	51.9J	22.6U	2180	469J	48.9J	116J	32.6J	73.6J	811J	25.2U	96.6U	109	163	91.8J	97.9U
Manganese	390J	45.4J	10.3J	5.7J	110J	19.9J	3.8J	11.1J	2.2J	16.2J	375J	1.5J	14.1U	25U	5.3U	4.2	2U
Mercury	0.11U	1.8	0.1U	0.08U	0.26	0.1U	0.11U	0.1U	0.53	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.1U	0.1U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	2.8J	5.6J	0.3J	0.29U	4.7J	0.43J	0.45J	0.84J	0.29U	0.71J	50.7	0.29U	6.3U	6.2U	6.5U	3.5U	6.6U
Potassium	170J	191J	39.6J	20.6U	511J	138J	62.1J	88.1J	36.3J	46.7J	277J	29.9J	453U	451U	471U	277U	460U
Selenium	0.95U	0.93U	0.91U	0.9U	0.94U	0.89U	0.97U	0.96U	0.92U	0.91U	2.6U	0.91U	0.61U	0.6U	0.63U	0.61U	0.62U
Silver	0.11U	0.11U	0.1U	0.1U	0.11U	0.1U	0.11U	0.11U	0.1U	0.1U	0.1U	0.1U	2U	2U	2.1U	1.4U	2.1U
Sodium	249J	135U	246J	170U	325J	229U	194U	219U	230U	163U	746J	182U	26.2U	38.9U	33.5U	51.4U	29.3
Thallium	0.98U	0.95U	0.93U	0.92U	0.96U	0.91U	0.96U	0.98U	0.94U	0.93U	0.93U	0.93U	0.81U	0.81U	0.84U	0.82U	0.82U
Vanadium	21.9	5.4J	0.53U	0.3U	20.4	2.2J	0.81J	3.1J	0.44U	2.8J	14.7	0.41U	3.3	3.4	3.7U	2.9	2.7
Zinc	29.4	71.8	3.9J	1.8J	138	13.6	3.4J	8.6	4.1J	11.1	854	3.9J	11.8	5.4	4.8	3	2.5

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0250003								0250004							0250005		
SAMPLE ID	*025S000301*	*025S000302*	*025S000304*	*025S000306*	*025S000308*	*025S000310*	*025S000312*	*025S000314*	*025S000402*	*025S000404*	*025S000406*	*025S000408*	*025S000410*	*025S000412*	*025S000414*	*025S000502*	*025S000504*	*025S000506*
SAMPLE DATE	*6/29/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/6/1993*	*7/6/1993*	*7/6/1993*
METAL																		
Aluminum	2510	2200	1800	2220	793	455	140	277	1320	1530	2960UJ	1630UJ	576UJ	201UJ	51.7	5450	2390	1330
Antimony	9.3UJ	9.3UJ	9.2UJ	9.3UJ	9.3UJ	9.2UJ	9.4U	9.2U	9.6UJ	9.5UJ	9.6UJ	9.5UJ	9.4UJ	9.3UJ	9.9UJ	9.5UJ	9.5UJ	9.6UJ
Arsenic	0.83U	0.82U	0.82U	0.83U	0.82U	0.82U	0.83U	0.82U	0.85U	0.84U	0.85U	0.85U	0.83U	0.83U	0.88UJ	1.2	0.84U	0.85U
Barium	2	1.9	1.9	3.4	1.6	0.99	0.42U	0.69	3.4	2.2	4.6	3.2	1.1	0.66	0.44U	7.7	4	2.2
Beryllium	0.83U	0.82U	0.82U	0.83U	0.82U	0.82U	0.83U	0.82U	0.85U	0.84U	0.85U	0.85U	0.83U	0.83U	0.88U	0.85U	0.84U	0.85U
Cadmium	1UJ	1UJ	1UJ	1UJ	1UJ	1UJ	1U	1U	1.1U	1.1U	1.1U	1.1U	1U	1U	1.1U	1.1UJ	1.1UJ	1.1UJ
Calcium	185	57.4	30.2	32.4	22.8U	51.7	89.5	62.5	343	133	154	102	48	31.5	24.5U	345	182	167
Chromium	2.2	2.2	2.1U	2.1U	2.1U	2.1	2.1U	2U	2.1U	2.1U	2.5	4.4	5.3	4	2.4	4.5	2.1U	2.1U
Cobalt	1.9U	1.9U	1.8U	1.9U	1.9U	1.8U	1.9U	1.8U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	2U	1.9U	1.9U	1.9U
Copper	3.1	3.1U	3.1	3.1U	3.1U	3.1U	3.1	3.1U	3.2U	3.2U	3.2U	3.2U	3.1U	3.1U	3.3U	3.2	3.2U	3.2U
Cyanide (CN)	0.52U	0.51U	0.51U	0.52U	0.51U	0.51U	0.52U	0.51U	0.53U	0.53U	0.53U	0.53U	0.52U	0.52U	0.55U	0.53UJ	0.53UJ	0.53UJ
Iron	1760	1610	1430	1680	658	416	216	219	1250	1360	2070	1260	525	299	118	3010	1640	1260
Lead	1.1	0.8	0.87	0.82	0.56	0.41U	0.42U	0.41U	2.4	0.85	1.3	1	0.62	0.5	0.54	16.2	1	1.1
Magnesium	88.2	75.8U	75.6U	99.1	75.7U	75.3U	76.5U	75.3U	78.5U	82.3	166	90.2	76.7U	76.3U	81.2U	152	133	83
Manganese	4.4U	4U	4.1U	5.9U	4U	3.5U	1.2U	1.2U	2.8U	2.2U	9.4	11.4	6.1	5.3	2.4	17.7U	6.3U	5.7U
Mercury	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.11U	0.11U	0.11U	0.1U	0.1U	0.11U	0.11U	0.11U	0.11U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	7.2U	7.2U	7.2U	7.2	7.2U	7.2U	7.3U	7.2U	7.5U	7.4U	7.5U	7.4U	7.3U	7.3U	7.7U	7.4U	7.4U	7.5U
Potassium	472U	470U	469U	471U	470U	467U	475U	467U	487U	482U	488U	484U	476U	474U	504U	484U	482U	487U
Selenium	0.62U	0.62U	0.62U	0.62U	0.62U	0.61U	0.62U	0.61U	0.64U	0.63U	0.64U	0.64U	0.62U	0.62U	0.66U	0.64U	0.63U	0.64U
Silver	0.83U	0.82U	0.82U	0.83U	0.82U	0.82U	0.83U	0.82U	0.85U	0.84U	0.85U	0.85U	0.83U	0.83U	0.88U	0.85U	0.84U	0.85U
Sodium	150U	143U	97.2U	148U	141U	90.2U	98.6U	108U	101U	99.4U	97U	107U	97.8U	97.2U	94.8U	159	112	113
Thallium	0.62U	0.62U	0.62U	0.62U	0.62U	0.61U	0.62U	0.61U	0.64U	0.63U	0.64U	0.64U	0.62U	0.62U	0.66U	0.64U	0.63U	0.64U
Vanadium	4.1	3	2.8	3	2.1U	2U	2.1U	2U	2.3	2.3	3.7	2.1U	2.1U	2.1U	2.2U	7.2	3.5	2.1U
Zinc	14.6	8.6	4	5.9	2.9	38	3.3	12.5	2U	2.3U	5.3	3.1	1.7	1U	1.1U	20.9	5.1U	4.4U

SHORT ID	0250007			0250008	0250009							
SAMPLE ID	*025S000702*	*025S000704*	*025S000706*	*025S000857*	*025S000900*	*025S000902*	*025S000904*	*025S000906*	*025S000908*	*025S000910*	*025S000912*	*025S000914*
SAMPLE DATE	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/20/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*
METAL												
Aluminum	1870	1730	1330	7560	15300	1950	1580	1920	1240	513	374	328
Antimony	7.3U	7.2U	7.2U	9.3U	9.8U	7.2U	7.3U	9.3U	7.2U	7.2U	7.2U	7.4U
Arsenic	0.83U	0.82U	0.83U	8.4	2.1J	0.82U	0.83U	0.83UJ	0.82U	0.82U	0.83U	0.84U
Barium	1.6	1.8	2.2	11.7	4.5	1.8	1.9	2.9	2	1	1	0.69
Beryllium	0.21U	0.2U	0.21U	1.3U	0.87U	0.21U	0.21U	0.83U	0.21U	0.21U	0.21U	0.21U
Cadmium	0.62U	0.61U	0.62U	0.8U	1.1U	0.62U	0.62U	1U	0.62U	0.62U	0.62U	0.63U
Calcium	20.1	19.7	21.4	9230	3420	52.7	40.6	51.9U	23.5	16.6	22.8	25.9
Chromium	2.5	2.7	2.2	28.4	10.3	1.9	1.7U	2.1U	1.6U	1.6U	1.7U	1.7U
Cobalt	1.9U	1.8U	1.9U	2.4U	2U	1.9U	1.9U	1.9U	1.8U	1.9U	1.9U	1.9U
Copper	0.91	1.1	1.1	5.8U	3.3U	1.2	1	3.1U	1	0.96	0.83U	0.92
Cyanide (CN)	0.52U	0.51U	0.52U	0.66U	0.54U	0.51U	0.52U	0.52U	0.51U	0.51U	0.52U	0.53U
Iron	1400	1370J	1050J	12600	8280	1480J	1390J	1430	963J	372J	338J	282J
Lead	0.89	0.82	0.77	1.2	2.7	0.76	0.88	1.3	0.59	0.41U	0.41U	0.42U
Magnesium	64.6	62.7	67.5	835	106	64.1	52.2	104	44.3	27	19.9	21.8
Manganese	3.1	3.6	3.9	71.8	20.6	3.3	3.5	3.8U	3.6	3.1	4.7	3.1
Mercury	0.1U	0.1U	0.1U	0.13U	0.23	0.1U	0.1U	0.14	0.1U	0.1U	0.1U	0.11U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	3.7U	3.7U	3.7U	5.4	7.6U	3.7U	3.7U	7.2U	3.7U	3.7U	3.7U	3.8U
Potassium	264U	259U	263U	592U	496U	261U	263U	471U	261U	261U	262U	268U
Selenium	0.62U	0.61U	0.62U	0.8U	0.65UJ	0.62U	0.62U	0.62U	0.62U	0.62U	0.62U	0.63U
Silver	0.83U	0.82U	0.83U	1.1U	0.87U	0.82U	0.83U	0.83U	0.82U	0.82U	0.83U	0.84U
Sodium	31U	25.1U	30.5	157	62.9	28.7	29	36.2	28.9	27.4	29.6	28.6
Thallium	0.62U	0.61U	0.62U	0.8U	0.65U	0.62U	0.62U	0.62U	0.62U	0.62U	0.62U	0.63U
Vanadium	3.2	2.9	2.1	38.9U	20.4	3	2.6	2.4	1.8	1.2U	1.2U	1.3U
Zinc	3.9U	3.7	4.6	25.1	6	4.8	5.9	3.7U	4.2	2.6	2.4	2.9

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID					0250010					0250011			
SAMPLE ID	*025S001001*	*025S001002*	*025S001004*	*025S001006*	*025S001008*	*025S001010*	*025S001012*	*025S001014*	*025S001016*	*025S001101*	*025S001102*	*025S001104*	*025S001106*
SAMPLE DATE	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/16/1993*	*7/16/1993*	*7/16/1993*	*7/16/1993*
METAL													
Aluminum	NS	2260	1940	1190	380	249	249	57.1	38.6U	1880	1730	2410	1370
Antimony	NS	7.4U	9.4U	9.4U	9.4U	9.4U	9.3U	9.2U	10.5U	7.4UJ	7.5U	7.4U	7.4U
Arsenic	NS	0.85U	0.84UJ	0.84UJ	0.83UJ	0.83UJ	0.83UJ	0.81UJ	0.93UJ	0.84U	0.86UJ	0.85UJ	0.85U
Barium	NS	2	2.4	1.6	0.42U	0.42U	0.42U	0.41U	0.47U	4.7	1.7	3.6	2.4
Beryllium	NS	0.21U	0.84U	0.84U	0.83U	0.83U	0.83U	0.81U	0.93U	0.21U	0.21U	0.21U	0.21U
Cadmium	NS	0.64U	1U	1U	1U	1U	1U	1U	1.2U	9.1	0.64U	0.64U	0.64U
Calcium	NS	161	99.2U	67U	30.5U	27.8U	25.5U	54.8U	33.3U	138	115	41.9	40.5
Chromium	NS	1.7	2.4	3.2	2.1U	2.7	2.1U	2U	2.3U	8.9	1.8	2.5	2.3
Cobalt	NS	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.8U	2.1U	1.9U	1.9U	1.9U	1.9U
Copper	NS	0.85U	3.1U	3.1U	3.1U	3.1U	3.1U	3.1U	3.5U	2.3	0.92	0.91U	0.85U
Cyanide (CN)	0.5U	0.53U	0.52U	0.52U	0.52U	0.52U	0.52U	0.51U	0.58U	0.53U	0.54U	0.53U	0.53U
Iron	NS	1510	1440	913	342	327	210	84.8	139	1480	1290	1440	966
Lead	NS	1.1	1.2	0.81	0.42U	0.44	0.42U	0.44U	0.47U	3	1.3	1.2	0.84
Magnesium	NS	85.7U	83.6	77.1U	76.7U	76.6U	76.4U	74.9U	85.6U	72.1	51.4U	120	63U
Manganese	NS	4.2	3.8	3.7	3.8	3.2	0.83U	0.81U	0.93U	3.4	1.9U	4.7U	3.2
Mercury	NS	0.11U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.12	0.11U	0.11U	0.11U	0.11U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	NS	3.8U	7.3U	7.3U	7.3U	7.3U	7.3U	7.1U	8.1U	3.8U	3.9U	3.8U	3.8U
Potassium	NS	270U	478U	478U	476U	475U	474U	465U	531U	268U	273U	270U	270U
Selenium	NS	0.64U	0.63UJ	0.63UJ	0.63U	0.62UJ	0.62UJ	0.61UJ	0.7UJ	0.63U	0.64U	0.64U	0.64U
Silver	NS	0.85U	0.84U	0.84U	0.83U	0.83U	0.83U	0.81U	0.93U	0.84U	0.86U	0.85U	0.85U
Sodium	NS	42.8	35.1	38.2	37.1	29.7	36.2	40.1	42.9	34.7	45.9	36.8	40U
Thallium	NS	0.64U	0.63U	0.63U	0.63U	0.62U	0.62U	0.61U	0.7U	0.63U	0.64U	0.64U	0.64U
Vanadium	NS	3U	2.6	2.1U	2.1U	2.1U	2.1U	2U	2.3U	3J	2.1U	3.3U	1.7U
Zinc	NS	3.5U	2.9U	2.7U	1.9U	2.2	3.2	2	4	32.7	7.8	5	4.5

SHORT ID				0250012					0250013		0250014	0250015		0250016			0250017		
SAMPLE ID	*025S001202*	*025S001204*	*025S001206*	*025S001208*	*025S001210*	*025S001212*	*025S001214*	*025S001302*	*025S001304*	*025S001306*	*025S001456*	*025S001500*	*025S001600*	*025S001601*	*025S001602*	*025S001700*	*025S001701*	*025S001702*	*025S001704*
SAMPLE DATE	*7/20/1993*	*7/20/1993*	*7/20/1993*	*7/20/1993*	*7/21/1993*	*7/21/1993*	*7/21/1993*	*7/22/1993*	*7/22/1993*	*7/22/1993*	*7/22/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*
METAL																			
Aluminum	2240	1610	1460	828	714	258	334	2690	1730	835	2510	9270	4490	3480	2330	7130	1230	2400	1930
Antimony	7.5U	7.5U	7.7U	9.2U	7.6U	7.5U	7.4U	8U	7.2U	7.5U	9U	10.7UJ	11.1UJ	9.7U	9.3U	10.9UJ	9.6U	9.4U	9.4U
Arsenic	0.86U	0.85U	0.87U	1.1U	0.87U	0.86U	0.84U	0.91U	0.83U	0.86U	4	4.5	2.1	1.8	0.89	4.1	0.85U	1.1	1.1
Barium	4.5	1.9	2.2	1.7	1.3	0.43U	0.69	21.1	2.5	1.1	3.8	88	24.8	20.8	6.1	52.8	4.4	4	3.5
Beryllium	0.21U	0.21U	0.22U	0.26U	0.22U	0.21U	0.21U	0.23U	0.21U	0.21U	0.26U	0.95U	0.99U	0.86U	0.83U	1	0.85U	0.84U	0.84U
Cadmium	0.64U	0.64U	0.66U	0.79U	0.65U	0.64U	0.63U	0.68U	0.62U	0.64U	0.77U	34.6	27.9U	13.1	8.7	31.7	1.1U	1U	1U
Calcium	211	127	121	112	91.9	41	35.3U	945	101	71	352	5850	15300	6730	3560	12900	300	145	142U
Chromium	3.3	1.7U	2.4	2.8	2	2	2.6	3.5	2.1	1.7U	7.8	234	57.8J	21.4	9.4	201J	2.1U	2.1U	2.1U
Cobalt	1.9U	1.9U	2U	2.4U	1.9U	1.9U	1.9U	2.1U	1.9U	1.9U	2.3U	12.3	2.2U	1.9U	1.9U	9.6	1.9U	1.9U	1.9U
Copper	1.1U	0.97U	0.99U	1.5U	1.2U	0.86U	0.84U	2.9	0.83U	0.86U	3	253	44.5	29.8	20.1	204	3.2U	3.1U	3.1U
Cyanide (CN)	0.54U	0.53U	0.55U	0.66U	0.54U	0.54U	0.53U	0.57U	0.52U	0.53U	0.64U	0.6U	0.62U	0.54U	0.52U	1.3U	0.53U	0.52U	0.52U
Iron	1590	1320	1160	702	599	182	358	1790	1260	657	3500	17300	5300	3520	2680	27400	1390	1510	1510
Lead	3.1	1.7	1.1	0.95	1	0.43	0.48	29.2	0.84	0.49	1.3	1840	717	128J	43.9J	904	13.6J	2.7	3.2J
Magnesium	70.8U	58.7U	73.5U	44.7U	33.5U	10.3U	12.1	237	94.5	33.9	169	1550	541	293	143	1660	78.4U	1.1	79.5
Manganese	3.9	3.2U	3.6U	5.2	4.3U	1.7	1.9	16.2	4.3	2.6	18	288	80.7	57.1	41.9	359	19.4	8.4	4.6
Mercury	0.11U	0.11U	0.11U	0.13U	0.11U	0.11U	0.11U	0.11U	0.1U	0.11U	0.13U	0.54	0.6	0.34	0.1U	3.7	0.11U	0.1U	0.1U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	3.9U	3.8U	3.9U	4.8U	3.9U	3.9U	3.8U	4.1U	3.7U	3.9U	4.6U	45.1	10.4	7.5U	7.3U	46.3	7.5U	7.3U	7.3U
Potassium	273U	271U	278U	336U	275U	272U	268U	289U	263U	272U	326U	642	565U	492U	473U	553U	486U	479U	477U
Selenium	0.64U	0.64U	0.66U	0.79U	0.65U	0.64U	0.63U	0.68U	0.62U	0.64U	0.77U	0.71UJ	0.74UJ	0.65U	0.62U	0.73UJ	0.64U	0.36U	0.63U
Silver	0.86U	0.85U	0.87U	1.1U	0.87U	0.86U	0.84U	0.91U	0.83U	0.86U	1U	45.5	4.5U	0.87	0.83U	23.3	0.85U	0.84U	0.84U
Sodium	45.9U	35U	42.1U	48.6U	40.6U	131	46.7	48.9	42.8	51.7	61.6	94.1	129U	72.7U	42.1U	155	23.2U	34.9	22.8U
Thallium	0.64U	0.64U	0.66U	0.79U	0.65U	0.64U	0.63U	0.68U	0.62U	0.64U	0.77U	0.71U	0.74UJ	0.65U	0.62U	0.73UJ	0.64U	0.63U	0.63U
Vanadium	3.1U	2U	1.8U	1.6U	1.3U	1.3U	1.3U	4	2.6	1.3U	12	21.4	8.2	6.2	3.7	12.3	2.7	3.3	3
Zinc	3U	2U	2.8U	2U	1.8U	1.1	1.7	25.4	2.6	2.5	8.6	2010	947	595	658	4360	222	192	132

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0250018	0250019				0270001									
SAMPLE ID	*0255S001800*	*0255S001900*	*0255S001901*	*0255S001902*	*0255S001904*	*027S000100*	*027S000101*	*027S000104*	*027S000106*	*027S000108*	*027S000110*	*027S000112*	*027S000114*	*027S000116*	*027S000118*
SAMPLE DATE	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*
METAL															
Aluminum	5400	1860	2320	3600	2010	5990	3840	3010	1950	1400	865	599	115	1040	1010
Antimony	10.2U	9.7U	9.4UJ	9.9U	9.5U	9.5R	9.9UR	9.5UR	9.6UR	9.5UR	9.5UR	9.6UR	9.5UR	9.6UR	11UR
Arsenic	0.9U	1	1.2	1.1	3.3	1.4	2.8	1.2	1.3	0.85	0.65	0.65	0.62U	0.81	0.82
Barium	7.1	6.6	4.7	29	12.5	8.5	35.8	3.2	2.7	2	1.5	1.2	1U	2.1	2.2
Beryllium	0.9U	0.86U	0.83U	0.88U	0.84U	0.41U	0.43U	0.41U	0.42U	0.41U	0.41U	0.42U	0.41U	0.42U	0.48U
Cadmium	1.4	3.4	1.7U	6.2	2.4	1U	2.7	1U	1U	1U	1U	1U	1U	1U	1.2U
Calcium	528	1230	600	17600	505	510	2000	112	55.3	32.3U	32.1U	32.7U	32.3U	39.4	73.9
Chromium	6.7	10.7	5.4J	34.7	3.3	5	12.3	2.4	2.2	2.4	2.1U	2.1U	2.1U	2.1U	2.4U
Cobalt	2U	1.9U	1.9U	2.8	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	2.1U
Copper	88.8	33.7	10.8U	42.8	3.2U	5.1U	6.1	5.2U	5.2U	5.2U	5.1U	5.2U	5.2U	5.2U	6U
Cyanide (CN)	0.57U	0.54U	0.52U	0.55U	0.53U	0.51U	0.54U	0.52U	0.52U	0.52U	0.51U	0.52U	0.52U	0.52U	0.6U
Iron	2000	1740	1550	3810	1850	3170J	2780J	1950J	1660	1510	913J	693	51.6	1220	683
Lead	20.5J	73.9J	31.6	96.8J	27.8J	7.3	263J	1.1J	1	0.97	0.44	0.7	0.72	31.2	0.71
Magnesium	201	134	128	1430	77.3U	151	208	146	99.3U	98.4U	97.9U	99.8U	98.7U	99.2U	114U
Manganese	14.5	27.3	14.3	47.8	13.7	96.9J	132J	6.1J	6.2	3.8	3.3J	2.1	1.5	24.4	4.7
Mercury	0.41	0.2	0.1U	0.58	0.14	0.1U	0.16	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.12U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	7.9U	7.5U	7.3U	10.3	7.4U	6.4U	6.7U	6.4U	6.5U	6.4U	6.4U	6.5U	6.4U	6.5U	7.4U
Potassium	517U	490U	476U	503U	480U	460U	480U	462U	466U	462U	460U	469U	463U	466U	533U
Selenium	0.68U	0.64U	0.63UJ	0.66U	0.63U	0.62U	0.64U	0.62U	0.63U	0.62U	0.62U	0.63U	0.62U	0.62U	0.72U
Silver	0.9U	4	1.7	3.3	0.84U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.4U
Sodium	25.4U	34.3U	32.1	112U	22.9U	66.2	90.7U	80.7U	73.9U	61.8U	64.4U	95.3U	77.1U	71.8U	79.9U
Thallium	0.68U	0.64U	0.63UJ	0.66U	0.63U	0.82U	0.86U	0.83U	0.83U	0.83U	0.82U	0.84U	0.83U	0.83U	0.95U
Vanadium	3.6	3.5	4	6.8	3	9.7	7.6	5.2	3.1	2.5	1.4U	1.6	1.5U	1.5U	1.7U
Zinc	261	941	517	858	642	12	211	6.4	7.8	4.3	4.1U	6.4	3.5	4.8	2.6

SHORT ID	0270002									0270003								
SAMPLE ID	*027S000201*	*027S000202*	*027S000204*	*027S000206*	*027S000208*	*027S000210*	*027S000212*	*027S000214*	*027S000216*	*027S000301*	*027S000302*	*027S000304*	*027S000306*	*027S000308*	*027S000310*	*027S000312*	*027S000314*	*027S000316*
SAMPLE DATE	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*
METAL																		
Aluminum	1520	2000	1900	2610	2360	475	617	212	218	176	1910	2780	1150	1050	671	1190	235	160
Antimony	9.3UJ	9.2UR	9.5UR	9.6UR	9.6UJ	9.6UJ	9.5UJ	9.5UJ	9.7U	9.7U	9.4U	9.5U	9.6U	9.6U	9.6U	9.7U	9.6U	9.6U
Arsenic	0.61U	0.99	0.93	0.93	0.93	0.62U	0.62U	0.62U	0.64UJ	0.63U	0.61U	0.62U	0.63U	0.63U	0.62U	0.63U	0.62U	0.77
Barium	2.2	3.3	2	3.2	3.6	1U	1.3	1U	1.1U	1.1U	3.7	3.1	1.7	1.7	1.1	2	1U	1U
Beryllium	0.4U	0.4U	0.41U	0.42U	0.42U	0.42U	0.41U	0.41U	0.42U	0.42U	0.41U	0.41U	0.42U	0.42U	0.42U	0.42U	0.42U	0.42U
Cadmium	1U	1U	1U	1U	1U	1U	1U	1U	1.1U	1.1U	1.1	1U	1U	1U	1U	1.1U	1U	1U
Calcium	142	178	92.2	92.5	106	32.4U	32.2U	32.2U	33.1U	39.1	257	115	83.4	82.6	33.5	73.6	32.4U	32.7U
Chromium	2.2J	3.2	2.1U	2.3	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2U	2.5	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U
Cobalt	1.8U	1.8U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.8U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U
Copper	5.1U	5U	5.2U	5.2U	5.2U	5.2U	5.2U	5.2U	5.3U	5.3U	11.5	5.2U	5.2U	5.2U	5.2U	5.3U	5.2U	5.2U
Cyanide (CN)	0.51U	0.5U	NS	0.52U	0.52U	0.52U	0.52U	0.52U	0.53U	0.53U	0.51U	0.52U	0.52U	0.52U	0.52U	0.53U	0.52U	0.52U
Iron	750	1100	1450	1610	1700	443	321	118	174	141	1400	1750	1070	774	520	905	191	157
Lead	31.1J	0.87	1.3	1.5	1.2J	0.52J	0.41U	0.41U	0.42U	0.74	6.5	1.1	0.91	0.66	0.47	1.2	0.8	0.42U
Magnesium	96.2U	95.7U	98.1U	135	129	98.9U	98.3U	98.2U	101U	100U	97.5U	116	99.8U	99.3U	99.2U	101U	99U	99.7U
Manganese	4.3	9.9	4.1	8	4.8	4.4	4.4	1.2U	1.3U	1.5U	4.8	5	2.3	4.7	4.8	9.1	1.2U	1.3U
Mercury	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.11U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.1U	0.1U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	6.3U	6.2U	6.4U	6.5U	6.4U	6.4U	6.4U	6.4U	6.6U	6.5U	6.4U	6.4U	6.5U	6.5U	6.5U	6.6U	6.4U	6.5U
Potassium	452U	449U	461U	466U	465U	464U	462U	461U	474U	470U	458U	462U	469U	466U	466U	473U	465U	468U
Selenium	0.61UR	0.6U	0.62U	0.63U	0.62UR	0.62UR	0.62UR	0.62UR	0.64UR	0.63U	0.61U	0.62U	0.63UR	0.63U	0.62U	0.63UR	0.62UR	0.63U
Silver	2U	2U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U
Sodium	73.1	102U	93.6	88.3U	97.3	80.1	63.9	52.2	71	88.9U	85.9	85.1U	71	125U	80.3U	74.9	49.1	88U
Thallium	0.81U	0.8U	0.82U	0.83U	0.83U	0.83U	0.83U	0.83U	0.85U	0.84U	0.82U	0.83U	0.84U	0.83U	0.83U	0.85U	0.83U	0.84U
Vanadium	1.9	3	3	4	3.5	1.5U	1.4U	1.4U	1.5U	1.5U	3U	3.5	1.5U	1.5U	1.5U	1.5U	1.5U	1.5U
Zinc	6.6	9.2	19.9	11.1	9.1	2U	2.3	1.9	1.5U	2.5U	53.7	42.3	3.7	8.9	2.9U	2.6	2.5	1.8U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0270004								0270005								
SAMPLE ID	*027S000401*	*027S000402*	*027S000404*	*027S000406*	*027S000408*	*027S000410*	*027S000412*	*027S000414*	*027S000501*	*027S000502*	*027S000504*	*027S000506*	*027S000508*	*027S000510*	*027S000512*	*027S000514*	*027S000516*
SAMPLE DATE	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/8/1993*	*6/8/1993*	*6/2/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*
METAL																	
Aluminum	1130	6800	1700	1390	334	245	205	262	2930	2200	2250	1510	753	322	347	165UJ	169
Antimony	9.4U	9.3U	9.4U	9.9U	9.7U	9.3U	9.6U	9.6U	7.9UJ	7.5UJ	7.3UJ	7.4UJ	8.4UJ	9.5	7.5UJ	7.4U	7.4UJ
Arsenic	0.75	1.5	0.61U	0.65U	0.63U	0.61U	0.63U	0.62U	1.7	0.96	0.95	0.8	0.7U	0.62U	0.62U	6.2U	0.75
Barium	3.1	14.6	3.8	3.5	1.1	1U	1U	1U	6.8	2	2.3	2.7	1.2	1U	0.85	0.41U	0.6
Beryllium	0.41U	0.4U	0.41U	0.43U	0.42U	0.41U	0.42U	0.42U	0.22U	0.21U	0.2U	0.21U	0.23U	0.41U	0.21U	0.21U	0.21U
Cadmium	23.7	12.2	1	1.1U	1.1U	1U	1U	1U	1.1U	1U	1U	1U	1.2U	1U	1U	1U	1U
Calcium	1010	2680	167	86.4	36.6	32.9	32.5U	45.2	489	46.6	36.9	30.1	85.2	32.3U	26.9	22.6	19.9
Chromium	314	120	5.5	2.6	2.1U	2U	6.8	40.6	6.9	1.9	1.7	1.7U	1.9U	2.1U	5.5	1.6U	1.8
Cobalt	1.8U	1.8U	1.8U	1.9U	1.9U	1.8U	1.9U	1.9U	1.8U	1.7U	1.6U	1.7U	1.9U	1.9U	1.7U	1.6U	1.6U
Copper	8.1	35.1	5.1U	5.4U	5.3U	5.1	9.9	5.2U	2.7	0.83U	0.87	0.83U	0.93U	5.2U	1.8	0.82U	0.82U
Cyanide (CN)	0.93	0.53	0.51U	0.54U	0.53U	0.51U	0.52U	0.52U	0.55U	0.52U	0.51U	0.52U	0.58U	0.52U	0.52U	0.52U	0.51U
Iron	1240	7300	1330	1040	250	203	170	218	2200	1500	1510	1190	653	259	788	127	194
Lead	43.6	171	2.2	1.3	0.58	0.7	1.4	4.1	82.5	1.3	1.1	0.93	0.55	0.54	1.3	4.1U	0.57
Magnesium	97U	96.1U	97.1U	103U	101U	96.6U	99.3U	99U	110	86.9	102	92.2	39.9	98.4U	19.6	12.5	12.5
Manganese	13.6	64.4	4.3	3.8	1.3U	1.2U	1.3U	1.2U	17.1	3.5U	4.4U	5.3U	4.8U	5.5U	7.1	3U	2.7U
Mercury	0.56	0.99	0.1U	0.11U	0.11U	0.1U	0.1U	0.1U	0.11U	0.1U	0.1U	0.1U	0.12U	0.1U	0.1U	0.1U	0.1U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	6.3U	6.3U	6.3U	6.7U	6.6U	6.3U	6.5U	6.6	3.7U	3.5U	3.4U	3.5U	4U	6.4U	3.5U	3.5U	3.5U
Potassium	456U	451U	456U	483U	473U	453U	466U	465U	298U	280U	274U	280U	314U	462U	281U	279U	278U
Selenium	0.61UR	0.61UR	0.61UR	0.65UR	0.63UR	0.61UR	0.63UR	0.62UR	0.66U	0.62U	0.61U	0.62U	0.7U	0.62U	0.62U	6.2U	0.62U
Silver	2U	2U	2U	2.2U	2.1U	2U	2.1U	2.1U	1.5U	1.5U	1.4U	1.4U	1.6U	2.1U	1.5U	1.4U	1.4U
Sodium	69.4	77.7	180	81.6	79.9	67.7	70.1	72.8	98.7	96.8	85.1	87.3	99.1	72.3U	85.7U	73.9U	78.5U
Thallium	0.82U	0.81U	0.82U	0.86U	0.85U	0.81U	0.83U	0.83U	0.88U	0.83U	0.81U	0.83U	0.93U	0.83U	0.83U	8.2U	0.82U
Vanadium	2.3	14.6	2.2	1.6	1.5U	1.4U	1.5U	1.5U	5.7	3	3.2	1.9	1.4U	1.4U	1.2U	1.2U	1.2U
Zinc	43.7	145	17.4	8.4	2.9	2.5	8.4	7.5	9.7	3.4	3.7	3.2	3.6	1.8U	6	1.2U	1.1U

SHORT ID	0270006									0270007								
SAMPLE ID	*027S000601*	*027S000602*	*027S000604*	*027S000606*	*027S000608*	*027S000610*	*027S000612*	*027S000614*	*027S000616*	*027S000701*	*027S000702*	*027S000704*	*027S000706*	*027S000708*	*027S000710*	*027S000712*	*027S000714*	*027S000716*
SAMPLE DATE	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*
METAL																		
Aluminum	2300	2360	2180UJ	1300	418	316	290	187	266	13900	4920	1750	2490	1860	784	547	251	79.9
Antimony	9.8UJ	7.5UJ	7.4U	7.5UJ	7.6U	7.5U	7.5U	7.8U	8.6U	9.5U	9.5U	9.6U	9.6U	9.5U	9.6U	9.8U	9.5U	9.8U
Arsenic	2.3	0.97	0.78	0.62U	0.63U	0.62U	0.62U	0.65U	0.72U	1.2	1.2	0.63U	0.63U	0.81	0.62U	0.64U	0.62U	0.64U
Barium	14.9	2.4	2.2	2.5	0.75	0.56	0.52	0.43U	0.86	6.2	6.4	4	3.4	3.2	1.8	1.1	1U	1.1U
Beryllium	0.27U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.22U	0.24U	0.44	0.41U	0.42U	0.42U	0.41U	0.42U	0.42U	0.41U	0.43U
Cadmium	3.2	1U	1U	1U	1.1U	1U	1U	1.1U	1.2U	1U	1U	1U	1U	1U	1U	1.1U	1U	1.1U
Calcium	1440	55.5	34.1	34.9	27U	28.2U	26.6U	49.3	28.1U	337	206	56.3	38.3	32.4U	32.4U	33.1U	32.2U	33.2U
Chromium	23.3	1.9	2.1	1.8	1.7U	1.7U	1.7U	1.7U	4.9	40.5	4.3	2.3	2.5	2.1U	2.1U	3.6	2.1U	2.1U
Cobalt	2.2U	1.7U	1.6U	1.7U	1.7U	1.7U	1.7U	1.7U	1.9U	1.8U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U
Copper	15	0.85	0.98	0.99	0.84U	0.83U	1.3	0.87U	1.5	5.1U	5.1U	5.2U	5.2U	5.2U	5.2U	5.3U	5.2U	5.3U
Cyanide (CN)	0.68U	0.52U	0.51U	0.52U	0.52U	0.52U	0.52U	0.54U	0.6U	0.51U	0.51U	0.52U	0.52U	0.52U	0.52U	0.53U	0.52U	0.53U
Iron	1550	1860	1500	1020	374	302	315	158	611	11800	2800	1100	1540	1200	551	471	151	58.8
Lead	0.68	2	1.4	1.2U	0.79	0.42U	0.56	0.57	0.96	3.6	13.7	4.3	1	1.2	0.54	1.1	0.41U	0.43U
Magnesium	135	93.3	87.3	97	27.5	20.2	16.7	13.3	15.7	105	97.9U	99.3U	120	98.8U	98.9U	101U	98.1U	101U
Manganese	18.1	3.6U	4.1U	5.1U	2.1U	3.6U	3.7U	2.6U	8.3	25.1U	10.1	53.5	4.6U	4.1U	7.1U	6.3U	3U	1.3U
Mercury	0.14U	0.1U	0.1U	0.1U	0.11U	0.1U	0.1U	0.11U	0.12U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.1U	0.11U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	4.6U	3.5U	3.5U	3.5U	3.6U	3.5U	3.5U	3.7U	4.1U	6.4U	6.4U	6.5U	6.5U	6.4U	6.4U	6.6U	6.4U	6.6U
Potassium	367U	282U	278U	280U	284U	281U	281U	294U	323U	459U	460U	466U	469U	464U	464U	475U	461U	476U
Selenium	0.81U	0.63U	0.62U	0.62U	0.63U	0.62U	0.62U	0.65U	0.72U	0.62U	0.62U	0.63U	0.63U	0.62U	0.62U	0.64U	0.62U	0.64U
Silver	1.9U	1.5U	1.4U	1.5U	1.5U	1.5U	1.5U	1.5U	1.7U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U
Sodium	124J	81.8U	67.9U	60.8U	74.4U	71.1U	58.9U	65.9U	84.1U	93.6U	93.1U	83.8U	88.1U	82.4U	89.7U	81.1U	82.7U	78.2U
Thallium	1.1U	0.84U	0.82U	0.83U	0.84U	0.83U	0.83U	0.87U	0.96U	0.82U	0.82U	0.83U	0.84U	0.83U	0.83U	0.85U	0.82U	0.85U
Vanadium	4.6	3.5	3.1	1.9	1.3U	1.2U	1.2U	1.3U	1.4U	24.1	6.5	2.2	2.7U	2.4	1.5U	1.5U	1.4U	1.5U
Zinc	48.9	3.5U	3.3U	3.1U	1.7U	1.2U	3.1U	1.5U	3.2U	9.5	39.8	4.6U	5.4	4.7U	17.8	26.1	3.3U	5.3U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID					0270008									0270009				
SAMPLE ID	*027S000801*	*027S000802*	*027S000804*	*027S000806*	*027S000808*	*027S000810*	*027S000812*	*027S000814*	*027S000816*	*027S000901*	*027S000902*	*027S000904*	*027S000906*	*027S000908*	*027S000910*	*027S000912*	*027S000914*	*027S000916*
SAMPLE DATE	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*
METAL																		
Aluminum	10800	2530	1790	1630	921	1130	662	870	397UJ	17200	30200	2240	1180	1320	998	489	165	118
Antimony	9.3UJ	10U	9.7UJ	9.5UJ	7.7U	7.7U	7.5U	7.6U	10.8U	7.8U	7.4U	7.8U	7.4U	7.5U	8.5U	7.6U	7.4U	7.9U
Arsenic	2	0.65U	0.64U	0.62U	0.64U	0.65U	0.62U	0.63U	0.7U	3.5	4.4	0.72	0.71	0.64	0.71U	0.64U	0.62U	0.66U
Barium	22	7.8	1.7	2.1	1.7	2.4	1.5	1.5	1.2U	4	13	2.2	2	2	1.9	0.96	0.41U	0.44U
Beryllium	0.4U	0.44U	0.42U	0.41U	0.21U	0.22U	0.21U	0.21U	0.47U	0.22U	0.21U	0.22U	0.21U	0.21U	0.24U	0.21U	0.21U	0.22U
Cadmium	2.6	1.1U	1.1U	1U	1.1U	1.1U	1U	1.1U	1.2U	1.1U	1U	1.1U	1U	1U	1.2U	1.1U	1U	1.1U
Calcium	1050	310	109	101	71	107	112	310	36.5U	42.4	1430	56.5	114	126	115	87.2	35	88
Chromium	10.8	2.2U	2.1U	2.1U	1.7U	2.1	1.7U	2.8	2.3U	12.8	20.1	1.7U	1.6U	1.7U	4.4	2.1	1.7	2
Cobalt	1.8U	2U	1.9U	1.9U	1.7U	1.7U	1.7U	1.7U	2.1U	1.7U	2.7	1.7U	1.6U	1.7U	1.9U	1.7U	1.6U	1.7U
Copper	16.6	5.4U	5.3U	5.2U	0.85U	2.6	0.83U	0.84U	5.9U	4.8	9.7	0.87U	0.82U	0.83U	0.94U	0.85U	0.84	0.87U
Cyanide (CN)	0.5U	0.54U	0.53U	0.52U	0.53U	0.54U	0.52U	0.53U	0.59U	0.54U	0.51U	0.54U	0.51U	0.52U	0.59U	0.53U	0.51U	0.55U
Iron	6190	1550	1160	1230	748	809	443	572	509	9100	13100	1520	1030	980	682	385	154	168
Lead	11.4	11.8	0.96	0.93	0.74	1.1	0.6	0.77	0.69	0.62	0.76	0.6	1.1	1.8	1.3	3.4	0.41U	6.9
Magnesium	143	104U	101U	98.6U	45.8	78	34.1	42.2	111U	63.7	286	83.7	61.3	62.9	50.9	27	12.1U	12.9U
Manganese	636	32.5U	6.3U	6.2U	4	9.8	5.1	13.8	6.3U	13.1	95.4	4	4.5	4.8	7.5	4.8	1.6	1.6
Mercury	0.17	0.11U	0.11U	0.1U	0.11U	0.11U	0.1U	0.11U	0.12U	0.11U	0.1U	0.11U	0.1U	0.1U	0.12U	0.11U	0.1U	0.11U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	7.3U	6.8U	6.6U	6.4U	3.6U	3.7U	3.5U	3.6U	7.3U	3.7U	5.2	3.7U	3.5U	3.5U	4U	3.6U	3.5U	3.7U
Potassium	451U	487U	474U	463U	289U	291U	280U	285U	523U	293U	278U	294U	278U	280U	318U	287U	278U	295U
Selenium	0.6UJ	0.65UJ	0.64UJ	0.62UJ	0.64U	0.65U	0.62U	0.63U	0.7UJ	0.65U	6.2U	0.65U	0.62U	0.62U	0.71U	0.64U	0.62U	0.66U
Silver	2U	2.2U	2.1U	2.1U	1.5U	1.5U	1.4U	1.5U	2.3U	1.5U	1.4U	1.5U	1.4U	1.5U	1.6U	1.5U	1.4U	1.5U
Sodium	93.9U	78.8U	71.6	80.8	66.4	71	65.1U	76.3U	100U	71.5U	91.3U	82.1U	57.8	74.7U	82.6U	76.9U	68.1U	80.5U
Thallium	0.81U	0.87U	0.85U	0.83U	0.85U	0.86U	0.83U	0.84U	0.94U	0.87U	0.82U	0.87U	0.82U	0.83U	0.94U	0.85U	0.82U	0.87U
Vanadium	15.7	3.3	2.6	2.3	1.3U	1.3	1.2U	1.3U	1.6U	24.2	41.9	2.8	1.3	1.6	1.4U	1.3U	1.2U	1.3U
Zinc	35.3	11.4	4.6	4.4	3.2U	2.8U	4.3U	14.7	4.5	5.4	11.6	4U	2.7U	3.3U	3.9U	4.3U	1.9U	4.5U

SHORT ID					0270010									0270011				
SAMPLE ID	*027S001002*	*027S001004*	*027S001006*	*027S001008*	*027S001010*	*027S001012*	*027S001014*	*027S001016*	*027S001018*	*027S001104*	*027S001106*	*027S001108*	*027S001110*	*027S001112*	*027S001114*	*027S001116*	*027S001118*
SAMPLE DATE	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*
METAL																	
Aluminum	1380	2640	2390	2420	610	293	307	400	308	2010	923	1070	464	675	1990	95.6	265
Antimony	10U	9.6U	9.7U	9.6U	9.6U	9.5UJ	9.5U	9.5U	9.6UJ	9.5UJ	9.5UJ	9.6U	9.5U	9.5U	9.5UJ	9.5UJ	9.5UJ
Arsenic	0.65U	0.63U	0.63U	0.64	0.63U	0.62U	0.62U	0.62U	0.63U	0.73	0.62U	0.62U	0.62U	0.62U	0.62U	0.62U	0.62U
Barium	1.1	3.3	2.9	2.9	1U	1U	1U	1U	1U	2.8	1.4	1.5	1U	1.1	2.6	1U	1U
Beryllium	0.43U	0.55	0.42U	0.42U	0.42U	0.41U	0.41U	0.41U	0.42U	0.41U	0.41U	0.42U	0.41U	0.41U	0.41U	0.41U	0.41U
Cadmium	1.1U	1U	1.1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1.5
Calcium	467	142	58.8	144	34.5	34	37.2	43.3	32.6U	139	50.4	32.4U	32.2U	58.2	3250	32.1U	36.9
Chromium	2.2U	3.2	2.4	2.2	2.1U	2.1U	3.1	9.7	2.1U	2.5	2.4	2.5	2.1U	3.9	2.1	2.1U	2.1U
Cobalt	2U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.8U	1.8U	1.8U
Copper	5.4U	5.2U	5.3U	5.2U	5.2U	5.2U	5.2U	5.2U	5.2U	5.2U	5.1U	5.2U	5.2U	5.2U	5.1U	5.1U	5.1U
Cyanide (CN)	0.54U	0.52U	1.6	0.52U	0.52U	0.52U	0.52U	0.52U	0.52U	0.52U	0.51U	0.52U	0.52U	0.52U	0.51U	0.51U	0.51U
Iron	955	1770	1640	1660	692	264	302	1160	315	1530	781	1140	446	466	1340	59.4	290
Lead	0.89	2	7.4	1.3	0.49	0.41U	0.56	2.1	0.42U	2.6	0.73	0.65	0.41U	0.66	2.6	0.41U	0.47
Magnesium	103U	141	117	125	99.5U	98.4U	98.2U	98.7U	99.4U	117	98U	99U	98.3U	98.6U	97.8U	97.8U	97.8U
Manganese	1.3U	5.2U	6.5U	5.1U	5.4	5.4U	1.9U	8.1U	5.5U	6.8U	3.1U	9.3U	3.1U	1.2U	12.9	3.1U	6.1
Mercury	0.11U	0.1U	0.11U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	6.7U	6.5U	6.6U	6.5U	6.5U	6.4U	6.4U	6.4U	6.5U	6.4U	6.4U	6.4U	21.7U	6.4U	7.8U	7.6U	6.4U
Potassium	486U	467U	470U	466U	467U	462U	461U	463U	467U	462U	460U	465U	462U	463U	459U	459U	459U
Selenium	0.65U	0.63U	0.63U	0.62U	0.63U	0.62UJ	0.62U	0.62U	0.63UJ	0.62UJ	0.62UJ	0.62U	0.62U	0.62U	0.62UJ	0.62UJ	0.62UJ
Silver	2.2U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U
Sodium	28U	32.4U	27.1U	28U	27U	75.6U	26.6U	27.4U	73.6U	74.2U	69.9U	85U	70.9U	31.3U	128	66.6U	64.3U
Thallium	0.87U	0.84U	0.84U	0.83U	0.84U	0.83U	0.83U	0.83U	0.84U	0.83U	0.82U	0.83U	0.83U	0.83U	0.82U	0.82U	0.82U
Vanadium	3.9	4.4	3.2	3.7	1.5U	1.4U	1.4U	1.5U	1.5U	3.1	1.7	1.9	1.4U	1.4U	3	1.4U	1.4U
Zinc	0.65U	4	3.9	3.5	1.1	2.2U	1.5	5.7	4U	5.2	2.7U	3.5U	4.8U	2.1	11.3	1.7U	2.4U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID					0270012									0270013				
SAMPLE ID	*027S001202*	*027S001204*	*027S001206*	*027S001208*	*027S001210*	*027S001212*	*027S001214*	*027S001216*	*027S001218*	*027S001302*	*027S001304*	*027S001306*	*027S001308*	*027S001310*	*027S001312*	*027S001314*	*027S001316*	*027S001318*
SAMPLE DATE	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*
METAL																		
Aluminum	2020	2440	1970	1010	696	518	236	306	185	7480	8060	2210	1740	811	625	894	216	396
Antimony	9.5UJ	9.6UJ	9.5UJ	9.5UJ	9.5UJ	9.6UJ	9.5U	9.5U	9.6U	8U	9.4U	9.7U	7.6U	7.7U	7.6U	7.5U	7.5U	8U
Arsenic	0.62U	0.62U	0.62	0.62U	0.62U	0.62U	1.2	0.62U	0.63U	0.91	1.1	0.63U	0.63U	0.65U	0.63U	0.63U	0.62U	0.67U
Barium	1.8U	2.4U	3U	1.8U	1.3U	1.2U	1U	1U	1U	5.2	8.8	2.6	1.7	0.88	0.85	1.8	0.41U	5
Beryllium	0.41U	0.42U	0.41U	0.41U	0.41U	0.42U	0.41U	0.41U	0.42U	0.22U	0.41U	0.42U	0.21U	0.22U	0.21U	0.21U	0.21U	0.22U
Cadmium	1U	1U	1U	1U	1U	1U	1U	1U	1U	1.1U	1U	1.1U	1.1U	1.1U	1.1U	1U	1U	1.1U
Calcium	58	34.6	32.3U	32.3U	32.2U	32.5U	32.2U	36.2	43.4	435	1140	182	92.1	48.7	39.4	72.8	33.1	31.7
Chromium	2.1U	2.1U	2.1U	2.5	2.1U	2.1U	2.1U	3	2.1U	6.2	6.4	2.1U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U
Cobalt	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.8U	1.8U	1.9U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U
Copper	5.2U	5.2U	5.2U	5.2U	5.2U	5.2U	5.2U	5.2U	5.2U	3.2	5.1U	5.3U	0.84U	0.86U	0.84U	1.3	0.83U	0.89U
Cyanide (CN)	0.52U	0.52U	0.52U	0.52U	0.52U	0.52U	0.52U	0.52U	0.52U	0.55U	0.51U	0.53U	0.53U	0.54U	0.53U	0.52U	0.52U	0.56U
Iron	1430	1580	1440	814	803	362	158	198	151	3820	3620	1310	1330	615	531	586	167	344
Lead	0.84	0.68	0.97	0.99	0.52	0.42U	0.61	0.44	0.42U	5.7	8	1.5	1.2	1.8	0.42U	0.56	0.41U	0.44U
Magnesium	98.7U	101	105	98.4U	98.2U	99.2U	98.1U	98.3U	99.8U	128	173	102	71.8	40.5	31.3	59.5	12.2U	18.3
Manganese	6.2U	6.2U	6.2U	6.2U	9.2	6.2U	1.5U	3.8	3.2U	60.6	76.6	2.7U	3.9	1.8	1.5	2.1	0.68	2.6
Mercury	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.1U	0.11U	0.11U	0.11U	0.11U	0.1U	0.1U	0.11U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	6.4U	6.5U	6.4U	6.4U	8U	6.5U	6.4U	6.4U	9.2	3.8U	6.3U	6.5U	3.6U	3.7U	3.6U	3.5U	3.5U	3.8U
Potassium	463U	466U	462U	567J	461U	466U	461U	462U	469U	299U	458U	470U	284U	291U	285U	282U	280U	301U
Selenium	0.62UJ	0.62UJ	0.62UJ	0.62UJ	0.62UJ	0.62UJ	0.62U	0.62U	0.63U	0.66U	0.61U	0.63U	0.63U	0.65U	0.63U	0.63U	0.62U	0.67U
Silver	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	1.5U	2U	2.1U	1.5U	1.5U	1.5U	1.5U	1.5U	1.6U
Sodium	79.5U	80U	74.5U	78.6U	75.9U	77.7U	26.6U	28.2U	28.3U	55.5U	40.3U	27.1U	52.7U	54U	52.8U	52.4U	52U	55.8U
Thallium	0.83U	0.83U	0.83U	0.83U	0.83U	0.83U	0.82U	0.83U	0.84U	0.88U	0.82U	0.84U	0.84U	0.86U	0.84U	0.84U	0.83U	0.89U
Vanadium	3.3	3.5	2.9	1.4U	1.4U	1.5U	1.4U	1.4U	1.5U	10.6	10.5	3.1	2.4	1.3U	1.3U	1.3	1.2U	1.3U
Zinc	7.5	4.6	3.6	3.1	4.4	2.1	0.68U	1.1U	1.5U	5.1	9.8	2.9	3.1	2.3	1.4	5	2.4	4.2

SHORT ID					0270014					0270015						0270017			0270018
SAMPLE ID	*027S001402*	*027S001404*	*027S001406*	*027S001408*	*027S001410*	*027S001412*	*027S001414*	*027S001416*	*027S001418*	*027S001501*	*027S001504*	*027S001514*	*027S001516*	*027S001701*	*027S001702*	*027S001704*	*027S001706*	*027S001708*	*027S001865*
SAMPLE DATE	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/15/1993*	*6/15/1993*	*6/15/1993*	*6/15/1993*	*6/17/1993*	*6/17/1993*	*6/17/1993*	*6/17/1993*	*6/17/1993*	*6/28/1993*
METAL																			
Aluminum	2020	2270	1650	590	569	432	224	122	120	2230	2280	593	236	6560	19500	17600	2100	1510	4310
Antimony	7.4U	7.5U	7.5U	7.5U	7.5U	7.4U	7.5U	7.4U	8.2U	9.5U	9.5U	9.6U	9.4U	9.4U	9.9UJ	10.2U	9.8U	9.7U	11.5UJ
Arsenic	0.61U	0.62U	0.63U	0.63U	0.62U	0.62U	0.62U	0.62U	0.68U	0.76	0.62U	0.63U	0.62U	0.83	5.9	4	0.64U	0.63U	9.4
Barium	1.9	2.4	2.1	0.84	0.94	0.73	0.42U	0.41U	0.46U	2.1	3.3	1.1	1U	8.3	6.9	5.4	7.4	2.5	7.1
Beryllium	0.2U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.23U	0.41U	0.41U	0.45	0.45U	0.41U	0.43U	0.44U	0.42U	0.42U	1U
Cadmium	1U	1U	1U	1U	1U	1U	1U	1U	1.1U	1U	1U	1U	1U	1U	3.3	5.3	19.9	4.6	1.3U
Calcium	109	85.1	62.9	48.9	32.5	28.8	17.7	16.2	29.7	195	43	40.7	32U	1730	10900	15800	4370	149	991
Chromium	1.6U	1.7U	1.7	1.7U	1.7U	1.7	1.7U	1.7U	3.6	2.3	2.4	2.1U	2.6	6.7	21	23.4	8.7	7.7	13.9
Cobalt	1.6U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.9U	1.9U	1.9U	1.8U	1.8U	1.9U	2U	1.9U	1.9U	2.3U
Copper	0.82U	0.83U	0.84U	0.84U	0.83U	0.83U	0.83U	0.83U	0.91U	5.1U	5.2U	5.2U	5.1U	5.1U	8.9	10.2	11.8	34.9	4.5J
Cyanide (CN)	0.51U	0.52U	0.52U	0.52U	0.52U	0.52U	0.52U	0.52U	0.57U	0.51U	0.52U	0.52U	0.51U	0.51U	0.54U	0.56U	0.53U	0.53U	0.64U
Iron	1610	1630	1590	755	481	426	164	82	201	1710	1500	300	349	3640	11800	14800	1630	1300	7040J
Lead	1	0.99	0.89	0.63	0.48	0.41U	0.93	0.45	0.78	1.1	0.91	0.65	0.73	15.3	51.7	92.9	177	142	2.6
Magnesium	81.9	108	70.5	24.1	27.4	21.5	12.3U	12.2U	13.4U	102	122	99.8U	97.7U	154	157	141	124	101U	945
Manganese	3.3	4.1	3	1.6	1.7	1.3	1.4	0.71	1.7	4U	4.6U	6U	5.9U	90.7	19.5	30.4	14.4	5.4U	43J
Mercury	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.1U	0.1U	0.1U	0.1U	0.1U	0.4	0.38	0.39	0.11U	0.13U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	3.5U	3.5U	3.6U	3.6U	3.5U	3.5U	3.5U	3.5U	3.9U	6.4U	6.4U	6.5U	6.4U	6.4U	6.7U	6.9U	6.6U	6.6U	9U
Potassium	277U	281U	283U	283U	281U	279U	282U	280U	308U	460U	464U	469U	459U	458U	483U	497U	475U	473U	748
Selenium	0.61U	0.62U	0.63U	0.63U	0.62U	0.62U	0.62U	0.62U	0.68U	0.62U	0.62U	0.63U	0.62U	0.61U	0.65U	0.67U	0.64U	0.63U	0.87
Silver	1.4U	1.5U	1.5U	1.5U	1.5U	1.4U	1.5U	1.4U	1.6U	2.1U	2.1U	2.1U	2.1U	2U	2.2U	2.2U	2.1U	2.1U	1U
Sodium	51.4U	52.2U	52.6U	52.5U	52.2U	51.8U	52.3U	51.9U	57.1U	41.1	36.5	28.9U	28.9U	47	115	126	70.5	69.8	118U
Thallium	0.82U	0.83U	0.84U	0.84U	0.83U	0.83U	0.83U	0.83U	0.91U	0.82U	0.83U	0.84U	0.82U	0.82U	0.86U	0.89U	0.85U	0.85U	0.77U
Vanadium	2.8	3	1.9	1.3U	1.2U	1.2U	1.2U	1.2U	1.4U	2.7	2.9	1.5U	1.4U	9	29.1	36	2.5	1.8	20.2
Zinc	2	3.4	2.4	2.6	2	1.2	0.83U	0.83U	1.3	2.3	2.7	0.63U	0.62U	12	18.9	17.8	34.8	19.7	12.7J

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0270019				0270020								
SAMPLE ID	*027S001900*	*027S001946*	*027S001958*	*027S001962*	*027S002000*	*027S002002*	*027S002004*	*027S002006*	*027S002008*	*027S002010*	*027S002012*	*027S002014*	*027S002016*
SAMPLE DATE	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*
METAL													
Aluminum	3200	287	943	5140	2830	1820	1790	1110	917	410	486	302	121
Antimony	9.5UJ	10.9UJ	10.8UJ	11.9UJ	10.1UJ	9.8UJ	9.7UJ	9.6UJ	9.5UJ	9.4UJ	9.4UJ	9.6UJ	10.6UJ
Arsenic	2.1	1.7	1.4	9.3	3.2	0.87U	0.86U	0.85U	0.84U	0.84U	0.84U	0.86U	0.94U
Barium	8	0.49U	1.8	9.5	13.5	4.5	3	2.2	2.4	1.2	1.6	0.57	0.47
Beryllium	0.84U	0.97U	0.96U	1.1U	0.89U	0.87U	0.86U	0.85U	0.84U	0.84U	0.84U	0.86U	0.94U
Cadmium	6.3	1.2U	1.2U	1.3U	5.8	1.1U	1.1U	1.1U	1.1U	1U	1U	1.1U	1.2U
Calcium	173	50.1	187	24300	855	182	94.5	66.8	65	45.8	47.1	38.3	56.2
Chromium	19.3	4.4	3.9	12.2	131	29.5	6.3	4.1	3.2	2.1U	2.5	2.1U	2.3U
Cobalt	1.9U	2.2U	2.2U	2.4U	2U	2U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	2.1U
Copper	28.9J	3.6U	3.6U	4U	27.6	3.3U	3.2U	3.2U	3.2U	3.1U	3.1U	3.2U	3.5U
Cyanide (CN)	0.53U	0.61U	0.6U	0.66U	0.56U	0.54U	0.54U	0.53U	0.53U	0.52U	0.52U	0.54U	0.59U
Iron	2270J	353J	1360J	11300	4150	1380	1160	842	840	413	416	231	120
Lead	77.5	7.8	0.94	3.6	513J	2.7	1.3	0.45	0.62	0.42U	0.42U	0.43U	0.47U
Magnesium	78.4	89.4U	118	1970	313	85	85.1	78.2U	77.3U	77.1U	77.1U	78.9U	86.4U
Manganese	178J	3.1J	8.1J	71.1	122	2.2U	2.2U	2U	2.1U	1.4U	5.1	2.2U	0.94U
Mercury	7.1	0.12U	0.12U	0.13U	NS	0.11U	0.11U	0.11U	0.11U	0.1U	0.1U	0.11U	0.12U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	7.4U	8.5U	8.4U	9.3U	7.8U	7.6U	7.5U	7.4U	7.4U	7.3U	7.3U	7.5U	8.2U
Potassium	480U	555U	549U	605U	510U	495U	490U	485U	480U	478U	478U	489U	536U
Selenium	0.63U	0.73U	0.72U	1.5	0.67U	0.65U	0.64U	0.64U	0.63U	0.63U	0.63U	0.64U	0.7U
Silver	0.84U	0.97U	0.96U	1.1U	2.4	0.87U	0.86U	0.85U	0.84U	0.84U	0.84U	0.86U	0.94U
Sodium	70.6	106U	187U	332	123U	96.7U	99.7U	103U	89.9U	136J	143J	105U	116U
Thallium	0.63U	0.73U	0.72U	0.79U	0.67U	0.65U	0.64U	0.64U	0.63U	0.63U	0.63U	0.64U	0.7U
Vanadium	4.7	2.4U	5.5	18.7	5.2	2.6	2.2	2.1U	2.1U	2.1U	2.1U	2.1U	2.3U
Zinc	180J	5.1J	3.3J	15.7	293	55	21	13.4	10.2	5.4U	5.8U	4.8U	2.3U

SHORT ID	0270021								0270022						
SAMPLE ID	*027S002102*	*027S002104*	*027S002106*	*027S002108*	*027S002110*	*027S002112*	*027S002114*	*027S002116*	*027S002202*	*027S002204*	*027S002206*	*027S002208*	*027S002210*	*027S002212*	*027S002214*
SAMPLE DATE	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*
METAL															
Aluminum	2340	2260	1700	1450	430	426	165	251	2150	1750	1710	2020	450	339	526
Antimony	9.5UJ	9.6UJ	9.4UJ	9.5UJ	9.9UJ	9.4UJ	9.3UJ	10.5UJ	9.6UJ	9.4UJ	9.4UJ	9.4UJ	9.3U	9.3R	9.3U
Arsenic	0.84U	0.86U	0.91	0.84U	0.88U	0.84U	0.83U	0.93U	1.7	0.83U	0.83U	0.84U	0.83UJ	0.82U	0.83UJ
Barium	3	2.4	2.5	2.7	0.97	0.86	0.44	0.7	2.9	1.9	2.2	2.9	0.73	0.46	0.76
Beryllium	0.84U	0.86U	0.83U	0.84U	0.88U	0.84U	0.83U	0.93U	0.85U	0.83U	0.83U	0.84U	0.83U	0.82U	0.83U
Cadmium	1.4	1.1U	1U	1.1U	1.1U	1U	1U	1.2U	1.1U	1U	1U	1U	1U	1U	1U
Calcium	154	85	46.5	48.3	24.3U	25.7	23U	36.3	273	182	138	116	56.9	34.8	78.1
Chromium	53.4	14.5	5.1	6	4.7	5.7	4.6	7.5	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	32
Cobalt	1.9U	1.9U	1.9U	1.9U	2U	1.9U	1.9U	2.1U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U
Copper	13.1J	8.6J	3.1U	3.2U	3.3U	3.1U	3.1U	3.5U	3.2U	3.1U	3.1U	3.1U	3.1U	3.1U	18.4
Cyanide (CN)	0.53U	0.54U	0.52U	0.53U	0.55U	0.52U	0.52U	0.58U	0.53U	0.52U	0.52U	0.52U	0.52U	0.51U	0.52U
Iron	1800J	1560J	1370J	1290J	402J	416J	172J	168	1580	1400	1220	1460	424	298	452
Lead	20.7	1.1	0.85	0.72	0.44U	0.57	0.41U	0.47U	3.4U	0.69	0.62	0.78	0.41U	470U	1.5
Magnesium	89.3	94.7	80.1	84.8	80.6U	77.1U	76.1U	85.8U	78.1U	85	85	115	76.3U	75.8U	76.3U
Manganese	10.6J	6.3J	7J	6.2J	6.7J	6.1J	3.5J	2.9J	11.1	2U	2.1U	2.1U	2.1U	2.1J	7U
Mercury	0.11U	0.11U	0.1U	0.11U	0.11U	0.1U	0.1U	0.12U	0.11U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	7.4U	9.6	7.3U	7.4U	7.7U	7.3U	7.2U	8.2U	7.4U	7.3U	7.3U	7.3U	7.3U	7.2U	7.3U
Potassium	480U	489U	475U	481U	500U	479U	472U	532U	485U	475U	475U	479U	473U	470U	474U
Selenium	0.63U	0.64U	0.62U	0.63U	0.66U	0.63U	0.62U	0.7U	0.64U	0.62U	0.62U	0.63U	0.62U	0.62U	0.85
Silver	0.84U	0.86U	0.83U	0.84U	0.88U	0.84U	0.83U	0.93U	0.85U	0.83U	0.83U	0.84U	0.83U	0.82U	0.83U
Sodium	163U	161U	105U	100U	154U	103U	93.5U	177U	88.6U	86.3	85.5U	98.8U	88.2U	94.5U	96.9U
Thallium	0.63U	0.64U	0.62U	0.63U	0.66U	0.63U	0.62U	0.7U	0.64U	0.62U	0.62U	0.63U	0.62U	0.62U	0.62U
Vanadium	3.5	3.4	2.6	2.6	2.2U	2.1U	2.1U	2.3U	3	2.8	2.1	3.3	2.1U	2.1U	2.1U
Zinc	155J	41.6J	5.5J	4.8J	2.6J	4.3J	4.1J	3.9J	5.9U	2.5U	3.3U	4.5U	2.5U	2.2U	11.6

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0270023							0270024								0270025
SAMPLE ID	*027S002302*	*027S002304*	*027S002306*	*027S002308*	*027S002310*	*027S002312*	*027S002314*	*027S002402*	*027S002404*	*027S002406*	*027S002408*	*027S002410*	*027S002412*	*027S002414*	*027S002416*	*027S002562*
SAMPLE DATE	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*
METAL																
Aluminum	1930	2310	1690	1900J	689	699	271	1990	1620	1610	637	495	407	184	79.3	6900
Antimony	9.5UJ	9.5UJ	9.4UJ	9.4U	9.5UJ	9.5UJ	9.3UJ	9.7UJ	9.5UJ	9.5UJ	9.5U	9.5UJ	9.6UJ	9.4UJ	10.8UJ	10.9UJ
Arsenic	0.84U	0.85U	0.83U	0.84U	0.84U	0.84U	0.83U	0.86U	0.85U	0.84U	0.84UJ	0.85U	0.85U	0.83U	0.96U	11.8
Barium	3.5	2.3	1.7	2.9	0.86	1.4	0.59	2.6	1.6	2.7	1.3	1	0.84	0.57	0.48U	12.4
Beryllium	0.84U	0.85U	0.83U	0.84U	0.84U	0.84U	0.83U	0.86U	0.85U	0.84U	0.84U	0.85U	0.85U	0.83U	0.96U	0.97U
Cadmium	3.5	1.1U	1U	1U	1.1U	1.1U	1U	1.1U	1.1U	1.1U	1.1U	1.1U	1.1U	1U	1.2U	1.2U
Calcium	122	150	80.7	76.6	40	31.5	28.5	127	104	70.2	34.1	33.7	23.6U	23.1U	26.6U	13700
Chromium	3.6	2.9	2.1U	4.2	2.1U	4.1	4.1	2.1U	2.1U	2.1U	2.3	2.5	3.1U	3.2U	3.8U	15.8
Cobalt	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	2.2U	2.2U
Copper	3.2U	3.2U	3.1U	3.1U	3.2U	3.2U	3.1U	3.2U	3.2U	3.2U	3.2U	3.2U	3.2U	3.1U	3.6U	3.6U
Cyanide (CN)	0.53U	0.53U	0.52U	0.52U	0.53U	0.53U	0.52U	0.54U	0.53U	0.53U	0.53U	0.53U	0.53U	0.52U	0.6U	0.61U
Iron	1330J	1580J	1280J	1460J	651J	594J	273J	1430	1300	1270	662	520	407	242	116	12600
Lead	1.3	0.69	0.81	0.94	0.48	0.7	0.51	1.2	1.3	0.96	0.5	0.5	0.58	0.63	0.48U	7.5
Magnesium	88.6	91.6	76.7U	108	77.3U	77.5U	76U	79U	77.8U	83.5	77.3U	78U	78.1U	76.7U	88U	1810
Manganese	10.6J	6.2J	4.2J	7J	3.5J	7J	3.5J	6.3U	6.2U	6.2U	5.4U	6.2U	6.2U	4.3U	3.5U	65.2
Mercury	0.11U	0.11U	0.1U	0.1	0.11U	0.11U	0.1U	0.11U	0.11U	0.11U	0.11U	0.11U	0.11U	0.1U	0.12U	0.12U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	7.4U	7.4U	7.3U	7.3U	7.4U	7.4U	7.2U	7.5U	7.4U	7.4U	7.4U	7.4U	7.4U	7.3U	8.4U	10.2
Potassium	481U	484U	476U	478U	480U	481U	472U	490U	483U	482U	480U	484U	485U	476U	546U	555U
Selenium	0.63U	0.64U	0.63U	0.63U	0.63U	0.63U	0.62U	0.64U	0.63U	0.63U	0.63U	0.64U	0.64U	0.62U	0.72U	0.73U
Silver	0.84U	0.85U	0.83U	0.84U	0.84U	0.84U	0.83U	0.86U	0.85U	0.84U	0.84U	0.85U	0.85U	0.83U	0.96U	0.97U
Sodium	73.5U	99.8U	102U	114U	154U	93.9U	101U	94.9U	111U	91.8U	89.8U	104U	85.8U	92.8U	117J	248J
Thallium	0.63U	0.64U	0.63U	0.63U	0.63U	0.63U	0.62U	0.64U	0.63U	0.63U	0.63U	0.64U	0.64U	0.62U	0.72U	0.73U
Vanadium	3	3.5	2.1U	2.6	2.1U	2.1U	2.1U	2.3	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.4U	22.5
Zinc	26.1J	3.2J	3.2J	14J	3.2J	1.5J	2.1J	2.7	2.1	2.3	2	5.9	1.1U	1.3	1.3	16.7

SHORT ID	0270026							0270027											
SAMPLE ID	*027S002600*	*027S002602*	*027S002604*	*027S002608*	*027S002610*	*027S002614*	*027S002616*	*027S002701*	*027S002702*	*027S002704*	*027S002706*	*027S002708*	*027S002710*	*027S002712*	*027S002714*	*027S002716*	*027S002718*	*027S002720*	*027S002762*
SAMPLE DATE	*7/6/1993*	*7/6/1993*	*7/6/1993*	*7/6/1993*	*7/6/1993*	*7/6/1993*	*7/6/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/13/1993*
METAL																			
Aluminum	1660	2100	2280	879	968	1730	141	2370	1890	1920	1130	817	470	442	314	272	92.3	144	1150
Antimony	9.6UJ	9.9UJ	9.6UJ	9.5UJ	9.5UJ	9.7UJ	10.8UJ	9.1UJ	9.2UJ	10.8UJ	9.3UJ	9.2UJ	9.2UJ	9.4UJ	9.4UJ	9.5U	9.5U	10.7U	8.4U
Arsenic	1.6	0.88U	0.85U	0.84U	0.85U	0.87U	0.96U	0.81U	0.81U	0.96U	0.82U	0.82U	0.82U	0.83U	0.84U	1.2	0.85U	0.95U	3.7
Barium	2	4	2.6	1.2	1.4	2.9	0.48U	2.8	3.8	11.5	4.6	1.6	1.1	3	3.3	6.3	3.5	2.2	3.3
Beryllium	0.85U	0.88U	0.85U	0.84U	0.85U	0.87U	0.96U	0.81U	0.81U	0.96U	0.82U	0.82U	0.82U	0.83U	0.84U	0.84U	0.85U	0.95U	0.24U
Cadmium	1.1UJ	1.1UJ	1.1UJ	1.1UJ	1.1UJ	1.1UJ	1.2UJ	1U	1U	1.2U	1U	1U	1U	1U	1U	1.1UJ	1.1UJ	1.2UJ	0.72U
Calcium	149	391J	73.3J	68J	47.2J	104J	38.1	192	68.7	72.5	30.9	22.7U	22.8U	26.9	27	23.3U	23.5U	48.4	462
Chromium	2.1U	3.1	2.8	2.1U	4.2	6.6	3.6	3.6	3.6	2.4U	2.5	2U	2.1U	2.1	2.1U	2.1U	2.1U	2.4U	6
Cobalt	1.9U	2U	1.9U	1.9U	1.9U	1.9U	2.2U	1.8U	1.8U	2.2U	1.9U	1.8U	1.8U	1.9U	1.9U	1.9U	1.9U	2.1U	2.2U
Copper	3.2U	3.3U	3.2U	3.2U	3.2U	3.2U	3.6U	3U	3.1U	3.6U	3.1U	3.1U	3.1U	3.1U	3.1U	3.2U	3.2U	3.6U	2.8
Cyanide (CN)	0.53UJ	0.55UJ	0.53UJ	0.53UJ	0.53UJ	0.54UJ	0.6U	0.51U	0.51U	0.6U	0.51U	0.51U	0.51U	0.52U	0.52U	0.53U	0.53U	0.59U	0.6U
Iron	1180	1370	1410	755	818	1530	146	1710	1490	1670	1310	750	436	278	322	115	38.9	177	4010J
Lead	0.76	1	1	0.42U	0.78	1.3	0.48U	1.2	0.98	1.4	0.65	0.41U	0.41U	0.42U	0.42U	0.68	0.42U	0.47U	1.4
Magnesium	84.6	109	106	77.3U	78U	79.7U	88.1U	116	83	88.2U	75.7U	75.3U	75.6U	76.6U	77U	77.3U	77.8U	87.1U	201
Manganese	5.7U	7.9U	5.7U	3.6U	4.9U	9.2U	3.3U	7U	4.1U	9.4U	6.6U	10.7U	5.4U	5.5U	5.4U	1.1U	0.85U	2.1U	16
Mercury	0.11U	0.11U	0.11U	0.11U	0.11U	0.11U	0.12U	0.1U	0.1U	0.12U	0.18	0.1U	0.1U	0.1U	0.1U	0.11U	0.12	0.12U	0.12U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	7.4U	7.7U	7.4U	7.4U	7.4U	9.8	8.4U	7.1U	7.1U	8.4U	8.2	7.2U	7.2U	7.3U	7.3U	7.4U	7.4U	8.3U	4.3U
Potassium	486U	505U	485U	480U	484U	494U	547U	535	464U	547U	470U	467U	469U	475U	478U	480U	483U	540U	304U
Selenium	0.64U	0.66U	0.64U	0.63U	0.64U	0.65U	0.72U	0.61U	0.61U	0.72U	0.62U	0.61U	0.62U	0.62U	0.63U	0.63U	0.63U	0.71U	0.72U
Silver	0.85U	0.88U	0.85U	0.84U	0.85U	0.87U	0.96U	0.81U	0.87	0.96U	0.82U	0.82U	0.82U	0.83U	0.84U	0.84U	0.85U	0.95U	0.96U
Sodium	102U	107U	115U	101U	109U	124U	176U	98.9U	94.6U	107U	83.7U	143U	90.4U	93.1U	98.7U	93U	97U	122U	39.9
Thallium	0.64U	0.66U	0.64U	0.63U	0.64U	0.65U	0.72U	0.61U	0.61U	0.72U	0.62U	0.61U	0.62U	0.62U	0.63U	0.63U	0.63U	0.71U	0.72U
Vanadium	3.1	3.2	3.3	2.1U	2.1U	2.2U	2.4U	3.6	3.1	2.5	2.1U	2U	2.1U	2.1U	2.1U	2.1U	2.1U	2.4U	10.9
Zinc	3.3	4.3U	5.1U	3.2U	4U	5U	3.7	3.4	3.2	2.9	1.8	1.6	1.2	1U	2.6	2.7	2.4	2.3	7.9

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0270028		0270029								
SAMPLE ID	*027S002802*	*027S002804*	*027S002902*	*027S002904*	*027S002906*	*027S002908*	*027S002910*	*027S002912*	*027S002914*	*027S002916*	*027S002918*
SAMPLE DATE	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*
METAL											
Aluminum	2460	1230	1240	1270	2010	1560	1280	951	965	258	81.3
Antimony	10.9U	10.7U	9.5U	9.5U	9.4U	9.2U	9.7U	9.7U	9.4U	9.3U	10.6U
Arsenic	0.97U	1.5	0.85U	0.84U	0.84U	0.82U	0.86U	0.86U	0.83U	0.82U	0.95U
Barium	6.2	10.8	1.3	1.8	1.8	2.2	1.8	1.4	1.7	0.45	0.47U
Beryllium	0.97U	0.95U	0.85U	0.84U	0.84U	0.82U	0.86U	0.86U	0.83U	0.82U	0.95U
Cadmium	1.2UJ	5.2UJ	1.1UJ	1.1UJ	1UJ	1UJ	1.1UJ	1.1UJ	1UJ	1UJ	1.2UJ
Calcium	811	964	176	267	131	84.7	67.1	60.2	66.2	33.1	26.2U
Chromium	12.9	15.3	2.2	2.1U	2.1U	2.1	6.5	2.2U	2.7	2.1U	6.6
Cobalt	2.2U	2.1U	1.9U	1.9U	1.9U	1.8U	1.9U	1.9U	1.9U	1.9U	2.1U
Copper	10.7	78.1	3.2U	3.2U	3.1U	3.1U	3.2U	3.2U	3.1U	3.1U	3.5U
Cyanide (CN)	0.61U	0.59U	0.53U	0.53U	0.52U	0.51U	0.54U	0.54U	0.52U	0.51U	0.59U
Iron	1480	1500	1060	1100	1420	1120	985	896	750	226	224
Lead	22.7	121	1.6	1.8	0.96	0.83	0.92	0.63	0.62	0.46	0.47U
Magnesium	89.1U	106	77.8U	77.6U	77.2U	92.9	79U	79.5U	76.7U	75.8U	87U
Manganese	12.4	16.4	5.1U	5.1U	4.3U	4.9U	4.5U	6.4U	9.3U	3.5U	1.3U
Mercury	0.21	0.15	0.11	0.11U	0.1U	0.1U	0.11U	0.11U	0.1U	0.1U	0.12U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	8.5U	8.3U	7.4U	7.4U	8.4	7.2U	7.5U	7.6U	7.3U	7.2U	8.5
Potassium	553U	540U	483U	481U	479U	467U	490U	493U	476U	470U	540U
Selenium	0.73U	0.71U	0.63U	0.63U	0.63U	0.61U	0.64U	0.65U	0.62U	0.62U	0.71U
Silver	0.97U	0.95U	0.85U	0.84U	0.84U	0.82U	0.86U	0.86U	0.83U	0.82U	0.95U
Sodium	119U	165U	99.9U	90.7U	105U	98.1U	479	104U	101U	106U	102U
Thallium	0.73U	0.71U	0.63U	0.63U	0.63U	0.61U	0.64U	0.65U	0.62U	0.62U	0.71U
Vanadium	4.1	3.1	2.1U	2.1U	3.1	2.8	2.4	2.2U	2.1U	2.1U	2.4U
Zinc	21.3	88	6.4	3.7	4	4	3.3	3	4.4	1.9	1.8

SHORT ID	0270030									0270032	
SAMPLE ID	*027S003002*	*027S003004*	*027S003006*	*027S003008*	*027S003010*	*027S003012*	*027S003014*	*027S003016*	*027S003018*	*027S003202*	*027S003204*
SAMPLE DATE	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/9/1993*	*7/9/1993*
METAL											
Aluminum	2320	2210	1320	968	568	1060	205	154	159	2180	1950
Antimony	9.2U	9.2U	9.3U	9.4U	9.4U	7.4U	7.3U	7.3U	7.4U	9.4UJ	9.4UJ
Arsenic	0.81U	0.82U	0.82U	0.83U	0.84U	0.84U	1.1	0.83U	0.84U	0.91	1
Barium	2.3	2.7	2.2	1.3	0.9	2.3	0.42U	0.42U	0.42U	2.2	2.3
Beryllium	0.81U	0.82U	0.82U	0.83U	0.84U	0.21U	0.21U	0.21U	0.21U	0.83U	0.84U
Cadmium	1UJ	1UJ	1U	1UJ	1UJ	0.63U	0.62U	0.63U	0.63U	1U	1U
Calcium	29.9	26	22.9UJ	23.1U	23.2U	21	17.7	18.7	20.1	43.4	112
Chromium	2.4	2.8	2.1	2.3	2.1U	2.3	3.4	3.2	4	2.1U	2.2
Cobalt	1.8U	1.8U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U
Copper	3.1U	3.1U	3.1U	3.1U	3.1U	0.86	0.83U	1.1	1.5	3.1U	3.1U
Cyanide (CN)	0.51U	0.51U	0.52U	0.52U	0.52U	0.53U	0.52U	0.52U	0.53U	0.52U	0.52U
Iron	1830	1840	1370	1310	609	891J	266J	243J	454J	1450	1370
Lead	0.98	1.3	1.1	0.77	0.61	0.8	0.54	0.42U	0.74	1.4	0.67
Magnesium	101	107	75.9U	76.7U	77U	42.7	10U	12	10.1U	91.8	81
Manganese	3U	5.4U	5U	8.6U	4.4U	10.5	3.4	2.1	3.7	4.2U	5.4U
Mercury	0.1U	0.1U	0.1	0.1U	0.1U	0.11U	0.1U	0.1U	0.11U	0.1U	0.1U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	7.1U	7.2U	7.2U	7.3U	7.3U	3.8U	3.7U	3.8U	3.8U	7.3U	7.3U
Potassium	465U	469U	471U	476U	478U	267U	264U	265U	267U	475U	477U
Selenium	0.61U	0.62U	0.62U	0.63U	0.63U	0.63U	0.62U	0.63U	0.63U	0.62U	0.63U
Silver	0.81U	0.82U	0.82U	0.83U	0.84U	0.84U	0.83U	0.83U	0.84U	0.83U	0.84U
Sodium	109U	98.6U	95.1U	102U	93.5U	34.5	25.6U	28.6U	31.3U	77.5U	136U
Thallium	0.61U	0.62U	0.62U	0.63U	0.63U	0.63U	0.62U	0.63U	0.63U	0.62U	0.63U
Vanadium	3.6	3.3	2.1U	2.1U	2.1U	1.4	1.2U	1.3U	1.3U	3.1	2.5
Zinc	4	4.1	2.3	2.5	2.1	3.4	2.4	3U	3.2U	4.3	2.1

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0270033										0270040								
SAMPLE ID	*027S003302*	*027S003304*	*027S003306*	*027S003308*	*027S003310*	*027S003312*	*027S003314*	*027S003316*	*027S003318*	*027S003320*	*027S004000*	*027S004002*	*027S004004*	*027S004006*	*027S004010*	*027S004012*	*027S004014*	*027S004016*	*027S004018*
SAMPLE DATE	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*
METAL																			
Aluminum	2540	2060	1720	498	599	1050	184	90.2	503	154	2190	2080	1970	1810	284	917	350	116	64.2
Antimony	9.4UJ	9.4UJ	9.5UJ	9.4UJ	9.4UJ	9.4UJ	9.4UJ	9.3UJ	10.5UJ	10.5UJ	9.5U	7.3U	7.4U	7.4U	7.3U	9.5U	9.4U	9.3U	11.5U
Arsenic	0.83U	0.84U	0.84U	0.83U	0.84U	0.84U	0.83U	0.82U	0.93U	0.93U	0.84UJ	0.84U	0.84U	0.85U	0.84U	0.85UJ	0.84UJ	0.83UJ	1UJ
Barium	2.6	3	2.4	0.45	0.96	1.3	0.42U	0.41U	2.1	0.47U	3.9	1.6	2.1	2.3	0.42U	2.2	0.42U	0.41U	0.51U
Beryllium	0.83U	0.84	0.84U	0.83U	0.84U	0.84U	0.83U	0.82U	0.93U	0.93U	0.84U	0.21U	0.21U	0.21U	0.21U	0.85U	0.84U	0.83U	1U
Cadmium	1U	1U	1.1U	1U	1U	1U	1U	1U	1.2U	1.2U	1.1U	0.63U	0.63U	0.63U	0.63U	1.1U	1U	1U	1.3U
Calcium	170	107	88.6	43.5	41.8	65.6	27.3	22.9U	33.1	25.9U	4840	167	413	1260	23	59.6	23.3	23U	28.5U
Chromium	2.1U	2.2	2.2	2.1U	3	2.1U	2.1U	2.2	2.3U	8.3	2.1U	3.1	1.7U	2.1	1.7U	2.1U	2.1U	3.1	2.6U
Cobalt	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	2.1U	2.1U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	2.3U
Copper	3.1U	3.1U	3.2U	3.1U	3.1U	3.1U	3.1U	3.1U	3.5U	3.5U	3.2U	1.3	0.98	1.9	0.84U	3.2U	3.1U	3.1U	3.8U
Cyanide (CN)	0.52U	0.52U	0.53U	0.52U	0.52U	0.52U	0.52U	0.52U	0.58U	0.58U	0.53U	0.52U	0.53U	0.53U	0.52U	0.53U	0.52U	0.52U	0.64U
Iron	1800	1560	1540	759	558	471	209	152	201	98.6	1540	1760J	1500J	1900J	274J	387	275	191	83.6
Lead	0.94	0.84	0.77	0.42U	0.42U	0.64	0.42U	0.41U	0.47U	0.47U	3.4	0.88	1.2	2.3	0.42U	0.8	0.46	0.7	0.51U
Magnesium	116	111	77.5U	76.7U	76.9U	77.1U	76.7U	75.9U	86U	86U	280	69.6	87.4	111	16.2	77.8U	77.1U	76.3U	94.4U
Manganese	6.3U	4.9U	5.6U	5.5U	7.1U	7.4U	4.3U	2.2U	2.5U	3.2U	13	4.8	4.6	6.9	1.4U	3.2	0.84U	0.83U	1U
Mercury	0.1U	0.1U	0.11U	0.1U	0.1U	0.1U	0.1U	0.1U	0.12U	0.12	0.11U	0.1U	0.11U	0.11U	0.1U	0.11U	0.1U	0.1U	0.13U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	7.7	7.3U	7.4U	7.3U	7.3U	7.3U	7.3U	7.2U	8.5U	8.2U	7.4U	3.8U	3.8U	3.8U	3.8U	7.4U	7.3U	7.3U	9U
Potassium	476U	478U	481U	476U	477U	478U	476U	471U	533U	533U	482U	266U	267U	268U	266U	483U	478U	473U	585U
Selenium	0.63U	0.63U	0.63U	0.63U	0.63U	0.63U	0.62U	0.62U	0.7U	0.7U	0.63UJ	0.63U	0.63U	0.63U	0.63U	0.63UJ	0.63UJ	0.62U	0.77UJ
Silver	0.83U	0.84U	0.84U	0.83U	0.84U	0.84U	0.83U	0.82U	0.93U	0.93U	0.84U	0.84U	0.84U	0.85U	0.84U	0.85U	0.84U	0.83U	1U
Sodium	85.2U	119U	164U	82.8U	84.8U	88U	88U	80.9U	108U	98.5U	56.3	29	29.5	33.1	25.8U	43.4	27.5	160	69.1
Thallium	0.63U	0.63U	0.63U	0.63U	0.63U	0.63U	0.62U	0.62U	0.7U	0.7U	0.63U	0.63U	0.63U	0.63U	0.63U	0.63U	0.63U	0.62U	0.77U
Vanadium	3.6	2.8	2.6	2.1U	2.1U	2.1U	2.1U	2.1U	2.3U	2.3U	2.6U	3.2	3	2.9	1.3U	2.1U	2.1U	2.1U	2.6U
Zinc	3.1	3.1	2.5	1U	1.3	1.7	1U	1U	4.2	5.4	5.3U	2.9	3.6	4.7	13	3.8U	1.3U	1.6U	1.5

SHORT ID	0270041		0270042							0270043				0270044	0270045			
SAMPLE ID	*027S004100*	*027S004102*	*027S004202*	*027S004204*	*027S004206*	*027S004208*	*027S004210*	*027S004212*	*027S004214*	*027S004302*	*027S004304*	*027S004306*	*027S004308*	*027S004402*	*027S004502*	*027S004504*	*027S004506*	*027S004508*
SAMPLE DATE	*7/14/1993*	*7/14/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*
METAL																		
Aluminum	6700	2050	1900	2160	2330	769	886	474	187	3080	1760	1880	1500	2390	2780	1760	1500	1570
Antimony	20.7U	7.3U	7.4UJ	7.3UJ	7.4U	7.4UJ	7.5UJ	7.3UJ	7.3U	7.4UJ	7.4UJ	7.4UJ	7.4U	7.4UJ	9.4U	9.4U	9.5U	9.6U
Arsenic	4.8J	0.83U	0.93	0.84U	0.85UJ	0.85U	0.86U	0.84U	0.83U	0.85U	1	1.3	0.85UJ	1.2	0.89J	0.84UJ	0.84UJ	0.85U
Barium	19.5	3.7	4.5	4.4	5.3	1.6	1.6	0.82	0.45	4.5	1.9	3	2.4	7.4	8.8	2.3	1.8U	1.3
Beryllium	1.8U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.84U	0.84U	0.84U	0.85U
Cadmium	2.3U	0.62U	0.63U	0.63U	0.64U	0.64U	0.64U	0.63U	0.62U	0.64U	0.64U	0.64U	0.64U	1.2U	7.9	1U	1.1U	1.1U
Calcium	858	146	122	69.4	76.8	52.9	112	50.6	51.8	293	305	262	92.5	76000	6580	121U	128U	116
Chromium	7.5	2	11.4	14.1	12	5.9	4.9	3.1	1.8	5.6	3.7	3.7	14.7	9	31.8	2.4	3.1U	2.1U
Cobalt	4.1U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U
Copper	6.9U	1.4	1.1	1	1.5	0.85U	0.86U	0.84U	0.83U	1.2	3.3	6	1.1	5.2	33.6	3.1U	3.2U	3.2U
Cyanide (CN)	1.1U	0.52U	0.53U	0.52U	0.53U	0.53U	0.53U	0.52U	0.52U	0.53U	0.53U	0.53U	0.53U	0.53U	0.52U	0.52U	0.53U	0.53U
Iron	4480	1630J	1410	1430	1680	737	739	385	204	1820	1240	1420	1130	1720	3850	1320	1310	1480
Lead	98.7	217	0.95	0.82	0.95	0.58	0.43	0.42U	0.81	2.1	1	1	0.73	63.8	216	1.3	0.97	1
Magnesium	273	84.1	68.2	109	125	44.4	43.7	24.2	10U	129	106	181	78.6	320	308	77U	77.7U	78.5U
Manganese	90	18.5	4	5.6	6.2	2.6	8.2J	3.6	2.1U	10.1	4.4	5.9	5.8	27	46.8	3.8	3.9	5.7
Mercury	0.44U	0.1U	0.11U	0.1U	0.11U	0.11U	0.11U	0.1U	0.1U	0.11U	0.11U	0.11U	0.11U	10.2	0.27J	0.15J	0.12J	0.11U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	16.1U	3.7U	5.7	6	4.6	3.8U	3.9U	3.8U	3.7U	3.8U	3.8U	3.8U	7.1	3.8U	11.6	7.3U	7.4U	7.5U
Potassium	1050U	264U	268U	266U	270U	269U	272U	267U	264U	270U	269U	270U	270U	270U	477U	478U	482UJ	487U
Selenium	1.4UJ	0.62U	0.63U	0.63U	0.64U	0.64U	0.64U	0.63U	0.62U	0.64U	0.64U	0.64U	0.64U	0.64U	0.63UJ	0.63UJ	0.63UJ	0.64U
Silver	1.8U	0.83U	0.85U	0.84U	0.85U	0.85U	0.86U	0.84U	0.83U	0.85U	0.85U	0.85U	0.85U	0.85U	156	0.84U	0.84U	0.85U
Sodium	84.8	25.6U	110	33.4	37.4	33.5	34.5	35.1	34.5U	42.4	39.7	58.5	51.7	741	89.1	38.6	36.9	46.6
Thallium	1.4U	0.62U	0.63UJ	0.63UJ	0.64UJ	0.64UJ	0.64UJ	0.63UJ	0.62U	0.64UJ	0.64UJ	0.64UJ	0.64UJ	0.64UJ	0.63U	0.63U	0.63U	0.64U
Vanadium	9.1	3.8	2.9	3.4	3.8	1.4	1.3U	1.3U	1.2U	4.3	2.8	2.6	2.1	4.5	4.8	2.1U	2.1U	2.1U
Zinc	73.4	8.7	50.9	17.5	18.9	7.7	8.6	6.8	3U	5.9	3.9U	5.2U	4.6U	36.2	198	3.3	3.3U	4

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0270046				0270047				0270048				0270049					
SAMPLE ID	027S004602	027S004604	027S004606	027S004608	027S004702	027S004704	027S004706	027S004708	027S004810	027S004812	027S004814	027S004816	027S004902	027S004904	027S004906	027S004908	027S004910	027S004962
SAMPLE DATE	7/15/1993	7/15/1993	7/15/1993	7/15/1993	7/15/1993	7/15/1993	7/15/1993	7/15/1993	7/16/1993	7/16/1993	7/16/1993	7/16/1993	7/20/1993	7/20/1993	7/20/1993	7/20/1993	7/20/1993	7/21/1993
METAL																		
Aluminum	11000	10300	1630	1850	2010	1480	382	2440	380	2850	263	549	660	1990	1610	926	610	2450
Antimony	7.4UJ	8.1UJ	7.4UJ	7.4UJ	7.2UJ	7.4UJ	7.4UJ	7.6UJ	7.4U	7.3U	7.2U	7.4U	7.6U	7.6U	7.5U	7.4U	7.3U	8.7U
Arsenic	4.3	2.2	1.1	1.1	1.7	1.3	0.85U	1.6	0.84U	0.84U	0.83U	0.84U	1.3	0.86U	0.85U	0.84U	0.84U	3.3
Barium	6.9	5.9	2.7	2.7	3.7	2.9	0.7	5.2	0.66	6.5	0.59	0.89	1.2	2.2	2.1	1	1	4.7
Beryllium	0.21U	0.23U	0.21U	0.21U	0.21U	0.21U	0.21U	0.22U	0.21U	0.21U	0.21U	0.21U	0.22U	0.22U	0.21U	0.21U	0.21U	0.25U
Cadmium	0.64U	2.9U	0.63U	0.63U	0.62U	0.63U	0.63U	1.6U	0.63U	0.63U	0.62U	0.63U	0.65U	0.65U	0.64U	0.63U	0.63U	0.74U
Calcium	92500J	73100J	133J	151	118	91.8	59.2	280	50.4	139	47.2	52.7	89.2	132	129U	92.4	62.2	560
Chromium	20.9	15.9	12.5	14.3	9.7	5.4	9.5	14	2.5	2.4	2.5	3.7	1.8U	2	5.9U	3.2	1.7U	6.1
Cobalt	1.9U	2.1	1.9U	1.9U	1.9U	1.9U	1.9U	2U	1.9U	1.9U	1.9U	1.9U	2U	1.9U	1.9U	1.9U	1.9U	2.2U
Copper	3.6	4.1	1.3	1.2	2.5	1.4	1	9.7	0.84U	1.7U	0.83U	0.84U	1U	0.87U	2U	0.84U	0.84U	1.9
Cyanide (CN)	0.53U	0.58U	0.53U	0.53U	0.52U	0.53U	0.53U	0.54U	0.53U	0.52U	0.52U	0.53U	0.54U	0.54U	0.53U	0.53U	0.52U	0.62U
Iron	7660	6440	1220	1610	1480	1120	397	1640	464	1190	242	305	291	1340	1490	1030	532	3400
Lead	6	17.1	0.73	1.4	4.5	1.1	0.42U	12.7	0.65	1.3	0.52	0.64	0.94	0.76	1.3	2	1.9	1.4
Magnesium	1470	524	98.4	80.8	100	85.8	22.7	116	17.8U	127	9.9U	22.3U	29.4U	76.8U	63.8U	26.2U	22.2U	417
Manganese	38.2	29.2	4.9	5.4	5.2	4.2	2.6	9.6	5.2	21.4U	2.9U	2.6U	3.1U	3.9U	5U	7.1U	5.5	19
Mercury	0.11	0.13	0.11U	0.11U	2.2	1.8	1	2.6	0.11U	0.1U	0.1U	0.11U	0.11	0.11U	0.11U	0.11U	0.1U	0.12U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	4.6	4.7	5.4	7.6	4.6	3.8U	3.8U	6.5	3.8U	3.8U	3.7U	3.8U	3.9U	3.9U	3.8U	3.8U	3.8U	4.5U
Potassium	270U	294U	269U	267U	263U	267U	269U	275U	267U	265U	263U	267U	276U	275U	271U	267U	265U	315U
Selenium	0.64U	0.69U	0.63U	0.63U	0.62U	0.63U	0.63U	0.65U	0.63U	0.63U	0.62U	0.63U	0.65U	0.65U	0.64U	0.63U	0.63U	0.74U
Silver	0.85U	0.93U	0.85U	0.84U	0.83U	0.84U	0.85U	0.87U	0.84U	0.84U	0.83U	0.84U	0.87U	0.86U	0.85U	0.84U	0.84U	0.99U
Sodium	673	568	36.7	34.8	38.2	40	37.7	47.4	30.8U	37.7U	35.7U	31U	38.7U	40.6U	46.5U	45U	38.8U	61.8
Thallium	0.64UJ	0.69UJ	0.63UJ	0.63UJ	0.62UJ	0.63UJ	0.63UJ	0.65UJ	0.63U	0.63U	0.62U	0.63U	0.65U	0.65U	0.64U	0.63U	0.63U	0.74U
Vanadium	22.9	20.3	2.9	2.7	3	2.3	1.3U	3.7	1.3U	3.2U	1.2U	1.3U	1.3U	2.1U	1.8U	1.3U	1.3U	12.4
Zinc	11.5	10.2	3.3	2.9U	82.4	57.9	15.4	157	1.2U	3.8U	1.5U	1.2U	1.5U	4.2U	3U	2.2U	1.8U	8.4

SHORT ID	0270050								0270051							0270052			
SAMPLE ID	027S005002	027S005004	027S005006	027S005008	027S005010	027S005012	027S005014	027S005016	027S005102	027S005104	027S005106	027S005108	027S005110	027S005112	027S005114	027S005200	027S005201	027S005202	027S005204
SAMPLE DATE	8/5/1993	8/5/1993	8/5/1993	8/5/1993	8/5/1993	8/5/1993	8/5/1993	8/5/1993	7/2/1993	7/2/1993	7/2/1993	7/2/1993	7/2/1993	7/2/1993	7/2/1993	8/12/1993	8/12/1993	8/12/1993	8/12/1993
METAL																			
Aluminum	2670	2280	2470	659	496	386	420	138	1910	1490	1040	673	568	104	455	2690	9130	11300	1090
Antimony	9.5UJ	9.5UJ	9.6UJ	9.3UJ	9.3UJ	9.2UJ	9.4UJ	9.4UJ	9.4UJ	9.3UJ	9.2U	9.2U	9.2U	9.2U	9.3U	9.3UJ	9.4UJ	12.1UJ	9.4UJ
Arsenic	0.85U	0.85U	0.85U	0.83U	0.83U	0.82U	0.83U	0.83U	0.83U	0.83U	0.82U	0.82U	0.82U	0.82U	0.83U	1.2	2.9	3.9	0.83U
Barium	2.7	3.3	3.3	1	0.8	0.8	0.64	0.42U	2.1	2.5	1.6U	1.5U	1	0.41U	0.94	5.9	9	13.8	3.5
Beryllium	0.85U	0.85U	0.85U	0.83U	0.83U	0.82U	0.83U	0.83U	0.83U	0.83U	0.82U	0.82U	0.82U	0.82U	0.83U	0.83U	0.84U	1.1U	0.83U
Cadmium	1.1U	1.1U	1.1U	1U	1U	1U	1U	1U	1U	1UJ	1U	1U	1U	1U	1U	20.3	26.1	19.2	5.3
Calcium	149	152	128	48.4	64.6	77.4	65.9	47.5	46.6UJ	28.1	22.7U	22.7U	23.2	22.7U	36.7	3660	6260	3670	227
Chromium	2.3J	2.5J	2.7J	2.3J	2.2J	2.4J	2.1U	2.6J	2.3	2.1U	4	2U	2.1	4.5	6.4	288J	223	253	146
Cobalt	1.9U	1.9U	1.9U	1.9U	1.9U	1.8U	1.9U	1.9U	1.9U	1.9U	1.8U	1.8U	1.8U	1.8U	1.9U	1.9U	1.9U	2.4U	1.9U
Copper	3.2U	3.2U	3.2U	3.1U	3.1U	3.1U	3.1U	3.1U	3.1U	3.1U	3.1U	3.1U	3.1U	3.1U	3.1U	28.5	137	69.8	10.3
Cyanide (CN)	0.53U	0.53U	0.53U	0.52U	0.52U	0.51U	0.52U	0.52U	0.52UJ	0.52UJ	0.51U	0.51U	0.51U	0.51U	0.52U	1.9	1.6	3	0.52U
Iron	1810	1680	1820	777	661	362	371	116	1350	989	816	617	484	91.9	520	2720	10300	7740	931
Lead	1.2	1.7	1.6	0.41U	0.74	0.72	0.88	0.67	0.56	0.84U	0.62	0.51	0.41U	0.41U	0.46	101	138	167	110
Magnesium	134	136	127	76.2U	76.3U	75.6U	76.7U	76.7U	77.4	82.6	89.9	75.1U	75.3U	75.2U	76.3U	136	151	175	76.6U
Manganese	5.5	6.7	7.8	5.3	5.3	5.3	5.3	2.4	6.1U	5.3	5.2U	6U	5.1	2.2	5.3U	31.9	68.3	44.4	6.6
Mercury	0.11U	0.11U	0.11U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.19	0.24	0.1U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	7.4U	7.4U	7.5U	7.2U	7.3U	7.2U	7.3U	7.3U	7.3U	7.3U	7.2U	7.1U	7.2U	7.2U	7.3U	9.4	20.1	10.9	7.3U
Potassium	483U	484U	486U	473U	474U	469U	476U	476U	476U	474U	467U	466U	467U	466U	473U	471U	479U	615U	475U
Selenium	0.63UJ	0.64UJ	0.64UJ	0.62UJ	0.62UJ	0.62UJ	0.62UJ	0.62UJ	0.62U	0.62U	0.61U	0.61U	0.61U	0.61U	0.62U	0.62U	0.63UJ	0.81U	0.62UJ
Silver	0.85U	0.85U	0.85U	0.83U	0.83U	0.82U	0.83U	0.83U	0.83U	0.83U	0.82U	0.82U	0.82U	0.82U	0.83U	0.83UJ	3.1U	1.1U	0.83U
Sodium	23.1U	34.3	32.5	34.8	22.6U	34.5	31.3	29.8	109U	97.5U	89.8U	90.2U	88.5U	92.1U	111J	48.4	91.3	66.7	22.7U
Thallium	0.63U	0.64U	0.64U	0.62U	0.62U	0.62U	0.62U	0.62U	0.62U	0.62U	0.61U	0.61U	0.61U	0.61U	0.62U	0.62U	0.63U	0.81U	0.62U
Vanadium	4.2U	2.9	3.5	2.1U	2.1U	2.1U	2.1U	2.1U	2.9	2.1U	2U	2U	2U	2U	2.1U	4.5	13.4	17.1	2.1U
Zinc	5.2U	7.7U	5.1U	2.8U	3.1U	3.9U	6.8U	3.8U	8.3J	2.7	1.3U	1.3U	1.1	1U	2	73.9	124	140	101

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0270053			0300004							0300005						
SAMPLE ID	*027S005300*	*027S005301*	*027S005302*	*030S000402*	*030S000404*	*030S000406*	*030S000408*	*030S000410*	*030S000412*	*030S000414*	*030S000502*	*030S000504*	*030S000506*	*030S000508*	*030S000510*	*030S000512*	*030S000514*
SAMPLE DATE	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/12/1993*	*8/13/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*
METAL																	
Aluminum	5060	5250	1800	3840J	1640J	1270J	2720J	666J	932J	920J	2150	239	1360	1120	197	131	57.3
Antimony	22.2UJ	9.4UJ	9.1UJ	6.2U	6.2U	6.2U	6.2U	6.2U	6.2U	7.2U	6.1U	6.1U	6U	6.3U	6.2U	6.5U	7.3U
Arsenic	2.5	1.5	0.81U	0.76J	0.41U	0.42U	0.51J	0.41U	0.41U	0.48U	0.52J	0.41U	0.4U	0.42U	0.41U	0.43U	0.49U
Barium	35.5	19.9	4.4	3.3J	1.3J	1.1J	3.6J	1.5J	2.2J	1.8J	3.3J	0.95J	0.71J	1.6J	0.41U	0.43U	0.49U
Beryllium	0.85U	0.83U	0.81U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.24U	0.2U	0.2U	0.2U	0.21U	0.21U	0.22U	0.24U
Cadmium	67.1	16.4	1U	1U	1U	1U	1U	1U	1U	1.2U	1U	1U	1U	1U	1U	1.1U	1.2U
Calcium	1250	1860	348	156U	37.2U	41.1U	51.8U	55.7U	65.3U	84U	222U	78.6U	50.7U	53.8U	32.2U	33.6U	56.9U
Chromium	252	90.5	6.4	2.9	2.1U	2.1U	2.1U	2.1U	3.7	21.6	3.7	2.6	2U	4.8	5	9.6	2.5
Cobalt	1.9U	1.9U	1.8U	4.1U	4.1U	4.2U	4.2U	4.1U	4.1U	4.8U	4.1U	4.1U	4U	4.2U	4.1U	4.3U	4.9U
Copper	87.6	40.5	7.5	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.4U	2U	2U	2U	2.1U	2.1U	2.2U	2.4U
Cyanide (CN)	0.53U	0.93	0.51U	1U	1U	1U	1U	1U	1U	1.2U	0.01U	0.01U	0.01U	0.01U	0.01U	0.01U	0.01U
Iron	7010	5970	1300	2330J	1140J	1070J	1780J	587J	753J	1080J	1610	236	962	615	112	185	50.1UJ
Lead	1550	527	13.5	2U	0.65U	1.5U	1.4U	0.91U	0.76U	1.5U	3.2U	1.6U	0.83	1.1	0.41U	0.43U	0.49U
Magnesium	639	388	92.8	75.6J	61.5J	41.1J	136J	39J	55.9J	43.4J	86.9J	13.2U	26.7U	34.2U	11.6U	9.7U	12.8U
Manganese	273	158	14.4	15J	2.7J	2.4J	6.5J	5J	4.8J	8.2J	8.7	2.4J	1.1J	1.5J	0.49J	0.88J	0.58J
Mercury	84	21.8	3.4	0.1U	0.1U	0.1U	0.09U	0.09U	0.1U	0.11U	0.1U	0.1U	0.09U	0.09U	0.09U	0.1U	0.1U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	10.1	7.3U	7.1U	4.1U	4.1U	4.2U	4.2U	4.1U	4.1U	4.8U	4.1U	4.1U	4U	4.2U	4.1U	4.3U	4.9U
Potassium	486U	475U	461U	206U	206U	208U	208U	207U	206U	239U	204U	203U	201U	209U	205U	216U	243U
Selenium	0.64UJ	0.62UJ	0.61UJ	0.41U	0.41U	0.42U	0.42U	0.41U	0.41U	0.48U	0.41U	0.41U	0.4U	0.42U	0.41U	0.43U	0.49U
Silver	2.9U	1.1U	0.81U	1U	1U	1U	1U	1U	1U	1.2U	1U	1U	1U	1U	1U	1.1U	1.2U
Sodium	49.2	60.5	31.7	41.2U	41.2U	41.7U	41.7U	41.4U	41.2U	47.7U	43.6U	40.5U	40.6U	41.8U	41U	43.2U	53.6U
Thallium	0.64U	0.62U	0.61U	0.41U	0.41U	0.42U	0.42U	0.41U	0.41U	0.48U	0.41U	0.41U	0.4U	0.42U	0.41U	0.43U	0.49U
Vanadium	8	7.4	2.8	5J	2.1J	2.1U	3.3J	2.1U	2.1U	2.4U	3.5J	2U	2U	2.1U	2.1U	2.2U	2.4U
Zinc	473	347	23.8	7.2U	7.5U	5.3U	9.2U	6.4U	5.7U	6.9U	11.9U	7.9U	5.1U	6.7U	10.2U	3.5U	12U

SHORT ID	0300006								0300009							
SAMPLE ID	*030S000602*	*030S000604*	*030S000606*	*030S000608*	*030S000610*	*030S000612*	*030S000614*	*030S000616*	*030S000902*	*030S000904*	*030S000906*	*030S000908*	*030S000910*	*030S000912*	*030S000914*	*030S000916*
SAMPLE DATE	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/18/2003*	*8/18/2003*	*8/18/2003*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*
METAL																
Aluminum	2740	2350	3090	1130	308	218U	427	379	6960J	2860J	1310J	2360J	1600J	734J	713J	872J
Antimony	6.2U	6.2U	6.2U	6.3U	6.2U	6.3U	6.2U	6.2U	6.4U	6.4U	7.6U	6.4U	6.3U	6.2U	6.2U	6.2U
Arsenic	0.53J	0.41U	0.56J	0.42U	0.42U	0.42U	0.41U	0.41U	1.1J	0.63J	0.5U	0.48J	0.42U	0.42U	0.42U	0.42U
Barium	2.4J	2.4J	3.3J	2.1J	0.7J	0.47J	0.85J	0.83J	19.9J	4.4J	2.3J	4.8J	3J	1.4	0.91	2.2
Beryllium	0.21U	0.21U	0.25J	0.21U	0.21U	0.21U	0.21U	0.21U	0.34J	0.21U	0.25U	0.21U	0.21U	0.21U	0.21U	0.21U
Cadmium	1U	1U	1U	1U	1U	1U	1U	1U	1.1U	1.1U	1.3U	1.1U	1U	1U	1U	1U
Calcium	79.3U	90.6U	209U	63.9J	61.4U	53.2U	53U	64.7U	7570	1820	152U	1590	627J	105J	59.2J	102U
Chromium	5	3.5	7.6	5.9	3.9	2.1U	11.3	19.5	5.9J	2.1J	3.2J	2.1J	2.9J	8.6J	2.7	4.3J
Cobalt	4.1U	4.1U	4.1U	4.2U	4.2U	4.2U	4.1U	4.1U	4.3U	4.2U	5U	4.3U	4.2U	4.2U	4.2U	4.2U
Copper	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.6J	2.1U	2.5U	2.1U	2.1U	2.1U	2.1U	2.1U
Cyanide (CN)	1U	1U	1U	1.1U	1.1U	1U	1U	1U	1.1U	1.1U	1.3U	1.1U	1U	1U	1U	1U
Iron	1970	1290	2130	929	307	175	362	507	3120	1770	989	1510J	1180	743	346	441
Lead	2.6U	1.2U	6	0.94U	0.44U	0.61U	1.2U	0.69U	15.2	37.9	1J	4.6	2.2	0.7J	0.54J	0.91J
Magnesium	106J	111J	162J	70.3U	27.5U	25.3U	31.3U	29.4U	437J	92.9J	72.5J	121J	94.1J	34.4J	27.1J	39.8J
Manganese	4.7	4.7	8	6.9	2.9J	2.6J	4.2	3.3	98.3	12.9	3.7J	9.8	5.3	5.9	5.4	7.8
Mercury	0.1U	0.1U	0.09U	0.1U	0.1U	0.1U	0.1U	0.1U	0.09U	0.09U	0.11U	0.11U	0.09U	0.09U	0.09U	0.09U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	4.1U	4.1U	4.1U	4.2U	4.2U	4.2U	4.1U	4.1U	4.3U	4.2U	5U	4.3U	4.2U	4.2U	4.2U	4.2U
Potassium	207U	206U	206U	210U	208U	209U	207U	206U	213U	212U	252U	213U	209U	208U	208U	208U
Selenium	0.41U	0.41U	0.41U	0.42U	0.42U	0.42U	0.41U	0.41U	0.43U	0.42U	0.5U	0.43U	0.42U	0.42U	0.42U	0.42U
Silver	1U	1U	1U	1U	1U	1U	1U	1U	1.1U	1.1U	1.3U	1.1U	1U	1U	1U	1U
Sodium	66.4U	68.4U	69.8U	65.9U	66.5U	60.1U	59U	61.4U	80.5J	42.4U	50.4U	42.6U	41.9U	41.7U	41.7U	41.7U
Thallium	0.41U	0.41U	0.41U	0.42U	0.42U	0.42U	0.41U	0.41U	0.43U	0.42U	0.5U	0.43U	0.42U	0.42U	0.42U	0.42U
Vanadium	3.7J	2.1U	4.4J	2.1U	2.1U	2.1U	2.1U	2.1U	8.4J	3.5J	2.5U	2.9J	2.1U	2.1U	2.1U	2.1U
Zinc	5.6U	4.7U	7.7U	17	3.5U	2.4U	17.7	9.7	15.3J	8.5J	12.7J	8.3J	3.3J	6.1J	10.5J	6.4J

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0300010										0300011								
SAMPLE ID	*030S001002*	*030S001004*	*030S001006*	*030S001008*	*030S001010*	*030S001012*	*030S001014*	*030S001016*	*030S001018*	*030S001020*	*030S001102*	*030S001104*	*030S001106*	*030S001108*	*030S001110*	*030S001112*	*030S001114*	*030S001116*	*030S001120*
SAMPLE DATE	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/16/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*
METAL																			
Aluminum	1960	2100	1850	1970	556	560	409	82.3	49.7	39.7J	3820J	1600J	1490J	611J	968J	1070J	1080J	1320	1040J
Antimony	6.2U	6.2U	6.2U	6.2U	6.2U	6.2U	6.2U	6.2U	6.1U	6.5U	6.4U	6.3U	6.3U	6.2U	6.3U	6.3U	6.3U	6.3U	7.3U
Arsenic	0.58J	0.65J	0.67J	0.74J	0.44J	0.42U	0.41U	0.41U	0.41U	0.43U	0.78J	0.43J	0.42U	0.42U	0.42U	0.42U	0.42U	0.42U	0.48U
Barium	3.2U	2.1U	2.1U	2.9U	0.91U	1.1U	0.78U	0.41U	0.41U	0.43U	5.4J	2.2J	2.2J	0.91J	1.8J	2J	2J	2.8J	1.3J
Beryllium	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.2U	0.22U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.24U
Cadmium	1U	1U	1U	1U	1U	1U	1U	1U	1U	1.1U	1.1U	1.1U	1U	1U	1.1U	1U	1.1U	1U	1.2U
Calcium	316J	206U	1080	1420	73.6U	71.9U	87.9U	44.3U	39U	44.4U	1770	156U	129U	94.7J	96.1U	152U	115U	153U	102U
Chromium	2.1U	2.1U	2.1U	3.3	2.5	2.4	4.4	5	2.6	3.6	9.6J	6.3J	3.9J	6.7J	8J	8.5J	13.6J	8.8J	8.2J
Cobalt	4.1U	4.1U	4.1U	4.1U	4.1U	4.2U	4.1U	4.1U	4.1U	4.3U	4.3U	4.2U	4.2U	4.2U	4.2U	4.2U	4.2U	4.2U	4.8U
Copper	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2U	2.2U	2.5J	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.4U
Cyanide (CN)	1U	1U	1U	1U	1U	1U	1U	1U	0.01U	0.01U	1.1U	1U	1.1U	1U	1.1U	1U	1U	1U	1.2U
Iron	1630	1770	1670	1870	665	549	325	76.8	102UJ	60.6UJ	2170	1210	1100	538	827	981	951	508	446
Lead	1.6U	1.4U	1.9U	2.1U	0.95U	0.8U	0.9U	0.45U	0.41U	0.43U	7	1.2J	0.75J	0.43J	1.2	0.84J	0.77J	0.52J	0.48U
Magnesium	67.9J	76.2J	81.2J	105J	31.7U	35.4U	25.3J	8.8U	9U	10.8U	167	90.8J	78.3J	32.8J	51.7J	62.8J	63.5J	67J	42.8J
Manganese	8.1	3.8	4.7	5.8	4.8	6.8	3.8	0.57	1.3J	0.44J	19.9J	4.1J	4.7	3.4	11	9.7	13.5	5.2	2.5J
Mercury	0.09U	0.1U	0.1U	0.1U	0.09U	0.09U	0.1U	0.1U	0.1U	0.1U	0.09U	0.09U	0.09U	0.09U	0.1U	0.12	0.1U	0.1U	0.1U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	4.1U	4.1U	4.1U	4.1U	4.1U	4.2U	4.1U	4.1U	4.1U	4.3U	4.3U	4.2U	4.2U	4.2U	4.2U	4.2U	4.2U	4.2U	4.8U
Potassium	205U	205U	206U	206U	207U	208U	206U	205U	205U	216U	214U	211U	209U	208U	211U	210U	210U	210U	242U
Selenium	0.41UJ	0.41UJ	0.41UJ	0.41UJ	0.41UJ	0.42UJ	0.41UJ	0.41UJ	0.41U	0.43U	0.43U	0.42U	0.42U	0.42U	0.42U	0.42U	0.42U	0.42U	0.48U
Silver	1U	1U	1U	1U	1U	1U	1U	1U	1U	1.1U	1.1U	1.1U	1U	1U	1.1U	1U	1.1U	1U	1.2U
Sodium	46.4U	47.4U	52.2U	59.2U	41.5U	41.5U	41.2U	41.1U	43.9U	43.3U	42.8U	43.1J	41.8U	50.2J	42.2U	41.9U	42.1U	41.9U	48.5U
Thallium	0.41UJ	0.41UJ	0.41UJ	0.41UJ	0.41UJ	0.42UJ	0.41UJ	0.41UJ	0.41U	0.43U	0.43U	0.42U	0.42U	0.42U	0.42U	0.42U	0.42U	0.42U	0.48U
Vanadium	2.4J	2.5J	2.5J	3.1J	2.1U	2.1U	2.1U	2.1U	2U	2.2U	5.3J	2.1J	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.4U
Zinc	37.9	4.9U	3.6U	15.9	1.8U	16.7	4.7U	16.8	3.9U	4.8U	9.4J	11J	2.6J	2.5J	3.7J	1.2J	5.6J	2.9J	4.6J

SHORT ID	0300012										0300015
SAMPLE ID	*030S001202*	*030S001204*	*030S001206*	*030S001208*	*030S001210*	*030S001212*	*030S001214*	*030S001216*	*030S001218*	*030S001220*	*030S001516*
SAMPLE DATE	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/9/1993*
METAL											
Aluminum	5170J	5890J	1730J	1560J	1390J	859J	977J	167J	286J	1030J	762 J
Antimony	6.3U	6.3U	6.3U	6.3U	6.3U	6.3U	6.3U	6.5U	6.4U	7.1U	6.3 U
Arsenic	3.4	8.1	1.5J	1.1J	1J	0.42U	0.46J	0.43U	0.42U	0.47U	0.42 U
Barium	6J	7.7J	2.9J	2.2J	2.1J	1.2J	1.2J	0.43U	0.42U	0.48J	1.5 U
Beryllium	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.21U	0.22U	0.21U	0.24U	0.21 U
Cadmium	1.1U	4	1U	1.1U	1.1U	1U	1U	1.1U	1.1U	1.2U	1.1 U
Calcium	473J	29000	182U	127U	196U	154U	101U	41.9U	48.3U	117U	276 U
Chromium	7.2	29.2	2.1U	3.2	4.5	3	4.2	29	2.1U	2.4U	11.5 U
Cobalt	4.2U	4.2U	4.2U	4.2U	4.2U	4.2U	4.2U	4.3U	4.2U	4.7U	4.2 U
Copper	12.8	41.3	2.1U	2.1U	2.8J	2.1U	2.1U	2.2U	2.1U	2.4U	2.1 U
Cyanide (CN)	1.1U	1U	1U	1.1U	1U	1.1U	1.1U	1.1U	1U	1.2U	1 U
Iron	3490J	6300J	1420J	1080J	1490J	1010J	904J	556J	81.9J	200J	925 J
Lead	30.3U	100	1.7U	1.3U	2.1U	2.2U	4.8U	1U	0.55U	0.91U	3.3
Magnesium	112J	267J	64J	87.8J	61.1J	40.7J	42.3J	12J	8.1J	14.6J	56.5 U
Manganese	28.2J	91.2J	3.9J	4.5J	5.5J	7.2J	4.6J	3J	0.42J	0.99J	7.9
Mercury	0.27	0.16	0.09U	0.1U	0.1U	0.1U	0.1U	0.1U	0.09U	0.11U	0.02 U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	4.2U	7.5J	4.2U	4.2U	4.2U	4.2U	4.2U	4.3U	4.2U	4.7U	4.2 U
Potassium	211U	209U	210U	210U	211U	210U	210U	217U	212U	235U	211 U
Selenium	0.42U	0.42U	0.42U	0.42U	0.42U	0.42U	0.42U	0.43U	0.42U	0.47U	0.42 U
Silver	1.1U	1U	1U	1.1U	1.1U	1U	1U	1.1U	1.1U	1.2U	1.1 U
Sodium	42.3U	241J	42U	42.1U	42.2U	42U	41.9U	43.3U	42.4U	47U	139 U
Thallium	0.42U	0.42U	0.42U	0.42U	0.42U	0.42U	0.42U	0.43U	0.42U	0.47U	0.42 U
Vanadium	8.5J	9.9J	2.4J	2.1U	2.1U	2.1U	2.1U	2.2U	2.1U	2.4U	2.1 U
Zinc	31.4	88.2	9U	6U	30	7U	5.4U	21.1	3.9U	7.1U	2 U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0300016									0300017								
SAMPLE ID	*030S001602*	*030S001604*	*030S001606*	*030S001608*	*030S001610*	*030S001612*	*030S001614*	*030S001616*	*030S001618*	*030S001702*	*030S001704*	*030S001706*	*030S001708*	*030S001710*	*030S001712*	*030S001714*	*030S001716*	*030S001718*
SAMPLE DATE	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*
METAL																		
Aluminum	959	975	448	403	704	345	2100	310	224	1070 J	1450 J	1470 J	1040 J	859 J	1210 J	615 J	4290 J	5940
Antimony	6.4 U	6.1 U	6.1 U	6.1 U	6.1 U	6.2 U	6.2 U	7.7 U	7.2 U	6.3 U	6.2 U	6.7 U	6.1 U	6.1 U	6.1 U	6.1 U	6.5 U	6.4 U
Arsenic	0.43 U	0.41 U	0.4 U	0.41 U	0.41 U	0.41 U	0.42 U	0.51 U	0.48 U	0.42 U	0.41 U	0.45 U	0.41 U	0.41 U	0.41 U	0.41 U	0.43 U	0.43 U
Barium	0.79 J	0.46 J	0.75 J	0.41 J	0.45 J	1.7 J	1.1 J	0.51 U	0.48 U	1.5 U	1.3 U	1.3 U	1.1 U	1.4 U	2.5 U	1.5 U	13.3 J	9J
Beryllium	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.21 U	0.26 U	0.24 U	0.21 U	0.21 U	0.22 U	0.2 U	0.2 U	0.2 U	0.2 U	0.22 U	0.21 U
Cadmium	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.3 U	1.2 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U
Calcium	166 U	32.5 U	45.3 U	29.8 U	36.1 U	43.9 U	214 U	55.6 U	55.5 U	182 U	167 U	176 U	152 U	148 U	149 U	146 U	186 U	232 U
Chromium	3.5	2 U	2 U	2 U	2 U	2.1 U	4.2	2.6 U	3.4	2.1 U	7.9 U	2.3 U	2.3 U	7.7 U	2.3 U	2 U	8.4 U	16.5
Cobalt	4.3 U	4.1 U	4 U	4.1 U	4.1 U	4.1 U	4.2 U	5.1 U	4.8 U	4.2 U	4.1 U	4.5 U	4.1 U	4.1 U	4.1 U	4.1 U	4.3 U	4.3 U
Copper	2.1 U	2 U	2.2 J	2 U	2 U	2.1 U	2.1 J	2.6 U	2.4 U	2.1 U	2.1 U	2.2 U	2 U	2 U	2 U	2 U	3.6 J	2.5 J
Cyanide (CN)	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.3 U	1.2 U	1 U	1 U	1.1 U	1 U	1 U	1.1 U	1 U	1 U	1.1 U
Iron	1650	806	372	399	592	299	245	131 UJ	140	914	1200	1190	1060	763	990	381	1170	1400
Lead	2.7	0.65	0.4 U	0.52 J	0.41 U	0.41 U	1.3	2.6 U	0.8	3.1	0.87 J	0.85 J	0.54 J	0.52 J	1.2	0.51 J	2.7	4.1
Magnesium	27.5 U	21.8 U	21.1 U	13.6 U	21.6 U	23.9 U	26.6 U	14.1 U	18.1 U	58.7 U	85.3 U	85 U	63.6 U	68.4 U	93.8 U	61.5 U	134 U	230 J
Manganese	4.1	1.5 J	1.4 J	3.1	5.8	4.5	1.5 J	2.4 J	0.49 J	7.3	3.8	3.2 J	2.7 J	5.4	12.2	7.2	12.4	11.9
Mercury	0.1 U	0.1 U	0.09 U	0.1 U	0.1 U	0.1 U	0.32	0.12 U	0.1 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.09 U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	4.3 U	4.1 U	4 U	4.1 U	4.1 U	4.1 U	4.2 U	5.1 U	4.8 U	4.2 U	4.1 U	4.5 U	4.1 U	4.1 U	4.1 U	4.1 U	4.3 U	4.3 U
Potassium	215 U	204 U	202 U	203 U	203 U	207 U	208 U	256 U	241 U	209 U	206 U	224 U	204 U	203 U	203 U	203 U	216 U	214 U
Selenium	0.43 U	0.41 U	0.4 U	0.41 U	0.41 U	0.41 U	0.42 U	0.51 U	0.48 U	0.42 U	0.41 U	0.45 U	0.41 U	0.41 U	0.41 U	0.41 U	0.43 U	0.43 U
Silver	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.3 U	1.2 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U
Sodium	43 U	40.9 U	54.4 U	40.7 U	40.6 U	44.2 U	41.6 U	51.3 U	48.2 U	136 U	145 U	157 U	146 U	149 U	143 U	145 U	146 U	78.7 U
Thallium	0.43 U	0.41 U	0.4 U	0.41 U	0.41 U	0.41 U	0.42 U	0.51 U	0.48 U	0.42 U	0.41 U	0.45 U	0.41 U	0.41 U	0.41 U	0.41 U	0.43 U	0.43 U
Vanadium	4.4 J	2 U	2 U	2 U	2 U	2.1 U	2.1 U	2.6 U	2.4 U	2.1 U	2.2 J	2.2 U	2 U	2 U	2 U	2 U	2.2 J	3.7 J
Zinc	5.3 U	5.6 U	21.5 U	3.5 U	3 U	52.3	27.2 U	9.2 U	3.5 U	3.3 U	2.4 U	2.4 U	2.4 U	2.5 U	3.9 U	2.4 U	2 U	4.8 U

SHORT ID	0300018				0300020					0300053				
SAMPLE ID	*030S001802*	*030S001804*	*030S001806*	*030S001808*	*030S002002*	*030S002004*	*030S002006*	*030S002008*	*030S002010*	*030S005302*	*030S005304*	*030S005306*	*030S005308*	*030S005310*
SAMPLE DATE	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/12/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*
METAL														
Aluminum	76.7	1380	848	399	1030	5160	4370	1260	800	1590	386	1160	2370	2600
Antimony	6.1 U	6.1 U	6.1 U	7.1 U	6.1 U	6.2 U	6.2 U	6.1 U	6.6 U	6.6 U	6.1 U	6.8 U	6.2 U	6.3 U
Arsenic	0.41 U	0.48 J	0.41 U	0.48 U	0.41 J	1.5 J	1.1 J	0.55 J	0.44 U	0.44 U	0.41 U	0.45 U	0.41 U	0.42 U
Barium	0.41 U	0.71 U	0.85 U	0.64 U	4 J	16.2 J	51.3	5 J	2.6 U	1.1 J	0.41 U	1.2 J	3.6 J	4.3 J
Beryllium	0.2 U	0.2 U	0.2 U	0.24 U	0.2 U	0.21 U	0.51 J	0.2 U	0.22 U	0.22 U	0.2 U	0.23 U	0.21 U	0.21 U
Cadmium	1 U	1 U	1 U	1.2 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1 U	1 U
Calcium	40.2 U	42.2	34.2 U	58.1 U	254 U	843 J	7940	588 J	601 J	93 U	59.2 U	92.9 U	154 U	145 U
Chromium	2 U	2.3 U	2 U	2.7	2 U	3.7	3.1	2 U	2.2 U	2.5	2.6	2.3 U	2.1 U	46.7
Cobalt	4.1 U	4 U	4.1 U	4.8 U	4.1 U	4.1 U	4.1 U	4.1 U	4.4 U	4.4 U	4.1 U	4.5 U	4.1 U	4.2 U
Copper	2 U	2 U	2 U	2.4 U	2 U	4.9 J	5.8	2.6 J	2.2 U	2.2 U	2 U	2.3 U	2.1 U	2.2 J
Cyanide (CN)	1 U	1 U	1 U	1.2 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1 U	1 U
Iron	116	1430	861	435	856	3260	1990	1290	566	1200	320	594	746	1120
Lead	1.8 U	1.3 U	0.77 U	0.88 U	44.7 U	48.5 U	74.8	4.4 U	1.8 U	1.6 U	0.81 U	1.7 U	1.5 U	0.97 U
Magnesium	12.9 J	29.2 J	35.1 J	21.2 U	46.4 U	89.3 J	852 J	70.5 J	59.8 J	49.5 U	23.8 U	45.3 U	89 J	76 U
Manganese	0.6	2	2	1.4 J	17	161	158	28.6	3.5	4.6	1.3 J	4.6	9.3	11
Mercury	0.16	0.09 U	0.1 U	0.1 U	0.09 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.09 U	0.1 U	0.1 U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	4.1 U	4 U	4.1 U	4.8 U	4.1 U	4.1 J	4.1 U	4.1 U	4.4 U	4.4 U	4.1 U	4.5 U	4.1 U	21.2
Potassium	203 U	202 U	203 U	238 U	204 U	206 U	207 U	203 U	218 U	218 U	205 U	225 U	205 U	209 U
Selenium	0.41UJ	0.4UJ	0.41UJ	0.48UJ	0.41UJ	0.41UJ	0.41UJ	0.41UJ	0.44UJ	0.44 U	0.41 U	0.45 U	0.41 U	0.42 U
Silver	1 U	1 U	1 U	1.2 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1 U	1.1 U	1 U	1 U
Sodium	40.7 U	40.4 U	40.7 U	48.1 U	40.7 U	44 U	91.8 U	41.4 U	45.3 U	67 U	61.2 U	78.5 U	66.3 U	63.4 U
Thallium	0.41UJ	0.4UJ	0.41UJ	0.48UJ	0.41UJ	0.41UJ	0.41UJ	0.41UJ	0.44UJ	0.44 U	0.41 U	0.45 U	0.41 U	0.42 U
Vanadium	2 U	2 U	2 U	2.4 U	2 U	8.2 J	5.2 J	2 U	2.2 U	2.2 U	2 U	2.3 U	2.1 U	2.1 U
Zinc	4.3 U	11.6	3.6 U	26.9	8.5	32.5	49.8	8.4	14.5	3 U	21.4	11	6.7 U	2.7 U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0300059								0300061								0300101	
SAMPLE ID	030S005902	030S005904	030S005906	030S005908	030S005910	030S005912	030S005914	030S005916	030S006102	030S006104	030S006106	030S006108	030S006110	030S006112	030S006114	030S006116	030S010101	030S010104
SAMPLE DATE	11/16/1993	11/16/1993	11/16/1993	11/16/1993	11/16/1993	11/16/1993	11/16/1993	11/16/1993	11/17/1993	11/17/1993	11/17/1993	11/17/1993	11/17/1993	11/17/1993	11/17/1993	11/17/1993	9/1/1993	9/1/1993
METAL																		
Aluminum	2830	2410	2260	1240	1200	712	511	555	2510	2850	2120	2420	2280	672	359	62.1	451	2420
Antimony	6.5 U	6 U	6 U	6 U	6.3 U	6 U	6 U	6 U	6.3 U	6 U	6 U	6.4 U	6.3 U	6 U	6 U	6.2 U	6.1UJ	6.3UJ
Arsenic	0.71 J	0.55 J	0.56 J	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.5 J	0.54 J	0.55 J	0.65 J	0.48 J	1.1 U	0.42 U	0.41 U	0.41U	0.53J
Barium	4.9 J	3.6 U	4.9 J	1.8 U	1.7 B	1.2 U	1.1 U	1.3 U	3.7 U	10.5 J	2.8 U	2.8 U	3.7 U	1 B	0.62 U	0.57 U	0.83U	2.5U
Beryllium	0.22 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22 U	0.22 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.2UJ	0.21UJ
Cadmium	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	4	1 U	1.1 U	1 U	1 U	1 U	1 U	1U	1U
Calcium	404 U	146 U	152 U	78.5 U	87.8 U	70.6 U	56 U	53.1 U	283 U	1840	222 U	288 U	231 U	48.5 U	3.9 U	34.1 U	112U	177U
Chromium	3.5	2	3	3	6.8	11	14	7	4.1	9	2	3.8	2.4	2 U	2	7.2	2.5	3.4
Cobalt	4.3 U	4 U	4 U	4 U	4.2 U	4 U	4 U	4 U	4.2 U	4 U	4 U	4.3 U	4.2 U	4 U	4 U	4.1 U	4.1U	4.2U
Copper	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	4.7 J	2.2 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2U	2.3J
Cyanide (CN)	1.1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U	1U	1U
Iron	1790	1800	1740	889	940	684	476	374	1610	1710	1510	1680	1450	472	239	71.3	334	1410
Lead	4.1	0.89	1	0.55 J	0.66	0.47 J	0.42 U	0.42 U	6.4	35	1	2.9 J	0.85	0.42 J	0.42 U	0.41 U	6.1J	4J
Magnesium	94 U	115 J	143 J	71 U	65.5 U	38 U	37.8 U	32.6 U	118 J	361 J	124 J	122 J	155 J	50.6 U	26.4 U	20.7 U	26.9U	59.3U
Manganese	26.2	5	6	4	7.4	6	5	3	7.2	24	4	7	5.4	4	3	0.8 J	2.5U	7.6U
Mercury	0.1 U	0.1 U	0.11 U	0.09 U	0.11 U	0.09 U	0.1 U	0.1 U	0.11 U	0.11 U	0.09 U	0.09 U	0.1 U	0.1 U	0.1 U	0.1 U	0.09U	0.09U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	4.3 U	4 U	4 U	4 U	4.2 U	4 U	4 U	4 U	4.2 U	4 U	4 U	4.3 U	4.2 U	4 U	4 U	4.1 U	4.1U	4.2U
Potassium	217 U	210 U	211 U	210 U	210	211 U	209 U	209 U	210 U	215 U	215 U	214 U	209 U	210 U	208 U	206 U	205U	209U
Selenium	0.43 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.43 U	0.43 U	0.43 U	0.42 U	0.42 U	0.42 U	0.41 U	0.41UR	0.42UR
Silver	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1.1 U	1.1 U	1 U	1 U	1 U	1 U	1U	1U
Sodium	43.5 U	42.1 U	42.3 U	41.9 U	42.1 U	42.1 U	41.8 U	41.8 U	58.5 J	50.6 U	44.2 J	42.9 U	41.9 U	42 U	41.7 U	41.2 U	40.9U	41.8U
Thallium	0.43 J	0.42 J	0.42 J	0.42 J	0.42 J	0.42 J	0.42 J	0.42 J	0.42 U	0.43 J	0.43 J	0.43 J	0.42 J	0.42 J	0.42 J	0.41 J	0.41U	0.42U
Vanadium	4.9 J	4.3 J	3.9 J	2.1 U	2.1 U	2 U	2 U	2 U	3.4	4.1 J	3.5 J	3.9 J	3.2 J	2.1 U	2 U	2.1 U	2U	3.7J
Zinc	3.1 UJ	1.8 UJ	2.6 UJ	1.9 U	1.7 U	1 U	1 U	1.3 U	3.4	19	2.2 UJ	3.4 UJ	2.7 UJ	1.2 U	1 B	1.1 U	3.6U	18.1U

SHORT ID	0300102		0300103		0300104			0300105		0300106				0300108		0300109		
SAMPLE ID	030S010201	030S010202	030S010301	030S010304	030S010401	030S010403	030S010405	030S010502	030S010504	030S010601	030S010603	030S010605	030S010607	030S010802	030S010804	030S010901	030S010903	030S010905
SAMPLE DATE	8/30/1993	8/30/1993	9/8/1993	9/8/1993	9/3/1993	9/3/1993	9/3/1993	9/1/1993	9/1/1993	8/30/1993	8/30/1993	8/30/1993	8/30/1993	9/1/1993	9/1/1993	9/2/1993	9/2/1993	9/2/1993
METAL																		
Aluminum	12700	12800	9380J	2760J	3030	79.6	112	1680	41.9U	2650	318	323	179	137	16.9U	2130	1310	538
Antimony	6.3UJ	6.2UJ	5.4U	6.1U	6.6U	6.2U	5.8U	6.5U	6.2U	6UJ	6.1UJ	7.1UJ	7.7UJ	6.2U	6.1U	6.5U	6.2U	6.2U
Arsenic	1.5J	3.4	1.8J	0.64J	0.57U	0.41U	0.4U	0.69J	0.041U	0.82J	0.41U	0.48U	0.51U	0.41U	0.81J	0.77J	0.41U	0.41U
Barium	9.3J	7.3J	3.7U	37.7J	6.9J	52U	53	4.5U	0.41U	10J	0.64U	0.96U	0.62U	0.41U	0.41U	3U	1.2U	0.87U
Beryllium	0.21UJ	0.21J	0.42J	0.62J	0.22U	0.21U	0.19U	0.22U	0.21U	0.22J	0.2UJ	0.24UJ	0.26UJ	0.21U	0.2U	0.22U	0.21U	0.21U
Cadmium	9.7J	14.3J	0.9U	27.6	4	1U	97U	1.1U	1U	1.7J	1U	1.2U	1.3U	1U	1U	1.1U	1U	1U
Calcium	5040U	1920U	395U	10600	1540	1110U	1370U	436U	69.6U	16100	117U	741U	534U	43U	24.1U	1650U	209U	133U
Chromium	16.8	23.1	19.1	17.9	8.5	2.1U	1.9U	13.5	2.1U	13.6	2U	2.4U	2.6U	5.7	2U	5	30.1	27.9
Cobalt	4.2U	4.1U	3.6U	4.1U	4.4U	4.1U	3.9U	4.3U	4.1U	4U	4.1U	4.8U	5.1U	4.1U	4.1U	4.3U	4.1U	4.1U
Copper	7.5	96.4	3.4J	26.4	7.4	2.1U	1.9U	4.2J	2.1U	4.8J	2U	2.4U	2.6U	2.1U	2U	2.2U	2.1U	2.1U
Cyanide (CN)	1.1U	1U	1.1U	1.1U	1.1U	1U	1U	1.1U	1U	1U	1U	1.2U	1.3U	1.1U	1U	1.1U	1U	1.1U
Iron	8620	14400	16100	2040	2130J	131J	155J	1310	25.2U	2410	221	479	298	178U	43.4U	1560	835	416
Lead	60.3J	51.3J	3.4U	284	51.9J	1.8J	6.5J	53.1	0.84J	2.1J	1.9J	5.1J	4.1J	0.41U	16.3	5.8	8.8	7.8
Magnesium	149U	126U	63.5U	160	134J	16.9U	16.6U	78.7U	6.2U	419U	29.2U	50.3U	22.4U	12.5U	6.1U	89.3U	28U	19.9U
Manganese	55.2	29.7	13.6U	1820	35	1.5U	1.8U	17.4	0.41U	36.8	10.6U	4.7U	2.3U	1.3U	0.53U	18	11.9U	4.9U
Mercury	0.14	0.09U	0.11U	0.11U	0.1U	0.8J	0.08U	0.09U	0.09U	0.09U	0.09U	0.11U	0.12U	0.1U	0.09U	0.1U	0.1U	0.09U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	4.2U	4.3J	3.6U	4.1U	4.4U	4.1U	3.9U	4.3U	4.1U	4U	4.1U	4.8U	5.1U	4.1U	4.1U	4.3U	4.1U	4.1U
Potassium	211U	207U	179U	250J	220U	206U	193U	216U	206U	201U	204U	238U	257U	207U	205U	217U	207U	207U
Selenium	0.42UR	0.41UR	0.44U	0.39U	0.43U	0.41U	0.4U	0.43U	0.41U	0.4UR	0.41UR	0.48UR	0.51UR	0.41U	0.41U	0.43U	0.41U	0.41U
Silver	1.1U	1U	0.9U	1U	1.1U	1U	0.097U	1.1U	1U	1U	1U	1.2U	1.3U	1U	1U	1.1U	1U	1U
Sodium	241U	41.3U	40.2U	63.9U	44U	41U	38.7U	43.3U	51.4U	127U	40.9U	47.6U	51.5U	41.3U	41U	59.7U	56.4U	41.5U
Thallium	0.42U	0.41U	0.44U	0.39U	0.43U	0.41U	0.4U	0.43U	0.41U	0.4U	0.41U	0.48U	0.51U	0.41U	0.41U	0.43U	0.41U	0.41U
Vanadium	20.4	30	33.8	3.5J	5.4J	2.1U	1.9U	5.6J	2.1U	10.5	2.9J	2.5J	2.6U	2.1U	2U	3.8J	2.5J	2.1U
Zinc	18.9U	19.7U	9.6U	88U	33.6	3.6U	4.7	20.9U	2.9U	30.1U	5.6U	7.8U	7.5U	2.5U	1.6U	11U	5.7U	5.3U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0300110			0300111		0300112			0300113		0300114				0300115		0300116
SAMPLE ID	*030S011001*	*030S011003*	*030S011005*	*030S011102*	*030S011104*	*030S011201*	*030S011203*	*030S011205*	*030S011301*	*030S011304*	*030S011401*	*030S011403*	*030S011405*	*030S011407*	*030S011501*	*030S011506*	*030S011603*
SAMPLE DATE	*9/2/1993*	*9/2/1993*	*9/2/1993*	*9/1/1993*	*9/1/1993*	*9/7/1993*	*9/7/1993*	*9/7/1993*	*9/8/1993*	*9/8/1993*	*9/3/1993*	*9/3/1993*	*9/3/1993*	*9/3/1993*	*9/7/1993*	*9/7/1993*	*9/2/1993*
METAL																	
Aluminum	608	326	404	521	12U	1460J	566J	2440J	562J	529J	753	564	1490	569	800J	724J	2690
Antimony	6U	6.2U	6.3U	6.1U	6.2U	6.1U	5.8U	6U	6.3U	6.3U	5.2U	5.4U	5.4U	5.4U	5.8U	5.7U	5.7U
Arsenic	0.43J	48U	0.43U	0.4U	0.42U	1.7UJ	0.62UJ	1UJ	0.41U	0.42U	0.4U	0.41U	0.37U	0.39U	0.38UJ	0.41UJ	0.48U
Barium	2.3U	0.073U	0.61B	1.4U	0.42U	1.9U	0.69U	1.3U	0.48U	0.49U	2.3U	1.2U	1.4U	1U	1.7U	0.95U	3U
Beryllium	0.2U	0.21U	0.21U	0.2U	0.21U	0.2U	0.19U	0.22U	0.23J	0.22J	0.17U	0.18U	0.18U	0.08U	0.19U	0.19U	0.19U
Cadmium	2.5	1U	1U	2.1	1U	1UJ	0.96UJ	1.1UJ	1U	1.1U	0.87U	0.91U	0.9U	0.97U	0.97UJ	0.95UJ	0.95U
Calcium	116U	29.3U	20.6U	97.8U	38U	81.8U	56.8U	78U	30.1U	40.7U	4620	643U	221U	285U	1610U	133U	172U
Chromium	155	26.7	8.1	89.6	11	39.8J	6.7J	4.9J	2.1	2.3	2.9	1.8U	2	1.8U	1.9UJ	1.9UJ	9.7
Cobalt	4U	4.1U	4.2U	4U	4.2U	4U	3.9U	4.4U	4.2U	4.2U	3.5U	3.6U	3.6U	3.6U	3.9U	3.8U	3.8U
Copper	4.8J	2.1U	2.1U	5.4	2.1U	3.8J	1U	2.5J	2.1U	2.1U	1.7U	1.8U	1.8U	1.8U	1.9U	1.9U	1.9U
Cyanide (CN)	1U	1U	1.2U	1U	1U	1U	1U	1.1U	1.1U	1U	1U	1U	1U	1U	1U	1.1U	1.1U
Iron	610	289J	204J	547	109U	1800J	325J	1310J	394	508	649J	404J	902J	384	573J	484J	1710J
Lead	54.1	10.7J	6J	1.5	0.43J	30.8J	4.7J	7.7J	2U	5.5	1.9J	1.5J	1.8J	77J	7.8J	0.96J	5.5J
Magnesium	27.6U	8.7U	13.2U	17.1U	6.2U	34.6U	14.2U	37.4U	19.7U	16.9U	136U	21.1U	25.9U	22.7U	41.7U	28.4U	26.9U
Manganese	8.3U	2.6U	2.2U	5.9U	0.73U	4.8U	2.1U	5.4	1.8U	3.2U	9.5	7.3U	26.3U	3	9.9U	4.5U	40.6
Mercury	0.09U	0U	0.09U	0.08U	0.09U	0.1U	0.09U	0.12	0.09U	0.1U	0.09U	0.09U	0.1U	0.1U	0.1U	0.09U	0.09U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	4U	4.1U	4.2U	4U	4.2U	4U	3.9U	4.4U	4.2U	4.2U	3.5U	3.6U	3.6U	3.6U	3.9U	3.8U	3.8U
Potassium	201U	206U	210U	202U	208U	202U	193U	221U	210U	211U	174U	181U	181U	182U	193U	190U	190U
Selenium	0.4U	0U	0.43U	0.4U	0.42U	0.49J	0.41UJ	0.41UJ	0.41U	0.42U	0.4U	0.41U	0.37U	0.39U	0.38UJ	0.41UJ	0.4U
Silver	1U	0.97U	1U	1U	1U	1U	0.96U	1.1U	1U	1.1U	0.87U	0.91U	0.9U	0.91U	0.97U	0.95U	0.95U
Sodium	63.7U	41.2U	0.43U	40.5U	41.6U	40.4U	38.5U	44.3U	47.4U	42.1U	34.9U	36.3U	36.1U	36.3U	38.7U	38U	0.4U
Thallium	0.4U	0U	0.042U	0.4U	0.42U	0.39U	0.41U	0.41U	0.41U	0.42U	0.4U	0.41U	0.37U	0.39U	0.38U	0.41U	0.42U
Vanadium	2J	2.1U	2.1U	2U	2.1U	4.9J	1.9U	3.9J	2.1U	2.1U	1.7U	5.5U	2.4J	1.8U	1.9U	1.9U	4.2J
Zinc	12.5U	9.7U	12.7U	6U	3.9U	11.6U	9.6U	18.8U	9.3U	3.6U	10.5U	5.5U	3.7U	4.2U	13.6U	4.4U	13.6U

SHORT ID	0300117			0300118	0300120		0300121		0300122		0300123		0300124		0300125		0300126	
SAMPLE ID	*030S011701*	*030S011703*	*030S011704*	*030S011802*	*030S012001*	*030S012006*	*030S012101*	*030S012103*	*030S012201*	*030S012203*	*030S012301*	*030S012304*	*030S012401*	*030S012403*	*030S012501*	*030S012503*	*030S012505*	*030S012602*	*030S012606*
SAMPLE DATE	*9/2/1993*	*9/2/1993*	*9/2/1993*	*9/7/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*9/10/1993*	*9/10/1993*	*9/24/1993*	*9/24/1993*	*9/24/1993*	*9/24/1993*	*6/7/1993*	*9/9/1993*	*9/9/1993*
METAL																			
Aluminum	2290	3250	6310	8050J	885	225	389	103U	797	481	1630	226	1480	35.4U	2650	572	153	542J	185UJ
Antimony	5.9U	6.3U	5.6U	6.3U	6.2UJ	6.8UJ	6.1UJ	6.4UJ	6.1UJ	6.4UJ	6.1U	6U	6.8UJ	6.8UJ	6.7UJ	5.9UJ	6.1UJ	6.4U	6.7U
Arsenic	0.32U	0.86U	1.2U	0.5UJ	0.41	0.45U	0.41U	0.42U	0.41U	0.42U	0.38U	0.35U	0.46UJ	0.44UJ	2.1UJ	4UJ	0.041UJ	0.42U	0.45U
Barium	1.6U	4U	4.5J	4.6U	2.3U	1.2U	1U	0.42U	2.8U	1.4U	9.3J	0.4U	6.1BJ	0.45U	12.6J	1.1U	0.87U	2U	0.45U
Beryllium	0.2U	0.21U	0.19U	0.21U	0.21UJ	0.23UJ	0.2UJ	0.21UJ	0.2UJ	0.21UJ	0.34J	0.2U	0.23U	0.23U	0.22U	0.2U	0.2U	0.21U	0.22U
Cadmium	0.98U	1.1	0.93U	1UJ	1U	1.1U	1U	1.1U	1.1J	1.2J	9.7	1U	7.5U	1.1U	15.1	1.7U	1U	3.1	1.1U
Calcium	84.6U	760U	446U	15900	44.5U	42.5U	147U	46.9U	661U	418U	4580	24.7U	189U	29.9U	296U	35.2U	34.2U	118U	53U
Chromium	5.7	17.1	14.4	11.5J	17.4	2.3U	15.5	2.8	33.4	31.1	204	3	181J	3.4J	395J	33.1J	11.5	74.2	2.2U
Cobalt	3.9U	4.2U	3.7U	4.2U	4.1U	4.5U	4.1U	4.2U	4.1U	4.2U	4U	4U	4.6U	4.5U	4.4U	4U	4.1U	4.2U	4.5U
Copper	2U	3.6J	2.7J	5.8	4.6J	2.3U	2U	2.1U	3.7J	2.8J	12.9J	2UJ	20.2	2.3U	109	6.6	4.4J	7.4	2.2U
Cyanide (CN)	1U	1.1U	1.2U	1U	1U	1.1U	1U	1.1U	1U	1.1U	1U	1U	2.7U	2.7U	2.7U	2.4U	2.4U	1.1U	1.1U
Iron	1360J	1970J	3380J	3670J	819	139	267	72	571	296	512J	126J	882	17.2U	1840	431	92.3	223	98
Lead	1.7J	11.8J	9.8J	7.2J	19J	3.2J	7.1J	2.2J	21.8J	13J	90.6	10.7	301	9.5	334	78.4	6.3	17.2	2.4U
Magnesium	22U	51.7U	46U	471J	40.5U	11.3U	20.8U	12.8U	44.3U	33.7U	1030	7.2U	42.6J	9.2J	84.7J	18.6J	10J	20.6U	12.9U
Manganese	22.4	41.2	56	66.7	6.9U	1.1U	1.3U	0.73U	16.5	4.7U	18.8	0.72U	5.8U	0.45U	15.5	8U	1.4U	1.2U	0.71U
Mercury	0.11U	0.11U	0.12U	0.1U	0.1U	0.11U	0.1U	0.1U	0.09U	0.1U	0.08UJ	0.09UJ	0.47	0.11U	0.35	0.09U	0.09U	0.1U	0.09U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	3.9U	4.2U	3.7U	4.2U	4.1U	4.5U	4.1U	4.2U	4.1U	4.2U	4U	4U	4.6U	4.5U	9.4	4U	4.1U	4.2U	4.5U
Potassium	196U	209U	187U	208U	206U	227U	204U	212U	204U	212U	202U	200U	228U	225U	222U	198U	204U	212U	225U
Selenium	0.32U	0.41U	0.4U	0.38UJ	0.41UR	0.45UR	0.41UR	0.42UR	0.41UR	0.42UR	0.38U	0.35U	0.88J	0.44U	0.94J	0.4U	0.41U	0.42U	0.45U
Silver	0.98U	1U	0.93U	1U	1U	1.1U	1U	1.1U	1U	1.1U	1U	1U	1.1U	1.1U	3.3U	0.99U	1U	1.1U	1.1U
Sodium	39.2U	41.8U	37.3U	92.5U	44.4U	45.5U	40.8U	42.5U	40.9U	42.4U	44.5U	40U	60.3U	53.1U	69.4U	78.3U	61.4U	42.5U	44.9U
Thallium	0.32U	0.41U	40.4U	0.38U	0.41U	0.45U	0.41U	0.42U	0.41U	0.42U	0.38UJ	0.35UJ	0.46U	0.44U	0.41U	0.4U	0.41U	0.42U	0.45U
Vanadium	3.9J	5.2J	10.2	12.1J	2.8J	2.3U	2U	2.1U	2U	2.1U	2U	2U	2.5J	2.3U	5.4J	2U	2U	2.1U	2.2U
Zinc	12.1U	31.2	29.5	20.1J	11.2U	5.5U	13.7U	16.6U	16.7U	11.8U	19.6U	9.7U	20.1U	2.8U	41.5U	4.1U	1.7U	11.1U	4U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0300127			0300128		0300129		0300130	0300134	0300135		0300137			0300138			
SAMPLE ID	*030S012701*	*030S012703*	*030S012705*	*030S012801*	*030S012806*	*030S012901*	*030S012906*	*030S013001*	*030S013401*	*030S013501*	*030S013506*	*030S013701*	*030S013706*	*030S013711*	*030S013801*	*030S013806*	*030S013811*	*030S013815*
SAMPLE DATE	*9/24/1993*	*9/24/1993*	*9/24/1993*	*9/15/1993*	*9/15/1993*	*9/15/1993*	*9/15/1993*	*9/21/1993*	*10/1/1993*	*10/1/1993*	*10/1/1993*	*9/30/1993*	*9/30/1993*	*9/30/1993*	*9/28/1993*	*9/28/1993*	*9/28/1993*	*9/28/1993*
METAL																		
Aluminum	1450	632	186	1500	494	1750	1190	2700	2830J	1170J	348J	12400J	1410J	429J	2500J	877J	466J	506 J
Antimony	6.2U	6.1U	5.8U	6.2U	7.9U	6.5U	7.3U	7.9UJ	7.8U	5.9U	6.6U	6.7U	6.2U	6.2U	6.1U	6.3U	6.1U	6.1 U
Arsenic	0.41U	0.41U	0.39U	0.57J	0.4U	0.43U	0.47U	0.76J	0.52U	0.41U	0.46U	4.7	0.49J	0.41U	1.7U	0.6U	0.41U	0.43 U
Barium	3.3U	2U	0.58U	2.7U	3.1U	5.4U	2.7U	9J	6.7J	2.2J	1.1UJ	158J	3.3UJ	1.1UJ	7.5U	1.3U	0.7U	1.3 U
Beryllium	0.21U	0.2U	0.19U	0.21U	0.21U	0.22U	0.24U	0.26U	0.26U	0.2U	0.22U	1.3	0.21U	0.21U	0.2U	0.21U	0.2U	0.2 U
Cadmium	2.1	1.6	0.97U	2	4.5	1.6	1.2U	1.3U	4.2J	0.99U	1.1UR	35.9J	2J	1UR	3.5	1.1U	1.2	1 U
Calcium	197U	70.7U	15.8U	172U	131U	410U	248U	1990J	496J	37.7UJ	29.1UJ	24800J	373UJ	62.9UJ	3850	135UJ	199UJ	163 UJ
Chromium	68.7	5.5	3.6	57.5	25.4	23.1	3.5	5.6J	37.3J	4.6	2.2UJ	116J	10.5J	2.5J	9.8	3.1	2U	2 U
Cobalt	4.1U	4.1U	3.9U	4.2U	4.2U	4.4U	4.9U	5.3U	5.2U	4U	4.4U	18.7	4.1U	4.1U	4.1U	4.2U	4.1U	4.1 U
Copper	33.4	3.8J	1.9U	20.7J	10.1J	2.2UJ	2.4UJ	6.4J	5J	2.8J	2.2U	91	6.9	2.1U	16.1	2.1U	2U	2 U
Cyanide (CN)	1U	1U	1.1U	1U	1.1U	1.1U	1.2U	3.2U	1.3UJ	1UJ	1.1UJ	1.1J	1UJ	1UJ	0.01U	0.01U	0.01U	0.01 U
Iron	697	1190	59.6	808J	1160J	912J	549J	1630	1050	761	221	7080	946	279	2820J	599J	280J	371 J
Lead	88.1J	11.2UR	3.3UR	90.9	52.6	43.5	12.3	31.8	29.7	18.9	0.89	317	9.9	1.8	71.4J	2.8J	2J	4.9 J
Magnesium	67J	27.4U	6.2U	45.3U	16U	87.2U	60.1U	88.2J	118J	43.6U	19.2U	3130	187J	29.3U	412J	41.3U	31U	27.8 U
Manganese	5.8U	6.1U	0.57U	4.7U	5.8U	17.1	3U	41.2	7.6J	2.1UR	0.96UR	266J	5.3UR	2.2UR	14.4U	1.4U	0.85U	0.79 U
Mercury	0.1U	0.09U	0.08U	0.09UJ	0.11UJ	0.1UJ	0.12UJ	0.11U	0.12U	0.09U	0.1U	0.09U	0.09U	0.09U	0.58	0.09U	0.09U	0.1 U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	3.1U	2.4U	2.6U	6.3	2.7J	2.5U	2.5U	2.5U	2.5U	2.4 U
Nickel	4.1U	4.1U	3.9U	4.2U	4.2U	4.4U	4.9U	5.3U	5.2U	4U	4.4U	48.5	4.1U	4.1U	4.1U	4.2U	4.1U	4.1 U
Potassium	207U	205U	195U	208U	211U	218U	0.47U	265U	305U	198U	220U	1010U	207U	207U	205U	211U	204U	204 U
Selenium	0.53J	0.41U	0.39U	0.4U	0.4U	0.43U	17U	0.82J	0.52U	0.41U	0.46U	0.45U	0.4U	0.41U	0.41U	0.42U	0.41U	0.43 U
Silver	1U	1U	0.97U	1U	1.1U	1.1U	1.2U	1.3U	1.3U	0.99U	1.1U	1.2J	1U	1U	1U	1.1U	1U	1 U
Sodium	41.5U	41U	38.9U	41.6U	42.2U	43.6U	83.1U	146U	127J	55.6J	55.2J	182J	51.9J	44.9J	74U	57.1U	63.5U	54.3 U
Thallium	0.41U	0.41U	0.39U	0.4UJ	0.4UJ	0.43UJ	0.47UJ	0.53U	0.52U	0.41U	0.46U	0.45U	0.4U	0.41U	0.41U	0.42U	0.41U	0.43 U
Vanadium	2.5J	2U	1.9U	2.4J	2.1U	2.6J	2.4U	4.1J	4J	2J	2.2U	15.9	2.5J	2.1U	5.9J	2.1U	2U	2 U
Zinc	13.1	10.5	2.8U	13.7U	18U	24.2U	61.7U	27U	15.7J	3.4UJ	1.7UJ	428J	17.5J	4.5UJ	60.4J	1.6U	2.9U	1.8 U

SHORT ID	0300139		0300140			0300141					0300142		0300143			
SAMPLE ID	*030S013901*	*030S013906*	*030S014001*	*030S014006*	*030S014011*	*030S014101*	*030S014106*	*030S014111*	*030S014116*	*030S014121*	*030S014201*	*030S014206*	*030S014301*	*030S014306*	*030S014311*	*030S014316*
SAMPLE DATE	*10/1/1993*	*10/1/1993*	*9/30/1993*	*9/30/1993*	*9/30/1993*	*9/24/1993*	*9/24/1993*	*6/9/1993*	*9/24/1993*	*9/24/1993*	*9/24/1993*	*9/24/1993*	*10/4/1993*	*10/4/1993*	*10/4/1993*	*10/4/1993*
METAL																
Aluminum	3000 J	1210 J	9880 J	1600 J	1940 J	273	1130	1890	975	888	1010	3310	15900 J	2060 J	404	316
Antimony	6 U	6.2 U	6 U	6 U	6 U	6.2 U	6.1 U	6 U	6 U	5.9 U	6.1 U	6.2 U	6.5 U	6.2 U	6.2 U	6.1 U
Arsenic	0.63 J	0.43 U	1.5 J	0.41 U	0.38 U	0.44 U	0.44 J	0.52 J	0.4 U	0.41 U	0.39 U	0.61 J	3.6	0.41 U	0.41 U	0.041 U
Barium	5.6 J	2.1 UJ	12 J	2 UJ	2 UJ	0.53 U	1.7 U	2 U	1.5 U	2.5 U	1.5 U	2.5 U	6 J	3.2 UJ	0.58 U	0.69 U
Beryllium	0.2 U	0.21 U	0.21 U	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.21 U	0.22 U	0.21 U	0.21 U	0.2 U
Cadmium	4.8 J	1.1 J	6 J	2 UR	2 UR	1 U	1 U	0.99 U	1 U	0.99 U	1 U	1 U	1.1 UR	1 UR	1 U	1 U
Calcium	298 UJ	96.2 UJ	780 J	110 UJ	128 UJ	233 U	35.9 U	29.7 U	37.2 U	55.7 U	58.5 U	119 U	286 UJ	84.6 UJ	31.4 U	29.6 U
Chromium	15.1 J	26.1 J	12 J	2.83 J	4 J	2.1 U	2 U	2.5	2 U	9.1	2 U	3.6	14 J	3.2 J	2.1 U	2 U
Cobalt	4 U	4.1 U	5 U	4 U	4 U	4.6	4.1 U	4 U	4 U	4 U	4.1 U	4.1 U	4.3 U	4.1 U	4.1 U	4.1 U
Copper	4.7 J	2.1 U	28	2 U	2 J	2.1 U	2 U	2 U	2 U	2 U	2 U	2.1 U	4.8 J	2.1 U	2.1 U	2 U
Cyanide (CN)	1 UJ	1.1 UJ	1 UJ	1 UJ	1 UJ	1.1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1.1 UJ	1 U	1 U	1 U
Iron	1530	701	4760	1040	1100	228	831	1390	689	443	657	2050	7720	1300	471	156
Lead	39	5.6	104	1	4.8	0.44 UR	1 UR	1.4 UR	1.5 UR	1.1 UR	0.39 UR	2.9 UR	5.9	0.83	0.56 J	0.99
Magnesium	93.7 J	64.6 U	142 J	66 U	66 U	18.9 U	42.4 U	83.2 J	38 U	28.6 U	53.5 J	71.3 J	143 J	118 J	18.2 U	11.8 U
Manganese	27.3 J	5.6 J	64 J	4 U	8 J	1.3 U	6.9 U	4.3 U	5.4 U	3.2 U	5.4 U	13	14.2 J	4.6 UR	3.3 U	0.99 U
Mercury	0.1 U	0.11 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.08 U	0.09 U	0.09 U	0.1 U	0.09 U	0.09 U
Molybdenum	2.4 U	2.5 J	2 J	2 U	2 U	NS	NS	NS	NS	NS	NS	NS	2.6 U	2.5 U	NS	NS
Nickel	4 U	4.1 U	6 J	4 U	4 U	4.1 U	4.1 U	4 U	4 U	4 U	4.1 U	4.1 U	4.3 U	4.1 U	4.1 U	4.1 U
Potassium	199 U	207 U	200 U	200 U	200 U	205 U	203 U	199 U	200 U	198 U	242 J	206 U	216 U	224 U	207 U	203 U
Selenium	0.42 U	0.43 U	0.4 U	0.41 U	0.38 U	0.44 U	0.38 U	0.38 U	0.4 U	0.41 U	0.39 U	0.4 U	0.43 U	0.41 U	0.41 U	0.41 U
Silver	1 U	1 U	2 U	2 U	2 U	1 U	1 U	0.99 U	1 U	0.99 U	1 U	1 U	1.1 U	1 U	1 U	1 U
Sodium	54.1 J	62.6 J	0.34 J	56	56 J	41.1 U	40.5 U	39.8 U	40 U	39.6 U	47.7 J	41.2 U	76.8 J	66.3 J	41.4 U	40.7 U
Thallium	0.42 U	0.43 U	0.4 U	0.41 U	0.38 U	0.44 U	0.38 U	0.38 U	0.4 U	0.41 U	0.39 U	0.4 U	0.43 U	0.41 U	0.41U	0.41 U
Vanadium	4.2 J	2.1 J	14	2 J	2 J	2.1 U	2 U	3.3 J	2 U	2 U	2 U	4.6 J	21.7	3 J	2.1 U	2 U
Zinc	13.3 J	4 UJ	30 J	2 UJ	6 UJ	2.3 U	4.1 U	4 U	3.2 U	1.8 U	3.3 U	4.5 U	2.5 UJ	4.5 UJ	1 U	2.6 U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0300144					0300145					0300147				0300148	
SAMPLE ID	030S014401	030S014406	030S014411	030S014416	030S014418	030S014501	030S014506	030S014511	030S014516	030S014521	030S014701	030S014706	030S014711	030S014716	030S014810	030S014815
SAMPLE DATE	9/24/1993	9/24/1993	9/24/1993	9/24/1993	9/24/1993	10/7/1993	10/4/1993	10/7/1993	10/4/1993	10/7/1993	9/27/1993	9/27/1993	9/27/1993	9/27/1993	9/21/1993	9/21/1993
METAL																
Aluminum	2000	1920	1300	683	1620	1560	1880	1720	1100	507	1920	1430	1500	679 J	641	12 B
Antimony	6.1 U	5.9 U	5.9 U	6.1 U	5.8 U	6.1 U	6.1 U	6.1 U	6.2 U	6.2 U	6.1 U	6.3 U	6.4 U	6 U	6.2 UJ	6.3 UJ
Arsenic	0.39 U	0.38 U	0.41 U	0.39 U	0.41 U	0.65 J	0.47 J	0.55 J	0.41 U	0.41 U	4.8	0.41 U	0.62 J	1 U	0.4 UJ	0.42 UJ
Barium	6.8 U	2.3 U	2.1 U	1.4 U	3 U	3.1 U	2 U	3.1 U	1.9 U	1.1 U	4.8 U	2.3 U	2.3 U	1.2 U	1.2 U	0.92 U
Beryllium	0.2 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U	0.21 U	0.21 U	0.2 U	0.21 U	0.21 U
Cadmium	1.3	0.98 U	0.98 U	1 U	0.96 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1.1 U
Calcium	5840	87.9 U	176 U	55.7 U	63.5 U	397 U	25.2 U	37 U	37.9 U	20.3 U	450 U	183 U	130 U	168 UJ	3360 J	322 U
Chromium	3.6	2	2	2 U	2.1	2 U	2 U	2 U	2.1 U	2.1 U	9.6	2.1 U	2.4	2 U	2.1 J	2.1 UJ
Cobalt	14.4	3.9 U	3.9 U	4 U	3.9 U	15.5	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.2 U	4.3 U	4 U	4.1 U	4.2 U
Copper	2.9 J	2 U	2 U	2 U	1.9 U	2 U	2 U	2 U	2.1 U	2.1 U	45.9	2.1 U	2.9 J	3.2 J	2.1 U	2.7 J
Cyanide (CN)	1.1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1.1 U	2.5 U	2.5 U
Iron	1550	1320	1220	401	467	1490	1450	1370	872	274	2280	1170	1330	714 J	552	359
Lead	11.9 UR	0.87 UR	2.5 UR	0.39 UR	0.86 UR	4.1	0.85	1	0.73	0.41 U	8.5 UR	0.52 UR	0.82 UR	1.9 J	0.4 U	0.42 U
Magnesium	319 J	80.9 J	65.2 J	34.6 U	62.3 J	97.6 U	80.9 U	98.1 U	56.7 U	27.2 U	101 J	97 J	65.2 J	35.7 U	64 J	33.7 U
Manganese	13.1	3.8 U	5.9 U	2.1 U	2.7 U	8.2 U	7.4 U	5.8 U	10.4 U	3.2 U	21.7	5.9 U	12.1	6.7 U	6 U	4
Mercury	0.09 U	0.08 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.08 U	0.09 U	0.09 U	0.09 U	0.09 U	0.1 U	0.08 U	0.08 U	0.08 U
Molybdenum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.4 U	NS	NS
Nickel	4 U	3.9 U	3.9 U	4 U	3.9 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.2 U	4.3 U	4 U	4.1 U	4.2 U
Potassium	327 J	196 U	195 U	202 U	193 U	204 U	204 U	203 U	207 U	207 U	204 U	210 U	213 U	200 U	206 U	211 U
Selenium	0.39 U	0.38 U	0.41 U	0.39 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.4 U	0.42 U	0.4 U	0.42 U
Silver	1 U	0.98 U	0.98 U	1 U	0.96 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1.1 U
Sodium	106 J	39.2 U	39 U	40.4 U	38.6 U	53.7 U	40.9 U	40.7 U	41.4 U	41.4 U	40.7 U	41.9 U	42.6 U	88.6 U	111 U	71.4 U
Thallium	0.39 U	0.38 U	0.41 U	0.39 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.4 U	0.42 U	0.4 U	0.42 U
Vanadium	3.8 J	2.6 J	2.2 J	2 U	1.9 U	2.2 J	2.4 J	2.8 U	2.1 U	2.1 U	3.2 J	2.3 J	2.1 U	2 U	2.1 U	2.1 U
Zinc	16.1	5.5 U	3.1 U	1.4 U	3.4 U	2.6 U	1.2 J	2.8U	1.2 U	1 U	25.1	3.4 U	4.7 U	6.7 U	2.1 U	1.1 U

SHORT ID	0300149				0300150											
SAMPLE ID	030S014901	030S014906	030S014911	030S014916	030S015001	030S015002	030S015004	030S015006	030S015008	030S015010	030S015011	030S015012	030S015014	030S015016	030S015018	030S015020
SAMPLE DATE	9/27/1993	9/27/1993	9/27/1993	9/27/1993	9/21/1993	8/9/1993	8/9/1993	8/9/1993	8/9/1993	8/9/1993	9/21/1993	8/9/1993	8/9/1993	9/21/1993	8/9/1993	8/9/1993
METAL																
Aluminum	2890 J	2080 J	714 J	630 J	2760	2940 J	2100 J	2030	1250 J	503 J	921	665 J	289 J	848	131 U	23.5 U
Antimony	6 U	6.2 U	6.1 U	6.8 U	6.2 UJ	6.2 U	6.3 U	6.1 UJ	6.3 U	6.3 U	6.1 UJ	6.2 U	6.1 U	6.1 UJ	6.1 U	6.2 U
Arsenic	0.85 U	1.1 U	0.41 U	0.56 U	0.7 B	0.41 U	0.72 J	0.42 U	0.42 U	0.42 U	0.42 UJ	0.41 U	0.41 U	0.42 UJ	0.41 U	0.41 U
Barium	4.2 U	3 U	1.1 U	1 U	6 J	3.3 U	1.8 U	3.2 U	1.5 U	0.77 U	1.6 U	1.1 U	0.57 U	1.4 U	0.41 U	0.41 U
Beryllium	0.2 U	0.21 U	0.2 U	0.23 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.2 U	0.21 U	0.2 U	0.2 U	0.2 U	0.21 U
Cadmium	0.99 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Calcium	7150 J	412 UJ	509 UJ	251 UJ	38000 J	473 U	315 U	436 U	206 U	205 U	646 U	198 U	162 U	1050 J	159 U	156 U
Chromium	4.4	2.3	2 U	2.3 U	7.2 J	3.9 U	2.1 U	2.1 U	3.3	2.1 U	2 UJ	7.2 U	2 U	2.1 J	2 U	2.1 U
Cobalt	4 U	4.1 U	4.1 U	4.6 U	4.1	4.1 U	4.2 U	4.2 U	4.2 U	4.2 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U
Copper	2 J	2.1 U	2 U	2.3 U	5.5	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2.1 U
Cyanide (CN)	1 U	1 U	1 U	1.2 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	2.4 U	1 U	1 U	2.5 U	1 U	1 U
Iron	2080 J	1550 J	561 J	450 J	1760	1880	1900	1130	1330	582	641	1020	251	576	111 U	11.7 U
Lead	7.5 J	3.1 J	0.41 U	1.3 J	28.8	0.88 J	0.92 J	1.1	0.6 J	0.64 J	0.98 U	0.76 J	0.6 J	1.9 U	0.41 U	0.6 J
Magnesium	116 U	99.3 U	46.7 U	28.6 U	409 J	165 J	89.8 U	87.9 U	67.1 U	50.3 U	47.9 J	57.3 U	42 U	49.8 J	37 U	35.3 U
Manganese	26.8	5.7 U	5.8 U	3.9 U	37.8	5.7	3.3	5 U	4.6	3.4	7.1 U	7.3	3.3	5.1 U	1.2 J	0.41 U
Mercury	0.1 U	0.08 U	0.08 U	0.11 U	0.08 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.1 U	0.02 U	0.02 U	0.09 U	0.02	0.02 U
Molybdenum	2.4 U	2.5 U	2.4 U	2.7 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	4 U	4.1 U	4.1 U	4.6 U	4.1 U	4.1 U	4.2 U	4.2 U	4.2 U	4.2 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U	4.1 U
Potassium	199 U	207 U	203 U	228 U	207 U	207 U	209 U	208 U	211 U	209 U	203 U	207 U	205 U	204 U	205 U	207 U
Selenium	0.42 U	0.41 U	0.41 U	0.46 U	0.41 U	0.41 U	0.42 U	0.41 U	0.42 U	0.42 U	0.42 U	0.41 U	0.41 U	0.42 U	0.41 U	0.41 U
Silver	0.99 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Sodium	122 U	59.2 U	72.1 U	45.7 U	352 U	157 U	142 U	82.1 U	139 U	151 U	65.7 U	143 U	142 U	67.1 U	146 U	145 U
Thallium	0.42 U	0.41 U	0.41 U	0.46 U	0.41 U	0.41 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.41 U	0.41 U	0.42 U	0.41 U	0.41 U
Vanadium	5.2 J	3.3 J	2 U	2.3 U	5.2 J	4 J	3 J	3.3 J	2.1 U	2.1 U	2 U	2.1 U	2 U	2 U	2 U	2.1 U
Zinc	8.7 J	4.7 U	3.9 U	4.8 U	14.6 U	4.2 U	2 U	2.3 U	1.6 U	2.7 U	1.3 U	5.1 U	1.3 U	1.6 U	2.5 U	1.8 U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-1 : Summary of Detections OU 2 Metal

SHORT ID	0300151				0300153				0300154			
SAMPLE ID	*030S015101*	*030S015106*	*030S015111*	*030S015113*	*030S015302*	*030S015306*	*030S015311*	*030S015316*	*030S015402*	*030S015406*	*030S015411*	*030S015416*
SAMPLE DATE	*9/28/1993*	*9/28/1993*	*9/28/1993*	*9/28/1993*	*9/8/1993*	*9/8/1993*	*9/8/1993*	*9/8/1993*	*9/9/1993*	*9/8/1993*	*9/9/1993*	*9/9/1993*
METAL												
Aluminum	11500 J	1170 J	557 J	405 J	19300 J	1550 J	374 J	862 J	4270 J	2670 J	703 J	435 J
Antimony	6.1 U	6 U	6.1 U	6 U	7.6 J	6 U	6.2 U	6.3 U	6.6 U	5.6 U	6.3 U	5.2 U
Arsenic	3.6 J	0.55 U	0.41 U	0.42 U	2.5	0.66 J	0.31 U	0.42 U	1.3 J	0.6 J	0.4 U	0.35 U
Barium	10.4 U	2.2 U	1.2 U	1 U	8.7 J	1.7 U	0.58 U	0.54 U	25.8 J	4.2 U	1.3 U	0.52 U
Beryllium	0.2 U	0.2 U	0.2 U	0.2 U	0.48 J	0.23 U	0.23 J	0.22 J	0.31 J	0.22 J	0.21 U	0.017 U
Cadmium	1.2	1 U	1 U	0.99 U	1 U	1 U	1 U	1 U	1.1 U	0.93 U	1.1 U	0.86 U
Calcium	12800 J	132 UJ	255 UJ	196 UJ	526 U	551 U	51.4 U	75.2 U	39200	634 U	102 U	58.7 U
Chromium	19	2 U	2 U	8.3	16	3	2.1 U	2.7	27.1	4.4	2.5	3
Cobalt	4.1 U	4 U	4.1 U	4 U	4.1 U	4 U	4.1 U	4.2 U	4.4 U	3.7 U	4.2 U	3.4 U
Copper	7.6	2 U	2 U	2 U	4.2	2 U	2.1 U	2.1 U	4.9 J	2.4 J	2.1 U	1.7 U
Cyanide (CN)	0.01 U	0.01 U	0.01 U	1 U	1.1 UJ	1 U	1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U
Iron	7020 J	967 J	308 J	275 J	12600	1470	322	1630	2470	2030	528	311
Lead	58.4 J	1.7 J	0.77 J	1.2 J	6.1	2.2 U	0.31 U	0.42 U	20.9	7.7	0.4 U	0.35 U
Magnesium	597 J	50.8 U	36.2 U	22.7 U	87.3 U	53.1 U	23.6 U	19.4 U	6330	99.6 U	39 U	20.4 U
Manganese	66.2	3.5 U	1.4 U	1.3 U	46.8	7.3 U	3.7 U	4.1 U	51	12.3	6.3 U	3.9 U
Mercury	0.1 U	0.09 U	0.1 U	0.09 U	0.1 U	0.09 U	0.08 U	0.09 U	0.1 U	0.09 U	0.1 U	0.09 U
Molybdenum	2.5 U	2.4 U	2.4 U	2.4 U	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	4.1 U	4 U	4.1 U	4 U	4.1 U	4 U	4.1 U	4.2 U	4.4 U	3.7 U	4.2 U	3.4 U
Potassium	205 U	200 U	204 U	198 U	204 U	201 U	207 U	210 U	218 U	185 U	212 U	172 U
Selenium	0.43 U	0.41 U	0.41 U	0.42 U	0.44 U	0.39 U	0.31 U	0.42 U	0.44 U	0.35 U	0.4 U	0.35 U
Silver	1 U	1 U	1 U	0.99 U	1 U	1 U	1 U	1 U	1.1 U	0.93 U	1.1 U	0.86 U
Sodium	146 U	55.5 U	55 U	59.8 U	40.8 U	40.2 U	41.4 U	42 U	158 U	41.2 U	42.3 U	34.4 U
Thallium	0.43 U	0.41 U	0.41 U	0.42 U	0.44 U	0.39 U	0.31 U	0.42 U	0.44 U	0.35 U	0.4 U	0.35 U
Vanadium	21.3	2 U	2 U	2 U	29.3	3.1 J	2.1 U	2.5 J	9.3	4.5 J	2.1 U	1.7 U
Zinc	20.8 J	1.9 U	2.2 U	1.6 U	1 U	7.3 U	4.4 U	3 U	21 U	16.5 U	7 U	3.9 U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-2 : Summary of Detections Groundwater OU 2 Pesticides

SHORT ID	011GI51	011GS15	011GS28	011GS36	011GS46	011GS47	011GS48	011GS49	011GS52	011I002	011I004	011I006	011I008	011I010	011I012	011I014	011I015	011LF01	011LF10
SAMPLE ID	011GGI5101	011GGS1501	011GGS2801	011GGS3601	011GGS4601	011GGS4701	011GGS4801	011GGS4901	011GGS5201	011GI00201	011GI00401	011GI00601	011GI00801	011GI01001	011GI01201	011GI01401	011GI01501	011GLF0100	011GLF1000
SAMPLE DATE	11/4/1993	11/4/1993	11/4/1993	11/4/1993	11/9/1993	11/8/1993	11/9/1993	11/8/1993	11/9/1993	11/3/1993	11/3/1993	11/3/1993	11/4/1993	11/4/1993	11/4/1993	11/4/1993	11/4/1993	8/31/1993	9/1/1993
PESTICIDES																			
4,4-DDD	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.02UJ	0.071J	0.1UJ	0.14J
4,4-DDE	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ
4,4-DDT	0.1U	0.1U	0.1U	0.02U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ
Aldrin	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.02UJ	0.0075J	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05UJ	0.05UJ	0.05UJ
alpha-BHC	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05UJ	0.05UJ	0.05UJ
alpha-Chlordane	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05UJ	0.05UJ	0.05UJ
Aroclor-1260	1U	1U	1U	1U	1U	1UJ	1U	1U	1U	1UJ	1U	1U	1U	1U	1U	1UJ	1UJ	1UJ	1UJ
beta-BHC	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05UJ	0.05UJ	0.05UJ
delta-BHC	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05UJ	0.05UJ	0.05UJ
Dieldrin	0.1U	0.1U	0.1U	0.03J	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ
Endosulfan I	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05UJ	0.05UJ	0.05UJ
Endosulfan sulfate	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ
Endrin	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ
Endrin aldehyde	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ
Endrin ketone	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ
gamma-BHC (Lindane)	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05UJ	0.05UJ	0.05UJ
gamma-Chlordane	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05UJ	0.05UJ	0.05UJ
Heptachlor	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05UJ	0.05UJ	0.05UJ
Heptachlor epoxide	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05U	0.05U	0.0059J	0.05UJ	0.05U	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05UJ	0.05UJ	0.05UJ
Methoxychlor	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5UJ	0.5UJ	0.5UJ
Toxaphene	5U	5U	5U	5U	5U	5UJ	5U	5U	5U	5UJ	5U	5U	5U	5U	5U	5UJ	5UJ	5UJ	5UJ

SHORT ID	011LF11	011LF12	011LF13	011S001	011S003	011S005	011S007	011S009	011S011	011S013	012GS01	012GS02	012GS03	012GS05	012GS06	012GS08	012GS09	012GS10	012GS13
SAMPLE ID	011GLF1100	011GLF1200	011GLF1300	011GS00101	011GS00301	011GS00501	011GS00701	011GS00901	011GS01101	011GS01301	012GGS0101	012GGS0201	012GGS0301	012GGS0501	012GGS0601	012GGS0801	012GGS0901	012GGS1001	012GGS1301
SAMPLE DATE	9/9/1993	9/9/1993	9/8/1993	11/3/1993	11/3/1993	11/3/1993	11/8/1993	11/9/1993	11/9/1993	11/4/1993	6/21/1995	5/23/1995	5/23/1995	5/23/1995	5/23/1995	5/25/1995	5/23/1995	5/24/1995	5/24/1995
PESTICIDES																			
4,4-DDD	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.3UJ	0.1U	0.1U	0.1U	0.1U	0U	0.1U	0.1U	0.1U	0.1U	0.11	0.1U	0.1U	0.1U
4,4-DDE	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.3UJ	0.1U	0.1U	0.1U	0.1U	0U	0.1U	0.1U	0.1U	0.1U	0.0039J	0.1U	0.1U	0.1U
4,4-DDT	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.3UJ	0.1U	0.1U	0.1U	0.1U	0U	0.1U	0.1U	0.1U	0.1U	0.0099J	0.1U	0.1U	0.1U
Aldrin	0.05UJ	0.05UJ	0.05U	0.05U	0.026J	0.15UJ	0.05U	0.05U	0.05U	0.05U	0U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
alpha-BHC	0.05UJ	0.05UJ	0.05U	0.05U	0.05U	0.15UJ	0.05U	0.05U	0.05U	0.05U	0U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.0033J
alpha-Chlordane	0.05UJ	0.05UJ	0.05U	0.05U	0.05U	0.15UJ	0.05U	0.05U	0.05U	0.05U	0U	0.05U	0.0041J	0.05U	0.0069J	0.05J	0.05U	0.05U	0.05U
Aroclor-1260	1UJ	1UJ	1U	1U	1U	3UJ	1U	1U	1U	1U	0U	1U	1U	1U	1U	0.42J	1U	1U	1U
beta-BHC	0.05UJ	0.05UJ	0.05U	0.05U	0.05U	0.15UJ	0.05U	0.05U	0.05U	0.05U	0U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
delta-BHC	0.05UJ	0.05UJ	0.05U	0.05U	0.05U	0.15UJ	0.05U	0.05U	0.05U	0.05U	0U	0.05U	0.05U	0.002J	0.05U	0.05U	0.05U	0.05U	0.05U
Dieldrin	0.1UJ	0.1UJ	0.1U	0.1U	0.0094J	0.3UJ	0.1U	0.1U	0.1U	0.1U	0.0073J	0.072J	0.3	0.068J	0.074J	0.1U	0.1U	0.1U	0.1U
Endosulfan I	0.05UJ	0.05UJ	0.05U	0.05U	0.05U	0.15UJ	0.05U	0.05U	0.05U	0.05U	0U	0.05U	0.0035J	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Endosulfan sulfate	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.3UJ	0.1U	0.1U	0.1U	0.1U	0U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
Endrin	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.3UJ	0.1U	0.1U	0.1U	0.1U	0U	0.1U	0.0062J	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
Endrin aldehyde	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.3UJ	0.1U	0.1U	0.1U	0.1U	0U	0.1U	0.1U	0.1U	0.1U	0.014J	0.1U	0.1U	0.1U
Endrin ketone	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.3UJ	0.1U	0.1U	0.1U	0.1U	0U	0.0031J	0.071J	0.0053J	0.0051J	0.1U	0.1U	0.1U	0.1U
gamma-BHC (Lindane)	0.05UJ	0.05UJ	0.05U	0.05U	0.05U	0.15UJ	0.05U	0.05U	0.05U	0.05U	0U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
gamma-Chlordane	0.05UJ	0.05UJ	0.05U	0.05U	0.05U	0.15UJ	0.05U	0.05U	0.05U	0.05U	0U	0.05U	0.05U	0.05U	0.0031J	0.05U	0.05U	0.05U	0.05U
Heptachlor	0.05UJ	0.05UJ	0.05U	0.05U	0.05U	0.15UJ	0.05U	0.05U	0.05U	0.05U	0U	0.05U	0.0022J	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Heptachlor epoxide	0.05UJ	0.05UJ	0.05U	0.05U	0.05U	0.15UJ	0.05U	0.05U	0.05U	0.05U	0U	0.05U	0.05U	0.011J	0.05U	0.05U	0.05U	0.05U	0.05U
Methoxychlor	0.5UJ	0.5UJ	0.5U	0.5U	0.5U	0.039J	0.5U	0.5U	0.5U	0.5U	0U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U
Toxaphene	5UJ	5UJ	5U	5U	5U	15UJ	5U	5U	5U	5U	0U	5U	5U	5U	5U	5U	5U	5U	5U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-2 : Summary of Detections Groundwater OU 2 Pesticides

SHORT ID	012GS14	012GS15	012GS16	025I001	025I002	025S001	025S002	025S003	025S004	025S005	025S006	025S007	025S008	025S009	027GD54	027GS02	027I001	027I002	027I003
SAMPLE ID	*012GGS1401*	*012GGS1501*	*012GGS1601*	*025GI00101*	*025GI00201*	*025GS00100*	*025GS00200*	*025GS00300*	*025GS00400*	*025GS00500*	*025GS00600*	*025GS00700*	*025GS00800*	*025GS00900*	*027GGD5401*	*027GGS0201*	*027GI00101*	*027GI00201*	*027GI00301*
SAMPLE DATE	*5/24/1995*	*5/24/1995*	*5/24/1995*	*7/29/1993*	*7/27/1993*	*8/3/1993*	*7/29/1993*	*7/29/1993*	*7/29/1993*	*8/4/1993*	*8/4/1993*	*7/29/1993*	*7/27/1993*	*7/29/1993*	*8/9/1993*	*8/5/1993*	*7/28/1993*	*7/26/1993*	*7/28/1993*
PESTICIDES																			
4,4-DDD	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.012J	0.1U	0.1U	0.1U	0.1U	0.1U
4,4-DDE	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
4,4-DDT	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
Aldrin	0.05U	0.05U	0.002J	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
alpha-BHC	0.05U	0.05U	0.0014U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.0009J	0.05U	0.0009J
alpha-Chlordane	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Aroclor-1260	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
beta-BHC	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
delta-BHC	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Dieldrin	0.1U	0.1U	0.1U	0.1U	0.0041J	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.0034J	0.1U	0.1U	0.0095J	0.1U	0.1U	0.1U
Endosulfan I	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.0016J	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Endosulfan sulfate	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
Endrin	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
Endrin aldehyde	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
Endrin ketone	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
gamma-BHC (Lindane)	0.05U	0.05U	0.05U	0.05U	0.0033J	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.015J	0.0036J
gamma-Chlordane	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Heptachlor	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.0016J	0.05U	0.0024J
Heptachlor epoxide	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.0033J	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Methoxychlor	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U
Toxaphene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U

SHORT ID	027I004	027I005	027I006	027S001	027S002	027S003	027S004	027S005	027S006	027S007	027S008		027S009	027S010	027S011	027S013	027S015	027S016	027S018
SAMPLE ID	*027GI00401*	*027GI00501*	*027GI00601*	*027GS00101*	*027GS00201*	*027GS00301*	*027GS00401*	*027GS00501*	*027GS00601*	*027GS00701*	*027GS00801*	*027GS00801*	*027GS00901*	*027GS01001*	*027GS01101*	*027GS01301*	*027GS01501*	*027GS01601*	*027GS01801*
SAMPLE DATE	*7/27/1993*	*8/6/1993*	*7/26/1993*	*8/2/1993*	*7/26/1993*	*7/29/1993*	*7/28/1993*	*7/27/1993*	*8/3/1993*	*8/3/1993*	*7/27/1993*	*8/3/1993*	*8/3/1993*	*7/29/1993*	*7/26/1993*	*8/2/1993*	*8/2/1993*	*8/9/1993*	*8/2/1993*
PESTICIDES																			
4,4-DDD	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
4,4-DDE	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.037J
4,4-DDT	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.0029J	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
Aldrin	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.0022J	0.05U	0.05U	0.05U	0.05U	0.0045J
alpha-BHC	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.026J
alpha-Chlordane	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Aroclor-1260	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
beta-BHC	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.0058J	0.05U	0.05U
delta-BHC	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Dieldrin	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.0021J	0.1U	0.1U	0.1U	0.0022J	0.1U	0.1U	0.1U	0.0064	0.1U	0.1U	0.1U	0.1U
Endosulfan I	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Endosulfan sulfate	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.0031J	0.1U	0.1U	0.1U	0.1U	0.1U
Endrin	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
Endrin aldehyde	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
Endrin ketone	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
gamma-BHC (Lindane)	0.05U	0.05U	0.016J	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
gamma-Chlordane	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Heptachlor	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.0058U
Heptachlor epoxide	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.0032J	0.05U	0.05U	0.05U	0.05U	0.05U
Methoxychlor	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.031J	0.5U	0.5U	0.0059J
Toxaphene	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-2 : Summary of Detections Groundwater OU 2 Pesticides

SHORT ID	027S019	027S020	027S021	030I007	030I009	030I019	030I032	030I058	030I060	030I111	030I113	030I126	030I164	030I170	030I32A	030S003	030S005	030S006	030S011
SAMPLE ID	*027GS01901*	*027GS02001*	*027GS02101*	*030GI00701*	*030GI00901*	*030GI01901*	*030GI03201*	*030GI05801*	*030GI06001*	*030GI11101*	*030GI11301*	*030GI12601*	*030GI16401*	*030GI17001*	*030GI32A01*	*030GS00300*	*030GS00500*	*030GS00600*	*030GS01100*
SAMPLE DATE	*8/2/1993*	*8/3/1993*	*8/5/1993*	*11/8/1993*	*11/9/1993*	*11/3/1993*	*11/8/1993*	*12/1/1993*	*12/1/1993*	*11/9/1993*	*11/10/1993*	*11/10/1993*	*11/9/1993*	*11/8/1993*	*11/8/1993*	*11/5/1993*	*11/3/1993*	*11/8/1993*	*11/10/1993*
PESTICIDES																			
4,4-DDD	0.1U	0.1U	0.1U	0.12UJ	0.1U	0.11U	0.11U	0.099UJ	0.11UR	0.11UR	0.096U	0.11U	0.11U	0.1U	0.11U	0.11U	0.1UJ	0.11U	0.097U
4,4-DDE	0.1U	0.1U	0.1U	0.12UJ	0.1U	0.11U	0.11U	0.099UJ	0.11UR	0.11UR	0.096U	0.11U	0.11U	0.1U	0.11U	0.11U	0.1UJ	0.11U	0.097U
4,4-DDT	0.1U	0.032	0.1U	0.12UJ	0.1U	0.11U	0.11U	0.099UJ	0.11UR	0.11UR	0.096U	0.11U	0.11U	0.1U	0.11U	0.11U	0.1UJ	0.11U	0.097U
Aldrin	0.05U	0.05U	0.05U	0.058UJ	0.051U	0.056U	0.056U	0.05UJ	0.053UR	0.054UR	0.048U	0.057U	0.055U	0.052U	0.056U	0.054U	0.05UJ	0.056U	0.049U
alpha-BHC	0.05U	0.002	0.05U	0.058UJ	0.051U	0.056U	0.056U	0.05UJ	0.053UR	0.054UR	0.048U	0.057U	0.055U	0.052U	0.056U	0.054U	0.05UJ	0.056U	0.049U
alpha-Chlordane	0.05U	0.016	0.05U	0.058UJ	0.051U	0.056U	0.056U	0.05UJ	0.053UR	0.054UR	0.048U	0.057U	0.055U	0.052U	0.056U	0.054U	0.05UJ	0.056U	0.049U
Aroclor-1260	1U	1U	1U	1.2UJ	1U	1.1U	1.1U	0.99UJ	1.1UR	1.1UR	0.96U	1.1U	1.1U	1U	1.1U	1.1U	1UJ	1.1U	0.97U
beta-BHC	0.05U	0.05U	0.05U	0.058UJ	0.051U	0.056U	0.056U	0.05UJ	0.053UR	0.054UR	0.048U	0.057U	0.055U	0.052U	0.056U	0.054U	0.05UJ	0.056U	0.049U
delta-BHC	0.05U	0.05U	0.05U	0.058UJ	0.051U	0.056U	0.056U	0.05UJ	0.053UR	0.054UR	0.048U	0.057U	0.055U	0.052U	0.056U	0.054U	0.05UJ	0.056U	0.049U
Dieldrin	0.1U	0.1U	0.0037J	0.12UJ	0.1U	0.11U	0.11U	0.099UJ	0.11UR	0.11UR	0.096U	0.11U	0.11U	0.1U	0.11U	0.11U	0.1UJ	0.11U	0.097U
Endosulfan I	0.05U	0.05U	0.05U	0.058UJ	0.051U	0.056U	0.056U	0.05UJ	0.053UR	0.054UR	0.048U	0.057U	0.055U	0.052U	0.056U	0.054U	0.05UJ	0.056U	0.049U
Endosulfan sulfate	0.1U	0.1U	0.1U	0.12UJ	0.1U	0.11U	0.11U	0.099UJ	0.11UR	0.11UR	0.096U	0.11U	0.11U	0.1U	0.11U	0.11U	0.1UJ	0.11U	0.097U
Endrin	0.1U	0.1U	0.1U	0.12UJ	0.1U	0.11U	0.11U	0.099UJ	0.11UR	0.11UR	0.096U	0.11U	0.11U	0.1U	0.11U	0.11U	0.1UJ	0.11U	0.097U
Endrin aldehyde	0.1U	0.1U	0.1U	0.12UJ	0.1U	0.11U	0.11U	0.099UJ	0.11UR	0.11UR	0.096U	0.11U	0.11U	0.1U	0.11U	0.11U	0.1UJ	0.11U	0.097U
Endrin ketone	0.1U	0.1U	0.1U	0.12UJ	0.1U	0.11U	0.11U	0.099UJ	0.11UR	0.11UR	0.096U	0.11U	0.11U	0.1U	0.11U	0.11U	0.1UJ	0.11U	0.097U
gamma-BHC (Lindane)	0.05U	0.05U	0.05U	0.058UJ	0.051U	0.056U	0.056U	0.05UJ	0.053UR	0.054UR	0.048U	0.057U	0.055U	0.052U	0.056U	0.054U	0.05UJ	0.056U	0.049U
gamma-Chlordane	0.05U	0.05U	0.05U	0.058UJ	0.051U	0.056U	0.056U	0.05UJ	0.053UR	0.054UR	0.048U	0.057U	0.055U	0.052U	0.056U	0.054U	0.05UJ	0.056U	0.049U
Heptachlor	0.1U	0.05U	0.05U	0.058UJ	0.051U	0.056U	0.056U	0.05UJ	0.053UR	0.054UR	0.048U	0.057U	0.055U	0.052U	0.056U	0.054U	0.05UJ	0.056U	0.049U
Heptachlor epoxide	0.05U	0.05U	0.0066J	0.058UJ	0.051U	0.056U	0.056U	0.05UJ	0.053UR	0.054UR	0.048U	0.057U	0.055U	0.052U	0.056U	0.054U	0.05UJ	0.056U	0.049U
Methoxychlor	0.0089	0.5U	0.5U	0.58UJ	0.51U	0.56U	0.56U	0.5UJ	0.53UR	0.54UR	0.048U	0.57U	0.55U	0.52U	0.56U	0.54U	0.5UJ	0.56U	0.49U
Toxaphene	5U	5U	5U	5.8UJ	5.1U	5.6U	5.6U	5UJ	5.3UR	5.4UR	4.8U	5.7U	5.5U	5.2U	5.6U	5.4U	5UJ	5.6U	4.9U

SHORT ID	030S015	030S016	030S018	030S020	030S022	030S024	030S026	030S027	030S028	030S029	030S033	030S037	030S039	030S043	030S044	030S046	030S049	030S050	030S051
SAMPLE ID	*030GS01500*	*030GS01601*	*030GS01800*	*030GS02000*	*030GS02200*	*030GS02400*	*030GS02600*	*030GS02700*	*030GS02800*	*030GS02900*	*030GS03300*	*030GS03700*	*030GS03900*	*030GS04300*	*030GS04400*	*030GS04600*	*030GS04900*	*030GS05000*	*030GS05100*
SAMPLE DATE	*11/4/1993*	*11/5/1993*	*11/3/1993*	*11/4/1993*	*11/5/1993*	*11/4/1993*	*11/4/1993*	*11/4/1993*	*11/5/1993*	*11/9/1993*	*11/9/1993*	*11/4/1993*	*11/4/1993*	*11/4/1993*	*11/4/1993*	*11/3/1993*	*11/3/1993*	*11/3/1993*	*11/3/1993*
PESTICIDES																			
4,4-DDD	0.1U	0.1U	0.099U	0.11U	0.11U	0.1U	0.098U	0.1U	0.1U	0.1U	0.099U	0.1U	0.1U	0.11U	0.11U	0.1U	0.1U	0.1U	0.1U
4,4-DDE	0.1U	0.1U	0.099U	0.11U	0.11U	0.1U	0.098U	0.1U	0.1U	0.1U	0.099U	0.1U	0.1U	0.11U	0.11U	0.1U	0.1U	0.1U	0.1U
4,4-DDT	0.1U	0.1U	0.099U	0.11U	0.11U	0.1U	0.098U	0.1U	0.1U	0.1U	0.099U	0.1U	0.1U	0.11U	0.11U	0.1U	0.1U	0.1U	0.1U
Aldrin	0.051U	0.051U	0.05U	0.055U	0.055U	0.05U	0.049U	0.052U	0.052U	0.051U	0.05U	0.051U	0.052U	0.054U	0.053U	0.052U	0.05U	0.052U	0.05U
alpha-BHC	0.051UJ	0.051U	0.05U	0.055UJ	0.055U	0.05U	0.049U	0.052U	0.052U	0.051U	0.05U	0.051UJ	0.052UJ	0.054U	0.053UJ	0.052U	0.05U	0.052U	0.05U
alpha-Chlordane	0.051U	0.051U	0.05U	0.055U	0.055U	0.05U	0.049U	0.052U	0.052U	0.051U	0.05U	0.051U	0.052U	0.054U	0.053U	0.052U	0.05U	0.052U	0.05U
Aroclor-1260	1U	1U	0.99U	1.1U	1.1U	1U	0.98U	1U	1U	1U	0.99U	1U	1U	1.1U	1.1U	1U	1U	1U	1U
beta-BHC	0.051U	0.051U	0.05U	0.055U	0.055U	0.05U	0.049U	0.052U	0.052U	0.051U	0.05U	0.051U	0.052U	0.054U	0.053U	0.052U	0.05U	0.052U	0.05U
delta-BHC	0.051U	0.051U	0.05U	0.055U	0.055U	0.05U	0.049U	0.052U	0.052U	0.051U	0.05U	0.051U	0.052U	0.054U	0.053U	0.052U	0.05U	0.052U	0.05U
Dieldrin	0.1U	0.1U	0.099U	0.11U	0.11U	0.1U	0.098U	0.1U	0.1U	0.1U	0.099U	0.1U	0.1U	0.11U	0.11U	0.1U	0.1U	0.1U	0.1U
Endosulfan I	0.051U	0.051U	0.05U	0.055U	0.055U	0.05U	0.049U	0.052U	0.052U	0.051U	0.05U	0.051U	0.052U	0.054U	0.053U	0.052U	0.05U	0.052U	0.05U
Endosulfan sulfate	0.1U	0.1U	0.099U	0.11U	0.11U	0.1U	0.098U	0.1U	0.1U	0.1U	0.099U	0.1U	0.1U	0.11U	0.11U	0.1U	0.1U	0.1U	0.1U
Endrin	0.1U	0.1U	0.099U	0.11U	0.11U	0.1U	0.098U	0.1U	0.1U	0.1U	0.099U	0.1U	0.1U	0.11U	0.11U	0.1U	0.1U	0.1U	0.1U
Endrin aldehyde	0.1U	0.1U	0.099U	0.11U	0.11U	0.1U	0.098U	0.1U	0.1U	0.1U	0.099U	0.1U	0.1U	0.11U	0.11U	0.1U	0.1U	0.1U	0.1U
Endrin ketone	0.1U	0.1U	0.099U	0.11U	0.11U	0.1U	0.098U	0.1U	0.1U	0.1U	0.099U	0.1U	0.1U	0.11U	0.11U	0.1U	0.1U	0.1U	0.1U
gamma-BHC (Lindane)	0.051U	0.051U	0.05U	0.055U	0.055U	0.05U	0.049U	0.052U	0.052U	0.051U	0.05U	0.051U	0.052U	0.054U	0.053U	0.052U	0.05U	0.052U	0.05U
gamma-Chlordane	0.051U	0.051U	0.05U	0.055U	0.055U	0.05U	0.049U	0.052U	0.052U	0.051U	0.05U	0.051U	0.052U	0.054U	0.053U	0.052U	0.05U	0.052U	0.05U
Heptachlor	0.051U	0.051U	0.05U	0.055U	0.055U	0.05U	0.049U	0.052U	0.052U	0.051U	0.05U	0.051U	0.052U	0.054U	0.053U	0.052U	0.05U	0.052U	0.05U
Heptachlor epoxide	0.051U	0.051U	0.05U	0.055U	0.055U	0.05U	0.049U	0.052U	0.052U	0.051U	0.05U	0.051U	0.052U	0.054U	0.053U	0.052U	0.05U	0.052U	0.05U
Methoxychlor	0.51U	0.51U	0.5U	0.55U	0.55U	0.5U	0.49U	0.52U	0.52U	0.51U	0.5U	0.51U	0.52U	0.54U	0.53U	0.52U	0.5U	0.52U	0.5U
Toxaphene	5.1U	5.1U	5U	5.5U	5.5U	5U	4.9U	5.2U	5.2U	5.1U	5U	5.1U	5.2U	5.4U	5.3U	5.2U	5U	5.2U	5U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-2 : Summary of Detections Groundwater OU 2 Pesticides

SHORT ID	030S052	030S056	030S057	030S059	030S062	030S101	030S103	030S105	030S108	030S111	030S113	030S118	030S123	030S126	030S146	030S154	030S156	030S157	030S160
SAMPLE ID	*030GS05200*	*030GS05600*	*030GS05700*	*030GS05900*	*030GS06200*	*030GS10101*	*030GS10301*	*030GS10501*	*030GS10801*	*030GS11101*	*030GS11301*	*030GS11801*	*030GS12301*	*030GS12601*	*030GS14601*	*030GS15401*	*030GS15601*	*030GS15701*	*030GS16001*
SAMPLE DATE	*11/3/1993*	*11/5/1993*	*11/30/1993*	*12/1/1993*	*12/1/1993*	*11/9/1993*	*11/10/1993*	*11/9/1993*	*11/9/1993*	*11/10/1993*	*11/10/1993*	*11/10/1993*	*11/10/1993*	*11/10/1993*	*11/10/1993*	*11/10/1993*	*11/5/1993*	*11/5/1993*	*11/5/1993*
PESTICIDES																			
4,4-DDD	0.1U	0.1U	0.11UJ	0.11U	0.12U	0.11U	0.1U	0.11U	0.11U	0.1U	0.12U	0.12U	0.1U	0.1U	0.096U	0.11U	0.1U	0.1U	0.1U
4,4-DDE	0.1U	0.1U	0.11UJ	0.11U	0.12U	0.11U	0.1U	0.11U	0.11U	0.1U	0.12U	0.12U	0.1U	0.1U	0.096U	0.11U	0.1U	0.1U	0.1U
4,4-DDT	0.1U	0.1U	0.11UJ	0.11U	0.12U	0.11U	0.1U	0.11U	0.11U	0.1U	0.12U	0.12U	0.1U	0.1U	0.096U	0.11U	0.1U	0.1U	0.1U
Aldrin	0.051U	0.052U	0.055UJ	0.057U	0.058U	0.056U	0.048U	0.053U	0.056U	0.049U	0.058U	0.059U	0.048U	0.052U	0.048U	0.055U	0.052U	0.052U	0.051U
alpha-BHC	0.051U	0.052U	0.055UJ	0.057U	0.058U	0.056U	0.048U	0.053U	0.056U	0.049U	0.058U	0.059U	0.048U	0.052U	0.048U	0.055U	0.052U	0.052U	0.051U
alpha-Chlordane	0.051U	0.052U	0.055UJ	0.057U	0.058U	0.056U	0.048U	0.053U	0.056U	0.049U	0.058U	0.059U	0.048U	0.052U	0.048U	0.055U	0.052U	0.052U	0.051U
Aroclor-1260	1U	1U	1.1UJ	1.1U	1.2U	1.1U	0.96U	1.1U	1.1U	0.97U	1.2U	1.2U	0.96U	1U	0.96U	1.1U	1U	1U	1U
beta-BHC	0.051U	0.052U	0.055UJ	0.057UJ	0.058UJ	0.056U	0.048U	0.053U	0.056U	0.049U	0.058U	0.059U	0.048U	0.052U	0.048U	0.055U	0.052U	0.052U	0.051U
delta-BHC	0.051U	0.052U	0.055UJ	0.057U	0.058U	0.056U	0.048U	0.053U	0.056U	0.049U	0.058U	0.059U	0.048U	0.052U	0.048U	0.055U	0.052U	0.052U	0.051U
Dieldrin	0.1U	0.1U	0.11UJ	0.11U	0.12U	0.11U	0.1U	0.11U	0.11U	0.1U	0.12U	0.12U	0.1U	0.1U	0.096U	0.11U	0.1U	0.1U	0.1U
Endosulfan I	0.051U	0.052U	0.055UJ	0.057U	0.058U	0.056U	0.048U	0.053U	0.056U	0.049U	0.058U	0.059U	0.048U	0.052U	0.048U	0.055U	0.052U	0.052U	0.051U
Endosulfan sulfate	0.1U	0.1U	0.11UJ	0.11U	0.12U	0.11U	0.1U	0.11U	0.11U	0.1U	0.12U	0.12U	0.1U	0.1U	0.096U	0.11U	0.1U	0.1U	0.1U
Endrin	0.1U	0.1U	0.11UJ	0.11U	0.12U	0.11U	0.1U	0.11U	0.11U	0.1U	0.12U	0.12U	0.1U	0.1U	0.096U	0.11U	0.1U	0.1U	0.1U
Endrin aldehyde	0.1U	0.1U	0.11UJ	0.11U	0.12U	0.11U	0.1U	0.11U	0.11U	0.1U	0.12U	0.12U	0.1U	0.1U	0.096U	0.11U	0.1U	0.1U	0.1U
Endrin ketone	0.1U	0.1U	0.11UJ	0.11U	0.12U	0.11U	0.1U	0.11U	0.11U	0.1U	0.12U	0.12U	0.1U	0.1U	0.096U	0.11U	0.1U	0.1U	0.1U
gamma-BHC (Lindane)	0.051U	0.052U	0.055UJ	0.057U	0.058U	0.056U	0.048U	0.053U	0.056U	0.049U	0.058U	0.059U	0.048U	0.052U	0.048U	0.055U	0.052U	0.052U	0.051U
gamma-Chlordane	0.051U	0.052U	0.055UJ	0.057U	0.058U	0.056U	0.048U	0.053U	0.056U	0.049U	0.058U	0.059U	0.048U	0.052U	0.048U	0.055U	0.052U	0.052U	0.051U
Heptachlor	0.051U	0.052U	0.055UJ	0.057U	0.058U	0.056U	0.048U	0.053U	0.056U	0.049U	0.058U	0.059U	0.048U	0.052U	0.048U	0.055U	0.029J	0.052U	0.051U
Heptachlor epoxide	0.051U	0.052U	0.055UJ	0.057U	0.058U	0.056U	0.048U	0.053U	0.056U	0.049U	0.058U	0.059U	0.048U	0.052U	0.048U	0.055U	0.052U	0.052U	0.051U
Methoxychlor	0.51U	0.52U	0.55UJ	0.57U	0.58U	0.56U	0.48U	0.53U	0.56U	0.49U	0.58U	0.59U	0.48U	0.52U	0.48U	0.55U	0.52U	0.52U	0.51U
Toxaphene	5.1U	5.2U	5.5UJ	5.7U	5.8U	5.6U	4.8U	5.3U	5.6U	4.9U	5.8U	5.9U	4.8	5.2U	4.8U	5.5U	5.2U	5.2U	5.1U

SHORT ID	030S161	030S162	030S164	030S165	030S166	030S168	030S170	030S171	030S172	030S173
SAMPLE ID	*030GS16101*	*030GS16201*	*030GS16401*	*030GS16501*	*030GS16601*	*030GS16801*	*030GS17001*	*030GS17101*	*030GS17201*	*030GS17301*
SAMPLE DATE	*12/1/1993*	*11/8/1993*	*11/9/1993*	*11/9/1993*	*11/9/1993*	*11/8/1993*	*11/8/1993*	*11/9/1993*	*11/10/1993*	*11/10/1993*
PESTICIDES										
4,4-DDD	0.11U	0.12U	0.11U	0.1U	0.1U	0.11U	0.11U	0.1U	0.097U	0.11U
4,4-DDE	0.11U	0.12U	0.11U	0.1U	0.1U	0.11U	0.11U	0.1U	0.097U	0.11U
4,4-DDT	0.11U	0.12U	0.11U	0.1U	0.1U	0.11U	0.11U	0.1U	0.097U	0.11U
Aldrin	0.056U	0.058U	0.056U	0.051U	0.051U	0.056U	0.056U	0.052U	0.049U	0.053U
alpha-BHC	0.056U	0.058U	0.056U	0.051U	0.051U	0.056U	0.056U	0.052U	0.049U	0.053U
alpha-Chlordane	0.056U	0.058U	0.056U	0.051U	0.051U	0.056U	0.056U	0.052U	0.049U	0.053U
Aroclor-1260	1.1U	1.2U	1.1U	1U	1U	1.1U	1.1U	1U	0.97U	1.1U
beta-BHC	0.056UJ	0.058U	0.056U	0.051U	0.051U	0.056U	0.056U	0.052U	0.049U	0.053U
delta-BHC	0.056U	0.058U	0.056U	0.051U	0.051U	0.056U	0.056U	0.052U	0.049U	0.053U
Dieldrin	0.11U	0.12U	0.11U	0.1U	0.1U	0.11U	0.11U	0.1U	0.097U	0.11U
Endosulfan I	0.056U	0.058U	0.056U	0.051U	0.051U	0.056U	0.056U	0.052U	0.049U	0.053U
Endosulfan sulfate	0.11U	0.12U	0.11U	0.1U	0.1U	0.11U	0.11U	0.1U	0.097U	0.11U
Endrin	0.11U	0.12U	0.11U	0.1U	0.1U	0.11U	0.11U	0.1U	0.097U	0.11U
Endrin aldehyde	0.11U	0.12U	0.11U	0.1U	0.1U	0.11U	0.11U	0.1U	0.097U	0.11U
Endrin ketone	0.11U	0.12U	0.11U	0.1U	0.1U	0.11U	0.11U	0.1U	0.097U	0.11U
gamma-BHC (Lindane)	0.056U	0.058U	0.056U	0.051U	0.051U	0.056U	0.056U	0.052U	0.049U	0.053U
gamma-Chlordane	0.056U	0.058U	0.056U	0.051U	0.051U	0.056U	0.056U	0.052U	0.049U	0.053U
Heptachlor	0.056U	0.058U	0.056U	0.051U	0.051U	0.056U	0.056U	0.052U	0.049U	0.053U
Heptachlor epoxide	0.056U	0.058U	0.056U	0.051U	0.051U	0.056U	0.056U	0.052U	0.049U	0.053U
Methoxychlor	0.56U	0.58U	0.56U	0.51U	0.51U	0.56U	0.56U	0.52U	0.49U	0.53U
Toxaphene	5.6U	5.8U	5.6U	5.1U	5.1U	5.6U	5.6U	5.2U	4.9U	5.3U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-3 : Summary of Detections Groundwater OU 2

SHORT ID	011GI51	011GS15	011GS28	011GS36	011GS46	011GS47	011GS48	011GS49	011GS52	011I002	011I004	011I006	011I008	011I010	011I012	011I014	011I015	011LF01	011LF10
SAMPLE ID	*011GGI5101*	*011GGS1501*	*011GGS2801*	*011GGS3601*	*011GGS4601*	*011GGS4701*	*011GGS4801*	*011GGS4901*	*011GGS5201*	*011GI00201*	*011GI00401*	*011GI00601*	*011GI00801*	*011GI01001*	*011GI01201*	*011GI01401*	*011GI01501*	*011GLF0100*	*011GLF1000*
SAMPLE DATE	*11/4/1993*	*11/4/1993*	*11/4/1993*	*11/4/1993*	*11/9/1993*	*11/8/1993*	*11/9/1993*	*11/8/1993*	*11/9/1993*	*11/3/1993*	*11/3/1993*	*11/3/1993*	*11/4/1993*	*11/4/1993*	*11/4/1993*	*11/4/1993*	*11/4/1993*	*8/31/1993*	*9/1/1993*
VOC																			
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
1,1,2,2-Tetrachloroethane	10U	10U	2J	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
1,1-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	9J	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
1,1-Dichloroethene	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	9J	10U	50U	10U	100U	10U
1,2-Dichloroethene (total)	10U	10U	10U	10U	10U	9J	10U	10U	420	16	10U	10U	10U	3J	110	580	10U	100U	10U
2-Butanone (MEK)	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
Acetone	10U	10U	10U	10U	10U	10U	10U	10U	50UJ	10U	10U	10U	10U	10U	10U	50U	140	100U	14U
Benzene	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
Bromodichloromethane	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
Bromoform	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
Carbon disulfide	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	1J	100U	10U
Chlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
Chloroform	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	2J	10U	10U	1J	10U	50U	10U	100U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
Ethylbenzene	10U	10U	10U	10U	10U	58	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
Methylene chloride	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100UJ	19U
Tetrachloroethene	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
Toluene	10U	10U	10U	10U	10U	6J	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	1J	100U	10U
Trichloroethene	10U	10U	10U	10U	10U	10U	10U	10U	20J	3J	10U	10U	10U	10U	14	50U	10U	100U	10U
Vinyl chloride	10U	10U	2J	10U	10U	55	10U	10U	230	10U	10U	10U	10U	10U	10U	88	10U	100U	10U
Xylene (Total)	10U	10U	1J	10U	10U	200	10U	10U	50U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U
SVOC																			
1,2,4-Trichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
1,2-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
1,3-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
1,4-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
2,4-Dichlorophenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
2,4-Dimethylphenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
2-Chloronaphthalene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
2-Chlorophenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
2-Methylnaphthalene	10U	10U	10	10U	10U	25	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
2-Methylphenol (o-Cresol)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
4-Chloro-3-methylphenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
4-Methylphenol (p-Cresol)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
4-Nitrophenol	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	120U	120U
Acenaphthene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
Acenaphthylene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
bis(2-Ethylhexyl)phthalate (BEHP)	10U	10U	10U	1J	10U	2J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50UJ	50U
Carbazole	10U	10U	10U	10U	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50UJ
Dibenzofuran	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
Diethylphthalate	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
Dimethylphthalate	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
Di-n-butylphthalate	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	1J	10U	50U	50U
Fluoranthene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	7J
Fluorene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
Naphthalene	10U	10U	10U	10U	10U	47	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	50U
Pentachlorophenol	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	120U	120U
Phenanthrene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	5J
Phenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	16U	11U	10U	10U	14U	10U	22U	50U	50U
Pyrene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	50U	8J

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-3 : Summary of Detections Groundwater OU 2

SHORT ID	011LF11	011LF12	011LF13	011S001	011S003	011S005	011S007	011S009	011S011	011S013	012GS01	012GS02	012GS03	012GS05	012GS06	012GS08	012GS09	012GS10	012GS13
SAMPLE ID	*011GLF1100*	*011GLF1200*	*011GLF1300*	*011GS00101*	*011GS00301*	*011GS00501*	*011GS00701*	*011GS00901*	*011GS01101*	*011GS01301*	*012GGS0101*	*012GGS0201*	*012GGS0301*	*012GGS0501*	*012GGS0601*	*012GGS0801*	*012GGS0901*	*012GGS1001*	*012GGS1301*
SAMPLE DATE	*9/9/1993*	*9/9/1993*	*9/8/1993*	*11/3/1993*	*11/3/1993*	*11/3/1993*	*11/8/1993*	*11/9/1993*	*11/9/1993*	*11/4/1993*	*6/21/1995*	*5/23/1995*	*5/23/1995*	*5/23/1995*	*5/23/1995*	*5/25/1995*	*5/23/1995*	*5/24/1995*	*5/24/1995*
VOC																			
1,1,1-Trichloroethane	10U	50U	100U	10U	10U	10U	10U	10U	10U	10U	1U	1UJ	1UJ	1UJ	1UJ	1U	1U	1UJ	1U
1,1,2,2-Tetrachloroethane	10U	50U	15J	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
1,1-Dichloroethane	10U	50U	100U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	12	0.5J
1,1-Dichloroethene	10U	50U	100U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	0.8J	1U
1,2-Dichloroethane	10U	50U	100U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
1,2-Dichloroethene (total)	10U	14J	100U	10U	10U	6J	10U	10U	2J	4J	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone (MEK)	10U	50U	100U	10U	10U	10U	10U	10U	10U	10U	5UR	5UR	5UR	5UR	5UR	5UR	5UR	5UR	5UR
2-Hexanone	10U	50U	100U	10U	10U	10U	10U	10U	10U	10U	5U	5UR	5UR	5UR	5UR	5UR	5UR	5UR	5UR
Acetone	12U	110U	100U	10U	10U	56U	10U	11J	60J	10U	5UR	5UR	5UR	5UR	13U	9U	5UR	5UR	5UR
Benzene	2J	50U	100U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Bromodichloromethane	10U	50U	100U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Bromoform	10U	50U	100U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Carbon disulfide	10U	50U	100U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Chlorobenzene	10U	50U	100U	10U	10U	10U	10U	10U	3J	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Chloroethane	10U	50U	100U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1UR	1U	1UR
Chloroform	10U	50U	100U	10U	1J	10U	10U	10U	10U	10U	0.5J	1	1U	1U	2	1U	1U	1U	1U
Chloromethane	10U	50U	100U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1U	1U	1U	1U	1U	1U	1U	3	1U
Dibromochloromethane	10U	50U	100U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Ethylbenzene	10U	28J	100U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Methylene chloride	10U	320UJ	100U	10U	10U	10U	10U	10U	10U	10U	2U	2U	2U	2U	2U	2U	2U	2U	2U
Tetrachloroethene	10U	50U	100U	10U	10U	2J	10U	10U	10U	10U	0.6J	0.5J	1U	1U	1	1U	1U	2	1U
Toluene	10U	50U	100U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Trichloroethene	10U	21J	100U	10U	10U	4J	10U	10U	10U	10U	1U	1UJ	1UJ	1UJ	1UJ	1UJ	1U	0.6J	1U
Vinyl chloride	10U	50UJ	100U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Xylene (Total)	10U	200	100U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
SVOC																			
1,2,4-Trichlorobenzene	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U
1,2-Dichlorobenzene	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
1,3-Dichlorobenzene	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
1,4-Dichlorobenzene	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	1U	1U	1U	1U	1U	1U	1U	1U	1U
2,4-Dichlorophenol	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5U	5U	5U	5U	5U
2,4-Dimethylphenol	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Chloronaphthalene	10U	100U	50U	10U	10U	10U	10U	4J	10U	10U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U
2-Chlorophenol	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5U	5U	5U	5U	5U
2-Methylnaphthalene	10U	54J	50U	10U	10U	2J	10U	10U	10U	10U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U
2-Methylphenol (o-Cresol)	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Chloro-3-methylphenol	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Methylphenol (p-Cresol)	10U	100U	50UJ	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5U	5U	5U	5U	5U
4-Nitrophenol	25UJ	250U	120UJ	25U	25U	25U	25U	25U	25U	25U	20U	20U	20U	20U	20U	20U	20U	20U	20U
Acenaphthene	10U	100U	50U	10U	10U	10U	10U	1J	10U	10U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U
Acenaphthylene	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U
bis(2-Ethylhexyl)phthalate (BEHP)	10U	100U	50U	10U	10U	10U	10U	10U	10U	1J	5U	5U	10U	5U	5U	5U	5U	5U	5U
Carbazole	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibenzofuran	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U
Diethylphthalate	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U
Dimethylphthalate	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U
Di-n-butylphthalate	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U
Fluoranthene	10U	100U	6J	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U
Fluorene	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U
Naphthalene	10U	69J	50U	10U	10U	2J	10U	10U	10U	10U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U
Pentachlorophenol	25U	250U	120U	25U	25U	25U	25U	25U	25U	25U	20U	20U	20U	20U	20U	20U	20U	20U	20U
Phenanthrene	10U	100U	50U	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U
Phenol	10U	100U	50U	11U	10U	25U	10U	10U	10U	14U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Pyrene	10U	100U	8J	10U	10U	10U	10U	10U	10U	10U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-3 : Summary of Detections Groundwater OU 2

SHORT ID	012GS14	012GS15	012GS16	025I001	025I002	025S001	025S002	025S003	025S004	025S005	025S006	025S007	025S008	025S009	027GD54	027GS02	027I001	027I002	027I003
SAMPLE ID	*012GGS1401*	*012GGS1501*	*012GGS1601*	*025GI00101*	*025GI00201*	*025GS00100*	*025GS00200*	*025GS00300*	*025GS00400*	*025GS00500*	*025GS00600*	*025GS00700*	*025GS00800*	*025GS00900*	*027GGD5401*	*027GGS0201*	*027GI00101*	*027GI00201*	*027GI00301*
SAMPLE DATE	*5/24/1995*	*5/24/1995*	*5/24/1995*	*7/29/1993*	*7/27/1993*	*8/3/1993*	*7/29/1993*	*7/29/1993*	*7/29/1993*	*8/4/1993*	*8/4/1993*	*7/29/1993*	*7/27/1993*	*7/29/1993*	*8/9/1993*	*8/5/1993*	*7/28/1993*	*7/26/1993*	*7/28/1993*
VOC																			
1,1,1-Trichloroethane	2J	0.6J	1U	10U	2J	1J	19	1J	10	10	3J	2J	20	10U	10U	5J	10U	10U	10U
1,1,2,2-Tetrachloroethane	1U	1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	0.6J	1U	0.6J	10U	10U	10U	10U	10	90	10U	10U	10U	62	60	10U	6J	10U	3J	10U
1,1-Dichloroethene	0.9J	1U	1U	10U	1J	10U	2J	10U	3J	3J	2J	10U	4J	2J	10U	1J	10U	10U	10U
1,2-Dichloroethane	1U	1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethene (total)	NS	NS	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U
2-Butanone (MEK)	5UR	5UR	5UR	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	5UR	5UR	5UR	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acetone	5UR	5UR	5UR	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	1U	1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	25	10U
Bromodichloromethane	1U	1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Bromoform	1U	1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	1U	1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	1U	1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	95	10U
Chloroethane	1UR	1UR	1UR	10U	10U	10U	10U	6J	44	10U	10U	10U	10U	12	10U	10U	10U	10U	10U
Chloroform	3	2	1U	10U	1J	3J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloromethane	1U	1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
cis-1,2-Dichloroethene	1U	1U	1U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	1U	1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Ethylbenzene	1U	1U	0.8J	10U	10U	10U	10U	10U	2J	10U	10U	10U	10U	10U	10U	10U	10U	4J	10U
Methylene chloride	2U	1U	2U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Tetrachloroethene	2	0.7J	1U	10U	1J	10U	5J	10U	10U	10U	10U	10U	10U	3J	10U	10U	10U	10U	10U
Toluene	1U	1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Trichloroethene	1J	1U	1U	14	5J	10U	3J	10U	10U	2J	10U	1J	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	1U	1U	1U	10U	10U	10U	10U	10U	7J	10U	10U	10U	10U	10U	10U	10U	10U	4J	10U
Xylene (Total)	1U	1U	1U	10U	10U	10U	10U	10U	5J	10U	10U	10U	10U	10U	10U	10U	10U	34	10U
SVOC																			
1,2,4-Trichlorobenzene	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	1U	1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,3-Dichlorobenzene	1U	1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,4-Dichlorobenzene	1U	1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2,4-Dichlorophenol	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2,4-Dimethylphenol	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chloronaphthalene	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chlorophenol	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Methylnaphthalene	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Methylphenol (o-Cresol)	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-Chloro-3-methylphenol	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-Methylphenol (p-Cresol)	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-Nitrophenol	20U	20U	20U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U
Acenaphthene	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acenaphthylene	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
bis(2-Ethylhexyl)phthalate (BEHP)	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Carbazole	NS	NS	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Dibenzofuran	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Diethylphthalate	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Dimethylphthalate	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Di-n-butylphthalate	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Fluoranthene	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Fluorene	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Naphthalene	5U	5U	2J	10U	10U	10U	10U	10U	4J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Pentachlorophenol	20U	20U	20U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U
Phenanthrene	5U	5U	0.8J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Phenol	5U	5U	5U	10U	10U	10U	10U	2J	10U	10U	10U	10U	10U	10	10U	10U	10U	10U	2J
Pyrene	5U	5U	5U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-3 : Summary of Detections Groundwater OU 2

SHORT ID	027I004	027I005	027I006	027S001	027S002	027S003	027S004	027S005	027S006	027S007	027S008		027S009	027S010	027S011	027S013	027S015	027S016	027S018
SAMPLE ID	*027GI00401*	*027GI00501*	*027GI00601*	*027GS00101*	*027GS00201*	*027GS00301*	*027GS00401*	*027GS00501*	*027GS00601*	*027GS00701*	*027GS00801*	*027GS00801*	*027GS00901*	*027GS01001*	*027GS01101*	*027GS01301*	*027GS01501*	*027GS01601*	*027GS01801*
SAMPLE DATE	*7/27/1993*	*8/6/1993*	*7/26/1993*	*8/2/1993*	*7/26/1993*	*7/29/1993*	*7/28/1993*	*7/27/1993*	*8/3/1993*	*8/3/1993*	*7/27/1993*	*8/3/1993*	*8/3/1993*	*7/29/1993*	*7/26/1993*	*8/2/1993*	*8/2/1993*	*8/9/1993*	*8/2/1993*
VOC																			
1,1,1-Trichloroethane	12	10U	10U	3J	5J	28	55	8J	26	2	4J	2J	31	160	300	18	10	15	100U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	10U	10U	10U	100U
1,1-Dichloroethane	8J	10U	10U	12	10U	60	17	7J	300	10U	2J	10U	16	7J	300	92	110	40	20J
1,1-Dichloroethene	14	10U	10U	10U	10U	4J	51	3J	10U	10U	6J	4J	31	10	26	13	4J	4J	100U
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	10U	10U	10U	100U
1,2-Dichloroethene (total)	10U	10U	10U	10U	10U	10U	1J	10U	10U	10U	10U	10U	10U	10U	17U	10U	10U	10U	24J
2-Butanone (MEK)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	10U	10U	10U	100U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	10U	10U	10U	100U
Acetone	10U	30U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	10U	10U	10U	100U
Benzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	10U	10U	10U	100U
Bromodichloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	10U	10U	10U	100U
Bromoform	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	10U	10U	10U	100U
Carbon disulfide	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	10U	10U	10U	100U
Chlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	10U	10U	10U	100U
Chloroethane	10U	10U	10U	25	10U	10U	10U	10U	55	10U	10U	10U	10U	10U	84	140	39	160	33J
Chloroform	1J	10U	10U	10U	10U	10U	10U	1U	2J	10U	10U	10U	10U	10U	4J	10U	10U	10U	100U
Chloromethane	10U	3J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	10U	10U	10U	100U
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	10U	10U	10U	100U
Ethylbenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	3J	2J	10U	42J
Methylene chloride	10U	18U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	17U	17U	10U	10U	10U	100U
Tetrachloroethene	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U	10U	10U	10U	10U	4J	10U	1J	10U	62J
Toluene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	3J	10U	10U	100U
Trichloroethene	10U	10U	10U	10U	3J	4J	3J	10U	10U	10U	10U	10U	10U	1J	17U	10U	10U	10U	100U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	10U	10U	10U	100U
Xylene (Total)	10U	10U	10U	8J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	60	1J	5J	480
SVOC																			
1,2,4-Trichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	3J	10U	1J	10U	10U	10U
1,2-Dichlorobenzene	10U	10U	4J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	45	10U	10U	10U	10U	10U
1,3-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	4J	10U	10U	10U	10U	10U
1,4-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	15	10U	10U	10U	10U	10U
2,4-Dichlorophenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2,4-Dimethylphenol	10U	10U	10U	2J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11	10U	10U	2J
2-Chloronaphthalene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chlorophenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Methylnaphthalene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	6J	10U	10U	7J
2-Methylphenol (o-Cresol)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-Chloro-3-methylphenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	1J	10U	10U	10U
4-Methylphenol (p-Cresol)	10U	10U	10U	16	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	100	10U	10U	4J
4-Nitrophenol	1J	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U
Acenaphthene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acenaphthylene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
bis(2-Ethylhexyl)phthalate (BEHP)	10U	10U	9U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Carbazole	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Dibenzofuran	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Diethylphthalate	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	1J	10U	10U	10U	10U
Dimethylphthalate	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Di-n-butylphthalate	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Fluoranthene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Fluorene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Naphthalene	10U	10U	10U	3J	10U	10U	10U	10U	10U	10U	10U	10U	10U	3J	10U	10	3J	3J	34
Pentachlorophenol	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	2J	1J	25U	25U
Phenanthrene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Phenol	3J	10U	130J	4J	10U	10U	10U	10U	10U	10U	10U	10U	10U	3J	5J	6J	4U	6J	10U
Pyrene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-3 : Summary of Detections Groundwater OU 2

SHORT ID	027S019	027S020	027S021	030I007	030I009	030I019	030I032	030I058	030I060	030I111	030I113	030I126	030I164	030I170	030I32A	030S003	030S005	030S006	030S011
SAMPLE ID	*027GS01901*	*027GS02001*	*027GS02101*	*030GI00701*	*030GI00901*	*030GI01901*	*030GI03201*	*030GI05801*	*030GI06001*	*030GI11101*	*030GI11301*	*030GI12601*	*030GI16401*	*030GI17001*	*030GI32A01*	*030GS00300*	*030GS00500*	*030GS00600*	*030GS01100*
SAMPLE DATE	*8/2/1993*	*8/3/1993*	*8/5/1993*	*11/8/1993*	*11/9/1993*	*11/3/1993*	*11/8/1993*	*12/1/1993*	*12/1/1993*	*11/9/1993*	*11/10/1993*	*11/10/1993*	*11/9/1993*	*11/8/1993*	*11/8/1993*	*11/5/1993*	*11/3/1993*	*11/8/1993*	*11/10/1993*
VOC																			
1,1,1-Trichloroethane	100U	10U	1J	10U	10U	10U	2J	10U	10U	10U	10U	10U	950	2J	300	14	10U	13J	10U
1,1,2,2-Tetrachloroethane	100U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ	10UJ	100U	10U	100U	10U	10U	100U	10U
1,1-Dichloroethane	72J	45	45	10U	10U	10U	10U	10U	10U	4J	10U	10U	320	1J	60J	2J	10U	15J	1J
1,1-Dichloroethene	100U	3J	15	10U	10U	10U	10U	10U	10U	10U	10U	10U	410	10U	14J	1J	10U	100U	10U
1,2-Dichloroethane	100U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	100U	10U	100U	10U	10U	100U	10U
1,2-Dichloroethene (total)	130	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	100U	3J	100U	10U	10U	18J	10U
2-Butanone (MEK)	100U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ	10UJ	100U	10U	70J	10U	10U	80J	10U
2-Hexanone	100U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ	10UJ	100U	10U	100U	10U	10U	100U	10U
Acetone	100U	10U	10U	10U	1J	10U	10U	7J	1J	1J	10UJ	8J	100U	10U	100U	10UJ	10U	100U	10U
Benzene	100U	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U	10U	100U	10U	100U	10U	10U	25D	10U
Bromodichloromethane	100U	10U	10U	10U	10U	10U	10U	10U	1J	10U	10U	10U	100U	10U	100U	10U	10U	100U	10U
Bromoform	100U	10U	10U	10U	10U	10U	10U	10U	1J	10U	10U	10U	100U	10U	100U	10U	10U	100U	10U
Carbon disulfide	100U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	100U	10U	100U	10U	10U	100U	10U
Chlorobenzene	100U	10U	10U	10U	6J	10U	10U	10U	10U	620D	10U	1J	100U	10U	100U	10U	10U	100U	10U
Chloroethane	96J	87	190	10U	10U	10U	10U	10U	10U	5J	10U	10U	100U	10U	100U	10U	10U	100U	10U
Chloroform	100U	10U	10U	10U	10U	10U	10U	10U	1J	10U	10U	10U	100U	10U	100U	10U	10U	100U	10U
Chloromethane	100U	10U	10U	10U	10U	10U	10UJ	10U	10U	10U	10U	10U	100U	10U	100U	10U	10U	100U	10U
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	100U	10U	10U	10U	10U	10U	10U	10U	2J	10U	10U	10U	100U	10U	100U	10U	10U	100U	10U
Ethylbenzene	63J	3J	3J	10U	1J	10U	10U	10U	10U	1J	10U	10U	100U	10U	100U	10U	10U	380	1J
Methylene chloride	10U	10U	21U	10U	10U	10U	10U	10U	10U	10U	10U	2J	11J	10U	100U	10U	10U	12J	10U
Tetrachloroethene	61J	2J	3J	10U	10U	10U	10U	10U	10U	10U	10U	10U	100U	3J	100U	7J	10U	100U	10U
Toluene	53J	10U	4J	10U	10U	10U	10U	10U	10U	1J	10U	1J	100U	10U	100U	10U	10U	140	10U
Trichloroethene	130	10U	10U	10U	10U	22	10U	10U	10U	10U	10U	10U	100U	34	100U	10U	10U	100U	10U
Vinyl chloride	100U	10U	10U	10U	10U	10U	10U	10U	10U	20	10U	10U	100U	10U	100U	10U	10U	100U	10U
Xylene (Total)	640	12	50	10U	4J	10U	10U	10U	10U	6J	10U	3J	100U	10U	100U	10U	10U	1200	3J
SVOC																			
1,2,4-Trichlorobenzene	20U	10U	10U	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	11U	10U
1,2-Dichlorobenzene	20U	10U	10U	11U	10U	10U	11U	10U	10U	39	10U	10U	11U	12U	11U	11U	10U	3J	10U
1,3-Dichlorobenzene	20U	10U	10U	11U	10U	10U	11U	10U	10U	37	10U	10U	11U	12U	11U	11U	10U	1J	10U
1,4-Dichlorobenzene	20U	10U	10U	11U	10U	10U	11U	10U	10U	180J	10U	10U	11U	12U	11U	11U	10U	11U	10U
2,4-Dichlorophenol	20U	10U	10U	11U	10U	10U	11U	10U	10U	3J	10U	10U	11U	12U	11U	11U	10U	11U	10U
2,4-Dimethylphenol	8J	10U	3J	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	3J	10U
2-Chloronaphthalene	20U	10U	10U	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	11U	10U
2-Chlorophenol	20U	10U	10U	11U	10U	10U	11U	10U	10U	6J	10U	10U	11U	12U	11U	11U	10U	11U	10U
2-Methylnaphthalene	28	10U	1J	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	35	10U
2-Methylphenol (o-Cresol)	20U	10U	10U	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	11U	10U
4-Chloro-3-methylphenol	20U	10U	10U	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	11U	10U
4-Methylphenol (p-Cresol)	30	10U	4J	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	4J	10U
4-Nitrophenol	50U	25U	25U	28U	26U	25U	27U	24UJ	25UJ	29UJ	26U	25U	26U	30U	28U	27UJ	25U	28U	26U
Acenaphthene	20U	10U	10U	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	1J	10U
Acenaphthylene	20U	10U	10U	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	11U	10U
bis(2-Ethylhexyl)phthalate (BEHP)	20U	10U	10U	11U	10U	10U	11U	10U	10U	12U	2J	10U	11U	12U	11U	11U	10U	11U	10U
Carbazole	20U	10U	10U	11UJ	10U	10U	11UJ	10U	10U	12U	10U	10UJ	11U	12UJ	11UJ	11U	10UJ	14J	10U
Dibenzofuran	20U	10U	10U	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	1J	10U
Diethylphthalate	20U	10U	10U	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	11U	10U
Dimethylphthalate	20U	10U	10U	11U	10U	10U	11U	10U	1J	12U	10U	10U	11U	12U	11U	11U	10U	11U	10U
Di-n-butylphthalate	20U	10U	10U	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	11U	10U
Fluoranthene	20U	10U	10U	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	11U	10U
Fluorene	20U	10U	10U	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	1J	10U
Naphthalene	110	8J	1J	11U	10U	10U	11U	10U	10U	12U	10U	10U	2J	12U	11U	11U	10U	76	2J
Pentachlorophenol	50U	25U	25U	28U	26U	25U	27U	24U	25U	29U	26U	25U	26U	30U	28U	27U	25UJ	28U	26U
Phenanthrene	20U	10U	10U	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	3J	10U
Phenol	20U	10U	1J	6J	10U	10U	11U	10U	10U	12U	5J	3J	11U	12U	11U	24	17U	7J	10J
Pyrene	20U	10U	10U	11U	10U	10U	11U	10U	10U	12U	10U	10U	11U	12U	11U	11U	10U	11U	10U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-3 : Summary of Detections Groundwater OU 2

SHORT ID	030S012	030S015	030S016	030S018	030S020	030S022	030S024	030S026	030S027	030S028	030S029	030S033	030S037	030S039	030S043	030S044	030S046	030S049	030S050
SAMPLE ID	*030GS01200*	*030GS01500*	*030GS01601*	*030GS01800*	*030GS02000*	*030GS02200*	*030GS02400*	*030GS02600*	*030GS02700*	*030GS02800*	*030GS02900*	*030GS03300*	*030GS03700*	*030GS03900*	*030GS04300*	*030GS04400*	*030GS04600*	*030GS04900*	*030GS05000*
SAMPLE DATE	*10/27/1993*	*11/4/1993*	*11/5/1993*	*11/3/1993*	*11/4/1993*	*11/5/1993*	*11/4/1993*	*11/4/1993*	*11/4/1993*	*11/5/1993*	*11/9/1993*	*11/9/1993*	*11/4/1993*	*11/4/1993*	*11/4/1993*	*11/4/1993*	*11/3/1993*	*11/3/1993*	*11/3/1993*
VOC																			
1,1,1-Trichloroethane	10000U	4J	10U	10U	10U	1400D	28	110	1300	1300D	26	130	NS	NS	4J	5J	220	30	6J
1,1,2,2-Tetrachloroethane	10000U	10U	10U	10U	10U	50U	10U	10U	100U	50U	10U	10U	NS	NS	10U	10U	20U	10U	10U
1,1-Dichloroethane	10000U	10U	10U	10U	10U	900D	49	160	45J	380	11	110	NS	NS	10U	10U	18J	8J	10U
1,1-Dichloroethene	10000U	10U	10U	10U	10U	170	2J	17	510	220	2J	12	NS	NS	10U	10U	20U	10U	10U
1,2-Dichloroethane	10000U	10U	10U	10U	10U	50U	10U	10U	100U	6J	10U	10U	NS	NS	10U	10U	20U	10U	10U
1,2-Dichloroethene (total)	10000U	10U	10U	10U	10U	50U	10U	1J	15J	210	10U	10U	NS	NS	10U	10U	220	8J	10U
2-Butanone (MEK)	10000UJ	10U	10U	10U	10U	50U	10U	10U	100U	50U	10U	10U	NS	NS	10U	10U	20U	10U	10U
2-Hexanone	10000UJ	10U	10U	10U	10U	50U	10U	10U	100U	50U	10U	10U	NS	NS	10U	10U	20U	10U	10U
Acetone	10000U	10U	10U	10U	10U	50U	10U	10U	100U	50U	160	10U	NS	NS	10U	10U	20U	10U	10U
Benzene	10000U	10U	10U	10U	10U	50U	10U	10U	100U	50U	3J	1J	NS	NS	10U	10U	20U	10U	10U
Bromodichloromethane	10000U	10U	10U	10U	10U	50U	10U	10U	100U	50U	10U	10U	NS	NS	10U	10U	20U	10U	10U
Bromoform	10000UJ	10U	10U	10U	10U	50U	10U	10U	100U	50U	10U	10U	NS	NS	10U	10U	20U	10U	10U
Carbon disulfide	10000U	10U	10U	10U	10U	50UJ	10U	10U	100U	50UJ	10U	10U	NS	NS	10U	10U	20U	10U	10U
Chlorobenzene	10000U	10U	10U	10U	10U	50U	10U	10U	100U	50U	10U	10U	NS	NS	10U	10U	20U	10U	10U
Chloroethane	10000U	10U	10U	10U	10U	50U	10U	2J	100U	50U	10U	10U	NS	NS	10U	10U	20U	10U	10U
Chloroform	10000U	10U	10U	10U	3J	50U	2J	10U	100U	50U	10U	10U	NS	NS	10U	10U	20U	10U	10U
Chloromethane	10000UJ	10U	10UJ	1J	10U	50UJ	10UJ	10U	100U	50UJ	10U	10U	NS	NS	10U	10U	20U	10U	10U
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	10000U	10U	10U	10U	10U	50U	10U	10U	100U	50U	10U	10U	NS	NS	10U	10U	20U	10U	10U
Ethylbenzene	10000U	10U	10U	10U	10U	50U	10U	10U	100U	50U	10U	3J	NS	NS	10U	10U	20U	10U	10U
Methylene chloride	10000U	10U	10U	10U	10U	50U	10U	10U	100U	50U	10U	10U	NS	NS	10U	10U	20U	10U	10U
Tetrachloroethene	10000U	10U	1J	10U	10U	10J	1J	7J	11J	310	1J	2J	NS	NS	10U	10U	200	21U	10U
Toluene	10000U	10U	10U	10U	10U	50U	10U	10U	100U	50U	10U	10U	NS	NS	10U	10U	20U	10U	10U
Trichloroethene	10000U	10U	10U	10U	10U	50U	10U	10U	100U	36J	1J	2J	NS	NS	10U	10U	4J	2J	4J
Vinyl chloride	10000U	10U	10U	10U	10U	50U	10U	10U	100U	50U	10U	10U	NS	NS	10U	10U	20U	10U	10U
Xylene (Total)	29000	10U	10U	10U	10U	50U	3J	2J	100U	50U	10U	1J	NS	NS	10U	10U	6J	5J	10U
SVOC																			
1,2,4-Trichlorobenzene	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	9J	10U	10U	10U	10U	10U	10U	2J	10U	10UJ
1,2-Dichlorobenzene	86000UJ	10U	10U	10U	10U	12U	10U	4J	8J	79	10U	10U	10U	10U	10U	10U	10U	10U	10UJ
1,3-Dichlorobenzene	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	9J	10U	10U	10U	10U	10U	10U	10U	10U	10UJ
1,4-Dichlorobenzene	86000UJ	10U	10U	10U	10U	12U	10U	10U	2J	26	10U	10U	10U	10U	10U	10U	2J	10U	10UJ
2,4-Dichlorophenol	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2,4-Dimethylphenol	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	5J	10U	10U	10U	10U	10U	10U
2-Chloronaphthalene	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ
2-Chlorophenol	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Methylnaphthalene	86000UJ	10U	10U	10U	10U	12	10U	3J	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U	10UJ
2-Methylphenol (o-Cresol)	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	2J	10U	10U	10U	10U	10U	10U
4-Chloro-3-methylphenol	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-Methylphenol (p-Cresol)	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	4J	10U	10U	10U	21	10U	10U
4-Nitrophenol	220000UJ	25U	26UJ	25UJ	26U	30UJ	26U	25U	26U	26UJ	25U	25U	25U	25U	25U	26U	26U	24U	25UJ
Acenaphthene	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ
Acenaphthylene	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ
bis(2-Ethylhexyl)phthalate (BEHP)	18000JJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ
Carbazole	86000UJ	10U	10U	10UJ	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ	10U	10UJ
Dibenzofuran	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ
Diethylphthalate	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ
Dimethylphthalate	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ
Di-n-butylphthalate	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ
Fluoranthene	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ
Fluorene	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ
Naphthalene	29000JJ	10U	10U	10U	10U	23	10U	2J	10U	10U	10U	4J	9J	10U	10U	10U	7J	2J	10UJ
Pentachlorophenol	220000UJ	25UJ	26U	25U	26UJ	30U	26U	25U	26U	26U	25U	25U	25UJ	25UJ	25UJ	26UJ	26UJ	24UJ	25U
Phenanthrene	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ
Phenol	86000UJ	10U	38	14U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	17U	10U	10U
Pyrene	86000UJ	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ

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1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
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4 - Qualifiers
U: Not Detected
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R or UR: Data Rejected
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Table A-3 : Summary of Detections Groundwater OU 2

SHORT ID	030S051	030S052	030S056	030S057	030S059	030S062	030S101	030S103	030S105	030S108	030S111	030S113	030S118	030S123	030S126	030S146	030S154	030S156	030S157
SAMPLE ID	*030GS05100*	*030GS05200*	*030GS05600*	*030GS05700*	*030GS05900*	*030GS06200*	*030GS10101*	*030GS10301*	*030GS10501*	*030GS10801*	*030GS11101*	*030GS11301*	*030GS11801*	*030GS12301*	*030GS12601*	*030GS14601*	*030GS15401*	*030GS15601*	*030GS15701*
SAMPLE DATE	*11/3/1993*	*11/3/1993*	*11/5/1993*	*11/30/1993*	*12/1/1993*	*12/1/1993*	*11/9/1993*	*11/10/1993*	*11/9/1993*	*11/9/1993*	*11/10/1993*	*11/10/1993*	*11/10/1993*	*11/10/1993*	*11/10/1993*	*11/10/1993*	*11/10/1993*	*11/5/1993*	*11/5/1993*
VOC																			
1,1,1-Trichloroethane	4J	2J	12	10U	10U	10U	10U	10U	50U	10U	100U	10U	10U	10U	10U	2J	3J	2J	10U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10UJ	10UJ	10U	10UJ	10UJ	10UJ	10U	10U
1,1-Dichloroethane	5J	10U	4J	10U	10U	10U	10U	10U	50U	10U	100U	10U	10U	10U	10U	10U	9J	7J	19
1,1-Dichloroethene	10U	10U	3J	10U	10U	10U	10U	10U	50U	10U	100U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethene (total)	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone (MEK)	10U	10U	10U	10U	10U	10U	10U	10U	890	10U	100U	10UJ	10U	10U	10U	10U	10UJ	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10UJ	10U	10U	10U	10U	10UJ	10U	10U
Acetone	10U	10U	10UJ	10U	9J	12	10U	10U	130	10UJ	21J	10UJ	10U	10U	10U	10U	10UJ	10U	33U
Benzene	10U	10U	10U	10UJ	10U	10U	1J	10U	50U	10U	100U	10U	10U	10U	10U	10U	10U	10U	10U
Bromodichloromethane	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U	10U	10U	10U	10U	10U	10U	10U
Bromoform	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	10U	10U	10U	10UJ	10U	10U	10U	10	50U	10U	720	3J	2J	25	3J	10U	10U	10U	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U	10U	10U	10U	10U	9J	10U	10U
Chloroform	10U	10U	10U	10U	10U	80	10U	10U	50U	10U	100U	10U	10U	10U	10U	2J	10U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U	10U	10U	10U	10U	10U	10UJ	10UJ
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U	10U	10U	10U	10U	10U	10U	10U
Ethylbenzene	10U	10U	10U	10U	10U	10U	5J	10U	50U	2J	100U	1J	1J	10U	1J	10U	10	10U	10U
Methylene chloride	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U	10U	10U	10U	10U	10U	10U	10U
Tetrachloroethene	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U	10U	10U	10U	10U	10U	1J	10U
Toluene	10U	10U	10U	10UJ	10U	10U	2J	10U	14J	10U	100U	10U	10U	10U	10U	10U	6J	10U	10U
Trichloroethene	2J	2J	10U	10UJ	10U	10U	10U	10U	50U	10U	100U	10U	10U	10U	10U	1J	10U	1J	2J
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U	50U	10U	100U	10U	10U	10U	10U	10U	110	10U	10U
Xylene (Total)	10U	10U	10U	10U	10U	10U	21	10U	10J	10	100U	6J	4J	10U	5J	1J	24	10U	10U
SVOC																			
1,2,4-Trichlorobenzene	1J	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	11U	10U	10U
1,2-Dichlorobenzene	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	3J	10U	11U	10U	11U	10U	11U	10U	10U
1,3-Dichlorobenzene	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	6J	10U	11U	10U	11U	10U	11U	10U	10U
1,4-Dichlorobenzene	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	41	0.9J	11U	10U	11U	10U	11U	10U	10U
2,4-Dichlorophenol	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	11U	10U	10U
2,4-Dimethylphenol	1J	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	11U	10U	10U
2-Chloronaphthalene	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	11U	10U	10U
2-Chlorophenol	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	2J	10U	11U	10U	11U	10U	11U	10U	10U
2-Methylnaphthalene	1J	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	1J	10U	11U	10U	2J	10U	10U
2-Methylphenol (o-Cresol)	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	11U	10U	10U
4-Chloro-3-methylphenol	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	11U	10U	10U
4-Methylphenol (p-Cresol)	15	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	1J	11U	10U	10U
4-Nitrophenol	25UJ	29UJ	27UJ	26UJ	30UJ	30UJ	26UJ	24U	28UJ	29UJ	24U	24U	28U	24U	28U	25U	28U	26UJ	26UJ
Acenaphthene	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	11U	10U	10U
Acenaphthylene	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	2J	10U	10U
bis(2-Ethylhexyl)phthalate (BEHP)	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	1J	1J	2J	10U
Carbazole	10UJ	12UJ	11U	10U	12U	12U	10U	10U	11U	12U	10U	10UJ	11UJ	10U	11UJ	10UJ	11U	10U	10U
Dibenzofuran	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	11U	10U	10U
Diethylphthalate	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	11U	10U	10U
Dimethylphthalate	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	11U	10U	10U
Di-n-butylphthalate	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	11U	10U	10U
Fluoranthene	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	11U	10U	10U
Fluorene	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	11U	10U	10U
Naphthalene	5J	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	19	10U	10U
Pentachlorophenol	25U	29U	27U	26U	30U	30U	26U	24U	28U	29U	24U	24U	28U	24U	28U	25U	28U	26U	26U
Phenanthrene	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	11U	10U	10U
Phenol	13U	12U	11U	10U	12U	12U	10U	7J	6J	12U	4J	10U	11U	5J	11U	8J	11U	54	10U
Pyrene	10U	12U	11U	10U	12U	12U	10U	10U	11U	12U	10U	10U	11U	10U	11U	10U	11U	10U	10U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers

U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-3 : Summary of Detections Groundwater OU 2

SHORT ID	030S160	030S161	030S162	030S164	030S165	030S166	030S168	030S170	030S171	030S172	030S173
SAMPLE ID	*030GS16001*	*030GS16101*	*030GS16201*	*030GS16401*	*030GS16501*	*030GS16601*	*030GS16801*	*030GS17001*	*030GS17101*	*030GS17201*	*030GS17301*
SAMPLE DATE	*11/5/1993*	*12/1/1993*	*11/8/1993*	*11/9/1993*	*11/9/1993*	*11/9/1993*	*11/8/1993*	*11/8/1993*	*11/9/1993*	*11/10/1993*	*11/10/1993*
VOC											
1,1,1-Trichloroethane	10U	10U	260	290D	35	19	10	33	28	24	10
1,1,2,2-Tetrachloroethane	10U	10U	50U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	28J	26	76	30	19	9J	10	34	8J
1,1-Dichloroethene	10U	10U	100	99	11	9J	4J	7J	6J	10J	3J
1,2-Dichloroethane	10U	10U	50U	1J	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethene (total)	10U	10U	50U	10U	10U	10U	7J	10U	1J	6J	14
2-Butanone (MEK)	10U	10U	50U	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	10U	10U	50U	10U	10U	10U	10U	10U	1J	10U	10U
Acetone	10U	10U	50U	10U	10U	10U	10U	43	10U	10U	10U
Benzene	10U	10U	50U	10U	10U	10U	10U	2J	2J	10U	10U
Bromodichloromethane	10U	10U	50U	10U	10U	10U	10U	10U	10U	10U	10U
Bromoform	10U	10U	50U	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	10U	50U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	10U	10U	50U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroethane	10U	10U	50U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	10U	50U	10U	2J	2J	10U	1J	10U	10U	10U
Chloromethane	10UJ	10U	50U	10U	10U	10U	10U	10U	10U	10U	10U
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibromochloromethane	10U	10U	50U	10U	10U	10U	10U	10U	10U	10U	10U
Ethylbenzene	10U	10U	50U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	10U	10U	50U	10U	10U	10U	10UJ	10U	10U	10U	10U
Tetrachloroethene	10U	10U	50U	2J	2J	1J	1J	10U	10U	2J	2J
Toluene	10U	10U	50U	10U	10U	10U	10U	10U	10U	10U	10U
Trichloroethene	10U	10U	50U	10U	10U	10U	10U	2J	2J	10U	10U
Vinyl chloride	10U	10U	50U	10U	10U	10U	10U	10U	10U	10U	10U
Xylene (Total)	10U	10U	50U	10U	10U	10U	3J	10U	10U	10U	8J
SVOC											
1,2,4-Trichlorobenzene	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
1,2-Dichlorobenzene	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
1,3-Dichlorobenzene	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
1,4-Dichlorobenzene	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
2,4-Dichlorophenol	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
2,4-Dimethylphenol	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
2-Chloronaphthalene	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
2-Chlorophenol	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
2-Methylnaphthalene	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
2-Methylphenol (o-Cresol)	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
4-Chloro-3-methylphenol	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
4-Methylphenol (p-Cresol)	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
4-Nitrophenol	25UJ	28UJ	28U	26U	26U	26U	27U	25U	26U	26U	24U
Acenaphthene	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
Acenaphthylene	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
bis(2-Ethylhexyl)phthalate (BEHP)	1J	11U	2J	10U	10U	10U	11U	10U	10U	10U	10U
Carbazole	10U	11U	11UJ	10U	10U	10U	11U	10UJ	10U	10UJ	10U
Dibenzofuran	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
Diethylphthalate	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
Dimethylphthalate	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
Di-n-butylphthalate	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
Fluoranthene	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
Fluorene	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
Naphthalene	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	1J
Pentachlorophenol	25U	28U	28U	26U	26U	26U	27U	25U	26U	26U	24U
Phenanthrene	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U
Phenol	14	11U	11U	10U	10U	10U	8J	47	10U	10U	10U
Pyrene	10U	11U	11U	10U	10U	10U	11U	10U	10U	10U	10U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers

U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-4 : Summary of Detections Groundwater OU 2 Metal

SHORT ID	011GI51	011GS15	011GS28	011GS36	011GS46	011GS47	011GS48	011GS49	011GS52	011I002	011I004	011I006	011I008	011I010	011I012	011I014	011I015	011LF01	011LF10
SAMPLE ID	011GGI5101	011GGS1501	011GGS2801	011GGS3601	011GGS4601	011GGS4701	011GGS4801	011GGS4901	011GGS5201	011GI00201	011GI00401	011GI00601	011GI00801	011GI01001	011GI01201	011GI01401	011GI01501	011GLF0100	011GLF1000
SAMPLE DATE	11/4/1993	11/4/1993	11/4/1993	11/4/1993	11/9/1993	11/8/1993	11/9/1993	11/8/1993	11/9/1993	11/3/1993	11/3/1993	11/3/1993	11/4/1993	11/4/1993	11/4/1993	11/4/1993	11/4/1993	8/31/1993	9/1/1993
METAL																			
Aluminum	29U	29U	919	172J	587	120U	29U	151U	398	8730	4880	368	824	745	1130	4070	58900	518000	945000
Antimony	21U	21U	29U	21U	21U	21U	21U	21U	21U	41UJ	44UJ	56UJ	21U	21U	21U	21U	21U	30U	210
Arsenic	1U	1U	1J	1U	1U	1U	1U	1U	14	13	6J	6J	5J	3J	6J	17	230	135	148
Barium	61J	20J	20J	5U	5U	33U	759	7U	53J	27J	18J	13J	37J	37J	18J	23J	147J	1240	2170
Beryllium	1U	1U	1U	1U	1U	1U	1U	1U	1U	1J	1U	1U	1U	1U	1U	1U	11	7.4	22.5
Cadmium	2U	4J	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	275	4990
Calcium	458000	16200	14500	12500	10500U	12200U	65700	25200	12100U	2570J	6720	9960	109000	37100	151000	10400	60900	154000	1870000
Chromium	3U	3U	3U	3U	3U	3U	3U	3U	3U	23J	10J	3U	3U	3U	3U	9J	771	872	2290
Cobalt	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	25J	76.6	200
Copper	9J	3U	3J	3U	3U	3U	3U	6U	3U	24J	10U	4U	3U	3U	3U	3J	103	917	8280
Cyanide (CN)	20U	20U	20U	20U	20U	10U	20U	10U	20U	20U	20U	20U	20U	20U	20U	20U	20U	10U	16
Iron	1690J	38U	4120J	184J	1740UJ	2360UJ	2360UJ	2410UJ	3820J	7310J	20000J	3470J	929J	442J	471J	1200J	170000J	336000	1100000
Lead	2U	3J	2J	2U	4J	1J	2J	2J	1J	14J	4J	1J	2U	2U	2U	4J	94J	5060	50200
Magnesium	67100R	1350R	4190R	1520R	2700UR	1270UR	8670R	1740UR	1570UR	724R	821R	974R	52700R	14500R	120000R	1990R	35000R	18600	110000
Manganese	316	2U	83	11U	33U	35U	206	125	46U	29J	21J	55J	71	32	52	21U	935	8340	9940
Mercury	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	1.1	5.9
Nickel	7U	7U	11U	7U	7U	7U	7U	7U	7U	18J	7U	44	7U	7U	7U	7U	512	177	715
Potassium	8900	2100	1110U	3390J	1770J	1110U	6420	4100J	1410J	1110U	1210J	2380J	14000	5850	30000	1930J	32700	8830	24400
Selenium	2U	2U	2U	2U	2U	2U	2U	2U	2U	6J	2U	2U	2U	2U	2U	2U	11.5	10U	10U
Silver	4UJ	4UJ	4UJ	4UJ	4U	4U	4U	4U	4U	7U	6U	5U	4UJ	4UJ	4UJ	4UJ	4UJ	6.1J	9.2J
Sodium	1220000	4320J	4870J	2800J	4840U	3000U	9550U	10800U	16100U	19400	13500	12600	595000	178000	1160000	38900	275000	6980U	10600
Thallium	10U	2U	2U	2U	2U	2U	2U	2U	2U	2UJ	2UJ	2UJ	10U	2U	10U	2U	10U	2U	2U
Vanadium	4U	4U	8J	4U	4U	4U	4U	4U	4U	36J	30J	4U	4U	4U	6J	30J	489	781	1330
Zinc	2U	25U	11U	5U	2U	7U	5U	14U	7U	26U	10U	7U	8U	2U	2U	10U	306	3610	67800

SHORT ID	011LF11	011LF12	011LF13	011S001	011S003	011S005	011S007	011S009	011S011	011S013	012GS01	012GS02	012GS03	012GS05	012GS06	012GS08	012GS09	012GS10	012GS13
SAMPLE ID	011GLF1100	011GLF1200	011GLF1300	011GS00101	011GS00301	011GS00501	011GS00701	011GS00901	011GS01101	011GS01301	012GGS0101	012GGS0201	012GGS0301	012GGS0501	012GGS0601	012GGS0801	012GGS0901	012GGS1001	012GGS1301
SAMPLE DATE	9/9/1993	9/9/1993	9/8/1993	11/3/1993	11/3/1993	11/3/1993	11/8/1993	11/9/1993	11/9/1993	11/4/1993	6/21/1995	5/23/1995	5/23/1995	5/23/1995	5/23/1995	5/25/1995	5/23/1995	5/24/1995	5/24/1995
METAL																			
Aluminum	67400J	44000	50700J	32U	769	409	30U	29U	43U	458	222	161J	77.6J	108J	220	117J	90.5J	99.9J	147J
Antimony	30UJ	30U	30UJ	22UJ	21UJ	30UJ	21U	21U	21U	21U	3.3J	4.8J	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U
Arsenic	80.2J	6.6J	128J	2U	2U	2U	1J	1U	11	4J	3.2U	3.2U	3.2U	3.2U	3.2U	3.2U	3.2U	3.2U	3.2U
Barium	117J	294	2710	12J	8J	46J	716	382	1520	3790	22.3J	14.3J	3.5J	6.7J	9J	26.6J	35.1J	13J	11.9J
Beryllium	4.3J	1.7J	2.5J	1U	1U	1U	1U	1U	1U	1U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U
Cadmium	47.9	169	236	2U	2U	2U	7	2U	2U	2U	0.3U	0.3U	0.3U	0.3U	0.3U	9.6	3.8J	2.1J	3.3U
Calcium	10100	26900	338000	53500	20800	5630	53000	109000	84300	90400	40000	52400	26100	27600	24900	38200	40100	37500	46000
Chromium	1190	76.8J	261	3UJ	3U	3U	3U	3U	3U	3U	2.8J	1.6J	0.9U	2.2J	0.9U	0.9U	0.9U	0.9U	0.9U
Cobalt	34.4J	20U	34.1J	4U	4U	4U	4U	4U	4U	4U	2.3J	0.7J	0.6U	0.6U	0.6U	0.6U	0.77J	0.6U	0.6U
Copper	154J	234	938J	6U	3U	4U	8U	7U	3U	4J	4.1U	2.6U	1.2U	1.7U	1.3U	6.8J	1.5U	1.9U	3.3J
Cyanide (CN)	10U	10U	10U	20U	20U	20U	10U	20U	20U	20U	10U	11.2	10U	10U	10U	10U	10U	10U	10U
Iron	83000	26300J	117000	87U	328J	5060J	8440J	1440UJ	3000UJ	10100J	38.1J	15.7U	20.4J	15.7U	19.6J	113	16.4J	220	185
Lead	803	21700	11600	1J	1J	30J	6	4J	7	17	1.9U	1.9U	1.9U	1.9U	1.9U	4	1.9U	1.9U	1.9U
Magnesium	10700	2140J	26600	3610R	2250R	1040R	9440R	10500R	7300R	15000R	2230J	3110J	1830J	3550J	2680J	2360J	2180J	2450J	2690J
Manganese	180	570J	1700	4U	3U	95J	365	212	120	133	4.4J	1.1U	0.5U	1U	1.7U	4.7J	37	9J	7.2J
Mercury	0.76	0.4	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U
Nickel	71.4	35J	145	7U	7U	7U	7U	7U	7U	7U	1.5J	1.4U	1.4U	1.4U	1.4U	1.4U	17.5J	1.4U	1.4U
Potassium	4980J	1560J	4320J	1260J	6200	1110U	3970J	3530U	3770J	5760	3490J	1840J	1610J	2030J	1650J	1320J	1270J	1280J	1200J
Selenium	7J	10U	2.3J	2U	2U	2U	2U	2U	2U	2U	4.4U	4.4U	4.4U	4.4U	4.4U	4.4U	4.4U	4.4U	4.4U
Silver	5.8J	5U	5U	11U	4U	4U	4U	4U	4U	4UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U
Sodium	3440U	1860J	8430U	4750J	4210J	8000	14500U	7900U	9510U	16900	9490	5990	6640	9030	8400	6400	4420J	4540J	4530J
Thallium	2U	2UJ	2U	2U	2UJ	2UJ	2U	2U	2U	2U	4.5U	4.5U	4.5U	4.5U	4.5U	4.5U	4.5U	4.5U	4.5U
Vanadium	143	67.7	98.4	4U	4U	4U	4U	4U	4U	4U	2.3J	1.3J	0.59J	0.4J	0.46J	0.87J	0.59J	0.73J	0.47J
Zinc	555	342	8770	27U	26U	36U	560	2U	41U	53	7.4J	7.2J	4J	5.6J	4J	164	62.1	12.1J	15.9J

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-4 : Summary of Detections Groundwater OU 2 Metal

SHORT ID	012GS14	012GS15	012GS16	025I001	025I002	025S001	025S002	025S003	025S004	025S005	025S006	025S007	025S008	025S009	027GD54	027GS02	027I001	027I002	027I003
SAMPLE ID	*012GGS1401*	*012GGS1501*	*012GGS1601*	*025GI00101*	*025GI00201*	*025GS00100*	*025GS00200*	*025GS00300*	*025GS00400*	*025GS00500*	*025GS00600*	*025GS00700*	*025GS00800*	*025GS00900*	*027GGD5401*	*027GGS0201*	*027GI00101*	*027GI00201*	*027GI00301*
SAMPLE DATE	*5/24/1995*	*5/24/1995*	*5/24/1995*	*7/29/1993*	*7/27/1993*	*8/3/1993*	*7/29/1993*	*7/29/1993*	*7/29/1993*	*8/4/1993*	*8/4/1993*	*7/29/1993*	*7/27/1993*	*7/29/1993*	*8/9/1993*	*8/5/1993*	*7/28/1993*	*7/26/1993*	*7/28/1993*
METAL																			
Aluminum	156J	137J	132J	12000J	88100	15800	4790J	83600J	183000J	35500	22500	59500J	37300	247000J	663	39500	102000J	27600	22000J
Antimony	1.9U	1.9U	1.9U	55.4J	35U	35U	61J	65.4J	218J	35U	35U	35U	35U	43.7J	35U	35U	59.9J	35U	39.2J
Arsenic	3.2U	3.2U	3.2U	142J	64.9	4U	5.4J	12.3J	13J	4U	4U	4.1J	4.8	85.7J	4U	8.1	93.6J	23.1	15.4J
Barium	6.8J	6.8J	22.8J	154	86.3	56.4	12.9	146	222	92.6	51.8	172J	72.2	354	18	89.7	147	45.1	53.7
Beryllium	0.2U	0.2U	0.2U	3.9	2.5	1U	1U	1.2	2.6	1U	1U	1U	1U	3.7	1U	2.6	3.5	1U	1U
Cadmium	0.3U	0.3U	2.4J	6.1	3U	4	3U	4.1	54.4	7.2U	5.4U	5.4	3U	7.9	3U	4.1U	3U	3U	3U
Calcium	40400	47400	37300	10300	12000	24000	13300	31200	22500	19500	27000	20700	19800	39200	39700	42800	12800	11300	13500
Chromium	0.9U	0.92J	3J	225	231	18	9.1	92.3	14700	43.1	39.3	48.2	70.1	574	8U	10.3	392	47.3	33.1
Cobalt	0.6U	0.6U	0.6U	25.6	17.1U	9U	9U	15.1	28.9	9U	9U	17.1	12.3U	50.6	9U	9U	26.9	9U	9U
Copper	1.5U	1.7U	1.1U	65.9	99.4	20.4	4U	68.8	354	32.7	19.3	29.2	33.5U	194	4U	13.9	71.5	9.2U	12.2
Cyanide (CN)	10U	10U	10U	10U	10U	10U	10U	10U	10.9	10U	10U	17.9	10U	23.9	10U	10U	10U	10U	10U
Iron	348	37.8J	1090	83400J	114000	10400J	5200J	46600J	66900J	14800J	19100J	27700J	32400	115000J	1770	29700J	75600J	12400	13900J
Lead	1.9U	5.6	1.9U	45.7J	28.3	6.4	2UJ	28.8J	334J	16	50	10.2J	55.9	308J	2UJ	92.8	84.3J	34.9	9.9J
Magnesium	3570J	4350J	2670J	7790	6420	2690	1420	6560	7650	3870	4550	5000	3090	13000	3500	9020	10200	3220	5150
Manganese	4.5J	0.77J	7.4J	283	54.7	115	17.5	407	219	128	77	131	450	834	80.3	1150	297	54.9	65
Mercury	0.2U	0.2U	0.2U	0.2U	0.23	0.26	0.2U	0.88	2.4	0.2	0.2U	0.21	0.41	2.3	0.2U	0.2U	0.2U	0.2U	0.2U
Nickel	20.5J	7.2J	1.4U	112	27.9	18U	18U	53.3	69.9	18U	18U	33.9	30	107	18U	18U	110	18U	18U
Potassium	1830J	1870J	1310J	9610	5800	1730	1650	5550	7970	2890	3190	3830	3430	14400	1980U	4700	11000	2000	4380
Selenium	4.4U	4.4U	4.4U	30UJ	3U	3UJ	3UJ	30UJ	30UJ	3UJ	3UJ	30UJ	3	30UJ	3U	3UJ	3UJ	3U	3UJ
Silver	0.5U	0.5U	0.5U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U
Sodium	5820	6400	6070	24600	18300	5170	5440	6950	11400	7370	5830	4340	8150	11900	7910	6130	11500	12000	9960
Thallium	4.5U	4.5U	4.5U	3UJ	3U	3U	3UJ	3UJ	3UJ	3UJ	3U	3UJ	3U	3UJ	3UJ	3U	3UJ	30U	3UJ
Vanadium	0.98J	0.46J	1.6J	282	284	25.2	12.2	98.4	199	44.2	32.7	71.8	66U	241	6U	14.6	260	64.1	45.6
Zinc	6.5J	5.3J	4.7J	309	103	603	29.5	165	281	73	84.3	112	110	450	57.2U	126	314	85.3	85.1

SHORT ID	027I004	027I005	027I006	027S001	027S002	027S003	027S004	027S005	027S006	027S007	027S008		027S009	027S010	027S011	027S013	027S015	027S016	027S018
SAMPLE ID	*027GI00401*	*027GI00501*	*027GI00601*	*027GS00101*	*027GS00201*	*027GS00301*	*027GS00401*	*027GS00501*	*027GS00601*	*027GS00701*	*027GS00801*	*027GS00801*	*027GS00901*	*027GS01001*	*027GS01101*	*027GS01301*	*027GS01501*	*027GS01601*	*027GS01801*
SAMPLE DATE	*7/27/1993*	*8/6/1993*	*7/26/1993*	*8/2/1993*	*7/26/1993*	*7/29/1993*	*7/28/1993*	*7/27/1993*	*8/3/1993*	*8/3/1993*	*7/27/1993*	*8/3/1993*	*8/3/1993*	*7/29/1993*	*7/26/1993*	*8/2/1993*	*8/2/1993*	*8/9/1993*	*8/2/1993*
METAL																			
Aluminum	33800	15500	57600	20400J	4070	60900J	10000J	5860	41500	12400	2880J	3270	7080	43200J	12900	10200	14100	2930	3010J
Antimony	35U	35U	35U	61.1J	35U	35UJ	48J	35U	38.5	35U	43.6J	35U	35U	61J	35U	35U	35U	35U	35U
Arsenic	30.5	17.5	44.3	4.7J	4U	12.4J	40UJ	4U	7.6	4U	4UJ	4U	4U	12.3J	5	8.7	8.3	4U	4J
Barium	64.8	40.6	83.8	46.7J	52.9	88.6	28.8	31.6	92.8	39.6	12.6	13.9	15.7	68.8	135	28.2	42.8	15.2	12.7J
Beryllium	1.6	1U	2.5	1U	1U	1.3	1U	1U	1.2	1U	1U	1U	1U	1U	1.6U	1U	1U	1U	1U
Cadmium	3U	3U	3U	3U	3U	5.1	3U	3U	4.2	3U	3U	3U	3U	19.6	3U	63.6	3U	3U	8.3
Calcium	9770	4710	15500	17500	16900	19000	14200	17300	14200	13000	11700	11800	13600	21400	77200	40100	25900	17300	24000
Chromium	66.3	31.2	119	15.1	8.8	99.6	2170	14.5	46.4	21.5	8.9	13.4	28.4	5810	30	8U	20.9	8	8U
Cobalt	9U	9U	13.9U	9U	9U	9U	9U	9U	11.4	9U	9U	9U	9U	9.9	9U	9U	9U	9U	9U
Copper	17.7U	12U	34.3U	15.5	6.6U	96.1	77.2	7.9U	28.1	12.3	5.7	10.4	12.7	27.3	9U	17.4	16.5	6.8U	17.4
Cyanide (CN)	10U	10U	10U	13.9	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iron	30800	8690	25600	11700J	1620	45300J	10800J	3180	46000J	9930J	3920J	3810J	7760J	23300J	38500	19200	25600J	2150	5350J
Lead	13.7	3.5J	21.1	4.3J	20.4	122J	128J	4.7U	32.4	3.7	13.1J	5.6	2U	44.8J	58.5	45.6	9.4	2UJ	20.3J
Magnesium	5180	2640	5040	5130	1600	4890	2060	1630	3340	2160	4310	4380	1250	6100	5610	2700	2310	4060	2320
Manganese	108	33.5	110	46.1	44.5	144	20	31.8	214	89.5	26.4	32.3	23	218	336	192	461	17.7	29.4
Mercury	0.2U	0.2U	0.2U	0.2U	0.2	1.2	0.47	0.2U	0.22	0.2U	0.24	0.2U	0.2U	0.2U	0.32	0.32	0.36	0.2U	0.34
Nickel	28.9	18U	36.3	19.6	18U	33.4	68.3	18U	28.5	18U	18U	18U	18U	31.1	18U	18U	18U	18U	18U
Potassium	3130	4170U	29700	5160	3250	3710	2040	1270U	3780	4000	3240	3920	1710	8780	2740	4990	4660	5360U	2700
Selenium	3U	3U	30U	30UJ	3U	30UJ	3UJ	3U	3UJ	3UJ	3UJ	3UJ	3UJ	30UJ	30U	3U	3UJ	3U	3UJ
Silver	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U
Sodium	12200	10700	28700	11100	6120	16200	4350	5230	21000	7730	11500	12200	1880	13100	7920	7090	11400	9420	8000
Thallium	3U	3UJ	3U	3UJ	3U	3UJ	3UJ	3U	3U	3U	3UJ	3U	3U	3UJ	3U	30U	3U	3UJ	3UJ
Vanadium	98	35.9	149	33.2	6U	88	21.4	17.2	53.7	18.5	14	16.8	23.7	57.7	66.2	9.9	19.1	11.4	6U
Zinc	97.8	82.5	126	31.5	42.6U	157	99.2	77.7	78.3	38.9	49.1U	32.9	69.7	131	79.7	65.4	164	26.6U	48.1

NOTES:
1 - NS indicates sample was not tested for that analyte.
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4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-4 : Summary of Detections Groundwater OU 2 Metal

SHORT ID	027S019	027S020	027S021	030I007	030I009	030I019	030I032	030I058	030I060	030I111	030I113	030I126	030I164	030I170	030I32A	030S003	030S005	030S006	030S011
SAMPLE ID	*027GS01901*	*027GS02001*	*027GS02101*	*030GI00701*	*030GI00901*	*030GI01901*	*030GI03201*	*030GI05801*	*030GI06001*	*030GI11101*	*030GI11301*	*030GI12601*	*030GI16401*	*030GI17001*	*030GI32A01*	*030GS00300*	*030GS00500*	*030GS00600*	*030GS01100*
SAMPLE DATE	*8/2/1993*	*8/3/1993*	*8/5/1993*	*11/8/1993*	*11/9/1993*	*11/3/1993*	*11/8/1993*	*12/1/1993*	*12/1/1993*	*11/9/1993*	*11/10/1993*	*11/10/1993*	*11/9/1993*	*11/8/1993*	*11/8/1993*	*11/5/1993*	*11/3/1993*	*11/8/1993*	*11/10/1993*
METAL																			
Aluminum	2180	7320	23000	2050	7180	167U	20UJ	6680J	12300J	724	20UJ	5270J	1640J	6200J	20UJ	20UJ	18500	977	20UJ
Antimony	35U	50	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U
Arsenic	5.3	4U	10.7	4.4J	19.7	2U	2U	7.9J	11J	11.4	8.2J	2U	3.8J	5.7J	2U	2U	2.5J	2U	2U
Barium	14.7	17.2	67.7	38.8U	38.6U	29.9U	3.1U	37.4J	37.3J	79.8U	41.4U	23.7U	9.5U	18.2U	10.6U	2.4U	26.2U	16.6U	9.9U
Beryllium	1U	1U	1U	1U	1U	1U	1U	1J	1.2J	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Cadmium	3U	3U	3U	3U	3U	3U	7.5	3U	3U	3U	3U	3U	3U	11U	3U	3U	3U	3U	3U
Calcium	29900	12700	16300	9720	4160J	12300	3770J	34200	12500	62900	65600	10200	17000	2060J	21300	517U	4640J	14900	38900
Chromium	8U	8U	36.6	4.8U	30.4U	4UJ	4U	17.6U	31.9U	5.8U	4U	11.8U	4.4U	20.5U	4U	4U	59.4	4U	4U
Cobalt	9U	9U	9U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	4.1U	3U	3U
Copper	8.8	10.8	23.1	9.1U	16.7U	4U	6.2U	8.3U	20.4U	9.1U	7.4U	8.6U	7.4U	10.8U	6.9U	5.6U	14.7U	7.4U	6.6U
Cyanide (CN)	10U	10U	10U	10UJ	10UJ	10U	10U	10UJ	10UJ	10UJ	10U	10U	10U	10UJ	10U	10U	10U	10UJ	10U
Iron	11900J	7170J	15600J	1200	17500	356	26.6UJ	7070J	6560	15800	3010	2070	4470	10300J	1490J	20.4UJ	10900	4230	4160
Lead	3.3	2U	5.2	6.4J	11.1J	2.2J	2UJ	15J	13.3J	2U	2U	2U	27.3	5J	4.3J	2UJ	10.6J	34.8J	3J
Magnesium	2190	1360	2880	4450J	2450J	4900J	2830J	3420J	3050J	36900	39300J	2800J	1890J	1060J	2750J	30UJ	1180	1510J	2420J
Manganese	76.5	47.2	60.8	56.5	40.5	54.8	4.8U	42	50.8	76.8	64.1	23	264	28.6	75.2	2.5U	35.6U	41.5	140
Mercury	0.2U	0.2U	0.56	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U
Nickel	18U	18U	18U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	32.3U	15U	15U	21U	15U	15U
Potassium	3280	1270U	18600	2280J	1320J	2410J	2880J	6080J	2060J	12900	11300	1360J	1910J	3780J	2690J	400U	1340J	2950J	2030J
Selenium	3UJ	3UJ	3UJ	2U	8.8U	2U	2U	2UJ	2J	3.4U	2.8J	2U	2U	2.8U	2U	2U	2U	2.7U	2U
Silver	4U	4U	4U	4U	4U	4UJ	4U	43.4J	4U	4U	4.1U	4U	4U	4U	4U	4U	4.9UJ	4U	4U
Sodium	8260	3950	10400	11500	14800	10400	18500	11700	18800	344000	84000	9620	16200	15900J	6440	295U	17900	7790	5960
Thallium	3U	3U	3U	2U	2U	2U	2UJ	2UJ	2UJ	10U	10U	2U	2U	2U	2UJ	2UJ	2U	2U	2U
Vanadium	6U	9	38.4	6.4U	64.2U	3U	3U	43.4J	61J	3U	3U	14.3U	9.8U	22.8U	3U	3U	24.3U	3U	3U
Zinc	35.3	44.9	97.2	24.6U	34.5U	10.8U	5U	33.9UJ	74.7J	22.8U	39.6U	37U	5U	28.5U	6.1U	5.1U	38.6U	18.8U	23.2U

SHORT ID	030S015	030S016	030S018	030S020	030S022	030S024	030S026	030S027	030S028	030S029	030S033	030S037	030S039	030S043	030S044	030S046	030S049	030S050	030S051
SAMPLE ID	*030GS01500*	*030GS01601*	*030GS01800*	*030GS02000*	*030GS02200*	*030GS02400*	*030GS02600*	*030GS02700*	*030GS02800*	*030GS02900*	*030GS03300*	*030GS03700*	*030GS03900*	*030GS04300*	*030GS04400*	*030GS04600*	*030GS04900*	*030GS05000*	*030GS05100*
SAMPLE DATE	*11/4/1993*	*11/5/1993*	*11/3/1993*	*11/4/1993*	*11/5/1993*	*11/4/1993*	*11/4/1993*	*11/4/1993*	*11/5/1993*	*11/9/1993*	*11/9/1993*	*11/4/1993*	*11/4/1993*	*11/4/1993*	*11/4/1993*	*11/3/1993*	*11/3/1993*	*11/3/1993*	*11/3/1993*
METAL																			
Aluminum	172U	1890J	2730	4580	68.4J	612J	20U	235J	20UJ	126UJ	20UJ	640	1030	1780	1180J	30.6U	70.7U	177U	171U
Antimony	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U
Arsenic	2U	2U	4.6J	2U	2U	2U	2U	2J	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U
Barium	17.2U	4.3U	8.9U	15.2U	6.2U	5.7U	5.3U	6.2U	6.2U	14.2U	9.6U	15.4U	8.7U	8.3U	35.7U	14.6U	20.9U	11.7U	23.5U
Beryllium	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Cadmium	3U	3U	3U	3U	3U	3U	3U	3.4J	7.8	14.2U	5.2U	3U	3U	3U	3U	3U	3U	3U	3U
Calcium	14400	4580J	9560	3840U	5520	5960	22400	11100	21300	12200	24000	23800	15500	10600	16500	22600	12600	14000	14000
Chromium	4U	21.6	20.9J	30.2	4U	4U	9.8J	1380	715	4.3U	4U	4UJ	6.7J	4UJ	4.8J	4UJ	5.4J	4UJ	4UJ
Cobalt	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U
Copper	6.2U	9.3U	5.9U	6.8U	4.2U	5.4U	4.7U	7.2U	12U	7.1U	6.4U	6U	5.9U	4.6U	4.6U	5.3U	4.8U	4U	4.8U
Cyanide (CN)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iron	158U	735J	5260	1760	137UJ	688J	160UJ	241UJ	22.6UJ	1100	3290	1540	691	1110	650J	234	87.7U	137U	156U
Lead	4.5J	3.1J	2.6J	3.6J	52.5J	15J	8.4J	5J	2UJ	3.6	2U	2J	2.4J	2.3J	2.2J	4J	2.8J	2U	2J
Magnesium	2530J	176J	1970J	1340J	996J	749J	1930J	2110J	2620J	2980J	2170J	1750J	1010J	548U	2510J	1810J	1030J	2530J	2220J
Manganese	2U	7.4U	60.9	20.3U	2.5U	4.2U	10.5U	31.2U	53	57.8	128	11.5U	4.7U	6.5U	4U	3.3U	2.1U	2U	2U
Mercury	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U
Nickel	15U	15U	25.1U	22.7U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U
Potassium	2800J	400U	1060J	415J	906J	1370J	1900J	4690J	6240	4020J	2080J	3100J	1620J	1590J	2920J	3630J	2250J	3240J	2980J
Selenium	2U	2U	2U	2U	2U	2U	2U	2U	2UJ	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U
Silver	4.6UJ	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4UJ	4.1UJ	4UJ	4UJ	4UJ	4UJ	4UJ	4UJ
Sodium	8670	816U	5640	14000	29100	27400	9220	8050	9840	8890	5050	5880	11000	1750J	9350	10600	11100	7700	6240
Thallium	2U	2UJ	2U	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U
Vanadium	3U	3U	5.2U	9.6U	3U	3U	3U	3U	3U	3U	3U	3.6U	3U	3U	3U	3U	3U	3U	3U
Zinc	8.3U	23.5U	11.9U	19.6U	5U	12.3U	5U	10.7U	5U	16.3U	5U	7.4U	16.3U	14.5U	14.1U	13.4U	5.4U	5U	5U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-4 : Summary of Detections Groundwater OU 2 Metal

SHORT ID	030S052	030S056	030S057	030S059	030S062	030S101	030S103	030S105	030S108	030S111	030S113	030S118	030S123	030S126	030S146	030S154	030S156	030S157	030S160
SAMPLE ID	*030GS05200*	*030GS05600*	*030GS05700*	*030GS05900*	*030GS06200*	*030GS10101*	*030GS10301*	*030GS10501*	*030GS10801*	*030GS11101*	*030GS11301*	*030GS11801*	*030GS12301*	*030GS12601*	*030GS14601*	*030GS15401*	*030GS15601*	*030GS15701*	*030GS16001*
SAMPLE DATE	*11/3/1993*	*11/5/1993*	*11/30/1993*	*12/1/1993*	*12/1/1993*	*11/9/1993*	*11/10/1993*	*11/9/1993*	*11/9/1993*	*11/10/1993*	*11/10/1993*	*11/10/1993*	*11/10/1993*	*11/10/1993*	*11/10/1993*	*11/10/1993*	*11/5/1993*	*11/5/1993*	*11/5/1993*
METAL																			
Aluminum	5260	266J	20000J	2710J	23500J	62.7U	38.6U	162U	115U	760	402J	905J	681	627J	20UJ	20UJ	252J	2430J	513J
Antimony	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U
Arsenic	2U	2U	4.8J	2U	8J	2U	3J	2U	2U	2U	2U	2U	2U	2U	2U	2U	2.7J	3.6J	2U
Barium	21.5U	9U	27.9J	15.8J	55.7J	10.7U	458	6.3U	9.3U	5.2U	13.4U	23.1U	7.3U	6.4U	6.8U	10.4U	581	12.7U	22.1U
Beryllium	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Cadmium	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	8.6	3U
Calcium	11300	11800	5680	12800	15900	34500	198000	10900	21400	9600	23200	24400	9410	17000	24300	31500	42300	40300	17100
Chromium	8.3J	12.1	20.8U	12.1U	33.6J	4U	4U	4U	4U	5.7U	4U	4U	7.4U	11.7U	4U	5U	4.6J	20.1	4U
Cobalt	3U	3U	5.2J	3U	4.6J	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U
Copper	9.9U	6.1U	19.2U	13.3U	38.1J	9.1U	7.2U	7.4U	4.8U	6.6U	6.9U	12.9U	6.4U	20.5U	8.2U	9.2U	4.4U	13.1U	6.7U
Cyanide (CN)	10U	10U	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10UJ	10U	10U	10UJ	10U	10U	10U	10U	10U	10U
Iron	3070	58.3UJ	7870J	2640J	16100J	1080	7900	225	473	1320	685	5410	702	249	80.8U	5490	4760J	4390J	470J
Lead	4.4J	2J	96J	7.5J	17J	2.2J	10.2J	2U	4.6J	4.7J	9.4	2U	3.2J	4.2	2U	2U	2UJ	2.2J	2UJ
Magnesium	2730J	2740J	3190J	1800J	3360J	1020J	17900	954U	1530J	2700J	2260J	2420J	2330J	2320J	2080J	1350J	1510J	1830J	615J
Manganese	10.1U	7.3U	107	24.8	88.4	43.9	457	3U	4.4U	31	12.6U	422	24.3	24.4	2.7U	60.2	168	373	12.3U
Mercury	0.2U	0.2U	0.2U	0.2U	0.4	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.49	0.2U
Nickel	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U
Potassium	3020J	4250J	4700J	1920J	3510J	1520J	8460	1510J	464J	10400	939J	1830J	1140J	1270J	1470J	2440J	2540J	1740J	767J
Selenium	2U	2U	3.6J	2J	2UJ	2.2U	2.6U	2.6U	2U	2U	2U	2U	2.8U	2U	2U	2U	2U	2U	2U
Silver	4UJ	4U	5U	4.8U	5.1U	4U	4U	4U	4U	4U	4U	4U	4U	4.9U	4.9U	4U	4U	4U	4U
Sodium	9650	13100	12000	17900	12700	2580	9340	1214	2530	37300	3490J	4960J	7420	6140	5440	9410	8260	8000	2450J
Thallium	2U	2UJ	2UJ	2J	2UJ	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2UJ	2UJ	2UJ
Vanadium	9.2U	3U	20J	6.4J	29.8J	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U
Zinc	9.7U	5U	21.6UJ	15.5UJ	26.9UJ	14.2U	20.5U	21.5U	9.3U	13.8U	15.2U	26.2U	22.3U	43.1U	20.2U	9.2U	7.6U	21.6U	13.2U

SHORT ID	030S161	030S162	030S164	030S165	030S166	030S168	030S170	030S171	030S172	030S173
SAMPLE ID	*030GS16101*	*030GS16201*	*030GS16401*	*030GS16501*	*030GS16601*	*030GS16801*	*030GS17001*	*030GS17101*	*030GS17201*	*030GS17301*
SAMPLE DATE	*12/1/1993*	*11/8/1993*	*11/9/1993*	*11/9/1993*	*11/9/1993*	*11/8/1993*	*11/8/1993*	*11/9/1993*	*11/10/1993*	*11/10/1993*
METAL										
Aluminum	1700J	6120	20U	859J	1170J	174U	948	20UJ	20UJ	20UJ
Antimony	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U
Arsenic	2U	3.3	2U	2U	2U	2U	2U	2U	2U	2U
Barium	10.5U	25U	6.2U	7.3U	10.3U	9.8U	10.1U	8U	8.5U	8.6U
Beryllium	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Cadmium	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U
Calcium	21100	22600	15900	11600	13000	21800	23400	19400	20100	22700
Chromium	5.6U	7.6U	4U	4U	4U	13.2U	12.2U	4U	11.3U	65.3
Cobalt	3U	3U	3U	3U	3U	3U	3U	3U	3U	3U
Copper	15U	12.7U	6.9U	7.1U	8.6U	6.1U	6.4U	4.6U	8.1U	5.1U
Cyanide (CN)	10UJ	10UJ	10U	10U	10U	10UJ	10UJ	10U	10U	10U
Iron	1050J	2070	429	309	601	289	382	74.7U	20U	308
Lead	2J	4.8J	2.2J	2U	2U	3J	5J	2U	2U	2U
Magnesium	2620J	2340J	1090J	1250J	1530J	2380J	2150J	2680J	3020J	2010J
Manganese	6.9U	33.2	20.9	6.3U	13.6U	19.1U	21.4	56	50.1	16.2U
Mercury	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U
Nickel	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U
Potassium	2540J	1930J	1400J	1120J	1290J	2820J	1740J	1740J	2810J	2110J
Selenium	2J	2.8U	2U	2U	2U	3U	3.6U	2U	2U	2U
Silver	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U
Sodium	12600	17400	17900	15500	14800	7820	8880	6570	9010	5390
Thallium	2UJ	2U	2U	2U	2U	2U	2U	2U	2U	2U
Vanadium	3.2J	4.5U	3U	3U	3U	3U	3U	3U	3U	3U
Zinc	9UJ	11.2U	5U	7.8U	5.4U	11.1U	15.4U	21.8U	7.5U	5U

NOTES:
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4 - Qualifiers

U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	011I004	011I006		011I015		011LF01	011LF02		011LF03	011LF04	011LF05	011LF06	011LF07	011LF08		011LF09		011LF10	011LF11
SAMPLE ID	*011SI00404*	*011SI00602*	*011SI00606*	*011SI01501*	*011SI01506*	*011SLF0109*	*011SLF0207*	*011SLF0209*	*011SLF0303*	*011SLF0405*	*011SLF0503*	*011SLF0604*	*011SLF0707*	*011SLF0806*	*011SLF0808*	*011SLF0905*	*011SLF0906*	*011SLF1006*	*011SLF1105*
SAMPLE DATE	*9/29/1993*	*9/29/1993*	*9/29/1993*	*10/15/1993*	*10/15/1993*	*8/31/1993*	*9/1/1993*	*9/1/1993*	*9/7/1993*	*9/7/1993*	*9/8/1993*	*9/8/1993*	*9/2/1993*	*9/2/1993*	*9/2/1993*	*9/3/1993*	*9/3/1993*	*9/1/1993*	*9/9/1993*
VOC																			
1,1,1-Trichloroethane	10U	10U	10UJ	10U	10U	4J	1400U	12U	14UJ	17U	1500U	1600U	11U	15UJ	13U	13U	12U	1500U	11U
1,1,2,2-Tetrachloroethane	10U	10U	10UJ	10U	10U	11UJ	1400U	12U	14U	17U	1500U	1600U	11U	15UJ	13U	13U	12U	1500U	11U
1,1-Dichloroethane	10U	10U	10UJ	10U	10U	11U	1400U	12U	14U	17U	1500U	1600U	11U	15U	13U	13U	12U	1500U	11U
1,1-Dichloroethene	10U	10U	10UJ	10U	10U	11U	1400U	12U	14U	17U	1500U	1600U	11U	15U	13U	13U	12U	1500U	11U
1,2-Dichloroethane	10U	10U	2J	10U	10U	11U	1400U	12U	14U	17U	1500U	1600U	11U	15U	13U	13U	12U	1500U	11U
1,2-Dichloroethene (total)	10U	10U	10UJ	10U	10U	11U	1400U	12U	14U	19	1500UJ	1600UJ	11U	15U	13U	13U	12U	1500U	11U
2-Butanone (MEK)	10U	10U	10UJ	10U	12U	11U	1400U	12U	14U	17U	380J	430J	11U	28	13U	13U	12U	1500U	11U
2-Hexanone	10U	10U	10UJ	10U	10U	11UJ	1400U	12U	14U	17U	1500UJ	1600UJ	11U	15UJ	13U	13U	12U	1500U	11U
4-Methyl-2-Pentanone (MIBK)	10U	10U	10UJ	10U	10U	11UJ	1400U	12U	14U	17U	1500U	1600U	11U	15UJ	13U	13U	12U	1500U	11U
Acetone	78J	59J	10UJ	10U	73U	11U	1400U	12U	82	480J	1500UJ	1600UJ	26U	190J	31J	13UJ	110	1500U	46UJ
Benzene	10U	10U	10UJ	10U	10U	8J	1400U	2J	14U	2J	1500U	1600U	11U	3J	13U	13U	12U	1500U	11U
Bromoform	10U	10U	10UJ	10U	10U	11UJ	1400U	12U	14U	17U	1500U	1600U	11U	15UJ	13U	13U	12U	1500U	11U
Carbon disulfide	10U	10U	10UJ	10U	10U	11U	1400U	12U	2J	17U	1500U	1600U	11U	15U	13U	13U	12U	1500U	11U
Carbon tetrachloride	10U	10U	10UJ	10U	10U	11UJ	1400U	12U	14UJ	17U	1500U	1600U	11U	15UJ	13U	13U	12U	1500U	11U
Chlorobenzene	10U	10U	10UJ	10U	10U	11UJ	1400U	12U	14U	17U	1500U	1600U	11U	15UJ	13U	13U	12U	1500U	11U
Chloroform	10U	10U	10UJ	10U	10U	11U	1400U	12U	14U	17U	1500U	1600U	11U	15U	13U	13U	12U	1500U	11U
Chloromethane	10UJ	10UJ	10UJ	10U	10U	11U	1400U	12U	14U	17U	1500UJ	1600UJ	11U	15U	13U	13U	12U	1500U	11U
Ethylbenzene	10U	10U	10UJ	10U	10U	11UJ	1400U	12J	2J	17U	1500U	1600U	11U	15UJ	13U	13U	12U	1500U	11U
Methylene chloride	19U	17U	24UJ	14U	31U	33U	1400U	15U	14U	17U	1500UJ	1600UJ	11U	59U	31U	14U	12U	1500U	11U
Styrene	10U	10U	10UJ	10U	10U	11UJ	1400U	12U	14U	17U	1500U	1600U	11U	15UJ	13U	13U	12U	1500U	11U
Tetrachloroethene	10U	10U	270DJ	10U	10U	11UJ	1400U	12U	14U	17U	1500U	1600U	11U	15UJ	13U	13U	12U	1500U	11U
Toluene	10U	10U	3DJ	6J	10U	220DJ	1400U	12U	140	63	160J	210J	4J	270J	7J	41	11J	1500U	11U
Trichloroethene	10U	10U	10UJ	10U	10U	11UJ	1400U	12U	14U	17U	1500U	1600U	11U	15UJ	13U	13U	12U	1500U	11U
Vinyl chloride	10UJ	10UJ	10UJ	10U	10U	11U	1400U	12U	14U	79	1500U	1600U	11U	15U	13U	13U	12U	1500U	11U
Xylene (Total)	10U	10U	10UJ	10U	10U	11UJ	1400U	19	14U	7J	1500U	190J	11U	15UJ	13U	13U	12U	1500U	11U
TOC																			
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																			
1,2,4-Trichlorobenzene	340U	330U	340U	690U	1700U	3600U	55000U	410U	4600U	5700U	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350U
1,4-Dichlorobenzene	340U	330U	340U	690U	1700U	3600U	55000U	410U	4600U	5700U	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350U
2,4-Dimethylphenol	340U	330U	340U	690U	1700U	3600U	55000U	410U	4600U	5700U	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350U
2,6-Dinitrotoluene	340U	330U	340U	690U	1700UJ	3600U	55000U	410U	4600U	5700U	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350U
2-Chloronaphthalene	340U	330U	340U	690U	1700U	3600U	55000U	410U	4600U	5700U	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350U
2-Methylnaphthalene	340U	330U	340U	690U	1700U	3600U	10000J	71J	4600U	1500J	950J	4100U	1800U	2500U	850U	4400U	410U	810U	350U
2-Methylphenol (o-Cresol)	340U	330U	340U	690U	1700U	3600U	55000UJ	410U	4600U	5700U	4000UJ	4100UJ	1800U	2500U	850U	4400U	410UJ	810U	350U
3,3-Dichlorobenzidine	340U	330U	340U	690UJ	1700UJ	3600U	55000U	410U	4600UJ	5700UJ	4000U	4100U	3500U	5000U	1700U	4400UJ	410U	810U	350U
4-Methylphenol (p-Cresol)	340UJ	330UJ	340UJ	690U	1700U	3600U	55000U	410U	4600U	5700U	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350U
4-Nitrophenol	820U	800U	830U	1700U	4100U	8600U	140000U	1000U	11000UJ	14000UJ	9700U	10000U	4300U	6000U	2100U	11000UJ	1000U	2000U	850U
Acenaphthene	340U	330U	340U	690U	1700U	1100J	55000U	410U	1400J	1500J	640J	4100U	1800U	2500U	850U	4400U	130J	360J	350U
Acenaphthylene	340U	330U	340U	690U	320J	590J	55000U	410U	1000J	5700U	4000U	4100U	1800U	2500U	850U	4400U	44J	230J	350U
Anthracene	340U	330U	340U	690UJ	280J	910J	55000U	410U	2700J	5700U	730J	4100U	1800U	2500U	850U	4400U	92J	210J	350U
Benzo(a)anthracene	340U	330U	340U	690U	360J	960J	55000U	410U	7400	5700U	1100J	4100U	230J	2500U	850U	660J	260J	1400	350U
Benzo(a)pyrene	340U	330U	340U	690U	690J	810J	55000U	410U	4500J	5700U	4000U	4100U	210J	2500U	850U	680J	180J	1100	350U
Benzo(b)fluoranthene	340U	330U	340U	690U	490J	660J	55000U	410U	5700	5700U	4000U	4100U	230J	260J	850U	460J	220J	1200	350U
Benzo(g,h,i)perylene	340U	330U	340U	690U	450J	490J	55000U	410U	3100J	5700U	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350U
Benzo(k)fluoranthene	340UJ	330UJ	340UJ	690U	760J	610J	55000U	410U	3300J	5700U	1300J	4100UJ	210J	2500U	850U	560J	180J	510J	350U
bis(2-Ethylhexyl)phthalate (BEHP)	280J	47J	340U	690UJ	3200	3600U	55000U	410U	4600U	1100J	4000U	4100U	1800U	2500U	850U	4400U	250U	810U	820J
Butylbenzylphthalate	340U	330U	340U	690U	1700U	3600U	55000U	410U	4600U	5700U	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350UJ
Carbazole	340U	330U	340U	690U	1700U	3600U	55000U	410UJ	4600U	5700U	4000U	4100U	1800U	2500U	850U	4400UJ	410U	810UJ	350U
Chrysene	340U	330U	340U	690U	500J	950J	55000U	410U	6100	5700U	880J	4100U	280J	2500U	850U	600J	260J	670J	350U
Dibenz(a,h)anthracene	340U	330U	340U	690U	1700U	3600U	55000U	410U	1200J	5700U	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350U
Dibenzofuran	340U	330U	340U	690U	1700U	3600U	55000U	410U	910J	740J	670J	4100U	1800U	2500U	850U	4400U	120J	810U	350U
Diethylphthalate	340U	330U	340U	690U	1700U	3600U	55000U	410U	4600U	5700U	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350U
Dimethylphthalate	340U	330U	340U	690U	1700U	3600U	55000U	410U	4600U	5700U	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350U
Di-n-butylphthalate	340U	330U	340U	690UJ	1700UJ	3600U	55000U	410U	4600U	3900J	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350U
Di-n-octylphthalate	340U	330U	340U	690UJ	1700UJ	3600U	55000U	410U	4600U	5700U	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350UJ
Fluoranthene	340U	330U	340U	130J	790J	2600J	55000U	410U	12000	800J	2800J	4100U	480J	2500U	850U	1100J	710	2300	350U
Fluorene	340U	330U	340U	690U	1700U	920J	55000U	410U	3000J	930J	1700J	4100U	1800U	2500U	850U	4400U	90J	300J	350U
Hexachlorobutadiene	340U	330U	340U	690U	1700U	3600U	55000UJ	410U	4600U	5700U	4000U	4100U	1800U	2500U	850U	4400U	410UJ	810U	350U
Indeno(1,2,3-cd)pyrene	340U	330U	340U	690U	400J	420J	55000U	410U	3100J	5700U	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350U
Isophorone	340U	330U	340U	690U	1700U	3600U	55000U	410U	4600U	5700U	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350U
Naphthalene	340U	330U	340U	690U	1700U	3600U	55000U	410U	4600U	1400J	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350U
Pentachlorophenol	820U	800U	830U	1700U	4100U	8600U	140000U	1000U	11000U	14000U	9700U	10000U	4300U	6000U	2100U	11000U	1000U	2000U	850U
Phenanthrene	340U	330U	340U	89J	1700U	2700J	55000U	59J	11000	1200J	4300	4100U	300J	2500U	850U	900J	110J	990	350U
Phenol	340U	330U	340U	690U	1700U	3600U	55000U	410U	4600U	5700U	4000U	4100U	1800U	2500U	850U	4400U	410U	810U	350U
Pyrene	340U	330U	340U	110J	850J	2500J	55000U	410U	13000	880J	2400J	4100U	390J	2500U	850U	1200J	760	2200	350U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	011LF12	011LF13	011LF29	011RA01	011RA02	011RA03	011RA04	011RA05	011RA06	011RA07	011RA08	011RA09	011RA10	011RA11	011RA12	011RA13	011S001	011S001	
SAMPLE ID	*011SLF1206*	*011SLF1305*	*011SLF2909*	*011SRA0101*	*011SRA0201*	*011SRA0301*	*011SRA0401*	*011SRA0501*	*011SRA0601*	*011SRA0701*	*011SRA0801*	*011SRA0901*	*011SRA1001*	*011SRA1101*	*011SRA1201*	*011SRA1301*	*011SS00101*	*011SS00104*	*011SS00106*
SAMPLE DATE	*9/9/1993*	*9/8/1993*	*9/1/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*9/8/1993*	*9/8/1993*	*9/2/1993*	*9/2/1993*	*9/3/1993*	*9/1/1993*	*9/9/1993*	*9/9/1993*	*9/8/1993*	*9/13/1993*	*9/15/1993*	*9/15/1993*
VOC																			
1,1,1-Trichloroethane	1500U	1500U	11U	10U	10U	10U	10U	12UJ	11U	11U	11U	11U	10U	10UJ	1300U	11UJ	10U	10U	11U
1,1,2,2-Tetrachloroethane	1500U	1500U	11U	10U	10U	10U	10U	12U	11U	11UJ	11UJ	11U	10U	10U	1300U	11U	10UJ	10U	11U
1,1-Dichloroethane	1500U	1500U	11U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	1300U	11U	10U	10U	11U
1,1-Dichloroethene	1500U	1500U	11U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	1300U	11U	10U	10U	11U
1,2-Dichloroethane	1500U	1500U	11U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	1300UJ	11U	10U	10U	11U
1,2-Dichloroethene (total)	1500UJ	150J	11U	10U	10U	10U	10U	12U	11U	11U	11U	11U	10U	10U	1300UJ	11U	10U	10U	11U
2-Butanone (MEK)	1500UJ	390J	11U	10U	10U	10U	10U	12U	11U	11U	11U	11U	10U	10U	1300UJ	11U	10U	10U	11U
2-Hexanone	1500UJ	1500UJ	11U	10U	10U	10U	10U	12U	11U	11UJ	11UJ	11U	10U	10U	1300UJ	11U	10UJ	10U	11U
4-Methyl-2-Pentanone (MIBK)	1500U	1500U	11U	10U	10U	10U	10U	10U	11U	11UJ	11UJ	11U	10U	10U	1300U	11U	10UJ	10U	11U
Acetone	1500UJ	400U	11U	15U	49U	13U	10U	10UJ	11UJ	11U	18U	15	60U	41UJ	1300UJ	11U	10U	94U	11U
Benzene	1500U	1500U	11U	10U	10U	10U	10U	10U	11U	1J	11U	11U	1J	10U	1300U	1J	10U	10U	11U
Bromoform	1500U	1500U	11U	10U	10U	10U	10U	10U	11U	11UJ	11UJ	11U	10U	10U	1300U	11U	10U	10U	11U
Carbon disulfide	1500U	1500U	11U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	1300U	11U	10U	10U	11U
Carbon tetrachloride	1500U	1500U	11U	10U	10U	10U	10U	12UJ	11U	11U	11U	11U	1J	10UJ	1300U	11UJ	10U	10U	11U
Chlorobenzene	1500U	1500U	11U	10U	10U	10U	10U	10U	11U	11UJ	11UJ	11U	10U	10U	1300U	11U	10UJ	10U	11U
Chloroform	1500U	1500U	11U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	1300U	11U	10U	10U	11U
Chloromethane	1500UJ	1500UJ	11U	10U	10U	10U	10U	12U	11U	11U	11U	11UJ	10U	10U	1300UJ	11U	10U	10U	11U
Ethylbenzene	3500	1500U	11U	10U	10U	10U	10U	10U	11U	1J	11UJ	11U	1J	10U	1300U	11U	10UJ	10U	11U
Methylene chloride	1500UJ	1500UJ	11U	12U	10U	10U	10U	15U	11U	11U	17U	11U	10U	10U	1300UJ	13U	12U	10U	11U
Styrene	1500U	1500U	11U	10U	10U	10U	10U	10U	11U	11UJ	11UJ	11U	10U	10U	1300U	11U	10UJ	10U	11U
Tetrachloroethene	1500U	1500U	11U	10U	10U	10U	10U	10U	11U	11UJ	11UJ	11U	10U	10U	1300U	11U	10UJ	10U	11U
Toluene	1500U	1500U	11U	9J	10U	5J	2J	10U	190	58J	36J	4J	25	11U	1300U	36	26UJ	10U	11U
Trichloroethene	1500U	1500U	11U	10U	10U	10U	10U	12U	11U	11U	11U	11U	10U	10U	1300U	11U	10U	10U	11U
Vinyl chloride	1500U	1500U	11U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	1300U	11U	10U	10U	11U
Xylene (Total)	19000	1500U	11U	10U	10U	10U	10U	10U	11U	11UJ	11UJ	11U	2J	10U	160J	1J	2J	10U	11U
TOC																			
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																			
1,2,4-Trichlorobenzene	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	1800U	1800U	360U	340U	340U	53000U	1800U	680U	1700U	1700U
1,4-Dichlorobenzene	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	1800U	1800U	360U	340U	340U	53000U	1800U	680U	1700U	1700U
2,4-Dimethylphenol	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	1800U	1800U	360U	340U	340U	53000U	1800U	680U	1700U	1700U
2,6-Dinitrotoluene	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	1800U	1800U	360U	340U	340U	53000U	1800U	680U	1700U	1700U
2-Chloronaphthalene	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	1800U	1800U	360U	340U	340U	53000U	1800U	680U	1700U	1700U
2-Methylnaphthalene	24000J	8000U	340U	670U	330U	340U	330U	2000U	1800U	1800U	1800U	360U	340U	340U	53000U	1800U	680U	1700U	1700U
2-Methylphenol (o-Cresol)	54000U	8000UJ	340U	670U	330U	340U	330U	2000UJ	1800UJ	1800U	1800U	360UJ	340U	340U	53000U	1800UJ	680U	1700U	1700U
3,3-Dichlorobenzidine	54000UJ	8000U	340U	670U	330U	340U	330U	2000U	1800U	3600U	3500U	360U	340U	340U	53000UJ	1800U	680U	1700U	1700U
4-Methylphenol (p-Cresol)	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	1800U	1800U	360U	340U	340U	53000U	1800U	680U	1700U	1700U
4-Nitrophenol	140000U	19000U	840U	1600U	810U	820U	810U	4800U	4500U	4400U	4300U	860U	820U	820U	130000U	4300U	1600UJ	4100U	4200UJ
Acenaphthene	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	1400J	1800U	360U	340U	340U	53000U	1800U	680U	1700U	1700U
Acenaphthylene	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	220J	260J	360U	340U	340U	53000U	1800U	680U	1700U	1700U
Anthracene	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	1600J	1800U	360U	340U	340U	53000U	320J	130J	1700U	1700U
Benzo(a)anthracene	54000U	8000U	340U	670U	330U	340U	330U	220J	1800U	4600	460J	45J	340U	340U	53000U	660J	400J	1700U	190J
Benzo(a)pyrene	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	4500	610J	50J	340U	340U	53000U	1800U	290J	1700U	1700U
Benzo(b)fluoranthene	54000U	8000U	340U	670UJ	330U	340U	330U	520J	1800U	5200	830J	66J	340U	340U	53000U	1300J	400J	1700U	380J
Benzo(g,h,i)perylene	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	2400	520J	360U	340U	340U	53000U	1800U	680U	1700U	1700U
Benzo(k)fluoranthene	54000UJ	8000UJ	340U	670U	330U	340U	330U	2000UJ	1800UJ	3400	520J	55J	340U	340U	53000UJ	1800UJ	340J	1700U	1700U
bis(2-Ethylhexyl)phthalate (BEHP)	54000UJ	8000U	340U	670U	330U	340U	330U	2000U	1800U	1800U	2100U	220U	340U	340UJ	53000UJ	1800U	680U	1700U	1700U
Butylbenzylphthalate	54000UJ	8000U	340U	670UJ	330U	340U	330U	2000U	1800U	1800U	1800U	360U	340U	340UJ	53000UJ	1800U	680U	1700U	1700U
Carbazole	54000UJ	8000U	340UJ	670U	330U	340U	330U	2000U	1800U	820J	1800U	360U	340UJ	340U	53000UJ	1800U	110J	1700U	1700U
Chrysene	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	4800	620J	50J	340U	340U	53000U	830J	470J	1700U	230J
Dibenz(a,h)anthracene	54000UJ	8000U	340U	670U	330U	340U	330U	2000U	1800U	1200J	210J	360U	340U	340U	53000UJ	1800U	680U	1700U	1700U
Dibenzofuran	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	380J	1800U	360U	340U	340U	53000U	1800U	680U	1700U	1700U
Diethylphthalate	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	1800U	1800U	360U	340U	340U	53000U	1800U	680U	1700U	1700U
Dimethylphthalate	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	1800U	1800U	360U	340U	340U	53000U	1800U	680U	1700U	1700U
Di-n-butylphthalate	54000U	8000U	54	670U	330U	340U	330U	2000U	1800U	1800U	1800U	360U	340U	340U	53000U	1800U	680U	1700U	1700U
Di-n-octylphthalate	54000UJ	8000U	340U	670U	330U	340U	330U	2000U	1800U	1800U	1800U	360U	340U	340UJ	53000UJ	1800U	680U	1700U	1700U
Fluoranthene	54000U	8000U	340U	670U	330U	340U	330U	470J	1800U	9100	870J	72J	340U	340U	53000U	1800	1100	1700U	460J
Fluorene	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	900J	1800U	360U	340U	340U	53000U	1800U	680U	1700U	1700U
Hexachlorobutadiene	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	1800U	1800U	360UJ	340U	340U	53000U	1800U	680U	1700U	1700U
Indeno(1,2,3-cd)pyrene	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	2400	460J	360U	340U	340U	53000U	1800U	680U	1700U	1700U
Isophorone	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	1800U	1800U	360U	340U	340U	53000U	1800U	680U	1700U	1700U
Naphthalene	14000J	8000U	340U	670U	330U	340U	330U	2000U	1800U	430J	1800U	360U	340U	340U	53000U	1800U	82J	1700U	1700U
Pentachlorophenol	140000U	19000U	840U	1600U	810U	820U	810U	4800U	4500U	4400U	4300U	860U	820U	820U	130000U	4300U	1600U	4100U	4200U
Phenanthrene	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	6900	1800U	360U	340U	340U	53000U	1700J	770	1700U	300J
Phenol	54000U	8000U	340U	670U	330U	340U	330U	2000U	1800U	1800U	1800U	360U	340U	340U	53000U	1800U	680U	1700U	1700U
Pyrene	54000U	890J	340U	670U	330U	340U	330U	500J	1800U	8000	740J	80J	340U	340U	53000U	1500J	840	1700U	350J

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	011S003			011S007	011S011		011S013	0120002				0120003				0120004			
SAMPLE ID	*011SS00301*	*011SS00304*	*011SS00306*	*011SS00703*	*011SS01101*	*011SS01106*	*011SS01301*	*012S000201*	*012S000205*	*012S000210*	*012S000215*	*012S000301*	*012S000305*	*012S000310*	*012S000315*	*012S000401*	*012S000405*	*012S000410*	*012S000415*
SAMPLE DATE	*9/13/1993*	*9/16/1993*	*9/16/1993*	*9/21/1993*	*9/16/1993*	*9/16/1993*	*9/20/1993*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*
VOC																			
1,1,1-Trichloroethane	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
1,1,2,2-Tetrachloroethane	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
1,1-Dichloroethane	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
1,1-Dichloroethene	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
1,2-Dichloroethane	11U	2J	11U	4J	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
1,2-Dichloroethene (total)	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
2-Butanone (MEK)	11U	10U	11U	11U	11U	2000U	11UJ	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
2-Hexanone	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
4-Methyl-2-Pentanone (MIBK)	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
Acetone	11U	130U	66U	58U	32U	2000U	1400U	60UJ	30UJ	110UJ	48UJ	15UJ	11UJ	11UJ	12UJ	11UJ	12UJ	11UJ	12UJ
Benzene	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
Bromoform	11U	10U	11U	11U	11U	2000U	11UJ	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
Carbon disulfide	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
Carbon tetrachloride	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
Chlorobenzene	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
Chloroform	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
Chloromethane	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
Ethylbenzene	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
Methylene chloride	42U	10U	30U	11U	19U	2000U	11U	13UJ	15UJ	20UJ	11UJ	10UJ	14UJ	10UJ	10UJ	10UJ	11UJ	11UJ	45UJ
Styrene	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
Tetrachloroethene	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
Toluene	24U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
Trichloroethene	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
Vinyl chloride	11U	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
Xylene (Total)	1J	10U	11U	11U	11U	2000U	11U	11U	10U	10U	11U	11U	10U	10U	11U	11U	10U	11U	11U
TOC																			
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																			
1,2,4-Trichlorobenzene	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
1,4-Dichlorobenzene	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
2,4-Dimethylphenol	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
2,6-Dinitrotoluene	350U	150J	170J	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
2-Chloronaphthalene	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
2-Methylnaphthalene	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
2-Methylphenol (o-Cresol)	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000UJ	330U	330U	340U	340U	340U	360U	370U
3,3-Dichlorobenzidine	350U	680U	360U	760U	7200U	2100U	1900U	340UJ	340UJ	340UJ	360UJ	1000U	330UJ	330UJ	340UJ	340UJ	340UJ	360UJ	370UJ
4-Methylphenol (p-Cresol)	350U	340U	360U	760U	3600U	1000U	1900U	340U	340UJ	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
4-Nitrophenol	850UJ	820U	880U	1800U	8700U	2500U	4500U	860U	860U	840U	920U	2600U	830U	830U	860U	860U	860U	910U	920U
Acenaphthene	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
Acenaphthylene	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
Anthracene	40J	340U	360U	760UJ	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
Benzo(a)anthracene	140J	340U	360U	760U	3600U	1000U	1900U	100J	340U	340U	360U	110J	330U	330U	340U	51J	340U	360U	370U
Benzo(a)pyrene	85J	340U	360U	760U	3600U	1000U	1900U	66J	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
Benzo(b)fluoranthene	130J	340U	360U	760U	3600U	1000U	1900U	230J	340U	340U	360U	180J	330U	330U	340U	97J	340U	360U	370U
Benzo(g,h,i)perylene	350U	340U	360U	760U	3600U	1000U	1900U	340UJ	340UJ	340UJ	360UJ	1000U	330UJ	330UJ	340UJ	340UJ	340UJ	360UJ	370UJ
Benzo(k)fluoranthene	150J	340U	360U	760U	3600U	1000U	1900U	230J	340U	340U	360U	210J	330U	330U	340U	99J	340U	360U	370U
bis(2-Ethylhexyl)phthalate (BEHP)	350U	65J	1000	13000U	3600U	150J	1900U	340UJ	340UJ	340UJ	360UJ	4800J	330UJ	330UJ	340UJ	340UJ	340UJ	360UJ	370UJ
Butylbenzylphthalate	350U	340U	360U	760UJ	3600U	1000U	1900U	340UJ	340UJ	340UJ	360UJ	260J	330UJ	330UJ	340UJ	44J	340UJ	360UJ	370UJ
Carbazole	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
Chrysene	160J	340U	360U	760U	3600U	1000U	1900U	120J	340U	340U	360U	1000U	330U	330U	340U	59J	340U	360U	370U
Dibenz(a,h)anthracene	350U	340U	360U	760U	3600U	1000U	1900U	340UJ	340UJ	340UJ	360UJ	1000U	330UJ	330UJ	340UJ	340UJ	340UJ	360UJ	370UJ
Dibenzofuran	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
Diethylphthalate	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
Dimethylphthalate	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
Di-n-butylphthalate	350U	70J	72J	760U	3600U	130J	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
Di-n-octylphthalate	350U	340U	360U	760U	3600U	1000U	1900U	340UJ	340UJ	340UJ	360UJ	1000UJ	330UJ	330UJ	340UJ	340UJ	340UJ	360UJ	370UJ
Fluoranthene	310J	340U	360U	760U	3600U	1000U	1900U	180J	340U	340U	360U	120J	330U	330U	340U	61J	340U	360U	370U
Fluorene	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
Hexachlorobutadiene	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
Indeno(1,2,3-cd)pyrene	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
Isophorone	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
Naphthalene	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
Pentachlorophenol	850U	820UJ	880UJ	1800U	8700UJ	2500UJ	4500U	860U	860U	840U	920U	2600U	830U	830U	860U	860U	860U	910U	920U
Phenanthrene	260J	340U	360U	760U	3600U	1000U	1900U	160J	340U	340U	360U	1000U	330U	330U	340U	46J	340U	360U	370U
Phenol	350U	340U	360U	760U	3600U	1000U	1900U	340U	340U	340U	360U	1000U	330U	330U	340U	340U	340U	360U	370U
Pyrene	250J	340U	360U	760U	3600U	1000U	1900U	180J	340U	340U	360U	130J	330U	330U	340U	70J	340U	360U	370U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0120005				0120006				0120007				0120008				0120009		
SAMPLE ID	*0125000501*	*0125000505*	*0125000510*	*0125000515*	*0125000601*	*0125000605*	*0125000610*	*0125000615*	*0125000701*	*0125000705*	*0125000710*	*0125000715*	*0125000801*	*0125000805*	*0125000810*	*0125000814*	*0125000901*	*0125000905*	*0125000910*
SAMPLE DATE	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/18/1995*	*4/18/1995*	*4/18/1995*	*4/18/1995*	*12/9/1992*	*12/9/1992*	*4/25/1995*	*12/9/1992*	*4/20/1995*	*4/20/1995*	*4/20/1995*
VOC																			
1,1,1-Trichloroethane	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	NS	10U	10U	11U	10U	10U
1,1,2,2-Tetrachloroethane	10U	10U	11U	11U	10U	10U	10U	1J	11U	11U	10U	10U	NS	10U	10U	10U	11U	10U	10U
1,1-Dichloroethane	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	NS	10U	10U	11U	10U	10U
1,1-Dichloroethene	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	NS	10U	10U	11U	10U	10U
1,2-Dichloroethane	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	NS	10U	10U	11U	10U	10U
1,2-Dichloroethene (total)	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	NS	10U	10U	11U	10U	10U
2-Butanone (MEK)	10U	10U	11U	11U	10U	10UJ	10UJ	11U	11UJ	11UJ	10UJ	10UJ	NS	NS	10UJ	10U	11UJ	10UJ	10U
2-Hexanone	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	10U	10UJ	10U	11U	10U	10U
4-Methyl-2-Pentanone (MIBK)	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	10U	10U	10U	11U	10U	10U
Acetone	32UJ	17UJ	23UJ	30UJ	29U	56UJ	53UJ	140J	180UJ	44UJ	29UJ	160U	NS	NS	26U	43U	48UJ	46UJ	19UJ
Benzene	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	10U	10U	10U	11U	10U	10U
Bromoform	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	10U	10U	10U	11U	10U	10U
Carbon disulfide	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	NS	10U	10U	11U	10U	10U
Carbon tetrachloride	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	10U	10U	10U	11U	10U	10U
Chlorobenzene	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	10U	10U	10U	11U	10U	10U
Chloroform	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	NS	10U	10U	1J	1J	10U
Chloromethane	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	NS	10UJ	10U	11U	10U	10U
Ethylbenzene	10U	10U	11U	11U	10U	10U	10U	1J	11U	11U	10U	10U	NS	10U	10U	10U	11U	10U	10U
Methylene chloride	47UJ	65UJ	69UJ	40UJ	38U	19U	34U	22U	24UJ	24UJ	19UJ	22U	NS	NS	22U	24U	31U	34U	39UJ
Styrene	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	10U	10U	10U	11U	10U	10U
Tetrachloroethene	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	10U	10U	10U	11U	10U	10U
Toluene	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	10U	10U	10U	11U	10U	10U
Trichloroethene	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	10U	10U	10U	11U	10U	10U
Vinyl chloride	10U	10U	11U	11U	10U	10U	10U	11U	11U	11U	10U	10U	NS	NS	10U	10U	11U	10U	10U
Xylene (Total)	10U	10U	11U	11U	10U	10U	10U	1J	11U	11U	10U	10U	NS	10U	10U	10U	11U	10U	10U
TOC																			
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5400	4400	2600	1600	NS	NS	NS
SVOC																			
1,2,4-Trichlorobenzene	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	350U	340U	330UJ
1,4-Dichlorobenzene	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	350U	340U	330UJ
2,4-Dimethylphenol	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	350U	340U	330U
2,6-Dinitrotoluene	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	350U	340U	330U
2-Chloronaphthalene	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	39J	340U	330U
2-Methylnaphthalene	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	350U	340U	330U
2-Methylphenol (o-Cresol)	340UJ	330UJ	360UJ	360UJ	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330UJ	340U	350U	340U	330U
3,3-Dichlorobenzidine	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	350U	340U	330UJ
4-Methylphenol (p-Cresol)	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	350U	340U	330U
4-Nitrophenol	850U	840UJ	890U	910U	860U	840U	850U	880U	880U	880U	860U	930U	850U	850U	840U	860U	880U	860U	840UJ
Acenaphthene	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	350U	340U	330UJ
Acenaphthylene	340U	330UJ	360U	360U	340U	330U	340U	350U	70J	55J	340U	370U	75J	43J	330U	340U	470	340U	330U
Anthracene	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	120J	340U	330U
Benzo(a)anthracene	56J	330UJ	360U	360U	36J	330U	340U	350U	340J	140J	53J	370U	350	80J	330U	340U	1200	76J	330U
Benzo(a)pyrene	54J	330UJ	360U	360U	340U	330U	340U	350U	340J	280J	93J	370U	360	140J	330U	340U	1000	82J	330U
Benzo(b)fluoranthene	120J	330UJ	360U	360U	80J	330U	340U	350U	740J	600X	200J	370U	900	320XJ	330U	340U	3600J	200J	330U
Benzo(g,h,i)perylene	340U	330UJ	360U	360U	340UJ	330UJ	340UJ	350UJ	190J	160J	46J	370UJ	230J	100J	330U	340U	1600J	59J	330UJ
Benzo(k)fluoranthene	130J	330UJ	360U	360U	89J	330UJ	340UJ	350UJ	960J	790X	270J	370UJ	910	340X	330U	340U	3300J	180J	330U
bis(2-Ethylhexyl)phthalate (BEHP)	340UJ	330UJ	360UJ	360UJ	160J	330UJ	340UJ	350UJ	280J	170J	94J	370UJ	97J	68J	330UJ	340U	130J	100J	330UJ
Butylbenzylphthalate	340UJ	330UJ	360UJ	360UJ	79J	330U	340U	350U	50J	82J	340U	370UJ	41J	340U	330UJ	340U	650J	340UJ	330UJ
Carbazole	340U	330UJ	360U	360U	340UJ	330UJ	340UJ	350UJ	350U	350U	340U	370UJ	340U	340U	330U	340U	140J	340UJ	330U
Chrysene	63J	330UJ	360U	360U	44J	330U	340U	350U	280J	180J	67J	370U	420	120J	330U	340U	930	79J	330U
Dibenz(a,h)anthracene	340U	330UJ	360U	360U	340U	330U	340U	350U	45J	350U	340U	370U	59J	340U	330U	340U	53J	340U	330UJ
Dibenzofuran	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	350U	340U	330U
Diethylphthalate	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	350U	340U	330U
Dimethylphthalate	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	350U	340U	330U
Di-n-butylphthalate	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	350U	370U	30J	340U	330U	340U	350U	340U	330U
Di-n-octylphthalate	340UJ	330UJ	360UJ	360UJ	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330UJ	340U	350U	340U	330UJ
Fluoranthene	73J	330UJ	360U	360U	50J	330U	340U	350U	380	260J	81J	370U	340	100J	330U	340U	1200	84J	330U
Fluorene	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	50U	340U	370U	340U	340U	330U	340U	39J	340U	330U
Hexachlorobutadiene	340U	330UJ	360U	360U	340UJ	330UJ	340UJ	350UJ	350U	350U	340U	370UJ	340U	340U	330UJ	340U	350UJ	340UJ	330U
Indeno(1,2,3-cd)pyrene	340U	330UJ	360U	360U	340U	330U	340U	350U	170J	140J	36J	370U	210J	91J	330U	340U	1300	57J	330U
Isophorone	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	350U	340U	330U
Naphthalene	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	350U	340U	330U
Pentachlorophenol	850U	840UJ	890U	910U	860U	840U	850U	880U	880U	880U	860U	930U	850U	850U	840U	860U	880U	860U	840UJ
Phenanthrene	340U	330UJ	360U	360U	340U	330U	340U	350U	62J	350U	340U	370U	70J	340U	330U	340U	340J	340U	330U
Phenol	340U	330UJ	360U	360U	340U	330U	340U	350U	350U	350U	340U	370U	340U	340U	330U	340U	350U	340U	330UJ
Pyrene	71J	330UJ	360U	360U	52J	330U	340U	350U	270J	250J	68J	370U	400	99J	330U	340U	1300	95J	330UJ

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0120010				0120011			0120012				0120013				0120014			
SAMPLE ID	*012S001001*	*012S001005*	*012S001010*	*012S001012*	*012S001101*	*012S001105*	*012S001110*	*012S001201*	*012S001205*	*012S001210*	*012S001212*	*012S001301*	*012S001305*	*012S001310*	*012S001312*	*012S001401*	*012S001405*	*012S001410*	*012S001412*
SAMPLE DATE	*12/11/1992*	*4/25/1995*	*12/11/1992*	*4/25/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*
VOC																			
1,1,1-Trichloroethane	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
1,1,2,2-Tetrachloroethane	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
1,1-Dichloroethane	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
1,1-Dichloroethene	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
1,2-Dichloroethane	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
1,2-Dichloroethene (total)	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
2-Butanone (MEK)	11U	11U	11U	10U	11UJ	11UJ	11U	11U	10U	12U	10U	11UJ	11U	11U	11UJ	11UJ	11UJ	10UJ	10U
2-Hexanone	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11UJ	11U	11U	11U	11UJ	11UJ	10U	10U
4-Methyl-2-Pentanone (MIBK)	11U	11U	11U	10U	11U	11U	11U	11UJ	10UJ	12UJ	10UJ	11U	11UJ	11UJ	11UJ	11U	11U	10UJ	10U
Acetone	13U	26UJ	11U	15UJ	85UJ	37UJ	39U	18UJ	14UJ	28UJ	15UJ	20U	15UJ	12UJ	25U	12U	12U	14U	11U
Benzene	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
Bromoform	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
Carbon disulfide	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
Carbon tetrachloride	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
Chlorobenzene	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	3J	10U
Chloroform	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
Chloromethane	11U	11UJ	11U	10UJ	11U	11U	11U	11U	10U	12U	10U	11UJ	11U	11U	11UJ	11UJ	11UJ	10UJ	10U
Ethylbenzene	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
Methylene chloride	90U	22UJ	19U	21UJ	29U	38U	23U	65U	30U	31U	28U	150U	33U	100U	66U	49U	35U	60U	82U
Styrene	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
Tetrachloroethene	11U	11U	11U	10U	11U	11U	11U	2J	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
Toluene	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
Trichloroethene	11U	11U	11U	10U	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
Vinyl chloride	11U	11UJ	11U	10UJ	11U	11U	11U	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
Xylene (Total)	11U	11U	11U	10U	11U	11U	1J	11U	10U	12U	10U	11U	11U	11U	11U	11U	11U	10U	10U
TOC																			
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																			
1,2,4-Trichlorobenzene	350U	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
1,4-Dichlorobenzene	350U	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
2,4-Dimethylphenol	350U	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
2,6-Dinitrotoluene	350U	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
2-Chloronaphthalene	350U	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
2-Methylnaphthalene	350U	340U	350U	340U	370U	350U	350U	82J	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
2-Methylphenol (o-Cresol)	350U	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360UJ	350U	350U	360UJ	360U	350UJ	340U	330UJ
3,3-Dichlorobenzidine	350U	340U	350U	340U	370U	350UJ	350UJ	700U	340UJ	400UJ	340UJ	360U	350U	350U	360U	360U	350U	340U	330U
4-Methylphenol (p-Cresol)	350U	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
4-Nitrophenol	890U	860U	870U	860U	930U	870U	880U	1800U	840U	1000U	860U	900U	880U	880U	900U	910U	880U	860U	830U
Acenaphthene	350U	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
Acenaphthylene	270J	340U	350U	340U	57J	350U	350U	85J	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
Anthracene	90J	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	79J	340U	330U
Benzo(a)anthracene	1500	150J	45J	340U	150J	350U	350U	120J	340U	400U	340U	95J	350U	350U	360U	360U	700	340U	330U
Benzo(a)pyrene	1900	150J	46J	340U	180J	350U	350U	140J	340U	400U	340U	120J	350U	350U	360U	360U	560	340U	330U
Benzo(b)fluoranthene	4500J	320J	58J	340U	470J	350U	350U	320J	340U	400U	340U	270J	350U	350U	360U	55J	1000J	340U	330U
Benzo(g,h,i)perylene	870	140J	350U	340U	220J	350UJ	350UJ	220J	340UJ	400UJ	340UJ	130J	350U	350U	360U	360U	320J	340U	330U
Benzo(k)fluoranthene	3300J	300J	63J	340U	430J	350U	350U	420J	340U	400U	340U	250J	350U	350U	360U	54J	960J	340U	330U
bis(2-Ethylhexyl)phthalate (BEHP)	60J	340U	350U	340U	86J	350U	350U	700U	340U	340U	340U	360UJ	350U	350U	360UJ	23J	350UJ	340U	330UJ
Butylbenzylphthalate	350U	340U	350U	340U	370UJ	350UJ	350UJ	700U	340UJ	400UJ	340UJ	360UJ	350U	350U	360UJ	360U	350UJ	340U	330UJ
Carbazole	50J	340U	350U	340U	370UJ	350U	350U	86J	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
Chrysene	1500	170J	46J	340U	110J	350U	350U	180J	340U	400U	340U	96J	350U	350U	360U	360U	480	340U	330U
Dibenz(a,h)anthracene	230J	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	92J	340U	330U
Dibenzofuran	350U	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
Diethylphthalate	350U	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
Dimethylphthalate	350U	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
Di-n-butylphthalate	610	72J	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
Di-n-octylphthalate	350U	340U	350U	340U	370U	350UJ	350UJ	700U	340UJ	400UJ	340UJ	360UJ	350U	350U	360UJ	360U	350UJ	340U	330UJ
Fluoranthene	1900	180J	53J	340U	130J	350U	350U	370J	340U	400U	340U	170J	350U	350U	360U	360U	800	340U	330U
Fluorene	350U	340U	350U	340U	370U	350U	350U	96J	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
Hexachlorobutadiene	350U	340U	350U	340U	370UJ	350U	350UJ	700U	340UJ	400UJ	340UJ	360UJ	350U	350U	360UJ	360U	350UJ	340U	330UJ
Indeno(1,2,3-cd)pyrene	820	120J	350U	340U	110J	350U	350U	150J	340U	400U	340U	110J	350U	350U	360U	360U	340J	340U	330U
Isophorone	350U	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
Naphthalene	350U	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
Pentachlorophenol	890U	860U	870U	860U	930U	870U	880U	1800U	840U	1000U	860U	900U	880U	880U	900U	910U	880U	860U	830U
Phenanthrene	210J	340U	350U	340U	370U	350U	350U	380J	340U	400U	340U	74J	350U	350U	360U	360U	300J	340U	330U
Phenol	350U	340U	350U	340U	370U	350U	350U	700U	340U	400U	340U	360U	350U	350U	360U	360U	350U	340U	330U
Pyrene	1600	160J	76J	340U	160J	350U	350U	360J	340U	400U	340U	160J	350U	350U	360U	360U	700	340U	330U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0120015				0120016				0250001			0250002	
SAMPLE ID	*0125001501*	*0125001505*	*0125001510*	*0125001512*	*0125001601*	*0125001605*	*0125001610*	*0125001612*	*025S000100*	*025S000101*	*025S000108*	*025S000202*	*025S000204*
SAMPLE DATE	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*6/11/1993*	*6/11/1993*	*6/11/1993*	*6/14/1993*	*6/14/1993*
VOC													
1,1,1-Trichloroethane	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
1,1,2,2-Tetrachloroethane	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
1,1-Dichloroethane	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
1,1-Dichloroethene	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
1,2-Dichloroethane	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
1,2-Dichloroethene (total)	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
2-Butanone (MEK)	11UJ	10UJ	11UJ	11UJ	11UJ	10UJ	11UJ	10UJ	10U	10U	11U	10U	10U
2-Hexanone	11UJ	10UJ	11UJ	11UJ	11UJ	10UJ	11U	10UJ	10U	10U	11U	10U	10U
4-Methyl-2-Pentanone (MIBK)	11U	10U	11U	11U	11U	10U	11UJ	10U	10U	10U	11U	10U	10U
Acetone	5U	8U	11U	11U	11U	17U	20U	71U	30U	64U	130U	61U	29U
Benzene	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
Bromoform	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
Carbon disulfide	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
Carbon tetrachloride	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
Chlorobenzene	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
Chloroform	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
Chloromethane	11UJ	10UJ	11UJ	11UJ	11U	10UJ	11UJ	10UJ	10U	10U	11U	10U	10U
Ethylbenzene	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
Methylene chloride	31U	16U	25U	17U	15U	27U	15U	16U	15U	22U	40U	94U	16U
Styrene	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
Tetrachloroethene	11U	10U	11U	11U	11U	10U	11U	10U	1J	10U	11U	10U	10U
Toluene	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
Trichloroethene	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
Vinyl chloride	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
Xylene (Total)	11U	10U	11U	11U	11U	10U	11U	10U	10U	10U	11U	10U	10U
TOC													
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC													
1,2,4-Trichlorobenzene	350U	340U	350U	360U	350U	340U	340U	340U	330U	330U	350U	330U	340U
1,4-Dichlorobenzene	350U	340U	350U	360U	350U	340U	340U	340U	330U	330U	350U	330U	340U
2,4-Dimethylphenol	160J	340U	350U	360U	180J	340U	340U	340U	330U	330U	350U	330U	340U
2,6-Dinitrotoluene	350U	340U	350U	360U	350U	340U	340U	340U	330U	330U	350U	330U	340U
2-Chloronaphthalene	350U	340U	350U	360U	350U	340U	340U	340U	330U	330U	350U	330U	340U
2-Methylnaphthalene	350U	340U	350U	360U	350U	340U	340U	340U	330U	330U	350U	330U	340U
2-Methylphenol (o-Cresol)	160J	340U	350U	360U	47J	340UJ	340U	340U	330U	330U	350U	330U	340U
3,3-Dichlorobenzidine	350U	340U	350U	360U	350U	340U	340U	340U	330U	330U	350U	330U	340U
4-Methylphenol (p-Cresol)	290J	340U	350U	360U	92J	340U	340U	340U	330U	330U	350U	330U	340U
4-Nitrophenol	890U	850U	880U	890U	880U	860U	860U	860U	800U	800U	840U	810U	820U
Acenaphthene	56J	340U	350U	360U	350U	340U	340U	340U	330U	330U	350U	330U	340U
Acenaphthylene	350U	340U	350U	360U	220J	340U	340U	340U	330U	330U	350U	330U	340U
Anthracene	69J	340U	350U	360U	50J	340U	340U	340U	330U	330U	350U	330U	340U
Benzo(a)anthracene	170J	340U	350U	360U	440	340U	340U	340U	160J	57J	350U	330U	340U
Benzo(a)pyrene	190J	340U	350U	360U	700	340U	340U	340U	81J	48J	350U	330U	340U
Benzo(b)fluoranthene	410	340U	350U	360U	940	340U	340U	340U	250J	110J	350U	330U	340U
Benzo(g,h,i)perylene	240J	340U	350U	360U	1000	340U	340U	340U	120J	330U	350U	330U	340U
Benzo(k)fluoranthene	410	340U	350U	360U	410	340U	340U	340U	250J	110J	350U	330U	340U
bis(2-Ethylhexyl)phthalate (BEHP)	450	340U	350U	360U	65J	340UJ	340U	340U	330U	330U	350U	330U	340U
Butylbenzylphthalate	270J	340U	350U	360U	350U	340UJ	340U	340U	330U	330U	350U	330U	340U
Carbazole	350U	340U	350U	360U	350U	340U	340U	340U	330U	330U	350U	330U	340U
Chrysene	200J	340U	350U	360U	470	340U	340U	340U	130J	46J	350U	330U	340U
Dibenz(a,h)anthracene	350U	340U	350U	360U	190J	340U	340U	340U	330U	330U	350U	330U	340U
Dibenzofuran	350U	340U	350U	360U	350U	340U	340U	340U	330U	330U	350U	330U	340U
Diethylphthalate	350U	340U	350U	360U	350U	340U	340U	340U	330U	330U	350U	330U	340U
Dimethylphthalate	190J	340U	350U	360U	350U	340U	340U	340U	330U	330U	350U	330U	340U
Di-n-butylphthalate	75J	340U	350U	360U	170J	340U	340U	340U	330U	330U	350U	330U	340U
Di-n-octylphthalate	350U	340U	350U	360U	350U	340UJ	340U	340U	330U	330U	350U	330U	340U
Fluoranthene	490	340U	350U	360U	560	340U	340U	340U	310J	86J	350U	330U	340U
Fluorene	350U	340U	350U	360U	350U	340U	340U	340U	330U	330U	350U	330U	340U
Hexachlorobutadiene	350U	340U	350U	360U	350U	340UJ	340U	340U	330U	330U	350U	330U	340U
Indeno(1,2,3-cd)pyrene	160J	340U	350U	360U	840	340U	340U	340U	130J	330U	350U	330U	340U
Isophorone	350U	340U	350U	360U	350U	340U	340U	340U	330U	330U	350U	330U	340U
Naphthalene	350U	340U	350U	360U	350U	340U	340U	340U	330U	330U	350U	330U	340U
Pentachlorophenol	890U	850U	880U	890U	880U	860U	860U	860U	800U	800U	840U	810U	820U
Phenanthrene	270J	340U	350U	360U	120J	340U	340U	340U	200J	42J	350U	330U	340U
Phenol	350U	340U	350U	360U	350U	340U	340U	340U	330U	330U	350U	330U	340U
Pyrene	320J	340U	350U	360U	510	340U	340U	340U	230J	54J	350U	330U	340U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0250003								0250004							0250005		
SAMPLE ID	*0255S000301*	*0255S000302*	*0255S000304*	*0255S000306*	*0255S000308*	*0255S000310*	*0255S000312*	*0255S000314*	*0255S000402*	*0255S000404*	*0255S000406*	*0255S000408*	*0255S000410*	*0255S000412*	*0255S000414*	*0255S000502*	*0255S000504*	*0255S000506*
SAMPLE DATE	*6/29/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/6/1993*	*7/6/1993*	*7/6/1993*
VOC																		
1,1,1-Trichloroethane	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
1,1,2,2-Tetrachloroethane	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
1,1-Dichloroethane	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
1,1-Dichloroethene	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
1,2-Dichloroethane	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
1,2-Dichloroethene (total)	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
2-Butanone (MEK)	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
2-Hexanone	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
4-Methyl-2-Pentanone (MIBK)	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
Acetone	52U	50U	82U	53U	110U	39U	87U	160U	22U	160U	61U	11U	10U	78U	250U	20U	33U	37U
Benzene	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
Bromoform	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
Carbon disulfide	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
Carbon tetrachloride	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
Chlorobenzene	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
Chloroform	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
Chloromethane	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
Ethylbenzene	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
Methylene chloride	42U	58U	61U	44U	53U	35U	39U	100U	26U	26U	22U	33U	29U	18U	27U	25U	24U	29U
Styrene	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
Tetrachloroethene	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
Toluene	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
Trichloroethene	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
Vinyl chloride	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
Xylene (Total)	10U	10U	16U	10U	10U	10U	10U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
1,4-Dichlorobenzene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
2,4-Dimethylphenol	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
2,6-Dinitrotoluene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
2-Chloronaphthalene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
2-Methylnaphthalene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
2-Methylphenol (o-Cresol)	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
3,3-Dichlorobenzidine	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
4-Methylphenol (p-Cresol)	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
4-Nitrophenol	810U	820U	1300U	820U	810U	810U	820U	810U	840U	840U	850U	840U	830U	820U	870U	850U	840U	850U
Acenaphthene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Acenaphthylene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Anthracene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Benzo(a)anthracene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Benzo(a)pyrene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Benzo(b)fluoranthene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Benzo(g,h,i)perylene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Benzo(k)fluoranthene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
bis(2-Ethylhexyl)phthalate (BEHP)	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Butylbenzylphthalate	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Carbazole	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Chrysene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Dibenz(a,h)anthracene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Dibenzofuran	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Diethylphthalate	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Dimethylphthalate	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Di-n-butylphthalate	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Di-n-octylphthalate	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Fluoranthene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Fluorene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Hexachlorobutadiene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Indeno(1,2,3-cd)pyrene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Isophorone	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Naphthalene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Pentachlorophenol	810U	820U	1300U	820U	810U	810U	820U	810U	840U	840U	850U	840U	830U	820U	870U	850U	840U	850U
Phenanthrene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Phenol	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U
Pyrene	340U	340U	530U	340U	340U	330U	340U	330U	350U	350U	350U	350U	340U	340U	360U	350U	350U	350U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0250007			0250008	0250009							
SAMPLE ID	*025S000702*	*025S000704*	*025S000706*	*025S000857*	*025S000900*	*025S000902*	*025S000904*	*025S000906*	*025S000908*	*025S000910*	*025S000912*	*025S000914*
SAMPLE DATE	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/20/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*
VOC												
1,1,1-Trichloroethane	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
1,1,2,2-Tetrachloroethane	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
1,1-Dichloroethane	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
1,1-Dichloroethene	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
1,2-Dichloroethane	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
1,2-Dichloroethene (total)	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
2-Butanone (MEK)	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
2-Hexanone	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
4-Methyl-2-Pentanone (MIBK)	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
Acetone	35U	16U	19U	28U	43U	21U	11U	35U	32U	18U	17U	27U
Benzene	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
Bromoform	10U	10U	10U	13J	11U	10U	10U	10U	10U	10U	10U	11U
Carbon disulfide	10U	10U	10U	1U	11U	10U	10U	10U	10U	10U	10U	11U
Carbon tetrachloride	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
Chlorobenzene	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
Chloroform	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
Chloromethane	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
Ethylbenzene	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
Methylene chloride	17U	40U	16U	29U	31U	24U	27U	35U	28U	23U	15U	12U
Styrene	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
Tetrachloroethene	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
Toluene	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
Trichloroethene	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
Vinyl chloride	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
Xylene (Total)	10U	10U	10U	13U	11U	10U	10U	10U	10U	10U	10U	11U
TOC												
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC												
1,2,4-Trichlorobenzene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
1,4-Dichlorobenzene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
2,4-Dimethylphenol	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
2,6-Dinitrotoluene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
2-Chloronaphthalene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
2-Methylnaphthalene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
2-Methylphenol (o-Cresol)	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
3,3-Dichlorobenzidine	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
4-Methylphenol (p-Cresol)	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
4-Nitrophenol	820U	810U	810U	1100U	860U	810U	820U	810U	820U	810U	810U	830U
Acenaphthene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Acenaphthylene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Anthracene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Benzo(a)anthracene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Benzo(a)pyrene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Benzo(b)fluoranthene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Benzo(g,h,i)perylene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Benzo(k)fluoranthene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
bis(2-Ethylhexyl)phthalate (BEHP)	340U	38U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Butylbenzylphthalate	340U	330U	340U	440U	37U	340U	340U	330U	340U	340U	340U	340U
Carbazole	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Chrysene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Dibenz(a,h)anthracene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Dibenzofuran	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Diethylphthalate	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Dimethylphthalate	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Di-n-butylphthalate	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Di-n-octylphthalate	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Fluoranthene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Fluorene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Hexachlorobutadiene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Indeno(1,2,3-cd)pyrene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Isophorone	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Naphthalene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Pentachlorophenol	820U	810U	810U	1100U	860U	810U	820U	810U	820U	810U	810U	830U
Phenanthrene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Phenol	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U
Pyrene	340U	330U	340U	440U	350U	340U	340U	330U	340U	340U	340U	340U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID					0250010							0250011	
SAMPLE ID	*025S001001*	*025S001002*	*025S001004*	*025S001006*	*025S001008*	*025S001010*	*025S001012*	*025S001014*	*025S001016*	*025S001101*	*025S001102*	*025S001104*	*025S001106*
SAMPLE DATE	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/16/1993*	*7/16/1993*	*7/16/1993*	*7/16/1993*
VOC													
1,1,1-Trichloroethane	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
1,1,2,2-Tetrachloroethane	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
1,1-Dichloroethane	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
1,1-Dichloroethene	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
1,2-Dichloroethane	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
1,2-Dichloroethene (total)	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
2-Butanone (MEK)	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
2-Hexanone	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
4-Methyl-2-Pentanone (MIBK)	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
Acetone	18U	16U	12U	17U	21U	18U	27U	41U	68U	11U	11U	13U	140U
Benzene	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
Bromoform	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
Carbon disulfide	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
Carbon tetrachloride	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
Chlorobenzene	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
Chloroform	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
Chloromethane	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
Ethylbenzene	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
Methylene chloride	17U	13U	14U	12U	13U	14U	43U	14U	20U	19U	20U	19U	55U
Styrene	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
Tetrachloroethene	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
Toluene	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
Trichloroethene	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
Vinyl chloride	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
Xylene (Total)	11U	11U	10U	11U	11U	10U	10U	10U	12U	11U	11U	11U	11U
TOC													
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC													
1,2,4-Trichlorobenzene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
1,4-Dichlorobenzene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
2,4-Dimethylphenol	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
2,6-Dinitrotoluene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
2-Chloronaphthalene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
2-Methylnaphthalene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
2-Methylphenol (o-Cresol)	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
3,3-Dichlorobenzidine	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
4-Methylphenol (p-Cresol)	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
4-Nitrophenol	1000U	850U	830U	840U	830U	830U	830U	820U	930U	830U	850U	840U	840U
Acenaphthene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Acenaphthylene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Anthracene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Benzo(a)anthracene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Benzo(a)pyrene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Benzo(b)fluoranthene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Benzo(g,h,i)perylene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Benzo(k)fluoranthene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
bis(2-Ethylhexyl)phthalate (BEHP)	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Butylbenzylphthalate	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Carbazole	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Chrysene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Dibenz(a,h)anthracene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Dibenzofuran	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Diethylphthalate	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Dimethylphthalate	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Di-n-butylphthalate	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Di-n-octylphthalate	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Fluoranthene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Fluorene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Hexachlorobutadiene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Indeno(1,2,3-cd)pyrene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Isophorone	420U	350U	340U	350U	340U	340U	340U	340	380U	340U	350U	350U	350U
Naphthalene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Pentachlorophenol	1000U	850U	830U	840U	830U	830U	830U	820U	930U	830U	850U	840U	840U
Phenanthrene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Phenol	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U
Pyrene	420U	350U	340U	350U	340U	340U	340U	340U	380U	340U	350U	350U	350U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID				0250012						0250013		0250014	0250015			0250016		0250017		
SAMPLE ID	*025S001202*	*025S001204*	*025S001206*	*025S001208*	*025S001210*	*025S001212*	*025S001214*	*025S001302*	*025S001304*	*025S001306*	*025S001456*	*025S001500*	*025S001600*	*025S001601*	*025S001602*	*025S001700*	*025S001701*	*025S001702*	*025S001704*
SAMPLE DATE	*7/20/1993*	*7/20/1993*	*7/20/1993*	*7/20/1993*	*7/21/1993*	*7/21/1993*	*7/21/1993*	*7/22/1993*	*7/22/1993*	*7/22/1993*	*7/22/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*
VOC																			
1,1,1-Trichloroethane	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	1J	10J	11U	11U	10U
1,1,2,2-Tetrachloroethane	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
1,1-Dichloroethane	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
1,1-Dichloroethene	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
1,2-Dichloroethane	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
1,2-Dichloroethene (total)	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
2-Butanone (MEK)	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
2-Hexanone	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
4-Methyl-2-Pentanone (MIBK)	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
Acetone	13U	37U	12U	77U	32U	11U	11U	17U	10U	11U	13U	12U	16U	11U	20U	12U	11U	22U	10U
Benzene	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
Bromoform	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
Carbon disulfide	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
Carbon tetrachloride	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
Chlorobenzene	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
Chloroform	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
Chloromethane	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
Ethylbenzene	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
Methylene chloride	19U	16U	17U	44U	36U	40U	18U	20U	19U	21U	26U	15U	28U	42U	53U	43U	22U	50U	20U
Styrene	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
Tetrachloroethene	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
Toluene	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
Trichloroethene	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
Vinyl chloride	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
Xylene (Total)	11U	11U	11U	13U	11U	11U	11U	11U	10U	11U	13U	12U	12U	11U	10U	12U	11U	11U	10U
TOC																			
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	830	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																			
1,2,4-Trichlorobenzene	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
1,4-Dichlorobenzene	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
2,4-Dimethylphenol	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
2,6-Dinitrotoluene	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
2-Chloronaphthalene	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
2-Methylnaphthalene	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
2-Methylphenol (o-Cresol)	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
3,3-Dichlorobenzidine	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
4-Methylphenol (p-Cresol)	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
4-Nitrophenol	860U	850U	880U	1100U	870U	850U	840U	900U	820U	850U	1000U	2900U	990U	860U	830U	29000U	850U	840U	830U
Acenaphthene	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	290J	410U	83J	340U	12000U	350U	350U	340U
Acenaphthylene	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
Anthracene	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	500J	110J	130J	340U	1200J	350U	350U	340U
Benzo(a)anthracene	350U	350U	360U	430U	360U	350U	350U	50J	340U	350U	420U	2000	570	360	340U	3800J	350U	350U	340U
Benzo(a)pyrene	350U	350U	360U	430U	360U	350U	350U	120J	340U	350U	420U	1700	470	220J	340U	3400J	350U	350U	340U
Benzo(b)fluoranthene	350U	350U	360U	430U	360U	350U	350U	250J	340U	350U	420U	4700	1300J	560	340U	7700J	350U	350U	340U
Benzo(g,h,i)perylene	350U	350U	360U	430U	360U	350U	350U	75J	340U	350U	420U	1200U	130J	350U	340U	6100J	350U	350U	340U
Benzo(k)fluoranthene	350U	350U	360U	430U	360U	350U	350U	250J	340U	350U	420U	4700	1300J	560	340U	7700J	350U	350U	340U
bis(2-Ethylhexyl)phthalate (BEHP)	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	15000U	2100	580U	340U	12000U	350U	350U	340U
Butylbenzylphthalate	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1900	190J	350U	340U	4900U	350U	350U	340U
Carbazole	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	710J	100J	100J	340U	1200J	350U	350U	340U
Chrysene	350U	350U	360U	430U	360U	350U	350U	69J	340U	350U	420U	2200	650	380	340U	4400J	350U	350U	340U
Dibenz(a,h)anthracene	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	63J	350U	340U	2200J	350U	350U	340U
Dibenzofuran	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	37J	340U	12000U	350U	350U	340U
Diethylphthalate	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
Dimethylphthalate	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	3000U	410U	350U	340U	12000U	350U	350U	340U
Di-n-butylphthalate	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	83J	350U	340U	12000J	350U	350U	340U
Di-n-octylphthalate	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
Fluoranthene	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	4900	1100	580	340U	7900J	350U	350U	340U
Fluorene	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	250J	410U	78J	340U	12000U	350U	350U	340U
Hexachlorobutadiene	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
Indeno(1,2,3-cd)pyrene	350U	350U	360U	430U	360U	350U	350U	70J	340U	350U	420U	800J	220J	350U	340U	5100J	350U	350U	340U
Isophorone	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
Naphthalene	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
Pentachlorophenol	860U	850U	880U	1100U	870U	850U	47J	900U	820U	850U	1000U	2900U	990U	860U	830U	29000U	850U	840U	830U
Phenanthrene	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	3200	550	640	340U	6600J	350U	350U	340U
Phenol	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	1200U	410U	350U	340U	12000U	350U	350U	340U
Pyrene	350U	350U	360U	430U	360U	350U	350U	370U	340U	350U	420U	2900	550	650	340U	4400J	350U	350U	340U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0250018	0250019				0270001									
SAMPLE ID	*0255001800*	*0255001900*	*0255001901*	*0255001902*	*0255001904*	*0275000100*	*0275000101*	*0275000104*	*0275000106*	*0275000108*	*0275000110*	*0275000112*	*0275000114*	*0275000116*	*0275000118*
SAMPLE DATE	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*
VOC															
1,1,1-Trichloroethane	11U	6J	10U	56	2J	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
1,1,2,2-Tetrachloroethane	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
1,1-Dichloroethane	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
1,1-Dichloroethene	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
1,2-Dichloroethane	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
1,2-Dichloroethene (total)	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
2-Butanone (MEK)	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
2-Hexanone	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
4-Methyl-2-Pentanone (MIBK)	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
Acetone	11U	21U	12U	11U	16U	10U	11U	10U	73U	12U	22U	26U	28U	43U	28U
Benzene	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
Bromoform	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
Carbon disulfide	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
Carbon tetrachloride	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
Chlorobenzene	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
Chloroform	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
Chloromethane	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
Ethylbenzene	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
Methylene chloride	17U	37U	16U	41U	50U	10U	11U	10U	10U	18U	16U	20U	11U	18U	28U
Styrene	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
Tetrachloroethene	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
Toluene	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
Trichloroethene	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
Vinyl chloride	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
Xylene (Total)	11U	11U	10U	11U	11U	10U	11U	10U	10U	10U	10U	11U	10U	10U	12U
TOC															
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC															
1,2,4-Trichlorobenzene	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
1,4-Dichlorobenzene	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
2,4-Dimethylphenol	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
2,6-Dinitrotoluene	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
2-Chloronaphthalene	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
2-Methylnaphthalene	61J	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
2-Methylphenol (o-Cresol)	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
3,3-Dichlorobenzidine	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
4-Methylphenol (p-Cresol)	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
4-Nitrophenol	910U	860U	830U	880U	840U	820U	860U	820U	830U	820U	820U	840U	820U	830U	950U
Acenaphthene	290J	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Acenaphthylene	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Anthracene	480	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Benzo(a)anthracene	1300	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Benzo(a)pyrene	630	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Benzo(b)fluoranthene	1800	350U	64J	160J	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Benzo(g,h,i)perylene	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Benzo(k)fluoranthene	1800	350U	340U	160J	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
bis(2-Ethylhexyl)phthalate (BEHP)	790U	350U	340U	380U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Butylbenzylphthalate	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Carbazole	540	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Chrysene	1200	350U	340U	61J	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Dibenz(a,h)anthracene	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Dibenzofuran	160J	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Diethylphthalate	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Dimethylphthalate	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Di-n-butylphthalate	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Di-n-octylphthalate	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Fluoranthene	2500	350U	340U	97J	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Fluorene	300J	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Hexachlorobutadiene	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Indeno(1,2,3-cd)pyrene	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Isophorone	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Naphthalene	89J	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Pentachlorophenol	910U	860U	830U	880U	840U	820U	860U	820U	830U	820U	820U	840U	820U	830U	950U
Phenanthrene	2400	350U	340U	56J	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Phenol	370U	350U	340U	360U	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U
Pyrene	1800	350U	340U	59J	350U	340U	350U	340U	340U	340U	340U	350U	340U	340U	390U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID					0270002									0270003				
SAMPLE ID	*027S000201*	*027S000202*	*027S000204*	*027S000206*	*027S000208*	*027S000210*	*027S000212*	*027S000214*	*027S000216*	*027S000301*	*027S000302*	*027S000304*	*027S000306*	*027S000308*	*027S000310*	*027S000312*	*027S000314*	*027S000316*
SAMPLE DATE	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*
VOC																		
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
1,1-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
1,1-Dichloroethene	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
1,2-Dichloroethene (total)	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
2-Butanone (MEK)	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
4-Methyl-2-Pentanone (MIBK)	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
Acetone	10U	10U	10U	12U	14U	19U	23U	24U	18U	18U	110U	75U	34U	15U	20U	120U	62U	23U
Benzene	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
Bromoform	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
Carbon disulfide	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
Carbon tetrachloride	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
Chlorobenzene	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
Chloroform	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
Ethylbenzene	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
Methylene chloride	21U	38U	16U	11U	17U	14U	15U	15U	23U	13U	22U	81U	11U	12U	10U	31U	10U	37U
Styrene	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
Tetrachloroethene	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
Toluene	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
Trichloroethene	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
Xylene (Total)	10U	10U	10U	10U	10U	10U	10U	13U	11U	11U	10U	10U	11U	10U	10U	11U	10U	10U
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
1,4-Dichlorobenzene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
2,4-Dimethylphenol	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
2,6-Dinitrotoluene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
2-Chloronaphthalene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
2-Methylnaphthalene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
2-Methylphenol (o-Cresol)	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
3,3-Dichlorobenzidine	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
4-Methylphenol (p-Cresol)	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
4-Nitrophenol	810U	790U	820U	830U	830U	830U	820U	1000U	850U	900U	820U	820U	830U	830U	830U	830U	830U	830U
Acenaphthene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Acenaphthylene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Anthracene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Benzo(a)anthracene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Benzo(a)pyrene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Benzo(b)fluoranthene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Benzo(g,h,i)perylene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Benzo(k)fluoranthene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
bis(2-Ethylhexyl)phthalate (BEHP)	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Butylbenzylphthalate	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Carbazole	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Chrysene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Dibenz(a,h)anthracene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Dibenzofuran	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Diethylphthalate	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Dimethylphthalate	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Di-n-butylphthalate	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Di-n-octylphthalate	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Fluoranthene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Fluorene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Hexachlorobutadiene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Indeno(1,2,3-cd)pyrene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Isophorone	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Naphthalene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Pentachlorophenol	810U	790U	820U	830U	830U	830U	820U	1000U	850U	900U	820U	820U	830U	830U	830U	830U	830U	830U
Phenanthrene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Phenol	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U
Pyrene	330U	320U	340U	340U	340U	340U	340U	420U	350U	370U	340U	340U	340U	340U	340U	340U	340U	340U

NOTES:

1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0270004								0270005								
SAMPLE ID	*027S000401*	*027S000402*	*027S000404*	*027S000406*	*027S000408*	*027S000410*	*027S000412*	*027S000414*	*027S000501*	*027S000502*	*027S000504*	*027S000506*	*027S000508*	*027S000510*	*027S000512*	*027S000514*	*027S000516*
SAMPLE DATE	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/8/1993*	*6/8/1993*	*6/2/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*
VOC																	
1,1,1-Trichloroethane	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
1,1-Dichloroethene	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
1,2-Dichloroethane	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
1,2-Dichloroethene (total)	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
2-Butanone (MEK)	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
4-Methyl-2-Pentanone (MIBK)	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
Acetone	10U	30U	14U	11U	19U	100U	6300U	13000U	110U	200U	48U	50U	30U	24U	18U	15U	64U
Benzene	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
Bromoform	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
Carbon disulfide	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
Carbon tetrachloride	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
Chlorobenzene	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
Chloroform	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	23	10U	10U	12U	10U	10U	10U	10U
Chloromethane	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
Ethylbenzene	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
Methylene chloride	10U	24U	19U	11U	12U	10U	1200U	1300U	15U	31U	19U	9U	15U	11U	20U	28U	15U
Styrene	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
Tetrachloroethene	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
Toluene	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
Trichloroethene	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
Xylene (Total)	10U	10U	10U	11U	11U	10U	1300U	1300U	11U	10U	10U	10U	12U	10U	10U	10U	10U
TOC																	
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																	
1,2,4-Trichlorobenzene	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
1,4-Dichlorobenzene	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
2,4-Dimethylphenol	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
2,6-Dinitrotoluene	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
2-Chloronaphthalene	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
2-Methylnaphthalene	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
2-Methylphenol (o-Cresol)	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
3,3-Dichlorobenzidine	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
4-Methylphenol (p-Cresol)	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
4-Nitrophenol	810U	8100U	810U	870U	840U	800U	830U	820U	880U	820U	800U	810U	930U	820U	830U	820U	820U
Acenaphthene	330U	1800J	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Acenaphthylene	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Anthracene	330U	3200J	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Benzo(a)anthracene	94J	9500	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Benzo(a)pyrene	68J	5600	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Benzo(b)fluoranthene	140U	13000J	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Benzo(g,h,i)perylene	330U	4400	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Benzo(k)fluoranthene	140U	13000J	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
bis(2-Ethylhexyl)phthalate (BEHP)	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Butylbenzylphthalate	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Carbazole	330U	3000J	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Chrysene	75J	6400	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Dibenz(a,h)anthracene	330U	1200J	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Dibenzofuran	330U	770J	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Diethylphthalate	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Dimethylphthalate	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Di-n-butylphthalate	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Di-n-octylphthalate	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Fluoranthene	180J	19000	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Fluorene	330U	1500J	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Hexachlorobutadiene	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Indeno(1,2,3-cd)pyrene	52J	3400	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Isophorone	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Naphthalene	330U	440J	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Pentachlorophenol	810U	8100U	810U	870U	840U	800U	830U	820U	880U	820U	800U	810U	930U	820U	830U	820U	820U
Phenanthrene	110J	15000	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Phenol	330U	3300U	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U
Pyrene	130J	14000	340U	360U	350U	330U	340U	340U	360U	340U	330U	330U	380U	340U	340U	340U	340U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID					0270006									0270007				
SAMPLE ID	*027S000601*	*027S000602*	*027S000604*	*027S000606*	*027S000608*	*027S000610*	*027S000612*	*027S000614*	*027S000616*	*027S000701*	*027S000702*	*027S000704*	*027S000706*	*027S000708*	*027S000710*	*027S000712*	*027S000714*	*027S000716*
SAMPLE DATE	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*
VOC																		
1,1,1-Trichloroethane	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
1,1,2,2-Tetrachloroethane	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
1,1-Dichloroethane	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
1,1-Dichloroethene	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
1,2-Dichloroethane	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
1,2-Dichloroethene (total)	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
2-Butanone (MEK)	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
2-Hexanone	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
4-Methyl-2-Pentanone (MIBK)	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
Acetone	2400U	630U	100U	14U	23U	38U	57U	1000U	760U	28U	54U	22U	24U	19U	39U	23U	20U	28U
Benzene	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
Bromoform	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
Carbon disulfide	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
Carbon tetrachloride	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
Chlorobenzene	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
Chloroform	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
Chloromethane	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
Ethylbenzene	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
Methylene chloride	64U	10U	10U	20U	11U	13U	18U	37U	29U	30U	27U	22U	22U	10U	30U	18U	20U	27U
Styrene	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
Tetrachloroethene	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
Toluene	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
Trichloroethene	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
Vinyl chloride	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
Xylene (Total)	14U	10U	10U	10U	11U	10U	10U	54U	12U	10U	10U	10U	11U	10U	10U	11U	10U	11U
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
1,4-Dichlorobenzene	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
2,4-Dimethylphenol	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
2,6-Dinitrotoluene	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
2-Chloronaphthalene	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
2-Methylnaphthalene	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
2-Methylphenol (o-Cresol)	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
3,3-Dichlorobenzidine	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
4-Methylphenol (p-Cresol)	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
4-Nitrophenol	1100U	830U	820U	830U	840U	830U	830U	870U	950U	820U	820U	820U	840U	830U	830U	840U	820U	840U
Acenaphthene	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Acenaphthylene	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Anthracene	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Benzo(a)anthracene	240J	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Benzo(a)pyrene	170J	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Benzo(b)fluoranthene	410	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Benzo(g,h,i)perylene	170J	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Benzo(k)fluoranthene	410	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
bis(2-Ethylhexyl)phthalate (BEHP)	450U	340U	340U	340U	350U	340U	340U	360U	390U	5700J	340U	340U	350U	59U	340U	350U	340U	350U
Butylbenzylphthalate	450U	340U	340U	340U	350U	340U	340U	360U	390U	330J	340U	340U	350U	340U	340U	350U	340U	350U
Carbazole	48J	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Chrysene	280J	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Dibenz(a,h)anthracene	59J	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Dibenzofuran	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Diethylphthalate	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Dimethylphthalate	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Di-n-butylphthalate	450U	340U	340U	340U	350U	340U	340U	360U	390U	160J	340U	340U	350U	340U	340U	350U	340U	350U
Di-n-octylphthalate	450U	340U	340U	340U	350U	340U	340U	360U	390U	46J	340U	340U	350U	340U	340U	350U	340U	350U
Fluoranthene	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Fluorene	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Hexachlorobutadiene	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Indeno(1,2,3-cd)pyrene	180J	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Isophorone	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Naphthalene	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Pentachlorophenol	1100U	830U	820U	830U	840U	830U	830U	870U	950U	820U	820U	820U	840U	830U	830U	840U	820U	840U
Phenanthrene	200J	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Phenol	450U	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U
Pyrene	380J	340U	340U	340U	350U	340U	340U	360U	390U	340U	340U	340U	350U	340U	340U	350U	340U	350U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID					0270008									0270009				
SAMPLE ID	*027S000801*	*027S000802*	*027S000804*	*027S000806*	*027S000808*	*027S000810*	*027S000812*	*027S000814*	*027S000816*	*027S000901*	*027S000902*	*027S000904*	*027S000906*	*027S000908*	*027S000910*	*027S000912*	*027S000914*	*027S000916*
SAMPLE DATE	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*
VOC																		
1,1,1-Trichloroethane	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
1,1,2,2-Tetrachloroethane	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
1,1-Dichloroethane	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
1,1-Dichloroethene	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
1,2-Dichloroethane	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
1,2-Dichloroethene (total)	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
2-Butanone (MEK)	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
2-Hexanone	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
4-Methyl-2-Pentanone (MIBK)	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
Acetone	10U	12U	11U	10U	11U	17U	19U	25U	100U	33U	33U	14U	43U	10U	23U	99U	10U	100U
Benzene	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
Bromoform	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
Carbon disulfide	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
Carbon tetrachloride	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
Chlorobenzene	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
Chloroform	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
Chloromethane	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
Ethylbenzene	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
Methylene chloride	24U	44U	16U	21U	15U	21U	12U	33U	27U	15U	15U	15U	14U	12U	19U	14U	14U	19U
Styrene	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
Tetrachloroethene	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
Toluene	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
Trichloroethene	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
Vinyl chloride	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
Xylene (Total)	10U	11U	11U	10U	11U	11U	10U	11U	12U	11U	10U	11U	10U	10U	12U	11U	10U	11U
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
1,4-Dichlorobenzene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
2,4-Dimethylphenol	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
2,6-Dinitrotoluene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
2-Chloronaphthalene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
2-Methylnaphthalene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
2-Methylphenol (o-Cresol)	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
3,3-Dichlorobenzidine	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
4-Methylphenol (p-Cresol)	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
4-Nitrophenol	800U	860U	840U	820U	840U	850U	810U	830U	930U	860U	810U	860U	810U	820U	930U	840U	810U	860U
Acenaphthene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Acenaphthylene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Anthracene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Benzo(a)anthracene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Benzo(a)pyrene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Benzo(b)fluoranthene	58J	54J	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Benzo(g,h,i)perylene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Benzo(k)fluoranthene	58J	54J	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
bis(2-Ethylhexyl)phthalate (BEHP)	330U	360J	350U	340U	350U	350U	340U	340U	380U	36U	44U	360J	340U	340U	380U	350U	340U	350U
Butylbenzylphthalate	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Carbazole	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Chrysene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Dibenz(a,h)anthracene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Dibenzofuran	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Diethylphthalate	650U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Dimethylphthalate	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Di-n-butylphthalate	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Di-n-octylphthalate	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Fluoranthene	40J	40J	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Fluorene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Hexachlorobutadiene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Indeno(1,2,3-cd)pyrene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Isophorone	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Naphthalene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Pentachlorophenol	800U	860U	840U	820U	840U	850U	810U	830U	930U	860U	810U	860U	810U	820U	930U	840U	810U	860U
Phenanthrene	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Phenol	330U	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U
Pyrene	38J	360U	350U	340U	350U	350U	340U	340U	380U	350U	340U	360U	340U	340U	380U	350U	340U	350U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID					0270010								0270011				
SAMPLE ID	*027S001002*	*027S001004*	*027S001006*	*027S001008*	*027S001010*	*027S001012*	*027S001014*	*027S001016*	*027S001018*	*027S001104*	*027S001106*	*027S001108*	*027S001110*	*027S001112*	*027S001114*	*027S001116*	*027S001118*
SAMPLE DATE	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*
VOC																	
1,1,1-Trichloroethane	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethene	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethane	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethene (total)	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone (MEK)	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-Pentanone (MIBK)	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acetone	46U	38U	35U	72U	57U	59U	40U	66U	140U	130U	190U	54U	42U	33U	54U	54U	97U
Benzene	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Bromoform	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Carbon tetrachloride	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloromethane	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Ethylbenzene	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	11U	19U	10U	16U	12U	18U	10U	15U	35U	12U	18U	16U	11U	10U	38U	25U	21U
Styrene	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Tetrachloroethene	11U	10U	11U	10U	10U	10U	10U	10U	10U	5J	10U	10U	10U	10U	10U	10U	10U
Toluene	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Trichloroethene	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Xylene (Total)	11U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
TOC																	
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																	
1,2,4-Trichlorobenzene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
1,4-Dichlorobenzene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
2,4-Dimethylphenol	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
2,6-Dinitrotoluene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
2-Chloronaphthalene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
2-Methylnaphthalene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
2-Methylphenol (o-Cresol)	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
3,3-Dichlorobenzidine	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
4-Methylphenol (p-Cresol)	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
4-Nitrophenol	870U	830U	840U	830U	830U	810U	820U	830U	820U	820U	810U	820U	810U	820U	810U	810U	820U
Acenaphthene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Acenaphthylene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Anthracene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Benzo(a)anthracene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Benzo(a)pyrene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Benzo(b)fluoranthene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	65J
Benzo(g,h,i)perylene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Benzo(k)fluoranthene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	65J
bis(2-Ethylhexyl)phthalate (BEHP)	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Butylbenzylphthalate	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Carbazole	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Chrysene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Dibenz(a,h)anthracene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Dibenzofuran	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Diethylphthalate	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Dimethylphthalate	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Di-n-butylphthalate	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Di-n-octylphthalate	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Fluoranthene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Fluorene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Hexachlorobutadiene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Indeno(1,2,3-cd)pyrene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Isophorone	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Naphthalene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Pentachlorophenol	870U	830U	840U	830U	830U	810U	820U	830U	820U	820U	810U	820U	810U	820U	810U	810U	820U
Phenanthrene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Phenol	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U
Pyrene	360U	340U	350U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U	340U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID					0270012									0270013				
SAMPLE ID	*027S001202*	*027S001204*	*027S001206*	*027S001208*	*027S001210*	*027S001212*	*027S001214*	*027S001216*	*027S001218*	*027S001302*	*027S001304*	*027S001306*	*027S001308*	*027S001310*	*027S001312*	*027S001314*	*027S001316*	*027S001318*
SAMPLE DATE	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*
VOC																		
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
1,1-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
1,1-Dichloroethene	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
1,2-Dichloroethene (total)	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
2-Butanone (MEK)	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
2-Hexanone	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
4-Methyl-2-Pentanone (MIBK)	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
Acetone	26U	33U	30U	21U	71U	38U	42U	31U	74U	17U	23U	10U	10U	33U	160U	98U	100U	35U
Benzene	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
Bromoform	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
Carbon disulfide	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
Carbon tetrachloride	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
Chlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
Chloroform	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
Ethylbenzene	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
Methylene chloride	25U	17U	27U	130U	37U	39U	16U	12U	13U	17U	27U	16U	14U	27U	21U	32U	14U	17U
Styrene	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
Tetrachloroethene	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
Toluene	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
Trichloroethene	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
Xylene (Total)	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
1,4-Dichlorobenzene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
2,4-Dimethylphenol	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
2,6-Dinitrotoluene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
2-Chloronaphthalene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
2-Methylnaphthalene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
2-Methylphenol (o-Cresol)	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
3,3-Dichlorobenzidine	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
4-Methylphenol (p-Cresol)	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
4-Nitrophenol	820U	820U	810U	810U	820U	820U	820U	820U	840U	880U	810U	830U	830U	850U	830U	820U	820U	880U
Acenaphthene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Acenaphthylene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Anthracene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Benzo(a)anthracene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Benzo(a)pyrene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Benzo(b)fluoranthene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Benzo(g,h,i)perylene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Benzo(k)fluoranthene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
bis(2-Ethylhexyl)phthalate (BEHP)	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Butylbenzylphthalate	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	120U	360U
Carbazole	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Chrysene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Dibenz(a,h)anthracene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Dibenzofuran	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Diethylphthalate	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Dimethylphthalate	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Di-n-butylphthalate	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Di-n-octylphthalate	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Fluoranthene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Fluorene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Hexachlorobutadiene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Indeno(1,2,3-cd)pyrene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Isophorone	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Naphthalene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Pentachlorophenol	820U	820U	810U	810U	820U	820U	820U	820U	840U	880U	810U	830U	830U	850U	830U	820U	820U	880U
Phenanthrene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Phenol	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U
Pyrene	340U	340U	340U	340U	340U	340U	340U	340U	350U	360U	330U	340U	340U	350U	340U	340U	340U	360U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID					0270014							0270015					0270017		
SAMPLE ID	*027S001402*	*027S001404*	*027S001406*	*027S001408*	*027S001410*	*027S001412*	*027S001414*	*027S001416*	*027S001418*	*027S001501*	*027S001504*	*027S001514*	*027S001516*	*027S001701*	*027S001702*	*027S001704*	*027S001706*	*027S001708*
SAMPLE DATE	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/15/1993*	*6/15/1993*	*6/15/1993*	*6/15/1993*	*6/17/1993*	*6/17/1993*	*6/17/1993*	*6/17/1993*	*6/17/1993*
VOC																		
1,1,1-Trichloroethane	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
1,1,2,2-Tetrachloroethane	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
1,1-Dichloroethane	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
1,1-Dichloroethene	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
1,2-Dichloroethane	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
1,2-Dichloroethene (total)	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
2-Butanone (MEK)	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
2-Hexanone	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
4-Methyl-2-Pentanone (MIBK)	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
Acetone	72U	51U	47U	150U	42U	67U	120U	490U	340U	35U	22U	41U	32U	87U	160U	21U	11U	34U
Benzene	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
Bromoform	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
Carbon disulfide	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
Carbon tetrachloride	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
Chlorobenzene	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
Chloroform	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
Chloromethane	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
Ethylbenzene	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
Methylene chloride	26U	16U	15U	19U	28U	25U	39U	19U	93U	16U	10U	10U	31U	18U	15U	26U	16U	13U
Styrene	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
Tetrachloroethene	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
Toluene	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
Trichloroethene	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
Vinyl chloride	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
Xylene (Total)	10U	10U	11U	10U	10U	10U	10U	10U	57U	10U	10U	11U	10U	10U	11U	11U	11U	11U
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
1,4-Dichlorobenzene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
2,4-Dimethylphenol	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
2,6-Dinitrotoluene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
2-Chloronaphthalene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
2-Methylnaphthalene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
2-Methylphenol (o-Cresol)	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
3,3-Dichlorobenzidine	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
4-Methylphenol (p-Cresol)	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	130J	350U
4-Nitrophenol	810U	820U	830U	820U	820U	810U	820U	820U	3600U	810U	820U	830U	810U	810U	850U	880U	840U	850U
Acenaphthene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
Acenaphthylene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	34J	350U	360U	350U	350U
Anthracene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
Benzo(a)anthracene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	160J	350U	360U	350U	350U
Benzo(a)pyrene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	190J	350U	360U	350U	350U
Benzo(b)fluoranthene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	290J	350U	360U	350U	350U
Benzo(g,h,i)perylene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	97J	350U	360U	350U	350U
Benzo(k)fluoranthene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	290J	350U	360U	350U	350U
bis(2-Ethylhexyl)phthalate (BEHP)	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
Butylbenzylphthalate	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
Carbazole	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
Chrysene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	140J	350U	360U	350U	350U
Dibenz(a,h)anthracene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
Dibenzofuran	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
Diethylphthalate	37U	340U	340U	59U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
Dimethylphthalate	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
Di-n-butylphthalate	330U	340U	340U	340U	340U	340U	42U	340U	170U	340U	340U	340U	340U	340U	350U	360U	350U	350U
Di-n-octylphthalate	330U	340U	340U	340U	340U	340U	340U	35U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
Fluoranthene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	130J	350U	360U	350U	350U
Fluorene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
Hexachlorobutadiene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
Indeno(1,2,3-cd)pyrene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	120J	350U	360U	350U	350U
Isophorone	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
Naphthalene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	36J	350U
Pentachlorophenol	810U	820U	830U	820U	820U	810U	820U	820U	3600U	810U	820U	830U	810U	810U	850U	880U	840U	850U
Phenanthrene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	350U	350U
Phenol	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	340U	350U	360U	66J	350U
Pyrene	330U	340U	340U	340U	340U	340U	340U	340U	1500U	340U	340U	340U	340U	160J	350U	360U	350U	350U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0270018			0270019								0270020				
SAMPLE ID	*027S001802*	*027S001812*	*027S001865*	*027S001900*	*027S001946*	*027S001958*	*027S001962*	*027S002000*	*027S002002*	*027S002004*	*027S002006*	*027S002008*	*027S002010*	*027S002012*	*027S002014*	*027S002016*
SAMPLE DATE	*6/28/1993*	*6/28/1993*	*6/28/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*
VOC																
1,1,1-Trichloroethane	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
1,1,2,2-Tetrachloroethane	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
1,1-Dichloroethane	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
1,1-Dichloroethene	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
1,2-Dichloroethane	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
1,2-Dichloroethene (total)	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
2-Butanone (MEK)	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
2-Hexanone	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
4-Methyl-2-Pentanone (MIBK)	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
Acetone	NS	NS	37U	11U	23U	14U	46U	58U	32U	89U	24U	84U	32U	68U	51U	89U
Benzene	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
Bromoform	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
Carbon disulfide	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
Carbon tetrachloride	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
Chlorobenzene	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
Chloroform	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
Chloromethane	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
Ethylbenzene	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
Methylene chloride	NS	NS	19U	11U	27U	95U	29U	22U	40U	43U	20U	31U	19U	16U	20U	24U
Styrene	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
Tetrachloroethene	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
Toluene	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
Trichloroethene	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
Vinyl chloride	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
Xylene (Total)	NS	NS	13U	11U	12U	12U	13U	11U	11U	11U	11U	11U	11U	11U	11U	12U
TOC																
TOC (EPA 415.1)	650	140	1400	NS	NS	NS	480	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																
1,2,4-Trichlorobenzene	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
1,4-Dichlorobenzene	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
2,4-Dimethylphenol	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
2,6-Dinitrotoluene	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
2-Chloronaphthalene	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
2-Methylnaphthalene	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
2-Methylphenol (o-Cresol)	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
3,3-Dichlorobenzidine	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
4-Methylphenol (p-Cresol)	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
4-Nitrophenol	NS	NS	1000U	830U	960U	950U	1100U	890U	860U	850U	840U	840U	830U	840U	850U	940U
Acenaphthene	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Acenaphthylene	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Anthracene	NS	NS	420U	58J	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Benzo(a)anthracene	NS	NS	420U	120J	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Benzo(a)pyrene	NS	NS	420U	110J	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Benzo(b)fluoranthene	NS	NS	420U	300J	400U	390U	440U	54J	350U	350U	350U	350U	340U	350U	350U	390U
Benzo(g,h,i)perylene	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Benzo(k)fluoranthene	NS	NS	420U	350	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
bis(2-Ethylhexyl)phthalate (BEHP)	NS	NS	420U	340U	400U	390U	440U	370J	350U	350U	350U	350U	340U	350U	350U	390U
Butylbenzylphthalate	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Carbazole	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Chrysene	NS	NS	420U	150J	400U	390U	440U	50J	350U	350U	350U	350U	340U	350U	350U	390U
Dibenz(a,h)anthracene	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Dibenzofuran	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Diethylphthalate	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	39J	350U	350U	390U
Dimethylphthalate	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Di-n-butylphthalate	NS	NS	420U	990U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Di-n-octylphthalate	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Fluoranthene	NS	NS	420U	240J	400U	390U	440U	66J	350U	350U	350U	350U	340U	350U	350U	390U
Fluorene	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Hexachlorobutadiene	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Indeno(1,2,3-cd)pyrene	NS	NS	420U	49J	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Isophorone	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Naphthalene	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Pentachlorophenol	NS	NS	1000U	830U	960U	950U	1100U	890U	860U	850U	840U	840U	830U	840U	850U	940U
Phenanthrene	NS	NS	420U	56J	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Phenol	NS	NS	420U	340U	400U	390U	440U	370U	350U	350U	350U	350U	340U	350U	350U	390U
Pyrene	NS	NS	420U	200J	400U	390U	440U	61J	350U	350U	350U	350U	340U	350U	350U	390U

NOTES:

1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0270021								0270022						
SAMPLE ID	*027S002102*	*027S002104*	*027S002106*	*027S002108*	*027S002110*	*027S002112*	*027S002114*	*027S002116*	*027S002202*	*027S002204*	*027S002206*	*027S002208*	*027S002210*	*027S002212*	*027S002214*
SAMPLE DATE	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*
VOC															
1,1,1-Trichloroethane	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
1,1,2,2-Tetrachloroethane	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
1,1-Dichloroethane	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
1,1-Dichloroethene	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
1,2-Dichloroethane	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
1,2-Dichloroethene (total)	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
2-Butanone (MEK)	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
2-Hexanone	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
4-Methyl-2-Pentanone (MIBK)	11U	11U	10U	11U	11U	11U	10U	12U	1J	10U	10U	11U	10U	10U	10U
Acetone	44U	85U	76U	55U	45U	67U	64U	110U	77U	100U	73U	56U	25U	36U	36U
Benzene	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
Bromoform	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
Carbon disulfide	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
Carbon tetrachloride	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
Chlorobenzene	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
Chloroform	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
Chloromethane	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
Ethylbenzene	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
Methylene chloride	27U	39U	29U	29U	28U	27U	24U	50U	22U	27U	19U	18U	31U	21U	16U
Styrene	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
Tetrachloroethene	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
Toluene	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
Trichloroethene	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
Vinyl chloride	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
Xylene (Total)	11U	11U	10U	11U	11U	11U	10U	12U	11U	10U	10U	11U	10U	10U	10U
TOC															
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC															
1,2,4-Trichlorobenzene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
1,4-Dichlorobenzene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
2,4-Dimethylphenol	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
2,6-Dinitrotoluene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
2-Chloronaphthalene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
2-Methylnaphthalene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
2-Methylphenol (o-Cresol)	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
3,3-Dichlorobenzidine	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
4-Methylphenol (p-Cresol)	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
4-Nitrophenol	830U	840U	830U	840U	870U	840U	820U	920U	840U	830U	830U	830U	820U	810U	830U
Acenaphthene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Acenaphthylene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Anthracene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Benzo(a)anthracene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Benzo(a)pyrene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Benzo(b)fluoranthene	37J	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Benzo(g,h,i)perylene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Benzo(k)fluoranthene	37J	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
bis(2-Ethylhexyl)phthalate (BEHP)	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Butylbenzylphthalate	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Carbazole	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Chrysene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Dibenz(a,h)anthracene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Dibenzofuran	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Diethylphthalate	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Dimethylphthalate	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Di-n-butylphthalate	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Di-n-octylphthalate	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Fluoranthene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Fluorene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Hexachlorobutadiene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Indeno(1,2,3-cd)pyrene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Isophorone	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Naphthalene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Pentachlorophenol	830U	840U	830U	840U	870U	840U	820U	920U	840U	830U	830U	830U	820U	810U	830U
Phenanthrene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Phenol	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U
Pyrene	340U	350U	340U	350U	360U	350U	340U	380U	350U	340U	340U	340U	340U	340U	340U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0270023							0270024								0270025
SAMPLE ID	*0275002302*	*0275002304*	*0275002306*	*0275002308*	*0275002310*	*0275002312*	*0275002314*	*0275002402*	*0275002404*	*0275002406*	*0275002408*	*0275002410*	*0275002412*	*0275002414*	*0275002416*	*0275002562*
SAMPLE DATE	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*
VOC																
1,1,1-Trichloroethane	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
1,1,2,2-Tetrachloroethane	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
1,1-Dichloroethane	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
1,1-Dichloroethene	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
1,2-Dichloroethane	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
1,2-Dichloroethene (total)	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
2-Butanone (MEK)	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
2-Hexanone	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
4-Methyl-2-Pentanone (MIBK)	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
Acetone	140U	38U	17U	70U	36U	72U	160U	120U	480U	190U	100U	26U	15U	58U	64U	41U
Benzene	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
Bromoform	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
Carbon disulfide	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
Carbon tetrachloride	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
Chlorobenzene	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
Chloroform	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
Chloromethane	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
Ethylbenzene	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
Methylene chloride	29U	30U	24U	23U	30U	19U	22U	26U	32U	27U	25U	40U	28U	20U	46U	31U
Styrene	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
Tetrachloroethene	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
Toluene	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
Trichloroethene	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
Vinyl chloride	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
Xylene (Total)	11U	11U	10U	10U	11U	11U	10U	11U	11U	11U	11U	11U	11U	10U	12U	12U
TOC																
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																
1,2,4-Trichlorobenzene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
1,4-Dichlorobenzene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
2,4-Dimethylphenol	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
2,6-Dinitrotoluene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
2-Chloronaphthalene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
2-Methylnaphthalene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
2-Methylphenol (o-Cresol)	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
3,3-Dichlorobenzidine	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
4-Methylphenol (p-Cresol)	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
4-Nitrophenol	830U	830U	820U	820U	830U	830U	810U	850U	830U	840U	840U	840U	850U	830U	950U	980U
Acenaphthene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Acenaphthylene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Anthracene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Benzo(a)anthracene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Benzo(a)pyrene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Benzo(b)fluoranthene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Benzo(g,h,i)perylene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Benzo(k)fluoranthene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
bis(2-Ethylhexyl)phthalate (BEHP)	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Butylbenzylphthalate	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Carbazole	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Chrysene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Dibenz(a,h)anthracene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Dibenzofuran	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Diethylphthalate	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Dimethylphthalate	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Di-n-butylphthalate	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Di-n-octylphthalate	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Fluoranthene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Fluorene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Hexachlorobutadiene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Indeno(1,2,3-cd)pyrene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Isophorone	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Naphthalene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Pentachlorophenol	830U	830U	820U	820U	830U	830U	810U	850U	830U	840U	840U	840U	850U	830U	950U	980U
Phenanthrene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Phenol	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U
Pyrene	340U	340U	340U	340U	340U	340U	340U	350U	340U	350U	350U	350U	350U	340U	390U	400U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0270026							0270027											
SAMPLE ID	*027S002600*	*027S002602*	*027S002604*	*027S002608*	*027S002610*	*027S002614*	*027S002616*	*027S002701*	*027S002702*	*027S002704*	*027S002706*	*027S002708*	*027S002710*	*027S002712*	*027S002714*	*027S002716*	*027S002718*	*027S002720*	*027S002762*
SAMPLE DATE	*7/6/1993*	*7/6/1993*	*7/6/1993*	*7/6/1993*	*7/6/1993*	*7/6/1993*	*7/6/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/13/1993*
VOC																			
1,1,1-Trichloroethane	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
1,1,2,2-Tetrachloroethane	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
1,1-Dichloroethane	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
1,1-Dichloroethene	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
1,2-Dichloroethane	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
1,2-Dichloroethene (total)	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
2-Butanone (MEK)	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
2-Hexanone	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
4-Methyl-2-Pentanone (MIBK)	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
Acetone	25U	33U	33U	16	22U	86U	57U	99U	10U	12U	15U	110U	84U	290U	88U	23U	550U	77U	27U
Benzene	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
Bromoform	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
Carbon disulfide	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
Carbon tetrachloride	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
Chlorobenzene	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
Chloroform	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
Chloromethane	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
Ethylbenzene	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
Methylene chloride	29U	29U	36U	34U	30U	29U	40U	31U	77U	24U	17U	14U	13U	15U	13U	22U	28U	19U	23U
Styrene	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
Tetrachloroethene	11U	11U	11U	11U	11U	11U	12U	4J	10J	6J	2J	3J	10U	10U	10U	11U	16	12U	12U
Toluene	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
Trichloroethene	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
Vinyl chloride	11U	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
Xylene (Total)	1J	11U	11U	11U	11U	11U	12U	10U	10U	12U	10U	10U	10U	10U	10U	11U	11U	12U	12U
TOC																			
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																			
1,2,4-Trichlorobenzene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
1,4-Dichlorobenzene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
2,4-Dimethylphenol	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
2,6-Dinitrotoluene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
2-Chloronaphthalene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
2-Methylnaphthalene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
2-Methylphenol (o-Cresol)	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
3,3-Dichlorobenzidine	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
4-Methylphenol (p-Cresol)	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
4-Nitrophenol	850U	880U	NS	840U	850U	NS	960U	16000U	16000U	19000U	NS	NS	820U	830U	830U	17000U	17000U	19000U	960U
Acenaphthene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
Acenaphthylene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
Anthracene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
Benzo(a)anthracene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
Benzo(a)pyrene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
Benzo(b)fluoranthene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
Benzo(g,h,i)perylene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
Benzo(k)fluoranthene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
bis(2-Ethylhexyl)phthalate (BEHP)	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	1700U	340U	340U	340U	6900U	6900U	7700U	400U
Butylbenzylphthalate	36U	360U	NS	350U	350U	NS	41U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
Carbazole	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
Chrysene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	NS	340U	340U	340U	6900U	6900U	7700U	400U
Dibenz(a,h)anthracene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	1700U	340U	340U	340U	6900U	6900U	7700U	400U
Dibenzofuran	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	1700U	340U	340U	340U	6900U	6900U	7700U	400U
Diethylphthalate	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	1700U	63U	340U	340U	6900U	6900U	7700U	400U
Dimethylphthalate	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	1700U	340U	340U	340U	6900U	6900U	7700U	400U
Di-n-butylphthalate	350U	360U	NS	350U	350U	NS	400U	770U	6600U	7900U	NS	NS	340U	340U	340U	6900U	1100U	7700U	400U
Di-n-octylphthalate	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	1700U	340U	340U	340U	6900U	6900U	7700U	400U
Fluoranthene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	1700U	340U	340U	340U	6900U	6900U	7700U	400U
Fluorene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	1700U	340U	340U	340U	6900U	6900U	7700U	400U
Hexachlorobutadiene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	1700U	340U	340U	340U	6900U	6900U	7700U	400U
Indeno(1,2,3-cd)pyrene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	1700U	340U	340U	340U	6900U	6900U	7700U	400U
Isophorone	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	1700U	340U	340U	340U	6900U	6900U	7700U	400U
Naphthalene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	1700U	340U	340U	340U	6900U	6900U	7700U	400U
Pentachlorophenol	850U	880U	NS	840U	850U	NS	960U	16000U	16000U	19000U	NS	4100U	820U	830U	830U	17000U	17000U	19000U	960U
Phenanthrene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	1700U	340U	340U	340U	6900U	6900U	7700U	400U
Phenol	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	1700U	340U	340U	340U	6900U	6900U	7700U	400U
Pyrene	350U	360U	NS	350U	350U	NS	400U	6600U	6600U	7900U	NS	1700U	340U	340U	340U	6900U	6900U	7700U	400U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0270028		0270029								
SAMPLE ID	*027S002802*	*027S002804*	*027S002902*	*027S002904*	*027S002906*	*027S002908*	*027S002910*	*027S002912*	*027S002914*	*027S002916*	*027S002918*
SAMPLE DATE	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*
VOC											
1,1,1-Trichloroethane	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
1,1,2,2-Tetrachloroethane	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
1,1-Dichloroethane	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
1,1-Dichloroethene	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
1,2-Dichloroethane	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
1,2-Dichloroethene (total)	12U	2J	11U	11U	11U	10U	11U	11U	10U	10U	12U
2-Butanone (MEK)	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
2-Hexanone	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
4-Methyl-2-Pentanone (MIBK)	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
Acetone	57U	51U	20U	18U	15U	16U	15U	14U	14U	11U	24U
Benzene	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
Bromoform	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
Carbon disulfide	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
Carbon tetrachloride	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
Chlorobenzene	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
Chloroform	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
Chloromethane	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
Ethylbenzene	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
Methylene chloride	14U	17U	7U	11U	10U	10U	11U	11U	10U	10U	44U
Styrene	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
Tetrachloroethene	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
Toluene	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
Trichloroethene	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
Vinyl chloride	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
Xylene (Total)	12U	12U	11U	11U	11U	10U	11U	11U	10U	10U	12U
TOC											
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC											
1,2,4-Trichlorobenzene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
1,4-Dichlorobenzene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
2,4-Dimethylphenol	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
2,6-Dinitrotoluene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
2-Chloronaphthalene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
2-Methylnaphthalene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
2-Methylphenol (o-Cresol)	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
3,3-Dichlorobenzidine	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
4-Methylphenol (p-Cresol)	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
4-Nitrophenol	960U	950U	830U	840U	830U	810U	850U	850U	830U	820U	930U
Acenaphthene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Acenaphthylene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Anthracene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Benzo(a)anthracene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Benzo(a)pyrene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Benzo(b)fluoranthene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Benzo(g,h,i)perylene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Benzo(k)fluoranthene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
bis(2-Ethylhexyl)phthalate (BEHP)	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Butylbenzylphthalate	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Carbazole	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Chrysene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Dibenz(a,h)anthracene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Dibenzofuran	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Diethylphthalate	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Dimethylphthalate	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Di-n-butylphthalate	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Di-n-octylphthalate	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Fluoranthene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Fluorene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Hexachlorobutadiene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Indeno(1,2,3-cd)pyrene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Isophorone	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Naphthalene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Pentachlorophenol	960U	950U	830U	840U	830U	810U	850U	850U	830U	820U	930U
Phenanthrene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Phenol	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U
Pyrene	400U	390U	340U	350U	340U	330U	350U	350U	340U	340U	380U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID					0270030					0270031	0270032	
SAMPLE ID	*027S003002*	*027S003004*	*027S003006*	*027S003008*	*027S003010*	*027S003012*	*027S003014*	*027S003016*	*027S003018*	*027S003101*	*027S003202*	*027S003204*
SAMPLE DATE	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*
VOC												
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
1,1-Dichloroethane	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
1,1-Dichloroethene	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
1,2-Dichloroethane	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
1,2-Dichloroethene (total)	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
2-Butanone (MEK)	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
2-Hexanone	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
4-Methyl-2-Pentanone (MIBK)	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
Acetone	11U	11U	56U	110U	77U	28U	58U	32U	120U	42U	18U	14U
Benzene	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
Bromoform	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
Carbon disulfide	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
Carbon tetrachloride	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
Chlorobenzene	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
Chloroform	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
Ethylbenzene	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
Methylene chloride	14U	10U	11U	12U	10U	14U	45U	15U	23U	15U	23U	14U
Styrene	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
Tetrachloroethene	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
Toluene	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
Trichloroethene	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
Vinyl chloride	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
Xylene (Total)	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	10U
TOC												
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC												
1,2,4-Trichlorobenzene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
1,4-Dichlorobenzene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
2,4-Dimethylphenol	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
2,6-Dinitrotoluene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
2-Chloronaphthalene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
2-Methylnaphthalene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
2-Methylphenol (o-Cresol)	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
3,3-Dichlorobenzidine	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
4-Methylphenol (p-Cresol)	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
4-Nitrophenol	810U	820U	820U	830U	830U	840U	830U	830U	840U	NS	820U	820U
Acenaphthene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Acenaphthylene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Anthracene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Benzo(a)anthracene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Benzo(a)pyrene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Benzo(b)fluoranthene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Benzo(g,h,i)perylene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Benzo(k)fluoranthene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
bis(2-Ethylhexyl)phthalate (BEHP)	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Butylbenzylphthalate	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Carbazole	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Chrysene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Dibenz(a,h)anthracene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Dibenzofuran	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Diethylphthalate	330U	38U	79U	57U	59U	350U	340U	340U	350U	NS	340U	340U
Dimethylphthalate	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Di-n-butylphthalate	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Di-n-octylphthalate	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Fluoranthene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Fluorene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Hexachlorobutadiene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Indeno(1,2,3-cd)pyrene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Isophorone	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Naphthalene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Pentachlorophenol	810U	820U	820U	830U	830U	840U	830U	830U	840U	NS	820U	820U
Phenanthrene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Phenol	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U
Pyrene	330U	340U	340U	340U	340U	350U	340U	340U	350U	NS	340U	340U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0270033										0270040								
SAMPLE ID	*027S003302*	*027S003304*	*027S003306*	*027S003308*	*027S003310*	*027S003312*	*027S003314*	*027S003316*	*027S003318*	*027S003320*	*027S004000*	*027S004002*	*027S004004*	*027S004006*	*027S004010*	*027S004012*	*027S004014*	*027S004016*	*027S004018*
SAMPLE DATE	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*
VOC																			
1,1,1-Trichloroethane	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
1,1,2,2-Tetrachloroethane	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
1,1-Dichloroethane	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
1,1-Dichloroethene	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
1,2-Dichloroethane	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
1,2-Dichloroethene (total)	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
2-Butanone (MEK)	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
2-Hexanone	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
4-Methyl-2-Pentanone (MIBK)	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
Acetone	15U	15U	25U	40U	45U	210U	150U	51U	270U	56U	46U	66U	51U	35U	22U	59U	170U	190U	120U
Benzene	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
Bromoform	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
Carbon disulfide	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
Carbon tetrachloride	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
Chlorobenzene	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
Chloroform	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
Chloromethane	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
Ethylbenzene	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
Methylene chloride	39U	37U	21U	22U	36U	62U	57U	29U	48U	47U	21U	22U	12U	14U	16U	71U	40U	51U	64U
Styrene	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
Tetrachloroethene	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
Toluene	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
Trichloroethene	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
Vinyl chloride	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
Xylene (Total)	10U	10U	11U	10U	10U	10U	10U	10U	12U	12U	11U	11U	11U	11U	11U	11U	11U	10U	13U
TOC																			
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																			
1,2,4-Trichlorobenzene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
1,4-Dichlorobenzene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
2,4-Dimethylphenol	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
2,6-Dinitrotoluene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
2-Chloronaphthalene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
2-Methylnaphthalene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
2-Methylphenol (o-Cresol)	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
3,3-Dichlorobenzidine	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
4-Methylphenol (p-Cresol)	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
4-Nitrophenol	820U	820U	830U	820U	820U	820U	820U	810U	920U	9200U	840U	830U	830U	830U	830U	830U	830U	830U	1000U
Acenaphthene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
Acenaphthylene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
Anthracene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
Benzo(a)anthracene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	320J	340U	340U	340U	340U	340U	340U	340U	420U
Benzo(a)pyrene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	210J	340U	340U	340U	340U	340U	340U	340U	420U
Benzo(b)fluoranthene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	650J	340U	340U	340U	340U	340U	340U	340U	420U
Benzo(g,h,i)perylene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	180J	340U	340U	340U	340U	340U	340U	340U	420U
Benzo(k)fluoranthene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	650J	340U	340U	340U	340U	340U	340U	340U	420U
bis(2-Ethylhexyl)phthalate (BEHP)	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	73J	340U	340U	340U	340U	340U	340U	340U	420U
Butylbenzylphthalate	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	240J	340U	340U	340U	340U	340U	340U	340U	420U
Carbazole	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
Chrysene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	330J	340U	340U	340U	340U	340U	340U	340U	420U
Dibenz(a,h)anthracene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	91J	340U	340U	340U	340U	340U	340U	340U	420U
Dibenzofuran	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
Diethylphthalate	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
Dimethylphthalate	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
Di-n-butylphthalate	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
Di-n-octylphthalate	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
Fluoranthene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	310J	340U	340U	340U	340U	340U	340U	340U	420U
Fluorene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
Hexachlorobutadiene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
Indeno(1,2,3-cd)pyrene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	240J	340U	340U	340U	340U	340U	340U	340U	420U
Isophorone	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
Naphthalene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
Pentachlorophenol	820U	820U	830U	820U	820U	820U	820U	810U	920U	9200U	840U	830U	830U	830U	830U	830U	830U	830U	1000U
Phenanthrene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	350U	340U	340U	340U	340U	340U	340U	340U	420U
Phenol	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	930	340U	340U	340U	340U	340U	340U	340U	420U
Pyrene	340U	340U	340U	340U	340U	340U	340U	340U	380U	3800U	230J	340U	340U	340U	340U	340U	340U	340U	420U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0270041		0270042							0270043				0270044	0270045			
SAMPLE ID	*027S004100*	*027S004102*	*027S004202*	*027S004204*	*027S004206*	*027S004208*	*027S004210*	*027S004212*	*027S004214*	*027S004302*	*027S004304*	*027S004306*	*027S004308*	*027S004402*	*027S004502*	*027S004504*	*027S004506*	*027S004508*
SAMPLE DATE	*7/14/1993*	*7/14/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*
VOC																		
1,1,1-Trichloroethane	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
1,1,2,2-Tetrachloroethane	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
1,1-Dichloroethane	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
1,1-Dichloroethene	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
1,2-Dichloroethane	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
1,2-Dichloroethene (total)	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
2-Butanone (MEK)	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
2-Hexanone	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
4-Methyl-2-Pentanone (MIBK)	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
Acetone	54U	31U	14U	14U	12U	27U	34U	22U	10U	120U	100U	21U	21U	870U	190U	17U	36U	27U
Benzene	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
Bromoform	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
Carbon disulfide	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
Carbon tetrachloride	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
Chlorobenzene	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
Chloroform	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
Chloromethane	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
Ethylbenzene	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
Methylene chloride	60U	26U	12U	10U	11U	27U	24U	31U	17U	21U	21U	24U	15U	29U	17U	17U	20U	20U
Styrene	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
Tetrachloroethene	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
Toluene	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
Trichloroethene	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
Vinyl chloride	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
Xylene (Total)	23U	10U	11U	10U	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	10U	10U	11U	11U
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
1,4-Dichlorobenzene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
2,4-Dimethylphenol	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
2,6-Dinitrotoluene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
2-Chloronaphthalene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
2-Methylnaphthalene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
2-Methylphenol (o-Cresol)	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
3,3-Dichlorobenzidine	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
4-Methylphenol (p-Cresol)	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
4-Nitrophenol	1800U	820U	840U	830U	840U	840U	850U	830U	820U	840U	850U	850U	850U	850U	830U	830U	840U	850U
Acenaphthene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Acenaphthylene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Anthracene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Benzo(a)anthracene	81J	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	59J	340U	340U	350U	350U
Benzo(a)pyrene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	40J	340U	340U	350U	350U
Benzo(b)fluoranthene	180J	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	96J	340U	340U	350U	350U
Benzo(g,h,i)perylene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Benzo(k)fluoranthene	180J	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	96J	340U	340U	350U	350U
bis(2-Ethylhexyl)phthalate (BEHP)	210U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Butylbenzylphthalate	200J	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Carbazole	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Chrysene	89J	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	54J	340U	340U	350U	350U
Dibenz(a,h)anthracene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Dibenzofuran	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Diethylphthalate	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Dimethylphthalate	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Di-n-butylphthalate	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Di-n-octylphthalate	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Fluoranthene	150J	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	160J	340U	340U	350U	350U
Fluorene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Hexachlorobutadiene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Indeno(1,2,3-cd)pyrene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Isophorone	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Naphthalene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Pentachlorophenol	1800U	820U	840U	830U	840U	840U	850U	830U	820U	840U	850U	850U	850U	850U	830U	830U	840U	850U
Phenanthrene	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	110J	340U	340U	350U	350U
Phenol	760U	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	350U	340U	340U	350U	350U
Pyrene	84J	340U	350U	340U	350U	350U	350U	340U	340U	350U	350U	350U	350U	74J	340U	340U	350U	350U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0270046				0270047				0270048				0270049					
SAMPLE ID	*027S004602*	*027S004604*	*027S004606*	*027S004608*	*027S004702*	*027S004704*	*027S004706*	*027S004708*	*027S004810*	*027S004812*	*027S004814*	*027S004816*	*027S004902*	*027S004904*	*027S004906*	*027S004908*	*027S004910*	*027S004962*
SAMPLE DATE	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/16/1993*	*7/16/1993*	*7/16/1993*	*7/16/1993*	*7/20/1993*	*7/20/1993*	*7/20/1993*	*7/20/1993*	*7/20/1993*	*7/21/1993*
VOC																		
1,1,1-Trichloroethane	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
1,1,2,2-Tetrachloroethane	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
1,1-Dichloroethane	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
1,1-Dichloroethene	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
1,2-Dichloroethane	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
1,2-Dichloroethene (total)	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
2-Butanone (MEK)	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
2-Hexanone	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
4-Methyl-2-Pentanone (MIBK)	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
Acetone	11U	96U	66U	32U	210U	170U	97U	140U	67U	26U	34U	23U	11U	29U	24U	15U	17U	12U
Benzene	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
Bromoform	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
Carbon disulfide	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
Carbon tetrachloride	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
Chlorobenzene	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
Chloroform	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
Chloromethane	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
Ethylbenzene	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
Methylene chloride	11U	16U	15U	13U	13U	41U	12U	63U	57U	27U	25U	21U	33U	20U	21U	14U	15U	32U
Styrene	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
Tetrachloroethene	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
Toluene	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
Trichloroethene	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
Vinyl chloride	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
Xylene (Total)	11U	12U	11U	11U	10U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U	10U	12U
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
1,4-Dichlorobenzene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
2,4-Dimethylphenol	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
2,6-Dinitrotoluene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
2-Chloronaphthalene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
2-Methylnaphthalene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
2-Methylphenol (o-Cresol)	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
3,3-Dichlorobenzidine	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
4-Methylphenol (p-Cresol)	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
4-Nitrophenol	850U	930U	840U	840U	830U	840U	850U	870U	830U	820U	820U	830U	870U	870U	850U	840U	830U	980U
Acenaphthene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Acenaphthylene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Anthracene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Benzo(a)anthracene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	170J	360U	350U	350U	340U	410U
Benzo(a)pyrene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	130J	360U	350U	350U	340U	410U
Benzo(b)fluoranthene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	310	360U	350U	350U	340U	410U
Benzo(g,h,i)perylene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	73J	360U	350U	350U	340U	410U
Benzo(k)fluoranthene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	310	360U	350U	350U	340U	410U
bis(2-Ethylhexyl)phthalate (BEHP)	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Butylbenzylphthalate	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Carbazole	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Chrysene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	160J	360U	350U	350U	340U	410U
Dibenz(a,h)anthracene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Dibenzofuran	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Diethylphthalate	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Dimethylphthalate	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Di-n-butylphthalate	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Di-n-octylphthalate	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	110U	410U
Fluoranthene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	250J	360U	350U	350U	340U	410U
Fluorene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Hexachlorobutadiene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Indeno(1,2,3-cd)pyrene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	68J	360U	350U	350U	340U	410U
Isophorone	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Naphthalene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Pentachlorophenol	850U	930U	840U	840U	830U	840U	850U	870U	830U	820U	820U	830U	870U	870U	850U	840U	830U	270J
Phenanthrene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	210J	360U	350U	350U	340U	410U
Phenol	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	360U	360U	350U	350U	340U	410U
Pyrene	350U	380U	350U	350U	340U	350U	350U	360U	340U	340U	340U	340U	180J	360U	350U	350U	340U	410U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0270050								0270051							0270052			
SAMPLE ID	*027S005002*	*027S005004*	*027S005006*	*027S005008*	*027S005010*	*027S005012*	*027S005014*	*027S005016*	*027S005102*	*027S005104*	*027S005106*	*027S005108*	*027S005110*	*027S005112*	*027S005114*	*027S005200*	*027S005201*	*027S005202*	*027S005204*
SAMPLE DATE	*8/5/1993*	*8/5/1993*	*8/5/1993*	*8/5/1993*	*8/5/1993*	*8/5/1993*	*8/5/1993*	*8/5/1993*	*7/2/1993*	*7/2/1993*	*7/2/1993*	*7/2/1993*	*7/2/1993*	*7/2/1993*	*7/2/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*
VOC																			
1,1,1-Trichloroethane	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
1,1,2,2-Tetrachloroethane	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
1,1-Dichloroethane	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
1,1-Dichloroethene	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
1,2-Dichloroethane	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
1,2-Dichloroethene (total)	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
2-Butanone (MEK)	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
2-Hexanone	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
4-Methyl-2-Pentanone (MIBK)	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
Acetone	26U	210U	14U	10U	15U	13U	26U	23U	24U	16U	84U	79U	NS	96U	70U	25U	16U	32U	10U
Benzene	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
Bromoform	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
Carbon disulfide	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
Carbon tetrachloride	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
Chlorobenzene	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
Chloroform	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
Chloromethane	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
Ethylbenzene	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
Methylene chloride	39U	93U	15U	26U	56U	29U	19U	21U	27U	22U	20U	19U	NS	21U	11U	32U	29U	42U	18U
Styrene	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
Tetrachloroethene	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
Toluene	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
Trichloroethene	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
Vinyl chloride	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
Xylene (Total)	11U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	11U	14U	10U
TOC																			
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																			
1,2,4-Trichlorobenzene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
1,4-Dichlorobenzene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
2,4-Dimethylphenol	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
2,6-Dinitrotoluene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
2-Chloronaphthalene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
2-Methylnaphthalene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	62J	46J	340U
2-Methylphenol (o-Cresol)	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
3,3-Dichlorobenzidine	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
4-Methylphenol (p-Cresol)	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
4-Nitrophenol	840U	840U	840U	810U	820U	820U	820U	820U	830U	820U	810U	810U	810U	810U	820U	820U	840U	1100U	830U
Acenaphthene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	220J	350	220J	79J
Acenaphthylene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
Anthracene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	430	810	280J	160J
Benzo(a)anthracene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	1800	2100J	1300J	490
Benzo(a)pyrene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	1300	1500J	1100J	330J
Benzo(b)fluoranthene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	2600J	3100J	2400J	740J
Benzo(g,h,i)perylene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	370	380	320J	86J
Benzo(k)fluoranthene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	2600J	3100J	2400J	740J
bis(2-Ethylhexyl)phthalate (BEHP)	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
Butylbenzylphthalate	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
Carbazole	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	440	760	530	170J
Chrysene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	1500	1800J	1400J	410
Dibenz(a,h)anthracene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	180J	150J	150J	41J
Dibenzofuran	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	71J	210J	140J	38J
Diethylphthalate	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
Dimethylphthalate	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
Di-n-butylphthalate	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
Di-n-octylphthalate	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
Fluoranthene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	3900J	4900J	3800J	1100
Fluorene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	170J	400	180J	68J
Hexachlorobutadiene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
Indeno(1,2,3-cd)pyrene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	620	660J	510	160J
Isophorone	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
Naphthalene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	38J	140J	140J	40J
Pentachlorophenol	840U	840U	840U	810U	820U	820U	820U	820U	830U	820U	810U	810U	810U	810U	820U	820U	840U	1100U	830U
Phenanthrene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	2500	3800J	2800J	830
Phenol	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	340U	350U	440U	340U
Pyrene	350U	350U	350U	340U	340U	340U	340U	340U	340U	340U	330U	330U	330U	330U	340U	2200	2700J	2000J	640

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0270053			0300004							0300005						
SAMPLE ID	*027S005300*	*027S005301*	*027S005302*	*030S000402*	*030S000404*	*030S000406*	*030S000408*	*030S000410*	*030S000412*	*030S000414*	*030S000502*	*030S000504*	*030S000506*	*030S000508*	*030S000510*	*030S000512*	*030S000514*
SAMPLE DATE	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/12/1993*	*8/13/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*
VOC																	
1,1,1-Trichloroethane	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
1,1,2,2-Tetrachloroethane	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
1,1-Dichloroethane	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
1,1-Dichloroethene	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
1,2-Dichloroethane	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
1,2-Dichloroethene (total)	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
2-Butanone (MEK)	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
2-Hexanone	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
4-Methyl-2-Pentanone (MIBK)	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
Acetone	18U	12U	14U	120U	160	84U	87U	130U	74U	44U	1300DU	22000DU	130U	210UJ	140U	120U	280U
Benzene	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
Bromoform	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
Carbon disulfide	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
Carbon tetrachloride	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
Chlorobenzene	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
Chloroform	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
Chloromethane	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
Ethylbenzene	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
Methylene chloride	78U	10U	26U	27U	26U	25U	20U	22U	21U	28U	10U	10U	10U	10U	10U	11U	12U
Styrene	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
Tetrachloroethene	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
Toluene	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
Trichloroethene	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
Vinyl chloride	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
Xylene (Total)	11U	10U	10U	10U	10U	10U	10U	10U	10U	12U	10U	10U	10U	10U	10U	11U	12U
TOC																	
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																	
1,2,4-Trichlorobenzene	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
1,4-Dichlorobenzene	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
2,4-Dimethylphenol	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
2,6-Dinitrotoluene	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
2-Chloronaphthalene	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
2-Methylnaphthalene	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
2-Methylphenol (o-Cresol)	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
3,3-Dichlorobenzidine	350U	340U	330U	680U	680U	690U	680U	680U	680U	780U	340UJ	330UJ	330UJ	340UJ	340UJ	350UJ	2000U
4-Methylphenol (p-Cresol)	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000UJ
4-Nitrophenol	850U	830U	800U	820U	820U	830U	830U	820U	820U	950U	820U	810U	800U	830U	810U	850U	4900UJ
Acenaphthene	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Acenaphthylene	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Anthracene	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Benzo(a)anthracene	350U	110J	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Benzo(a)pyrene	350U	95J	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Benzo(b)fluoranthene	350U	200J	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Benzo(g,h,i)perylene	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Benzo(k)fluoranthene	350U	200J	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
bis(2-Ethylhexyl)phthalate (BEHP)	350U	410U	330U	120J	77J	340U	150J	46J	900	78J	340U	330U	330U	340U	340U	350U	2000U
Butylbenzylphthalate	350U	160U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Carbazole	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Chrysene	350U	120J	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Dibenz(a,h)anthracene	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Dibenzofuran	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Diethylphthalate	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Dimethylphthalate	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Di-n-butylphthalate	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Di-n-octylphthalate	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000UJ
Fluoranthene	350U	250J	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Fluorene	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Hexachlorobutadiene	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000UJ
Indeno(1,2,3-cd)pyrene	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Isophorone	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Naphthalene	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Pentachlorophenol	850U	830U	800U	820U	820U	830U	830U	820U	820U	950U	820U	810U	800U	830U	810U	850U	4900U
Phenanthrene	350U	150J	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Phenol	350U	340U	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U
Pyrene	350U	150J	330U	340U	340U	340U	340U	340U	340U	390U	340U	330U	330U	340U	340U	350U	2000U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0300006								0300009							
SAMPLE ID	*030S000602*	*030S000604*	*030S000606*	*030S000608*	*030S000610*	*030S000612*	*030S000614*	*030S000616*	*030S000902*	*030S000904*	*030S000906*	*030S000908*	*030S000910*	*030S000912*	*030S000914*	*030S000916*
SAMPLE DATE	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/18/2003*	*8/18/2003*	*8/18/2003*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*
VOC																
1,1,1-Trichloroethane	1J	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
1,1-Dichloroethene	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
1,2-Dichloroethane	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
1,2-Dichloroethene (total)	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
2-Butanone (MEK)	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
2-Hexanone	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
4-Methyl-2-Pentanone (MIBK)	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
Acetone	100	31U	57U	59U	140	130	75	460D	1900DJ	100U	62U	100U	40U	83U	88U	49U
Benzene	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
Bromoform	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
Carbon disulfide	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
Carbon tetrachloride	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
Chlorobenzene	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
Chloroform	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
Chloromethane	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11UJ	10UJ	10UJ	10UJ	10UJ
Ethylbenzene	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
Methylene chloride	21U	13U	10U	11U	13U	10U	11U	10U	40UJ	37UJ	31UJ	11U	10U	10U	10U	10U
Styrene	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
Tetrachloroethene	2J	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
Toluene	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
Trichloroethene	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
Xylene (Total)	10U	10U	10U	11U	10U	10U	10U	10U	11U	11U	13U	11U	10U	10U	10U	10U
TOC																
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																
1,2,4-Trichlorobenzene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
1,4-Dichlorobenzene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
2,4-Dimethylphenol	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
2,6-Dinitrotoluene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
2-Chloronaphthalene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
2-Methylnaphthalene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
2-Methylphenol (o-Cresol)	340U	340U	1700U	350U	340U	340U	340U	340U	350UJ	350UJ	420UJ	350U	340UJ	340UJ	340UJ	340UJ
3,3-Dichlorobenzidine	340UJ	340UJ	1700UJ	350UJ	340UJ	340UJ	340UJ	340UJ	350U	350U	420U	350U	340U	340U	340U	340UJ
4-Methylphenol (p-Cresol)	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
4-Nitrophenol	830U	820U	4100U	840U	830U	830U	830U	820U	850U	850U	1000U	840U	830U	830U	830U	830UJ
Acenaphthene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
Acenaphthylene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
Anthracene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
Benzo(a)anthracene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	120J	340U	340U	340UJ
Benzo(a)pyrene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	59J	420U	52J	140J	340U	340U	340UJ
Benzo(b)fluoranthene	340U	340U	1700U	350U	340U	340U	340U	340U	49J	75J	420U	50J	170J	340U	340U	340UJ
Benzo(g,h,i)perylene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	57J	420U	39J	100J	340U	340U	340UJ
Benzo(k)fluoranthene	340U	340U	1700U	350U	340U	340U	340U	340U	52J	97J	420U	73J	200J	340U	340U	340UJ
bis(2-Ethylhexyl)phthalate (BEHP)	340U	340U	1700U	350U	340U	340U	340U	340U	350U	1000U	420U	350U	340U	340U	340U	1100UJ
Butylbenzylphthalate	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
Carbazole	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
Chrysene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	43J	420U	37J	150J	340U	340U	340UJ
Dibenz(a,h)anthracene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	40J	340U	340U	340UJ
Dibenzofuran	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
Diethylphthalate	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
Dimethylphthalate	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
Di-n-butylphthalate	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	39U	340U	340U	340UJ
Di-n-octylphthalate	340U	340U	1700U	350U	340U	340U	340U	340U	350UJ	350UJ	420UJ	350UJ	340UJ	340UJ	340UJ	340UJ
Fluoranthene	340U	340U	1700U	350U	340U	340U	340U	340U	36J	41J	420U	350U	120J	340U	340U	340UJ
Fluorene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
Hexachlorobutadiene	340UJ	340U	1700UJ	350J	340UJ	340UJ	340UJ	340UJ	350UJ	350UJ	420UJ	350UJ	340UJ	340UJ	340UJ	340UJ
Indeno(1,2,3-cd)pyrene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	52J	420U	36J	96J	340U	340U	340UJ
Isophorone	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
Naphthalene	340U	340U	1700U	150J	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
Pentachlorophenol	830U	820U	4100U	840U	830U	830U	830U	820U	850U	850U	1000U	840U	830U	830U	830U	830UJ
Phenanthrene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	350U	420U	350U	340U	340U	340U	340UJ
Phenol	340U	340U	1700U	350U	340U	340U	340U	340U	350UJ	350UJ	420UJ	350UJ	340UJ	340UJ	340UJ	340UJ
Pyrene	340U	340U	1700U	350U	340U	340U	340U	340U	350U	42J	420U	350U	120J	340U	340U	340UJ

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0300010										0300011								
SAMPLE ID	*030S001002*	*030S001004*	*030S001006*	*030S001008*	*030S001010*	*030S001012*	*030S001014*	*030S001016*	*030S001018*	*030S001020*	*030S001102*	*030S001104*	*030S001106*	*030S001108*	*030S001110*	*030S001112*	*030S001114*	*030S001116*	*030S001120*
SAMPLE DATE	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/16/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*
VOC																			
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
1,1-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
1,1-Dichloroethene	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
1,2-Dichloroethene (total)	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
2-Butanone (MEK)	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
2-Hexanone	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
4-Methyl-2-Pentanone (MIBK)	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
Acetone	30U	34U	63U	51U	51U	190U	330DU	92U	96U	220U	38U	35U	14U	10U	22U	18U	62U	54U	81U
Benzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
Bromoform	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
Carbon disulfide	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
Carbon tetrachloride	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
Chlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
Chloroform	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
Ethylbenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
Methylene chloride	10U	25U	10U	10U	10U	10U	10U	10U	10U	4U	32UJ	28UJ	27UJ	35UJ	43UJ	37UJ	36UJ	36UJ	50UJ
Styrene	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
Tetrachloroethene	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
Toluene	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
Trichloroethene	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
Xylene (Total)	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	11U	11U	10U	10U	11U	11U	11U	11U	12U
TOC																			
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																			
1,2,4-Trichlorobenzene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
1,4-Dichlorobenzene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
2,4-Dimethylphenol	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
2,6-Dinitrotoluene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
2-Chloronaphthalene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
2-Methylnaphthalene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
2-Methylphenol (o-Cresol)	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350UJ	350UJ	340UJ	340UJ	340UJ	350UJ	350UJ	350UJ	400UJ
3,3-Dichlorobenzidine	670U	680U	340U	340U	340UJ	340U	340U	340U	330UJ	360UJ	350U	350U	340U	340U	340U	350U	350U	350U	400U
4-Methylphenol (p-Cresol)	330U	340U	340UJ	340UJ	340UJ	340UJ	340UJ	340UJ	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
4-Nitrophenol	810U	820U	820U	820U	820UJ	830U	820U	820U	810U	860U	860U	840UJ	830UJ	830UJ	840UJ	840UJ	840UJ	840UJ	980UJ
Acenaphthene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350UJ	350U	340U	340U	340U	350U	350U	350U	400U
Acenaphthylene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
Anthracene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
Benzo(a)anthracene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
Benzo(a)pyrene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	45J	350U	350U	400U
Benzo(b)fluoranthene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	65J	350U	350U	400U
Benzo(g,h,i)perylene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	41J	350U	350U	400U
Benzo(k)fluoranthene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	42J	350U	340U	340U	340U	65J	350U	350U	400U
bis(2-Ethylhexyl)phthalate (BEHP)	330U	340U	340U	340U	510UJ	340U	340U	340U	330U	870U	890U	350U	400U	340U	340U	350U	350U	350U	400U
Butylbenzylphthalate	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
Carbazole	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
Chrysene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	40J	350U	350U	400U
Dibenz(a,h)anthracene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
Dibenzofuran	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
Diethylphthalate	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
Dimethylphthalate	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
Di-n-butylphthalate	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350UJ	340UJ	340UJ	340UJ	350UJ	350U	350U	400U
Di-n-octylphthalate	330U	340U	340UJ	340UJ	340UJ	340UJ	340UJ	340UJ	330U	360U	350UJ	350U	340U	340U	340U	350U	350UJ	350UJ	400UJ
Fluoranthene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	41J	350U	350U	400U
Fluorene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350UJ	350U	340U	340U	340U	350U	350U	350U	400U
Hexachlorobutadiene	330U	340U	340UJ	340UJ	340UJ	340UJ	340UJ	340UJ	330U	360U	350UJ	350UJ	340UJ	340UJ	340UJ	350UJ	350UJ	350UJ	400UJ
Indeno(1,2,3-cd)pyrene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
Isophorone	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
Naphthalene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
Pentachlorophenol	810U	820U	820U	820U	820UJ	830U	820U	820U	810U	860U	860U	840U	830U	830U	840U	840U	840U	840U	980U
Phenanthrene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
Phenol	330U	340U	340UJ	340UJ	340UJ	340UJ	340UJ	340UJ	330U	360U	350U	350U	340U	340U	340U	350U	350U	350U	400U
Pyrene	330U	340U	340U	340U	340UJ	340U	340U	340U	330U	360U	350U	350U	340U	340U	340U	52J	350U	350U	400U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0300012										0300015
SAMPLE ID	*030S001202*	*030S001204*	*030S001206*	*030S001208*	*030S001210*	*030S001212*	*030S001214*	*030S001216*	*030S001218*	*030S001220*	*030S001516*
SAMPLE DATE	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/9/1993*
VOC											
1,1,1-Trichloroethane	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12U	11 U
1,1,2,2-Tetrachloroethane	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12UR	11 U
1,1-Dichloroethane	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12U	11 U
1,1-Dichloroethene	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12U	11 U
1,2-Dichloroethane	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12U	11 U
1,2-Dichloroethene (total)	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12U	11 U
2-Butanone (MEK)	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12U	11 U
2-Hexanone	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12UR	11 U
4-Methyl-2-Pentanone (MIBK)	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12UR	11 U
Acetone	11U	10U	800UD	1300UJD	11U	1100DJ	5600JD	3000JD	190UJD	39UD	99 J
Benzene	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12U	11 U
Bromoform	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12U	11 U
Carbon disulfide	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12U	11 U
Carbon tetrachloride	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12U	11 U
Chlorobenzene	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12UR	11 U
Chloroform	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12U	11 U
Chloromethane	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12U	11 UJ
Ethylbenzene	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12UR	11 U
Methylene chloride	19U	10U	11U	11U	12U	10U	11U	11U	11UJ	12U	23 U
Styrene	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12UR	11 U
Tetrachloroethene	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12UR	11 U
Toluene	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12UR	11 U
Trichloroethene	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12U	11 U
Vinyl chloride	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12U	11 U
Xylene (Total)	11U	10U	11U	11U	11U	11U	11U	11U	11UJ	12UR	11 U
TOC											
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC											
1,2,4-Trichlorobenzene	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
1,4-Dichlorobenzene	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
2,4-Dimethylphenol	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
2,6-Dinitrotoluene	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
2-Chloronaphthalene	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
2-Methylnaphthalene	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
2-Methylphenol (o-Cresol)	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
3,3-Dichlorobenzidine	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	690 U
4-Methylphenol (p-Cresol)	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
4-Nitrophenol	1700U	830U	840U	840U	840U	840U	840U	860U	840U	29000U	840 U
Acenaphthene	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Acenaphthylene	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Anthracene	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Benzo(a)anthracene	150J	340U	52J	350U	340U	340U	350U	360U	350U	12000U	350 U
Benzo(a)pyrene	170J	340U	51J	350U	340U	340U	350U	360U	350U	12000U	350 U
Benzo(b)fluoranthene	240J	340U	79J	350U	340U	340U	350U	360U	350U	12000U	350 U
Benzo(g,h,i)perylene	160J	340U	49J	350U	340U	340U	350U	360U	350U	12000U	350 U
Benzo(k)fluoranthene	160J	340U	55J	350U	340U	340U	350U	360U	350U	12000U	350 U
bis(2-Ethylhexyl)phthalate (BEHP)	580J	340U	77J	950	340J	750J	350U	360U	85J	58000	67 J
Butylbenzylphthalate	95J	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Carbazole	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Chrysene	180J	340U	57J	350U	340U	340U	350U	360U	350U	12000U	350 U
Dibenz(a,h)anthracene	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Dibenzofuran	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Diethylphthalate	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Dimethylphthalate	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Di-n-butylphthalate	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Di-n-octylphthalate	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Fluoranthene	240J	340U	110J	350U	340U	340U	350U	360U	350U	12000U	350 U
Fluorene	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Hexachlorobutadiene	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Indeno(1,2,3-cd)pyrene	130J	340U	45J	350U	340U	340U	350U	360U	350U	12000U	350 U
Isophorone	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Naphthalene	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Pentachlorophenol	1700U	830U	840U	840U	840U	840U	840U	860U	840U	29000U	840 UJ
Phenanthrene	80J	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Phenol	690U	340U	340U	350U	340U	340U	350U	360U	350U	12000U	350 U
Pyrene	210J	340U	84J	350U	340U	340U	350U	360U	350U	12000U	350 U

NOTES:

1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID					0300016									0300017				
SAMPLE ID	*030S001602*	*030S001604*	*030S001606*	*030S001608*	*030S001610*	*030S001612*	*030S001614*	*030S001616*	*030S001618*	*030S001702*	*030S001704*	*030S001706*	*030S001708*	*030S001710*	*030S001712*	*030S001714*	*030S001716*	*030S001718*
SAMPLE DATE	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*
VOC																		
1,1,1-Trichloroethane	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	5 J	4 J	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
1,1,2,2-Tetrachloroethane	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	12 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
1,1-Dichloroethane	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	4 J	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
1,1-Dichloroethene	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	12 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
1,2-Dichloroethane	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	12 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
1,2-Dichloroethene (total)	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	7 J	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
2-Butanone (MEK)	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	12 U	10 U	10 U	1 J	10 U	10 U	10 U	10 U	11 U	11 U
2-Hexanone	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	12 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
4-Methyl-2-Pentanone (MIBK)	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	12 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
Acetone	520DUJ	1100 UJ	260 U	1400 UJ	1500 UJ	3000DUJ	1500 UJ	3200DU	1600DUJ	23 UJ	36 UJ	140 J	13 UJ	190 D	190 J	280 D	110 UJ	48 U
Benzene	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	10 J	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
Bromoform	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	12 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
Carbon disulfide	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	12 U	10 U	10 U	11 U	10 U	1 J	10 U	2 J	2 J	11 U
Carbon tetrachloride	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	12 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
Chlorobenzene	11 U	10 U	10 U	10 U	2 J	10 U	10 U	13 U	12 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
Chloroform	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	12 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
Chloromethane	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	12 U	10 UJ	10 UJ	11 UJ	10 UJ	10 UJ	10 UJ	10 UJ	11 UJ	11 UJ
Ethylbenzene	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	25	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
Methylene chloride	20 U	17 U	13 U	12 U	15 U	14 U	10 U	18 U	41 U	10 U	10 U	11	10 U	14 U	10 U	10 U	11 U	31
Styrene	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	12 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
Tetrachloroethene	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	12 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
Toluene	11 U	10 U	10 U	10 U	2 J	10 U	10 U	13 U	41	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
Trichloroethene	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	12 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
Vinyl chloride	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	12 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
Xylene (Total)	11 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	200	10 U	10 U	11 U	10 U	10 U	10 U	10 U	11 U	11 U
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 UJ	340 U	340 U	340 U	350 U	62 J
1,4-Dichlorobenzene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	52 J
2,4-Dimethylphenol	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
2,6-Dinitrotoluene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
2-Chloronaphthalene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
2-Methylnaphthalene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
2-Methylphenol (o-Cresol)	350 U	340 UJ	330 UJ	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
3,3-Dichlorobenzidine	350 UJ	340 UJ	330 UJ	340 U	330 UJ	340 UJ	340 U	420 UJ	390 UJ	340 UJ	340 UJ	370 UJ	340 UJ	340 UJ	340 UJ	340 UJ	350 UJ	350 U
4-Methylphenol (p-Cresol)	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
4-Nitrophenol	850 UJ	820 UJ	800 UJ	820 U	810 UJ	820 UJ	830 UJ	1000 UJ	960 U	830 U	820 U	900 U	810 U	820 U	810 UJ	810 UJ	860 UJ	840 U
Acenaphthene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Acenaphthylene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Anthracene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Benzo(a)anthracene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Benzo(a)pyrene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Benzo(b)fluoranthene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Benzo(g,h,i)perylene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Benzo(k)fluoranthene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
bis(2-Ethylhexyl)phthalate (BEHP)	520 U	340 U	330 U	340 U	480 U	340 U	440 U	610U	390 U	200 J	1000	480	120 J	1300	1700	82 J	2500	350 U
Butylbenzylphthalate	350 U	340 U	330 U	340 U	330 U	340 U	340 UJ	420 U	390 U	340 U	69 J	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Carbazole	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Chrysene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Dibenz(a,h)anthracene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 UJ	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Dibenzofuran	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Diethylphthalate	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Dimethylphthalate	350 UJ	340 UJ	330 UJ	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Di-n-butylphthalate	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Di-n-octylphthalate	350 U	340 U	330 U	340 U	330 UJ	340 UJ	340 UJ	420 UJ	390 U	340 UJ	58 J	370 UJ	340 UJ	340 UJ	340 UJ	340 UJ	350 UJ	350 U
Fluoranthene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Fluorene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Hexachlorobutadiene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Indeno(1,2,3-cd)pyrene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Isophorone	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Naphthalene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Pentachlorophenol	850 UJ	820 UJ	800 UJ	820 U	810 UJ	820 UJ	830 UJ	1000 UJ	960 UJ	830 U	820 U	900 U	810 U	820 U	810 UJ	810 UJ	860 UJ	840 U
Phenanthrene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Phenol	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 U	340 U	340 U	340 U	350 U	350 U
Pyrene	350 U	340 U	330 U	340 U	330 U	340 U	340 U	420 U	390 U	340 U	340 U	370 U	340 UR	340 U	340 U	340 U	350 U	79 J

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0300018				0300020					0300053				
SAMPLE ID	*030S001802*	*030S001804*	*030S001806*	*030S001808*	*030S002002*	*030S002004*	*030S002006*	*030S002008*	*030S002010*	*030S005302*	*030S005304*	*030S005306*	*030S005308*	*030S005310*
SAMPLE DATE	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/12/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*
VOC														
1,1,1-Trichloroethane	10 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U	11 U	10 U	11 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	12 U	10 U	10 U	10 UJ	10 U	11 U	11 U	10 U	11 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U	11 U	10 U	11 UJ	10 UJ	10 UJ
1,1-Dichloroethene	10 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U	11 U	10 U	11 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U	11 U	10 U	11 U	10 U	10 U
1,2-Dichloroethene (total)	10 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U	11 U	10 U	11 U	10 U	10 U
2-Butanone (MEK)	10 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U	11 U	10 U	11 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	12 U	10 U	10 U	10 UJ	10 U	11 U	11 U	10 U	11 U	10 U	10 U
4-Methyl-2-Pentanone (MIBK)	10 U	10 U	10 U	12 U	10 U	10 U	10 UJ	10 U	11 U	11 U	10 U	11 U	10 U	10 U
Acetone	43 U	200 U	230 DU	370 DU	3300 DU	2600 DU	3400 DU	280 DU	2500 DU	400 D	41 U	56 U	63	41 U
Benzene	10 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U	11 U	10 U	11 U	10 U	10 U
Bromoform	10 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U	11 U	10 U	11 U	10 U	10 U
Carbon disulfide	10 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U	11 U	10 U	11 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U	11 U	10 U	11 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	12 U	10 U	10 U	10 UJ	10 U	11 U	11 U	10 U	11 U	10 U	10 U
Chloroform	10 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U	11 U	10 U	11 U	10 U	10 U
Chloromethane	10 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U	11 UJ	10 UJ	11 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	12 U	10 U	10 U	10 UJ	10 U	11 U	11 U	10 U	11 U	10 U	10 U
Methylene chloride	27 U	32 U	37 U	52 U	32 U	29 U	32 U	23 U	27 U	31	25	11 U	10 U	22
Styrene	10 U	10 U	10 U	12 U	10 U	10 U	10 UJ	10 U	11 U	11 U	10 U	11 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	12 U	10 U	10 U	10 UJ	10 U	11 U	11 U	10 U	11 U	10 U	10 U
Toluene	10 JU	10 U	10 U	12 U	10 U	10 U	10 UJ	10 U	11 U	11 U	10 U	11 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U	11 U	10 U	11 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	12 U	10 U	10 U	10 U	10 U	11 U	11 U	10 U	11 U	10 U	10 U
Xylene (Total)	10 U	10 U	10 U	12 U	10 U	10 U	10 UJ	10 U	11 U	11 U	10 U	11 U	10 U	10 U
TOC														
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC														
1,2,4-Trichlorobenzene	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
1,4-Dichlorobenzene	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
2,4-Dimethylphenol	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
2,6-Dinitrotoluene	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
2-Chloronaphthalene	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
2-Methylnaphthalene	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
2-Methylphenol (o-Cresol)	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
3,3-Dichlorobenzidine	340 UJ	330 UJ	340 UJ	390 UJ	330 U	340 U	340 U	330 UJ	360 UJ	360 U	340 U	370 U	340 U	340 U
4-Methylphenol (p-Cresol)	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
4-Nitrophenol	680 UJ	800 U	190 UJ	950 U	810 UJ	820 J	830 UJ	810 U	860 U	860 U	810 U	890 U	810 U	830 U
Acenaphthene	340 U	330 U	340 U	390 U	330 U	42 J	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
Acenaphthylene	340 U	330 U	340 U	390 U	330 U	63 UJ	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
Anthracene	340 U	330 U	340 U	390 U	41 J	110 J	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
Benzo(a)anthracene	340 U	330 U	340 U	390 U	230 J	370	51 J	79 J	360 U	360 U	340 U	370 U	340 U	340 U
Benzo(a)pyrene	340 U	330 U	340 U	390 U	220 J	350	53 J	81 J	360 U	360 U	340 U	370 U	340 U	340 U
Benzo(b)fluoranthene	340 U	330 U	340 U	390 U	260 J	400	74 J	91 J	360 U	360 U	340 U	370 U	340 U	340 U
Benzo(g,h,i)perylene	340 U	330 U	340 U	390 U	170 J	360	340 U	55 J	360 U	360 U	340 U	370 U	340 U	340 U
Benzo(k)fluoranthene	340 U	330 U	340 U	390 U	220 J	360	54 J	110 J	360 U	360 U	340 U	370 U	340 U	340 U
bis(2-Ethylhexyl)phthalate (BEHP)	570 U	330 U	340 U	390 U	330 U	430 U	340 U	330 U	650 U	360 U	340 U	370 U	340 U	340 U
Butylbenzylphthalate	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
Carbazole	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
Chrysene	340 U	330 U	340 U	390 U	240 J	360	58 J	100 J	360 U	360 U	340 U	370 U	340 U	340 U
Dibenz(a,h)anthracene	340 U	330 U	340 U	390 U	70 J	120 J	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
Dibenzofuran	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
Diethylphthalate	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
Dimethylphthalate	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
Di-n-butylphthalate	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
Di-n-octylphthalate	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
Fluoranthene	340 U	330 U	340 U	390 U	410	600	100 J	200 J	360 U	360 U	340 U	370 U	340 U	340 U
Fluorene	340 U	330 U	340 U	390 U	330 U	36 J	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
Hexachlorobutadiene	340 UJ	330 UJ	340 UJ	390 UJ	330 U	340 U	340 U	330 UJ	360 UJ	360 U	340 U	370 U	340 U	340 U
Indeno(1,2,3-cd)pyrene	340 U	330 U	340 U	390 U	160 J	260 J	42 J	57 J	360 U	360 U	340 U	370 U	340 U	340 U
Isophorone	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
Naphthalene	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
Pentachlorophenol	810 U	800 U	820 U	950 U	810 U	820 U	830 U	810 U	860 U	860 U	810 U	890 U	810 U	830 U
Phenanthrene	340 U	330 U	340 U	390 U	220 J	410	57 J	110 J	360 U	360 U	340 U	370 U	340 U	340 U
Phenol	340 U	330 U	340 U	390 U	330 U	340 U	340 U	330 U	360 U	360 U	340 U	370 U	340 U	340 U
Pyrene	340 U	330 U	340 U	390 U	370	580	91 J	170 J	360 U	360 U	340 U	370 U	340 U	340 U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0300059								0300061								0300101	
SAMPLE ID	*030S005902*	*030S005904*	*030S005906*	*030S005908*	*030S005910*	*030S005912*	*030S005914*	*030S005916*	*030S006102*	*030S006104*	*030S006106*	*030S006108*	*030S006110*	*030S006112*	*030S006114*	*030S006116*	*030S010101*	*030S010104*
SAMPLE DATE	*11/16/1993*	*11/16/1993*	*11/16/1993*	*11/16/1993*	*11/16/1993*	*11/16/1993*	*11/16/1993*	*11/16/1993*	*11/17/1993*	*11/17/1993*	*11/17/1993*	*11/17/1993*	*11/17/1993*	*11/17/1993*	*11/17/1993*	*11/17/1993*	*9/1/1993*	*9/1/1993*
VOC																		
1,1,1-Trichloroethane	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
1,1,2,2-Tetrachloroethane	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
1,1-Dichloroethane	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
1,1-Dichloroethene	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
1,2-Dichloroethane	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
1,2-Dichloroethene (total)	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
2-Butanone (MEK)	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
2-Hexanone	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
4-Methyl-2-Pentanone (MIBK)	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
Acetone	11 U	57 U	820D	34	59 U	31 U	35 U	61 U	450 U	94 U	11 U	56 U	18 U	11 U	24 U	60 U	10U	10U
Benzene	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
Bromoform	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
Carbon disulfide	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
Carbon tetrachloride	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
Chlorobenzene	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
Chloroform	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
Chloromethane	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
Ethylbenzene	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
Methylene chloride	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	11U	10U
Styrene	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
Tetrachloroethene	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	3 J	10 U	10U	10U
Toluene	11 U	11 U	2 J	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	2J	2J
Trichloroethene	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
Vinyl chloride	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
Xylene (Total)	11 U	11 U	11 U	11 U	11 U	11 U	10 U	10 U	11 U	11 U	11 U	11 U	10 U	11 U	10 U	10 U	10U	10U
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
1,4-Dichlorobenzene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
2,4-Dimethylphenol	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
2,6-Dinitrotoluene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
2-Chloronaphthalene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
2-Methylnaphthalene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
2-Methylphenol (o-Cresol)	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
3,3-Dichlorobenzidine	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 UJ	350 UJ	340 UJ	340 UJ	340 UJ	340 UJ	330U	3400U
4-Methylphenol (p-Cresol)	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
4-Nitrophenol	870 U	840 U	840 U	840 U	840 U	840 U	830 U	830 UJ	840 UJ	1700 J	860 U	850 U	830 U	840 U	830 U	820 U	810UJ	8300U
Acenaphthene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	37 J	350 U	340 U	340 U	340 U	340 U	330U	3400U
Acenaphthylene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	56J	3400U
Anthracene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	52 J	47 J	340 U	340 U	340 U	340 U	330U	3400U
Benzo(a)anthracene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	210 J	55 J	340 U	340 U	340 U	340 U	330U	680J
Benzo(a)pyrene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	180 J	50 J	340 U	340 U	340 U	340 U	50J	680J
Benzo(b)fluoranthene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	270 J	67 J	340 U	340 U	340 U	340 U	53J	670J
Benzo(g,h,i)perylene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	110 J	350 U	340 U	340 U	340 U	340 U	50J	430J
Benzo(k)fluoranthene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	190 J	63 J	340 UJ	340 UJ	340 UJ	340 UJ	56J	600J
bis(2-Ethylhexyl)phthalate (BEHP)	52 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 J	340 U	160 U	340 U	340 U	240J	3400U
Butylbenzylphthalate	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 UJ	350 UJ	340 UJ	340 UJ	340 UJ	340 UJ	330UJ	3400U
Carbazole	360 UJ	350 UJ	340 UJ	340 UJ	340 UJ	350 UJ	340 UJ	340 UJ	340 U	710 U	51 J	350 UJ	340 UJ	340 UJ	340 UJ	340 UJ	330U	3400U
Chrysene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	220 J	70 J	340 U	340 U	340 U	340 U	43J	680J
Dibenz(a,h)anthracene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
Dibenzofuran	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
Diethylphthalate	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
Dimethylphthalate	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
Di-n-butylphthalate	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
Di-n-octylphthalate	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 UJ	350 J	340 UJ	340 UJ	340 UJ	340 UJ	330UJ	3400U
Fluoranthene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	440	120 J	340 U	340 U	340 U	340 U	62J	980J
Fluorene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
Hexachlorobutadiene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
Indeno(1,2,3-cd)pyrene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	110 J	36 J	340 U	340 U	340 U	340 U	46J	450J
Isophorone	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
Naphthalene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
Pentachlorophenol	870 U	840 U	840 U	840 U	840 U	840 U	830 U	830 U	840 U	1700 U	860 U	850 U	830 U	840 U	830 U	820 U	810U	8300U
Phenanthrene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	310 J	51 J	340 U	340 U	340 U	340 U	34J	3400U
Phenol	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	350 U	350 U	340 U	340 U	340 U	340 U	330U	3400U
Pyrene	360 U	350 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	710 U	370	110 J	340 U	340 U	340 U	340 U	59J	780J

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0300102		0300103		0300104			0300105		0300106				0300108		0300109		
SAMPLE ID	*030S010201*	*030S010202*	*030S010301*	*030S010304*	*030S010401*	*030S010403*	*030S010405*	*030S010502*	*030S010504*	*030S010601*	*030S010603*	*030S010605*	*030S010607*	*030S010802*	*030S010804*	*030S010901*	*030S010903*	*030S010905*
SAMPLE DATE	*8/30/1993*	*8/30/1993*	*9/8/1993*	*9/8/1993*	*9/3/1993*	*9/3/1993*	*9/3/1993*	*9/1/1993*	*9/1/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*9/1/1993*	*9/1/1993*	*9/2/1993*	*9/2/1993*	*9/2/1993*
VOC																		
1,1,1-Trichloroethane	11U	10U	11UJ	11UJ	11U	10U	10U	11UJ	11U	10U	10U	12U	13U	10U	10U	11U	10U	10U
1,1,2,2-Tetrachloroethane	11U	10U	11U	11U	11U	10U	10U	11UR	11UJ	10UJ	10U	12UJ	13U	10U	10U	11U	10U	10U
1,1-Dichloroethane	11U	10U	11U	11U	11U	10U	10U	11U	11U	10U	10U	12U	13U	10U	10U	11U	10U	10U
1,1-Dichloroethene	11U	10U	11U	11U	11U	10U	10U	11U	11U	10U	10U	12U	13U	10U	2J	11U	10U	10U
1,2-Dichloroethane	11U	10U	11U	11U	11U	10U	10U	11U	11U	10U	10U	12U	13U	10U	10U	11U	10U	10U
1,2-Dichloroethene (total)	11U	10U	11U	11U	11U	10U	10U	11U	11U	10U	10U	12U	13U	10U	10U	11U	10U	10U
2-Butanone (MEK)	11	10U	11U	11U	11U	10U	10U	11UJ	11U	10U	10U	14	13U	10U	10U	11U	10U	10U
2-Hexanone	11UJ	10U	11UJ	11UJ	11U	10U	10U	11UR	11UJ	10UJ	10UJ	12UJ	13UJ	10U	10U	11U	10U	10U
4-Methyl-2-Pentanone (MIBK)	11UJ	10U	11U	11U	11U	10U	10U	11UR	11UJ	10UJ	10UJ	12UJ	13UJ	10U	10U	11U	10U	10U
Acetone	150J	34U	1000D	11U	72U	74U	81U	40U	1800DU	23U	22UJ	170	80UJ	120	130	320DU	100	32U
Benzene	1J	10U	11U	11U	11U	10U	10U	2J	11U	5J	10U	4J	3J	10U	1J	11U	10U	10U
Bromoform	11U	10U	11U	11U	11U	10U	10U	11UJ	11U	10U	10U	12U	13U	10U	10U	11U	10U	10U
Carbon disulfide	11U	10U	11U	11U	11U	10U	10U	11U	11U	10U	10U	12U	13U	10U	10U	11U	10U	10U
Carbon tetrachloride	11U	10U	11UJ	11UJ	11U	10U	10U	11UJ	11U	10U	10U	12U	2J	10U	10U	11U	10U	2J
Chlorobenzene	11U	10U	11U	11U	11U	10U	10U	11UR	11UJ	10UJ	10U	12UJ	13U	10U	10U	11U	10U	10U
Chloroform	11U	10U	11U	11U	11U	10U	10U	11U	11U	10U	10U	12U	13U	10U	10U	11U	10U	10U
Chloromethane	11U	10U	11U	11U	11U	10U	10U	11U	11U	10U	10U	12U	13U	10U	10U	11U	10U	10U
Ethylbenzene	11U	10U	11U	11U	11U	10U	10U	11UR	11UJ	10UJ	10U	12UJ	13U	10U	10U	11U	10U	10U
Methylene chloride	14UJ	11U	11UJ	12U	11U	10U	10U	24U	11U	42U	10UJ	38U	24UJ	10U	10U	11U	14U	10U
Styrene	11U	10U	11U	11U	11U	10U	10U	11UR	11UJ	10UJ	10U	12UJ	13U	10U	10U	11U	10U	10U
Tetrachloroethene	11U	10U	11U	11U	11U	10U	10U	11UR	11UJ	10UJ	10U	12UJ	1J	10U	10U	11U	10U	10U
Toluene	5J	10U	11U	11U	2J	10U	10U	11UR	11UJ	32J	10U	19J	11J	10U	10U	11U	10U	10U
Trichloroethene	11U	10U	11U	11U	11U	10U	10U	11UJ	11U	10U	10U	12U	13U	10U	1J	11U	10U	10U
Vinyl chloride	11U	10U	11U	11U	11U	10U	10U	11U	11U	10U	10U	12U	13U	10U	10U	11U	10U	10U
Xylene (Total)	2J	10U	11U	11U	11U	10U	10U	11UR	11UJ	2J	10U	3J	2J	10U	10U	11U	1J	1J
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	340U	1700U	370U	360U	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
1,4-Dichlorobenzene	340U	1700U	370U	360U	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
2,4-Dimethylphenol	340U	1700U	370U	360U	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
2,6-Dinitrotoluene	340U	1700U	370U	360U	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
2-Chloronaphthalene	340U	1700U	370U	360U	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
2-Methylnaphthalene	340U	1700U	370U	270J	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
2-Methylphenol (o-Cresol)	340U	1700U	370U	360U	720U	340U	340U	1800UJ	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
3,3-Dichlorobenzidine	340U	1700U	370U	360U	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
4-Methylphenol (p-Cresol)	340U	1700U	370UJ	360UJ	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340UJ	330U	360U	340U	340U
4-Nitrophenol	840U	4100UJ	890UJ	880UJ	1700UJ	820UJ	820UJ	4300U	16000UJ	800U	4100U	30000U	2000U	820U	810U	870UJ	820UJ	830UJ
Acenaphthene	340U	1700U	370U	160J	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Acenaphthylene	47J	240J	370U	190J	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Anthracene	340U	450J	370U	270J	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Benzo(a)anthracene	180J	1700	370U	680	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Benzo(a)pyrene	190J	1900	370U	360U	92J	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Benzo(b)fluoranthene	290J	2000	370U	670	110J	340U	340U	1800U	6800U	330UJ	1700UJ	12000U	840UJ	340U	330U	360U	340U	340U
Benzo(g,h,i)perylene	340U	1300J	370U	360U	140J	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Benzo(k)fluoranthene	230J	1500J	370U	400	110J	340UJ	340UJ	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
bis(2-Ethylhexyl)phthalate (BEHP)	84J	190J	1500U	950U	720U	340U	370U	1800U	6800U	330U	1700U	15000U	1300	340U	330U	360U	340U	340U
Butylbenzylphthalate	340U	1700UJ	370U	360U	720U	340U	340U	1800U	6800U	330UJ	1700UJ	12000U	840UJ	340U	330U	360U	340UJ	340UJ
Carbazole	340U	1700U	370U	39J	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340UJ	330UJ	360U	340U	340U
Chrysene	190J	1600J	370U	360J	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Dibenz(a,h)anthracene	73J	580J	370U	360U	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Dibenzofuran	340U	1700U	370U	180J	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Diethylphthalate	340U	1700U	370U	360U	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Dimethylphthalate	340U	1700U	370U	360U	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Di-n-butylphthalate	340U	1700U	370U	360U	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Di-n-octylphthalate	340U	1700UJ	370U	360U	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360UJ	340UJ	340UJ
Fluoranthene	300J	2600	370U	1100	90J	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Fluorene	340U	1700U	370U	460	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Hexachlorobutadiene	340U	1700U	370U	360U	720U	340U	340U	1800UJ	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Indeno(1,2,3-cd)pyrene	190J	1300J	370U	360U	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Isophorone	340U	1700U	370U	360U	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Naphthalene	340U	1700U	370U	360U	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Pentachlorophenol	840U	4100U	890U	880U	1700U	820U	820U	4300U	16000U	800U	4100U	30000U	2000U	820U	810U	870U	820U	830U
Phenanthrene	160J	830J	370U	1100	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Phenol	340U	1700U	370U	360U	720U	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360U	340U	340U
Pyrene	300J	2300	370U	1100	91J	340U	340U	1800U	6800U	330U	1700U	12000U	840U	340U	330U	360UJ	340U	340U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0300110			0300111		0300112			0300113		0300114				0300115		0300116	
SAMPLE ID	*030S011001*	*030S011003*	*030S011005*	*030S011102*	*030S011104*	*030S011201*	*030S011203*	*030S011205*	*030S011301*	*030S011304*	*030S011401*	*030S011403*	*030S011405*	*030S011407*	*030S011501*	*030S011506*	*030S011601*	*030S011603*
SAMPLE DATE	*9/2/1993*	*9/2/1993*	*9/2/1993*	*9/1/1993*	*9/1/1993*	*9/7/1993*	*9/7/1993*	*9/7/1993*	*9/8/1993*	*9/8/1993*	*9/3/1993*	*9/3/1993*	*9/3/1993*	*9/3/1993*	*9/7/1993*	*9/7/1993*	*9/2/1993*	*9/2/1993*
VOC																		
1,1,1-Trichloroethane	10U	10U	12U	10U	10U	10U	10U	11U	11UJ	11UJ	10U	10U	10U	10U	11U	10U	11U	11U
1,1,2,2-Tetrachloroethane	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
1,1-Dichloroethane	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
1,1-Dichloroethene	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
1,2-Dichloroethane	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
1,2-Dichloroethene (total)	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
2-Butanone (MEK)	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
2-Hexanone	10U	10U	12U	10U	10U	10U	10U	11U	11UJ	11UJ	10U	10U	10U	10U	11U	10U	11U	11U
4-Methyl-2-Pentanone (MIBK)	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
Acetone	19U	110U	71U	990D	170	22UJ	140UJ	120UJ	1400DU	220J	42U	53U	94U	22U	77UJ	140UJ	20U	56U
Benzene	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
Bromoform	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
Carbon disulfide	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
Carbon tetrachloride	10U	10U	12U	1J	10U	10U	10U	11U	11UJ	11UJ	10U	10U	10U	10U	11U	10U	11U	11U
Chlorobenzene	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
Chloroform	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
Chloromethane	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10J	10J	11U	10U	11U	11U
Ethylbenzene	10U	10U	12U	2J	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
Methylene chloride	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
Styrene	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
Tetrachloroethene	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
Toluene	10U	3J	2J	10U	10U	32	10U	11J	11U	11U	10U	10U	10U	10U	11U	10U	8J	4J
Trichloroethene	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
Vinyl chloride	10U	10U	12U	10U	10U	10U	10U	11U	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
Xylene (Total)	10U	10U	12U	5J	10U	2J	10U	1J	11U	11U	10U	10U	10U	10U	11U	10U	11U	11U
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
1,4-Dichlorobenzene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
2,4-Dimethylphenol	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
2,6-Dinitrotoluene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
2-Chloronaphthalene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
2-Methylnaphthalene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
2-Methylphenol (o-Cresol)	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
3,3-Dichlorobenzidine	330U	1400J	1600U	330U	340U	1700UJ	340U	370U	360U	350U	340U	340U	340U	340U	350UJ	340UJ	1400U	1400U
4-Methylphenol (p-Cresol)	330U	680U	790U	330U	340U	1700U	340UJ	370UJ	360UJ	350UJ	340U	340U	340U	340U	350U	340U	700U	710U
4-Nitrophenol	800UJ	1600U	1900U	810U	830U	4000UJ	830UJ	900UJ	880UJ	840UJ	830U	820U	830U	830U	850UJ	830UJ	1700U	1700U
Acenaphthene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Acenaphthylene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Anthracene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Benzo(a)anthracene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Benzo(a)pyrene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	120J	710U
Benzo(b)fluoranthene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	350J	76J
Benzo(g,h,i)perylene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Benzo(k)fluoranthene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340UJ	340UJ	340UJ	340UJ	350U	340U	250J	710U
bis(2-Ethylhexyl)phthalate (BEHP)	330U	910U	2600	330U	410	1700U	340U	370U	1500U	1400U	340U	340U	590U	340U	540U	340U	2600	710J
Butylbenzylphthalate	330UJ	680	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Carbazole	330U	680U	790U	330UJ	340UJ	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Chrysene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	220J	710U
Dibenz(a,h)anthracene	330U	680J	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Dibenzofuran	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Diethylphthalate	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Dimethylphthalate	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Di-n-butylphthalate	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Di-n-octylphthalate	330UJ	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Fluoranthene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Fluorene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Hexachlorobutadiene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Indeno(1,2,3-cd)pyrene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Isophorone	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Naphthalene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Pentachlorophenol	800U	1600U	1900U	810U	830U	4000U	830U	900U	880U	840U	830U	820U	830U	830U	850U	830U	1700U	1700U
Phenanthrene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U
Phenol	330U	680U	790U	330U	340U	1700U	340U	370U	47J	350U	340U	340U	340U	340U	350U	340U	700U	710U
Pyrene	330U	680U	790U	330U	340U	1700U	340U	370U	360U	350U	340U	340U	340U	340U	350U	340U	700U	710U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0300117			0300118	0300120		0300121		0300122		0300123		0300124		0300125			0300126	
SAMPLE ID	*030S011701*	*030S011703*	*030S011704*	*030S011802*	*030S012001*	*030S012006*	*030S012101*	*030S012103*	*030S012201*	*030S012203*	*030S012301*	*030S012304*	*030S012401*	*030S012403*	*030S012501*	*030S012503*	*030S012505*	*030S012602*	*030S012606*
SAMPLE DATE	*9/2/1993*	*9/2/1993*	*9/2/1993*	*9/7/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*9/10/1993*	*9/10/1993*	*9/24/1993*	*9/24/1993*	*9/24/1993*	*9/24/1993*	*6/7/1993*	*9/9/1993*	*9/9/1993*
VOC																			
1,1,1-Trichloroethane	11U	11U	12U	11U	10U	11U	10U	11U	10U	11U	10UJ	10UJ	11UJ	11U	11UJ	10U	10U	1300U	11U
1,1,2,2-Tetrachloroethane	11U	11UJ	12U	11U	10UJ	11U	10UJ	11U	10UJ	11U	10U	10U	11UJ	11U	11UJ	10U	10U	1300U	11U
1,1-Dichloroethane	11U	11U	12U	11U	10U	11U	10U	11U	10U	11U	10U	10U	11U	11U	11U	10U	10U	1300U	11U
1,1-Dichloroethene	11U	11U	12U	11U	10U	11U	10U	11U	10U	11U	10U	10U	11U	11U	11U	10U	10U	1300U	11U
1,2-Dichloroethane	11U	11U	12U	11U	10U	11U	10U	11U	10U	11U	10U	10U	21J	10J	50J	8J	11	1300U	11U
1,2-Dichloroethene (total)	11U	11U	12U	11U	10U	11U	10U	11U	10U	11U	10U	10U	11U	11U	11U	10U	10U	1300UJ	11U
2-Butanone (MEK)	11U	11U	12U	11U	10U	11U	10U	11U	10U	11U	10U	10U	11U	11U	11U	10U	10U	1300UJ	11U
2-Hexanone	11U	11UJ	12U	11U	10UJ	11UJ	10UJ	11U	10UJ	11U	10U	10U	11UJ	11U	11UJ	10U	10U	1300UJ	11U
4-Methyl-2-Pentanone (MIBK)	11U	11UJ	12U	11U	10UJ	11UJ	10UJ	11U	10UJ	11U	10U	10U	11UJ	11U	11UJ	10U	10U	1300U	11U
Acetone	27UJ	130	190U	440J	20UJ	61UJ	18UJ	29	25U	26U	39DU	340D	11U	66U	11U	10U	10U	3000UJ	440DJ
Benzene	11U	1J	12U	11U	2J	3J	2J	11U	2J	2J	10U	10U	11UJ	11U	11UJ	10U	10U	1300U	11U
Bromoform	11U	11U	12U	11U	10U	11U	10U	11U	10U	11U	10U	10U	11UJ	11U	11UJ	10U	10U	1300U	11U
Carbon disulfide	11U	11U	12U	11U	10U	11U	10U	11U	10U	11U	10U	10U	11U	11U	11U	10U	10U	1300U	11U
Carbon tetrachloride	11U	11U	12U	11U	3J	11U	6J	11U	10U	11U	10UJ	10UJ	11UJ	11U	11UJ	10U	10U	1300U	11UJ
Chlorobenzene	11U	11UJ	12U	11U	10UJ	11U	10UJ	11U	10UJ	11U	10U	10U	11UJ	11U	11UJ	10U	10U	1300U	11U
Chloroform	11U	11U	12U	11U	10U	11U	10U	11U	10U	11U	10U	10U	11U	11U	11U	10U	10U	1300U	11U
Chloromethane	11U	11U	12U	11U	10U	11U	10U	11U	10U	11U	10U	10U	11U	11U	11U	10U	10U	1300UJ	11U
Ethylbenzene	11U	11UJ	12U	11U	10UJ	2J	1J	11U	2J	11U	10U	10U	11UJ	11U	11UJ	10U	10U	1300U	11U
Methylene chloride	11U	14U	28U	11U	19UJ	19UJ	16UJ	11U	15U	12U	10U	10U	11U	11U	25U	10U	10U	1300UJ	11U
Styrene	11U	11UJ	12U	11U	10UJ	11U	10UJ	11U	10UJ	11U	10U	10U	11UJ	11U	11UJ	10U	10U	1300U	11U
Tetrachloroethene	11U	11UJ	12U	11U	10UJ	11U	10UJ	11U	10UJ	11U	10U	10U	11UJ	11U	11UJ	10U	10U	1300U	11U
Toluene	1J	20J	4J	16J	13J	12	15J	11U	37J	19	10U	10U	11UJ	11U	15U	10U	10U	1300U	11U
Trichloroethene	11U	11U	12U	11U	10U	11U	10U	11U	10U	11U	10U	10U	11UJ	11U	11UJ	10U	10U	1300U	11U
Vinyl chloride	11U	11U	12U	11U	10U	11U	10U	11U	10U	11U	10U	10U	11U	11U	11U	10U	10U	1300U	11U
Xylene (Total)	11U	11UJ	12U	11U	3J	11U	4J	11U	10UJ	1J	10U	10U	11UJ	11U	11UJ	10U	10U	1300U	11U
TOC																			
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																			
1,2,4-Trichlorobenzene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
1,4-Dichlorobenzene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
2,4-Dimethylphenol	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
2,6-Dinitrotoluene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
2-Chloronaphthalene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
2-Methylnaphthalene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
2-Methylphenol (o-Cresol)	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
3,3-Dichlorobenzidine	1400U	1500U	1600U	340U	680U	370U	340U	350U	330U	350U	340U	340U	3700U	1500U	3700U	1400U	1400U	350U	370U
4-Methylphenol (p-Cresol)	690U	740U	800U	340UJ	680U	370U	340U	350U	330U	350U	340U	340UJ	1900U	740U	1800U	680U	680U	350U	370U
4-Nitrophenol	1700U	1800U	1900U	840UJ	1600U	910U	810U	840U	810U	840U	820U	830U	4500U	1800U	4400U	1700U	1700U	840UJ	900UJ
Acenaphthene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Acenaphthylene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Anthracene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Benzo(a)anthracene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Benzo(a)pyrene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Benzo(b)fluoranthene	690U	740U	800U	340U	680UJ	370UJ	340UJ	350UJ	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Benzo(g,h,i)perylene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Benzo(k)fluoranthene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
bis(2-Ethylhexyl)phthalate (BEHP)	690J	1900	800U	1700J	680U	370U	2000	350U	330U	130J	39J	1700	1900U	740U	1800U	930U	680U	780U	370U
Butylbenzylphthalate	690U	740U	800U	340U	680UJ	370UJ	340UJ	350UJ	330U	350U	340U	340U	1900U	740U	1800U	680U	680UJ	350U	370U
Carbazole	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Chrysene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Dibenz(a,h)anthracene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Dibenzofuran	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Diethylphthalate	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Dimethylphthalate	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Di-n-butylphthalate	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680UJ	350U	370U
Di-n-octylphthalate	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680UJ	350U	370U
Fluoranthene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	370J	680U	680U	350U	370U
Fluorene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Hexachlorobutadiene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Indeno(1,2,3-cd)pyrene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Isophorone	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Naphthalene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Pentachlorophenol	1700U	1800U	1900U	840U	1600U	910U	810U	840U	810U	840U	820U	830U	4500U	1800U	4400U	1700U	1700U	840U	900U
Phenanthrene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	1800U	680U	680U	350U	370U
Phenol	690U	740U	800U	340U	680U	370U	340U	350U	330U	39J	340U	340UJ	1900U	740U	1800U	680U	680U	350U	370U
Pyrene	690U	740U	800U	340U	680U	370U	340U	350U	330U	350U	340U	340U	1900U	740U	250J	680U	680U	350U	370U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0300127			0300128		0300129		0300130	0300134	0300135		0300137			0300138			
SAMPLE ID	*0305012701*	*0305012703*	*0305012705*	*0305012801*	*0305012806*	*0305012901*	*0305012906*	*0305013001*	*0305013401*	*0305013501*	*0305013506*	*0305013701*	*0305013706*	*0305013711*	*0305013801*	*0305013806*	*0305013811*	*0305013815*
SAMPLE DATE	*9/24/1993*	*9/24/1993*	*9/24/1993*	*9/15/1993*	*9/15/1993*	*9/15/1993*	*9/15/1993*	*9/21/1993*	*10/1/1993*	*10/1/1993*	*10/1/1993*	*9/30/1993*	*9/30/1993*	*9/30/1993*	*9/28/1993*	*9/28/1993*	*9/28/1993*	*9/28/1993*
VOC																		
1,1,1-Trichloroethane	2J	1J	10U	10U	11U	11U	12U	14U	13U	10U	11U	11UJ	10U	10U	11U	11U	10U	1300 U
1,1,2,2-Tetrachloroethane	10U	10U	10U	10UR	11U	11UJ	12U	14UJ	13U	10U	11U	11UJ	10U	10U	11U	11U	10U	1300 U
1,1-Dichloroethane	10U	10U	10U	10U	11U	11U	12U	14U	13U	10U	11U	11U	10U	10U	11U	11U	10U	1300 U
1,1-Dichloroethene	10U	10U	10U	10U	11U	11U	12U	14U	13U	10U	11U	11U	10U	10U	11U	11U	10U	1300 U
1,2-Dichloroethane	45	25	10J	10U	11U	11U	12U	9J	13U	10U	11U	96	11	10U	10J	13	10U	1300 U
1,2-Dichloroethene (total)	10U	10U	10U	10U	11U	11U	12U	14U	13U	10U	11U	11U	10U	10U	11U	11U	10U	1300 U
2-Butanone (MEK)	10U	10U	10U	10U	11U	11U	12U	14U	13U	10U	11UJ	11U	10U	10U	11U	11U	10U	190 J
2-Hexanone	10U	10U	10U	10UR	11U	11UJ	12U	14UJ	13U	10U	11U	11UJ	10U	10U	11U	11U	10U	1300 U
4-Methyl-2-Pentanone (MIBK)	10U	10U	10U	10UR	11U	11UJ	12U	14UJ	13UJ	10UJ	11U	11UJ	10U	10U	11U	11U	10U	1300 U
Acetone	10UJ	40	43	10U	220J	11U	140U	110U	150J	50UJ	73U	11U	54U	60U	61U	94U	70U	1300 U
Benzene	10U	10U	10U	10U	11U	11U	12U	14U	13U	10U	11U	11UJ	10U	10U	11U	11U	10U	1300 U
Bromoform	10U	10U	10U	10U	11U	11U	12U	14U	13U	10U	11U	11UJ	10U	10U	11U	11U	10U	1300 U
Carbon disulfide	10U	10U	10U	10U	11U	11U	12U	14U	13U	10U	11U	11U	10U	10U	11U	11U	10U	1300 U
Carbon tetrachloride	10U	10U	10U	10U	11U	11U	12U	14U	13U	10U	11U	11UJ	10U	10U	11U	11U	10U	1300 U
Chlorobenzene	10U	10U	10U	10UR	11U	11UJ	12U	14UJ	13U	10U	11U	11UJ	10U	10U	11U	11U	10U	1300 U
Chloroform	10U	10U	10U	10U	11U	11U	12U	14U	13U	10U	11U	11U	10U	10U	11U	11U	10U	1300 U
Chloromethane	10U	10U	10U	10U	11U	11U	12U	14U	13UJ	10U	11U	11U	10U	10U	11U	11U	10U	1300 U
Ethylbenzene	10U	10U	10U	10UR	11U	11UJ	2J	14UJ	13U	10U	11U	11UJ	10U	10U	11U	11U	10U	1300 U
Methylene chloride	10U	10U	10U	14U	20U	13U	28U	14U	24U	11U	11U	25U	10U	10U	11U	11U	10U	1300 U
Styrene	10U	10U	10U	10UR	11U	11UJ	12U	14UJ	13U	10U	11U	11UJ	10U	10U	11U	11U	10U	1300 U
Tetrachloroethene	10U	10U	10U	10UR	11U	11UJ	12U	14UJ	13U	10U	11U	11UJ	10U	10U	11U	11U	10U	1300 U
Toluene	12	10J	4J	43J	29U	17UJ	12U	14UJ	5J	4J	11U	23J	3J	10U	11U	11U	10U	1300 U
Trichloroethene	10U	10U	10U	10U	11U	11U	12U	14U	13U	10U	11U	11UJ	10U	10U	11U	11U	10U	1300 U
Vinyl chloride	10U	10U	10U	10U	11U	11U	12U	14U	13U	10U	11U	11U	10U	10U	11U	11U	10U	1300 U
Xylene (Total)	1J	10U	10U	10UR	11U	11UJ	12U	14UJ	13U	10U	11U	11UJ	10U	10U	11U	11U	10U	1300 U
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	350 U
1,4-Dichlorobenzene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	350 U
2,4-Dimethylphenol	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	350 U
2,6-Dinitrotoluene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	350 U
2-Chloronaphthalene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	350 U
2-Methylnaphthalene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	57 J
2-Methylphenol (o-Cresol)	340U	340U	340U	1700U	1700U	1800UJ	2000UJ	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	350 U
3,3-Dichlorobenzidine	340U	340UJ	340UJ	1700U	1700U	1800U	2000U	890U	2200UJ	340U	380UJ	3700UJ	1700UJ	1700UJ	350U	350U	340U	350 U
4-Methylphenol (p-Cresol)	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	350 U
4-Nitrophenol	830UJ	830UJ	830UJ	4100U	4200U	4400U	4800U	2200U	5300UJ	810UJ	910UJ	8900UJ	4100UJ	4100UJ	850U	850U	820U	850 U
Acenaphthene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700UJ	1700U	1700U	350U	350U	340U	350 U
Acenaphthylene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	4800	1700U	1700U	350U	350U	340U	350 U
Anthracene	340U	340U	340U	1700U	1700U	1800U	2000U	890UJ	2200U	340U	380U	3300J	1700U	1700U	350U	350U	340U	400
Benzo(a)anthracene	340U	340U	340U	1700U	1700U	1800U	2000U	140J	2200U	340U	380U	2500J	1700U	1700U	350U	350U	340U	350
Benzo(a)pyrene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	5000	1700U	1700U	350U	350U	340U	130 J
Benzo(b)fluoranthene	53J	340U	340U	1700U	1700U	1800UJ	2000UJ	890U	2200U	340U	380U	4600	210J	1700U	350U	350U	340U	140 J
Benzo(g,h,i)perylene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	5400	1700U	1700U	350U	350U	340U	50 J
Benzo(k)fluoranthene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	4200J	1700UJ	1700UJ	350U	350U	340U	230 J
bis(2-Ethylhexyl)phthalate (BEHP)	180J	140J	30J	1700U	1700U	1800U	2000U	890U	2200U	39U	380U	1800J	770J	1700U	20J	78J	87J	230 U
Butylbenzylphthalate	47U	340U	340U	1700U	1700U	1800U	2000U	890UJ	2200U	340UJ	380U	480J	1700U	1700U	350U	350U	340U	350 U
Carbazole	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	350 U
Chrysene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	2300J	1700U	1700U	350U	350U	340U	340 J
Dibenz(a,h)anthracene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	2100J	1700U	1700U	350U	350U	340U	47 J
Dibenzofuran	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	350 U
Diethylphthalate	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	350 U
Dimethylphthalate	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	350 U
Di-n-butylphthalate	340U	340U	340U	1700U	1700U	1800U	2000U	890UJ	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	350 U
Di-n-octylphthalate	340U	340U	340U	1700U	1700U	1800U	2000U	890UJ	2200U	340UJ	380U	3700U	1700U	1700U	350U	350U	340U	350 U
Fluoranthene	44J	340U	340U	1700U	1700U	1800U	2000U	220J	2200U	340U	380U	2300J	1700U	1700U	350U	350U	340U	1300
Fluorene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	130 J
Hexachlorobutadiene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	350 U
Indeno(1,2,3-cd)pyrene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	5600	1700U	1700U	350U	350U	340U	62 J
Isophorone	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340UJ	380U	3700U	1700U	1700U	350U	350U	340U	350 U
Naphthalene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	350 U
Pentachlorophenol	830U	830U	830U	4100U	4200U	4400U	4800U	2200U	5300U	810U	910U	8900U	4100U	4100U	850U	850U	820U	850 U
Phenanthrene	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	1600
Phenol	340U	340U	340U	1700U	1700U	1800U	2000U	890U	2200U	340U	380U	3700U	1700U	1700U	350U	350U	340U	350 U
Pyrene	34J	340U	340U	1700U	1700U	1800U	2000U	190J	2200U	340U	380U	2600J	1700U	1700U	350U	350U	340U	1200

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0300139		0300140			0300141					0300142		0300143			
SAMPLE ID	*030S013901*	*030S013906*	*030S014001*	*030S014006*	*030S014011*	*030S014101*	*030S014106*	*030S014111*	*030S014116*	*030S014121*	*030S014201*	*030S014206*	*030S014301*	*030S014306*	*030S014311*	*030S014316*
SAMPLE DATE	*10/1/1993*	*10/1/1993*	*9/30/1993*	*9/30/1993*	*9/30/1993*	*9/24/1993*	*9/24/1993*	*6/9/1993*	*9/24/1993*	*9/24/1993*	*9/24/1993*	*9/24/1993*	*10/4/1993*	*10/4/1993*	*10/4/1993*	*10/4/1993*
VOC																
1,1,1-Trichloroethane	11 UJ	11 U	10U	10 U	10 U	11 U	10 U	10 U	10 U	11 U	10 U	8 J	11 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	11 UJ	11 U	10UJ	10 U	10 UJ	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 U	10 U
1,1-Dichloroethane	11 U	11 U	10U	10 U	10 U	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 U	10 U
1,1-Dichloroethene	11 U	11 U	10U	10 U	10 U	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 U	10 U
1,2-Dichloroethane	33	11 U	27	10 U	10 U	18	4 J	7 J	5 J	4 J	2 J	8 J	11 U	10 U	10 U	10 U
1,2-Dichloroethene (total)	11 U	11 U	10U	10 U	10 U	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 U	10 U
2-Butanone (MEK)	11 UJ	11 UJ	10U	10 U	10 U	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 U	10 U
2-Hexanone	11 UJ	11 U	10UJ	10 U	10 UJ	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 UJ	10 UJ
4-Methyl-2-Pentanone (MIBK)	11 UJ	11 U	10UJ	10 U	10 UJ	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 UJ	10 UJ
Acetone	11 U	1300 UJD	100J	10 U	42 UJ	40 U	10 U	30 U	27 U	11 U	10 U	52	11 U	51 U	73	48
Benzene	11 UJ	11 U	10U	10 U	10 U	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 U	10 U
Bromoform	11 UJ	11 U	10U	10 U	10 U	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 U	10 U
Carbon disulfide	11 U	11 U	10U	10 U	10 U	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 U	10 U
Carbon tetrachloride	11 UJ	11 U	10U	10 U	10 U	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 U	10 U
Chlorobenzene	11 UJ	11 U	10UJ	10 U	10 UJ	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 U	10 U
Chloroform	11 U	11 U	10U	10 U	10 U	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 U	10 U
Chloromethane	11 U	11 U	10UJ	10 U	10 UJ	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 UJ	10 UJ
Ethylbenzene	11 UJ	11 U	10UJ	10 U	10 UJ	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 U	10 U
Methylene chloride	27 U	13 U	33U	10 U	15 U	11 U	10 U	10 U	10 U	11 U	10 U	10 U	21 U	16 U	10 U	10 U
Styrene	11 UJ	11 U	10UJ	10 U	10 UJ	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 U	10 U
Tetrachloroethene	11 UJ	11 U	10UJ	10 U	10 UJ	11 U	10 U	10 U	10 U	11 U	10 U	3 J	11 U	10 U	10 U	10 U
Toluene	17 J	1 J	11J	10 U	10 UJ	11 U	10 U	1 J	10 U	11 U	10 U	2 J	3 J	10 U	10 U	6 J
Trichloroethene	11 UJ	11 U	10U	10 U	10 U	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 U	10 U
Vinyl chloride	11 U	11 U	10UJ	10 U	10 UJ	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 UJ	10 UJ
Xylene (Total)	11 UJ	11 U	10UJ	10 U	10 UJ	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	10 U	10 U	10 U
TOC																
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																
1,2,4-Trichlorobenzene	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
1,4-Dichlorobenzene	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
2,4-Dimethylphenol	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
2,6-Dinitrotoluene	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	810 U
2-Chloronaphthalene	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
2-Methylnaphthalene	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
2-Methylphenol (o-Cresol)	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
3,3-Dichlorobenzidine	350 U	350 UJ	6700 U	1700 UJ	1700 UJ	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 UJ	340 UJ	1400 U	670 U
4-Methylphenol (p-Cresol)	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
4-Nitrophenol	840 UJ	840 UJ	16000 UJ	4100 UJ	4100 UJ	870 UJ	810 U	810 UJ	820 UJ	850 UJ	800 UJ	820 UJ	4300 UJ	830 UJ	1600 U	810 U
Acenaphthene	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Acenaphthylene	35 J	350 U	9700	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Anthracene	350 U	350 U	7600	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 UJ	330 UJ
Benzo(a)anthracene	94 J	350 U	22000	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Benzo(a)pyrene	87 J	350 U	18000	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Benzo(b)fluoranthene	160 J	350 U	16000	1700 U	1700 U	360 UJ	340 U	340 UJ	340 UJ	350 UJ	330 UJ	340 UJ	1800 U	340 U	680 U	330 U
Benzo(g,h,i)perylene	350 U	350 U	11000	260 J	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Benzo(k)fluoranthene	93 J	36 J	21000	1700 UJ	1700 UJ	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
bis(2-Ethylhexyl)phthalate (BEHP)	270 U	350 U	6700 U	1700 U	1700 U	360 U	360	54 J	190 J	780	1200	930	1800 U	340 U	680 U	330 U
Butylbenzylphthalate	350 UJ	350 U	6700 U	1700 U	1700 U	55 J	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 UJ	330 UJ
Carbazole	350 U	350 U	1200 J	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Chrysene	95 J	350 U	20000	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Dibenz(a,h)anthracene	350 U	350 U	5900 J	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Dibenzofuran	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Diethylphthalate	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	63 J	340 U	1800 U	340 U	680 U	330 U
Dimethylphthalate	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Di-n-butylphthalate	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 UJ	330 UJ
Di-n-octylphthalate	350 UJ	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 UJ	340 UJ	680 UJ	330 UJ
Fluoranthene	160 J	40 J	44000	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Fluorene	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Hexachlorobutadiene	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Indeno(1,2,3-cd)pyrene	350 U	350 U	13000	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Isophorone	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Naphthalene	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Pentachlorophenol	840 U	840 U	16000 U	4100 U	4100 U	870 U	810 U	810 U	820 U	850 U	800 U	820 U	4300 U	830 U	1600 U	810 U
Phenanthrene	52 J	350 U	11000	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Phenol	350 U	350 U	6700 U	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U
Pyrene	130 J	350 U	29000	1700 U	1700 U	360 U	340 U	340 U	340 U	350 U	330 U	340 U	1800 U	340 U	680 U	330 U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0300144					0300145					0300147				0300148			
SAMPLE ID	*030S014401*	*030S014406*	*030S014411*	*030S014416*	*030S014418*	*030S014501*	*030S014506*	*030S014511*	*030S014516*	*030S014521*	*030S014701*	*030S014706*	*030S014711*	*030S014716*	*030S014801*	*030S014806*	*030S014810*	*030S014815*
SAMPLE DATE	*9/24/1993*	*9/24/1993*	*9/24/1993*	*9/24/1993*	*9/24/1993*	*10/7/1993*	*10/4/1993*	*10/7/1993*	*10/4/1993*	*10/7/1993*	*9/27/1993*	*9/27/1993*	*9/27/1993*	*9/27/1993*	*9/21/1993*	*9/21/1993*	*9/21/1993*	*9/21/1993*
VOC																		
1,1,1-Trichloroethane	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
1,1-Dichloroethane	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
1,1-Dichloroethene	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
1,2-Dichloroethane	25	27	6 J	4 J	1300 U	10 U	10 U	10 U	10 U	10 U	23	11 U	11 U	11 U	23	20	3 J	5 J
1,2-Dichloroethene (total)	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
2-Butanone (MEK)	10 U	10 U	10 U	10 U	680 J	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
2-Hexanone	10 U	10 U	10 U	10 U	510 J	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
4-Methyl-2-Pentanone (MIBK)	10 U	10 U	10 U	10 U	900 J	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
Acetone	10 U	10 U	42	10 U	2400 U	39 UJ	10 UJ	10 UJ	10 UJ	10 UJ	56 U	11 U	11 U	39 U	110 U	98 U	77 U	130 U
Benzene	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
Bromoform	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
Carbon disulfide	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
Chlorobenzene	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
Chloroform	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
Chloromethane	10 U	10 U	10 U	10 U	1300 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
Ethylbenzene	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
Methylene chloride	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
Styrene	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	3 J	11 U	11 U	11 U	11 U	12 U	10 U	11 U
Tetrachloroethene	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
Toluene	10 U	2 J	10 U	10 U	1300 U	2 J	2 J	10 U	10 U	10 U	2 J	11 U	11 U	11 U	11 U	12 U	10 U	11 U
Trichloroethene	10 U	10 U	10 U	10 U	1300 U	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
Vinyl chloride	10 U	10 U	10 U	10 U	1300 U	10 UJ	10 U	10 U	10 UJ	10 UJ	11 U	11 U	11 U	11 U	11 U	12 U	10 U	11 U
Xylene (Total)	10 U	10 U	10 U	10 U	180 J	10 U	10 U	10 U	10 U	10 U	11 U	11 U	11 U	11 U	1 J	12 U	10 U	11 U
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	330 U	330 U	340 U	340 U	10000 UJ	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
1,4-Dichlorobenzene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
2,4-Dimethylphenol	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
2,6-Dinitrotoluene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
2-Chloronaphthalene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
2-Methylnaphthalene	330 U	330 U	340 U	340 U	1100 J	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
2-Methylphenol (o-Cresol)	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
3,3-Dichlorobenzidine	330 U	330 U	340 U	340 U	10000 U	330 UJ	340 UJ	340 UJ	340 UJ	340 U	3500 U	1400 U	1400 U	700 U	NS	NS	690 U	690 U
4-Methylphenol (p-Cresol)	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
4-Nitrophenol	800 UJ	810 UJ	810 UJ	820 UJ	26000 UJ	810 UJ	810 UJ	820 UJ	820 UJ	340 UJ	4200 UR	1700 UR	1700 UR	1700 U	NS	NS	1700 U	1700 U
Acenaphthene	330 U	330 U	340 U	340 U	10000 UJ	330 U	340 U	340 U	340 U	820 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Acenaphthylene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Anthracene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 UJ	690 UJ
Benzo(a)anthracene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Benzo(a)pyrene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Benzo(b)fluoranthene	330 UJ	330 UJ	340 UJ	340 UJ	10000 UJ	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Benzo(g,h,i)perylene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Benzo(k)fluoranthene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
bis(2-Ethylhexyl)phthalate (BEHP)	47 J	330 U	43 J	72 J	92000 E	330 U	55 J	340 U	340 U	340 U	1700 U	150 J	71 J	700 U	NS	NS	690 U	760 U
Butylbenzylphthalate	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 UJ	690 UJ	700 UJ	700 U	NS	NS	690 UJ	690 UJ
Carbazole	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Chrysene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Dibenz(a,h)anthracene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Dibenzofuran	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Diethylphthalate	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Dimethylphthalate	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Di-n-butylphthalate	330 U	330 U	340 U	340 U	10000 U	1200	340 U	340 U	340 U	340 U	1700 UJ	690 UJ	700 UJ	700 UJ	NS	NS	690 UJ	690 UJ
Di-n-octylphthalate	330 U	330 U	340 U	340 U	10000 U	330 UJ	340 UJ	340 UJ	340 UJ	340 UJ	1700 UJ	690 UJ	700 UJ	700 U	NS	NS	690 UJ	690 UJ
Fluoranthene	330 U	330 U	340 U	340 U	10000 UJ	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 UJ	690 UJ
Fluorene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Hexachlorobutadiene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Indeno(1,2,3-cd)pyrene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Isophorone	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Naphthalene	330 U	330 U	340 U	340 U	2400 J	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Pentachlorophenol	800 U	810 U	810 U	820 U	26000 U	810 U	810 U	820 U	820 U	820 U	4200 U	1700 U	1700 U	1700 U	NS	NS	1700 U	1700 U
Phenanthrene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Phenol	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U
Pyrene	330 U	330 U	340 U	340 U	10000 U	330 U	340 U	340 U	340 U	340 U	1700 U	690 U	700 U	700 U	NS	NS	690 U	690 U

NOTES:

1 - NS indicates sample was not tested for that analyte.

2 - mg/kg = milligrams per kilogram

3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected

E or J: Estimated

R or UR: Data Rejected

D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0300149				0300150											
SAMPLE ID	*030S014901*	*030S014906*	*030S014911*	*030S014916*	*030S015001*	*030S015002*	*030S015004*	*030S015006*	*030S015008*	*030S015010*	*030S015011*	*030S015012*	*030S015014*	*030S015016*	*030S015018*	*030S015020*
SAMPLE DATE	*9/27/1993*	*9/27/1993*	*9/27/1993*	*9/27/1993*	*9/21/1993*	*8/9/1993*	*8/9/1993*	*8/9/1993*	*8/9/1993*	*8/9/1993*	*9/21/1993*	*8/9/1993*	*8/9/1993*	*9/21/1993*	*8/9/1993*	*8/9/1993*
VOC																
1,1,1-Trichloroethane	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	11 U	10 U	10 U	11 U	16	1300 U	10 U	3 J	11 U	10 U	7 J	10 U	10 U	10 J	10 U	10 U
1,2-Dichloroethene (total)	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Butanone (MEK)	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone (MIBK)	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	11 U	12 U	10 U	14 U	130U	1300 U	1300 UD	52	59	100	90 U	110	69	110 U	530 DJ	32
Benzene	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	11 U	10 U	10 U	11 U	10U	1300 U	10 UJ	10 U	11 UJ	10 UJ	10 U	10 UJ	10 UJ	10 U	10 UJ	10 UJ
Ethylbenzene	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	11 U	10 U	10 U	11 U	10U	1300 U	24 U	21 U	28 U	28 U	10 U	21 U	20 U	10 U	26 U	29 U
Styrene	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	11 U	10 U	10 U	11 U	10U	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylene (Total)	11 U	10 U	10 U	11 U	2J	1300 U	10 U	10 U	11 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
TOC																
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																
1,2,4-Trichlorobenzene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	690 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
1,4-Dichlorobenzene	1700 U	680 UJ	690 U	750 U	1700 U	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
2,4-Dimethylphenol	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
2,6-Dinitrotoluene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
2-Chloronaphthalene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
2-Methylnaphthalene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
2-Methylphenol (o-Cresol)	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
3,3-Dichlorobenzidine	1700 U	680 U	690 U	750 U	1700 U	680 U	680 U	690 U	690 U	690 U	680 U	680 U	670 U	690 U	670 U	680 U
4-Methylphenol (p-Cresol)	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	690 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
4-Nitrophenol	4200 U	1700 U	1700 U	1800 U	4100 U	820 U	830 U	820 U	840 U	830 U	1700 U	820 U	810 U	1700 U	810 U	820 U
Acenaphthene	1700 U	680 UJ	690 U	750 U	1700 U	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Acenaphthylene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Anthracene	1700 U	680 U	690 U	750 U	1700 UJ	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Benzo(a)anthracene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	690 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Benzo(a)pyrene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Benzo(b)fluoranthene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	690 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Benzo(g,h,i)perylene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Benzo(k)fluoranthene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	690 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
bis(2-Ethylhexyl)phthalate (BEHP)	1700 U	680 U	690 U	750 U	1700 U	350	120 J	420	1800	770	1500	630	340 U	690 U	340 U	340 U
Butylbenzylphthalate	1700 U	680 U	690 U	750 U	1700 UJ	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Carbazole	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Chrysene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	690 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Dibenz(a,h)anthracene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	690 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Dibenzofuran	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Diethylphthalate	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	690 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Dimethylphthalate	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	690 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Di-n-butylphthalate	1700 UJ	680 UJ	690 UJ	750 UJ	1700 UJ	340 U	340 U	340 U	350 U	340 U	680 UJ	340 U	340 U	690 UJ	340 U	340 U
Di-n-octylphthalate	1700 U	680 U	690 U	750 U	1700 UJ	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Fluoranthene	1700 U	680 U	690 U	750 U	1700 UJ	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Fluorene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	690 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Hexachlorobutadiene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	690 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Indeno(1,2,3-cd)pyrene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	690 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Isophorone	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Naphthalene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	690 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Pentachlorophenol	4200 U	1700 UJ	1700 U	1800 U	4100 U	820 UJ	830 UJ	1700 U	840 UJ	830 UJ	1700 U	820 UJ	810 UJ	1700 U	810 UJ	820 UJ
Phenanthrene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Phenol	1700 U	680 UJ	690 U	750 U	1700 U	340 U	340 U	340 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U
Pyrene	1700 U	680 U	690 U	750 U	1700 U	340 U	340 U	690 U	350 U	340 U	680 U	340 U	340 U	690 U	340 U	340 U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-5 : Summary of Detections OU 2 Organics

SHORT ID	0300151				0300153				0300154			
SAMPLE ID	*030S015101*	*030S015106*	*030S015111*	*030S015113*	*030S015302*	*030S015306*	*030S015311*	*030S015316*	*030S015402*	*030S015406*	*030S015411*	*030S015416*
SAMPLE DATE	*9/28/1993*	*9/28/1993*	*9/28/1993*	*9/28/1993*	*9/8/1993*	*9/8/1993*	*9/8/1993*	*9/8/1993*	*9/9/1993*	*9/8/1993*	*9/9/1993*	*9/9/1993*
VOC												
1,1,1-Trichloroethane	11 U	10 U	10 U	10 U	11 UJ	10 UJ	10 UJ	11 UJ	1400 UR	11 U	11 U	11 U
1,1,2,2-Tetrachloroethane	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
1,1-Dichloroethane	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
1,1-Dichloroethene	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
1,2-Dichloroethane	19	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
1,2-Dichloroethene (total)	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
2-Butanone (MEK)	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
2-Hexanone	11 U	10 U	10 U	10 U	11 UJ	10 UJ	10 UJ	11 UJ	1400 UR	11 U	11 U	11 U
4-Methyl-2-Pentanone (MIBK)	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
Acetone	11 U	110 U	61 U	170 U	49 UJ	10 UJ	36 UJ	11 UJ	1400 UR	730 D	120 UJ	65 UJ
Benzene	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
Bromoform	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
Carbon disulfide	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
Carbon tetrachloride	11 U	10 U	10 U	10 U	11 UJ	10 UJ	10 UJ	11 UJ	1400 UR	11 UJ	11 UJ	11 UJ
Chlorobenzene	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
Chloroform	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
Chloromethane	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
Ethylbenzene	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
Methylene chloride	14 U	10 U	10 U	10 U	12 U	11 U	11 U	12 U	1400 UR	11 U	11 U	11 U
Styrene	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
Tetrachloroethene	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
Toluene	2 J	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
Trichloroethene	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
Vinyl chloride	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
Xylene (Total)	11 U	10 U	10 U	10 U	11 U	10 U	10 U	11 U	1400 UR	11 U	11 U	11 U
TOC												
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC												
1,2,4-Trichlorobenzene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
1,4-Dichlorobenzene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
2,4-Dimethylphenol	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
2,6-Dinitrotoluene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
2-Chloronaphthalene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
2-Methylnaphthalene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
2-Methylphenol (o-Cresol)	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
3,3-Dichlorobenzidine	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
4-Methylphenol (p-Cresol)	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 UJ	1800 U	360 U	350 U	350 U
4-Nitrophenol	1800 U	820 U	830 U	820 U	850 UJ	820 UJ	820 UJ	840 UJ	4300 UJ	870 UJ	840 UJ	840 UJ
Acenaphthene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Acenaphthylene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Anthracene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Benzo(a)anthracene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Benzo(a)pyrene	80 J	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Benzo(b)fluoranthene	81 J	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Benzo(g,h,i)perylene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Benzo(k)fluoranthene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 UJ	360 UJ	350 UJ	350 UJ
bis(2-Ethylhexyl)phthalate (BEHP)	140 J	180 J	52 J	170 J	950 U	1200 U	750 U	2100	1800 U	360 U	350 U	450 U
Butylbenzylphthalate	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Carbazole	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Chrysene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Dibenz(a,h)anthracene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Dibenzofuran	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Diethylphthalate	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Dimethylphthalate	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Di-n-butylphthalate	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Di-n-octylphthalate	730 U	340 U	340 U	340 U	350 U	340 U	340 U	53 J	1800 U	360 U	350 U	350 U
Fluoranthene	160 J	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Fluorene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Hexachlorobutadiene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Indeno(1,2,3-cd)pyrene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Isophorone	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Naphthalene	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Pentachlorophenol	1800 U	820 U	830 U	820 U	850 U	820 U	820 U	840 U	4300 U	870 U	840 U	840 U
Phenanthrene	80 J	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Phenol	730 U	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U
Pyrene	140 J	340 U	340 U	340 U	350 U	340 U	340 U	340 U	1800 U	360 U	350 U	350 U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID	011I004	011I006		011I015		011LF01	011LF02		011LF03	011LF04	011LF05	011LF06	011LF07	011LF08		011LF09		011LF10	011LF11
SAMPLE ID	*011SI00404*	*011SI00602*	*011SI00606*	*011SI01501*	*011SI01506*	*011SLF0109*	*011SLF0207*	*011SLF0209*	*011SLF0303*	*011SLF0405*	*011SLF0503*	*011SLF0604*	*011SLF0707*	*011SLF0806*	*011SLF0808*	*011SLF0905*	*011SLF0906*	*011SLF1006*	*011SLF1105*
SAMPLE DATE	*9/29/1993*	*9/29/1993*	*9/29/1993*	*10/15/1993*	*10/15/1993*	*8/31/1993*	*9/1/1993*	*9/1/1993*	*9/7/1993*	*9/7/1993*	*9/8/1993*	*9/8/1993*	*9/2/1993*	*9/2/1993*	*9/2/1993*	*9/3/1993*	*9/3/1993*	*9/1/1993*	*9/9/1993*
PESTICIDES																			
4,4-DDD	3.4U	3.3U	3.4U	3.4U	3.4U	3.6U	11J	4.1U	98DJ	54J	4U	4.1UJ	140J	6.7	4.3U	42J	4.1U	4U	3.5U
4,4-DDE	3.4U	3.3U	3.4U	3.4U	13J	3.6U	4.9J	4.1U	42J	22J	4U	4.1UJ	230D	5U	4.3U	48J	4.1U	4U	3.5U
4,4-DDT	3.4U	3.3U	3.4U	3.4U	18J	4.6J	3.6UJ	4.1U	4.6U	5.7U	4U	4.1UJ	2800D	10	4.3U	61J	4.1U	4U	3.5U
Aldrin	1.7U	1.7U	1.8U	1.8U	1.7U	1.9U	1.9UJ	2.1U	4.5J	2.9U	2.1U	2.1UJ	9.1U	2.6U	2.2U	2.3UJ	2.1U	2.1U	1.8U
alpha-BHC	1.7U	1.7U	1.8U	1.8U	1.7UJ	1.9U	1.9UJ	2.1U	2.4U	2.9U	2.1U	2.1UJ	9.1U	2.6U	2.2U	2.3U	2.1U	2.1U	1.8U
alpha-Chlordane	1.7U	1.7U	1.8U	1.8U	1.7U	1.9U	1.9UJ	2.1U	2.4U	3.8J	2.1U	2.1UJ	9.1U	2.6U	2.2U	2.3U	2.1U	2.1U	1.8U
Aroclor-1016	34U	33U	34U	34U	34U	36U	36UJ	41U	46U	57U	40U	41UJ	180U	50U	43U	44U	41U	40U	35U
Aroclor-1242	34U	33U	34U	34U	34U	36U	36UJ	41U	46U	57U	40U	41UJ	180U	50U	43U	44U	41U	40U	35U
Aroclor-1248	34U	33U	34U	34U	34U	48	36UJ	41U	46U	57U	40U	41UJ	180U	50U	43U	44U	41U	40U	35U
Aroclor-1254	34U	33U	34U	34U	34U	36U	36UJ	41U	46U	57U	40U	41UJ	180U	50U	43U	44U	41U	40U	35U
Aroclor-1260	34U	33U	34U	34U	34U	59J	36UJ	41U	210J	190J	40U	41UJ	180U	50U	43U	44U	41U	40U	35U
beta-BHC	1.7U	1.7U	1.8U	1.8U	1.7UJ	1.9U	1.9UJ	2.1U	2.4U	2.9U	2.1U	2.1UJ	9.1U	2.6U	2.2U	2.3U	2.1U	2.1U	1.8U
delta-BHC	1.7U	1.7U	1.8U	1.8U	1.7U	1.9U	1.9UJ	2.1U	2.4U	2.9U	2.1U	2.1UJ	9.1U	2.6U	2.2U	2.3U	2.1U	2.1U	1.8U
Dieldrin	3.4U	3.3U	3.4U	3.4U	3.4U	3.6U	3.6UJ	4.1U	4.6U	5.7U	4U	4.1UJ	18U	5U	4.3U	4.4UJ	4.1U	4U	3.5U
Endosulfan I	1.7U	1.7U	1.8U	1.8U	1.7U	1.9U	1.9UJ	2.1U	2.4U	2.9U	2.1U	2.1UJ	9.1U	2.6U	2.2U	3U	2.1U	2.1U	1.8U
Endosulfan II	3.4U	3.3U	3.4U	3.4U	3.4U	3.6U	3.6UJ	4.1U	4.6U	5.7U	4U	4.1UJ	18U	5U	4.3U	4.4U	4.1U	4U	3.5U
Endosulfan sulfate	3.4U	3.3U	3.4U	3.4U	3.4U	3.6U	3.6UJ	4.1U	4.6U	5.7U	4U	4.1UJ	18U	5U	4.3U	4.4U	4.1U	4U	3.5U
Endrin	3.4U	3.3U	3.4U	3.4U	3.4UJ	3.6U	3.6UJ	4.1U	4.6U	5.7U	4U	4.1UJ	18U	5U	4.3U	4.4UJ	4.1U	4U	3.5U
Endrin aldehyde	3.4U	3.3U	3.4U	3.4U	3.4U	3.6U	3.6UJ	4.1U	4.6U	5.7U	4U	4.1UJ	18U	5U	4.3U	4.4U	4.1U	4U	3.5U
Endrin ketone	3.4U	3.3U	3.4U	3.4U	3.4U	3.6U	3.6UJ	4.1U	4.6U	5.7U	4U	4.1UJ	18U	5U	4.3U	4.4U	4.1U	4U	3.5U
gamma-BHC (Lindane)	1.7U	1.7U	1.8U	1.8U	1.7UJ	1.9U	1.9UJ	2.1U	2.4U	2.9U	2.1U	2.1UJ	9.1U	2.6U	2.2U	2.3UJ	2.1U	2.1U	1.8U
gamma-Chlordane	1.7U	1.7U	1.8U	1.8U	1.7U	1.9U	1.9UJ	2.1U	2.4U	2.9U	2.1U	2.1UJ	9.1U	2.6U	2.2U	2.3U	2.1U	2.1U	1.8U
Heptachlor	1.7U	1.7U	1.8U	1.8U	1.7U	1.9U	1.9UJ	2.1U	2.4U	2.9U	2.1U	2.1UJ	9.1U	2.6U	2.2U	2.3U	2.1U	2.1U	1.8U
Heptachlor epoxide	1.7U	1.7U	1.8U	1.8U	1.7U	1.9U	1.9UJ	2.1U	2.4U	3.8J	2.1U	2.1UJ	9.1U	2.6U	2.2U	2.3U	2.1U	2.1U	1.8U
Methoxychlor	17U	17U	18U	18U	17U	19U	19UJ	21U	24U	29U	21U	21UJ	91U	26U	22U	23U	21U	21U	18U

SHORT ID	011LF12	011LF13	011LF29	011LF30	011RA01	011RA02	011RA03	011RA04	011RA05	011RA06	011RA07	011RA08	011RA09	011RA10	011RA11	011RA12	011RA13
SAMPLE ID	*011SLF1206*	*011SLF1305*	*011SLF2909*	*011SLF3008*	*011SRA0101*	*011SRA0201*	*011SRA0301*	*011SRA0401*	*011SRA0501*	*011SRA0601*	*011SRA0701*	*011SRA0801*	*011SRA0901*	*011SRA1001*	*011SRA1101*	*011SRA1201*	*011SRA1301*
SAMPLE DATE	*9/9/1993*	*9/8/1993*	*9/1/1993*	*9/1/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*9/8/1993*	*9/8/1993*	*9/2/1993*	*9/2/1993*	*9/3/1993*	*9/1/1993*	*9/9/1993*	*9/9/1993*	*9/8/1993*
PESTICIDES																	
4,4-DDD	11J	4U	3.5U	23J	4.5J	3.4U	3.4U	3.3U	10U	30U	35DJ	9.5J	3.6U	3.4U	3.4U	6.6	3.5U
4,4-DDE	3.9UJ	4U	3.5U	18J	15	3.4U	3.4U	3.3U	29J	42J	190DJ	51D	3.6U	3.4U	3.4U	3.5U	14J
4,4-DDT	3.9UJ	4U	3.5U	3.7U	24	3.4U	3.4U	3.3U	10U	100DU	340DJ	70D	3.7	3.4U	3.4U	3.5U	20J
Aldrin	2UJ	2.1U	1.8U	1.9U	1.7U	1.7U	1.7U	1.7U	2U	1.9U	1.9U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
alpha-BHC	2UJ	2.1U	1.8U	3.7J	1.7U	1.7U	1.7U	1.7U	2U	1.9U	1.9U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
alpha-Chlordane	2UJ	2.1U	1.8U	1.9U	4.6	1.7U	1.7U	1.7U	3.8	1.9U	1.9U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
Aroclor-1016	39UJ	40U	35U	37U	34U	34U	34U	33U	40U	37U	36U	35U	36U	34U	34U	35U	35U
Aroclor-1242	39UJ	40U	35U	37U	34U	34U	34U	33U	40U	37U	36U	35U	36U	34U	34U	35U	35U
Aroclor-1248	39UJ	40U	35U	37U	34U	34U	34U	33U	40U	37U	36U	35U	36U	34U	34U	35U	35U
Aroclor-1254	45J	40U	35U	37U	34U	34U	34U	33U	40U	37U	36U	35U	36U	34U	34U	35U	35U
Aroclor-1260	39UJ	43	35U	37U	34U	34U	48	33U	350	1400D	36U	230	36U	34U	34U	35U	99J
beta-BHC	2UJ	2.1U	1.8U	1.9U	1.7U	1.7U	1.7U	1.7U	2U	1.9U	1.9U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
delta-BHC	2UJ	2.1U	1.8U	1.9U	1.7U	1.7U	1.7U	1.7U	2U	1.9U	1.9U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
Dieldrin	3.9UJ	4U	3.5U	26J	3.4U	3.4U	3.4U	3.3U	22	3.7U	3.6U	3.5U	3.6U	3.4U	3.4U	3.5U	3.5U
Endosulfan I	2UJ	2.1U	1.8U	1.9U	1.7U	1.7U	1.7U	1.7U	2U	1.9U	3DU	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
Endosulfan II	3.9UJ	4U	3.5U	3.7U	3.4U	3.4U	3.4U	3.3U	4U	3.7U	8DJ	3.5U	3.6U	3.4U	3.4U	3.5U	3.5U
Endosulfan sulfate	3.9UJ	4U	3.5U	3.7U	3.4U	3.4U	3.4U	3.3U	4U	3.7U	3.6U	4.4J	3.6U	3.4U	3.4U	3.5U	3.5U
Endrin	3.9UJ	4U	3.5U	22J	3.4U	3.4U	3.4U	3.3U	4U	3.7U	4.3J	3.5U	3.6U	3.4U	3.4U	3.5U	3.5U
Endrin aldehyde	3.9UJ	4U	3.5U	3.7U	3.4U	3.4U	3.4U	3.3U	4U	3.7U	3.6U	3.5U	3.6U	3.4U	3.4U	5U	3.5U
Endrin ketone	3.9UJ	4U	3.5U	3.7U	3.4U	3.4U	3.4U	3.3U	4U	3.7U	3.6U	3.5U	3.6U	3.4U	3.4U	3.5U	3.5U
gamma-BHC (Lindane)	2UJ	2.1U	1.8U	6.6J	1.7U	1.7U	1.7U	1.7U	2U	1.9U	1.9U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
gamma-Chlordane	2UJ	2.1U	1.8U	1.9U	4.4	1.7U	1.7U	1.7U	4.2J	1.9U	1.9U	1.8U	1.8U	1.7U	1.7U	1.8U	2J
Heptachlor	2UJ	2.1U	1.8U	3.6J	1.7U	1.7U	1.7U	1.7U	2U	1.9U	1.9U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
Heptachlor epoxide	2UJ	2.1U	1.8U	1.9U	1.7U	1.7U	1.7U	1.7U	2U	1.9U	1.9U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
Methoxychlor	20UJ	21U	18U	19U	17U	17U	17U	17U	20U	19U	19U	18U	18U	17U	17U	18U	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID	011S001			011S003			011S007	011S011		011S013	0120002				0120003			
SAMPLE ID	*011SS00101*	*011SS00104*	*011SS00106*	*011SS00301*	*011SS00304*	*011SS00306*	*011SS00703*	*011SS01101*	*011SS01106*	*011SS01301*	*012S000201*	*012S000205*	*012S000210*	*012S000215*	*012S000301*	*012S000305*	*012S000310*	*012S000315*
SAMPLE DATE	*9/13/1993*	*9/15/1993*	*9/15/1993*	*9/13/1993*	*9/16/1993*	*9/16/1993*	*9/21/1993*	*9/16/1993*	*9/16/1993*	*9/20/1993*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*
PESTICIDES																		
4,4-DDD	3.4U	3.4U	3.5U	3.5U	3.4U	3.6U	3.8U	3.6U	5.2U	3.7U	3.5U	3.4U	3.4U	3.7U	3.5U	3.4U	3.4U	3.5U
4,4-DDE	16	3.4U	3.5U	3.5U	3.4U	3.6U	3.8U	4.7	5.2U	3.7U	9	3.8	1.2J	0.16J	38	2.4J	3.4U	3.7
4,4-DDT	16U	3.4U	3.5U	4.5J	3.4U	3.6U	3.8U	8.6	5.2U	3.7U	25	9.6	3.5	0.74J	55	2.7J	0.16J	4
Aldrin	1.8U	1.8U	1.8U	1.8U	1.7U	1.9U	1.9U	1.9U	2.7U	1.9U	1.8U	1.8U	1.8U	1.9U	1.8U	1.7U	1.7U	1.8U
alpha-BHC	1.8U	1.8U	1.8U	1.8U	1.7U	1.9U	1.9U	1.9U	2.7U	1.9U	1.8U	1.8U	1.8U	1.9U	1.8U	1.7U	1.7U	1.8U
alpha-Chlordane	1.8U	1.8U	1.8U	1.8U	1.7U	1.9U	1.9U	1.9U	2.7U	1.9U	6.2	0.87J	0.3J	1.9U	11	2.6	0.11J	0.71J
Aroclor-1016	34U	34U	35U	35U	34U	36U	38U	36U	52U	37U	35U	34U	34U	37U	35U	34U	34U	35U
Aroclor-1242	34U	34U	35U	35U	34U	36U	38U	36U	52U	37U	35U	34U	34U	37U	35U	34U	34U	35U
Aroclor-1248	34U	34U	35U	35U	34U	36U	38U	36U	52U	37U	35U	34U	34U	37U	35U	34U	34U	35U
Aroclor-1254	220	34U	35U	35U	34U	36U	38U	36U	52U	37U	35U	34U	34U	37U	35U	34U	34U	35U
Aroclor-1260	34U	34U	35U	43	34U	36U	38U	36U	52U	37U	360	110	140	17J	1200	160	13J	120
beta-BHC	1.8U	1.8U	1.8U	1.8U	1.7U	1.9U	1.9U	1.9U	2.7U	1.9U	1.8U	1.8U	1.8U	1.9U	1.8U	1.7U	1.7U	1.8U
delta-BHC	1.8U	1.8U	1.8U	1.8U	1.7U	1.9U	1.9U	1.9U	2.7U	1.9U	1.8U	1.8U	1.8U	1.9U	1.8U	1.7U	1.7U	1.8U
Dieldrin	6.5	3.4U	3.5U	3.5U	3.4U	3.6U	3.8U	3.6U	5.2U	3.7U	9.6	2.9J	0.98J	0.18J	20	1.5J	3.4U	1.6J
Endosulfan I	1.8U	1.8U	1.8U	1.8U	1.7U	1.9U	1.9U	1.9U	2.7U	1.9U	1.8U	1.8U	1.8U	1.9U	1.8U	1.7U	1.7U	1.8U
Endosulfan II	3.4U	3.4U	3.5U	3.5U	3.4U	3.6U	3.8U	3.6U	5.2U	3.7U	3.5U	3.4U	3.4U	3.7U	3.5U	3.4U	3.4U	3J
Endosulfan sulfate	3.4U	3.4U	3.5U	3.5U	3.4U	3.6U	3.8U	3.6U	5.2U	3.7U	3.5U	3.4U	3.4U	3.7U	0.59J	3.4U	3.4U	3.5U
Endrin	3.4U	3.4U	3.5U	3.5U	3.4U	3.6U	3.8U	3.6U	5.2U	3.7U	3.5U	3.4U	3.4U	3.7U	3.5U	3.4U	3.4U	3.5U
Endrin aldehyde	3.4U	3.4U	3.5U	3.5U	3.4U	3.6U	3.8U	3.6U	5.2U	3.7U	17	4.6	5.3	0.59J	42	6.1	0.48J	4.6
Endrin ketone	3.4U	3.4U	3.5U	3.5U	3.4U	3.6U	3.8U	3.6U	5.2U	3.7U	3.5U	3.4U	3.4U	3.7U	3.5U	3.4U	3.4U	3.5U
gamma-BHC (Lindane)	1.8U	1.8U	1.8U	1.8U	1.7U	1.9U	1.9U	1.9U	2.7U	1.9U	1.8U	1.8U	1.8U	1.9U	1.8U	1.7U	1.7U	1.8U
gamma-Chlordane	1.8U	1.8U	1.8U	1.8U	1.7U	1.9U	1.9U	1.9U	2.7U	1.9U	11	1.2J	0.36J	0.086J	15	2.6	0.098J	0.99J
Heptachlor	1.8U	1.8U	1.8U	1.8U	1.7U	1.9U	1.9U	1.9U	2.7U	1.9U	1.8U	1.8U	1.8U	1.9U	1.8U	1.7U	1.7U	1.8U
Heptachlor epoxide	1.8J	1.8U	1.8U	1.8U	1.7U	1.9U	1.9U	1.9U	2.7U	1.9U	1.8U	1.8U	1.8U	1.9U	1.8U	1.7U	1.7U	1.8U
Methoxychlor	18U	18U	18U	18U	17U	19U	19U	19U	27U	19U	18U	18U	18U	19U	18U	17U	17U	18U

SHORT ID	0120004				0120005				0120006				0120007			
SAMPLE ID	*012S000401*	*012S000405*	*012S000410*	*012S000415*	*012S000501*	*012S000505*	*012S000510*	*012S000515*	*012S000601*	*012S000605*	*012S000610*	*012S000615*	*012S000701*	*012S000705*	*012S000710*	*012S000715*
SAMPLE DATE	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/19/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/18/1995*	*4/18/1995*	*4/18/1995*	*4/18/1995*
PESTICIDES																
4,4-DDD	3.5U	3.4U	3.6U	3.7U	3.4U	3.4U	3.6U	3.7U	67U	3.3U	3.4U	3.5U	25J	3.3J	3.4U	3.6U
4,4-DDE	20	3.2J	1.3J	2.8J	7.2J	0.49J	0.25J	3.7U	28J	1.1J	3.4	1.1J	120J	11J	0.73J	0.92J
4,4-DDT	18	5	2.4J	6.7	3.4U	0.29J	0.66J	3.7U	57J	3.3U	5.7J	0.38J	180U	18U	3.4U	4
Aldrin	1.8U	1.8U	1.9U	1.9U	1.8U	1.7U	1.8U	1.9U	35U	1.7U	1.7U	1.8U	90U	9U	1.8U	1.9U
alpha-BHC	1.8U	1.8U	1.9U	1.9U	1.8U	1.7U	1.8U	1.9U	35U	0.084J	1.7U	1.8U	90U	9U	1.8U	1.9U
alpha-Chlordane	60J	17	3.4	5.7	4.8J	0.26J	0.16J	1.9U	140J	5.1J	16J	4.9J	90U	9U	1.8U	1.9U
Aroclor-1016	35U	34U	36U	37U	34U	34U	36U	37U	670U	33U	34U	35U	1800U	180U	34U	36U
Aroclor-1242	35U	34U	36U	37U	34U	34U	36U	37U	670U	33U	34U	35U	1800U	180U	34U	36U
Aroclor-1248	35U	34U	36U	37U	34U	34U	36U	37U	670U	33U	34U	35U	1800U	180U	34U	36U
Aroclor-1254	35U	34U	36U	37U	34U	34U	36U	37U	670U	33U	34U	35U	1800U	180U	34U	36U
Aroclor-1260	4100	770	150	280	410J	31J	16J	3.7J	960	49	140	46	15000	1100	87	120
beta-BHC	1.8U	1.8U	1.9U	1.9U	1.8U	1.7U	1.8U	1.9U	35U	1.7U	1.7U	1.8U	90U	9U	1.8U	1.9U
delta-BHC	1.8U	1.8U	1.9U	1.9U	1.8U	1.7U	1.8U	1.9U	35U	1.7U	1.7U	1.8U	90U	9U	1.8U	1.9U
Dieldrin	4.6	1J	3.6U	0.22J	2.1J	0.14J	0.072J	3.7U	5.4J	0.1J	0.34J	0.15J	18J	1.1J	0.27J	0.11J
Endosulfan I	1.8U	1.8U	1.9U	1.9U	1.8U	1.7U	1.8U	1.9U	35U	1.7U	1.7U	1.8U	90U	9U	1.8U	1.9U
Endosulfan II	3.5U	3.4U	3.6U	3.7U	3.4U	3.4U	3.6U	3.7U	67U	3.3U	3.4U	3.5U	180U	18U	3.4U	3.6U
Endosulfan sulfate	3.5U	3.4U	3.6U	3.7U	2.1J	3.4U	3.6U	3.7U	67U	3.3U	0.19J	3.5U	180U	1.4J	3.4U	0.21J
Endrin	3.5U	3.4U	3.6U	3.7U	3.4U	3.4U	3.6U	3.7U	67U	3.3U	3.4U	3.5U	180U	18U	3.4U	3.6U
Endrin aldehyde	140J	28	5.6	10	3.4U	0.98J	0.51J	3.7U	28J	3.3U	3.4U	3.5U	180U	18U	3.4U	3.6U
Endrin ketone	3.5U	3.4U	3.6U	3.7U	3.4U	3.4U	3.6U	3.7U	67U	3.3U	3.4U	3.5U	180U	18U	3.4U	3.6U
gamma-BHC (Lindane)	1.8U	1.8U	1.9U	1.9U	1.8U	1.7U	1.8U	1.9U	35U	1.7U	1.7U	1.8U	90U	9U	1.8U	1.9U
gamma-Chlordane	61J	19	3.2	6	6.2J	0.19J	0.17J	1.9U	130J	4.8J	16J	5J	7.3J	0.54J	1.8U	1.9U
Heptachlor	1.3J	0.39J	1.9U	1.9U	1.8U	1.7U	1.8U	1.9U	12J	0.54J	2.3	0.59J	90U	9U	1.8U	1.9U
Heptachlor epoxide	1.8U	1.8U	1.9U	1.9U	1.8U	1.7U	1.8U	1.9U	1.8J	1.7U	0.13J	1.8U	90U	9U	1.8U	1.9U
Methoxychlor	5.2J	18U	19U	19U	18U	17U	18U	19U	350U	17U	17U	18U	900U	90U	18U	19U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID	0120008				0120009			0120010				0120011			0120012			
SAMPLE ID	*0125000801*	*0125000805*	*0125000810*	*0125000814*	*0125000901*	*0125000905*	*0125000910*	*0125001001*	*0125001005*	*0125001010*	*0125001012*	*0125001101*	*0125001105*	*0125001110*	*0125001201*	*0125001205*	*0125001210*	*0125001212*
SAMPLE DATE	*12/9/1992*	*12/9/1992*	*4/25/1995*	*12/9/1992*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*12/11/1992*	*4/25/1995*	*12/11/1992*	*4/25/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*	*4/20/1995*
PESTICIDES																		
4,4-DDD	17U	6.8U	3.4U	240CPE	17U	3.4U	3.4U	3.5U	3.5U	3.5U	3.4U	33	3.4U	3.5U	3.5U	3.4U	4U	3.4U
4,4-DDE	17U	6.8U	3.4U	22	17J	4.2	0.21J	5.9P	0.69J	3.5U	3.4U	35	5.5	0.95J	4.7	3.4U	4U	3.4U
4,4-DDT	17U	6.8U	3.4U	3.4U	17U	4.9J	0.26J	3.5U	3.5U	3.5U	3.4U	2.5J	0.36J	0.095J	0.31J	3.4U	4U	3.4U
Aldrin	8.8U	3.5U	1.7U	1.7U	9U	0.071J	1.8U	0.13JP	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.7U	2.1U	1.7U
alpha-BHC	8.8U	3.5U	1.7U	1.7U	9U	0.11J	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.7U	2.1U	1.7U
alpha-Chlordane	8.8U	3.5U	1.7U	1.7U	7.8J	0.93J	0.098J	1.8U	1.8U	1.8U	1.8U	1.9U	0.13J	1.8U	0.11J	1.7U	2.1U	1.7U
Aroclor-1016	170U	68U	34U	34U	170U	34U	34U	35U	35U	35U	34U	37U	34U	35U	35U	34U	40U	34U
Aroclor-1242	170U	68U	34U	34U	170U	34U	34U	35U	35U	35U	34U	37U	34U	35U	35U	34U	40U	34U
Aroclor-1248	170U	68U	34U	34U	170U	34U	34U	35U	35U	35U	34U	37U	34U	35U	35U	34U	40U	34U
Aroclor-1254	170U	68U	34U	34U	170U	34U	34U	35U	35U	35U	34U	37U	34U	35U	35U	34U	40U	34U
Aroclor-1260	12000	6800	12000	260	3900	430	59	390Y	140J	8.7JP	34U	38J	17J	3.8J	26J	34U	40U	9.3J
beta-BHC	8.8U	3.5U	1.7U	1.7U	9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.7U	2.1U	1.7U
delta-BHC	8.8U	3.5U	1.7U	1.7U	9U	1.7U	1.8U	0.14JP	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.7U	2.1U	1.7U
Dieldrin	17U	6.8U	3.4U	3.4U	17U	3.3J	0.18J	3.5U	0.46J	3.5U	3.4U	3.7U	3.4U	3.5U	0.24J	3.4U	4U	3.4U
Endosulfan I	8.8U	3.5U	1.7U	1.7U	9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.7U	2.1U	1.7U
Endosulfan II	17U	6.8U	3.4U	3.4U	17U	3.4U	3.4U	3.5U	3.5U	3.5U	0.28J	3.7U	3.4U	3.5U	3.5U	3.4U	4U	3.4U
Endosulfan sulfate	17U	6.8U	3.4U	3.4U	17U	0.24J	3.4U	3.5U	3.5U	3.5U	3.4U	3.7U	3.4U	3.5U	0.98J	3.4U	4U	3.4U
Endrin	17U	6.8U	3.4U	3.4U	17U	3.4U	3.4U	3.5U	3.5U	3.5U	3.4U	3.7U	3.4U	3.5U	3.5U	3.4U	4U	3.4U
Endrin aldehyde	17U	6.8U	3.4U	3.4U	17U	22J	2.5J	20P	3.5U	3.5U	0.42J	4.4	0.4J	0.19J	0.71J	3.4U	0.31J	0.31J
Endrin ketone	17U	6.8U	3.4U	3.4U	17U	3.4U	3.4U	3.5U	3.5U	3.5U	3.4U	3.7U	3.4U	3.5U	3.5U	3.4U	4U	3.4U
gamma-BHC (Lindane)	8.8U	3.5U	1.7U	1.7U	9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.7U	2.1U	1.7U
gamma-Chlordane	8.8U	3.5U	1.7U	1.7U	12J	0.94J	0.12J	2.1P	1.8U	1.8U	1.8U	0.096J	1.8U	1.8U	1.8U	1.7U	2.1U	1.7U
Heptachlor	8.8U	0.61J	1.7U	1.7U	9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.7U	2.1U	1.7U
Heptachlor epoxide	8.8U	3.5U	1.7U	1.7U	9U	0.075J	1.8U	1.8U	0.083J	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.7U	2.1U	1.7U
Methoxychlor	88U	35U	17U	17U	90U	0.52J	18U	70P	18U	18U	18U	19U	18U	18U	1.3J	17U	21U	17U

SHORT ID	0120013				0120014				0120015				0120016				0250001		
SAMPLE ID	*0125001301*	*0125001305*	*0125001310*	*0125001312*	*0125001401*	*0125001405*	*0125001410*	*0125001412*	*0125001501*	*0125001505*	*0125001510*	*0125001512*	*0125001601*	*0125001605*	*0125001610*	*0125001612*	*025S000100*	*025S000101*	*025S000108*
SAMPLE DATE	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*6/11/1993*	*6/11/1993*	*6/11/1993*
PESTICIDES																			
4,4-DDD	3.6U	3.5U	3.5U	3.6U	3.6U	3.5U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U	3.5U	3.4U	3.5U	3.4U	3.3U	3.3U	3.4U
4,4-DDE	3.6U	3.5U	3.5U	3.6U	0.53J	3.5U	3.4U	3.4U	3.5U	0.44J	3.5U	3.6U	3.2J	0.16J	3.5U	3.4U	1.2J	1.7J	3.4U
4,4-DDT	3.6U	0.34J	0.48J	3.6U	3.6U	3.5U	3.4U	3.4U	3.5U	0.19J	0.16J	3.6U	1.5J	0.1J	3.5U	3.4U	3.3U	3.3U	3.4U
Aldrin	1.8U	1.8U	0.072J	1.8U	1.9U	0.76J	1.8U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U
alpha-BHC	1.8U	1.8U	1.8U	1.8U	1.9U	0.083J	1.8U	1.7U	1.8U	1.7U	1.8U	1.8U	0.1J	1.8U	1.8U	1.8U	1.7U	1.7U	0.036J
alpha-Chlordane	1.8U	0.64J	1.8U	1.8U	1.9U	3.5U	1.8U	1.7U	1.3J	1.7U	1.8U	1.8U	1.8J	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U
Aroclor-1016	36U	35U	35U	36U	36U	35U	34U	34U	35U	34U	35U	36U	35U	34U	35U	34U	33U	33U	34U
Aroclor-1242	36U	35U	35U	36U	36U	35U	34U	34U	35U	34U	35U	36U	35U	34U	35U	34U	33U	33U	34U
Aroclor-1248	36U	35U	35U	36U	36U	35U	34U	34U	35U	34U	35U	36U	35U	34U	35U	34U	33U	33U	34U
Aroclor-1254	36U	35U	35U	36U	36U	35U	34U	34U	35U	34U	35U	36U	280	34U	35U	34U	33U	33U	34U
Aroclor-1260	1400	34J	8.7J	36U	62	35U	34U	34U	1300	29J	35U	36U	150J	34U	35U	34U	100J	120	34U
beta-BHC	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U
delta-BHC	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	0.077J	1.7U	1.8U
Dieldrin	3.6U	3.5U	0.35J	3.6U	0.56J	0.19J	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U	3.5U	3.4U	0.12J	3.4U	1.7J	1.2J	3.4U
Endosulfan I	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U
Endosulfan II	3.6U	3.5U	3.5U	3.6U	3.6U	3.5U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U	3.5U	3.4U	3.5U	3.4U	3.3U	3.3U	3.4U
Endosulfan sulfate	3.6U	3.5U	3.5U	3.6U	3.6U	3.5U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U	0.8J	3.4U	3.5U	3.4U	3.3U	3.3U	3.4U
Endrin	3.6U	3.5U	3.5U	3.6U	3.6U	1.3J	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U	3.5U	3.4U	3.5U	3.4U	3.3U	3.3U	3.4U
Endrin aldehyde	3.6U	1.1J	0.27J	3.6U	2.9J	3.5U	3.4U	3.4U	3.5U	1.3J	3.5U	3.6U	8J	0.53J	3.5U	3.4U	3.3U	3.3U	3.4U
Endrin ketone	3.6U	3.5U	3.5U	3.6U	3.6U	1.9J	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U	3.5U	3.4U	3.5U	3.4U	3.3U	3.3U	3.4U
gamma-BHC (Lindane)	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U
gamma-Chlordane	1.8U	1.8U	0.13J	1.8U	1.9U	0.23J	1.8U	1.7U	1.3J	1.7U	1.8U	1.8U	0.36J	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U
Heptachlor	1.8U	1.8U	0.14J	1.8U	1.9U	1.8U	1.8U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	0.07J	1.7U	0.068J	0.073J
Heptachlor epoxide	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.7U	0.18J	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	0.32J	1.7U	1.8U
Methoxychlor	18U	18U	18U	18U	3.6U	18U	18U	17U	18U	3.4U	3.5U	18U	4.6U	18U	18U	18U	17U	17U	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID	0250002		0250003								0250004						
SAMPLE ID	*025S000202*	*025S000204*	*025S000301*	*025S000302*	*025S000304*	*025S000306*	*025S000308*	*025S000310*	*025S000312*	*025S000314*	*025S000402*	*025S000404*	*025S000406*	*025S000408*	*025S000410*	*025S000412*	*025S000414*
SAMPLE DATE	*6/14/1993*	*6/14/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*6/29/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*
PESTICIDES																	
4,4-DDD	3.4U	3.4U	3.4U	3.4U	5.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.6U
4,4-DDE	3.4U	3.4U	3.4U	3.4U	5.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.6U
4,4-DDT	3.4U	3.4U	3.4U	3.4U	5.4U	3.4U	3.4U	3.4U	3.4U	3.4U	0.21J	3.5U	3.5U	3.5U	3.4U	3.4U	3.6U
Aldrin	1.7U	1.7U	1.7U	1.8U	2.8U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
alpha-BHC	1.7U	1.7U	1.7U	1.8U	2.8U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
alpha-Chlordane	1.7U	1.7U	1.7U	1.8U	2.8U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
Aroclor-1016	34U	34U	34U	34U	54U	34U	34U	34U	34U	34U	35U	35U	35U	35U	34U	34U	36U
Aroclor-1242	34U	34U	34U	34U	54U	34U	34U	34U	34U	34U	35U	35U	35U	35U	34U	34U	36U
Aroclor-1248	34U	34U	34U	34U	54U	34U	34U	34U	34U	34U	35U	35U	35U	35U	34U	34U	36U
Aroclor-1254	34U	34U	34U	34U	54U	34U	34U	34U	34U	34U	35U	35U	35U	35U	34U	34U	36U
Aroclor-1260	34U	34U	34U	34U	54U	34U	34U	34U	34U	34U	35U	35U	35U	35U	34U	34U	36U
beta-BHC	1.7U	1.7U	1.7U	1.8U	2.8U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
delta-BHC	1.7U	1.7U	1.7U	1.8U	2.8U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
Dieldrin	3.4U	3.4U	3.4U	3.4U	5.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.6U
Endosulfan I	1.7U	1.7U	1.7U	1.8U	2.8U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
Endosulfan II	3.4U	3.4U	3.4U	3.4U	5.4U	3.4U	3.4U	3.4U	3.4U	0.44U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.6U
Endosulfan sulfate	3.4U	3.4U	3.4U	3.4U	5.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.6U
Endrin	3.4U	3.4U	3.4U	3.4U	5.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.6U
Endrin aldehyde	3.4U	3.4U	3.4U	3.4U	5.4U	3.4U	3.4U	3.4U	3.4U	1U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.6U
Endrin ketone	3.4U	3.4U	3.4U	3.4U	5.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.6U
gamma-BHC (Lindane)	1.7U	1.7U	1.7U	1.8U	2.8U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
gamma-Chlordane	1.7U	1.7U	1.7U	1.8U	2.8U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
Heptachlor	1.7U	0.045J	1.7U	1.8U	2.8U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
Heptachlor epoxide	1.7U	1.7U	1.7U	1.8U	2.8U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
Methoxychlor	17U	17U	1.1J	18U	28U	17U	17U	17U	17U	17U	18U	46U	18U	18U	18U	18U	19U

SHORT ID	0250005			0250007			0250008	0250009							
SAMPLE ID	*025S000502*	*025S000504*	*025S000506*	*025S000702*	*025S000704*	*025S000706*	*025S000857*	*025S000900*	*025S000902*	*025S000904*	*025S000906*	*025S000908*	*025S000910*	*025S000912*	*025S000914*
SAMPLE DATE	*7/6/1993*	*7/6/1993*	*7/6/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/20/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*
PESTICIDES															
4,4-DDD	3.5U	3.5U	3.5U	3.4U	1.8J	3.4U	4.4U	0.75J	3.4U	0.34J	3.4U	3.4U	3.4U	3.4U	0.16J
4,4-DDE	1.8J	0.16J	3.5U	0.21J	3.4U	3.4U	4.4U	0.53J	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U
4,4-DDT	0.1J	3.5U	3.5U	3.4U	3.4U	3.4U	4.4U	3.6U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U
Aldrin	1.8U	1.8U	1.8U	0.092J	0.13J	0.06J	2.3U	1.8U	1.8U	0.3J	1.8U	1.8U	1.8U	1.8U	0.063J
alpha-BHC	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	2.3U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
alpha-Chlordane	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	2.3U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Aroclor-1016	35U	35U	35U	34U	34U	34U	44U	36U	34U	34U	34U	34U	34U	34U	35U
Aroclor-1242	35U	35U	35U	34U	34U	34U	44U	36U	34U	34U	34U	34U	34U	34U	35U
Aroclor-1248	35U	35U	35U	34U	34U	34U	44U	36U	34U	34U	34U	34U	34U	34U	35U
Aroclor-1254	35U	35U	35U	34U	34U	34U	44U	36U	34U	34U	34U	34U	34U	34U	35U
Aroclor-1260	1.8J	35U	35U	34U	34U	34U	44U	36U	34U	34U	34U	34U	34U	34U	35U
beta-BHC	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	2.3U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
delta-BHC	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	2.3U	1.8U	1.8U	1.8U	1.8U	1.8U	0.073J	1.8U	0.075J
Dieldrin	0.29J	3.5U	3.5U	3.4U	3.4U	3.4U	4.4U	3.6U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U
Endosulfan I	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	2.3U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Endosulfan II	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	4.4U	3.6U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U
Endosulfan sulfate	0.15J	3.5U	3.5U	3.4U	3.4U	3.4U	4.4U	3.6U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U
Endrin	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	4.4U	3.6U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U
Endrin aldehyde	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	4.4U	3.6U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U
Endrin ketone	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	4.4U	3.6U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U
gamma-BHC (Lindane)	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	2.3U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
gamma-Chlordane	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	2.3U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Heptachlor	0.077J	0.056J	0.064J	1.8U	1.7U	1.8U	2.3U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Heptachlor epoxide	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	2.3U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Methoxychlor	0.27J	0.26J	18U	18U	17U	18U	23U	18U	18U	18U	18U	18U	18U	18U	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID	0250010								0250011				0250012						
SAMPLE ID	*025S001002*	*025S001004*	*025S001006*	*025S001008*	*025S001010*	*025S001012*	*025S001014*	*025S001016*	*025S001101*	*025S001102*	*025S001104*	*025S001106*	*025S001202*	*025S001204*	*025S001206*	*025S001208*	*025S001210*	*025S001212*	*025S001214*
SAMPLE DATE	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/16/1993*	*7/16/1993*	*7/16/1993*	*7/16/1993*	*7/20/1993*	*7/20/1993*	*7/20/1993*	*7/20/1993*	*7/21/1993*	*7/21/1993*	*7/21/1993*
PESTICIDES																			
4,4-DDD	0.15J	3.4U	3.4U	3.4U	3.4U	3.4U	3.3U	3.8U	0.25J	3.5U	3.5U	3.5U	3.6U	3.5U	3.6U	4.3U	3.6U	3.5U	3.5U
4,4-DDE	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.3U	3.8U	3.5U	3.5U	3.5U	3.5U	3.6U	3.5U	3.6U	4.3U	0.087J	3.5U	3.5U
4,4-DDT	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.3U	3.8U	0.22J	3.5U	3.5U	3.5U	3.6U	3.5U	3.6U	4.3U	3.6U	3.5U	3.5U
Aldrin	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	2.2U	1.9U	1.8U	1.8U
alpha-BHC	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	2.2U	1.9U	1.8U	1.8U
alpha-Chlordane	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	2.2U	1.9U	1.8U	1.8U
Aroclor-1016	35U	34U	34U	34U	34U	34U	33U	38U	35U	35U	35U	35U	36U	35U	36U	43U	36U	35U	35U
Aroclor-1242	35U	34U	34U	34U	34U	34U	33U	38U	35U	35U	35U	35U	36U	35U	36U	43U	36U	35U	35U
Aroclor-1248	35U	34U	34U	34U	34U	34U	33U	38U	35U	35U	35U	35U	36U	35U	36U	43U	36U	35U	35U
Aroclor-1254	35U	34U	34U	34U	34U	34U	33U	38U	35U	35U	35U	35U	36U	35U	36U	43U	36U	35U	35U
Aroclor-1260	35U	34U	34U	34U	34U	34U	33U	38U	35U	35U	35U	35U	36U	35U	36U	43U	36U	35U	35U
beta-BHC	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	2.2U	1.9U	1.8U	1.8U
delta-BHC	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	2.2U	1.9U	1.8U	1.8U
Dieldrin	0.094J	3.4U	3.4U	3.4U	3.4U	3.4U	3.3U	3.8U	0.3J	0.14J	3.5U	0.064J	3.6U	3.5U	3.6U	4.3U	3.6U	3.5U	3.5U
Endosulfan I	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	2.2U	1.9U	1.8U	1.8U
Endosulfan II	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.3U	3.8U	3.5U	3.5U	3.5U	3.5U	3.6U	3.5U	3.6U	4.3U	3.6U	3.5U	3.5U
Endosulfan sulfate	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.3U	3.8U	3.5U	3.5U	3.5U	3.5U	3.6U	3.5U	3.6U	4.3U	3.6U	3.5U	3.5U
Endrin	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.3U	3.8U	3.5U	3.5U	3.5U	3.5U	3.6U	3.5U	3.6U	4.3U	3.6U	3.5U	3.5U
Endrin aldehyde	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.3U	3.8U	3.5U	3.5U	3.5U	3.5U	3.6U	3.5U	3.6U	4.3U	3.6U	3.5U	3.5U
Endrin ketone	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.3U	3.8U	3.5U	3.5U	3.5U	3.5U	3.6U	3.5U	3.6U	4.3U	3.6U	3.5U	3.5U
gamma-BHC (Lindane)	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	2.2U	1.9U	1.8U	1.8U
gamma-Chlordane	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	2.2U	1.9U	1.8U	1.8U
Heptachlor	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	2U	1.8U	0.11J	1.8U	1.8U	0.095J	1.8U	1.9U	2.2U	0.047J	1.8U	1.8U
Heptachlor epoxide	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	2.2U	1.9U	1.8U	1.8U
Methoxychlor	18U	17U	18U	17U	17U	17U	17U	20U	18U	18U	18U	18U	18U	18U	19U	22U	19U	18U	18U

SHORT ID	0250013			0250014	0250015	0250016			0250017				0250018	0250019			
SAMPLE ID	*025S001302*	*025S001304*	*025S001306*	*025S001456*	*025S001500*	*025S001600*	*025S001601*	*025S001602*	*025S001700*	*025S001701*	*025S001702*	*025S001704*	*025S001800*	*025S001900*	*025S001901*	*025S001902*	*025S001904*
SAMPLE DATE	*7/22/1993*	*7/22/1993*	*7/22/1993*	*7/22/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*
PESTICIDES																	
4,4-DDD	3.8U	3.4U	3.5U	4.2U	20U	13J	18U	3.4U	1.9J	3.5U	0.23J	3.4U	19U	3.5U	1J	3.6U	3.5U
4,4-DDE	0.16J	3.4U	3.5U	4.2U	20U	76	21J	6.1	4.8U	0.33J	0.64J	3.4U	2.5J	0.48J	0.16J	0.66J	0.64J
4,4-DDT	0.79J	3.4U	3.5U	4.2U	20U	40U	18U	3.4U	4.8U	4.4	3.4U	3.4U	19U	3.5U	1.9J	3.6U	1.4J
Aldrin	1.9U	1.8U	1.8U	2.2U	10U	8.1J	9U	1.8U	1J	1.8U	1.8U	1.8U	9.6U	1.8U	1.7U	1.9U	1.8U
alpha-BHC	1.9U	1.8U	1.8U	2.2U	0.28J	21U	9U	1.8U	0.093J	1.8U	1.8U	1.8U	9.6U	1.8U	1.7U	1.9U	1.8U
alpha-Chlordane	1.9U	1.8U	1.8U	2.2U	2.4J	21U	9U	1.8U	2.5U	1.8U	1.8U	1.8U	9.6U	1.8U	0.29J	1.9U	1.8U
Aroclor-1016	38U	34U	35U	42U	200U	400U	180U	34U	48U	35U	34U	34U	190U	35U	34U	36U	35U
Aroclor-1242	38U	34U	35U	42U	200U	400U	180U	34U	48U	35U	34U	34U	190U	35U	34U	36U	35U
Aroclor-1248	38U	34U	35U	42U	200U	400U	180U	34U	48U	35U	34U	34U	190U	35U	34U	36U	35U
Aroclor-1254	38U	34U	35U	42U	200U	400U	180U	79	910	78	34U	34U	280J	46	34U	59	35U
Aroclor-1260	38U	34U	35U	42U	1100	31000	5700	340	980	360	60	6.2J	780	190	110	530	80
beta-BHC	1.9U	1.8U	1.8U	2.2U	10U	21U	9U	1.8U	2.5U	1.8U	1.8U	1.8U	9.6U	1.8U	1.7U	1.9U	1.8U
delta-BHC	1.9U	1.8U	1.8U	2.2U	3.3J	21U	9U	1.8U	2.5U	1.8U	1.8U	1.8U	7.2J	1.8U	1.7U	1.9U	1.8U
Dieldrin	3.8U	3.4U	3.5U	4.2U	20U	71	54J	27	4.5J	4.3J	0.46J	3.4U	3.8J	13	3.4U	6.8	11
Endosulfan I	1.9U	1.8U	1.8U	2.2U	10U	2.7J	9U	1.8U	2.5U	1.8U	1.8U	1.8U	0.88J	1.8U	1.7U	1.9U	1.8U
Endosulfan II	3.8U	3.4U	3.5U	4.2U	20U	40U	18U	3.4U	4.8U	3.5U	3.4U	3.4U	19U	3.5U	3.4U	3.6U	3.5U
Endosulfan sulfate	3.8U	3.4U	3.5U	4.2U	20U	40U	18U	3.4U	3.8J	0.67J	3.4U	3.4U	19U	3.5U	3.4U	3.6U	3.5U
Endrin	3.8U	3.4U	3.5U	4.2U	20U	40U	18U	3.4U	4.8U	3.5U	3.4U	3.4U	19U	3.5U	3.4U	3.6U	3.5U
Endrin aldehyde	3.8U	3.4U	3.5U	4.2U	20U	1700J	17J	1.9J	4.8U	6.4J	3.4U	3.4U	6.1J	1	3.4U	22	3.5U
Endrin ketone	3.8U	3.4U	3.5U	4.2U	20U	40U	18U	3.4U	4.8U	3.5U	3.4U	3.4U	19U	3.5U	3.4U	3.6U	3.5U
gamma-BHC (Lindane)	1.9U	1.8U	1.8U	2.2U	10U	21U	9U	1.8U	2.5U	1.8U	1.8U	1.8U	9.6U	1.8U	1.7U	1.9U	1.8U
gamma-Chlordane	1.9U	1.8U	1.8U	2.2U	10U	0.92J	9U	1.8U	2.5U	1.8U	0.14J	1.8U	9.6U	0.28U	0.73J	3.5	0.47U
Heptachlor	1.9U	1.8U	1.8U	2.2U	0.58J	21U	9U	1.8U	2.5U	1.8U	1.8U	1.8U	2.1J	1.8U	1.7U	1.9U	1.8U
Heptachlor epoxide	1.9U	1.8U	1.8U	2.2U	0.34J	21U	19J	1.8U	0.94J	0.24J	1.8U	1.8U	9.6U	1.8U	1.7U	1.9U	0.49J
Methoxychlor	19U	8.5J	18U	22U	100U	66J	90U	18U	25U	18U	18U	18U	24J	18U	17U	19U	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID	0270001										0270002								
SAMPLE ID	*027S000100*	*027S000101*	*027S000104*	*027S000106*	*027S000108*	*027S000110*	*027S000112*	*027S000114*	*027S000116*	*027S000118*	*027S000201*	*027S000202*	*027S000204*	*027S000206*	*027S000208*	*027S000210*	*027S000212*	*027S000214*	*027S000216*
SAMPLE DATE	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/3/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*	*6/4/1993*
PESTICIDES																			
4,4-DDD	0.38J	8.8J	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.9U	3.3U	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	4.2U	3.5U
4,4-DDE	5J	18U	3.4U	0.17J	3.4U	3.4U	3.5U	3.4U	3.4U	3.9U	2.9J	0.49J	3.4U	3.4U	3.4U	3.4U	3.4U	4.2U	3.5U
4,4-DDT	8J	43	0.67J	0.85J	3.4U	3.4U	3.5U	3.4U	3.4U	3.9U	6.5J	0.85J	3.4U	3.4U	3.4U	3.4U	3.4U	4.2U	3.5U
Aldrin	0.2J	0.98J	0.063J	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	2.2U	1.8U
alpha-BHC	1.7U	9U	1.7U	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	2.2U	1.8U
alpha-Chlordane	0.3J	21	1.7U	0.37J	1.7U	1.8U	1.8U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	2.2U	1.8U
Aroclor-1016	33U	180U	34U	34U	34U	34U	35U	34U	34U	39U	33U	33U	34U	34U	34U	34U	34U	42U	35U
Aroclor-1242	33U	180U	34U	34U	34U	34U	35U	34U	34U	39U	33U	33U	34U	34U	34U	34U	34U	42U	35U
Aroclor-1248	33U	180U	34U	34U	34U	34U	35U	34U	34U	39U	33U	33U	34U	34U	34U	34U	34U	42U	35U
Aroclor-1254	33U	180U	34U	34U	34U	34U	35U	34U	34U	39U	33U	33U	34U	34U	34U	34U	34U	42U	35U
Aroclor-1260	33U	180U	34U	34U	34U	34U	35U	34U	34U	39U	13J	33U	34U	34U	34U	34U	34U	42U	35U
beta-BHC	1.7U	9U	1.7U	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	2.2U	1.8U
delta-BHC	0.2J	9U	1.7U	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	2.2U	1.8U
Dieldrin	2.7J	800D	0.22J	16J	3.4U	3.4U	3.5U	3.4U	3.4U	3.9U	1.9J	1.4J	3.4U	3.4U	3.4U	3.4U	3.4U	4.2U	3.5U
Endosulfan I	1.7U	9U	1.7U	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	2.2U	1.8U
Endosulfan II	3.3U	18U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.9U	3.3U	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	4.2U	3.5U
Endosulfan sulfate	0.87J	2.2J	0.077J	0.5J	3.4U	3.4U	3.5U	3.4U	3.4U	3.9U	3.3U	0.31U	3.4U	3.4U	3.4U	3.4U	3.4U	4.2U	3.5U
Endrin	3.3U	18U	0.43J	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.9U	3.3U	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	4.2U	3.5U
Endrin aldehyde	0.17J	3.4J	3.4U	0.13J	3.4U	3.4U	3.5U	3.4U	3.4U	3.9U	1.1J	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	4.2U	3.5U
Endrin ketone	3.3U	18U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.9U	3.3U	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	4.2U	3.5U
gamma-BHC (Lindane)	1.7U	9U	1.7U	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	2.2U	1.8U
gamma-Chlordane	1.7U	1.1	1.7U	0.75J	1.7U	1.8U	1.8U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	2.2U	1.8U
Heptachlor	1.7U	9U	1.7U	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	2.2U	1.8U
Heptachlor epoxide	0.12J	0.65J	1.7U	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	2.2U	1.8U
Methoxychlor	17U	90U	17U	17U	17U	18U	18U	17U	18U	20U	17U	17U	17U	17U	18U	17U	17U	22U	18U

SHORT ID	0270003									0270004							
SAMPLE ID	*027S000301*	*027S000302*	*027S000304*	*027S000306*	*027S000308*	*027S000310*	*027S000312*	*027S000314*	*027S000316*	*027S000401*	*027S000402*	*027S000404*	*027S000406*	*027S000408*	*027S000410*	*027S000412*	*027S000414*
SAMPLE DATE	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*	*6/7/1993*
PESTICIDES																	
4,4-DDD	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.3U	11J	3.3U	3.5U	3.5U	3.3U	3.4U	3.4U
4,4-DDE	0.33J	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	2.4J	1.8J	3.3U	3.5U	3.5U	3.3U	3.4U	3.4U
4,4-DDT	0.69J	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4J	12J	3.3U	3.5U	3.5U	3.3U	3.4U	3.4U
Aldrin	1.8U	0.13J	0.47J	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U
alpha-BHC	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U
alpha-Chlordane	0.38J	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	0.31J	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U
Aroclor-1016	35U	34U	34U	34U	34U	34U	35U	34U	34U	33U	33U	33U	35U	35U	33U	34U	34U
Aroclor-1242	35U	34U	34U	34U	34U	34U	35U	34U	34U	33U	33U	33U	35U	35U	33U	34U	34U
Aroclor-1248	35U	34U	34U	34U	34U	34U	35U	34U	34U	33U	33U	33U	35U	35U	33U	34U	34U
Aroclor-1254	35U	34U	34U	34U	34U	34U	35U	34U	34U	33U	33U	33U	35U	35U	33U	34U	34U
Aroclor-1260	2.5J	34U	34U	34U	34U	34U	35U	34U	34U	12J	33U	33U	35U	35U	33U	34U	34U
beta-BHC	1.8U	1.7U	0.21J	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U
delta-BHC	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	0.25J	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U
Dieldrin	0.42J	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	21J	11J	3.3U	3.5U	3.5U	3.3U	3.4U	3.4U
Endosulfan I	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	0.11J	1.7U	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U
Endosulfan II	3.5U	3.4U	3.4U	3.4U	3.4U	0.49J	3.5U	3.4U	0.45J	3.3U	3.3U	3.3U	3.5U	3.5U	3.3U	3.4U	3.4U
Endosulfan sulfate	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.3U	3.3U	3.3U	3.5U	3.5U	3.3U	3.4U	3.4U
Endrin	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.3U	3.3U	3.3U	3.5U	3.5U	3.3U	3.4U	3.4U
Endrin aldehyde	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.3U	3.3U	3.3U	3.5U	3.5U	3.3U	3.4U	3.4U
Endrin ketone	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.3U	1.6J	3.3U	3.5U	3.5U	3.3U	3.4U	3.4U
gamma-BHC (Lindane)	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U
gamma-Chlordane	0.34J	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	0.12J	0.48J	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U
Heptachlor	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	0.24U
Heptachlor epoxide	0.12J	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	0.65J	2.2J	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U
Methoxychlor	18U	17U	18U	18U	18U	18U	18U	17U	18U	17U	17U	17U	18U	18U	17U	17U	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID					0270005									0270006				
SAMPLE ID	*027S000501*	*027S000502*	*027S000504*	*027S000506*	*027S000508*	*027S000510*	*027S000512*	*027S000514*	*027S000516*	*027S000601*	*027S000602*	*027S000604*	*027S000606*	*027S000608*	*027S000610*	*027S000612*	*027S000614*	*027S000616*
SAMPLE DATE	*6/8/1993*	*6/8/1993*	*6/2/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*
PESTICIDES																		
4,4-DDD	3.6U	3.4U	3.3U	3.3U	3.8U	3.4U	3.4U	3.4U	3.4U	17	3.4U	3.4U	3.8	0.2J	3.4U	3.4U	3.6U	3.9U
4,4-DDE	0.89J	3.4U	3.3U	3.3U	3.8U	3.4U	3.4U	3.4U	3.4U	56	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.6U	3.9U
4,4-DDT	1.8J	3.4U	3.3U	3.3U	3.8U	3.4U	3.4U	3.4U	3.4U	150	3.4U	3.4U	6.3	3.5U	3.4U	3.4U	3.6U	3.9U
Aldrin	1.9U	1.8U	1.7U	1.7U	2U	1.8U	1.8U	1.7U	1.8U	4.6U	1.8U	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U
alpha-BHC	1.9U	1.8U	1.7U	1.7U	2U	1.8U	1.8U	1.7U	1.8U	4.6U	1.8U	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U
alpha-Chlordane	1.9U	1.8U	1.7U	1.7U	2U	1.8U	1.8U	1.7U	1.8U	0.49J	1.8U	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U
Aroclor-1016	36U	34U	33U	33U	38U	34U	34U	34U	34U	89U	34U	34U	34U	35U	34U	34U	36U	39U
Aroclor-1242	36U	34U	33U	33U	38U	34U	34U	34U	34U	89U	34U	34U	34U	35U	34U	34U	36U	39U
Aroclor-1248	36U	34U	33U	33U	38U	34U	34U	34U	34U	89U	34U	34U	34U	35U	34U	34U	36U	39U
Aroclor-1254	8.3J	34U	33U	33U	38U	34U	34U	34U	34U	89U	34U	34U	34U	35U	34U	34U	36U	39U
Aroclor-1260	36U	34U	33U	33U	38U	34U	34U	34U	34U	57J	34U	34U	34U	35U	34U	34U	36U	39U
beta-BHC	1.9U	1.8U	1.7U	1.7U	2U	1.8U	1.8U	1.7U	1.8U	4.6U	1.8U	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U
delta-BHC	1.9U	1.8U	1.7U	1.7U	2U	1.8U	1.8U	1.7U	1.8U	4.6U	1.8U	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U
Dieldrin	3.6U	3.4U	3.3U	3.3U	3.8U	3.4U	3.4U	3.4U	3.4U	360	3.4U	3.4U	0.29J	3.5U	3.4U	3.4U	3.6U	3.9U
Endosulfan I	1.9U	1.8U	1.7U	1.7U	2U	1.8U	1.8U	1.7U	1.8U	4.6U	1.8U	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U
Endosulfan II	3.6U	3.4U	3.3U	3.3U	3.8U	3.4U	3.4U	3.4U	3.4U	8.9U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.6U	3.9U
Endosulfan sulfate	3.6U	3.4U	3.3U	3.3U	3.8U	3.4U	3.4U	3.4U	3.4U	1J	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.6U	3.9U
Endrin	3.6U	3.4U	3.3U	3.3U	3.8U	3.4U	3.4U	3.4U	3.4U	8.9U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.6U	3.9U
Endrin aldehyde	0.78J	3.4U	3.3U	3.3U	3.8U	3.4U	3.4U	3.4U	3.4U	8.9U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.6U	3.9U
Endrin ketone	3.6U	3.4U	3.3U	3.3U	3.8U	3.4U	3.4U	3.4U	3.4U	3J	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.6U	3.9U
gamma-BHC (Lindane)	1.9U	1.8U	1.7U	1.7U	2U	1.8U	1.8U	1.7U	1.8U	4.6U	1.8U	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U
gamma-Chlordane	0.33J	1.8U	1.7U	1.7U	2U	1.8U	1.8U	1.7U	1.8U	2.5J	1.8U	1.8U	0.27J	1.8U	1.8U	1.7U	1.8U	2U
Heptachlor	1.9U	1.8U	1.7U	1.7U	2U	0.22J	1.8U	1.7U	1.8U	0.52J	1.8U	1.7U	1.7U	0.27J	1.8U	0.22J	1.8U	2U
Heptachlor epoxide	0.21J	1.8U	1.7U	1.7U	2U	1.8U	1.8U	1.7U	1.8U	3.1J	1.8U	1.7U	1.7U	1.8U	1.8U	1.7U	1.8U	2U
Methoxychlor	19U	18U	17U	17U	20U	18U	18U	17U	18U	46U	18U	17U	17U	18U	18U	17U	18U	20U

SHORT ID					0270007									0270008				
SAMPLE ID	*027S000701*	*027S000702*	*027S000704*	*027S000706*	*027S000708*	*027S000710*	*027S000712*	*027S000714*	*027S000716*	*027S000801*	*027S000802*	*027S000804*	*027S000806*	*027S000808*	*027S000810*	*027S000812*	*027S000814*	*027S000816*
SAMPLE DATE	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/8/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*
PESTICIDES																		
4,4-DDD	0.17J	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U	3.4U	3.5U	3.3U	3.6U	3.5U	3.4U	3.5U	3.5U	3.4U	3.4U	3.8U
4,4-DDE	0.14J	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U	3.4U	3.5U	2.5J	3.6U	3.5U	3.4U	3.5U	3.5U	3.4U	3.4U	3.8U
4,4-DDT	0.42J	3.4U	0.15J	3.5U	3.4U	3.4U	3.5U	3.4U	3.5U	4.2J	3.6U	3.5U	3.4U	3.5U	3.5U	3.4U	3.4U	3.8U
Aldrin	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	0.074J	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U
alpha-BHC	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U
alpha-Chlordane	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	0.14J	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U
Aroclor-1016	34U	34U	34U	35U	34U	34U	35U	34U	35U	33U	36U	35U	34U	35U	35U	34U	34U	38U
Aroclor-1242	34U	34U	34U	35U	34U	34U	35U	34U	35U	33U	36U	35U	34U	35U	35U	34U	34U	38U
Aroclor-1248	34U	34U	34U	35U	34U	34U	35U	34U	35U	33U	36U	35U	34U	35U	35U	34U	34U	38U
Aroclor-1254	34U	34U	34U	35U	34U	34U	35U	34U	35U	33U	36U	35U	34U	35U	35U	34U	34U	38U
Aroclor-1260	34U	34U	34U	35U	34U	34U	35U	34U	35U	23J	36U	35U	34U	35U	35U	34U	34U	38U
beta-BHC	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U
delta-BHC	1.8U	1.7U	0.24U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U
Dieldrin	0.13J	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U	3.4U	3.5U	32	3.6U	3.5U	3.4U	3.5U	3.5U	3.4U	3.4U	3.8U
Endosulfan I	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	0.084J	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U
Endosulfan II	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U	3.4U	3.5U	3.3	3.6U	3.5U	3.4U	3.5U	3.5U	3.4U	3.4U	3.8U
Endosulfan sulfate	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U	3.4U	3.5U	3.3U	3.6U	3.5U	3.4U	3.5U	3.5U	0.077J	3.4U	3.8U
Endrin	0.27J	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U	3.4U	3.5U	3.3U	3.6U	3.5U	3.4U	3.5U	3.5U	3.4U	3.4U	3.8U
Endrin aldehyde	3.4U	3.4U	0.07U	3.5U	3.4U	3.4U	3.5U	3.4U	3.5U	0.47J	3.6U	3.5U	3.4U	3.5U	3.5U	3.4U	3.4U	3.8U
Endrin ketone	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U	3.4U	3.5U	3.3U	3.6U	3.5U	3.4U	3.5U	3.5U	3.4U	3.4U	3.8U
gamma-BHC (Lindane)	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U
gamma-Chlordane	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	0.11J	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U
Heptachlor	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U
Heptachlor epoxide	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	0.048J	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U
Methoxychlor	18U	17U	18U	18U	18U	18U	18U	18U	18U	1.9J	18U	18U	17U	18U	18U	18U	18U	20U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID					0270009									0270010				
SAMPLE ID	*027S000901*	*027S000902*	*027S000904*	*027S000906*	*027S000908*	*027S000910*	*027S000912*	*027S000914*	*027S000916*	*027S001002*	*027S001004*	*027S001006*	*027S001008*	*027S001010*	*027S001012*	*027S001014*	*027S001016*	*027S001018*
SAMPLE DATE	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/9/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*
PESTICIDES																		
4,4-DDD	3.6U	3.4U	3.6U	3.4U	3.4U	3.8U	3.5U	3.4U	3.6U	3.6U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
4,4-DDE	3.6U	3.4U	3.6U	3.4U	3.4U	3.8U	3.5U	3.4U	3.6U	3.6U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
4,4-DDT	3.6U	3.4U	3.6U	3.4U	3.4U	3.8U	3.5U	3.4U	3.6U	3.6U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
Aldrin	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
alpha-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
alpha-Chlordane	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
Aroclor-1016	36U	34U	36U	34U	34U	38U	35U	34U	36U	36U	34U	35U	34U	34U	34U	34U	34U	34U
Aroclor-1242	36U	34U	36U	34U	34U	38U	35U	34U	36U	36U	34U	35U	34U	34U	34U	34U	34U	34U
Aroclor-1248	36U	34U	36U	34U	34U	38U	35U	34U	36U	36U	34U	35U	34U	34U	34U	34U	34U	34U
Aroclor-1254	36U	34U	36U	34U	34U	38U	35U	34U	36U	36U	34U	35U	34U	34U	34U	34U	34U	34U
Aroclor-1260	36U	34U	36U	34U	34U	38U	35U	34U	36U	36U	34U	35U	34U	34U	34U	34U	34U	34U
beta-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
delta-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.7U	1.8U	0.18J	1.8U	1.8U	0.18J	1.8U	1.7U	1.7U	1.8U	1.8U
Dieldrin	3.6U	3.4U	3.6U	3.4U	3.4U	3.8U	3.5U	3.4U	3.6U	3.6U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
Endosulfan I	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
Endosulfan II	3.6U	3.4U	3.6U	3.4U	3.4U	3.8U	3.5U	3.4U	3.6U	3.6U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
Endosulfan sulfate	3.6U	3.4U	3.6U	3.4U	0.052J	3.8U	3.5U	3.4U	3.6U	3.6U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
Endrin	3.6U	3.4U	3.6U	3.4U	3.4U	3.8U	3.5U	3.4U	3.6U	3.6U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
Endrin aldehyde	3.6U	3.4U	3.6U	3.4U	3.4U	3.8U	3.5U	3.4U	3.6U	3.6U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
Endrin ketone	3.6U	3.4U	3.6U	3.4U	3.4U	3.8U	3.5U	3.4U	3.6U	3.6U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
gamma-BHC (Lindane)	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
gamma-Chlordane	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
Heptachlor	1.8U	1.8U	1.8U	1.8U	0.079J	2U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
Heptachlor epoxide	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U
Methoxychlor	18U	18U	18U	18U	18U	20U	18U	17U	18U	18U	18U	18U	1.2U	18U	17U	17U	18U	18U

SHORT ID					0270011								0270012				
SAMPLE ID	*027S001104*	*027S001106*	*027S001108*	*027S001110*	*027S001112*	*027S001114*	*027S001116*	*027S001118*	*027S001202*	*027S001204*	*027S001206*	*027S001208*	*027S001210*	*027S001212*	*027S001214*	*027S001216*	*027S001218*
SAMPLE DATE	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*	*6/10/1993*
PESTICIDES																	
4,4-DDD	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.3U	0.11J	0.59J	3.4U	3.4U	3.5U
4,4-DDE	3.3U	3.4U	3.4U	3.4U	3.4U	0.13	3.4U	3.4U	0.37J	3.4U	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.5U
4,4-DDT	3.3U	3.4U	3.4U	3.4U	3.4U	0.31J	3.4U	3.4U	0.11J	3.4U	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	0.23J
Aldrin	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.8U
alpha-BHC	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.8U
alpha-Chlordane	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.8U
Aroclor-1016	33U	34U	34U	34U	34U	34U	34U	34U	34U	34U	34U	33U	34U	34U	34U	34U	35U
Aroclor-1242	33U	34U	34U	34U	34U	34U	34U	34U	34U	34U	34U	33U	34U	34U	34U	34U	35U
Aroclor-1248	33U	34U	34U	34U	34U	34U	34U	34U	34U	34U	34U	33U	34U	34U	34U	34U	35U
Aroclor-1254	33U	34U	34U	34U	34U	34U	34U	34U	34U	34U	34U	33U	34U	34U	34U	34U	35U
Aroclor-1260	33U	34U	34U	34U	34U	2.4J	34U	34U	34U	34U	34U	33U	34U	34U	34U	34U	35U
beta-BHC	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.8U
delta-BHC	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	0.19J
Dieldrin	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.5U
Endosulfan I	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.8U
Endosulfan II	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.5U
Endosulfan sulfate	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	0.36U	3.4U	3.4U	3.4U	3.4U	3.5U
Endrin	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.5U
Endrin aldehyde	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	0.058J	3.4U	3.4U	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.5U
Endrin ketone	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.5U
gamma-BHC (Lindane)	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.8U
gamma-Chlordane	1.7U	0.038J	1.7U	1.7U	1.7U	0.25	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	0.032U	1.7U	1.7U	1.8U
Heptachlor	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.8U
Heptachlor epoxide	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.8U
Methoxychlor	17U	17U	17U	17U	17U	17U	17U	17U	17U	18U	17U	17U	17U	18U	17U	1.5U	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID					0270013									0270014				
SAMPLE ID	*027S001302*	*027S001304*	*027S001306*	*027S001308*	*027S001310*	*027S001312*	*027S001314*	*027S001316*	*027S001318*	*027S001402*	*027S001404*	*027S001406*	*027S001408*	*027S001410*	*027S001412*	*027S001414*	*027S001416*	*027S001418*
SAMPLE DATE	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*	*6/14/1993*
PESTICIDES																		
4,4-DDD	3.7U	0.16J	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.7U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	0.43J	3.4U	3.8U
4,4-DDE	3.7U	0.82J	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.7U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U
4,4-DDT	3.7U	2J	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.7U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U
Aldrin	1.9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
alpha-BHC	1.9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
alpha-Chlordane	1.9U	0.27J	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
Aroclor-1016	37U	33U	35U	35U	35U	35U	34U	34U	37U	34U	34U	35U	34U	34U	34U	34U	34U	38U
Aroclor-1242	37U	33U	35U	35U	35U	35U	34U	34U	37U	34U	34U	35U	34U	34U	34U	34U	34U	38U
Aroclor-1248	37U	33U	35U	35U	35U	35U	34U	34U	37U	34U	34U	35U	34U	34U	34U	34U	34U	38U
Aroclor-1254	37U	33U	35U	35U	35U	35U	34U	34U	37U	34U	34U	35U	34U	34U	34U	34U	34U	8.6U
Aroclor-1260	37U	33U	35U	35U	35U	35U	34U	34U	37U	34U	34U	35U	34U	34U	34U	34U	34U	38U
beta-BHC	1.9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
delta-BHC	0.28J	0.089	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
Dieldrin	3.7U	2J	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.7U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U
Endosulfan I	1.9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
Endosulfan II	3.7U	3.3U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.7U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U
Endosulfan sulfate	3.7U	3.3U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.7U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U
Endrin	3.7U	3.3U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.7U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U
Endrin aldehyde	3.7U	3.3U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.7U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U
Endrin ketone	3.7U	3.3U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.7U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U
gamma-BHC (Lindane)	1.9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
gamma-Chlordane	1.9U	0.19	1.8U	1.8U	1.8U	1.8U	1.8U	0.18J	1.9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
Heptachlor	1.9U	0.096J	0.062	0.2J	0.23J	0.24J	1.8U	1.8U	1.9U	1.7U	1.8U	1.8U	1.8U	0.17J	0.18J	1.8U	1.8U	1.9U
Heptachlor epoxide	1.9U	0.21J	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	0.24J
Methoxychlor	19U	17U	18U	18U	18U	18U	18U	18U	19U	17U	18U	18U	18U	18U	18U	18U	18U	19U

SHORT ID		0270015					0270017			0270018		0270019		
SAMPLE ID	*027S001501*	*027S001504*	*027S001514*	*027S001516*	*027S001701*	*027S001702*	*027S001704*	*027S001706*	*027S001708*	*027S001865*	*027S001900*	*027S001946*	*027S001958*	*027S001962*
SAMPLE DATE	*6/15/1993*	*6/15/1993*	*6/15/1993*	*6/15/1993*	*6/17/1993*	*6/17/1993*	*6/17/1993*	*6/17/1993*	*6/17/1993*	*6/28/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*
PESTICIDES														
4,4-DDD	3.4U	4.6U	3.4U	3.4U	0.32J	3.5U	3.7U	3.5U	3.5U	4.2U	0.73J	4U	4U	4.4U
4,4-DDE	3.4U	4.6U	3.4U	3.4U	0.55U	3.5U	3.7U	3.5U	3.5U	4.2U	26J	0.52J	4U	4.4U
4,4-DDT	3.4U	4.6U	3.4U	3.4U	1.5J	0.43	0.17J	3.5U	3.5U	4.2U	32J	0.39J	4U	4.4U
Aldrin	1.7U	2.4U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	2.2U	0.17J	2.1U	2U	2.2U
alpha-BHC	1.7U	2.4U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	2.2U	1.8U	2.1U	2U	2.2U
alpha-Chlordane	1.7U	2.4U	1.8U	1.7U	0.28J	0.14J	0.056J	0.17J	1.8U	2.2U	0.9J	2.1U	2U	2.2U
Aroclor-1016	34U	46U	34U	34U	34U	35U	37U	35U	35U	42U	35U	40U	40U	44U
Aroclor-1242	34U	46U	34U	34U	34U	35U	37U	35U	35U	42U	35U	40U	40U	44U
Aroclor-1248	34U	46U	34U	34U	34U	35U	37U	35U	35U	42U	35U	40U	40U	44U
Aroclor-1254	34U	46U	34U	34U	34U	35U	37U	35U	35U	42U	35U	40U	40U	44U
Aroclor-1260	34U	46U	34U	34U	34U	22	8.2J	29J	35U	42U	62J	40U	40U	44U
beta-BHC	1.7U	2.4U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	2.2U	0.85J	2.1U	2U	2.2U
delta-BHC	1.7U	2.4U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	2.2U	0.35J	2.1U	2U	2.2U
Dieldrin	3.4U	4.6U	3.4U	3.4U	0.85J	3.8	1.3J	9.1	3.5U	4.2U	19J	0.36J	4U	4.4U
Endosulfan I	1.7U	2.4U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	2.2U	0.11J	2.1U	2U	2.2U
Endosulfan II	3.4U	4.6U	3.4U	0.28J	3.4U	3.5U	3.7U	3.5U	3.5U	4.2U	3.5U	4U	4U	4.4U
Endosulfan sulfate	3.4U	4.6U	3.4U	3.4U	2.1J	3.5U	3.7U	3.5U	3.5U	4.2U	0.36J	4U	4U	4.4U
Endrin	3.4U	4.6U	3.4U	3.4U	3.4U	3.5U	3.7U	3.5U	3.5U	4.2U	0.071J	4U	4U	4.4U
Endrin aldehyde	3.4U	4.6U	3.4U	3.4U	0.25J	1J	0.31J	0.079J	3.5U	4.2U	3.5U	5.7J	4U	4.4U
Endrin ketone	3.4U	4.6U	3.4U	3.4U	0.24U	3.5U	3.7U	3.5U	3.5U	4.2U	3.5U	4U	4U	4.4U
gamma-BHC (Lindane)	1.7U	2.4U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	2.2U	1.8U	0.11J	2U	2.2U
gamma-Chlordane	0.29U	2.4U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	2.2U	0.85J	2.1U	2U	2.2U
Heptachlor	1.7U	2.4U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	2.2U	1.8U	2.1U	0.089J	2.2U
Heptachlor epoxide	1.7U	2.4U	1.8U	1.7U	0.23J	1.8U	1.9U	1.8U	1.8U	2.2U	1.8U	2.1U	2U	2.2U
Methoxychlor	17U	24U	18U	17U	17U	18U	19U	18U	18U	22U	18U	21U	20U	22U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID					0270020								0270021				
SAMPLE ID	*027S002000*	*027S002002*	*027S002004*	*027S002006*	*027S002008*	*027S002010*	*027S002012*	*027S002014*	*027S002016*	*027S002102*	*027S002104*	*027S002106*	*027S002108*	*027S002110*	*027S002112*	*027S002114*	*027S002116*
SAMPLE DATE	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*
PESTICIDES																	
4,4-DDD	21U	3.6U	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.9U	3.5U	3.5U	3.4U	3.5U	3.6U	3.5U	3.4U	3.8U
4,4-DDE	21U	3.6U	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.9U	3.5U	3.5U	3.4U	3.5U	3.6U	3.5U	3.4U	3.8U
4,4-DDT	14J	3.6U	0.46J	3.5U	3.5U	3.5U	3.5U	3.5U	3.9U	3.5U	3.5U	3.4U	3.5U	3.6U	3.5U	3.4U	3.8U
Aldrin	11U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	2U
alpha-BHC	1.4J	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	2U
alpha-Chlordane	11U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	2U
Aroclor-1016	210U	36U	35U	35U	35U	35U	35U	35U	39U	35U	35U	34U	35U	36U	35U	34U	38U
Aroclor-1242	210U	36U	35U	35U	35U	35U	35U	35U	39U	35U	35U	34U	35U	36U	35U	34U	38U
Aroclor-1248	210U	36U	35U	35U	35U	35U	35U	35U	39U	35U	35U	34U	35U	36U	35U	34U	38U
Aroclor-1254	210U	36U	35U	35U	35U	35U	35U	35U	39U	35U	35U	34U	35U	36U	35U	34U	38U
Aroclor-1260	210U	36U	35U	35U	35U	35U	35U	35U	39U	35U	35U	34U	35U	36U	35U	34U	38U
beta-BHC	11U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	2U
delta-BHC	11U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	2U
Dieldrin	2.9J	0.55J	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.9U	0.19U	3.5U	3.4U	3.5U	3.6U	3.5U	3.4U	3.8U
Endosulfan I	11U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	2U
Endosulfan II	21U	3.6U	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.9U	3.5U	3.5U	3.4U	3.5U	3.6U	3.5U	3.4U	3.8U
Endosulfan sulfate	21U	3.6U	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.9U	3.5U	3.5U	3.4U	3.5U	3.6U	3.5U	3.4U	3.8U
Endrin	21U	3.6U	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.9U	3.5U	3.5U	3.4U	3.5U	3.6U	3.5U	3.4U	3.8U
Endrin aldehyde	21U	3.6U	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.9U	3.5U	3.5U	3.4U	3.5U	3.6U	3.5U	3.4U	3.8U
Endrin ketone	21U	3.6U	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.9U	3.5U	3.5U	3.4U	3.5U	3.6U	3.5U	3.4U	3.8U
gamma-BHC (Lindane)	11U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	2U
gamma-Chlordane	1.2J	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	2U
Heptachlor	11U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	2U
Heptachlor epoxide	11U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	2U
Methoxychlor	110U	18U	18U	18U	18U	18U	18U	18U	20U	18U	18U	18U	18U	19U	18U	18U	20U

SHORT ID				0270022							0270023			
SAMPLE ID	*027S002202*	*027S002204*	*027S002206*	*027S002208*	*027S002210*	*027S002212*	*027S002214*	*027S002302*	*027S002304*	*027S002306*	*027S002308*	*027S002310*	*027S002312*	*027S002314*
SAMPLE DATE	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*	*6/30/1993*
PESTICIDES														
4,4-DDD	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	3.4U	3.4U	3.5U	3.5U	3.4U
4,4-DDE	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	3.4U	0.1J	3.5U	3.5U	3.4U
4,4-DDT	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	3.4U	3.4U	3.5U	3.5U	3.4U
Aldrin	1.8U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	0.079J	1.8U	1.8U	1.8U
alpha-BHC	1.8U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
alpha-Chlordane	1.8U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Aroclor-1016	35U	34U	34U	34U	34U	34U	34U	35U	35U	34U	34U	35U	35U	34U
Aroclor-1242	35U	34U	34U	34U	34U	34U	34U	35U	35U	34U	34U	35U	35U	34U
Aroclor-1248	35U	34U	34U	34U	34U	34U	34U	35U	35U	34U	34U	35U	35U	34U
Aroclor-1254	35U	34U	34U	34U	34U	34U	34U	35U	35U	34U	34U	35U	35U	34U
Aroclor-1260	35U	34U	34U	34U	34U	34U	34U	35U	35U	34U	34U	35U	35U	34U
beta-BHC	1.8U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
delta-BHC	1.8U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Dieldrin	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	3.4U	0.064J	3.5U	3.5U	3.4U
Endosulfan I	1.8U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Endosulfan II	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	0.59J	3.4U	3.4U	3.5U	3.5U	3.4U
Endosulfan sulfate	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	3.4U	3.4U	3.5U	3.5U	3.4U
Endrin	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	3.4U	3.4U	3.5U	3.5U	3.4U
Endrin aldehyde	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	0.67J	3.5U	3.4U	3.4U	3.5U	3.5U	3.4U
Endrin ketone	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	3.4U	0.11J	3.5U	3.5U	3.4U
gamma-BHC (Lindane)	1.8U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
gamma-Chlordane	1.8U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	0.23J	1.8U	1.8U	1.8U
Heptachlor	1.8U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U	1.8U	0.1J	1.8U	1.8U	1.8U	1.8U
Heptachlor epoxide	1.8U	1.7U	1.8U	1.8U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Methoxychlor	18U	17U	18U	18U	17U	17U	18U	18U	18U	18U	18U	18U	18U	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID	0270024								0270025	0270026						
SAMPLE ID	*027S002402*	*027S002404*	*027S002406*	*027S002408*	*027S002410*	*027S002412*	*027S002414*	*027S002416*	*027S002562*	*027S002600*	*027S002602*	*027S002604*	*027S002608*	*027S002610*	*027S002614*	*027S002616*
SAMPLE DATE	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/1/1993*	*7/6/1993*	*7/6/1993*	*7/6/1993*	*7/6/1993*	*7/6/1993*	*7/6/1993*	*7/6/1993*
PESTICIDES																
4,4-DDD	3.5U	3.4U	3.5U	3.4U	3.5U	3.5U	3.4U	3.9U	4U	3.5U	3.6U	3.5U	3.4U	3.5U	3.5U	3.9U
4,4-DDE	3.5U	3.4U	3.5U	3.4U	3.5U	3.5U	3.4U	3.9U	4U	3.5U	3.6U	3.5U	3.4U	3.5U	3.5U	3.9U
4,4-DDT	3.5U	3.4U	3.5U	3.4U	3.5U	3.5U	3.4U	3.9U	4U	3.5U	3.6U	3.5U	3.4U	3.5U	3.5U	3.9U
Aldrin	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	2U
alpha-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	2U
alpha-Chlordane	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	2U
Aroclor-1016	35U	34U	35U	34U	35U	35U	34U	39U	40U	35U	36U	35U	34U	35U	35U	39U
Aroclor-1242	35U	34U	35U	34U	35U	35U	34U	39U	40U	35U	36U	35U	34U	35U	35U	39U
Aroclor-1248	35U	34U	35U	34U	35U	35U	34U	39U	40U	35U	36U	35U	34U	35U	35U	39U
Aroclor-1254	35U	34U	35U	34U	35U	35U	34U	39U	40U	35U	36U	35U	34U	35U	35U	39U
Aroclor-1260	35U	34U	35U	34U	35U	35U	34U	39U	40U	35U	36U	35U	34U	35U	35U	39U
beta-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	2U
delta-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	2U
Dieldrin	1.9J	3.4U	3.5U	3.4U	3.5U	3.5U	3.4U	3.9U	4U	3.5U	3.6U	3.5U	3.4U	3.5U	3.5U	3.9U
Endosulfan I	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	2U
Endosulfan II	3.5U	3.4U	3.5U	3.4U	3.5U	3.5U	3.4U	3.9U	4U	3.5U	3.6U	3.5U	3.4U	3.5U	3.5U	3.9U
Endosulfan sulfate	3.5U	3.4U	3.5U	3.4U	3.5U	3.5U	3.4U	3.9U	4U	3.5U	3.6U	3.5U	3.4U	3.5U	3.5U	3.9U
Endrin	3.5U	3.4U	3.5U	3.4U	3.5U	3.5U	3.4U	3.9U	4U	3.5U	3.6U	3.5U	3.4U	3.5U	3.5U	3.9U
Endrin aldehyde	3.5U	3.4U	3.5U	3.4U	3.5U	3.5U	3.4U	3.9U	4U	3.5U	3.6U	3.5U	3.4U	3.5U	3.5U	3.9U
Endrin ketone	3.5U	3.4U	3.5U	3.4U	3.5U	3.5U	3.4U	3.9U	4U	3.5U	3.6U	3.5U	3.4U	3.5U	3.5U	3.9U
gamma-BHC (Lindane)	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	2U
gamma-Chlordane	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	2U
Heptachlor	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	0.046U	0.076J	0.088J	0.061U	0.1U	0.052U	0.06U
Heptachlor epoxide	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	1.8U	0.046J	1.8U	1.8U	1.8U	1.8U	2U
Methoxychlor	18U	18U	18U	18U	18U	18U	18U	170J	20U	18U	19U	18U	18U	18U	18U	20U

SHORT ID	0270027												0270028	
SAMPLE ID	*027S002701*	*027S002702*	*027S002704*	*027S002706*	*027S002708*	*027S002710*	*027S002712*	*027S002714*	*027S002716*	*027S002718*	*027S002720*	*027S002762*	*027S002802*	*027S002804*
SAMPLE DATE	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/13/1993*	*7/8/1993*	*7/8/1993*
PESTICIDES														
4,4-DDD	0.92J	1J	4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	1.8J	4U	3.9U	3.9U
4,4-DDE	0.84J	1.1J	0.92J	3.4U	3.4U	3.4U	3.4U	3.4U	1.7J	3.4J	0.81U	4U	0.27U	3.9U
4,4-DDT	1.7J	1.7J	2.5J	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	0.42U	3.9U	4U	3.9U	0.37J
Aldrin	1.7U	1.7U	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	2U	2U
alpha-BHC	1.7U	1.7U	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	2U	2U
alpha-Chlordane	1.7U	1.7U	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	2U	2U
Aroclor-1016	33U	33U	40U	34U	34U	34U	34U	34U	34U	35U	39U	40U	39U	39U
Aroclor-1242	33U	33U	40U	34U	34U	34U	34U	34U	34U	35U	39U	40U	39U	39U
Aroclor-1248	33U	33U	40U	34U	34U	34U	34U	34U	34U	35U	39U	40U	39U	39U
Aroclor-1254	33U	33U	40U	34U	34U	34U	34U	34U	9.4J	20J	39U	40U	39U	39U
Aroclor-1260	33U	33U	40U	34U	34U	34U	34U	34U	34U	35U	39U	40U	39U	5.9J
beta-BHC	1.7U	1.7U	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	0.18J	2U	2U
delta-BHC	0.19J	0.53J	0.16J	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	2U	2U
Dieldrin	0.17J	0.21J	4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	0.98J	4U	3.9U	0.4U
Endosulfan I	1.7U	0.22J	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	2U	2U
Endosulfan II	3.3U	3.3U	4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.9U	4U	3.9U	3.9U
Endosulfan sulfate	0.72J	3.3U	4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	0.75J	3.9U	4U	3.9U	3.9U
Endrin	3.3U	3.3U	4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.9U	4U	3.9U	3.9U
Endrin aldehyde	3.3U	3.3U	4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.9U	4U	3.9U	3.9U
Endrin ketone	3.3U	3.3U	4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.9U	4U	3.9U	3.9U
gamma-BHC (Lindane)	1.7U	1.7U	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	2U	2U
gamma-Chlordane	1.7U	0.26J	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	2U	2U
Heptachlor	1.7U	1.7U	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	2U	2U
Heptachlor epoxide	0.3J	0.51J	2U	1.7U	1.5J	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U	2U	2U
Methoxychlor	11J	17U	20U	17U	17U	18U	18U	18U	18U	18U	20U	20U	20U	20U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID					0270029									0270030				
SAMPLE ID	*027S002902*	*027S002904*	*027S002906*	*027S002908*	*027S002910*	*027S002912*	*027S002914*	*027S002916*	*027S002918*	*027S003002*	*027S003004*	*027S003006*	*027S003008*	*027S003010*	*027S003012*	*027S003014*	*027S003016*	*027S003018*
SAMPLE DATE	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*	*7/8/1993*
PESTICIDES																		
4,4-DDD	3.4U	3.4U	3.4U	3.3U	3.5U	3.5U	3.4U	3.4U	3.9U	3.3U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U
4,4-DDE	3.4U	3.4U	3.4U	3.3U	3.5U	3.5U	0.085U	3.4U	3.9U	3.3U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U
4,4-DDT	3.4U	3.4U	3.4U	3.3U	3.5U	3.5U	3.4U	3.4U	3.9U	3.3U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U
Aldrin	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.7U	0.042U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
alpha-BHC	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
alpha-Chlordane	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Aroclor-1016	34U	34U	34U	33U	35U	35U	34U	34U	39U	33U	34U	34U	34U	34U	35U	34U	34U	35U
Aroclor-1242	34U	34U	34U	33U	35U	35U	34U	34U	39U	33U	34U	34U	34U	34U	35U	34U	34U	35U
Aroclor-1248	34U	34U	34U	33U	35U	35U	34U	34U	39U	33U	34U	34U	34U	34U	35U	34U	34U	35U
Aroclor-1254	34U	34U	34U	33U	35U	35U	34U	34U	39U	33U	34U	34U	34U	34U	35U	34U	34U	35U
Aroclor-1260	34U	34U	34U	33U	35U	35U	34U	34U	39U	33U	34U	34U	34U	34U	35U	34U	34U	35U
beta-BHC	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
delta-BHC	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Dieldrin	3.4U	3.4U	3.4U	3.3U	3.5U	3.5U	3.4U	3.4U	3.9U	3.3U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U
Endosulfan I	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Endosulfan II	3.4U	3.4U	3.4U	3.3U	3.5U	3.5U	3.4U	3.4U	3.9U	3.3U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U
Endosulfan sulfate	3.4U	3.4U	3.4U	3.3U	3.5U	3.5U	3.4U	3.4U	3.9U	3.3U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U
Endrin	3.4U	3.4U	3.4U	3.3U	3.5U	3.5U	3.4U	3.4U	3.9U	3.3U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U
Endrin aldehyde	3.4U	3.4U	3.4U	3.3U	3.5U	3.5U	3.4U	3.4U	3.9U	3.3U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U
Endrin ketone	3.4U	3.4U	3.4U	3.3U	3.5U	3.5U	3.4U	3.4U	3.9U	3.3U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.5U
gamma-BHC (Lindane)	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
gamma-Chlordane	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Heptachlor	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Heptachlor epoxide	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Methoxychlor	18U	18U	18U	17U	18U	18U	18U	18U	6.2J	17U	17U	18U	18U	18U	18U	18U	18U	18U

SHORT ID	0270032		0270033									
SAMPLE ID	*027S003202*	*027S003204*	*027S003302*	*027S003304*	*027S003306*	*027S003308*	*027S003310*	*027S003312*	*027S003314*	*027S003316*	*027S003318*	*027S003320*
SAMPLE DATE	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*	*7/9/1993*
PESTICIDES												
4,4-DDD	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U	3.8U
4,4-DDE	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U	3.8U
4,4-DDT	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U	3.8U
Aldrin	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U
alpha-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U
alpha-Chlordane	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U
Aroclor-1016	34U	34U	34U	34U	35U	34U	34U	34U	34U	34U	38U	38U
Aroclor-1242	34U	34U	34U	34U	35U	34U	34U	34U	34U	34U	38U	38U
Aroclor-1248	34U	34U	34U	34U	35U	34U	34U	34U	34U	34U	38U	38U
Aroclor-1254	34U	34U	34U	34U	35U	34U	34U	34U	34U	34U	38U	38U
Aroclor-1260	34U	34U	34U	34U	35U	34U	34U	34U	34U	34U	38U	38U
beta-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U
delta-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U
Dieldrin	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U	1.4J
Endosulfan I	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U
Endosulfan II	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U	3.8U
Endosulfan sulfate	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U	3.8U
Endrin	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U	3.8U
Endrin aldehyde	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U	3.8U
Endrin ketone	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U	3.8U	3.8U
gamma-BHC (Lindane)	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U
gamma-Chlordane	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U
Heptachlor	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	2U
Heptachlor epoxide	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.4J
Methoxychlor	18U	18U	18U	18U	18U	18U	18U	18U	18U	18U	20U	20U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID					0270040					0270041					0270042			
SAMPLE ID	*027S004000*	*027S004002*	*027S004004*	*027S004006*	*027S004010*	*027S004012*	*027S004014*	*027S004016*	*027S004018*	*027S004100*	*027S004102*	*027S004202*	*027S004204*	*027S004206*	*027S004208*	*027S004210*	*027S004212*	*027S004214*
SAMPLE DATE	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/14/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*
PESTICIDES																		
4,4-DDD	0.79J	3.5U	3.5U	0.4J	0.45J	3.5U	3.4U	3.4U	4.2U	7.7U	0.34J	3.4U	3.4U	3.5U	0.11J	3.5U	3.5U	3.4U
4,4-DDE	1.7J	3.5U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	4.2U	0.69J	3.4U	3.4U	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U
4,4-DDT	3.5U	3.5U	3.5U	3.5U	3.5U	0.34J	3.4U	3.4U	4.2U	1.4J	3.4U	0.28J	0.13J	0.16J	0.57J	0.19J	3.5U	3.4U
Aldrin	1.8U	1.8U	1.8U	0.36U	0.3U	1.8U	1.8U	1.8U	2.2U	4U	0.14J	0.05U	0.05U	0.054U	0.041U	0.05U	1.8U	1.8U
alpha-BHC	1.8U	1.8U	1.8U	0.075U	1.8U	1.8U	1.8U	1.8U	2.2U	4U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
alpha-Chlordane	1.8U	1.8U	1.8U	0.081J	0.098J	1.8U	1.8U	1.8U	2.2U	2.2J	0.23J	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Aroclor-1016	35U	35U	35U	35U	35U	35U	34U	34U	42U	77U	34U	34U	34U	35U	35U	35U	35U	34U
Aroclor-1242	35U	35U	35U	35U	35U	35U	34U	34U	42U	77U	34U	34U	34U	35U	35U	35U	35U	34U
Aroclor-1248	35U	35U	35U	35U	35U	35U	34U	34U	42U	77U	34U	34U	34U	35U	35U	35U	35U	34U
Aroclor-1254	35U	35U	35U	35U	35U	35U	34U	34U	42U	77U	34U	34U	34U	35U	35U	35U	35U	34U
Aroclor-1260	35U	35U	35U	35U	35U	35U	34U	34U	42U	77U	34U	34U	34U	35U	35U	35U	35U	34U
beta-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2.2U	4U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
delta-BHC	1.8U	0.063J	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2.2U	4U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Dieldrin	3.5U	0.079J	3.5U	0.072J	3.5U	0.34J	3.4U	3.4U	4.2U	2.7J	2J	0.12U	0.12U	0.14U	0.083U	3.5U	0.092U	0.08U
Endosulfan I	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2.2U	4U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Endosulfan II	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	4.2U	7.7U	3.4U	3.4U	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U
Endosulfan sulfate	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	4.2U	7.7U	0.1J	3.4U	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U
Endrin	3.5U	3.5U	3.5U	3.5U	3.5U	0.37J	3.4U	3.4U	4.2U	7.7U	3.4U	0.13J	0.1J	0.094J	0.12J	0.083J	3.5U	3.4U
Endrin aldehyde	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	4.2U	7.7U	3.4U	3.4U	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U
Endrin ketone	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	4.2U	7.7U	0.19J	3.4U	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U
gamma-BHC (Lindane)	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2.2U	4U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
gamma-Chlordane	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2.2U	4U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Heptachlor	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2.2U	4U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	0.056J
Heptachlor epoxide	0.16J	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2.2U	0.54J	1.4J	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Methoxychlor	42J	18U	18U	18U	18U	18U	18U	18U	22U	40U	18U	18U	18U	18U	0.29U	18U	18U	18U

SHORT ID	0270043				0270044	0270045				0270046				0270047			
SAMPLE ID	*027S004302*	*027S004304*	*027S004306*	*027S004308*	*027S004402*	*027S004502*	*027S004504*	*027S004506*	*027S004508*	*027S004602*	*027S004604*	*027S004606*	*027S004608*	*027S004702*	*027S004704*	*027S004706*	*027S004708*
SAMPLE DATE	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*
PESTICIDES																	
4,4-DDD	3.4U	3.5U	3.5U	3.5U	0.92J	3.4U	3.4U	3.4U	3.5U	3.5U	3.8U	3.4U	3.4U	3.4U	3.4U	3.5U	3.6U
4,4-DDE	3.4U	0.1J	3.5U	3.5U	0.64J	0.82J	3.4U	3.4U	3.5U	3.5U	3.8U	3.4U	3.4U	3.4U	3.4U	3.5U	3.6U
4,4-DDT	0.3J	0.1J	0.16J	3.5U	4.7J	2.2J	3.4U	0.12J	3.5U	3.5U	0.53J	3.4U	3.4U	3.4U	3.4U	3.5U	3.6U
Aldrin	1.8U	1.8U	0.055U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U
alpha-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U
alpha-Chlordane	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U
Aroclor-1016	34U	35U	35U	35U	35U	34U	34U	34U	35U	35U	38U	34U	34U	34U	34U	35U	36U
Aroclor-1242	34U	35U	35U	35U	35U	34U	34U	34U	35U	35U	38U	34U	34U	34U	34U	35U	36U
Aroclor-1248	34U	35U	35U	35U	35U	34U	34U	34U	35U	35U	38U	34U	34U	34U	34U	35U	36U
Aroclor-1254	34U	35U	35U	35U	35U	34U	34U	34U	35U	35U	38U	34U	34U	34U	34U	35U	36U
Aroclor-1260	34U	35U	35U	35U	35U	28J	34U	34U	35U	35U	38U	34U	34U	34U	34U	35U	36U
beta-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U
delta-BHC	1.8U	1.8U	1.8U	1.8U	0.44J	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U
Dieldrin	3.4U	3.5U	0.07U	0.11U	3.9	1.8J	3.4U	3.4U	3.5U	3.8U	0.28J	3.4U	3.4U	3.4U	3.4U	3.5U	0.44J
Endosulfan I	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U
Endosulfan II	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.5U	3.5U	3.8U	3.4U	3.4U	3.4U	3.4U	3.5U	3.6U
Endosulfan sulfate	3.4U	3.5U	3.5U	3.5U	3.5U	0.84J	3.4U	3.4U	3.5U	3.5U	3.8U	3.4U	3.4U	3.4U	3.4U	3.5U	3.6U
Endrin	3.4U	0.085J	0.096J	0.095U	3.5U	3.4U	3.4U	3.4U	3.5U	3.5U	3.8U	3.4U	3.4U	3.4U	3.4U	3.5U	3.6U
Endrin aldehyde	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.5U	3.5U	3.8U	3.4U	3.4U	3.4U	3.4U	3.5U	3.6U
Endrin ketone	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.5U	3.5U	3.8U	3.4U	3.4U	3.4U	3.4U	3.5U	3.6U
gamma-BHC (Lindane)	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U
gamma-Chlordane	1.8U	1.8U	1.8U	1.8U	0.29J	0.32U	0.11U	0.068U	1.8U	1.8U	2U	1.8U	1.8U	1.7U	1.8U	1.8U	0.14J
Heptachlor	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U
Heptachlor epoxide	1.8U	1.8U	1.8U	1.8U	0.17J	0.16J	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U
Methoxychlor	18U	18U	18U	18U	18U	17U	18U	18U	18U	18U	20U	18U	18U	17U	18U	18U	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID	0270048				0270049						0270050							
SAMPLE ID	*027S004810*	*027S004812*	*027S004814*	*027S004816*	*027S004902*	*027S004904*	*027S004906*	*027S004908*	*027S004910*	*027S004962*	*027S005002*	*027S005004*	*027S005006*	*027S005008*	*027S005010*	*027S005012*	*027S005014*	*027S005016*
SAMPLE DATE	*7/16/1993*	*7/16/1993*	*7/16/1993*	*7/16/1993*	*7/20/1993*	*7/20/1993*	*7/20/1993*	*7/20/1993*	*7/20/1993*	*7/21/1993*	*8/5/1993*	*8/5/1993*	*8/5/1993*	*8/5/1993*	*8/5/1993*	*8/5/1993*	*8/5/1993*	*8/5/1993*
PESTICIDES																		
4,4-DDD	3.5U	3.4U	3.4U	3.5U	0.27J	3.6U	3.5U	3.5U	3.4U	4.1U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U
4,4-DDE	3.5U	3.4U	3.4U	3.5U	4.3	3.6U	3.5U	0.11J	3.4U	4.1U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U
4,4-DDT	3.5U	3.4U	3.4U	3.5U	5.4	3.6U	3.5U	3.5U	3.4U	4.1U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U
Aldrin	1.8U	1.8U	1.8U	1.8U	0.61J	1.8U	1.8U	1.8U	1.8U	2.1U	0.19J	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
alpha-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
alpha-Chlordane	1.8U	1.8U	1.8U	1.8U	0.087U	1.8U	1.8U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Aroclor-1016	35U	34U	34U	35U	36U	36U	35U	35U	34U	41U	35U	35U	35U	34U	34U	34U	34U	34U
Aroclor-1242	35U	34U	34U	35U	36U	36U	35U	35U	34U	41U	35U	35U	35U	34U	34U	34U	34U	34U
Aroclor-1248	35U	34U	34U	35U	36U	36U	35U	35U	34U	41U	35U	35U	35U	34U	34U	34U	34U	34U
Aroclor-1254	35U	34U	34U	35U	36U	36U	35U	35U	34U	41U	35U	35U	35U	34U	34U	34U	34U	34U
Aroclor-1260	35U	34U	34U	35U	36U	36U	35U	35U	34U	41U	35U	35U	35U	34U	34U	34U	34U	34U
beta-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
delta-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Dieldrin	3.5U	3.4U	0.087J	0.1J	47	3.6U	0.089J	3.5U	3.4U	4.1U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U
Endosulfan I	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Endosulfan II	3.5U	3.4U	3.4U	3.5U	3.6U	3.6U	3.5U	3.5U	3.4U	4.1U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.4U	0.92J
Endosulfan sulfate	3.5U	3.4U	3.4U	3.5U	0.21J	3.6U	3.5U	3.5U	3.4U	4.1U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U
Endrin	0.07J	0.066J	0.081J	3.5U	0.16J	3.6U	3.5U	3.5U	3.4U	4.1U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U
Endrin aldehyde	3.5U	3.4U	3.4U	3.5U	3.6U	3.6U	3.5U	3.5U	3.4U	4.1U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U
Endrin ketone	3.5U	3.4U	3.4U	3.5U	3.6U	3.6U	3.5U	3.5U	3.4U	4.1U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.4U	3.4U
gamma-BHC (Lindane)	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
gamma-Chlordane	1.8U	1.8U	1.8U	1.8U	0.067U	1.8U	1.8U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Heptachlor	0.1J	1.8U	0.083J	1.8U	1.8U	0.057J	0.055J	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Heptachlor epoxide	1.8U	1.8U	1.8U	1.8U	0.068J	1.8U	1.8U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Methoxychlor	18U	18U	18U	18U	2.1J	18U	18U	18U	18U	21U	0.4J	18U	18U	18U	18U	18U	18U	18U

SHORT ID	0270051							0270052				0270053		
SAMPLE ID	*027S005102*	*027S005104*	*027S005106*	*027S005108*	*027S005110*	*027S005112*	*027S005114*	*027S005200*	*027S005201*	*027S005202*	*027S005204*	*027S005300*	*027S005301*	*027S005302*
SAMPLE DATE	*7/2/1993*	*7/2/1993*	*7/2/1993*	*7/2/1993*	*7/2/1993*	*7/2/1993*	*7/2/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*
PESTICIDES														
4,4-DDD	3.4U	3.4U	3.4U	3.3U	3.3U	3.3U	3.4U	17U	3.4U	4.8	3.4U	1J	5.1J	0.53J
4,4-DDE	3.4U	3.4U	3.4U	3.3U	3.3U	3.3U	3.4U	17U	0.24J	0.48J	3.4U	12	22	3.3U
4,4-DDT	3.4U	3.4U	3.4U	3.3U	3.3U	3.3U	3.4U	24	3.6J	4.4J	3.4U	15	50J	3J
Aldrin	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.8U	0.33J	0.053J	2.3U	1.8U	1.8U	1.8U	1.7U
alpha-BHC	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.8U	0.34J	0.044J	2.3U	1.8U	1.8U	0.1J	1.7U
alpha-Chlordane	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.8U	8.7U	1.8U	0.34J	0.072J	1.6J	6.9	0.13J
Aroclor-1016	34U	34U	34U	33U	33U	33U	34U	170U	34U	44U	34U	35U	34U	33U
Aroclor-1242	34U	34U	34U	33U	33U	33U	34U	170U	34U	44U	34U	35U	34U	33U
Aroclor-1248	34U	34U	34U	33U	33U	33U	34U	170U	34U	44U	34U	35U	34U	33U
Aroclor-1254	34U	34U	34U	33U	33U	33U	34U	170U	34U	44U	34U	35U	34U	33U
Aroclor-1260	34U	34U	34U	33U	33U	33U	34U	170U	34U	44U	34U	35U	34U	33U
beta-BHC	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.8U	8.7U	1.8U	2.3U	1.8U	1.8U	1.8U	1.7U
delta-BHC	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.8U	8.7U	1.8U	2.3U	1.8U	1.8U	1.8U	1.7U
Dieldrin	3.4U	3.4U	3.4U	3.3U	3.3U	3.3U	3.4U	41	26J	19	3.5J	1.3J	3.1J	3.3U
Endosulfan I	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.8U	8.7U	1.8U	2.3U	1.8U	1.8U	1.8U	1.7U
Endosulfan II	3.4U	3.4U	3.4U	3.3U	3.3U	3.3U	3.4U	17U	3.4U	4.4U	3.4U	3.5U	3.4U	3.3U
Endosulfan sulfate	3.4U	3.4U	3.4U	3.3U	3.3U	3.3U	3.4U	17U	3.4U	4.4U	3.4U	3.5U	3.4U	3.3U
Endrin	3.4U	3.4U	3.4U	3.3U	3.3U	3.3U	3.4U	17U	3.4U	4.4U	3.4U	3.5U	1.9J	3.3U
Endrin aldehyde	3.4U	3.4U	3.4U	3.3U	3.3U	3.3U	3.4U	17U	0.6J	1.2J	3.4U	3.5U	2.8J	3.3U
Endrin ketone	3.4U	3.4U	3.4U	3.3U	3.3U	3.3U	3.4U	2.8J	0.25J	4.4U	0.11J	3.5U	0.48J	3.3U
gamma-BHC (Lindane)	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.8U	8.7U	1.8U	2.3U	1.8U	0.43J	1.8U	1.7U
gamma-Chlordane	1.7U	0.15U	1.7U	1.7U	1.7U	1.7U	1.8U	8.7U	0.36J	0.38J	0.086J	0.83J	4.2J	1.7U
Heptachlor	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.8U	8.7U	1.8U	2.3U	1.8U	1.8U	1.8U	1.7U
Heptachlor epoxide	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.8U	8.7U	1.8U	2.3U	1.8U	1.8U	0.13J	1.7U
Methoxychlor	17U	18U	17U	17U	17U	17U	18U	69J	53J	1.1J	18U	3.1J	58J	2.6J

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID	0300004							0300005						
SAMPLE ID	*030S000402*	*030S000404*	*030S000406*	*030S000408*	*030S000410*	*030S000412*	*030S000414*	*030S000502*	*030S000504*	*030S000506*	*030S000508*	*030S000510*	*030S000512*	*030S000514*
SAMPLE DATE	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/12/1993*	*8/13/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*
PESTICIDES														
4,4-DDD	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.9U	3.3U	3.3U	3.3U	3.4U	3.4U	3.5U	4U
4,4-DDE	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.9U	3.3U	3.3U	3.3U	3.4U	3.4U	3.5U	4U
4,4-DDT	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.9U	3.3U	3.3U	3.3U	3.4U	3.4U	3.5U	4U
Aldrin	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	2U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	2.1U
alpha-BHC	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	2U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	2.1U
alpha-Chlordane	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	2U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	2.1U
Aroclor-1016	34U	34U	34U	34U	34U	34U	39U	33U	33U	33U	34U	34U	35U	40U
Aroclor-1242	34U	34U	34U	34U	34U	34U	39U	33U	33U	33U	34U	34U	35U	40U
Aroclor-1248	34U	34U	34U	34U	34U	34U	39U	33U	33U	33U	34U	34U	35U	40U
Aroclor-1254	34U	34U	34U	34U	34U	34U	39U	33U	33U	33U	34U	34U	35U	40U
Aroclor-1260	34U	34U	34U	34U	34U	34U	39U	33U	33U	33U	34U	34U	35U	40U
beta-BHC	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	2U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	2.1U
delta-BHC	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	2U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	2.1U
Dieldrin	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.9U	39	3.3U	3.3U	3.4U	3.4U	3.5U	4U
Endosulfan I	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	2U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	2.1U
Endosulfan II	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.9U	3.3U	3.3U	3.3U	3.4U	3.4U	3.5U	4U
Endosulfan sulfate	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.9U	3.3U	3.3U	3.3U	3.4U	3.4U	3.5U	4U
Endrin	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.9U	3.3U	3.3U	3.3U	3.4U	3.4U	3.5U	4U
Endrin aldehyde	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.9U	3.3U	3.3U	3.3U	3.4U	3.4U	3.5U	4U
Endrin ketone	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.9U	3.3U	3.3U	3.3U	3.4U	3.4U	3.5U	4U
gamma-BHC (Lindane)	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	2U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	2.1U
gamma-Chlordane	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	2U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	2.1U
Heptachlor	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	2U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	2.1U
Heptachlor epoxide	1.7U	1.7U	1.8U	1.8U	1.7U	1.7U	2U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	2.1U
Methoxychlor	17U	17U	18U	18U	17U	17U	20U	17U	17U	17U	18U	17U	18U	21U

SHORT ID	0300006								0300009							
SAMPLE ID	*030S000602*	*030S000604*	*030S000606*	*030S000608*	*030S000610*	*030S000612*	*030S000614*	*030S000616*	*030S000902*	*030S000904*	*030S000906*	*030S000908*	*030S000910*	*030S000912*	*030S000914*	*030S000916*
SAMPLE DATE	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/18/2003*	*8/18/2003*	*8/18/2003*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*
PESTICIDES																
4,4-DDD	3.4U	3.4UR	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	4.2U	3.5U	3.4U	3.4U	3.4U	3.4U
4,4-DDE	3.4U	11J	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	4.2U	3.5U	3.4U	3.4U	3.4U	3.4U
4,4-DDT	3.4U	6.9J	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	4.2U	3.5U	3.4U	3.4U	3.4U	3.4U
Aldrin	1.8U	1.8UR	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U
alpha-BHC	1.8U	1.8UR	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U
alpha-Chlordane	1.8U	1.8UR	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U
Aroclor-1016	34U	34UR	34U	35U	34U	34U	34U	34U	35U	35U	42U	35U	34U	34U	34U	34U
Aroclor-1242	34U	34UR	34U	35U	34U	34U	34U	34U	35U	35U	42U	35U	34U	34U	34U	34U
Aroclor-1248	34U	34UR	34U	35U	34U	34U	34U	34U	35U	35U	42U	35U	34U	34U	34U	34U
Aroclor-1254	34U	34UR	34U	35U	34U	34U	34U	34U	35U	35U	42U	35U	34U	34U	34U	34U
Aroclor-1260	34U	34UR	34U	35U	34U	34U	34U	34U	35U	35U	42U	35U	34U	34U	34U	34U
beta-BHC	1.8U	1.8UR	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U
delta-BHC	1.8U	1.8UR	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U
Dieldrin	3.4U	3.4UR	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	4.2U	3.5U	3.4U	3.4U	3.4U	3.4U
Endosulfan I	1.8U	1.8UR	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U
Endosulfan II	3.4U	3.4UR	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	4.2U	3.5U	3.4U	3.4U	3.4U	3.4U
Endosulfan sulfate	3.4U	3.4UR	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	4.2U	3.5U	3.4U	3.4U	3.4U	3.4U
Endrin	3.4U	3.4UR	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	4.2U	3.5U	3.4U	3.4U	3.4U	3.4U
Endrin aldehyde	3.4U	3.4UR	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	4.2U	3.5U	3.4U	3.4U	3.4U	3.4U
Endrin ketone	3.4U	13J	3.4U	3.5U	3.4U	3.4U	3.4U	3.4U	3.5U	3.5U	4.2U	3.5U	3.4U	3.4U	3.4U	3.4U
gamma-BHC (Lindane)	1.8U	1.8UR	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U
gamma-Chlordane	1.8U	1.8UR	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U
Heptachlor	1.8U	1.8UR	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U
Heptachlor epoxide	1.8U	1.8UR	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8U
Methoxychlor	18U	18UR	18U	18U	18U	18U	18U	17U	18U	18U	21U	18U	18U	18U	18U	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID	0300010										0300011								
SAMPLE ID	*030S001002*	*030S001004*	*030S001006*	*030S001008*	*030S001010*	*030S001012*	*030S001014*	*030S001016*	*030S001018*	*030S001020*	*030S001102*	*030S001104*	*030S001106*	*030S001108*	*030S001110*	*030S001112*	*030S001114*	*030S001116*	*030S001120*
SAMPLE DATE	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/12/1993*	*8/16/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*	*8/17/1993*
PESTICIDES																			
4,4-DDD	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.6U	3.5U	3.5U	3.4U	3.4U	3.5U	3.5U	3.4U	3.5UJ	4U
4,4-DDE	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.6U	3.5U	3.5U	3.4U	3.4U	3.5U	3.5U	3.4U	3.5UJ	4U
4,4-DDT	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.6U	3.5U	3.5U	3.4U	3.4U	3.5U	3.5U	3.4U	3.5UJ	4U
Aldrin	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8UJ	2.1U
alpha-BHC	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8UJ	2.1U
alpha-Chlordane	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8UJ	2.1U
Aroclor-1016	34U	34U	34U	34U	34U	34U	34U	34U	34U	36U	35U	35U	34U	34U	35U	35U	34U	35UJ	40U
Aroclor-1242	34U	34U	34U	34U	34U	34U	34U	34U	34U	36U	35U	35U	34U	34U	35U	35U	34U	35UJ	40U
Aroclor-1248	34U	34U	34U	34U	34U	34U	34U	34U	34U	36U	35U	35U	34U	34U	35U	35U	34U	35UJ	40U
Aroclor-1254	34U	34U	34U	34U	34U	34U	34U	34U	34U	36U	35U	35U	34U	34U	35U	35U	34U	35UJ	40U
Aroclor-1260	34U	34U	34U	34U	34U	34U	34U	34U	34U	36U	35U	35U	34U	34U	35U	35U	34U	35UJ	40U
beta-BHC	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8UJ	2.1U
delta-BHC	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8UJ	2.1U
Dieldrin	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.6U	3.5U	3.5U	3.4U	3.4U	3.5U	3.5U	3.4U	3.5UJ	4U
Endosulfan I	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8UJ	2.1U
Endosulfan II	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.6U	3.5U	3.5U	3.4U	3.4U	3.5U	3.5U	3.4U	3.5UJ	4U
Endosulfan sulfate	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.6U	3.5U	3.5U	3.4U	3.4U	3.5U	3.5U	3.4U	3.5UJ	4U
Endrin	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.6U	3.5U	3.5U	3.4U	3.4U	3.5U	3.5U	3.4U	3.5UJ	4U
Endrin aldehyde	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.6U	3.5U	3.5U	3.4U	3.4U	3.5U	3.5U	3.4U	3.5UJ	4U
Endrin ketone	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.6U	3.5U	3.5U	3.4U	3.4U	3.5U	3.5U	3.4U	3.5UJ	4U
gamma-BHC (Lindane)	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8UJ	2.1U
gamma-Chlordane	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8UJ	2.1U
Heptachlor	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8UJ	2.1U
Heptachlor epoxide	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8UJ	2.1U
Methoxychlor	17U	17U	17U	17U	17U	18U	17U	17U	17U	18U	18U	18U	18U	18U	18U	18U	18U	18UJ	21U

SHORT ID	0300012										0300015
SAMPLE ID	*030S001202*	*030S001204*	*030S001206*	*030S001208*	*030S001210*	*030S001212*	*030S001214*	*030S001216*	*030S001218*	*030S001220*	*030S001516*
SAMPLE DATE	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/16/1993*	*8/9/1993*
PESTICIDES											
4,4-DDD	3.5U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U	3.5U	3.9U	3.5 U
4,4-DDE	3.5U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U	3.5U	3.9U	3.5 U
4,4-DDT	3.5U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U	3.5U	3.9U	3.5 U
Aldrin	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8 U
alpha-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8 U
alpha-Chlordane	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8 U
Aroclor-1016	35U	34U	34U	34U	35U	34U	35U	36U	35U	39U	35 U
Aroclor-1242	35U	34U	34U	34U	35U	34U	35U	36U	35U	39U	35 U
Aroclor-1248	35U	34U	34U	34U	35U	34U	35U	36U	35U	39U	35 U
Aroclor-1254	35U	34U	34U	34U	35U	34U	35U	36U	35U	39U	35 U
Aroclor-1260	120	34U	76	34U	35U	34U	35U	36U	35U	39U	35 U
beta-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8 U
delta-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8 U
Dieldrin	3.5U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U	3.5U	3.9U	3.5 U
Endosulfan I	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8 U
Endosulfan II	3.5U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U	3.5U	3.9U	3.5 U
Endosulfan sulfate	3.5U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U	3.5U	3.9U	3.5 U
Endrin	3.5U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U	3.5U	3.9U	3.5 U
Endrin aldehyde	3.5U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U	3.5U	3.9U	3.5 U
Endrin ketone	3.5U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U	3.5U	3.9U	3.5 U
gamma-BHC (Lindane)	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8 U
gamma-Chlordane	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8 U
Heptachlor	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8 U
Heptachlor epoxide	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	2U	1.8 U
Methoxychlor	18U	18U	18U	18U	18U	18U	18U	18U	18U	20U	18 U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID					0300016									0300017				
SAMPLE ID	*030S001602*	*030S001604*	*030S001606*	*030S001608*	*030S001610*	*030S001612*	*030S001614*	*030S001616*	*030S001618*	*030S001702*	*030S001704*	*030S001706*	*030S001708*	*030S001710*	*030S001712*	*030S001714*	*030S001716*	*030S001718*
SAMPLE DATE	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/11/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*
PESTICIDES																		
4,4-DDD	3.5 U	3.3 U	3.3 U	3.3 U	3.3 U	3.4 U	3.4 U	4.2 U	4 U	3.4 U	3.4 U	3.7 U	3.4 U	3.3 U	3.4 U	3.4 U	3.5 U	3.5 U
4,4-DDE	4.5	3.3 U	3.3 U	3.3 U	3.3 U	3 J	3.4 U	4.2 U	4 U	3.4 U	3.4 U	3.7 U	3.4 U	3.3 U	3.4 U	3.4 U	3.5 U	3.5 U
4,4-DDT	18	3.3 U	3.3 U	3.3 U	3.3 U	3.4 U	3.4 U	4.2 U	4 U	3.4 U	3.4 U	3.7 U	3.4 U	3.3 U	3.4 U	3.4 U	3.5 U	3.5 U
Aldrin	1.8 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	2.2 U	2 U	1.8 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U
alpha-BHC	1.8 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	2.2 U	2 U	1.8 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U
alpha-Chlordane	1.8 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	2.2 U	2 U	1.8 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U
Aroclor-1016	35 U	33 U	33 U	33 U	33 U	34 U	34 U	42 U	40 U	34 U	34 U	37 U	34 U	33 U	34 U	34 U	35 U	35 U
Aroclor-1242	35 U	33 U	33 U	33 U	33 U	34 U	34 U	42 U	40 U	34 U	34 U	37 U	34 U	33 U	34 U	34 U	35 U	35 U
Aroclor-1248	35 U	33 U	33 U	33 U	33 U	34 U	34 U	42 U	40 U	34 U	34 U	37 U	34 U	33 U	34 U	34 U	35 U	35 U
Aroclor-1254	35 U	33 U	33 U	33 U	33 U	34 U	34 U	42 U	40 U	34 U	34 U	37 U	34 U	33 U	34 U	34 U	35 U	35 U
Aroclor-1260	35 U	33 U	33 U	33 U	33 U	34 U	34 U	42 U	40 U	34 U	34 U	37 U	34 U	33 U	34 U	34 U	35 U	35 U
beta-BHC	1.8 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	2.2 U	2 U	1.8 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U
delta-BHC	1.8 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	2.2 U	2 U	1.8 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U
Dieldrin	3.5 U	3.3 U	3.3 U	3.3 U	3.3 U	3.4 U	3.4 U	4.2 U	4 U	3.4 U	3.4 U	3.7 U	3.4 U	3.3 U	3.4 U	3.4 U	3.5 U	3.5 U
Endosulfan I	1.8 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	2.2 U	2 U	1.8 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U
Endosulfan II	3.5 U	3.3 U	3.3 U	3.3 U	3.3 U	3.4 U	3.4 U	4.2 U	4 U	3.4 U	3.4 U	3.7 U	3.4 U	3.3 U	3.4 U	3.4 U	3.5 U	3.5 U
Endosulfan sulfate	3.5 U	3.3 U	3.3 U	3.3 U	3.3 U	3.4 U	3.4 U	4.2 U	4 U	3.4 U	3.4 U	3.7 U	3.4 U	3.3 U	3.4 U	3.4 U	3.5 U	3.5 U
Endrin	3.5 U	3.3 U	3.3 U	3.3 U	3.3 U	3.4 U	3.4 U	4.2 U	4 U	3.4 U	3.4 U	3.7 U	3.4 U	3.3 U	3.4 U	3.4 U	3.5 U	3.5 U
Endrin aldehyde	3.5 U	3.3 U	3.3 U	3.3 U	3.3 U	3.4 U	3.4 U	4.2 U	4 U	3.4 U	3.4 U	3.7 U	3.4 U	3.3 U	3.4 U	3.4 U	3.5 U	3.5 U
Endrin ketone	3.5 U	3.3 U	3.3 U	3.3 U	3.3 U	3.4 U	3.4 U	4.2 U	4 U	3.4 U	3.4 U	3.7 U	3.4 U	3.3 U	3.4 U	3.4 U	3.5 U	3.5 U
gamma-BHC (Lindane)	1.8 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	2.2 U	2 U	1.8 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U
gamma-Chlordane	1.8 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	2.2 U	2 U	1.8 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U
Heptachlor	1.8 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	2.2 U	2 U	1.8 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U
Heptachlor epoxide	1.8 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	2.2 U	2 U	1.8 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U
Methoxychlor	18 U	17 U	17 U	17 U	17 U	17 U	18 U	22 U	20 U	18 U	17 U	19 U	17 U	17 U	17 U	17 U	18 U	18 U

SHORT ID		0300018					0300020					0300053		
SAMPLE ID	*030S001802*	*030S001804*	*030S001806*	*030S001808*	*030S002002*	*030S002004*	*030S002006*	*030S002008*	*030S002010*	*030S005302*	*030S005304*	*030S005306*	*030S005308*	*030S005310*
SAMPLE DATE	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/13/1993*	*8/12/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*	*8/10/1993*
PESTICIDES														
4,4-DDD	3.4 U	7 U	3.4 U	3.9 U	17	47 U	3.4 U	3.3 U	3.6 U	3.6 U	3.4 U	3.7 U	3.3 U	3.4 U
4,4-DDE	6.2	7 U	3.4 U	3.9 U	120 D	47 U	3.4 U	3.3 U	3.6 U	3.6 U	3.4 U	3.7 U	3.3 U	3.4 U
4,4-DDT	7.2	7 U	3.4 U	3.9 U	87 D	47 U	3.4 U	3.3 U	3.6 U	3.6 U	3.4 U	3.7 U	3.3 U	3.4 U
Aldrin	1.7 U	3.6 U	1.7 U	2 U	1.7 U	24 U	1.8 U	1.7 U	1.8 U	1.8 U	1.7 U	1.9 U	1.7 U	1.8 U
alpha-BHC	1.7 U	3.6 U	1.7 U	2 U	1.7 U	24 U	1.8 U	1.7 U	1.8 U	1.8 U	1.7 U	1.9 U	1.7 U	1.8 U
alpha-Chlordane	1.7 U	3.6 U	1.7 U	2 U	1.7 U	24 U	1.8 U	1.7 U	1.8 U	1.8 U	1.7 U	1.9 U	1.7 U	1.8 U
Aroclor-1016	34 U	70 U	34 U	39 U	34 U	470 U	34 U	33 U	36 U	36 U	34 U	37 U	33 U	34 U
Aroclor-1242	34 U	70 U	34 U	39 U	34 U	470 U	34 U	33 U	36 U	36 U	34 U	37 U	33 U	34 U
Aroclor-1248	34 U	70 U	34 U	39 U	34 U	470 U	34 U	33 U	36 U	36 U	34 U	37 U	33 U	34 U
Aroclor-1254	34 U	70 U	34 U	39 U	34 U	470 U	34 U	33 U	36 U	36 U	34 U	37 U	33 U	34 U
Aroclor-1260	34 U	70 U	34 U	39 U	250	470 U	34 U	33 U	36 U	36 U	34 U	37 U	33 U	34 U
beta-BHC	1.7 U	3.6 U	1.7 U	2 U	1.7 U	24 U	1.8 U	1.7 U	1.8 U	1.8 U	1.7 U	1.9 U	1.7 U	1.8 U
delta-BHC	1.7 U	3.6 U	1.7 U	2 U	1.7 U	24 U	1.8 U	1.7 U	1.8 U	1.8 U	1.7 U	1.9 U	1.7 U	1.8 U
Dieldrin	3.4 U	7 U	3.4 U	3.9 U	3.4 U	47 U	3.4 U	3.3 U	3.6 U	3.6 U	3.4 U	3.7 U	3.3 U	3.4 U
Endosulfan I	1.7 U	3.6 U	1.7 U	2 U	1.7 U	24 U	1.8 U	1.7 U	1.8 U	1.8 U	1.7 U	1.9 U	1.7 U	1.8 U
Endosulfan II	3.4 U	7 U	3.4 U	3.9 U	7.8	47 U	3.4 U	3.3 U	3.6 U	3.6 U	3.4 U	3.7 U	3.3 U	3.4 U
Endosulfan sulfate	3.4 U	7 U	3.4 U	3.9 U	3.4 U	47 U	3.4 U	3.3 U	3.6 U	3.6 U	3.4 U	3.7 U	3.3 U	3.4 U
Endrin	3.4 U	7 U	3.4 U	3.9 U	3.4 U	47 U	3.4 U	3.3 U	3.6 U	3.6 U	3.4 U	3.7 U	3.3 U	3.4 U
Endrin aldehyde	3.4 U	7 U	3.4 U	3.9 U	3.4 U	47 U	3.4 U	3.3 U	3.6 U	3.6 U	3.4 U	3.7 U	3.3 U	3.4 U
Endrin ketone	3.4 U	7 U	3.4 U	3.9 U	3.4 U	47 U	3.4 U	3.3 U	3.6 U	3.6 U	3.4 U	3.7 U	3.3 U	3.4 U
gamma-BHC (Lindane)	1.7 U	3.6 U	1.7 U	2 U	1.7 U	24 U	1.8 U	1.7 U	1.8 U	1.8 U	1.7 U	1.9 U	1.7 U	1.8 U
gamma-Chlordane	1.7 U	3.6 U	1.7 U	2 U	1.7 U	24 U	1.8 U	1.7 U	1.8 U	1.8 U	1.7 U	1.9 U	1.7 U	1.8 U
Heptachlor	1.7 U	3.6 U	1.7 U	2 U	1.7 U	24 U	1.8 U	1.7 U	1.8 U	1.8 U	1.7 U	1.9 U	1.7 U	1.8 U
Heptachlor epoxide	1.7 U	3.6 U	1.7 U	2 U	1.7 U	24 U	1.8 U	1.7 U	1.8 U	1.8 U	1.7 U	1.9 U	1.7 U	1.8 U
Methoxychlor	17 U	36 U	17 U	20 U	17 U	240 U	18 U	17 U	18 U	18 U	17 U	19 U	17 U	18 U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID	0300059								0300061								0300101	
SAMPLE ID	*030S005902*	*030S005904*	*030S005906*	*030S005908*	*030S005910*	*030S005912*	*030S005914*	*030S005916*	*030S006102*	*030S006104*	*030S006106*	*030S006108*	*030S006110*	*030S006112*	*030S006114*	*030S006116*	*030S010101*	*030S010104*
SAMPLE DATE	*11/16/1993*	*11/16/1993*	*11/16/1993*	*11/16/1993*	*11/16/1993*	*11/16/1993*	*11/16/1993*	*11/16/1993*	*11/17/1993*	*11/17/1993*	*11/17/1993*	*11/17/1993*	*11/17/1993*	*11/17/1993*	*11/17/1993*	*11/17/1993*	*9/1/1993*	*9/1/1993*
PESTICIDES																		
4,4-DDD	3.6 U	3.5 U	3.4 U	3.5 U	3.4 U	3.5 U	3.4 U	3.4 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.4 U	3.4 U	3.4U	3.4U
4,4-DDE	3.6 U	3.5 U	3.4 U	3.5 U	3.4 U	3.5 U	3.4 U	3.4 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.4 U	3.4 U	3.4U	3.4U
4,4-DDT	3.6 U	3.5 U	3.4 U	3.5 U	3.4 U	3.5 U	3.4 U	3.4 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.4 U	3.4 U	3.4U	3.4U
Aldrin	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7U	1.8U
alpha-BHC	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7U	1.8U
alpha-Chlordane	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7U	1.8U
Aroclor-1016	36 U	35 U	34 U	35 U	34 U	35 U	34 U	34 U	35 U	35 U	35 U	35 U	35 U	35 U	34 U	34 U	34U	34U
Aroclor-1242	36 U	35 U	34 U	35 U	34 U	35 U	34 U	34 U	35 U	35 U	35 U	35 U	35 U	35 U	34 U	34 U	34U	34U
Aroclor-1248	36 U	35 U	34 U	35 U	34 U	35 U	34 U	34 U	35 U	35 U	35 U	35 U	35 U	35 U	34 U	34 U	34U	34U
Aroclor-1254	36 U	35 U	34 U	35 U	34 U	35 U	34 U	34 U	35 U	35 U	35 U	35 U	35 U	35 U	34 U	34 U	34U	34U
Aroclor-1260	36 U	35 U	34 U	35 U	34 U	35 U	34 U	34 U	35 U	35 U	35 U	35 U	35 U	35 U	34 U	34 U	34U	34U
beta-BHC	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7U	1.8U
delta-BHC	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7U	1.8U
Dieldrin	3.6 U	3.5 U	3.4 U	3.5 U	3.4 U	3.5 U	3.4 U	3.4 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.4 U	3.4 U	3.4U	3.4U
Endosulfan I	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7U	1.8U
Endosulfan II	3.6 U	3.5 U	3.4 U	3.5 U	3.4 U	3.5 U	3.4 U	3.4 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.4 U	3.4 U	3.4U	3.4U
Endosulfan sulfate	3.6 U	3.5 U	3.4 U	3.5 U	3.4 U	3.5 U	3.4 U	3.4 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.4 U	3.4 U	3.4U	3.4U
Endrin	3.6 U	3.5 U	3.4 U	3.5 U	3.4 U	3.5 U	3.4 U	3.4 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.4 U	3.4 U	3.4U	3.4U
Endrin aldehyde	3.6 U	3.5 U	3.4 U	3.5 U	3.4 U	3.5 U	3.4 U	3.4 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.4 U	3.4 U	3.4U	3.4U
Endrin ketone	3.6 U	3.5 U	3.4 U	3.5 U	3.4 U	3.5 U	3.4 U	3.4 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.4 U	3.4 U	3.4U	3.4U
gamma-BHC (Lindane)	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7U	1.8U
gamma-Chlordane	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7U	1.8U
Heptachlor	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7U	1.8U
Heptachlor epoxide	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.7U	1.8U
Methoxychlor	18 U	18 U	18 U	18 U	18 U	18 U	18 U	18 U	18 U	18 U	18 U	18 U	18 U	18 U	18 U	17 U	17U	18U

SHORT ID	0300102		0300103		0300104			0300105		0300106				0300108		0300109		
SAMPLE ID	*030S010201*	*030S010202*	*030S010301*	*030S010304*	*030S010401*	*030S010403*	*030S010405*	*030S010502*	*030S010504*	*030S010601*	*030S010603*	*030S010605*	*030S010607*	*030S010802*	*030S010804*	*030S010901*	*030S010903*	*030S010905*
SAMPLE DATE	*8/30/1993*	*8/30/1993*	*9/8/1993*	*9/8/1993*	*9/3/1993*	*9/3/1993*	*9/3/1993*	*9/1/1993*	*9/1/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*9/1/1993*	*9/1/1993*	*9/2/1993*	*9/2/1993*	*9/2/1993*
PESTICIDES																		
4,4-DDD	11	3.4U	3.7U	5.4J	3.6U	3.4U	3.4U	3.6U	3.4U	3.3U	3.3U	3.9U	4.2U	3.4U	3.4U	3.6U	3.4U	3.4U
4,4-DDE	54D	3.4U	3.7U	14J	3.6U	3.4U	3.4U	3.6U	3.4U	7.3	3.3U	3.9U	4.2U	3.4U	3.4U	3.6U	3.4U	3.4U
4,4-DDT	45	3.4U	3.7U	21J	3.6U	3.4U	3.4U	3.6U	8.7	23J	3.3U	3.9U	4.2U	3.4U	3.4U	3.6U	3.4U	3.4U
Aldrin	1.8U	1.7U	1.9U	1.9U	1.9U	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	2U	2.2U	1.7U	1.7U	1.8U	1.8U	1.8U
alpha-BHC	1.8U	1.7U	1.9U	1.9U	1.9U	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	2U	2.2U	1.7U	1.7U	1.8U	1.8U	1.8U
alpha-Chlordane	1.8U	1.7U	1.9U	1.9U	1.9U	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	2U	2.2U	1.7U	1.7U	1.8U	1.8U	1.8U
Aroclor-1016	34U	34U	37U	37U	36U	34U	34U	36U	34U	33U	33U	39U	42U	34U	34U	36U	34U	34U
Aroclor-1242	34U	34U	37U	37U	36U	34U	34U	36U	34U	33U	33U	39U	42U	34U	34U	36U	34U	34U
Aroclor-1248	34U	34U	37U	37U	36U	34U	34U	36U	34U	33U	33U	39U	42U	34U	34U	36U	34U	34U
Aroclor-1254	34U	34U	37U	37U	36U	34U	34U	36U	34U	33U	33U	39U	42U	34U	34U	36U	34U	34U
Aroclor-1260	34U	34U	37U	150J	36U	34U	34U	36U	34U	93	33U	39U	42U	34U	34U	36U	34U	34U
beta-BHC	1.8U	1.7U	1.9U	1.9U	1.9U	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	2U	2.2U	1.7U	1.7U	1.8U	1.8U	1.8U
delta-BHC	1.8U	1.7U	1.9U	1.9U	1.9U	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	2U	2.2U	1.7U	1.7U	1.8U	1.8U	1.8U
Dieldrin	3.4U	3.4U	3.7U	4.4J	3.6U	3.4U	3.4U	3.6U	3.4U	15	3.3U	3.9U	4.2U	3.4U	3.4U	3.6U	3.4U	3.4U
Endosulfan I	1.8U	1.7U	1.9U	1.9U	1.9U	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	2U	2.2U	1.7U	1.7U	1.8U	1.8U	1.8U
Endosulfan II	3.4U	3.4U	3.7U	3.7U	3.6U	3.4U	3.4U	3.6U	3.4U	3.3U	3.3U	3.9U	4.2U	3.4U	3.4U	3.6U	3.4U	3.4U
Endosulfan sulfate	3.4U	3.4U	3.7U	3.7U	3.6U	3.4U	3.4U	3.6U	3.4U	3.3U	3.3U	3.9U	4.2U	3.4U	3.4U	3.6U	3.4U	3.4U
Endrin	3.4U	3.4U	3.7U	3.7U	3.6U	3.4U	3.4U	3.6U	3.4U	3.3U	3.3U	3.9U	4.2U	3.4U	3.4U	3.6U	3.4U	3.4U
Endrin aldehyde	3.4U	3.4U	3.7U	3.7U	3.6U	3.4U	3.4U	3.6U	3.4U	3.3U	3.3U	3.9U	4.2U	3.4U	3.4U	3.6U	3.4U	3.4U
Endrin ketone	3.4U	3.4U	3.7U	3.7U	3.6U	3.4U	3.4U	3.6U	3.4U	3.3U	3.3U	3.9U	4.2U	3.4U	3.4U	3.6U	3.4U	3.4U
gamma-BHC (Lindane)	1.8U	1.7U	1.9U	1.9U	1.9U	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	2U	2.2U	1.7U	1.7U	1.8U	1.8U	1.8U
gamma-Chlordane	1.8U	1.7U	1.9U	1.9U	1.9U	1.8U	1.7U	1.8U	1.7U	2	1.7U	2U	2.2U	1.7U	1.7U	1.8U	1.8U	1.8U
Heptachlor	1.8U	1.7U	1.9U	1.9U	1.9U	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	2U	2.2U	1.7U	1.7U	1.8U	1.8U	1.8U
Heptachlor epoxide	1.8U	1.7U	1.9U	1.9U	1.9U	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	2U	2.2U	1.7U	1.7U	1.8U	1.8U	1.8U
Methoxychlor	18U	17U	19U	19U	19U	18U	17U	18U	17U	17U	17U	20U	22U	17U	17U	18U	18U	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID	0300110			0300111		0300112			0300113		0300114				0300115		0300116	
SAMPLE ID	*030S011001*	*030S011003*	*030S011005*	*030S011102*	*030S011104*	*030S011201*	*030S011203*	*030S011205*	*030S011301*	*030S011304*	*030S011401*	*030S011403*	*030S011405*	*030S011407*	*030S011501*	*030S011506*	*030S011601*	*030S011603*
SAMPLE DATE	*9/2/1993*	*9/2/1993*	*9/2/1993*	*9/1/1993*	*9/1/1993*	*9/7/1993*	*9/7/1993*	*9/7/1993*	*9/8/1993*	*9/8/1993*	*9/3/1993*	*9/3/1993*	*9/3/1993*	*9/3/1993*	*9/7/1993*	*9/7/1993*	*9/2/1993*	*9/2/1993*
PESTICIDES																		
4,4-DDD	8	3.4U	3.9U	3.3U	3.4U	3.3U	3.4U	3.7U	3.7U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U
4,4-DDE	3.3U	3.4U	3.9U	3.3U	3.4U	3.3U	3.4U	3.7U	3.7U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U
4,4-DDT	26	3.9	3.9U	3.3U	3.4U	5.7	3.4U	3.7U	3.7U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U
Aldrin	1.7U	1.8U	2U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
alpha-BHC	1.7U	1.8U	2U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
alpha-Chlordane	1.7U	1.8U	2U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	1.7U	1.8U	1.8U	2.4J	1.8U	1.9	1.8U
Aroclor-1016	33U	34U	39U	33U	34U	33U	34U	37U	37U	34U	34U	34U	34U	34U	35U	34U	35U	36U
Aroclor-1242	33U	34U	39U	33U	34U	33U	34U	37U	37U	34U	34U	34U	34U	34U	35U	34U	35U	36U
Aroclor-1248	33U	34U	39U	33U	34U	33U	34U	37U	37U	34U	34U	34U	34U	34U	35U	34U	35U	36U
Aroclor-1254	33U	34U	39U	33U	34U	33U	34U	37U	37U	34U	34U	34U	34U	34U	35U	34U	35U	36U
Aroclor-1260	33U	34U	39U	33U	34U	33U	34U	37U	37U	34U	34U	34U	34U	34U	35U	34U	35U	36U
beta-BHC	1.7U	1.8U	2U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
delta-BHC	1.7U	1.8U	2U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Dieldrin	3.8	3.4U	3.9U	3.3U	3.4U	3.3U	3.4U	3.7U	3.7U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U
Endosulfan I	1.7U	1.8U	2U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Endosulfan II	3.3U	3.4U	3.9U	3.3U	3.4U	3.3U	3.4U	3.7U	3.7U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U
Endosulfan sulfate	3.3U	3.4U	3.9U	3.3U	3.4U	3.3U	3.4U	3.7U	3.7U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U
Endrin	3.3U	3.4U	3.9U	3.3U	3.4U	3.3U	3.4U	3.7U	3.7U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U
Endrin aldehyde	3.3U	3.4U	3.9U	3.3U	3.4U	3.3U	3.4U	3.7U	3.7U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U
Endrin ketone	3.3U	3.4U	3.9U	3.3U	3.4U	3.3U	3.4U	3.7U	3.7U	3.4U	3.4U	3.4U	3.4U	3.4U	3.5U	3.4U	3.5U	3.6U
gamma-BHC (Lindane)	1.7U	1.8U	2U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
gamma-Chlordane	1.7U	1.8U	2U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	1.7U	1.8U	1.8U	8.3	1.8U	1.8U	1.8U
Heptachlor	1.7U	1.8U	2U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Heptachlor epoxide	1.7U	1.8U	2U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Methoxychlor	17U	18U	20U	17U	18U	17U	18U	19U	19U	18U	18U	17U	18U	18U	18U	18U	18U	18U

SHORT ID	0300117			0300118	0300120		0300121		0300122		0300123		0300124		0300125			0300126	
SAMPLE ID	*030S011701*	*030S011703*	*030S011704*	*030S011802*	*030S012001*	*030S012006*	*030S012101*	*030S012103*	*030S012201*	*030S012203*	*030S012301*	*030S012304*	*030S012401*	*030S012403*	*030S012501*	*030S012503*	*030S012505*	*030S012602*	*030S012606*
SAMPLE DATE	*9/2/1993*	*9/2/1993*	*9/2/1993*	*9/7/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*9/10/1993*	*9/10/1993*	*9/24/1993*	*9/24/1993*	*9/24/1993*	*9/24/1993*	*6/7/1993*	*9/9/1993*	*9/9/1993*
PESTICIDES																			
4,4-DDD	3.5U	3.7U	4U	3.5U	6.9	3.7U	3.4UR	3.5U	3.4U	3.5U	3.3U	3.4U	3.7U	3.7U	12J	3.4U	3.4U	3.5U	3.7U
4,4-DDE	3.5U	3.7U	4U	3.5U	8.1	3.7U	3.4UR	3.5U	3.4U	3.5U	3.3U	3.4U	4.5	3.7U	17	3.4U	3.4U	3.5U	3.7U
4,4-DDT	3.5U	3.7U	4U	3.5U	19	3.7U	3.4UR	3.5U	3.4U	3.5U	3.3U	3.4U	3.7U	3.7U	3.6U	3.4U	3.4U	3.5U	3.7U
Aldrin	1.8U	1.9U	2.1U	1.8U	1.7U	1.9U	1.7UR	1.8U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.9U	1.8U	1.8U	1.8U	1.9U
alpha-BHC	1.8U	1.9U	2.1U	1.8U	1.7U	1.9U	1.7UR	1.8U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.9U	1.8U	1.8U	1.8U	1.9U
alpha-Chlordane	1.8U	1.9U	2.1U	1.8U	1.7U	1.9U	1.7UR	1.8U	4.1J	9U	1.7U	1.8U	1.9U	1.9U	2.7J	1.8U	1.8U	1.8U	1.9U
Aroclor-1016	35U	37U	40U	35U	34U	37U	34UR	35U	34U	35U	33U	34U	37U	37U	36U	34U	34U	35U	37U
Aroclor-1242	35U	37U	40U	35U	34U	37U	34UR	35U	34U	35U	33U	34U	37U	37U	36U	34U	34U	35U	37U
Aroclor-1248	35U	37U	40U	35U	34U	37U	34UR	35U	34U	35U	33U	34U	37U	37U	36U	34U	34U	35U	37U
Aroclor-1254	35U	37U	40U	35U	34U	37U	34UR	35U	34U	35U	33U	34U	37U	37U	36U	34U	34U	35U	37U
Aroclor-1260	35U	37U	40U	35U	34U	37U	34UR	35U	34U	35U	33U	34U	82	37U	240	34U	34U	35U	37U
beta-BHC	1.8U	1.9U	2.1U	1.8U	1.7U	1.9U	1.7UR	1.8U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.9U	1.8U	1.8U	1.8U	1.9U
delta-BHC	1.8U	1.9U	2.1U	1.8U	1.7U	1.9U	1.7UR	1.8U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.9U	1.8U	1.8U	1.8U	1.9U
Dieldrin	3.5U	3.7U	6.1	3.5U	6	3.7U	3.4UR	3.5U	10	9.1	14	17	18	3.7U	32	31J	3.4U	3.5U	40
Endosulfan I	1.8U	1.9U	2.1U	1.8U	1.7U	1.9U	1.7UR	1.8U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.9U	1.8U	1.8U	1.8U	1.9U
Endosulfan II	3.5U	3.7U	4U	3.5U	3.4U	3.7U	3.4UR	3.5U	3.4U	3.5U	3.3U	3.4U	3.7U	3.7U	3.6U	3.4U	3.4U	3.5U	3.7U
Endosulfan sulfate	3.5U	3.7U	4U	3.5U	3.4U	3.7U	3.4UR	3.5U	3.4U	3.5U	3.3U	3.4U	3.7U	3.7U	3.6U	3.4U	3.4U	3.5U	3.7U
Endrin	3.5U	3.7U	4U	3.5U	3.4U	3.7U	3.4UR	3.5U	3.4U	3.5U	3.3U	3.4U	3.7U	3.7U	3.8J	3.4U	3.4U	3.5U	3.7U
Endrin aldehyde	3.5U	3.7U	4U	3.5U	3.4U	3.7U	3.4UR	3.5U	3.4U	3.5U	3.3U	3.4U	3.7U	3.7U	3.6U	3.4U	3.4U	3.5U	3.7U
Endrin ketone	3.5U	3.7U	4U	3.5U	3.4U	3.7U	3.4UR	3.5U	3.4U	3.5U	3.3U	3.4U	3.7U	3.7U	3.6U	3.4U	3.4U	3.5U	3.7U
gamma-BHC (Lindane)	1.8U	1.9U	2.1U	1.8U	1.7U	1.9U	1.7UR	1.8U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.9U	1.8U	1.8U	1.8U	1.9U
gamma-Chlordane	1.8U	1.9U	2.1U	1.8U	1.7U	1.9U	1.7UR	1.8U	3.4	1.8U	1.7U	1.8U	1.9U	1.9U	4.2J	1.8U	1.8U	1.8U	1.9U
Heptachlor	1.8U	1.9U	2.1U	1.8U	1.7U	1.9U	1.7UR	1.8U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.9U	1.8U	1.8U	1.8U	1.9U
Heptachlor epoxide	1.8U	1.9U	2.1U	1.8U	1.7U	1.9U	1.7UR	1.8U	1.7U	1.8U	1.7U	1.8U	1.9U	1.9U	1.9U	1.8U	1.8U	1.8U	1.9U
Methoxychlor	18U	19U	21U	18U	17U	19U	17UR	18U	17U	18U	17U	18U	19U	19U	19U	18U	18U	18U	19U

NOTES:

1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID	0300127			0300128		0300129		0300130	0300134	0300135		0300137			0300138			
SAMPLE ID	*030S012701*	*030S012703*	*030S012705*	*030S012801*	*030S012806*	*030S012901*	*030S012906*	*030S013001*	*030S013401*	*030S013501*	*030S013506*	*030S013701*	*030S013706*	*030S013711*	*030S013801*	*030S013806*	*030S013811*	*030S013815*
SAMPLE DATE	*9/24/1993*	*9/24/1993*	*9/24/1993*	*9/15/1993*	*9/15/1993*	*9/15/1993*	*9/15/1993*	*9/21/1993*	*10/1/1993*	*10/1/1993*	*10/1/1993*	*9/30/1993*	*9/30/1993*	*9/30/1993*	*9/28/1993*	*9/28/1993*	*9/28/1993*	*9/28/1993*
PESTICIDES																		
4,4-DDD	3.4U	3.4U	3.3U	3.4U	3.6U	3.5U	4U	5	4.4U	3.4U	3.8U	3.6U	3.4U	3.4U	20UR	3.5U	3.4U	3.5 U
4,4-DDE	4.2	3.4U	3.3U	3.4U	3.6U	3.5U	4U	4.4U	4.4U	3.6	3.8U	7.7J	3.4U	3.4U	60J	3.5U	3.4U	3.5 U
4,4-DDT	3.4U	3.4U	3.3U	4U	3.6U	3.5U	4U	8.6J	4.4U	7.8	3.8U	24J	3.4U	3.4U	6.9UR	3.5U	3.4U	3.5 U
Aldrin	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	2.1U	2.3U	2.3U	1.7U	2U	1.9U	1.7U	1.7U	36UD	1.8U	1.7U	1.8 U
alpha-BHC	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	2.1U	2.3U	2.3U	1.7U	2U	1.9U	1.7U	1.7U	3.6UR	1.8U	1.7U	1.8 U
alpha-Chlordane	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	2.1U	2.3U	2.3U	1.7U	2U	2.5J	1.7U	1.7U	3.6UR	1.8U	1.7U	1.8 U
Aroclor-1016	34U	34U	33U	34U	36U	35U	40U	44U	44U	34U	38U	36U	34U	34U	69UR	35U	34U	35 U
Aroclor-1242	34U	34U	33U	34U	36U	35U	40U	44U	44U	34U	38U	36U	34U	34U	10000DJ	35U	34U	35 U
Aroclor-1248	34U	34U	33U	34U	36U	35U	40U	44U	44U	34U	38U	36U	34U	34U	69UR	35U	34U	35 U
Aroclor-1254	82	34U	33U	69	36U	35U	40U	44U	44U	34U	38U	36U	34U	34U	1800DJ	35U	34U	35 U
Aroclor-1260	75	34U	33U	34U	36U	35U	40U	44U	44U	34U	38U	410J	34U	34U	580J	35U	34U	35 U
beta-BHC	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	2.1U	2.3U	2.3U	1.7U	2U	1.9U	1.7U	1.7U	3.6UR	1.8U	1.7U	1.8 U
delta-BHC	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	2.1U	2.3U	2.3U	1.7U	2U	1.9U	1.7U	1.7U	3.6UR	1.8U	1.7U	1.8 U
Dieldrin	11	85D	7.2	6	3.6U	4.2	4U	4.4U	4.4U	3.4U	3.8U	5.6J	3.4U	3.4U	6.9UR	3.5U	3.4U	3.5 U
Endosulfan I	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	2.1U	2.3U	2.3U	1.7U	2U	1.9U	1.7U	1.7U	3.6UR	1.8U	1.7U	1.8 U
Endosulfan II	3.4U	3.4U	3.3U	3.4U	3.6U	3.5U	4U	4.4U	4.4U	3.4U	3.8U	8.5J	3.4U	3.4U	6.9UR	3.5U	3.4U	3.5 U
Endosulfan sulfate	3.4U	3.4U	3.3U	3.4U	3.6U	3.5U	4U	4.4U	4.4U	3.4U	3.8U	3.6U	3.4U	3.4U	6.9UR	3.5U	3.4U	3.5 U
Endrin	3.4U	3.4U	3.3U	3.4U	3.6U	3.5U	4U	4.4U	4.4U	3.4U	3.8U	3.6UJ	3.4U	3.4U	6.9UR	3.5U	3.4U	3.5 U
Endrin aldehyde	3.4U	3.4U	3.3U	3.4U	3.6U	3.5U	4U	4.4U	4.4U	3.4U	3.8U	3.6U	3.4U	3.4U	6.9UR	3.5U	3.4U	3.5 U
Endrin ketone	3.4U	3.4U	3.3U	3.4U	3.6U	3.5U	4U	4.4U	4.4U	3.4U	3.8U	3.6U	3.4U	3.4U	6.9UR	3.5U	3.4U	3.5 U
gamma-BHC (Lindane)	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	2.1U	2.3U	2.3U	1.7U	2U	1.9U	1.7U	1.7U	3.6UR	1.8U	1.7U	1.8 U
gamma-Chlordane	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	2.1U	2.3U	2.3U	1.7U	2U	3.9J	1.7U	1.7U	20UR	1.8U	1.7U	1.8 U
Heptachlor	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	2.1U	2.3U	2.3U	1.7U	2U	4U	1.7U	1.7U	3.6UR	1.8U	1.7U	1.8 U
Heptachlor epoxide	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	2.1U	2.3U	2.3U	1.7U	2U	1.9U	1.7U	1.7U	3.6UR	1.8U	1.7U	1.8 U
Methoxychlor	18U	18U	17U	18U	18U	18U	21U	23U	23U	17U	20U	19U	17U	17U	36UR	18U	17U	18 U

SHORT ID	0300139		0300140			0300141					0300142		0300143			
SAMPLE ID	*030S013901*	*030S013906*	*030S014001*	*030S014006*	*030S014011*	*030S014101*	*030S014106*	*030S014111*	*030S014116*	*030S014121*	*030S014201*	*030S014206*	*030S014301*	*030S014306*	*030S014311*	*030S014316*
SAMPLE DATE	*10/1/1993*	*10/1/1993*	*9/30/1993*	*9/30/1993*	*9/30/1993*	*9/24/1993*	*9/24/1993*	*6/9/1993*	*9/24/1993*	*9/24/1993*	*9/24/1993*	*9/24/1993*	*10/4/1993*	*10/4/1993*	*10/4/1993*	*10/4/1993*
PESTICIDES																
4,4-DDD	3.5 U	3.5 U	4.8 J	3.4 U	3.3 U	3.6 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 U	3.4 U	3.4 U	3.4 U
4,4-DDE	6.6	3.5 U	12 J	3.4 U	3.3 U	3.6 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 UJ	3.4 UJ	3.4 U	3.4 U
4,4-DDT	6.3	3.5 U	10 J	3.4 U	3.3 U	3.6 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 U	3.4 U	3.4 UJ	3.4 UJ
Aldrin	1.8 U	1.8 U	1.7 U	1.7 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.8 U	1.7 U	1.7 U
alpha-BHC	1.8 U	1.8 U	1.7 U	1.7 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.8 U	1.7 UJ	1.7 UJ
alpha-Chlordane	1.8 U	1.8 U	1.7 U	1.7 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.8 U	1.7 U	1.7 U
Aroclor-1016	35 U	35 U	34 U	34 U	33 U	36 U	34 U	34 U	34 U	34 U	34 U	34 U	35 U	34 U	34 U	34 U
Aroclor-1242	35 U	35 U	34 U	34 U	33 U	36 U	34 U	34 U	34 U	34 U	34 U	34 U	35 U	34 U	34 U	34 U
Aroclor-1248	35 U	35 U	34 U	34 U	33 U	36 U	34 U	34 U	34 U	34 U	34 U	34 U	35 U	34 U	34 U	34 U
Aroclor-1254	35 U	35 U	34 U	34 U	33 U	36 U	34 U	34 U	34 U	34 U	34 U	34 U	35 U	34 U	34 U	34 U
Aroclor-1260	35 U	35 U	34 U	34 U	33 U	36 U	34 U	34 U	34 U	34 U	34 U	34 U	35 U	34 U	34 U	34 U
beta-BHC	1.8 U	1.8 U	1.7 U	1.7 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.8 U	1.7 UJ	1.7 UJ
delta-BHC	1.8 U	1.8 U	1.7 U	1.7 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.8 U	1.7 U	1.7 U
Dieldrin	3.5 U	3.5 U	3.4 U	3.4 U	3.3 U	3.6 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 U	3.4 U	3.4 U	3.4 U
Endosulfan I	1.8 U	1.8 U	1.7 U	1.7 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.8 U	1.7 U	1.7 U
Endosulfan II	3.5 U	3.5 U	4 J	3.4 U	3.3 U	3.6 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 U	3.4 U	3.4 U	3.4 U
Endosulfan sulfate	3.5 U	3.5 U	3.4 U	3.4 U	3.3 U	3.6 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 U	3.4 U	3.4 U	3.4 U
Endrin	3.5 U	3.5 U	3.4 U	3.4 U	3.3 U	3.6 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 U	3.4 U	3.4 UJ	3.4 UJ
Endrin aldehyde	3.5 U	3.5 U	3.4 U	3.4 U	3.3 U	3.6 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 U	3.4 U	3.4 U	3.4 U
Endrin ketone	3.5 U	3.5 U	3.4 U	3.4 U	3.3 U	3.6 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 U	3.4 U	3.4 U	3.4 U
gamma-BHC (Lindane)	1.8 U	1.8 U	1.7 U	1.7 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.8 U	1.7 UJ	1.7 UJ
gamma-Chlordane	1.8 U	1.8 U	1.7 U	1.7 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.8 U	1.7 U	1.7 U
Heptachlor	1.8 U	1.8 U	1.7 U	1.7 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.8 U	1.7 U	1.7 U
Heptachlor epoxide	1.8 U	1.8 U	1.7 U	1.7 U	1.7 U	1.9 U	1.7 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.8 U	1.7 U	1.7 U
Methoxychlor	18 U	18 U	17 U	17 U	17 U	19 U	17 U	17 U	17 U	18 U	17 U	17 U	18 U	18 U	17 U	17 U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID	0300145					0300147				0300148		0300149			
SAMPLE ID	*030S014501*	*030S014506*	*030S014511*	*030S014516*	*030S014521*	*030S014701*	*030S014706*	*030S014711*	*030S014716*	*030S014810*	*030S014815*	*030S014901*	*030S014906*	*030S014911*	*030S014916*
SAMPLE DATE	*10/7/1993*	*10/4/1993*	*10/7/1993*	*10/4/1993*	*10/7/1993*	*9/27/1993*	*9/27/1993*	*9/27/1993*	*9/27/1993*	*9/21/1993*	*9/21/1993*	*9/27/1993*	*9/27/1993*	*9/27/1993*	*9/27/1993*
PESTICIDES															
4,4-DDD	3.4 U	3.3 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 U	3.5 U	3.4 U	3.5 U	3.5 U	3.4 U	3.4 U	3.7 U
4,4-DDE	3.4 U	3.3 U	3.4 UJ	3.4 UJ	3.4 UJ	3.4 U	3.4 U	3.5 U	3.5 U	3.4 U	3.5 U	3.5 U	3.4 U	3.4 U	3.7 U
4,4-DDT	3.4 UJ	3.3 UJ	3.4 UJ	3.4 UJ	3.4 UJ	3.4 U	3.4 U	3.5 U	3.5 U	3.4 U	3.5 U	3.5 U	3.4 U	3.4 U	3.7 U
Aldrin	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U
alpha-BHC	1.7 UJ	1.7 UJ	1.7 UJ	1.7 UJ	1.7 UJ	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U
alpha-Chlordane	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U
Aroclor-1016	34 U	33 U	34 U	34 U	34 U	34 U	34 U	35 U	35 U	34 U	35 U	35 U	34 U	34 U	37 U
Aroclor-1242	34 U	33 U	34 U	34 U	34 U	34 U	34 U	35 U	35 U	34 U	35 U	35 U	34 U	34 U	37 U
Aroclor-1248	34 U	33 U	34 U	34 U	34 U	34 U	34 U	35 U	35 U	34 U	35 U	35 U	34 U	34 U	37 U
Aroclor-1254	34 U	33 U	34 U	34 U	34 U	34 U	34 U	35 U	35 U	34 U	35 U	35 U	34 U	34 U	37 U
Aroclor-1260	34 U	33 U	34 U	34 U	34 U	34 U	34 U	35 U	35 U	34 U	35 U	35 U	34 U	34 U	37 U
beta-BHC	1.7 UJ	1.7 UJ	1.7 UJ	1.7 UJ	1.7 UJ	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U
delta-BHC	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U
Dieldrin	3.4 U	3.3 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 U	3.5 U	3.4 U	3.5 U	3.5 U	3.4 U	3.4 U	3.7 U
Endosulfan I	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U
Endosulfan II	3.4 U	3.3 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 U	3.5 U	3.4 U	3.5 U	3.5 U	3.4 U	3.4 U	3.7 U
Endosulfan sulfate	3.4 U	3.3 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 U	3.5 U	3.4 U	3.5 U	3.5 U	3.4 U	3.4 U	3.7 U
Endrin	3.4 UJ	3.3 UJ	3.4 UJ	3.4 UJ	3.4 UJ	3.4 U	3.4 U	3.5 U	3.5 U	3.4 U	3.5 U	3.5 U	3.4 U	3.4 U	3.7 U
Endrin aldehyde	3.4 U	3.3 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 U	3.5 U	3.4 U	3.5 U	3.5 U	3.4 U	3.4 U	3.7 U
Endrin ketone	3.4 U	3.3 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.5 U	3.5 U	3.4 U	3.5 U	3.5 U	3.4 U	3.4 U	3.7 U
gamma-BHC (Lindane)	1.7 UJ	1.7 UJ	1.7 UJ	1.7 UJ	1.7 UJ	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U
gamma-Chlordane	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U
Heptachlor	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U
Heptachlor epoxide	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U
Methoxychlor	17 U	17 U	17 U	17 U	17 U	18 U	18 U	18 U	18 U	18 U	18 U	18 U	18 U	18 U	19 U

SHORT ID	0300150												0300151			
SAMPLE ID	*030S015001*	*030S015002*	*030S015004*	*030S015006*	*030S015008*	*030S015010*	*030S015011*	*030S015012*	*030S015014*	*030S015016*	*030S015018*	*030S015020*	*030S015101*	*030S015106*	*030S015111*	*030S015113*
SAMPLE DATE	*9/21/1993*	*8/9/1993*	*8/9/1993*	*8/9/1993*	*8/9/1993*	*8/9/1993*	*9/21/1993*	*8/9/1993*	*8/9/1993*	*9/21/1993*	*8/9/1993*	*8/9/1993*	*9/28/1993*	*9/28/1993*	*9/28/1993*	*9/28/1993*
PESTICIDES																
4,4-DDD	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.3 U	3.4 U	3.3 U	3.4 U	3.6 U	3.3 U	3.4 U	3.4 U
4,4-DDE	34	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.3 U	3.4 U	3.3 U	3.4 U	3.6 U	3.3 U	3.4 U	3.4 U
4,4-DDT	23	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.3 U	3.4 U	3.3 U	3.4 U	3.6 U	3.3 U	3.4 U	3.4 U
Aldrin	2.3	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.7 U
alpha-BHC	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.7 U
alpha-Chlordane	1.8 U	1.7 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.7 U
Aroclor-1016	34 U	34 U	34 U	34 U	34 U	34 U	34 U	34 U	33 U	34 U	33 U	34 U	36 U	33 U	34 U	34 U
Aroclor-1242	34 U	34 U	34 U	34 U	34 U	34 U	34 U	34 U	33 U	34 U	33 U	34 U	36 U	33 U	34 U	34 U
Aroclor-1248	34 U	34 U	34 U	34 U	34 U	34 U	34 U	34 U	33 U	34 U	33 U	34 U	36 U	33 U	34 U	34 U
Aroclor-1254	34 U	34 U	34 U	34 U	34 U	34 U	34 U	34 U	33 U	34 U	33 U	34 U	36 U	33 U	34 U	34 U
Aroclor-1260	47	34 U	34 U	34 U	34 U	34 U	34 U	34 U	33 U	34 U	33 U	34 U	84	33 U	34 U	34 U
beta-BHC	1.8 U	1.7 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.7 U
delta-BHC	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.7 U
Dieldrin	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.3 U	3.4 U	3.3 U	3.4 U	5.9	3.3 U	3.4 U	3.4 U
Endosulfan I	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.7 U
Endosulfan II	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.3 U	3.4 U	3.3 U	3.4 U	3.6 U	3.3 U	3.4 U	3.4 U
Endosulfan sulfate	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.3 U	3.4 U	3.3 U	3.4 U	3.6 U	3.3 U	3.4 U	3.4 U
Endrin	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.3 U	3.4 U	3.3 U	3.4 U	3.6 U	3.3 U	3.4 U	3.4 U
Endrin aldehyde	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.3 U	3.4 U	3.3 U	3.4 U	3.6 U	3.3 U	3.4 U	3.4 U
Endrin ketone	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.3 U	3.4 U	3.3 U	3.4 U	3.6 U	3.3 U	3.4 U	3.4 U
gamma-BHC (Lindane)	1.8 U	1.7 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.7 U
gamma-Chlordane	1.8 U	1.7 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.7 U
Heptachlor	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.7 U
Heptachlor epoxide	1.8 U	1.7 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	1.7 U	1.7 U	1.8 U	1.7 U	1.7 U	1.7 U
Methoxychlor	18 U	17 U	18 U	18 U	18 U	18 U	18 U	18 U	17 U	18 U	17 U	17 U	18 U	17 U	17 U	17 U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-6 : Summary of Detections OU 2 Pesticides

SHORT ID	0300153				0300154			
SAMPLE ID	*030S015302*	*030S015306*	*030S015311*	*030S015316*	*030S015402*	*030S015406*	*030S015411*	*030S015416*
SAMPLE DATE	*9/8/1993*	*9/8/1993*	*9/8/1993*	*9/8/1993*	*9/9/1993*	*9/8/1993*	*9/9/1993*	*9/9/1993*
PESTICIDES								
4,4-DDD	3.6 U	3.4 U	3.4 U	3.5 U	3.6 U	3.6 U	3.5 U	3.5 U
4,4-DDE	3.6 U	3.4 U	3.4 U	3.5 U	3.6 U	3.6 U	3.5 U	3.5 U
4,4-DDT	3.6 U	3.4 U	3.4 U	3.5 U	5.7 J	3.6 U	3.5 U	3.5 U
Aldrin	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
alpha-BHC	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
alpha-Chlordane	1.8 U	1.8 U	1.7 U	1.8 U	2.8 J	1.8 U	1.8 U	1.8 U
Aroclor-1016	36 U	34 U	34 U	35 U	11 J	36 U	35 U	35 U
Aroclor-1242	36 U	34 U	34 U	35 U	36 U	36 U	35 U	35 U
Aroclor-1248	36 U	34 U	34 U	35 U	36 U	36 U	35 U	35 U
Aroclor-1254	36 U	34 U	34 U	35 U	36 U	36 U	35 U	35 U
Aroclor-1260	36 U	34 U	34 U	35 U	45 J	36 U	35 U	35 U
beta-BHC	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
delta-BHC	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Dieldrin	3.6 U	3.4 U	4.9	3.5 U	64DJ	28	3.5 U	3.5 U
Endosulfan I	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Endosulfan II	3.6 U	3.4 U	3.4 U	3.5 U	3.6 U	3.6 U	3.5 U	3.5 U
Endosulfan sulfate	3.6 U	3.4 U	3.4 U	3.5 U	3.6 U	3.6 U	3.5 U	3.5 U
Endrin	3.6 U	3.4 U	3.4 U	3.5 U	3.6 U	3.6 U	3.5 U	3.5 U
Endrin aldehyde	3.6 U	3.4 U	3.4 U	3.5 U	3.6 U	3.6 U	3.5 U	3.5 U
Endrin ketone	3.6 U	3.4 U	3.4 U	3.5 U	3.6 U	3.6 U	3.5 U	3.5 U
gamma-BHC (Lindane)	1.8 U	1.8 U	1.7 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
gamma-Chlordane	1.8 U	1.8 U	1.7 U	1.8 U	14 J	6.2	1.8 U	1.8 U
Heptachlor	1.8 U	1.8 U	1.7 U	1.8 U	3.7 J	1.8 U	1.8 U	1.8 U
Heptachlor epoxide	1.8 U	1.8 U	1.7 U	1.8 U	4.9 J	1.9	1.8 U	1.8 U
Methoxychlor	18 U	18 U	17 U	18 U	18 U	18 U	18 U	18 U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-7 : Summary of Detections OU1

SHORT ID	0010001	0010039	0010042	0010062	0010064	0010067										
SAMPLE ID	*001S000101*	*001S003901*	*001S004201*	*001S006201*	*001S006401*	*001S006701*	*001S006703*	*001S006705*	*001S006707*	*001S006709*	*001S006711*	*001S006713*	*001S006717*	*001S006719*	*001S006721*	*001S006723*
SAMPLE DATE	*8/24/1993*	*8/20/1993*	*8/23/1993*	*8/23/1993*	*8/30/1993*	*8/30/1993*	*8/23/1993*	*8/23/1993*	*8/23/1993*	*8/25/1993*	*8/25/1993*	*8/25/1993*	*8/25/1993*	*8/25/1993*	*8/25/1993*	*8/25/1993*
VOC																
1,1,1-Trichloroethane	10U	11U	10U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethene (total)	10U	11U	10U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acetone	7U	37U	20U	18U	280J	10U	7U	11U	17U	15U	13U	21U	27U	45U	22U	25U
Chlorobenzene	10U	11U	10U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	11U	10U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Ethylbenzene	10U	11U	10U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Tetrachloroethene	10U	11U	10U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	10U	11U	10U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Trichloroethene	10U	11U	10U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Xylene (Total)	10U	11U	10U	11U	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
SVOC																
1,2,4-Trichlorobenzene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
1,2-Dichlorobenzene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
1,4-Dichlorobenzene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
2,4-Dimethylphenol	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
2-Methylnaphthalene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
2-Methylphenol (o-Cresol)	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
4-Chloro-3-methylphenol	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
4-Methylphenol (p-Cresol)	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Acenaphthene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Anthracene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Benzo(a)anthracene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Benzo(a)pyrene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Benzo(b)fluoranthene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Benzo(g,h,i)perylene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Benzo(k)fluoranthene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
bis(2-Chloroethyl)ether	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Butylbenzylphthalate	37U	53U	74U	55U	46U	330U	340U	51U	340U	340U	340U	340U	340U	340U	340U	340U
Chrysene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Di-n-butylphthalate	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Fluoranthene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Fluorene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Indeno(1,2,3-cd)pyrene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Naphthalene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Pentachlorophenol	820U	830U	820U	830U	830U	810U	820U	810U	830U	830U	830U	830U	820U	830U	820U	820U
Phenanthrene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Phenol	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
Pyrene	340U	340U	340U	340U	340U	330U	340U	330U	340U	340U	340U	340U	340U	340U	340U	340U
PESTICIDES																
4,4-DDD	3.4U	3.5U	3.4U	3.5U	0.4J	3.3U	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
4,4-DDE	3.4U	0.13U	3.4U	0.12J	0.1U	0.14J	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
4,4-DDT	3.4U	3.5U	3.4U	3.5U	0.36J	0.55J	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
Aldrin	1.8U	1.8U	1.7U	0.12J	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	0.38J
alpha-BHC	1.8U	1.8U	1.7U	1.8U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
alpha-Chlordane	1.8U	1.8U	1.7U	1.8U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Aroclor-1242	34U	35U	34U	35U	35U	33U	34U	33U	34U	34U	34U	34U	34U	34U	34U	34U
Aroclor-1248	34U	35U	34U	35U	35U	33U	34U	33U	34U	34U	34U	34U	34U	34U	34U	34U
Aroclor-1254	34U	35U	34U	35U	35U	33U	34U	33U	34U	34U	34U	34U	34U	34U	34U	34U
Aroclor-1260	34U	35U	34U	35U	35U	33U	34U	33U	34U	34U	34U	34U	34U	34U	34U	34U
beta-BHC	1.8U	1.8U	1.7U	1.8U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
delta-BHC	1.8U	1.8U	1.7U	0.064J	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Dieldrin	3.4U	3.5U	3.4U	3.5U	3.5U	0.45J	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	1J
Endosulfan I	1.8U	1.8U	1.7U	1.8U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Endosulfan II	3.4U	3.5U	3.4U	3.5U	3.5U	3.3U	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
Endosulfan sulfate	3.4U	3.5U	3.4U	0.28J	0.27J	3.3U	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
Endrin	3.4U	3.5U	3.4U	0.12J	0.099J	3.3U	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	1.1J
Endrin aldehyde	3.4U	3.5U	3.4U	3.5U	3.5U	1.4J	3.4U	0.62J	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
Endrin ketone	3.4U	3.5U	3.4U	3.5U	3.5U	3.3U	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U
gamma-BHC (Lindane)	1.8U	0.051U	1.7U	1.8U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	0.43J
gamma-Chlordane	1.8U	1.8U	1.7U	1.8U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	0.059J
Heptachlor	0.093U	0.15U	0.079U	0.11U	1.8U	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	0.55J
Heptachlor epoxide	1.8U	1.8U	1.7U	1.8U	0.081J	1.7U	1.7U	1.7U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	0.029J
Methoxychlor	18U	18U	17U	18U	18U	17U	17U	17U	18U	17U	18U	18U	18U	18U	18U	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-7 : Summary of Detections OU1

SHORT ID				0010069						0010071				0010072				0010073				0010074	
SAMPLE ID	*001S006901*	*001S006903*	*001S006905*	*001S006907*	*001S006909*	*001S006911*	*001S006913*	*001S007101*	*001S007108*	*001S007112*	*001S007201*	*001S007209*	*001S007211*	*001S007301*	*001S007310*	*001S007313*	*001S007402*	*001S007404*
SAMPLE DATE	*8/26/1993*	*8/26/1993*	*8/26/1993*	*8/18/1993*	*8/18/1993*	*8/18/1993*	*8/19/1993*	*8/20/1993*	*8/20/1993*	*8/20/1993*	*8/19/1993*	*8/19/1993*	*7/14/1993*	*7/16/1993*	*7/16/1993*	*7/16/1993*	*7/16/1993*	*7/20/1993*
VOC																		
1,1,1-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	1J	11U	12U	10U	14U	11U
1,2-Dichloroethene (total)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	11U	3J	10U	14U	11U
Acetone	10U	86U	38U	28U	24U	42U	35U	30U	87U	18U	26U	41U	130U	60U	40U	26U	27U	10U
Chlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	11U	27	10U	14U	11U
Chloroform	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	11U	12U	10U	14U	11U
Ethylbenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	11U	10J	10U	14U	11U
Tetrachloroethene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	11U	16	10U	14U	11U
Toluene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	11U	100	10U	7J	11U
Trichloroethene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	11U	12U	10U	14U	11U
Xylene (Total)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	11U	130	10U	14U	11U
SVOC																		
1,2,4-Trichlorobenzene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	340U	400U	350U	480J	340U	450U	350U
1,2-Dichlorobenzene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	340U	400U	350U	810J	340U	450U	350U
1,4-Dichlorobenzene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	340U	400U	350U	3300	340U	450U	350U
2,4-Dimethylphenol	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	340U	400U	350U	1200U	340U	450U	350U
2-Methylnaphthalene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	340U	400U	350U	1500	340U	450U	350U
2-Methylphenol (o-Cresol)	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	340U	400U	350U	1200U	340U	450U	350U
4-Chloro-3-methylphenol	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	340U	400U	350U	1200U	340U	450U	350U
4-Methylphenol (p-Cresol)	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	340U	400U	350U	1200U	340U	450U	350U
Acenaphthene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	340U	400U	350U	1200U	340U	450U	350U
Anthracene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	340U	400U	350U	1200U	340U	450U	350U
Benzo(a)anthracene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	55J	340U	400U	350U	1200U	340U	450U	350U
Benzo(a)pyrene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	50J	340U	400U	350U	1200U	340U	450U	350U
Benzo(b)fluoranthene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	130J	340U	400U	60J	1200U	340U	450U	350U
Benzo(g,h,i)perylene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	48J	340U	400U	350U	1200U	340U	490	350U
Benzo(k)fluoranthene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	130J	340U	400U	60J	1200U	340U	450U	350U
bis(2-Chloroethyl)ether	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	340U	400U	350U	1200U	340U	450U	350U
Butylbenzylphthalate	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	340U	400U	350U	1200U	340U	450U	350U
Chrysene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	57J	340U	400U	350U	240J	340U	470	350U
Di-n-butylphthalate	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	1200	400U	350U	1200U	340U	160J	350U
Fluoranthene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	110J	340U	400U	350U	480J	340U	450U	350U
Fluorene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	340U	400U	350U	180J	340U	450U	350U
Indeno(1,2,3-cd)pyrene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	47J	340U	400U	350U	1200U	340U	450U	350U
Naphthalene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	340U	400U	350U	2500	340U	450U	350U
Pentachlorophenol	800U	810U	820U	820U	810U	820U	820U	820U	820U	820U	840U	830U	960U	840U	3000U	830U	1100U	860U
Phenanthrene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	38J	340U	400U	350U	580J	340U	450U	350U
Phenol	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	350U	340U	400U	350U	1200U	340U	450U	350U
Pyrene	330U	330U	340U	340U	330U	340U	340U	340U	340U	340U	73J	340U	400U	350U	320J	340U	340J	350U
PESTICIDES																		
4,4-DDD	3.3U	3.3U	0.28U	3.4U	3.3U	0.26J	0.2U	3.4U	0.42	3.3U	3.5U	3.6	3.9U	2.4J	21U	3.4U	0.8J	3.5U
4,4-DDE	2.6J	0.7J	3.4U	3.4U	3.3U	3.4U	3.4U	3.4U	2.6J	3.3U	19	3.4U	3.9U	20	110J	0.85J	22U	3.5U
4,4-DDT	2.2J	0.61J	3.4U	3.4U	3.3U	3.4U	3.4U	3.4U	2.4	3.3U	6.7	0.32J	3.9U	22	21U	3.4U	2.3J	3.5U
Aldrin	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.4J	1.7U	1.7U	1.8U	1.7U	2U	1.8U	11U	1.8U	11U	1.8U
alpha-BHC	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	2U	1.8U	11U	1.8U	11U	1.8U
alpha-Chlordane	1.7U	1.7U	1.7U	1.7U	0.3J	1.8U	1.7U	1.7U	1.7U	1.7U	1.8	0.42J	2U	1.8U	3.4J	1.8U	11U	1.8U
Aroclor-1242	33U	33U	34U	34U	33U	34U	34U	34U	34U	33U	35U	34U	39U	35U	210U	34U	220U	35U
Aroclor-1248	33U	33U	34U	34U	33U	34U	34U	34U	34U	33U	35U	34U	39U	35U	210U	34U	220U	35U
Aroclor-1254	33U	33U	34U	34U	33U	34U	34U	310	34U	33U	35U	50	39U	35U	210U	34U	220U	35U
Aroclor-1260	33U	33U	34U	34U	33U	34U	34U	34U	34U	33U	130	63	39U	35U	7900	30J	220U	35U
beta-BHC	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	2U	1.8U	11U	1.8U	11U	1.8U
delta-BHC	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	2U	0.061J	11U	1.8U	11U	1.8U
Dieldrin	0.53J	3.3U	0.39J	3.4U	3.3U	3.4U	3.4U	3.4U	0.58	3.3U	20	3.4U	3.9U	1.4J	72J	0.78J	22U	3.5U
Endosulfan I	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	2U	1.8U	11U	1.8U	11U	1.8U
Endosulfan II	3.3U	3.3U	0.23J	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.3U	3.5U	3.4U	3.9U	3.5U	21U	3.4U	22U	3.5U
Endosulfan sulfate	3.3U	3.3U	3.4U	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.3U	3.5U	3.4U	3.9U	3.5U	21U	3.4U	22U	3.5U
Endrin	3.3U	3.3U	0.28J	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.3U	3.5U	3.4U	3.9U	3.5U	21U	3.4U	22U	3.5U
Endrin aldehyde	3.3U	3.3U	3.4U	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.3U	3.5U	3.4U	3.9U	0.92J	21U	3.4U	22U	3.5U
Endrin ketone	3.3U	3.3U	3.4U	3.4U	3.3U	3.4U	3.4U	3.4U	3.4U	3.3U	3.5U	3.4U	3.9U	3.5U	21U	3.4U	3J	2.4J
gamma-BHC (Lindane)	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	2U	1.8U	11U	1.8U	11U	1.8U
gamma-Chlordane	0.14J	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.5J	0.57J	2U	0.16J	4J	1.8U	11U	1.8U
Heptachlor	1.7U	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.8U	0.19J	2U	0.35U	11U	1.8U	11U	1.8U
Heptachlor epoxide	0.13J	1.7U	1.7U	1.7U	1.7U	1.8U	1.7U	0.41	1.7U	1.7U	0.5J	1.7U	2U	1.8U	11J	1.8U	11U	1.8U
Methoxychlor	17U	17U	17U	17U	17U	18U	17U	0.68U	17U	17U	18U	17U	20U	2.8U	110U	18U	12J	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-7 : Summary of Detections OU1

SHORT ID	0010075			0010076		0010077			0010078			0010079	0010080	0010081		
SAMPLE ID	*001S007501*	*001S007508*	*001S007518*	*001S007601*	*001S007610*	*001S007701*	*001S007710*	*001S007715*	*001S007801*	*001S007806*	*001S007809*	*001S007901*	*001S008001*	*001S008101*	*001S008118*	*001S008120*
SAMPLE DATE	*7/20/1993*	*7/15/1993*	*7/15/1993*	*7/15/1993*	*7/21/1993*	*7/21/1993*	*7/21/1993*	*6/17/1993*	*6/17/1993*	*6/9/1993*	*6/8/1993*	*6/17/1993*	*6/7/1993*	*6/17/1993*	*6/17/1993*	*6/17/1993*
VOC																
1,1,1-Trichloroethane	1J	11U	11U	10U	13000U	10U	12U	11U	10U	11U	11U	11U	11U	11U	11U	11U
1,2-Dichloroethene (total)	10U	11U	11U	10U	13000U	10U	12U	11U	10U	11U	11U	11U	11U	11U	11U	11U
Acetone	12U	23U	34U	21U	10000U	17U	35U	48U	12U	13U	16U	11U	21U	11U	17U	14U
Chlorobenzene	10U	11U	11U	10U	13000U	10U	150	11U	10U	6J	11U	11U	11U	11U	11U	11U
Chloroform	10U	11U	11U	10U	13000U	10U	12U	11U	10U	11U	11U	11U	11U	11U	11U	11U
Ethylbenzene	10U	11U	11U	10U	16000	10U	40	11U	10U	11U	11U	11U	11U	11U	11U	11U
Tetrachloroethene	10U	11U	11U	10U	2400J	10U	12U	11U	10U	11U	11U	11U	11U	11U	11U	11U
Toluene	16	11U	11U	10U	72000	1J	6J	11U	10U	11U	11U	11U	2U	11U	11U	11U
Trichloroethene	10U	11U	11U	10U	13000U	10U	12U	11U	10U	11U	11U	11U	11U	11U	2J	11U
Xylene (Total)	10U	11U	11U	10U	49000	10U	22	11U	10U	11U	11U	11U	11U	11U	11U	11U
SVOC																
1,2,4-Trichlorobenzene	340U	NS	370U	330U	7400U	340U	43J	380U	340U	350U	350U	350U	350U	340U	360U	370U
1,2-Dichlorobenzene	340U	NS	370U	330U	16000	340U	380U	380U	340U	350U	350U	350U	350U	340U	360U	370U
1,4-Dichlorobenzene	340U	NS	370U	330U	7400U	340U	420	380U	340U	350U	350U	350U	350U	340U	360U	370U
2,4-Dimethylphenol	340U	NS	370U	330U	1700J	340U	380U	380U	340U	350U	350U	350U	350U	340U	360U	370U
2-Methylnaphthalene	340U	NS	370U	330U	6800J	340U	220J	380U	340U	350U	350U	350U	350U	340U	360U	370U
2-Methylphenol (o-Cresol)	340U	NS	370U	330U	7400U	340U	380U	380U	340U	350U	350U	350U	350U	340U	360U	370U
4-Chloro-3-methylphenol	340U	NS	370U	330U	7400U	340U	380U	380U	340U	350U	350U	350U	350U	340U	360U	370U
4-Methylphenol (p-Cresol)	340U	NS	370U	330U	7400U	340U	380U	380U	340U	350U	350U	350U	350U	340U	360U	370U
Acenaphthene	340U	NS	370U	330U	7400U	340U	41J	380U	340U	350U	350U	350U	350U	340U	360U	370U
Anthracene	340U	NS	370U	330U	7400U	340U	47J	380U	340U	350U	350U	350U	350U	340U	360U	370U
Benzo(a)anthracene	340U	NS	370U	330U	7400U	340U	380U	380U	340U	350U	350U	350U	350U	340U	360U	370U
Benzo(a)pyrene	340U	NS	370U	330U	7400U	340U	380U	380U	340U	350U	350U	350U	350U	340U	360U	370U
Benzo(b)fluoranthene	340U	NS	370U	330U	7400U	340U	380U	380U	55J	350U	350U	350U	350U	340U	360U	370U
Benzo(g,h,i)perylene	340U	NS	370U	330U	7400U	340U	380U	380U	340U	350U	350U	350U	350U	340U	360U	370U
Benzo(k)fluoranthene	340U	NS	370U	330U	7400U	340U	380U	380U	55J	350U	350U	350U	350U	340U	360U	370U
bis(2-Chloroethyl)ether	340U	NS	370U	330U	7400U	340U	380U	380U	230J	350U	350U	350U	350U	340U	360U	370U
Butylbenzylphthalate	220U	NS	370U	71J	5100U	340U	140U	380U	340U	350U	350U	110U	64U	340U	67U	370U
Chrysene	340U	NS	370U	330U	7400U	340U	54J	380U	340U	350U	350U	350U	350U	340U	360U	370U
Di-n-butylphthalate	340U	NS	370U	330U	780U	340U	380U	380U	340U	39J	350U	350U	36U	340U	360U	370U
Fluoranthene	340U	NS	370U	330U	7400U	340U	69J	380U	340U	350U	350U	350U	350U	340U	360U	370U
Fluorene	340U	NS	370U	330U	7400U	340U	58J	380U	340U	350U	350U	350U	350U	340U	360U	370U
Indeno(1,2,3-cd)pyrene	340U	NS	370U	330U	7400U	340U	380U	380U	340U	350U	350U	350U	350U	340U	360U	370U
Naphthalene	340U	NS	370U	330U	16000	340U	320J	380U	340U	350U	350U	350U	350U	340U	360U	370U
Pentachlorophenol	820U	NS	91J	810U	18000U	820U	930U	920U	820U	860U	860U	840U	840U	830U	870U	900U
Phenanthrene	340U	NS	370U	330U	1500J	340U	120J	380U	340U	350U	350U	350U	350U	340U	360U	370U
Phenol	340U	NS	370U	330U	7400U	340U	380U	380U	340U	350U	350U	350U	350U	340U	360U	370U
Pyrene	340U	NS	370U	330U	7400U	340U	120J	380U	340U	350U	350U	350U	350U	340U	360U	370U
PESTICIDES																
4,4-DDD	3.4U	NS	3.5J	3.3U	3.7U	3.3U	3.8U	3.8U	0.21J	3.5U	3.5U	0.43J	16	3.4U	3.6U	3.7U
4,4-DDE	3.4U	NS	3.2J	0.16J	3.7U	3.3U	4.2J	3.8U	3.4U	1.3J	3.5U	3.5U	66	0.22J	2.5	3.7U
4,4-DDT	3.4U	NS	0.86J	3.3U	3.7U	3.3U	3.8U	3.8U	3.4U	3.5U	3.5U	3.5U	92	0.34J	3.6U	3.7U
Aldrin	1.7U	NS	1.9U	1.7U	0.79J	1.7U	2U	2U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1J	1.9U
alpha-BHC	1.7U	NS	1.9U	1.7U	1.9U	1.7U	2U	2U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
alpha-Chlordane	1.4J	NS	5.2	1.7U	1.9U	1.7U	15J	2U	1.7U	1.8U	1.8U	0.064J	130	1.8U	0.29J	1.9U
Aroclor-1242	34U	NS	38U	33U	37U	33U	38U	38U	34U	840	35U	35U	35U	34U	36U	37U
Aroclor-1248	34U	NS	38U	33U	37U	33U	1700	38U	190J	35U	35U	35U	35U	34U	36U	37U
Aroclor-1254	34U	NS	38U	33U	37U	33U	1000	38U	34U	35U	35U	35U	35U	34U	260	37U
Aroclor-1260	34U	NS	38U	9.1J	76J	33U	38U	38U	34U	35U	35U	4.7J	35U	34U	36U	37U
beta-BHC	1.7U	NS	1.9U	1.7U	1.9U	1.7U	2U	2U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
delta-BHC	0.2J	NS	1.9U	1.7U	1.9U	1.7U	0.3J	2U	1.7U	1.8U	1.8U	1.8U	0.45J	1.8U	1.8U	1.9U
Dieldrin	0.91J	NS	1.1J	0.62J	1.1J	3.3U	3.8U	3.8U	3.4U	3.5U	3.5U	0.19J	6.4J	3.4U	3.6U	3.7U
Endosulfan I	0.061J	NS	1.9U	1.7U	0.2J	1.7U	2U	2U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
Endosulfan II	3.4U	NS	3.8U	3.3U	3.7U	0.34J	0.89J	3.8U	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U	3.6U	3.7U
Endosulfan sulfate	3.4U	NS	3.8U	0.17U	3.7U	3.3U	3.8U	3.8U	3.4U	0.29U	3.5U	3.5U	3.5U	3.4U	3.6U	3.7U
Endrin	0.25J	NS	1J	3.3U	3.7U	3.3U	3.8U	3.8U	3.4U	3.5U	3.5U	3.5U	0.4J	3.4U	0.35J	3.7U
Endrin aldehyde	3.4U	NS	3.8U	3.3U	3.7U	3.3U	3.8U	3.8U	3.4U	3.5U	3.5U	0.17J	2.9J	3.4U	3.6U	3.7U
Endrin ketone	3.4U	NS	3.8U	3.3U	3.7U	3.3U	3.8U	3.8U	3.4U	3.5U	3.5U	3.5U	3.5U	3.4U	3.6U	3.7U
gamma-BHC (Lindane)	1.7U	NS	1.9U	1.7U	0.075J	1.7U	0.075J	0.09J	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U
gamma-Chlordane	0.57J	NS	5.6	0.28J	0.8J	0.25J	0.24J	2U	1.7U	1.8U	1.8U	1.8U	110	1.8U	0.32U	0.094U
Heptachlor	0.19U	NS	1.9U	1.7U	1.9U	1.7U	2U	0.052U	1.7U	1.8U	0.072U	0.37U	0.41U	0.19U	1.8U	0.14U
Heptachlor epoxide	1.7U	NS	1.9U	1.7U	1.9U	1.7U	2U	2U	1.7U	1.8U	1.8U	1.8U	1.4J	1.8U	0.35J	1.9U
Methoxychlor	0.25U	NS	19U	17U	19U	17U	0.44J	20U	17U	0.4U	3.3J	0.35U	5.2U	0.29U	1.7U	1.7U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-7 : Summary of Detections OU1

SHORT ID	0010082			001I028	001I030	001I032	001I035	001I036	001I043	001I044	001I046	001I048	001I059		001I060
SAMPLE ID	*001S008201*	*001S008210*	*001S008214*	*001SI02801*	*001SI03001*	*001SI03201*	*001SI03501*	*001SI03601*	*001SI04301*	*001SI04401*	*001SI04601*	*001SI04801*	*001SI05901*	*001SI05933*	*001SI06001*
SAMPLE DATE	*6/24/1993*	*7/19/1993*	*6/16/1993*	*6/18/1993*	*6/7/1993*	*6/18/1993*	*6/17/1993*	*6/17/1993*	*6/17/1993*	*6/10/1993*	*6/18/1993*	*7/20/1993*	*6/17/1993*	*6/17/1993*	*6/24/1993*
VOC															
1,1,1-Trichloroethane	10U	130000U	10U	10U	11U	10U	11U	10U	10U	10U	11U	10U	10U	13U	10U
1,2-Dichloroethene (total)	10U	130000U	10U	10U	11U	10U	11U	10U	10U	10U	11U	10U	10U	13U	10U
Acetone	10U	130000U	11U	78U	11U	310U	33U	20U	NS	31U	21U	23U	31U	13U	70U
Chlorobenzene	10U	130000U	10U	10U	11U	10U	11U	10U	10U	10U	11U	10U	10U	13U	10U
Chloroform	2J	130000U	10U	10U	11U	10U	11U	10U	10U	10U	11U	10U	10U	13U	10U
Ethylbenzene	10U	130000U	10U	10U	11U	10U	11U	10U	10U	10U	11U	10U	10U	13U	10U
Tetrachloroethene	6J	26000J	10U	10U	11U	10U	11U	10U	10U	10U	11U	10U	10U	13U	10U
Toluene	14	2300000	2J	10U	11U	10U	11U	10U	10U	10U	11U	10U	10U	2J	10U
Trichloroethene	10U	130000U	10U	10U	11U	10U	11U	10U	10U	10U	11U	10U	10U	13U	10U
Xylene (Total)	10U	130000U	10U	10U	11U	10U	11U	10U	10U	10U	11U	10U	10U	13U	10U
SVOC															
1,2,4-Trichlorobenzene	10000U	14000U	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
1,2-Dichlorobenzene	10000U	62000	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
1,4-Dichlorobenzene	10000U	4300J	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
2,4-Dimethylphenol	3500J	610000J	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
2-Methylnaphthalene	10000U	3800J	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
2-Methylphenol (o-Cresol)	10000U	19000	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
4-Chloro-3-methylphenol	10000U	1400J	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
4-Methylphenol (p-Cresol)	1200J	360000J	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
Acenaphthene	10000U	14000U	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
Anthracene	10000U	14000U	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
Benzo(a)anthracene	10000U	14000U	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
Benzo(a)pyrene	10000U	14000U	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
Benzo(b)fluoranthene	10000U	14000U	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
Benzo(g,h,i)perylene	10000U	14000U	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
Benzo(k)fluoranthene	10000U	14000U	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
bis(2-Chloroethyl)ether	10000U	14000U	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
Butylbenzylphthalate	10000U	6700U	330U	80U	360U	71U	45U	340U	62U	82U	340U	35U	78U	430U	340U
Chrysene	10000U	14000U	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
Di-n-butylphthalate	10000U	1600U	330U	340U	360U	330U	51U	340U	36U	34U	340U	340U	340U	430U	340U
Fluoranthene	10000U	14000U	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
Fluorene	10000U	14000U	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
Indeno(1,2,3-cd)pyrene	10000U	14000U	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
Naphthalene	10000U	2800J	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
Pentachlorophenol	26000U	34000U	810U	820U	870U	810U	830U	820U	810U	820U	830U	820U	820U	1000U	820U
Phenanthrene	10000U	14000U	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
Phenol	10000U	5000J	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
Pyrene	10000U	14000U	330U	340U	360U	330U	340U	340U	330U	340U	340U	340U	340U	430U	340U
PESTICIDES															
4,4-DDD	3.4U	22U	3.3U	0.078J	3.6U	3.4U	4.3	0.27J	3.4U	3.4U	0.28J	3.4U	3.4U	4.3U	3.4U
4,4-DDE	39J	10J	5.1	3.4U	0.11U	3.4U	40	2.7J	3.4U	3.4U	1.1J	1.6J	3.4U	4.3U	0.13U
4,4-DDT	99J	10J	36	0.48J	0.57J	3.4U	19	0.41J	3.4U	3.4U	1.9J	2.2J	0.14U	4.3U	0.16U
Aldrin	0.2	11U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2.2U	1.8U
alpha-BHC	0.13J	0.44J	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2.2U	1.8U
alpha-Chlordane	13	14	1.7U	0.12J	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2.2U	1.8U
Aroclor-1242	34U	220U	33U	34U	36U	34U	35U	34U	34U	34U	35U	34U	34U	43U	34U
Aroclor-1248	34U	220U	33U	34U	36U	34U	35U	34U	34U	34U	35U	34U	34U	43U	34U
Aroclor-1254	34U	220U	33U	34U	36U	34U	35U	34U	34U	34U	35U	34U	34U	43U	34U
Aroclor-1260	34U	220U	33U	34U	36U	34U	35U	34U	34U	34U	35U	34U	34U	43U	34U
beta-BHC	1.7U	11U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	0.47U	1.8U	0.2J	1.8U	1.8U	2.2U	1.8U
delta-BHC	1.5J	11U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	0.13J	1.8U	0.042U	2.2U	1.8U
Dieldrin	3.4U	1.6J	3.3U	3.4U	3.6U	3.4U	3.5U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	4.3U	3.4U
Endosulfan I	1.7U	11U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2.2U	1.8U
Endosulfan II	3.7	8.6J	3.3U	3.4U	3.6U	3.4U	3.5U	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	4.3U	3.4U
Endosulfan sulfate	3.4U	13J	3.3U	0.54J	0.12J	3.4U	1	3.4U	3.4U	3.4U	3.5U	0.41J	3.4U	4.3U	3.4U
Endrin	3.4U	22U	0.076J	0.1J	3.6U	3.4U	0.58J	3.4U	3.4U	3.4U	3.5U	3.4U	3.4U	4.3U	0.05U
Endrin aldehyde	3.4U	0.92J	3.3U	3.4U	3.6U	3.4U	3.5U	3.4U	3.4U	3.4U	3.5U	0.19J	3.4U	4.3U	3.4U
Endrin ketone	1.6J	0.78J	3.3U	0.14U	3.6U	3.4U	0.14U	3.4U	3.4U	3.4U	3.5U	0.27J	3.4U	4.3U	3.4U
gamma-BHC (Lindane)	0.21J	11U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	0.087U	1.8U	1.8U	1.8U	1.8U	2.2U	1.8U
gamma-Chlordane	1.7U	11U	1.7U	0.27U	0.1U	0.075U	1.8U	1.8U	0.12U	1.8U	1.8U	1.8U	0.052U	2.2U	0.1U
Heptachlor	0.14U	11U	0.19U	0.11U	1.8U	0.16U	1.8U	0.061U	0.13U	0.15U	1.8U	0.055U	1.8U	2.2U	0.079U
Heptachlor epoxide	0.3J	11U	1.7U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.8U	1.8U	1.8U	1.8U	2.2U	1.8U
Methoxychlor	17U	110U	17U	18U	18U	18U	0.22U	18U	17U	18U	18U	18U	18U	22U	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-8 : Summary of Detections OU 1 Metals

SHORT ID	0010001	0010039	0010042	0010062	0010064						0010067						
SAMPLE ID	001S000101	001S003901	001S004201	001S006201	001S006401	001S006701	001S006703	001S006705	001S006707	001S006709	001S006711	001S006713	001S006717	001S006719	001S006721	001S006723
SAMPLE DATE	8/24/1993	8/20/1993	8/23/1993	8/23/1993	8/30/1993	8/30/1993	8/23/1993	8/23/1993	8/23/1993	8/25/1993	8/25/1993	8/25/1993	8/25/1993	8/25/1993	8/25/1993	8/25/1993
METAL																
Aluminum	2810	1760	1810	1770	733	12400	1800	9050	1320	932	574	502	473	179	156	95.2
Antimony	9.4UJ	9.5UJ	9.3UJ	9.5UJ	9.7U	9.3U	9.4U	9.3U	9.6U	9.6U	9.5U	9.6U	9.5R	9.6R	9.5U	9.5U
Arsenic	0.83U	0.84U	0.83U	0.84U	0.63U	2.4J	0.61UJ	1.7J	0.62UJ	0.62UJ	0.62UJ	0.62UJ	0.7UJ	0.62UJ	0.62UJ	0.62UJ
Barium	5	1.9	1.8	2.9	1.8U	5.8	1.6	10.1	1.8	1.8	1.2	1U	1U	1U	1U	1U
Beryllium	0.83U	0.84U	0.83U	0.84U	0.45U	0.4U	0.41U	0.4U	0.42U	0.42U	0.41U	0.42U	0.41U	0.42U	0.41U	0.41U
Cadmium	1UJ	1.1UJ	1UJ	1.1UJ	1.1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Calcium	51.2	43.5	85.9	35.6	80.5	421	227	6740	113	78.7	67	50.6	47.7	32.5U	35.7	36.5
Chromium	2.5	2.1U	2.1U	2.1U	2.1U	11.8	2U	8	2.1U	2.1U	2.1U	2.1U	2.1U	3.7	2.1U	2.1U
Cobalt	1.9U	1.9U	1.9U	1.9U	1.9U	1.8U	1.8U	1.8U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U
Copper	3.1	3.2	3.6	3.2	5.3U	5.1	5.1U	5.1	5.2U	5.2U	5.2U	5.2U	5.1U	5.2U	5.1U	5.2U
Cyanide (CN)	0.52U	0.53U	0.52U	0.53U	0.53U	0.51U	0.51U	0.5U	0.52U	0.52U	0.52U	0.52U	0.51U	0.52U	0.51U	0.52U
Iron	1820	365	958	856	556	9180	1450	4790	1140	866	525	482	483	449	237	225
Lead	1.4	5.5	1.1	3.8	2.2	20.1	1.3	28	1.2	0.53	0.41U	0.44	1.1	0.6	0.41U	0.41U
Magnesium	92.7	77.4U	76.2U	77.5U	100U	96.3U	97.4U	365	99.2U	99.2U	98.8U	98.9U	97.9U	99.2U	97.9U	98.7U
Manganese	17.2U	1.2U	23.5U	1.9U	6	63.7	3.7	63.6	3.8	4.4	5.7	5.7	5.6	4.1	1.7	1.7
Mercury	0.1U	0.11U	0.1U	0.11U	0.11U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
Nickel	7.3U	7.4U	7.2U	7.4U	6.5U	6.3U	6.3U	6.2U	6.5U	6.5U	6.4U	6.4U	6.4U	6.5U	6.4U	6.4U
Potassium	475U	480U	473U	481U	470U	452U	458U	450U	466U	466U	464U	464U	460U	466U	460U	463U
Selenium	0.62U	0.73	0.62U	0.63U	0.63U	0.61U	0.61U	0.6U	0.62U	0.62U	0.62U	0.62U	0.62U	0.62U	0.62U	0.62U
Silver	0.83U	0.84U	0.83U	0.84U	2.1U	2U	2U	2U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U
Sodium	148U	106U	107U	110U	47.6	116U	87.5U	112U	111U	135U	98U	93.9U	88.8U	73.8U	108U	101U
Vanadium	3.8	2.1U	2.1U	2.4	1.5U	20.6	2.6	12.5	2	1.6	1.5U	1.5U	1.4U	1.5U	1.4U	1.5U
Zinc	34	4	8.7	10.1	2.4	10.9	3U	29	2.8U	3.3	7.2	7.3	6	29	19.9	17.2

SHORT ID				0010069					0010071			0010072			0010073			0010074	
SAMPLE ID	001S006901	001S006903	001S006905	001S006907	001S006909	001S006911	001S006913	001S007101	001S007108	001S007112	001S007201	001S007209	001S007211	001S007301	001S007310	001S007313	001S007402	001S007404
SAMPLE DATE	8/26/1993	8/26/1993	8/26/1993	8/18/1993	8/18/1993	8/18/1993	8/19/1993	8/20/1993	8/20/1993	8/20/1993	8/19/1993	8/19/1993	7/14/1993	7/16/1993	7/16/1993	7/16/1993	7/16/1993	7/20/1993
METAL																		
Aluminum	1240	1430	1550	991	820	293	695	1200	1370	1380	2370	2410	286	2440	2760	455	5140	2420
Antimony	9.3U	9.4U	9.6U	9.5U	9.4U	9.5U	9.6U	9.2UJ	9.3UJ	9.2UJ	9.5UJ	9.4UJ	10.8UJ	9.6U	11.3UJ	9.4UJ	12.4UJ	9.6UJ
Arsenic	0.61UJ	0.61UJ	0.62UJ	0.62UJ	0.61UJ	0.62UJ	0.62UJ	0.82U	0.85	1.1	1.1	1.3	0.96U	0.85U	2.5	0.84U	1.5	1.4
Barium	5.9	3	2.4	1.7	1.6	1U	1.8	3.6	5.7	1.7	20.4	12.8	1.3	7.8	392	1.3	12.2	4.1
Beryllium	0.41U	0.41U	0.42U	0.41U	0.41U	0.41U	0.42U	0.82U	0.82U	0.82U	0.84U	0.83U	0.96U	0.85U	1U	0.84U	1.1U	0.86U
Cadmium	1U	1U	1U	1U	1U	1U	1U	1UJ	1UJ	1UJ	6.4J	2.2J	1.2UJ	5.2	214J	1.5J	1.4UJ	1.1UJ
Calcium	162	71.4	50.8	32.3U	31.9U	32.3U	45.4	931	863	195	1370	718	50	560	2230	42.3	48.1	23.7U
Chromium	2U	3.5	2.4	3.3	3.5	5.4	4.6	2.1U	4.8	2U	86.4	12.5	2.4U	7.8	915	2.9	4	2.4
Cobalt	1.8U	1.8U	1.9U	1.9U	1.8U	1.9U	1.9U	1.8U	1.9U	1.8U	1.9U	1.9U	2.2U	1.9U	2.3U	1.9U	2.5U	1.9U
Copper	5.1U	5.1U	5.2U	5.2U	5.1U	5.2U	5.2U	3.1U	3.3	3.1U	32.3	23	3.6U	3.2U	212	3.1U	4.1U	3.2U
Cyanide (CN)	0.51U	0.51U	0.52U	0.52U	0.51U	0.52U	0.52U	0.51U	0.52U	0.51U	0.62	0.68	0.6U	0.53U	5.4	0.52U	0.69U	0.53U
Iron	911	1010	963	697	595	205	497	850	989	963	1690	2140	111	2300	2810	310	2970	760
Lead	6.7	2.9	0.79	0.56	0.49	0.41U	0.59	27.8	35.6	1.1	38.6	60.2	0.48U	108J	142	2.2	4.8	1.1
Magnesium	96.6U	97.1U	99U	98.7U	97.2U	98.7U	99.2U	174	75.9U	89.6	119	115	88.4U	79.7	253	77U	173	94.7
Manganese	3.7	3.7	3.7	4.6	3.7	3.4	5.7	19.9	11.6	4.8	19.8	26.4	0.96U	20.6	20.7	1.9	9.8	2.4
Mercury	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.54	0.2	0.12U	0.11U	4.4	0.1U	0.14U	0.11U
Nickel	6.3U	6.3U	6.4U	6.4U	6.3U	6.4U	6.5U	7.2U	7.2U	7.1U	25.5	11.1	8.4U	7.5U	18.6	7.3U	9.6U	7.5U
Potassium	453U	456U	465U	463U	457U	463U	466U	469U	471U	466U	480U	475U	548U	487U	573U	478U	629U	488U
Selenium	0.61U	0.61U	0.62U	0.62U	0.61U	0.62U	0.62U	0.62U	0.62U	0.61U	0.63U	0.62U	0.72U	0.64U	1.2	0.63U	0.83U	1.4R
Silver	2U	2U	2.1U	2.1U	2U	2.1U	2.1U	0.82U	0.82U	0.82U	6.2	0.83U	0.96U	0.85U	116	0.84U	1.1U	0.86U
Sodium	101U	99.6U	109U	103U	118U	97.2	91.3U	32.4	36.8	29.9	40.1	28.1	34.2	24.1U	55.8	30	46.4	25.2
Vanadium	2.5	1.7	1.6	1.5U	1.4U	1.5U	1.5U	2.1U	3	2.4	4.3	4.1	2.4U	4.9	5	2.1U	11.2	2.6
Zinc	8.2	4.6	3.6U	2U	2.4U	1.6U	3U	15	16.7	3.4	117	5930	211	31.5	454	10.2	6U	2.9

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-8 : Summary of Detections OU 1 Metals

SHORT ID	0010075		0010076		0010077			0010078			0010079	0010080	0010081			0010082		
SAMPLE ID	*001S007501*	*001S007518*	*001S007601*	*001S007610*	*001S007701*	*001S007710*	*001S007715*	*001S007801*	*001S007806*	*001S007809*	*001S007901*	*001S008001*	*001S008101*	*001S008118*	*001S008120*	*001S008201*	*001S008210*	*001S008214*
SAMPLE DATE	*7/20/1993*	*7/15/1993*	*7/15/1993*	*7/21/1993*	*7/21/1993*	*7/21/1993*	*6/17/1993*	*6/17/1993*	*6/9/1993*	*6/8/1993*	*6/17/1993*	*6/7/1993*	*6/17/1993*	*6/17/1993*	*6/17/1993*	*6/24/1993*	*7/19/1993*	*6/16/1993*
METAL																		
Aluminum	1460	1420	1510	1320	1000	3800	9140	1870	3290	279	1540	4830	1140	3100	141	985	1340	721
Antimony	9.4U	10.2UJ	9.1UJ	10.2UJ	9.2UJ	10.4UJ	10.3UJ	9.3UJ	9.7UJ	9.7UJ	9.6U	9.6U	9.5U	15.1	10.3U	9.3U	12.3U	9.2U
Arsenic	0.84U	1	0.81U	0.9U	0.81U	1.2	1.5	0.9	0.95	0.86U	0.85U	0.85U	0.85U	0.99	0.91U	0.83U	1.1U	0.81U
Barium	3.1	3.1	3.4	2.7	1.5	18.2	15.7	7.4	6.9	1.5	2.4	18	2.2	1050	3	1.4	1.1	0.69
Beryllium	0.84U	0.91U	0.81U	0.9U	0.81U	0.93U	0.92U	0.83U	0.86U	0.86U	0.85U	0.85U	0.85U	0.88U	0.91U	0.83U	1.1U	0.81U
Cadmium	1U	1.1UJ	1UJ	1.1UJ	1UJ	26.1J	1.1UJ	1UJ	1.1UJ	1.1UJ	1.1U	99	1.1U	14.5	1.1U	1U	1.4U	1U
Calcium	72.5U	180	1180	136	41.4	196	126	2910	212	26.6	42.5U	355	63.6U	819	41.9U	38.7	58.4U	27.2U
Chromium	4.3	2.7	8.3	79.5	2U	5.5	9.6	2.1U	2.7	2.2U	5.4	117	2.1U	19.4	2.3U	37.2	276	2U
Cobalt	1.9U	2U	1.8U	2U	1.8U	2.1U	2.1U	1.9U	1.9U	1.9U	1.9U	2.1	1.9U	2U	2.1U	2.8	2.5U	1.8U
Copper	3.1U	3.4U	3U	3.4U	3.1U	3.7	3.4U	3.1U	3.2U	3.2U	3.2U	54.9	3.2U	209	3.4U	39.2	4.1U	3.1U
Cyanide (CN)	0.52U	0.57U	0.51U	0.56U	0.51U	0.58U	0.57U	0.52U	0.54U	0.54U	0.53U	0.53U	0.53U	0.55U	0.57U	0.52U	0.68U	0.51U
Iron	1300	1170	1020	481	685	2520	4700	1230	1440	90.6	653	3580	1030	4000	102	42300	15900	1830
Lead	11.3J	1.9U	18.7	5.8U	1U	15.9	4.2U	7.4U	3.8U	0.43U	11.7J	441J	4.8J	241J	0.78J	28.5J	19.8J	3.6J
Magnesium	77U	83.4U	127	83.1U	74.9U	119	272	246	120	79.5U	78.6U	140	77.8U	117	83.8U	76U	101U	74.9U
Manganese	5.5	8	14.3	2.2	2.4	7.6	8.2	24.1	5.1	0.86U	2.3	18.5	2.3	76	2.5	191	46	6.7
Mercury	0.18	0.11U	0.1U	0.11U	0.1U	0.12U	0.11U	0.1U	0.11U	0.11U	0.11U	0.81	0.11U	0.13	0.11U	0.1U	0.14U	0.1U
Nickel	7.3U	7.9U	7.1U	7.9U	7.1U	8.1U	8U	7.2U	7.5U	7.6U	7.5U	20	7.4U	55.7	8U	14.1	9.6U	7.1U
Potassium	478U	518U	461U	515U	465U	528U	525U	472U	492U	493U	488U	486U	483U	501U	520U	471U	625U	465U
Selenium	0.63U	0.68U	0.61U	0.68U	0.61U	0.69U	0.69U	0.62U	0.65U	0.65U	0.64U	0.64U	0.63U	0.66U	0.68U	0.62U	0.82U	0.61U
Silver	0.84U	0.91U	0.81U	0.9U	0.81U	0.93U	0.92U	0.83U	0.86U	0.86U	0.85U	6.3	0.85U	25.9	0.91U	0.83U	1.1U	0.81U
Sodium	22.8U	27.2	38.3	27.6	30	31.6	48	45.9	33.4	30.1	24.9U	35.4	23U	33.1U	24.8U	22.5U	406	22.2U
Vanadium	2.1U	2.3U	3.1	2.3U	2U	5.8	9.5	3.6	5.2	2.2U	2.1U	10.8U	2.1U	3.2	2.3U	2.1U	2.7U	2.9
Zinc	7.5	18.1	14.4	9.7	2.9	37.6	8.9	6.6	29.1	27.6	10.6	219	5.6U	473	12.3	19	15.6	2.7U

SHORT ID	001I028	001I030	001I032	001I035	001I036	001I043	001I044	001I046	001I048	001I059		001I060
SAMPLE ID	*001SI02801*	*001SI03001*	*001SI03201*	*001SI03501*	*001SI03601*	*001SI04301*	*001SI04401*	*001SI04601*	*001SI04801*	*001SI05901*	*001SI05933*	*001SI06001*
SAMPLE DATE	*6/18/1993*	*6/7/1993*	*6/18/1993*	*6/17/1993*	*6/17/1993*	*6/17/1993*	*6/10/1993*	*6/18/1993*	*7/20/1993*	*6/17/1993*	*6/17/1993*	*6/24/1993*
METAL												
Aluminum	13600	2640	2450	1430	2100	2050	64.4U	1860	1290	1760	9940	1920
Antimony	9.6U	10U	9.3UJ	9.7U	9.6U	9.2UJ	9.3UJ	9.7U	9.4UJ	9.3UJ	11.9UJ	9.6U
Arsenic	2.7U	0.65U	0.83U	0.63U	0.63U	0.82U	0.82U	0.63U	0.83U	0.82U	9.5	0.62U
Barium	4U	4U	2.6	1.3U	2.8U	2.2	0.41U	1.7U	3.4	2.3	13.8	2.4U
Beryllium	0.42U	0.61	0.83U	0.42U	0.43U	0.82U	0.82U	0.42U	0.83U	0.82U	1.1U	0.42U
Cadmium	1U	1.1U	1UJ	1.1U	1U	1UJ	1U	1.1U	1UJ	1UJ	1.3UJ	1U
Calcium	56.7	90	105	1720	536	33.1	60.2	32.8U	1050	72.9	34900	32.4U
Chromium	12.5	4.1	2.7	2.2	2.1U	2U	2.1U	2.1U	2.1U	2.1U	20.2	2.1U
Cobalt	1.9U	2U	1.9U	1.9U	1.9U	1.8U	1.9U	1.9U	1.9U	1.9U	2.5	1.9U
Copper	5.2U	5.4U	3.1	5.3U	5.2U	3.1U	3.1U	5.3U	3.1	3.1U	7.3	5.2U
Cyanide (CN)	0.52U	0.54U	0.52U	0.53U	0.52U	0.51U	0.51U	0.53U	0.52U	0.52U	0.66U	0.52U
Iron	9760	333	1670	1260	1380	1200	46.4	1320	1230	1010	16600	944
Lead	5	2.2	1.5	4.4	3	0.9	1	1U	11.8	1.7	6	1.1U
Magnesium	99.6U	108	97.8	100U	99.3U	75.1U	75.8U	100U	76.5U	75.9U	1820	98.9U
Manganese	10.2	2.9	7.1	12	6	4.3U	0.82U	8.8	23.6U	10.7U	43.8U	12.2
Mercury	0.1U	0.11U	0.1U	0.11U	0.1U	0.1U	0.1U	0.11U	0.1U	0.1U	0.13U	0.1U
Nickel	6.5U	6.8U	7.2U	6.5U	6.5U	7.1U	7.2U	6.5U	7.3U	7.2U	11.2	6.4U
Potassium	468U	487U	472U	470U	466U	466U	470U	471U	475U	471U	843	464U
Selenium	0.63U	0.65U	0.62U	0.63U	0.63U	0.61U	0.62U	0.63U	0.62U	0.62U	1.4	0.62U
Silver	2.1U	2.2U	0.83U	2.1U	2.1U	0.82U	0.82U	2.1U	0.83U	0.82U	1.1U	2.1U
Sodium	38.8	42	116U	77.9	51.6	97.9U	164U	29	104U	106U	441U	30.7
Vanadium	23	2.2	3.8	2.8	2.8	2.1	2.1U	2.4	2.7	3	32.6	2.5
Zinc	3.8	3	10.1	2.5	3.3	9.2	5.3	1.5	17.2	5.4	21.5	2.7

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-9 : Summary of Detections Groundwater OU1

SHORT ID	0010001	0010037	0010039	0010040	0010042	0010053	0010057	0010058	0010060	0010062	0010064	0010067	0010069	0010079	00100T0	001GI28	001GI35	001GI36	001GI41
SAMPLE ID	*001G000101*	*001G003701*	*001G003901*	*001G004001*	*001G004201*	*001G005301*	*001G005701*	*001G005801*	*001G006001*	*001G006201*	*001G006401*	*001G006701*	*001G006901*	*001G007901*	*001G00T001*	*001GGI2800*	*001GGI3500*	*001GGI3600*	*001GGI4100*
SAMPLE DATE	*1/19/1993*	*1/19/1993*	*1/19/1993*	*12/11/1992*	*12/11/1992*	*12/11/1992*	*12/17/1992*	*12/17/1992*	*12/17/1992*	*1/13/1993*	*1/14/1993*	*1/19/1993*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*6/29/1994*	*7/5/1994*	*6/29/1994*	*7/6/1994*
VOC																			
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	2	3J	10U	10U	10U	NS	10U	10U	10U	10U	2J
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethene (total)	10U	10U	10U	10U	10U	10U	10U	10U	9	10U	10U	10U	10U	10U	10U	2J	2J	3J	2J
2-Butanone (MEK)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-Pentanone (MIBK)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	10U	10U	10U	10U	10U	10U	10U	10U	9	12	13	10U	10U	9J	10U	9J	7J	10U	80
Bromoform	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U	10U	10U	10U	10U
Chlorobenzene	10U	10U	10U	10U	4J	10U	10U	10U	98	6J	12J	10U	10U	22	10U	29	3J	10U	11J
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U	10U	10U	10U	10U
Chloroform	10U	10U	10U	10U	10U	10U	1J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Ethylbenzene	10U	10U	10U	2J	10U	10U	10U	10U	10U	62	10U	10U	10U	15	10U	14	2J	10U	1J
Methylene chloride	3U	5U	42U	3U	8U	6U	19U	62U	2U	33U	32U	34U	11U	2U	5J	10U	2U	10U	5U
Tetrachloroethene	10U	10U	4J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U	10U	10U	3J	1J	10U	10U	10U	10U
Trichloroethene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U	10U	10U	10U	10U	10U	2J	10U
Vinyl chloride	10U	10U	10U	10U	10U	10U	10U	10U	9J	10U	10U	10U	10U	10U	10U	10U	2J	10U	3J
Xylene (Total)	10U	10U	10U	10U	10U	10U	10U	10U	10U	13J	1J	10U	10U	49	10U	59	3J	10U	4J
SVOC																			
1,2-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U	10U	20U	NS	5J	10U	10U	5J
1,4-Dichlorobenzene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U	10U	10J	NS	7J	10U	10U	14
2,4-Dimethylphenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	5J	10U	10U	10U	20U	NS	46	10U	10U	10U
2-Chlorophenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U	10U	20U	NS	10U	10U	10U	1J
2-Methylnaphthalene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	4J	10U	10U	13J	NS	11	10U	10U	10U
2-Methylphenol (o-Cresol)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	20U	NS	10U	10U	10U	10U
4-Chloro-3-methylphenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	18	10U	10U	20U	NS	10U	10U	10U	10U
4-Methylphenol (p-Cresol)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	63	NS	10U	10U	10U	10U
4-Nitrophenol	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	50U	NS	25U	25U	25U	25U
bis(2-Ethylhexyl)phthalate (BEHP)	10U	10U	2U	2U	1U	4U	2U	10U	10U	2U	3U	10U	14U	10U	NS	3U	3U	2U	10U
Diethylphthalate	10U	10U	10U	1U	10U	10U	10U	10U	10U	2U	1U	10U	10U	8J	NS	3U	1U	10U	6U
Di-n-butylphthalate	10U	10U	10U	10U	1U	10U	10U	10U	10U	10U	10U	10U	10U	20U	NS	10U	10U	10U	10U
Isophorone	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	20U	NS	10U	10U	10U	10U
Naphthalene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	15	10U	10U	92	NS	38	10U	10U	7J
N-Nitrosodiphenylamine	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	18J	NS	10U	10U	10U	10U
Pentachlorophenol	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	50U	NS	25U	25U	25U	25U
Phenol	10U	10U	3U	5U	3U	10U	10U	10U	10U	2U	1U	10U	10U	13U	NS	10U	1U	10U	6U
PESTICIDES																			
4,4-DDE	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.064J	0.1U	0.1U	0.1U	0.1U	0.1U	0.024J	NS	0.1U	0.1U	0.1U	0.1U
4,4-DDT	0.1U	0.0062U	0.1U	0.1U	0.1U	0.0075U	0.1U	0.014J	0.1U	0.0037U	0.1U	0.1U	0.1U	0.015J	NS	0.1U	0.1U	0.1U	0.1U
alpha-BHC	0.05U	0.05U	0.0041U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	NS	0.05U	0.05U	0.05U	0.05U
alpha-Chlordane	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.005J	NS	0.05U	0.05U	0.05U	0.05U
beta-BHC	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.033J	NS	0.05U	0.05U	0.05U	0.05U
Dieldrin	0.005U	0.1U	0.0028U	0.0028U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	NS	0.1U	0.1U	0.1U	0.1U
Endosulfan sulfate	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.035J	NS	0.1U	0.1U	0.1U	0.1U
gamma-Chlordane	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.033J	NS	0.05U	0.05U	0.05U	0.05U
Heptachlor	0.0013U	0.05U	0.0026U	0.0052U	0.05U	0.05U	0.05U	0.05U	0.05U	0.0035U	0.05U	0.05U	0.05U	0.059J	NS	0.05U	0.05U	0.05U	0.05U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-9 : Summary of Detections Groundwater OU1

SHORT ID	001GI48	001GI59	001GI61	001GI63	001GI65	001GI66	001GI72	001GM03	001GM04		001GM05		001GM31	001GM32	001GM33		001GM34	
SAMPLE ID	*001GGI4800*	*001GGI5900*	*001GGI6100*	*001GGI6300*	*001GGI6500*	*001GGI6600*	*001GGI7200*	*001GGM0301*	*001GGM0400*	*001GGM0401*	*001GGM0500*	*001GGM0501*	*001GGM3101*	*001GGM3201*	*001GGM3300*	*001GGM3301*	*001GGM3400*	*001GGM3401*
SAMPLE DATE	*6/29/1994*	*7/6/1994*	*7/1/1994*	*6/30/1994*	*6/30/1994*	*6/28/1994*	*7/5/1994*	*1/14/1993*	*6/29/1994*	*1/14/1993*	*6/28/1994*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*7/1/1994*	*1/14/1993*	*6/29/1994*	*1/14/1993*
VOC																		
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	10U	10U	6J	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2-Trichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	5J	10U	8J	10U	10U	10U	10U	10U	10U	2J	10U	10U	10U	10U	10U	10U
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethene (total)	10U	10U	2J	10U	65	10U	10U	10U	10U	10U	10U	3J	10U	10U	10U	10U	10U	1J
2-Butanone (MEK)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-Pentanone (MIBK)	10U	10U	10U	10U	10U	10U	10U	10U	8J	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	1J	10U	33	6J	10	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	3J	12	55
Bromoform	10U	10U	10U	10U	10U	10U	10U	10U	4J	10U	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	20	19	120	10U	23	10U	10U	10U	36	14	1J	5J	10U	10U	31	35	24	21
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	10U	10U	10U	10U	10U	10U	2J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Ethylbenzene	10U	10U	6J	10U	2J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11
Methylene chloride	10U	2U	10U	4U	5U	10U	3U	36U	3U	1U	10U	4U	8U	21U	10U	4U	10U	15U
Tetrachloroethene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	10U	10U	1J	10U	15	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J
Trichloroethene	10U	10U	10U	10U	10U	1J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	4J	10U	7J	10U	10U	10U	10U	10U	10U	3J	10U	10U	10U	10U	10U	5J
Xylene (Total)	10U	10U	43	5J	5J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11
SVOC																		
1,2-Dichlorobenzene	1J	2J	3J	10U	2J	10U	10U	10U	10U	3J	10U	10U	10U	10U	10U	10U	10U	10U
1,4-Dichlorobenzene	4J	17	11	10U	10	10U	10U	10U	4J	6J	10U	10U	10U	10U	7J	8J	5J	6J
2,4-Dimethylphenol	10U	10U	10U	10U	4J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Chlorophenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Methylnaphthalene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	3J	9J
2-Methylphenol (o-Cresol)	10U	10U	10U	10U	3J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-Chloro-3-methylphenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-Methylphenol (p-Cresol)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-Nitrophenol	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U
bis(2-Ethylhexyl)phthalate (BEHP)	4U	1U	10U	10U	10U	3U	2U	1U	3U	2U	3U	10U	3U	1U	10U	2U	3U	9U
Diethylphthalate	10U	3U	3U	10U	2U	10U	10U	10U	10U	10U	10U	10U	1U	10U	10U	10U	10U	1U
Di-n-butylphthalate	10U	10U	10U	10U	10U	10U	10U	1U	10U	1U	10U	10U	1U	10U	10U	10U	10U	10U
Isophorone	10U	10U	10U	10U	1J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Naphthalene	10U	1J	5J	1J	5J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	9J	16
N-Nitrosodiphenylamine	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	1J
Pentachlorophenol	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U
Phenol	3U	3U	1J	10U	2U	10U	2U	10U	1U	1U	2U	10U	2U	10U	10U	10U	3U	2U
PESTICIDES																		
4,4-DDE	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
4,4-DDT	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
alpha-BHC	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.0043J	0.05U
alpha-Chlordane	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.0033U
beta-BHC	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Dieldrin	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.0097U
Endosulfan sulfate	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
gamma-Chlordane	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.0018U	0.05U	0.0021U
Heptachlor	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.002U	0.05U	0.05U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-9 : Summary of Detections Groundwater OU1

SHORT ID	001GM35		001GM38	001GM39		001GM41	001GM42	001GM43		001GM44	001GM45	001GMI4	001GS37	001GS42	001GS53	001GS60	001GS62	001GS64	001GS71
SAMPLE ID	*001GGM3500*	*001GGM3501*	*001GGM3801*	*001GGM3900*	*001GGM3901*	*001GGM4101*	*001GGM4201*	*001GGM4300*	*001GGM4301*	*001GGM4401*	*001GGM4501*	*001GGMI401*	*001GGS3700*	*001GGS4200*	*001GGS5300*	*001GGS6000*	*001GGS6200*	*001GGS6400*	*001GGS7100*
SAMPLE DATE	*6/28/1994*	*1/14/1993*	*1/14/1993*	*7/5/1994*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*6/28/1994*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*6/29/1994*	*7/6/1994*	*6/28/1994*	*7/1/1994*	*6/30/1994*	*6/30/1994*	*7/5/1994*
VOC																			
1,1,2,2-Tetrachloroethane	2J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2-Trichloroethane	1J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	10U	1J	1J	10U	1J	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U	10U
1,2-Dichloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichloroethene (total)	10U	10U	10U	1J	1J	10U	5J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone (MEK)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	7J	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-Pentanone (MIBK)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	6J	5J	10U	5J	6J	10U	2J	10U	10U	10U	10U	10U	10U	10U	10U	10U	12	3J	10U
Bromoform	2J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	36	21	10U	15	15	10U	1J	10U	10U	10U	10U	10U	10U	10U	10U	1J	7J	31	10U
Chloroethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U	10U
Chloroform	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	4J	10U	5J	10U	10U	10U
Chloromethane	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Ethylbenzene	10U	10U	10U	10U	10U	10U	1J	10U	10U	10U	10U	10U	10U	10U	10U	10U	39	10U	10U
Methylene chloride	7U	4U	74U	2U	35U	1U	5U	10U	6U	3U	9U	5U	1U	10U	10U	5U	1U	7U	3U
Tetrachloroethene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U	10U
Trichloroethene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10U	3J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Xylene (Total)	10U	10U	1J	10U	2J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	110	10U	10U
SVOC																			
1,2-Dichlorobenzene	4J	3J	10U	10U	10U	2J	10U	10U	10U	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U
1,4-Dichlorobenzene	8J	10	10U	4J	2J	2J	2J	10U	10U	10U	10U	NS	10U	10U	10U	10U	8J	3J	10U
2,4-Dimethylphenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	10U	3J	10U	10U
2-Chlorophenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U
2-Methylnaphthalene	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U
2-Methylphenol (o-Cresol)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U
4-Chloro-3-methylphenol	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U
4-Methylphenol (p-Cresol)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U
4-Nitrophenol	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	NS	25U	25U	25U	25U	25U	25U	25U
bis(2-Ethylhexyl)phthalate (BEHP)	6U	2U	5U	3U	4U	2U	6U	1U	10U	45U	5U	NS	6U	1U	2U	10U	2U	2U	2U
Diethylphthalate	1U	1J	10U	10U	1U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	10U	2U	10U	10U
Di-n-butylphthalate	10U	10U	1U	10U	1U	10U	10U	10U	10U	2U	10U	NS	10U	10U	10U	10U	10U	10U	10U
Isophorone	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U
Naphthalene	8J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	10U	10U	2J	10U
N-Nitrosodiphenylamine	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U
Pentachlorophenol	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	NS	25U	25U	25U	25U	25U	25U	25U
Phenol	1U	1U	10U	10U	2J	1U	2J	10U	3U	2U	10U	NS	10U	10U	10U	10U	2U	2U	10U
PESTICIDES																			
4,4-DDE	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	NS	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
4,4-DDT	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	NS	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
alpha-BHC	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	NS	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
alpha-Chlordane	0.05U	0.004J	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	NS	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
beta-BHC	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	NS	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Dieldrin	0.1U	0.006U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	NS	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.0076J
Endosulfan sulfate	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	NS	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
gamma-Chlordane	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	NS	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Heptachlor	0.05U	0.0017U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	NS	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-9 : Summary of Detections Groundwater OU1

SHORT ID	001I028	001I030		001I032	001I035	001I036	001I038	001I041	001I043	001I044	001I046		001I048	001I059	001I061	001I063	001I065	001I066	001I068
SAMPLE ID	*001GI02801*	*001GI03001*	*001GI03065*	*001GI03201*	*001GI03501*	*001GI03601*	*001GI03801*	*001GI04101*	*001GI04301*	*001GI04401*	*001GI04600*	*001GI04601*	*001GI04801*	*001GI05901*	*001GI06101*	*001GI06301*	*001GI06501*	*001GI06601*	*001GI06801*
SAMPLE DATE	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*6/28/1994*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/19/1993*	*1/19/1993*	*1/19/1993*	*1/19/1993*	*1/19/1993*
VOC																			
1,1,2,2-Tetrachloroethane	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2-Trichloroethane	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	1J	10U	NS	10U	1J	10U	10U	2J	2J	10U	3J	3J	10U	1J	10U	10U	NS	10U	10U
1,2-Dichloroethane	10U	10U	0.25U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	1J	10U	10U
1,2-Dichloroethene (total)	3J	10U	NS	4J	4J	8J	3J	3J	6J	3J	3J	1J	1J	10U	10U	10U	170	10U	10U
2-Butanone (MEK)	10U	10U	100U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-Pentanone (MIBK)	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	140	10U	10U
Benzene	9J	1J	0.25U	2J	15	2J	10U	NS	3J	3J	3J	3J	2J	8	10U	5	11	10U	10U
Bromoform	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Carbon disulfide	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	23	10U	50U	4J	5J	10U	10U	120	2J	32	18	18	17	45	2J	10U	7	10U	10U
Chloroethane	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U	1J	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	10U	3U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloromethane	10U	10U	NS	10U	2J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Ethylbenzene	27	10U	NS	10U	5J	10U	10U	8J	2J	10U	10U	10U	10U	4J	10U	10U	2J	10U	10U
Methylene chloride	9U	7U	NS	2U	27U	3U	15U	2U	2U	2U	10U	4U	2U	5U	2U	2U	37U	5U	39U
Tetrachloroethene	10U	10U	0.35U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	1J	10U	NS	10U	2U	10U	10U	10U	10U	10U	10U	10U	10U	1J	10U	10U	27	10U	10U
Trichloroethene	10U	10U	0.25U	10U	10U	5J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J	10U
Vinyl chloride	10U	10U	0.1U	10U	3J	10U	10U	10U	10U	10U	12	19	10U	10U	10U	10U	23	10U	10U
Xylene (Total)	27	10U	NS	10U	17	10U	10U	10U	10U	10U	10U	10U	10U	5J	10U	9J	2J	10U	10U
SVOC																			
1,2-Dichlorobenzene	4J	10U	NS	10U	10U	10U	10U	5J	10U	3J	3J	3J	2J	1J	3J	10U	10U	10U	10U
1,4-Dichlorobenzene	6J	10U	3.75U	10U	2J	10U	10U	14	1J	5J	3J	3J	5J	12	NS	10U	3J	10U	10U
2,4-Dimethylphenol	63	10U	NS	10U	6J	10U	10U	10U	10U	10U	10U	10U	10U	3J	1J	10U	3J	10U	10U
2-Chlorophenol	10U	10U	NS	10U	10U	10U	10U	10U	10U	1J	10U	10U	10U	10U	1J	10U	10U	10U	10U
2-Methylnaphthalene	9J	10U	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Methylphenol (o-Cresol)	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	12	10U	10U
4-Chloro-3-methylphenol	10U	10U	NS	11	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	3J	10U	10U
4-Methylphenol (p-Cresol)	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	7J	10U	10U
4-Nitrophenol	25U	25U	NS	3J	25U	25U	25U	25U	25U	25U	25U	2J	25U	25U	25U	25U	25U	25U	25U
bis(2-Ethylhexyl)phthalate (BEHP)	2U	1U	NS	4U	4U	1U	1U	3U	2U	4U	11J	8U	9U	26U	4U	3U	3U	10U	1U
Diethylphthalate	4U	10U	NS	10U	3U	10U	10U	6J	10U	10U	10U	10U	10U	3U	5U	2U	10U	10U	10U
Di-n-butylphthalate	10U	10U	NS	10U	1U	10U	10U	1J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Isophorone	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	1J	10U	10U
Naphthalene	31	10U	NS	10U	10U	10U	10U	8J	10U	10U	10U	10U	10U	1J	6J	2J	1J	10U	10U
N-Nitrosodiphenylamine	10U	10U	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Pentachlorophenol	25U	1J	50U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U	25U
Phenol	5U	10U	NS	10U	2U	10U	10U	5J	1U	10U	10U	1U	10U	2U	3	4U	16	10U	10U
PESTICIDES																			
4,4-DDE	0.1U	0.1U	NS	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
4,4-DDT	0.0031U	0.1U	NS	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.0068U	0.1U	0.1U	0.1U	0.1U
alpha-BHC	0.05U	0.05U	NS	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
alpha-Chlordane	0.05U	0.05U	NS	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
beta-BHC	0.05U	0.05U	NS	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Dieldrin	0.0058U	0.1U	NS	0.1U	0.1U	0.1U	0.0021U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
Endosulfan sulfate	0.1U	0.1U	NS	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
gamma-Chlordane	0.05U	0.05U	NS	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.0013U	0.05U	0.0024U	0.05U	0.05U	0.05U
Heptachlor	0.05U	0.05U	0.004U	0.05U	0.05U	0.05U	0.0044U	0.003U	0.05U	0.05U	0.05U	0.05U	0.05U	0.0022U	0.05U	0.05U	0.05U	0.05U	0.05U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-9 : Summary of Detections Groundwater OU1

SHORT ID SAMPLE ID SAMPLE DATE	001I070 *001GI07001* *1/19/1993*	001SW50 *001GSW5001* *12/11/1992*	001SW51 *001GSW5101* *12/11/1992*
VOC			
1,1,2,2-Tetrachloroethane	10U	10U	10U
1,1,2-Trichloroethane	10U	10U	10U
1,1-Dichloroethane	10U	10U	10U
1,2-Dichloroethane	10U	10U	10U
1,2-Dichloroethene (total)	10U	10U	10U
2-Butanone (MEK)	10U	10U	10U
4-Methyl-2-Pentanone (MIBK)	10U	10U	10U
Benzene	10U	10U	10U
Bromoform	10U	10U	10U
Carbon disulfide	10U	10U	10U
Chlorobenzene	10U	10U	10U
Chloroethane	10U	10U	10U
Chloroform	10U	10U	10U
Chloromethane	10U	10U	10U
Ethylbenzene	10U	10U	10U
Methylene chloride	27U	4U	37U
Tetrachloroethene	10U	10U	10U
Toluene	10U	10U	10U
Trichloroethene	10U	10U	10U
Vinyl chloride	10U	10U	10U
Xylene (Total)	10U	10U	10U
SVOC			
1,2-Dichlorobenzene	10U	10U	10U
1,4-Dichlorobenzene	10U	10U	10U
2,4-Dimethylphenol	10U	10U	10U
2-Chlorophenol	10U	10U	10U
2-Methylnaphthalene	10U	10U	10U
2-Methylphenol (o-Cresol)	10U	10U	10U
4-Chloro-3-methylphenol	10U	10U	10U
4-Methylphenol (p-Cresol)	10U	10U	10U
4-Nitrophenol	25U	25U	25U
bis(2-Ethylhexyl)phthalate (BEHP)	2U	1U	1U
Diethylphthalate	2U	10U	10U
Di-n-butylphthalate	10U	10U	10U
Isophorone	10U	10U	10U
Naphthalene	10U	10U	10U
N-Nitrosodiphenylamine	10U	10U	10U
Pentachlorophenol	25U	25U	25U
Phenol	4J	10U	10U
PESTICIDES			
4,4-DDE	0.1U	0.1U	0.1U
4,4-DDT	0.003U	0.1U	0.1U
alpha-BHC	0.05U	0.05U	0.05U
alpha-Chlordane	0.05U	0.05U	0.05U
beta-BHC	0.05U	0.05U	0.05U
Dieldrin	0.1U	0.1U	0.1U
Endosulfan sulfate	0.1U	0.1U	0.1U
gamma-Chlordane	0.05U	0.05U	0.05U
Heptachlor	0.05U	0.05U	0.05U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-10 : Summary of Detections Groundwater OU1 Metal

SHORT ID	0010001	0010037	0010039	0010040	0010042	0010053	0010057	0010058	0010060	0010062	0010064	0010067	0010069	0010079	001GI28	001GI35	001GI36	001GI41	001GI48
SAMPLE ID	*001G000101*	*001G003701*	*001G003901*	*001G004001*	*001G004201*	*001G005301*	*001G005701*	*001G005801*	*001G006001*	*001G006201*	*001G006401*	*001G006701*	*001G006901*	*001G007901*	*001GGI2800*	*001GGI3500*	*001GGI3600*	*001GGI4100*	*001GGI4800*
SAMPLE DATE	*1/19/1993*	*1/19/1993*	*1/19/1993*	*12/11/1992*	*12/11/1992*	*12/11/1992*	*12/17/1992*	*12/17/1992*	*12/17/1992*	*1/13/1993*	*1/14/1993*	*1/19/1993*	*1/14/1993*	*1/14/1993*	*6/29/1994*	*7/5/1994*	*6/29/1994*	*7/6/1994*	*6/29/1994*
METAL																			
Aluminum	211000J	320000	91600	51700	136000J	321000	333000	189000	255000	183000	104000J	202000	51.6	218000J	153	179U	168	247U	185
Antimony	35U	36.6	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	35U	52.4	30.2U	30.2U	30.2U	30.2U	30.2U
Arsenic	13.6J	9.2	4UJ	5.8J	10.7J	8U	400UJ	4U	80U	400UJ	18.5J	4.7	4U	14.5	2.8UJ	23.8	2.8U	2.8U	9.8
Barium	251	391	154	46.7	158	332	491	231	364	125	348	237	2U	1030	14.2J	19.5U	13.4J	18.9U	98.4J
Beryllium	2.3	5.2	1U	1	3	4.2	5.2	5.1	3.4U	3.6	1.7	4.1	1U	1.6	1.1U	1.1U	1.1U	1.1U	1.1U
Cadmium	3U	6.6U	21.9	3U	3U	3U	3U	12.2U	3U	3U	5	3U	3U	353	3.4U	3.4U	3.4U	3.4U	3.4U
Calcium	13900	30500	15100	1030	3030	55900	15700	9340	2450U	1840	42900	11300	115U	76200	27800J	24100	6760J	41700	57800J
Chromium	232	429J	65.4	69.1	217	346J	351	257J	252	197	126	255J	8U	425	5.2U	5.2U	5.2U	11.9U	5.2U
Cobalt	41.6	37.4	9.6	9U	29.8	39.7	61.8	27.3	46.5U	15.7	22.5	15.4	9U	82.7	4.1U	4.1U	4.1U	4.1U	4.1U
Copper	89.9	166	22.8	48.5	177	164	142	84.8	135	127	231	103	4U	171	10.8U	10.8U	10.8U	10.8U	10.8U
Cyanide (CN)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11.7	66.5	10U	10UJ	10U	10UJ	10U
Iron	51600	117000J	11900	8110	73400	76600J	200000	57900J	132000	20000	103000	41100J	43.6J	181000	28500	25500	761	52500	16800
Lead	59.1J	104	36.3J	31.8J	55.1J	62.2	35.2J	79.5	39.9	77.5J	55.9J	78.9	2U	1060J	1.6UJ	1.6UJ	1.6UJ	1.6UJ	1.6U
Magnesium	8520	11000	4690	1560	5950	11200	18100	6850	9840	3160	6220	7580	48U	14000	6400	2350U	2080	4200U	2830
Manganese	148	245	60.3	47.9	178	307	2020	184	327	43.8	474	303	1.5	750	361	248	30.9	576	246
Mercury	1.6	2.3	0.82U	0.78U	2	2.1	1.3	2	1.7	1.9	0.2U	2.2	1.1	7.2	0.2U	0.2U	0.2U	0.2U	0.2U
Nickel	72.3	144J	44.2J	18UJ	69.4	135J	158J	95.7J	106	43.2J	63.4	55.4J	18U	280	39.9U	39.9U	39.9U	39.9U	39.9U
Potassium	4890	7350	2730	1620	3970	7590	11100	5550	5470	15500	4900	8450	1270U	14000	12600	2550U	3070	4660	3420
Selenium	30UJ	30U	30UJ	30UJ	30UJ	30U	300UJ	15U	60U	300UJ	3UJ	30U	3U	30U	3.9U	3.9UJ	3.9UJ	3.9UJ	3.9U
Silver	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	18.2	4U	4U	4U	4U	4U
Sodium	5770	7000	3860	5030	2820	2580	8710	3410	3610	28900	4270	9800	140U	8210	9930	10000	7350	10400	6510
Vanadium	186	426	84.5	71.3	202	252	385	178	242	226	109	179	6U	209	7.5U	7.5U	7.5U	7.5U	7.5U
Zinc	112	272	173	50.9	113	275	332	163	189	86	527	146	50.3	8120	2.6U	19.3U	2.7	35.6U	2.6U

SHORT ID	001GI59	001GI61	001GI63	001GI65	001GI66	001GI68	001GI70	001GI72	001GM03	001GM04		001GM05		001GM31	001GM32	001GM33		001GM34	
SAMPLE ID	*001GGI5900*	*001GGI6100*	*001GGI6300*	*001GGI6500*	*001GGI6600*	*001GGI6800*	*001GGI7000*	*001GGI7200*	*001GGM0301*	*001GGM0400*	*001GGM0401*	*001GGM0500*	*001GGM0501*	*001GGM3101*	*001GGM3201*	*001GGM3300*	*001GGM3301*	*001GGM3400*	*001GGM3401*
SAMPLE DATE	*7/6/1994*	*7/1/1994*	*6/30/1994*	*6/30/1994*	*6/28/1994*	*7/1/1994*	*7/1/1994*	*7/5/1994*	*1/14/1993*	*6/29/1994*	*1/14/1993*	*6/28/1994*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*7/1/1994*	*1/14/1993*	*6/29/1994*	*1/14/1993*
METAL																			
Aluminum	151U	172U	125U	139	205	293U	218U	431U	25400	125U	519	125U	4910	30300	1110	359U	4510J	138U	2090
Antimony	30.2U	30.2U	30.2U	30.2U	30.2U	30.2U	30.2U	30.2U	35U	30.2U	35U	30.2U	35U	35U	35U	30.2U	35U	30.2U	35U
Arsenic	7.5	20.5	2.8U	2.8U	2.8U	2.8U	2.8U	2.8U	5.1J	2.8UJ	4UJ	2.8UJ	4U	4UJ	4UJ	15.4	41.7J	2.8U	4UJ
Barium	21.8	21.5J	23.1J	20J	8.8J	13.5U	9.5U	13.3U	112	52.8J	48.4	9.4J	16.8	223	14.4	19.8U	20.4	335	290
Beryllium	1.1U	1.1U	1.1U	1.1U	1.1U	1.1U	1.1U	1.1U	1.3	1.1U	1U	1.1U	1U	1U	1U	1.1U	1U	1.1U	1U
Cadmium	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3.4U	3U	3.4U	3U	3.4U	3U	3U	3U	3.4U	3U	3.4U	3U
Calcium	68800	26800	18600J	17100J	4660J	5670	5350	10100	17200	72700J	57400	1110J	1510	22800	10300	73900	61900	50800	46800
Chromium	5.2U	5.2U	5.2U	5.2U	5.2U	5.2U	5.2U	5.2U	9.3	5.2U	8U	5.2U	8U	41.1	8U	7.3U	8U	5.2U	12
Cobalt	4.1U	5.5	4.1U	4.1U	4.1U	4.1U	4.1U	4.1U	9U	4.1U	9U	4.1U	9U	9U	9U	5.5	9.6	4.7	9U
Copper	10.8U	10.8U	10.8U	10.8U	10.8U	10.8U	10.8U	10.8U	10.1	10.8U	4U	10.8U	5.4	13.5	4U	10.8U	5	10.8U	4.8
Cyanide (CN)	10UJ	10UJ	10U	10U	10U	0	0	10UJ	10U	10U	10U	10U	10U	10U	10U	10UJ	10U	10UJ	10U
Iron	37200	33100	1110	19900	330	942	53.3U	574	19700	8910	6740	411	3920	17100	2360	42900	48100	48900	50700
Lead	1.6UJ	1.6UJ	1.6U	1.6UJ	1.6UJ	1.6UJ	1.6UJ	1.6UJ	74.1J	1.6U	2U	1.6UJ	3U	13.9J	2UJ	1.6UJ	4.8J	1.6UJ	6J
Magnesium	6760	7380	3980	1350	506	1330U	3030	3660	5900	2200	2160	1350	1440	4160	2200	4100	3710	3280	3490
Manganese	356	319	69.5	128	5.5U	8.9	3.1U	41.2	793	145	122	63.4	123	236	48.1	363	301	335	267
Mercury	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.24J	0.2U	0.2U	0.2U	0.2U	0.28U	0.2U	0.2U	0.2U	0.2U	0.23U
Nickel	39.9U	39.9U	39.9U	39.9U	39.9U	39.9U	39.9U	39.9U	18UJ	39.9U	18UJ	39.9U	18U	23.7J	18UJ	39.9U	18U	39.9U	18UJ
Potassium	5610	5980	5170	7730	2860	2550U	3200	4090	1840	2550U	1270U	2560	1270U	1800	1270U	3030	2980	2550U	3040
Selenium	3.9UJ	3.9UJ	3.9UJ	3.9U	3.9U	3.9U	3.9U	3.9U	3UJ	3.9U	3UJ	3.9U	3U	30UJ	3UJ	3.9UJ	3UJ	3.9UJ	3UJ
Silver	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U
Sodium	6290	16000	16000	29000	9500	8350	9810	10100	8190	3820	3600	6470	6350	6690	4410	5890	4620	6270	5490
Vanadium	7.5U	7.5U	7.5U	7.5U	7.5U	7.5U	7.5U	7.5U	7.1	7.5U	6U	7.5U	6U	46.8	6U	7.5U	6U	7.5U	6U
Zinc	9.8U	7.8U	4.1	44.3	36.8	7.8U	7.5U	11.6U	127	2.6U	30.7	2.6U	23.9	155	38.1	134U	35.5	5.7U	285

NOTES:
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4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-10 : Summary of Detections Groundwater OU1 Metal

SHORT ID	001GM35		001GM38	001GM39		001GM41	001GM42	001GM43		001GM44		001GM45		001GS37	001GS42	001GS53	001GS60	001GS62	001GS64
SAMPLE ID	*001GGM3500*	*001GGM3501*	*001GGM3801*	*001GGM3900*	*001GGM3901*	*001GGM4101*	*001GGM4201*	*001GGM4300*	*001GGM4301*	*001GGM4400*	*001GGM4401*	*001GGM4500*	*001GGM4501*	*001GGS3700*	*001GGS4200*	*001GGS5300*	*001GGS6000*	*001GGS6200*	*001GGS6400*
SAMPLE DATE	*6/28/1994*	*1/14/1993*	*1/14/1993*	*7/5/1994*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*6/28/1994*	*1/14/1993*	*7/6/1994*	*1/14/1993*	*7/6/1994*	*1/14/1993*	*6/29/1994*	*7/6/1994*	*6/28/1994*	*7/1/1994*	*6/30/1994*	*6/30/1994*
METAL																			
Aluminum	134	1270J	30300	4780	29300	12100	15400J	142	2630J	125U	1010	317	762	984	360	179	207	125U	269
Antimony	30.2U	35U	35U	30.2U	35U	35U	35U	30.2U	35U	30.2U	35U	30.2U	35U	30.2U	30.2U	30.2U	30.2U	30.2U	30.2U
Arsenic	5.9	6.3J	20J	42.6	26.7J	4.4U	97.7J	2.8U	4.1J	2.8U	4UJ	2.8U	4U	2.8U	2.8U	2.8U	2.8U	2.8U	2.8UJ
Barium	57.2J	55.6	55.4	24.9	48.3	30	25.7	7.5J	10.9	11.8U	11.9	11.6U	15.3	8.9J	15.4U	2.4J	11.1J	3.7J	58.7J
Beryllium	1.1U	1U	1U	1.1U	1U	1U	1U	1.1U	1U	1.1U	1U	1.1U	1U	1.3U	1.1U	1.1U	1.1U	1.1U	1.1U
Cadmium	3.4U	3U	3U	3.4U	3U	3U	3U	3.4U	3U	3.4U	3U	3.4U	3.1U	3.4U	3.4U	3.4U	3.4U	3.4U	30.5
Calcium	53200J	40100	38600	57400	31500	967	507	21900J	18600	50300	47700	7080	10300	16300J	688U	19600J	1070J	199J	48900J
Chromium	5.2U	8U	36.5	616	32.6	12.8	24.3	5.2U	11.3	5.2U	8U	5.2U	8U	5.2U	5.2U	5.2U	5.2U	5.2U	5.2U
Cobalt	4.1U	9U	9U	12	9U	9U	9U	4.1U	9U	4.1U	9U	4.1U	9U	4.1U	4.1U	4.1U	4.1U	4.1U	4.1U
Copper	10.8U	4U	19.6	147	15.4	7.4	10.6	10.8U	5.6	10.8U	4.2	10.8U	12.2	10.8U	10.8U	10.8U	10.8U	10.8U	10.8U
Cyanide (CN)	10U	10U	10U	10UJ	10U	10U	10U	10U	10U	0	10U	0	10U	10U	10UJ	10U	10U	10U	10U
Iron	52300	41500	31000	73200	79800	8200	52200	3100	6720	1690	2450	4130	8500	225	298	53.3U	53.3U	162	13900
Lead	1.6U	2UJ	14.6J	1.6UJ	11.2J	3U	8.9J	1.6U	2.8J	1.6UJ	2UJ	1.6UJ	2.7U	1.6UJ	1.6UJ	1.6UJ	1.6UJ	1.6UJ	5.3J
Magnesium	3680	3360	4160	5330	5730	1590	1060	1060	1540	2180U	2070	1130U	2060	1340	486U	333	657	897	2770
Manganese	502	362	45.5	600	532	877	107	90.1	81.1	69.3	65.4	24.1	53.6	7.7	62.3	3.1U	54.1	3.1U	208
Mercury	0.2U	0.2U	0.39U	0.2U	0.79U	0.26	0.25	0.2U	0.24	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U
Nickel	39.9U	18U	18UJ	253	18U	18U	18U	39.9U	18U	39.9U	18U	39.9U	18U	39.9U	39.9U	39.9U	39.9U	39.9U	39.9U
Potassium	4570	3550	3450	4470	5290UJ	1550	2230	2550U	1270U	2550U	1270U	2550U	1270U	3010	2550U	2550U	2550U	13800	2550U
Selenium	3.9UJ	3UJ	3UJ	3.9U	3UJ	30U	3UJ	3.9UJ	3UJ	39UW	3UJ	3.9UJ	3U	3.9U	3.9UJ	3.9U	3.9UJ	3.9U	3.9UJ
Silver	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U
Sodium	4950	4780	5970	10200	8010	9450	6460	4680	4340	6540	5590	9070	8760	9820	4320	7810	4630	31800	3620
Vanadium	7.5U	6U	121	10.8	30.4	14.4	25.4	7.5U	6U	7.5U	6U	7.5U	8.1U	7.5U	7.5U	7.5U	7.5U	7.5U	7.5U
Zinc	7.5	35.2	52.5	3020	59.2	37U	24	2.6U	45.1	6.6B	50.6	6.9U	45.9U	6.4	14.6U	4.2	36	7	436

SHORT ID	001GS67	001GS69	001GS71	001I028	001I030	001I032	001I035	001I036	001I038	001I041	001I043	001I044	001I046		001I048	001I059	001I061	001I063	001I065
SAMPLE ID	*001GGS6700*	*001GGS6900*	*001GGS7100*	*001GI02801*	*001GI03001*	*001GI03201*	*001GI03501*	*001GI03601*	*001GI03801*	*001GI04101*	*001GI04301*	*001GI04401*	*001GI04600*	*001GI04601*	*001GI04801*	*001GI05901*	*001GI06101*	*001GI06301*	*001GI06501*
SAMPLE DATE	*7/1/1994*	*7/1/1994*	*7/5/1994*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*6/28/1994*	*1/14/1993*	*1/14/1993*	*1/14/1993*	*1/19/1993*	*1/19/1993*	*1/19/1993*
METAL																			
Aluminum	4240	3270	533	15100J	75700	48100J	51400	13100	13700	65900J	33600J	116000	144	14400J	31700	30900J	31700	3630	70700J
Antimony	30.2U	30.2U	30.2U	35U	35U	35U	35U	35U	35U	35U	35U	35U	30.2U	35U	35U	35U	35U	35U	35U
Arsenic	2.8U	2.8U	2.8U	13J	62.2J	55.2J	28.4J	11.7	11.8J	26J	36.4J	25.5	24	27J	19.8U	33.2J	45.6	4.9J	68.8J
Barium	11U	18.9U	20.9U	61.1	118	85.5	84	31.1U	25.4	70.4	47.8	152	15.9J	30	46.8	50.6	49.7	31.1	102
Beryllium	1.1U	1.1U	1.1U	1.3	4.2	1.4	1.8	1U	1U	1.6	2U	3.8U	1.1U	1U	1U	1.2	1.3U	1U	2.9
Cadmium	3.4U	3.4U	3.4U	3U	3U	3U	3U	3U	3U	3U	3U	3U	3.4U	3U	3U	3U	3U	3U	3U
Calcium	17800	6300	13100	47500	51500	173000	24600	6820	14000	37700	8280	2100	20100J	16200	8240	76600	26400	17800	10300
Chromium	9.7U	59.9	5.2U	37.9	175	71.9	95.4	464J	82.3	101	68.4	167	5.2U	31.2	70.7	69.3	61.3	31.6	173
Cobalt	4.1U	4.1U	4.1U	9U	23	17.4	10.7	9U	9U	17.4	9.6	31.5	4.1U	9.6	11.1	13.5	9.1U	9U	25.3
Copper	10.8U	16.2	10.8U	9.3	32.3	24.9	27.6	32.8	8.7	68.1	24.4	71.2	10.8U	11.1	24.8	18.6	27.9	6.1	38.7
Cyanide (CN)	0	0	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iron	677	1770	190	34700	66200	65900	62300	11100J	9780	78100	31600	179000	42700	49300	22500	54900	51100	3530	55400
Lead	1.6UJ	1.6UJ	1.6UJ	4.3J	27.7J	10.6J	41.8J	4.7U	2.9J	33.7J	22.4J	38.4	1.6U	5J	4.6U	20.6J	10U	2.3J	29.3J
Magnesium	1590U	2510U	1780U	7470	13000	14300	5300	2280	2800	5700	3320	5800	4530	4560	1950	8490	7610	4310	4170
Manganese	6.7	26.7	8.9	316	243	487	282	74.1	37	542	71.1	1300	348	356	138	352	330	69.7	132
Mercury	0.2U	0.2U	0.2U	0.2U	0.28U	0.2U	0.2U	0.2U	0.37U	0.97	0.28	0.48	0.2U	0.2U	0.4	0.2U	0.2U	0.23U	2.1
Nickel	39.9U	39.9U	39.9U	18U	48.9J	32	21J	219J	33.5J	24.1	18U	59.2	39.9U	18U	19.2	18U	24.9	18UJ	49.5
Potassium	13300	6560	3610	15100	6600	9010	5460	2280	1930	5130	4010	6570	5640	5270	1820	7710	7910	5430	14000
Selenium	3.9U	3.9UJ	3.9U	3UJ	3UJ	3UJ	3UJ	3U	3UJ	30UJ	9.7J	30U	3.9U	3UJ	3U	8.8J	3U	3UJ	30UJ
Silver	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U
Sodium	10700	7830	8580	12900	14000	14000	16500	7420	6160	8740	9450	12900	9430	10200	29800	9630	14600	15400	32400
Vanadium	7.9	7.5U	7.5U	44.2	243	89.4	143	29.4	47.3	127	96.5	250	7.5U	29.6	49.3U	70	61.9U	11.3	273
Zinc	17.5U	290	19.6U	50.6	154	83.2	65.3	91.1	54.1	49.9	56.6	128	4.3	35.2	80	42.9	56.1	24	203

NOTES:
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3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-10 : Summary of Detections Groundwater OU1 Metal

SHORT ID SAMPLE ID SAMPLE DATE	001I066 *001GI06601* *1/19/1993*	001I068 *001GI06801* *1/19/1993*	001I070 *001GI07001* *1/19/1993*	001SW50 *001GSW5001* *12/11/1992*	001SW51 *001GSW5101* *12/11/1992*
METAL					
Aluminum	58300	149000	121000	345	91.9
Antimony	36.5	35U	35U	35U	35U
Arsenic	36.5	84.8	27.3	5U	4U
Barium	85.1	246	122	13.1U	15.2U
Beryllium	2.4	6.3	2.9	1U	1U
Cadmium	3U	4.1U	3U	3U	3U
Calcium	19300	31000	8650	3260	8240
Chromium	186J	268J	224J	8U	22.4J
Cobalt	13	32.6	21.9	9U	9U
Copper	35.8	62.2	82	5.4U	19.2
Cyanide (CN)	10U	10U	10U	10U	10U
Iron	35600J	74100J	91100J	1660	4050J
Lead	2.2U	32.5	38.4	2U	2.8U
Magnesium	5440	15400	8300	1430	2280
Manganese	126	358	197	30.8	18.9
Mercury	0.2U	0.3	0.76	0.2U	0.2U
Nickel	71.5J	102J	67.4J	18U	18U
Potassium	37800	14600	7750	1270U	1270U
Selenium	30U	15U	15U	3U	3U
Silver	4U	4U	4U	4U	4U
Sodium	15100	19400	9910	22500	14600
Vanadium	154	389	227	6U	6U
Zinc	221	313	175	88.9	121

NOTES:
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4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-11 : Summary of Detections Groundwater Site 16

SHORT ID SAMPLE ID SAMPLE DATE	016GS01 *016GGS0101* *5/9/1996*	016GS02 *016GGS0201* *5/9/1996*	016GS03 *016GGS0301* *5/9/1996*	016GS04 *016GGS0401* *5/9/1996*	016GS05 *016GGS0501* *5/9/1996*	016GS06 *016GGS0601* *5/8/1996*	016GS07 *016GGS0701* *5/8/1996*	016GS08 *016GGS0801* *5/8/1996*
VOC								
2-Butanone (MEK)	0.2UR	0.2UR	0.2UR	0.2UR	2J	0.2UR	0.2UR	0.2UR
4-Methyl-2-Pentanone (MIBK)	2	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U
Benzene	0.1U	0.1U	0.7	0.1U	0.1U	0.1U	0.1U	0.1U
Chloromethane	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.5	0.2U
trans-1,2-Dichloroethene	0.3U	0.3U	8	0.3U	0.3U	0.3U	0.3U	0.3U
METAL								
Aluminum	1220	653	234	492	1150	557	3810	4910
Antimony	2.1J	1.6U	1.6U	1.6U	1.6U	1.6U	1.8J	1.6U
Barium	5.8U	9.7J	4.9U	38.8	44.5	8J	8.8J	10.7J
Beryllium	0.31J	0.34J	0.29J	0.3J	0.37J	0.31J	0.29J	0.41J
Calcium	1170	1680	1490	5060	7830	821	7590	10900
Chromium	1.2U	1.2J	1.8J	1.2U	1.9J	1.2U	3.9J	5J
Cobalt	0.67J	0.67U	0.67U	0.67U	0.67U	0.67U	0.67U	0.67U
Copper	0.44UJ	0.44UJ	0.44UJ	0.44UJ	0.44UJ	0.44UJ	1.2J	3.2J
Iron	539	462	1920	101J	574	276	1380	966
Lead	13.6	2.4U	2.4U	2.4U	3.3	2.4U	2.7	2.9
Magnesium	592	944	578	1930	2670	748	730	587
Manganese	29	36.5	61.8	77.3	18.1	10.2J	11.1	5.5J
Nickel	2.4J	0.74J	1.1J	0.67U	0.67U	0.67U	1.3J	2.3J
Potassium	259J	711J	1520	7130	4290	422J	382J	231J
Silver	1.1J	1.2J	1.3J	1.2J	1J	0.67U	0.89J	1.8J
Sodium	6430	4280	4090	4270	4410	3310	4360	3640
Vanadium	1.2J	0.94J	0.73J	1.7J	10.5J	1.5J	4.9J	17.7
Zinc	4.3J	11.3J	0.23J	7.8J	1.4J	2.9J	5.9J	9.7J

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-12 : Summary of Detections Groundwater Site 14

SHORT ID SAMPLE ID SAMPLE DATE	0140001 *014G000100* *2/24/1994*	0140002 *014G000200* *2/23/1994*
METAL		
Aluminum	2330J	202J
Arsenic	18.8J	6.7J
Calcium	105000	176000
Chromium	10	2.3U
Iron	3990J	1660J
Magnesium	158000	283000
Manganese	261J	314J
Potassium	62100	105000
Sodium	1670000J	2820000J

NOTES:
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2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-13 : Summary of Detections Site 4

SHORT ID	0040001		0040002		0040003	
SAMPLE ID	*004S000101*	*004S000107*	*004S000201*	*004S000206*	*004S000301*	*004S000307*
SAMPLE DATE	*4/5/1996*	*4/5/1996*	*4/5/1996*	*4/5/1996*	*4/5/1996*	*4/5/1996*
VOC						
1,4-Dichlorobenzene	0.2UJ	0.2U	2J	0.2U	0.2UJ	0.2UJ
Acetone	40J	35	1UJ	25	1U	30
SVOC						
Benzo(a)anthracene	28J	50U	49U	50U	49U	49U
Benzo(a)pyrene	140	50U	50U	51U	49U	50U
Benzo(b)fluoranthene	150	83U	81U	84U	81U	81U
Benzo(k)fluoranthene	94	54U	53U	54U	53U	53U
bis(2-Ethylhexyl)phthalate (BEHP)	71	52U	51U	52U	51U	51U
Butylbenzylphthalate	140	34U	33U	34U	33U	33U
Chrysene	68	40U	39U	40U	39U	39U
Pyrene	64	38U	38U	39U	37U	38U
PESTICIDES						
4,4-DDE	1.42U	1.39U	1.37U	1.41U	1.96J	1.36U
Aldrin	0.785J	0.732U	0.722U	0.74U	0.717U	0.718U
Aroclor-1260	35.7U	35U	40.3	35.4U	34.3U	34.3U
Endosulfan II	1.63U	1.6U	1.63J	1.62U	1.57U	1.57U
gamma-Chlordane	0.692U	0.679U	1.3	0.687U	0.665U	0.666U
METAL						
Aluminum	14000	114	2230	102	7690	453
Arsenic	3	0.27U	0.54	0.27U	1.3	0.27U
Barium	9.4	0.29U	5.8	0.26U	6.2	0.58U
Beryllium	0.08J	0.04U	0.05J	0.04U	0.07J	0.04U
Cadmium	0.91	0.03U	0.41	0.03U	0.15	0.03U
Calcium	16500J	20.3U	422J	18.6U	38100J	48.3J
Chromium	16.4	0.13UJ	2.5J	0.13UJ	7.8	0.15J
Copper	6.9	0.13U	1.6	0.27J	3.2	0.37J
Cyanide (CN)	0.54U	0.53U	0.62U	2	0.52U	0.9U
Iron	12100	51.4	1530	55.7	4140	337
Lead	29.9	0.47U	6.3	0.28U	11.2	0.71U
Magnesium	222	6.2J	80.9	5.5U	377	15J
Manganese	44.8	0.23J	16	0.23J	66.2	0.67J
Mercury	0.36	0.31	0.29	0.25	0.35	0.31
Nickel	1.9J	0.19U	0.75J	0.39J	1.6J	0.5J
Potassium	96.1	6.9J	46.4J	5J	125	11.2J
Sodium	205J	21.6U	29.2U	22.6U	418J	17.7U
Vanadium	22.6	0.17J	3.7	0.18J	11.5	0.66J
Zinc	16.5	0.24U	12.6	1.4J	11.8	1.9J

NOTES:

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4 - Qualifiers
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R or UR: Data Rejected
D: Diluted

Table A-14 : Summary of Detections Groundwater Site 4

SHORT ID **SAMPLE ID** **SAMPLE DATE**	**004GS01** ***004GGS0101*** ***5/7/1996***	**004GS02** ***004GGS0201*** ***5/6/1996***	**004GS03** ***004GGS0301*** ***5/6/1996***
SVOC			
Butylbenzylphthalate	0.8J	3U	3U
METAL			
Aluminum	674J	420J	1080J
Calcium	30600	14800	15700
Copper	0.44UJ	2.4J	2.1J
Iron	516	108J	386
Lead	2.4U	2.9	2.4U
Magnesium	1490	1010	870
Potassium	1440	1010	1170
Sodium	3270	3470	3880
Vanadium	1.6J	0.88J	2J

NOTES:

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4 - Qualifiers
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D: Diluted

Table A-15 : Summary of Detections Groundwater OU 10

SHORT ID	**0320007**
SAMPLE ID	***032G000700***
SAMPLE DATE	***3/8/1994***
METAL	
Aluminum	285
Calcium	7310
Chromium	3.1U
Iron	327
Lead	2.5
Magnesium	482
Manganese	2.2U
Potassium	709
Sodium	2930
Zinc	5.3

NOTES:

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4 - Qualifiers
U: Not Detected
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R or UR: Data Rejected
D: Diluted

Table A-16 : Summary of Detections OU 12

SHORT ID SAMPLE ID SAMPLE DATE	0390007 *039S000701* *7/28/1994*	0390008 *039S000801* *7/28/1994*	0390009 *039S000901* *7/28/1994*	0390010 *039S001001* *7/28/1994*	0390011 *039S001101* *7/28/1994*
SVOC					
Benzo(a)anthracene	340U	340U	75J	95J	330U
Benzo(a)pyrene	340U	150J	82J	95J	330U
Benzo(b)fluoranthene	340U	97J	150J	310J	48J
Benzo(g,h,i)perylene	340U	340U	64J	46J	330U
Benzo(k)fluoranthene	340U	89J	230J	280J	69J
Chrysene	340U	53J	84J	110J	45J
Fluoranthene	340U	340U	99J	150J	330U
Indeno(1,2,3-cd)pyrene	340U	340U	51J	62J	330U
Phenanthrene	340U	340U	53J	48J	330U
Pyrene	340U	110J	120J	130J	87J
PESTICIDES					
4,4-DDE	3.4U	0.7J	0.3J	3.4U	0.36J
alpha-Chlordane	1.8U	1.1J	0.51J	0.12J	0.72J
Dieldrin	3.4U	0.33J	3.4U	3.4U	3.3U
Endosulfan II	3.4U	0.19J	3.4U	3.4U	3.3U
Endosulfan sulfate	3.4U	3.4U	3.4U	0.36J	3.3U
Endrin	3.4U	1.2J	0.1J	0.12J	0.69J
Endrin aldehyde	3.4U	7	1.7J	0.42J	1.9J
gamma-Chlordane	1.8U	0.73J	1.8U	1.8U	1.7U
Heptachlor epoxide	1.8U	1.7U	1.8U	1.8U	0.16J
Methoxychlor	18U	17U	1.1J	0.56J	17U
METAL					
(Ag) Silver	0.74U	0.74U	0.75U	0.74U	2.2
(Al) Aluminum	105J	260J	722J	434J	392J
(As) Arsenic	0.58U	0.57U	1.1	0.58U	0.56U
(Ba) Barium	0.21	5	31.6	7.1	8.8
(Ca) Calcium	1090	223	1780	327	218
(Cd) Cadmium	0.95UJ	5J	8.5J	2.1J	10.3J
(Co) Cobalt	1.5U	1.5U	1.7	1.5U	1.5U
(Cr) Chromium	1.9U	19.4	14.5	3.4	25.6
(Cu) Copper	0.93UJ	26.7J	108J	37.3J	41.3J
(Fe) Iron	156J	764J	2130J	1200J	1420J
(K) Potassium	142U	141U	156J	143U	139U
(Mg) Magnesium	25.3	49.2	284	70.9	74.8
(Mn) Manganese	1.1	7.6	32.9	11.5	12.9
(Na) Sodium	125	101	139J	126	99.6
(Pb) Lead	0.33U	32.6	219J	44.6	70.2
(V) Vanadium	0.91U	0.9U	2.2	1	1.2
(Zn) Zinc	1.9U	32.2	166	35	49.3
Cyanide	0.51U	0.55	0.82	1.3	2.1

NOTES:
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3 - g/L = micrograms per liter

4 - Qualifiers
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D: Diluted

Table A-17 : Summary of Detections Groundwater OU 12

SHORT ID SAMPLE ID SAMPLE DATE	039I005 *039GI00520* *7/1/1994*	039I006 *039GI00620* *6/28/1994*	039I007 *039GI00720* *6/28/1994*	039I020 *039GI02000* *4/19/1995*	039S001 *039GS00120* *4/19/1995*	039S002 *039GS00220* *4/19/1995*	039S003 *039GS00320* *4/19/1995*	039S004 *039GS00420* *4/19/1995*
VOC								
Tetrachloroethene	10U	10U	10U	10U	2J	10U	10U	10U
SVOC								
bis(2-Ethylhexyl)phthalate (BEHP)	10U	10U	10U	17J	10U	10U	10U	10U
METAL								
(Al) Aluminum	308U	354U	318U	212U	325U	6210U	15000	1140J
(As) Arsenic	2.6U	2.6U	2.6U	2.6U	2.6U	5.3	4.3	2.6U
(Ba) Barium	11.3J	6.8U	5.3U	6.9U	6.5U	13.1J	15.5J	7U
(Ca) Calcium	3230J	5930J	4970J	254U	40800	25500	22600	26500
(Cr) Chromium	6.6U	6.6U	6.6U	6.6U	6.6U	6.6U	8.8	6.6U
(Fe) Iron	1050J	2020J	1720J	27.7UJ	51.2J	2430J	8550J	156J
(Mg) Magnesium	980	1130	975	106U	2570	2300	1850	3350
(Mn) Manganese	8.8	8.8	8.8	6.3U	6.3U	8.8	17.7	6.3U
(Na) Sodium	7830	5000	5260	555	6480	9880	6180	12900
(Pb) Lead	1.8U	1.8U	1.8U	1.8U	1.8U	2.5	5.2	1.8U
(V) Vanadium	5.3U	5.3U	5.3U	5.3U	5.3U	10	24.4	5.3U
(Zn) Zinc	11.5J	8J	8.4J	11J	4.3J	62.6J	40.6J	5.4J

NOTES:

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2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-18 : Summary of Detections Groundwater UST18

SHORT ID	003GI01	003GI02	003GI03	003GI04	003GI05	003GI06	003GM21	003GM23	003GM24	003GM25	003GR01	003GR02	003GR03	003GR04	003GR05	003GR06	003GR07	003GR08	003GR09
SAMPLE ID	*003GGI0101*	*003GGI0201*	*003GGI0301*	*003GGI0401*	*003GGI0501*	*003GGI0601*	*003GGM2100*	*003GGM2300*	*003GGM2400*	*003GGM2500*	*003GGR0100*	*003GGR0200*	*003GGR0300*	*003GGR0400*	*003GGR0500*	*003GGR0600*	*003GGR0700*	*003GGR0800*	*003GGR0900*
SAMPLE DATE	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/2/1994*	*2/18/1994*	*2/18/1994*	*2/18/1994*	*2/18/1994*	*2/17/1994*	*2/17/1994*	*2/17/1994*	*2/17/1994*	*2/17/1994*	*2/17/1994*	*2/17/1994*	*2/17/1994*	*2/17/1994*
VOC																			
1,2-Dibromoethane	0.02U	0.35U	0.02U	0.02U	0.02U	0.35U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1,2-Dichlorobenzene	10U	2.7U	10U	0.15U	0.17U	0.3U	21U	11U	11U	10U	14U	11U	22U	46U	22U	100U	48U	11U	120U
1,2-Dichloroethane	0.25U	0.25U	0.25U	0.25U	0.25U	0.25U	20U	10U	10U	10U	10U	10U	50U	50U	25U	250U	400U	10U	67U
1,3-Dichlorobenzene	0.2U	0.37U	10U	10U	0.2U	10U	21U	11U	11U	10U	14U	11U	22U	46U	22U	100U	48U	11U	120U
1,4-Dichlorobenzene	0.15U	0.2U	0.2U	0.2U	0.2U	3.9J	21U	11U	11U	10U	14U	11U	22U	46U	22U	100U	48U	11U	120U
2-Butanone (MEK)	NS	NS	NS	NS	NS	NS	20U	10U	10U	10U	10U	10U	50U	50U	25U	250U	400U	10U	82
Acetone	NS	NS	NS	NS	NS	NS	23	10U	10U	10U	10U	10U	50U	50U	25U	250U	1300	10U	750
Benzene	1.9J	0.35U	0.35U	0.35U	0.35U	1.2	160	10U	10U	10U	10U	10U	50U	440	16J	670	400U	10U	67U
Chlorobenzene	1J	0.35U	0.25U	0.25U	0.25U	0.25U	20U	10U	10U	10U	10U	10U	50U	50U	25U	250U	400U	10U	67U
Chloroform	0.35U	0.35U	0.35U	0.35U	0.35U	0.35U	20U	10U	10U	10U	10U	10U	50U	50U	25U	250U	400U	10U	67U
Ethylbenzene	0.94J	1.1	0.2U	0.21J	0.2U	3J	71	10U	10U	10U	10U	10U	120	82	110	420	380J	13	190
Methylene chloride	1U	1U	1U	1U	1U	1U	20U	10U	10U	10U	4BJ	4BJ	29BJ	26BJ	12BJ	110BJ	240BJ	10U	67U
m-Xylene	NS	2.2	NS	NS	NS	7.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
o-Xylene	0.54J	2.1	0.33	0.36	0.26	7.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
p-Xylene	NS	2.2	NS	NS	NS	7.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Styrene	0.32	0.28	0.25U	0.25U	0.25U	0.25U	20U	10U	10U	10U	10U	10U	50U	50U	25U	250U	400U	10U	67U
Tetrachloroethene	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	20U	10U	10U	10U	10U	10U	50U	50U	25U	250U	400U	10U	67U
Toluene	0.25U	3	0.32U	0.9J	0.42J	6.1J	20U	10U	10U	10U	10U	10U	50U	50U	25U	3600	4600	4J	1300
Trichloroethene	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	20U	10U	10U	10U	10U	10U	50U	50U	25U	250U	400U	10U	67U
Xylene (Total)	0.5U	NS	0.5U	0.5U	0.5U	NS	540	10U	10U	10U	10U	10U	1500	1200	670	2500	3800	88	2500
TPH																			
Petroleum Hydrocarbons, TPH	0.25U	0.25U	0.25U	0.25U	0.25U	7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																			
1,3-Dinitrobenzene	15U	15U	15U	15U	15U	15U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1-Methyl naphthalene	15U	15U	15U	15U	15U	1J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2,4-Dimethylphenol	35U	35U	35U	35U	35U	35U	21U	11U	11U	10U	14U	11U	10J	46U	22U	100U	26J	11U	120U
2-Methylnaphthalene	10U	10U	10U	10U	10U	10U	6J	11U	11U	10U	14U	11U	80	57	58	94J	130	11U	89J
2-Methylphenol (o-Cresol)	20U	20U	20U	20U	20U	20U	21U	11U	11U	10U	14U	11U	22U	46U	22U	80J	80	11U	120U
3-Methylphenol (m-Cresol)	35U	35U	35U	35U	35U	35U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Chloroaniline	5U	5U	5U	5U	5U	5U	21U	11U	11U	10U	14U	11U	22U	46U	22U	100U	48U	11U	120U
4-Methylphenol (p-Cresol)	35U	35U	35U	35U	35U	35U	21U	11U	11U	10U	14U	11U	22U	46U	22U	100J	110	11U	54J
Acetophenone	20U	20U	20U	20U	20U	20U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chrysene	15U	15U	15U	15U	1J	15U	21U	11U	11U	10U	14U	11U	22U	46U	22U	100U	48U	11U	120U
Dibenzofuran	10U	10U	10U	10U	10U	10U	21U	11U	11U	10U	14U	11U	22U	46U	22U	100U	48U	11U	120U
Diethylphthalate	15U	15U	15U	15U	15U	15U	6J	11U	11U	10U	14U	11U	22U	46U	22U	100U	48U	11U	120U
Fluoranthene	20U	20U	20U	20U	1J	20U	21U	11U	11U	10U	14U	11U	22U	46U	22U	100U	48U	11U	120U
Naphthalene	5U	5U	5U	5U	5U	1J	31	3J	11U	10U	14U	11U	110	75	94	170	280	11U	150
Pentachlorophenol	55U	55U	55U	55U	55U	55U	53U	27U	26U	26U	34U	27U	54U	110U	55U	260U	120U	28U	290U
Phenol	15U	15U	15U	15U	15U	15U	21U	11U	11U	10U	14U	11U	22U	46U	22U	62J	30J	11U	120U
Pyrene	10U	10U	10U	10U	1J	10U	21U	11U	11U	10U	14U	11U	22U	46U	22U	100U	48U	11U	120U
METAL																			
Aluminum	NS	NS	NS	NS	NS	NS	76.8B	2080	300	165B	2160	653	348	559	499	683	667	1050	1490
Arsenic	NS	NS	NS	NS	NS	NS	2.9U	2.9U	2.9U	2.9U	2.9U	2.9U	2.9B	2.9U	2.9U	3.6B	2.9U	2.9U	2.9U
Barium	NS	NS	NS	NS	NS	NS	14.2B	5.1B	5.9B	2.4U	13.3B	9.2B	22.5B	9.2B	7.3B	24.6B	14.6B	7.4B	17.3B
Cadmium	NS	NS	NS	NS	NS	NS	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	3.6B	2.1U	2.1U	2.1U
Calcium	NS	NS	NS	NS	NS	NS	11400	840B	870B	7090	9510	4490B	29100	694B	35300	15300	4090B	2320B	4590B
Chromium	NS	NS	NS	NS	NS	NS	2.3U	2.3U	2.3U	2.3U	2.3U	2.3U	2.3U	2.3U	2.3U	2.3U	2.3U	2.3U	2.3U
Cobalt	NS	NS	NS	NS	NS	NS	3.2U	3.2U	3.2U	3.2U	3.2U	7.7B	3.2U	3.2U	3.2U	3.6B	3.2U	3.2U	3.2U
Cyanide (CN)	NS	NS	NS	NS	NS	NS	1U	1U	1U	3B	1U	1U	1U	1U	1U	1U	1U	1U	1U
Iron	NS	NS	NS	NS	NS	NS	487	274	156	222	1280	103	1430	504	1200	5590	1530	926	2960
Lead	3.9U	4.4	5.7	5.1	5.2	11.7J	0.7U	1.9B	0.84B	0.7U	1.9B	0.72B	177	3.3	5.9	85.8	98.2	3.5	64.6
Magnesium	NS	NS	NS	NS	NS	NS	1390B	623B	755B	565B	1520B	603B	1150B	330B	1220B	1190B	1020B	831B	1130B
Manganese	NS	NS	NS	NS	NS	NS	9.3B	3.2B	10.2B	1.4B	35.2	7B	33	11.2B	10.8B	46.1	30.2	10.9B	107
Mercury	NS	NS	NS	NS	NS	NS	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.15B	0.1U	0.1U	0.1U	0.1U	0.1B	0.1U
Potassium	NS	NS	NS	NS	NS	NS	3460B	649U	649U	649U	704B	649U	2300B	4820B	1410B	3800B	1650B	796B	1410B
Selenium	NS	NS	NS	NS	NS	NS	1.7U	1.7U	1.8B	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U
Silver	NS	NS	NS	NS	NS	NS	3.6U	3.6U	4B	3.6U	3.6U	3.6U	3.6U	3.6U	3.6U	3.6U	3.6U	3.6U	3.6U
Sodium	NS	NS	NS	NS	NS	NS	6590	2920B	3620B	2670B	5200	2450B	4120B	7030	4230B	4580B	2150B	2650B	2370B
Thallium	NS	NS	NS	NS	NS	NS	2.8U	2.8U	2.8U	2.8U	2.8U	3.6B	2.8U	2.8U	2.8U	2.8U	2.8U	2.8U	2.8U
Vanadium	NS	NS	NS	NS	NS	NS	3.3U	3.3U	3.3U	3.3U	7.8B	3.3U	3.3U	3.3U	3.3U	3.3U	3.3U	3.3U	3.3U
Zinc	NS	NS	NS	NS	NS	NS	1.7U	7.2B	2.5B	2.4B	7.7B	5.5B	2.7B	2.6B	4.6B	20.9	6.2B	11B	12.3B

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-18 : Summary of Detections Groundwater UST18

SHORT ID	003GR10	003GR11	003GR12	003GR13	003GR14	003GR15	003GR16	003GR17	003GR18	003GR19	003GS01	003GS02	003GS03	003GS04	003GS05	003GS06	003GS07	003GS08	003GS09
SAMPLE ID	*003GGR1000*	*003GGR1100*	*003GGR1200*	*003GGR1300*	*003GGR1400*	*003GGR1500*	*003GGR1600*	*003GGR1700*	*003GGR1800*	*003GGR1900*	*003GGS0101*	*003GGS0201*	*003GGS0301*	*003GGS0401*	*003GGS0501*	*003GGS0601*	*003GGS0701*	*003GGS0801*	*003GGS0901*
SAMPLE DATE	*2/17/1994*	*2/17/1994*	*2/17/1994*	*2/17/1994*	*2/18/1994*	*2/18/1994*	*2/18/1994*	*2/18/1994*	*2/18/1994*	*2/17/1994*	*2/2/1994*	*2/2/1994*	*2/2/1994*	*2/2/1994*	*2/2/1994*	*2/2/1994*	*2/2/1994*	*2/10/1994*	*2/10/1994*
VOC																			
1,2-Dibromoethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.02U	1	0.35U	0.35U	0.35U	0.02U	0.02U	0.02U	0.02U
1,2-Dichlorobenzene	55U	11U	43U	11U	11U	11U	21U	22U	11U	11U	0.3U	0.3U	0.3U	0.3U	10U	10U	10U	0.41U	0.3U
1,2-Dichloroethane	50U	10U	67U	50U	10U	10U	83U	120U	10U	50U	0.94J	0.25U	0.25U	0.25U	0.25U	0.25U	0.25U	0.25U	0.25U
1,3-Dichlorobenzene	55U	11U	43U	11U	11U	11U	21U	22U	11U	11U	40U	40U	0.2U	10U	10U	0.2U	0.2U	0.2U	10U
1,4-Dichlorobenzene	55U	11U	43U	11U	11U	11U	21U	22U	11U	11U	10U	0.2U	26	10U	0.2U	10U	10U	0.2U	0.2U
2-Butanone (MEK)	50U	10U	67U	50U	10U	10U	83U	120U	10U	50U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	50U	10U	67U	50U	10U	10U	83U	120U	10U	50U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	50U	10U	67U	50U	10U	10U	83U	120U	10U	15J	600	370	7U	35U	3.5U	70U	120	0.35U	0.35U
Chlorobenzene	50U	10U	67U	50U	10U	10U	83U	120U	10U	50U	50U	50U	0.35U	25U	0.35U	50U	0.35U	0.35U	0.25U
Chloroform	50U	10U	67U	50U	10U	10U	83U	120U	10U	50U	0.35U	0.12U	0.35U	0.35U	0.35U	0.38	0.35U	0.35U	0.35U
Ethylbenzene	110	10U	190	25J	10U	10U	320	220	14	190	60	290	18	98	43	120	240	0.2U	0.2U
Methylene chloride	50U	10U	67U	39BJ	10U	10U	83U	120U	10U	50U	1U	0.4U	1U	1U	1U	1U	1U	1U	1U
m-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	560	72	290	120	310	380	NS	NS
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	110	700	150	310	110	270	310	0.2U	0.2U
p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	560	72	290	120	310	380	NS	NS
Styrene	50U	10U	67U	50U	10U	10U	83U	120U	10U	50U	50U	50U	5U	25U	2.5U	50U	12U	0.25U	0.25U
Tetrachloroethene	50U	10U	67U	50U	10U	10U	83U	120U	10U	50U	0.3U	0.34J	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U
Toluene	120	10U	430	24J	10U	10U	960	430	10U	39J	70	2200	140	300	14	800	50	0.25U	0.25U
Trichloroethene	50U	10U	67U	50U	10U	10U	83U	120U	10U	50U	0.3U	0.3U	0.3U	0.3U	0.3U	4.5	0.3U	0.3U	0.3U
Xylene (Total)	1600	10U	2300	810	10U	10U	2500	3700	200	1500	100U	NS	NS	NS	NS	NS	NS	0.5U	0.5U
TPH																			
Petroleum Hydrocarbons, TPH	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4.9	10.1	7	1.4	0.9	0.5	7.2	0.25U	0.25U
SVOC																			
1,3-Dinitrobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	15U	10J	15U	15U	15U	15U	15U	15U	15U
1-Methyl naphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	8J	63	55	8J	53	32	100	15U	15U
2,4-Dimethylphenol	55U	11U	43U	11U	11U	11U	9J	7J	11U	11U	15J	100U	35U	3J	35U	35U	35U	35U	35U
2-Methylnaphthalene	34J	11U	99	52	11U	11U	99	48	4J	78	7J	14J	40	4J	44	13	67	10U	10U
2-Methylphenol (o-Cresol)	55U	11U	43U	11U	11U	11U	5J	22U	11U	11U	20U	23J	8J	2J	20U	4J	20U	20U	20U
3-Methylphenol (m-Cresol)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	35U	86J	23J	4J	8J	1J	8J	35U	35U
4-Chloroaniline	55U	11U	43U	11U	11U	11U	21U	22U	11U	11U	5U	15U	5U	5U	23	5U	5U	5U	5U
4-Methylphenol (p-Cresol)	55U	11U	43U	11U	11U	11U	21U	22U	11U	11U	35U	86J	23J	4J	8J	1J	8J	35U	35U
Acetophenone	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	20U	60U	20U	9J	20U	20U	20U	20U	20U
Chrysene	55U	11U	43U	11U	11U	11U	21U	22U	11U	11U	15U	45U	15U	15U	15U	15U	15U	15U	15U
Dibenzofuran	55U	11U	43U	11U	11U	11U	21U	22U	11U	11U	10U	30U	10U	10U	10U	10U	2J	10U	10U
Diethylphthalate	55U	11U	43U	11U	11U	11U	21U	22U	11U	11U	15U	45U	15U	15U	15U	15U	15U	15U	15U
Fluoranthene	55U	11U	43U	11U	11U	11U	21U	22U	11U	11U	20U	60U	20U	20U	20U	20U	20U	20U	20U
Naphthalene	62	11U	150	53	11U	11U	140	110	11	91	29	76	82	3J	83	26	150	5U	5U
Pentachlorophenol	140U	27U	110U	27U	29U	26U	53U	56U	26U	29U	4J	160U	55U	55U	55U	55U	55U	55U	55U
Phenol	55U	11U	43U	11U	11U	11U	21U	22U	11U	11U	15U	11J	15U	15U	15U	15U	15U	15U	15U
Pyrene	55U	11U	43U	11U	11U	11U	21U	22U	11U	11U	10U	30U	10U	10U	10U	10U	10U	10U	10U
METAL																			
Aluminum	2090	415	5010	2570	1040	280	204	467	198B	346	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arsenic	2.9U	2.9U	2.9U	2.9U	2.9U	2.9U	2.9U	2.9U	2.9U	2.9U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Barium	10.4B	2.4U	12.2B	11.6B	16.9B	2.4U	7.2B	3.2B	7.1B	18.5B	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cadmium	2.2B	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	2.1U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Calcium	2600B	6250	2400B	1970B	2210B	1350B	909B	2150B	1100B	731B	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chromium	3.6B	2.3U	6.6B	2.3U	2.3U	2.3U	2.3U	2.3U	2.3U	2.3U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cobalt	4.1B	3.2U	3.2U	3.2U	3.2U	3.2U	3.2U	3.2U	3.2U	3.2U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cyanide (CN)	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron	989	169	1180	885	821	109	218	254	140	777	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	3.3	1.8B	14.2	42.5	2.8B	0.7U	134	31.2	4.6	2.3B	15.8J	58.3	46.8	25.9	75.6	140	6.6U	3.2U	2.7U
Magnesium	1230B	641B	1070B	782B	1140B	1020B	650B	869B	916B	909B	NS	NS	NS	NS	NS	NS	NS	NS	NS
Manganese	24.1	1.2B	27.2	20.2	22.3	1.2B	11.8B	4.1B	6.2B	8.2B	NS	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS
Potassium	1530B	649U	1780B	649U	649U	649U	649U	649U	649U	951B	NS	NS	NS	NS	NS	NS	NS	NS	NS
Selenium	1.7U	1.7U	2.3B	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Silver	3.6U	3.6U	3.6U	3.6U	3.6U	3.6U	3.6U	3.6U	3.6U	3.6U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sodium	3140B	2800B	2320B	2270B	3650B	2680B	2820B	2880B	4430B	9020	NS	NS	NS	NS	NS	NS	NS	NS	NS
Thallium	2.8U	2.8U	2.8U	2.8U	2.8U	2.8U	2.8U	2.8U	2.8U	2.8U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	7B	3.3U	6.4B	3.3U	3.3U	3.3U	3.3U	3.3U	3.3U	3.3U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	6.5B	2B	30.3	11B	10.4B	1.7U	9.4B	2.5B	1.7U	3B	NS	NS	NS	NS	NS	NS	NS	NS	NS

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-18 : Summary of Detections Groundwater UST18

SHORT ID	003GS10	003GS11	003GS12	003GS13	003GS14	003GS15	003GS16
SAMPLE ID	*003GGS1001*	*003GGS1101*	*003GGS1201*	*003GGS1301*	*003GGS1401*	*003GGS1501*	*003GGS1601*
SAMPLE DATE	*2/10/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*
VOC							
1,2-Dibromoethane	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
1,2-Dichlorobenzene	10U	10U	10U	10U	0.15U	10U	0.3U
1,2-Dichloroethane	0.25U	0.25U	0.25U	0.25U	0.25U	0.25U	0.25U
1,3-Dichlorobenzene	10U	0.2U	0.2U	0.2U	0.2U	10U	10U
1,4-Dichlorobenzene	0.2U	0.2U	0.2U	0.27U	10U	0.2U	0.2U
2-Butanone (MEK)	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	NS	NS
Benzene	0.35U	0.35U	0.35U	0.35U	0.35U	0.35U	0.35U
Chlorobenzene	0.25U	0.35U	0.35U	0.35U	0.25U	0.25U	0.25U
Chloroform	0.35U	0.35U	0.35U	0.35U	0.35U	0.35U	0.35U
Ethylbenzene	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U
Methylene chloride	1U	1U	1U	1U	1U	1U	1U
m-Xylene	NS	NS	NS	NS	NS	NS	NS
o-Xylene	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U
p-Xylene	NS	NS	NS	NS	NS	NS	NS
Styrene	0.25U	0.25U	0.25U	0.25U	0.25U	0.25U	0.25U
Tetrachloroethene	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U
Toluene	0.29U	0.25U	0.25U	0.25U	0.25U	0.25U	0.25U
Trichloroethene	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U
Xylene (Total)	0.5U	0.5U	0.5U	0.5U	0.5U	0.5	0.5U
TPH							
Petroleum Hydrocarbons, TPH	0.25U	0.25U	0.25U	0.25U	1.3	0.25U	0.5
SVOC							
1,3-Dinitrobenzene	15U	15U	15U	15U	15U	15U	15U
1-Methyl naphthalene	15U	15U	15U	15U	15U	15U	15U
2,4-Dimethylphenol	35U	35U	35U	35U	35U	35U	35U
2-Methylnaphthalene	10U	10U	10U	10U	10U	10U	10U
2-Methylphenol (o-Cresol)	20U	20U	20U	20U	20U	20U	20U
3-Methylphenol (m-Cresol)	35U	35U	35U	35U	35U	35U	35U
4-Chloroaniline	5U	5U	5U	5U	5U	5U	5U
4-Methylphenol (p-Cresol)	35U	35U	35U	35U	35U	35U	35U
Acetophenone	20U	20U	20U	20U	20U	20U	20U
Chrysene	15U	15U	15U	15U	15U	15U	15U
Dibenzofuran	10U	10U	10U	10U	10U	10U	10U
Diethylphthalate	15U	15U	15U	15U	15U	15U	15U
Fluoranthene	20U	20U	20U	20U	20U	20U	20U
Naphthalene	5U	5U	5U	5U	5U	5U	5U
Pentachlorophenol	55U	55U	55U	55U	55U	55U	55U
Phenol	15U	15U	15U	15U	15U	15U	15U
Pyrene	10U	10U	10U	10U	10U	10U	10U
METAL							
Aluminum	NS	NS	NS	NS	NS	NS	NS
Arsenic	NS	NS	NS	NS	NS	NS	NS
Barium	NS	NS	NS	NS	NS	NS	NS
Cadmium	NS	NS	NS	NS	NS	NS	NS
Calcium	NS	NS	NS	NS	NS	NS	NS
Chromium	NS	NS	NS	NS	NS	NS	NS
Cobalt	NS	NS	NS	NS	NS	NS	NS
Cyanide (CN)	NS	NS	NS	NS	NS	NS	NS
Iron	NS	NS	NS	NS	NS	NS	NS
Lead	6.2	3.4U	2.8U	3.8U	3.8U	3.4U	3U
Magnesium	NS	NS	NS	NS	NS	NS	NS
Manganese	NS	NS	NS	NS	NS	NS	NS
Mercury	NS	NS	NS	NS	NS	NS	NS
Potassium	NS	NS	NS	NS	NS	NS	NS
Selenium	NS	NS	NS	NS	NS	NS	NS
Silver	NS	NS	NS	NS	NS	NS	NS
Sodium	NS	NS	NS	NS	NS	NS	NS
Thallium	NS	NS	NS	NS	NS	NS	NS
Vanadium	NS	NS	NS	NS	NS	NS	NS
Zinc	NS	NS	NS	NS	NS	NS	NS

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-19 : Summary of Detections UST 18

SHORT ID	0030001	0030002		0030003	0030004				0030005	0030006		0030007		0030008			
SAMPLE ID	*0035000102*	*0035000203*	*0035000204*	*0035000302*	*0035000401*	*0035000402*	*0035000403*	*0035000405*	*0035000501*	*0035000601*	*0035000603*	*0035000703*	*0035000704*	*0035000801*	*0035000802*	*0035000803*	*0035000805*
SAMPLE DATE	*8/1/1995*	*8/1/1995*	*2/2/1994*	*8/1/1995*	*2/10/1994*	*8/1/1995*	*2/10/1994*	*2/10/1994*	*8/1/1995*	*2/10/1994*	*2/10/1994*	*8/1/1995*	*5/16/1995*	*2/9/1994*	*8/1/1995*	*2/9/1994*	*2/9/1994*
VOC																	
1,2-Dichlorobenzene	15000J	640U	13P	660U	39000U	630U	7200U	11000U	3300U	1.5U	12000U	10000U	500J	390U	10000U	350U	330U
1,3-Dichlorobenzene	170J	550U	4.2	570U	39000U	1.9U	7200U	11000U	1.2U	10000U	12000U	10000U	1.2U	390U	1.2U	350U	330U
1,4-Dichlorobenzene	2200J	570U	1.5U	2U	39000U	1.9U	7200U	11000U	2.6U	1.5U	12000U	9700U	2500J	390U	9800U	350U	330U
4-Methyl-2-Pentanone (MIBK)	NS	NS	NS	NS	2700U	NS	2300U	2600U	NS	1400U	2300U	NS	NS	12U	NS	11U	10U
Acetone	NS	NS	NS	NS	2700U	NS	16000	2600U	NS	1400U	2300U	NS	NS	37B	NS	11U	10U
Benzene	27	NS	1.5U	1.6U	2700U	1.5U	2300U	2600U	1.6U	38J	2300U	NS	0.48J	12U	950U	11U	10U
Chlorobenzene	89J	NS	2U	1U	2700U	0.97U	2300U	2600U	1U	470J	2300U	NS	49J	12U	3800	11U	10U
Ethylbenzene	220J	NS	2U	2U	6300	1.9U	2800	6500	2U	1400U	1600J	NS	110J	12U	540U	11U	10U
Methyl tert-butyl ether	12U	NS	12U	12U	NS	12U	NS	NS	12U	12U	NS	NS	0.11J	NS	14000U	NS	NS
Methylene chloride	3.4U	NS	3.4U	5B	1400BJ	3.3U	2300U	2600U	3.5U	1400U	980BJ	NS	3.3U	7BJ	4.5U	11U	10U
m-Xylene	170J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	15	NS	NS	NS	NS
o-Xylene	430J	NS	6.6J	1.3U	NS	1.3U	NS	NS	1.3U	350J	NS	NS	140J	NS	10000	NS	NS
p-Xylene	170J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	15	NS	NS	NS	NS
Styrene	160J	NS	4.9	1.7U	2700U	1.6U	2300U	2600U	1.7U	1400U	2300U	NS	86J	12U	3100	11U	10U
Toluene	7.2U	NS	5.8U	6U	2700U	5.7U	2300U	2600U	6U	830J	3000	NS	2.6U	12U	1200J	11U	10U
Xylene (Total)	3.5U	NS	3.5U	3.6U	43000	3.4U	17000	35000	3.6U	1600	7600	NS	3.4U	12U	1400U	11U	10U
TPH																	
Petroleum Hydrocarbons, TPH	5000	216	NS	316	NS	120	NS	NS	1590	3590	NS	2300	NS	NS	5670	NS	NS
TOC																	
Total Organic Carbon (TOC)	11600	NS	NS	NS	NS	NS	NS	NS	NS	4840	NS	NS	NS	NS	NS	NS	NS
SVOC																	
1-Methyl naphthalene	9000J	220J	NS	1200U	NS	1200U	NS	NS	6100U	9400J	NS	2500J	NS	NS	10000J	NS	NS
2-Methylnaphthalene	7100J	140J	NS	940U	40000	890U	15000	22000	4700U	10000U	12000U	1600J	NS	390U	4700J	350U	330U
Naphthalene	3500J	720U	NS	740U	21000J	700U	7500	11000	3700U	8700U	12000U	8800U	NS	390U	8900U	350U	330U
PESTICIDES																	
4,4-DDD	NS	NS	NS	NS	3.8U	NS	3.3U	3.9U	NS	4U	4.1U	NS	NS	3.9U	NS	3.4U	3.3U
4,4-DDE	NS	NS	NS	NS	3.8U	NS	3.3U	3.9U	NS	4U	4.1U	NS	NS	3.9U	NS	3.4U	3.3U
alpha-BHC	NS	NS	NS	NS	3.8	NS	1.7U	2U	NS	1.3JP	2.1U	NS	NS	2U	NS	1.8U	1.7U
Endrin	NS	NS	NS	NS	3.7JP	NS	3.3U	3.9U	NS	4U	4.1U	NS	NS	3.9U	NS	3.4U	3.3U
Heptachlor	NS	NS	NS	NS	2U	NS	1.7U	2U	NS	2.1U	2.1U	NS	NS	2U	NS	1.8U	1.7U
METAL																	
Aluminum	NS	NS	NS	NS	2340*	NS	27.6*	53.1*	NS	1400*	1220*	NS	NS	2110*	NS	543*	23.7B*
Antimony	NS	NS	NS	NS	3.1UN	NS	2.1UN	2.2UN	NS	2.6UN	2.9UN	NS	NS	2.8UN	NS	3UN	2.5UN
Barium	NS	NS	NS	NS	4BN	NS	0.33UN	0.33UN	NS	2.7BN	2.1BN	NS	NS	4.4BN	NS	0.98BN	0.39UN
Cadmium	NS	NS	NS	NS	0.42U	NS	0.29U	0.29U	NS	1.2	0.76B	NS	NS	0.94	NS	0.41U	0.34U
Calcium	NS	NS	NS	NS	814B	NS	89.1B	56.4B	NS	72.9B	56.6B	NS	NS	351B	NS	41.7B	11.9B
Chromium	NS	NS	NS	NS	1.5B	NS	0.31U	0.32U	NS	1.4B	2.5	NS	NS	2.2	NS	2.7	0.42B
Cobalt	NS	NS	NS	NS	0.64U	NS	0.44U	0.45U	NS	0.53U	0.6U	NS	NS	0.58U	NS	0.62U	0.51U
Copper	NS	NS	NS	NS	0.52U*	NS	0.35U*	0.36U*	NS	19.5*	19*	NS	NS	3.4B*	NS	0.51U*	0.42U*
Cyanide (CN)	NS	NS	NS	NS	0.08U	NS	0.07U	0.08B	NS	0.1B	0.07U	NS	NS	0.1U	NS	0.1U	0.09U
Iron	NS	NS	NS	NS	299*	NS	11.6B*	19.3*	NS	540*	383*	NS	NS	450*	NS	189*	10.8B*
Lead	17.9	60.2	NS	21.8	19.4*	23.7	5.7*	5.4*	21.8	6.4	159*	7.5	NS	7.8*	4.3	0.91*	0.36B*
Magnesium	NS	NS	NS	NS	26.1B	NS	3.3B	3.1B	NS	29.8B	24.4B	NS	NS	81.1B	NS	24.2B	3.5U
Manganese	NS	NS	NS	NS	0.65BN*	NS	0.14UN*	0.14UN*	NS	1.9BN*	1.9BN*	NS	NS	0.87BN*	NS	0.19UN*	0.16UN*
Mercury	NS	NS	NS	NS	0.02B	NS	0.09	0.03U	NS	0.06U	0.03U	NS	NS	0.03U	NS	0.03U	0.04U
Nickel	NS	NS	NS	NS	2.1U	NS	1.4U	1.4U	NS	1.7U	2U	NS	NS	1.9U	NS	2U	1.7U
Potassium	NS	NS	NS	NS	130U	NS	88.5U	90.5U	NS	108U	122U	NS	NS	117U	NS	126U	104U
Selenium	NS	NS	NS	NS	0.64B	NS	0.23U	0.24U	NS	0.28U	0.52B	NS	NS	0.31U	NS	0.38B	0.27U
Silver	NS	NS	NS	NS	0.72U	NS	0.49U	0.5U	NS	0.6U	0.68U	NS	NS	0.65U	NS	0.71B	0.58U
Sodium	NS	NS	NS	NS	39.5B	NS	3.7B	16.6B	NS	6.9B	9.5B	NS	NS	6.1B	NS	7.3B	3.6U
Vanadium	NS	NS	NS	NS	1.5BN	NS	0.45UN	0.46UN	NS	1.5BN	1BN	NS	NS	2BN	NS	0.87BN	0.53UN
Zinc	NS	NS	NS	NS	0.84B*	NS	0.23U*	0.28B*	NS	12*	13.1*	NS	NS	7.1*	NS	0.74B*	0.34B*

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-19 : Summary of Detections UST 18

SHORT ID	0030009				0030010	0030011	0030012				0030013				0030014	0030015		
SAMPLE ID	*003S000901*	*003S000902*	*003S000903*	*003S000905*	*003S001002*	*003S001102*	*003S001201*	*003S001203*	*003S001204*	*003S001205*	*003S001301*	*003S001303*	*003S001304*	*003S001305*	*003S001402*	*003S001501*	*003S001503*	*003S001505*
SAMPLE DATE	*2/9/1994*	*8/1/1995*	*2/9/1994*	*2/9/1994*	*8/1/1995*	*8/1/1995*	*2/9/1994*	*2/9/1994*	*7/6/1994*	*2/9/1994*	*2/9/1994*	*2/9/1994*	*6/29/1994*	*2/9/1994*	*8/1/1995*	*2/9/1994*	*2/9/1994*	*2/9/1994*
VOC																		
1,2-Dichlorobenzene	7700U	3300U	9100U	9200U	3200U	620U	11000U	9100U	1.5U	9800U	350U	650U	4.3U	350U	1400	340U	3000U	340U
1,3-Dichlorobenzene	7700U	2800U	9100U	9200U	780J	1.9U	11000U	9100U	1.2U	9800U	350U	560U	1.2U	350U	10000U	340U	1.1U	340U
1,4-Dichlorobenzene	7700U	2900U	9100U	9200U	550J	550U	11000U	550U	1.5U	9800U	350U	570U	1.6U	350U	15000	340U	2700U	340U
4-Methyl-2-Pentanone (MIBK)	2500U	NS	2500U	2700U	NS	NS	2500U	2500U	NS	2600U	11U	10U	NS	10U	NS	10U	10U	11U
Acetone	3300	NS	2500U	2700U	NS	NS	2500U	2500U	NS	2600U	38	48	NS	78	NS	310E	13	11U
Benzene	2500U	1.6U	2500U	2700U	1.5U	1.5U	2500U	2500U	1.5U	2600U	11U	10U	1.6U	10U	480U	10U	4.1	11U
Chlorobenzene	2500U	1U	2500U	2700U	0.99U	1.9U	2400U	2500U	1.9U	2600U	11U	10U	2U	10U	0.98U	10U	10U	11U
Ethylbenzene	2500U	2.4J	2500U	2700U	160J	1.9U	2500J	3200	1.9U	2900	8J	10U	2U	10U	3500	12	10U	11U
Methyl tert-butyl ether	NS	12U	NS	NS	12U	12U	NS	NS	12U	NS	NS	NS	12U	NS	6800U	NS	11U	NS
Methylene chloride	2000BJ	3.5U	2500U	2700U	3.4U	3.3U	1500JB	1800JB	3.3U	2000JB	11U	8JB	3.4U	8JB	3.4U	5JB	10U	11U
m-Xylene	NS	NS	NS	NS	25J	NS	NS	NS	NS	NS	NS	NS	NS	NS	8300	NS	15	NS
o-Xylene	NS	18J	NS	NS	400J	1.3U	NS	NS	1.3U	NS	NS	NS	1.3U	NS	460	NS	250J	NS
p-Xylene	NS	NS	NS	NS	25J	NS	NS	NS	NS	NS	NS	NS	NS	NS	8300	NS	15	NS
Styrene	2500U	10J	2500U	2700U	120J	1.6U	2400U	2500U	1.6U	2600U	11U	10U	1.7U	10U	460	10U	130J	11U
Toluene	2500U	6U	2500U	2700U	13	5.6U	2400J	2500J	5.6U	2500J	46	10U	5.9U	10U	1000	47	10U	11U
Xylene (Total)	2500U	3.6U	12000	15000	3.5U	3.4U	20000	28000	3.4U	25000	46	10U	3.6U	10U	NS	75	10U	11U
TPH																		
Petroleum Hydrocarbons, TPH	NS	362	NS	NS	1090	40.3	NS	16.3	NS	NS	NS	492	NS	NS	4250	NS	3660	NS
TOC																		
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1-Methyl naphthalene	NS	450J	NS	NS	6000U	1200U	NS	1200U	NS	NS	NS	1200U	NS	NS	5800J	NS	5700U	NS
2-Methylnaphthalene	7700U	4700U	2600J	5600J	4600U	890U	14000	880U	NS	17000	350U	920U	NS	350U	4500J	340U	340U	340U
Naphthalene	7700U	3700U	9100U	2000J	3600U	700U	6400J	700U	NS	7800J	350U	720U	NS	350U	8900U	340U	3400U	340U
PESTICIDES																		
4,4-DDD	3.5U	NS	3.6U	3.9U	NS	NS	5.1P	3.6U	NS	3.9U	3.6U	3.5U	NS	3.5U	NS	3.4U	3.4U	3.4U
4,4-DDE	3.5U	NS	3.6U	3.9U	NS	NS	1.8J	3.6U	NS	3.9U	3.6U	3.5U	NS	3.5U	NS	3.4U	3.4U	3.4U
alpha-BHC	1.8U	NS	1.8U	2U	NS	NS	1.8U	1.8U	NS	2U	1.9U	1.8U	NS	1.8U	NS	1.8U	1.8U	1.7U
Endrin	3.5U	NS	3.6U	3.9U	NS	NS	3.6U	3.6U	NS	3.9U	3.6U	3.5U	NS	3.5U	NS	3.4U	3.4U	3.4U
Heptachlor	1.8U	NS	1.8U	2U	NS	NS	1.8U	1.1JP	NS	1.8J	1.9U	1.9P	NS	1.8U	NS	2.5P	1.8U	1.7U
METAL																		
Aluminum	2970*	NS	640*	74.2*	NS	NS	4500	2730	NS	684	1500	1080	NS	30.9B	NS	1260	963*	81.9*
Antimony	3.2UN	NS	2.2UN	2.3UN	NS	NS	2.6UN	3.3UN	NS	3.4UN	3.2UN	3.1UN	NS	3.1UN	NS	2.8UN	2.8UN	2.5UN
Barium	3BN	NS	0.82BN	0.38BN	NS	NS	3.2B	6.7B	NS	1.5B	3.8B	1.5B	NS	0.48U	NS	1.3B	1.3BN	0.39UN
Cadmium	1.1	NS	0.3U	0.31U	NS	NS	0.39B	0.45U	NS	0.45U	0.53B	0.42U	NS	0.42U	NS	0.38U	0.38U	0.34U
Calcium	85.3B	NS	23.5B	15.5B	NS	NS	105B	13.1B	NS	17.8B	41.7B	33.4B	NS	12.7B	NS	13.3B	14.2B	21.2B
Chromium	3.1	NS	2	0.74B	NS	NS	3.3	3.4	NS	3	2.1	2.8	NS	3.7	NS	1.3B	1.7B	0.37U
Cobalt	0.65U	NS	0.46U	0.47U	NS	NS	0.64B	0.68U	NS	0.69U	0.67U	0.64U	NS	0.64U	NS	0.58U	0.58U	0.52U
Copper	17.8*	NS	0.46B*	0.38U*	NS	NS	3.1B	0.55U	NS	0.56U	1.1B	0.52U	NS	0.52U	NS	0.47U	0.47U*	0.42U*
Cyanide (CN)	0.1U	NS	0.09U	0.08U	NS	NS	0.09U	0.09U	NS	0.12U	0.11U	0.09U	NS	0.09U	NS	0.08U	0.08U	0.09U
Iron	349*	NS	108*	27.8*	NS	NS	210*	284*	NS	95*	374*	305*	NS	31.2*	NS	262*	787*	38.6*
Lead	58*	11.1	4.5*	2.6*	103	3.6	19.9	5.2	NS	9.2	30.6	0.95	NS	1	14.6	0.75	30.6	0.71*
Magnesium	43.3B	NS	16.3B	5.4B	NS	NS	54.7B	66.2B	NS	19.9B	21.6B	19B	NS	4.6B	NS	13.1B	25.9B	4.9B
Manganese	2.2BN*	NS	0.4BN*	0.18BN*	NS	NS	1.8B	1.6B	NS	0.69B	1.7B	0.34B	NS	0.3B	NS	0.47B	0.95BN*	0.16UN*
Mercury	0.03U	NS	0.09	0.03U	NS	NS	0.04B	0.03U	NS	0.03U	0.03U	0.03U	NS	0.03U	NS	0.03U	0.04U	0.04U
Nickel	2.1U	NS	1.5U	1.5U	NS	NS	2.2B	2.2U	NS	2.2U	2.2U	2.1U	NS	2.1U	NS	1.9U	1.9U	1.7U
Potassium	132U	NS	93U	94.8U	NS	NS	177B	138U	NS	139U	135U	131U	NS	130U	NS	117U	118U	105U
Selenium	0.35U	NS	0.24U	0.26B	NS	NS	0.52B	0.36U	NS	0.37U	0.45B	0.34U	NS	0.34U	NS	0.31U	0.31U	0.28U
Silver	0.73U	NS	0.52U	0.53U	NS	NS	0.6U	0.76U	NS	0.77U	0.81B	0.72U	NS	0.72U	NS	0.65U	0.65U	0.58U
Sodium	10B	NS	3.8B	3.3U	NS	NS	17.8B	7.1B	NS	5B	8.8B	6.5B	NS	4.5U	NS	4U	6.7B	3.6U
Vanadium	2.2BN	NS	0.7BN	0.48UN	NS	NS	2.5B	2.1B	NS	0.76B	2B	1.8B	NS	0.66U	NS	1.5B	1.5BN	0.61BN
Zinc	18*	NS	1.3B*	0.56B*	NS	NS	4.1	1.4B	NS	2.2B	3.9B	1B	NS	0.78B	NS	0.78B	1.9B*	0.73B*

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-19 : Summary of Detections UST 18

SHORT ID	0030016			0030017		0030018	0030019				0030020	0030021	0030022		0030023	0030024	0030025	0030026	
SAMPLE ID	*003S001601*	*003S001603*	*003S001605*	*003S001704*	*003S001705*	*003S001803*	*003S001901*	*003S001902*	*003S001903*	*003S001905*	*003S002003*	*003S002103*	*003S002204*	*003S002205*	*003S002303*	*003S002403*	*003S002503*	*003S002604*	*003S002605*
SAMPLE DATE	*2/8/1994*	*1/29/1993*	*2/8/1994*	*8/2/1995*	*6/28/1994*	*8/2/1995*	*2/10/1994*	*8/2/1995*	*2/10/1994*	*2/10/1994*	*6/28/1994*	*6/29/1994*	*8/2/1995*	*6/29/1994*	*6/28/1994*	*6/28/1994*	*6/29/1994*	*8/2/1995*	*6/28/1994*
VOC																			
1,2-Dichlorobenzene	350U	360U	350U	620U	1.5U	630U	10000U	11000	11000U	8000U	6.7	1.6U	620U	1.5U	640U	620U	1.5U	610U	1.5U
1,3-Dichlorobenzene	350U	550U	350U	540U	1.2U	1.9U	10000U	7500	11000U	8000U	8.2	1.3U	540U	3.1	2U	540U	1.2U	530U	1.2U
1,4-Dichlorobenzene	350U	560U	350U	550U	1.9U	560U	10000U	2800U	11000U	8000U	550U	600U	550U	1.5U	570U	1.9U	540U	540U	1.9U
4-Methyl-2-Pentanone (MIBK)	10U	11U	56	NS	NS	NS	1500U	NS	2600U	2000U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	17	23	93	NS	NS	NS	1500U	NS	2600U	2000U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	10U	1.5U	10U	NS	1.5U	1.5U	1500U	470U	2600U	2000U	1.5U	1.6U	NS	1.5U	1.5U	1.5U	1.5U	NS	1.5U
Chlorobenzene	10U	11U	10U	NS	1.9U	0.97U	1500U	0.97U	2600U	2000U	0.96U	1U	NS	1.9U	2U	1.9U	0.95U	NS	1.9U
Ethylbenzene	10U	11U	17	NS	1.9U	1.9U	1500U	2400	2600U	2500	1.9U	2.1U	NS	1.9U	2U	1.9U	1.9U	NS	1.9U
Methyl tert-butyl ether	NS	12U	NS	NS	12U	12U	NS	6700U	NS	NS	12U	13U	NS	12U	12U	12U	12U	NS	12U
Methylene chloride	9JB	9JB	10U	NS	3.3U	3.3U	810BJ	3.3U	2600U	2000U	3.3U	3.6U	NS	4.3B	3.4U	3.3U	3.3U	NS	3.3U
m-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
o-Xylene	NS	1.3U	NS	NS	1.3U	1.3U	NS	2300	NS	NS	1.3U	1.4U	NS	1.3U	1.3U	1.3U	1.3U	NS	1.3U
p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Styrene	10U	1.6U	10U	NS	1.6U	1.6U	1500U	1300	2600U	2000U	1.6U	1.7U	NS	1.6U	1.6U	1.6U	1.6U	NS	1.6U
Toluene	10U	11U	6J	NS	5.6U	5.7U	1500U	1300	2600U	1100J	5.6U	6.2U	NS	5.6U	5.8U	5.6U	5.6U	NS	5.6U
Xylene (Total)	10U	3.5U	170	NS	3.4U	3.4U	1500U	670U	9700	31000	3.4U	3.7U	NS	3.4U	3.5U	3.4U	3.4U	NS	3.4U
TPH																			
Petroleum Hydrocarbons, TPH	NS	97.4	NS	88.2	NS	40.7	NS	842	NS	NS	NS	6.3U	15.4	NS	6.3U	6.3U	6.3U	31.1	NS
TOC																			
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1590	NS	NS
SVOC																			
1-Methyl naphthalene	NS	1200U	NS	1200U	NS	1200U	NS	5900U	NS	NS	1200U	1300U	1200U	NS	1200U	1200U	1200U	1100U	NS
2-Methylnaphthalene	350U	360U	110J	880U	NS	900U	10000U	4500U	11000U	6700J	880U	970U	880U	NS	910U	880U	880U	870U	NS
Naphthalene	350U	720U	350U	690U	NS	700U	10000U	3500U	11000U	3300J	700U	760U	690U	NS	720U	690U	690U	680U	NS
PESTICIDES																			
4,4-DDD	3.5U	3.6U	3.6U	NS	NS	NS	4.4U	NS	3.5U	3.4U	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDE	3.5U	3.6U	3.6U	NS	NS	NS	4.4U	NS	3.5U	3.4U	NS	NS	NS	NS	NS	NS	NS	NS	NS
alpha-BHC	1.8U	1.8U	1.8U	NS	NS	NS	2.3U	NS	1.8U	1.7U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin	3.5U	3.6U	3.6U	NS	NS	NS	4.4U	NS	3.5U	3.4U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Heptachlor	1.8U	1.8U	1.8U	NS	NS	NS	2.3U	NS	1.8U	1.7U	NS	NS	NS	NS	NS	NS	NS	NS	NS
METAL																			
Aluminum	1760	639	79.8	NS	NS	NS	1400*	NS	1280*	69.5*	NS	NS	NS	NS	NS	NS	NS	NS	NS
Antimony	3UN	2.9UN	3.1BN	NS	NS	NS	2.3UN	NS	3UN	3UN	NS	NS	NS	NS	NS	NS	NS	NS	NS
Barium	1.8B	0.95B	0.45U	NS	NS	NS	2.6BN	NS	1.5BN	0.46UN	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cadmium	0.4U	0.4U	0.39U	NS	NS	NS	0.31U	NS	0.4U	0.4U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Calcium	15.8B	11.8B	9.2B	NS	NS	NS	360B	NS	25.2B	19B	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chromium	1.3B	1.6B	0.88B	NS	NS	NS	0.9B	NS	1.4B	0.44U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cobalt	0.61U	0.6U	0.6U	NS	NS	NS	0.47U	NS	0.61U	0.61U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Copper	0.5U	0.61B	0.49U	NS	NS	NS	0.38U*	NS	0.5U*	0.5U*	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cyanide (CN)	0.09U	0.09U	0.09U	NS	NS	NS	0.07U	NS	0.09U	0.1U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron	463*	269*	25.1*	NS	NS	NS	528*	NS	866*	25.2*	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	22.5	8.8	2.4	2.6	NS	2.4	17.8*	4.4	5*	1.4*	95.9J	2.7J	3.1J	NS	2.3J	3.5J	14.4J	4.4J	NS
Magnesium	19.6B	14.9B	4.9B	NS	NS	NS	67.9B	NS	38.8B	4.2U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Manganese	0.68B	0.57B	0.19U	NS	NS	NS	1.6BN*	NS	0.75BN*	0.19UN*	NS	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	0.03U	0.04U	0.03U	NS	NS	NS	0.06U	NS	0.04U	0.03U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	2U	2U	2U	NS	NS	NS	1.5U	NS	2U	2U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Potassium	124U	122U	122U	NS	NS	NS	97.4B	NS	124U	125U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Selenium	0.32U	0.32U	0.32U	NS	NS	NS	0.35B	NS	0.32U	0.33U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Silver	0.69U	0.68U	0.68U	NS	NS	NS	0.53U	NS	0.69U	0.69U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sodium	9.2B	5.5B	6.6B	NS	NS	NS	13.8B	NS	4.3U	4.3U	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	1.8B	1.3B	0.68B	NS	NS	NS	1.1BN	NS	1.7BN	0.63UN	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	3B	3.3B	1.5B	NS	NS	NS	1B*	NS	0.73B*	0.33U*	NS	NS	NS	NS	NS	NS	NS	NS	NS

NOTES:
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2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-19 : Summary of Detections UST 18

SHORT ID	0030027		0030028		0030029	0030030	0030031	0030032	0030033	0030034
SAMPLE ID	*0035002704*	*0035002705*	*0035002804*	*0035002805*	*0035002903*	*0035003002*	*0035003102*	*0035003202*	*0035003302*	*0035003402*
SAMPLE DATE	*8/2/1995*	*7/1/1994*	*8/7/1995*	*6/30/1994*	*6/30/1994*	*6/28/1994*	*6/28/1994*	*6/18/1993*	*6/22/1993*	*6/11/1993*
VOC										
1,2-Dichlorobenzene	620U	1.5U	620U	1.5U	1.5U	680U	610U	770U	720U	540
1,3-Dichlorobenzene	540U	1.2U	540U	1.2U	1.9U	1.3U	1.9U	1.4U	620U	620U
1,4-Dichlorobenzene	550U	1.9U	550U	1.9U	550U	600U	1.5U	2.3U	630U	230
4-Methyl-2-Pentanone (MIBK)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	NS	1.5U	NS	1.5U	1.5U	1.6U	1.5U	1.8U	1.7U	8.5U
Chlorobenzene	NS	1.9U	NS	1.9U	1.9U	1U	0.94U	2.3U	1.1U	46
Ethylbenzene	NS	1.9U	NS	1.9U	1.9U	2.1U	1.9U	2.3U	2.2U	11U
Methyl tert-butyl ether	NS	12U	NS	12U	12U	13U	11U	14U	13U	67U
Methylene chloride	NS	3.3U	NS	3.3U	3.3U	3.6U	3.2U	4U	5.6U	28U
m-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
o-Xylene	NS	1.3U	NS	1.3U	1.3U	1.4U	1.3U	1.6U	1.5U	34
p-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Styrene	NS	1.6U	NS	1.6U	1.6U	1.7U	1.6U	1.9U	1.8U	80
Toluene	NS	5.6U	NS	5.6U	5.6U	6.1U	5.5U	6.9U	6.5U	32U
Xylene (Total)	NS	3.4U	NS	3.4U	3.4U	NS	NS	NS	NS	NS
TPH										
Petroleum Hydrocarbons, TPH	6.3U	NS	6.3U	NS	13.7	29.3	17.1	75.1	105	2770
TOC										
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC										
1-Methyl naphthalene	1200U	NS	1200U	NS	1200U	1300U	1100U	1400U	1300U	1300U
2-Methylnaphthalene	880U	NS	890U	NS	880U	970U	880U	1100U	1000U	1000U
Naphthalene	690U	NS	700U	NS	690U	760U	690U	860U	800U	800U
PESTICIDES										
4,4-DDD	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
alpha-BHC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Heptachlor	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
METAL										
Aluminum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Antimony	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Barium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cadmium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Calcium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chromium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cobalt	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Copper	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cyanide (CN)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	1.3J	NS	1.4J	NS	2.2J	3J	1J	17.7J	7.5J	6.2J
Magnesium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Manganese	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Potassium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Selenium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Silver	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sodium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-20 : Summary of Detections Site 36 Organics

SHORT ID	0360001		0360002			0360003		0360004		0360005		0360006		0360007		0360008	
SAMPLE ID	036S000101	036S000102	036S000201	036S000203	036S000205	036S000301	036S000303	036S000401	036S000403	036S000501	036S000502	036S000601	036S000603	036S000701	036S000703	036S000801	036S000803
SAMPLE DATE	5/4/1994	5/4/1994	5/4/1994	5/4/1994	8/10/1993	5/4/1994	8/10/1993	5/4/1994	5/4/1994	8/10/1993	8/10/1993	8/17/1993	8/17/1993	5/2/1994	5/2/1994	5/2/1994	5/2/1994
VOC																	
1,1,1-Trichloroethane	11U	10U	11U	10U	11U	11U	11U	10U	10U	10U	11U	10U	10U	11U	10U	11U	11U
2-Butanone (MEK)	11U	10UJ	11U	10U	11UJ	11U	11UJ	10UJ	10UJ	10U	11U	10U	10U	11UJ	10UJ	11U	11UJ
2-Hexanone	11U	10UJ	11U	10U	11UJ	11U	11UJ	10UJ	10UJ	10U	11U	10U	10U	11U	10UJ	11UJ	11UJ
4-Methyl-2-Pentanone (MIBK)	11U	10UJ	11U	10U	11UJ	11U	11UJ	10UJ	10UJ	10U	11U	10U	10U	11UJ	10UJ	11U	11UJ
Acetone	11U	46UJ	11U	10U	76UJ	11U	22UJ	10UJ	10UJ	27U	130	52	52	17U	14UJ	11U	350DJ
Benzene	11U	10U	11U	10U	11U	11U	6J	10U	10U	10U	11U	10U	10U	11U	10U	11U	11U
Chloroform	11U	10U	11U	10U	11U	11U	11U	10U	10U	10U	11U	10U	10U	11U	10U	11U	11U
Ethylbenzene	11U	10U	11U	10U	11U	11U	11UJ	10U	10U	10U	11U	10U	10U	11U	10U	11U	11U
Methylene chloride	11U	10U	11U	10U	11U	11U	11U	10U	10U	10U	11U	10U	10U	11U	10U	11U	11U
Tetrachloroethene	11U	10U	11U	10U	11U	11U	11UJ	10U	10U	10U	11U	10U	10U	11U	10U	11U	11U
Toluene	11U	10U	11U	10U	11U	11U	49J	10U	10U	10U	11U	10U	10U	11U	10U	11U	11U
Xylene (Total)	11U	10U	11U	10U	11U	11U	18J	10U	10U	10U	11U	10U	10U	11U	10U	11U	11U
SVOC																	
2-Methylnaphthalene	350U	340U	350U	340U	350U	99J	350U	340U	340U	340U	370U	340U	340U	360U	42J	350U	350U
3,3-Dichlorobenzidine	350UJ	340U	350U	340U	350U	350UR	350U	340U	340U	340U	370U	38J	340U	360U	340U	350U	350U
4-Chloroaniline	350U	340UJ	350UJ	340UJ	350UJ	45J	350U	340U	340U	340U	370U	340U	340U	360U	340U	350U	350U
Acenaphthene	350U	340U	350U	340U	350U	970	350U	340U	340U	340U	370U	340U	340U	360U	93J	350U	350U
Acenaphthylene	350U	340U	350U	340U	350U	4100D	350U	340U	340U	340U	370U	400	340U	360U	340U	350U	350U
Anthracene	39J	340U	350U	340U	350U	2800J	350U	340U	340U	340U	370U	220J	340U	360U	59J	350U	350U
Benzo(a)anthracene	250J	340U	54J	340U	350U	2300J	80J	340U	54J	340U	61J	980	340U	360U	390	67J	350U
Benzo(a)pyrene	170J	340U	57J	340U	350U	15000DJ	120J	340U	44J	340U	71J	1700J	340U	360U	300J	70J	350U
Benzo(b)fluoranthene	300J	340U	150J	340U	42J	23000DJ	180J	340U	78J	340U	160J	2700J	340U	360U	590	93J	30J
Benzo(g,h,i)perylene	350UR	340UJ	350UJ	340UJ	350UJ	5400DJ	160J	340U	340U	340U	370UJ	600J	340U	360U	100J	350U	350U
Benzo(k)fluoranthene	120J	340U	350U	340U	350U	13000DJ	89J	340U	34J	340U	44J	1600J	340U	360U	240J	46J	18J
bis(2-Ethylhexyl)phthalate (BEHP)	7200D	340U	380	68J	470	350UR	350U	340U	340U	77J	92J	64J	64J	360U	65J	120J	64J
Butylbenzylphthalate	6500D	340U	62J	340U	230J	350UR	350U	340U	340U	340U	370U	340U	340U	360U	340U	350U	350U
Carbazole	350U	340UJ	350UJ	340UJ	350UJ	1200J	350U	340U	340U	340U	370U	340U	340U	360U	230J	350U	350U
Chrysene	210J	340U	66J	340U	350U	15000D	94J	340U	53J	340U	68J	1000	340U	360U	440	62J	350U
Dibenz(a,h)anthracene	350UR	340U	350U	340U	350U	350UR	350UJ	340UJ	340UJ	340U	370UJ	340UJ	340U	360U	45J	350U	350U
Dibenzofuran	350U	340U	350U	340U	350U	520	350U	340U	340U	340U	370U	340U	340U	360U	120J	350U	350U
Di-n-butylphthalate	350U	340U	350U	340U	350U	350U	350U	340U	340U	340U	370U	340U	340U	76J	97J	79J	88J
Di-n-octylphthalate	110J	340U	350U	340U	350U	350UR	350UJ	340UJ	340UJ	340UJ	370UJ	340UJ	340UJ	360U	340U	350U	350U
Fluoranthene	300J	340U	120J	340U	39J	25000D	110J	340U	77J	340U	130J	750	340U	360U	1300	120J	350U
Fluorene	350U	340U	350U	340U	350U	720J	350U	340U	340U	340U	370U	340U	340U	360U	46J	350U	350U
Indeno(1,2,3-cd)pyrene	350UR	340U	350U	340U	350U	6000DJ	50J	340U	340U	340U	370UJ	580J	340U	360U	130J	38J	350U
Naphthalene	350U	340U	350U	340U	350U	160J	350U	340U	340U	340U	370U	340U	340U	360U	57J	350U	350U
Nitrobenzene	350U	340U	350U	340U	350U	350U	350U	340U	340U	340U	370U	340U	340U	360U	340U	350U	350U
Phenanthrene	150J	340U	57J	340U	350U	11000D	78J	340U	340U	340U	50J	43J	340U	360U	1400	37J	350U
Pyrene	570J	340U	100J	340U	36J	26000D	140J	340U	87J	340U	120J	1300	340U	360U	900	98J	350U
PESTICIDES																	
4,4-DDD	3.5U	3.4U	3.5U	3.4U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.8U	3.4U	3.4U	3.6U	3.4U	3.5U	3.5U
4,4-DDE	5.6J	3.4U	3.5U	3.4U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.8U	3.4U	3.4U	3.6U	3.4U	3.5U	3.5U
4,4-DDT	1J	3.4U	3.5U	3.4U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.8U	3.4U	3.4U	3.6U	3.4U	3.5U	3.5U
Aldrin	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
alpha-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
alpha-Chlordane	1.7J	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Aroclor-1248	35U	34U	79	34U	35U	35U	35U	34U	34U	34U	38U	34U	34U	36U	34U	35U	35U
Aroclor-1254	35U	34U	35U	34U	35U	35U	35U	34U	34U	34U	38U	34U	34U	36U	34U	35U	35U
Aroclor-1260	110J	34U	30J	34U	35U	35U	35U	34U	34U	34U	38U	34U	34U	36U	34U	35U	35U
delta-BHC	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Dieldrin	3.5U	3.4U	3.5U	3.4U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.8U	3.4U	3.4U	3.6U	3.4U	3.5U	3.5U
Endosulfan I	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Endosulfan II	3.1J	3.4U	3.5U	3.4U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.8U	3.4U	3.4U	3.6U	3.4U	3.5U	3.5U
Endosulfan sulfate	3.5U	3.4U	3.5U	3.4U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.8U	3.4U	3.4U	3.6U	3.4U	3.5U	3.5U
Endrin	3.5U	3.4U	3.5U	3.4U	3.5U	3.5U	12	3.4U	3.4U	3.4U	3.8U	3.4U	3.4U	3.6U	3.4U	0.96J	3.5U
Endrin aldehyde	3.5U	3.4U	3.5U	3.4U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.8U	3.4U	3.4U	3.6U	3.4U	3.5U	3.5U
Endrin ketone	3.5U	3.4U	3.5U	3.4U	3.5U	3.5U	3.5U	3.4U	3.4U	3.4U	3.8U	3.4U	3.4U	3.6U	3.4U	3.5U	3.5U
gamma-Chlordane	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Heptachlor	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Heptachlor epoxide	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Methoxychlor	18U	18U	18U	18U	18U	18U	18U	17U	17U	18U	19U	18U	18U	18U	18U	18U	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-20 : Summary of Detections Site 36 Organics

SHORT ID	0360009				0360010			0360011				0360012				0360013		
SAMPLE ID	*036S000901*	*036S000903*	*036S000905*	*036S000907*	*036S001001*	*036S001003*	*036S001005*	*036S001101*	*036S001103*	*036S001106*	*036S001107*	*036S001201*	*036S001203*	*036S001205*	*036S001207*	*036S001301*	*036S001303*	*036S001305*
SAMPLE DATE	*5/2/1994*	*5/2/1994*	*5/2/1994*	*5/2/1994*	*4/29/1994*	*4/29/1994*	*4/29/1994*	*4/29/1994*	*4/29/1994*	*4/29/1994*	*4/29/1994*	*4/28/1994*	*4/28/1994*	*4/28/1994*	*4/28/1994*	*5/9/1994*	*5/9/1994*	*5/9/1994*
VOC																		
1,1,1-Trichloroethane	10U	11UJ	11U	13U	12U	10U	13U	10U	10U	10U	10U	10U	10U	10U	11U	10U	10U	11U
2-Butanone (MEK)	10UJ	11UJ	11UJ	13UJ	12U	10U	4U	10U	10U	10U	10U	10U	10U	10U	11U	10UJ	10UJ	11UJ
2-Hexanone	10UJ	11UJ	11UJ	13UJ	12U	10U	13U	10U	10U	10U	10U	10U	10U	10U	11U	10UJ	10UJ	11UJ
4-Methyl-2-Pentanone (MIBK)	10UJ	11UJ	11UJ	13UJ	12U	10U	13U	10U	10U	10U	10U	10U	10U	10U	11U	10UJ	10UJ	11UJ
Acetone	22UJ	53UJ	22UJ	13UJ	62U	9U	46U	8U	4U	31U	54U	12U	45U	72U	79U	10UJ	10UJ	11UJ
Benzene	10U	11UJ	11U	13U	12U	10U	13U	10U	10U	10U	10U	10U	10U	10U	11U	10U	10U	11U
Chloroform	10U	11U	11U	13U	12U	10U	13U	10U	10U	10U	10U	10U	10U	10U	11U	10U	10U	11U
Ethylbenzene	10U	11UJ	11U	13U	12U	10U	13U	10U	10U	10U	10U	10U	10U	10U	11U	10U	10U	11U
Methylene chloride	10U	11U	11U	13U	6U	2U	4U	2U	2U	3U	2U	3U	2U	2U	2U	2J	10U	11U
Tetrachloroethene	10U	9J	11U	13U	12U	10U	13U	10U	10U	10U	10U	10U	10U	10U	11U	10U	10U	11U
Toluene	10U	11UJ	11U	13U	12U	10U	13U	10U	10U	10U	10U	10U	10U	10U	11U	10U	10U	11U
Xylene (Total)	10U	11UJ	11U	13U	12U	10U	13U	10U	10U	10U	10U	10U	10U	10U	11U	10U	10U	11U
SVOC																		
2-Methylnaphthalene	340U	350U	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	340U	340U	360U	340U	340U	360U
3,3-Dichlorobenzidine	340U	350U	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	340U	340U	360U	340UJ	340UJ	360UJ
4-Chloroaniline	340U	350U	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	340U	340U	360U	340U	340U	360U
Acenaphthene	340U	350U	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	340U	340U	360U	340U	340U	360U
Acenaphthylene	340U	350U	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	340U	340U	360U	340U	340U	360U
Anthracene	340U	350U	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	41J	340U	360U	340U	340U	360U
Benzo(a)anthracene	57J	350U	350U	420U	400U	37J	66J	91J	49J	350U	410U	340U	140J	340U	360U	340U	340U	360U
Benzo(a)pyrene	57J	350UJ	350U	420U	400U	53J	60J	110J	44J	350U	410U	340U	130J	340U	360U	340U	340U	360U
Benzo(b)fluoranthene	93J	39J	44J	420U	80J	110J	170J	250J	100J	48J	410U	59J	280J	340U	71J	340U	340U	360U
Benzo(g,h,i)perylene	340U	350UJ	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	340U	340U	360U	340UJ	340UJ	360UJ
Benzo(k)fluoranthene	340U	350UJ	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	340U	340U	360U	340U	340U	360U
bis(2-Ethylhexyl)phthalate (BEHP)	56J	350U	350U	94J	66U	340U	110U	55U	74U	53U	120U	62U	41U	35U	44U	340U	340U	360U
Butylbenzylphthalate	340U	350U	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	340U	340U	360U	340U	340U	360U
Carbazole	340U	350U	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	340U	340U	360U	340UJ	340UJ	360UJ
Chrysene	59J	350U	350U	420U	400U	44J	72J	110J	50J	350U	410U	340U	150J	340U	360U	340U	340U	360U
Dibenz(a,h)anthracene	340U	350UJ	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	340U	340U	360U	340UJ	340UJ	360UJ
Dibenzofuran	340U	350U	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	340U	340U	360U	340U	340U	360U
Di-n-butylphthalate	44J	35J	43J	140J	400U	340U	430U	340U	340U	350U	410U	69U	340U	340U	360U	340U	340U	360U
Di-n-octylphthalate	340U	350UJ	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	340U	340U	360U	340U	340U	360U
Fluoranthene	91J	350U	350U	420U	48J	61J	130J	220J	82J	350U	410U	40J	290J	340U	58J	340U	340U	360U
Fluorene	340U	350U	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	340U	340U	360U	340U	340U	360U
Indeno(1,2,3-cd)pyrene	42J	350UJ	350U	420U	400U	340U	46J	57J	340U	350U	410U	340U	62J	340U	360U	340U	340U	360U
Naphthalene	340U	350U	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	340U	340U	360U	340U	340U	360U
Nitrobenzene	340U	350U	350U	420U	400U	340U	430U	340U	340U	350U	410U	340U	340U	340U	360U	340U	340U	360U
Phenanthrene	39J	350U	350U	420U	400U	340U	93J	120J	49J	350U	410U	340U	230J	340U	360U	340U	340U	360U
Pyrene	87J	36J	350U	420U	51J	66J	100J	200J	84J	36J	410U	43J	260J	340U	59J	340U	340U	360U
PESTICIDES																		
4,4-DDD	3.4U	3.5U	3.5U	4.2U	4U	3.4U	4.3U	3.4U	3.4U	3.5U	4.1U	3.4U	3.4U	3.4U	3.6U	3.4U	3.4U	3.6U
4,4-DDE	3.4U	3.5U	3.5U	4.2U	4U	3.4U	4.3U	3.4U	3.4U	3.5U	4.1U	3.4U	3.4U	3.4U	3.6U	3.4U	3.4U	3.6U
4,4-DDT	3.4U	1.5J	3.5U	4.2U	4U	3.4U	4.3U	3.4U	3.4U	3.5U	4.1U	3.4U	3.4U	3.4U	3.6U	3.4U	3.4U	3.6U
Aldrin	1.8U	1.8U	1.8U	2.2U	2U	1.7U	2.2U	1.8U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U
alpha-BHC	1.8U	1.8U	1.8U	2.2U	2U	1.7U	2.2U	1.8U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U
alpha-Chlordane	1.8U	1.8U	1.8U	2.2U	2U	1.7U	2.2U	1.8U	0.74J	1.8U	2.1U	1.4J	1.8U	1.8U	1.7J	1.8U	1.8U	1.8U
Aroclor-1248	34U	35U	35U	42U	40U	34U	43U	34U	34U	35U	41U	34U	34U	34U	36U	34U	34U	36U
Aroclor-1254	34U	35U	35U	42U	40U	34U	43U	34U	34U	35U	41U	34U	34U	34U	36U	34U	34U	36U
Aroclor-1260	34U	35U	35U	42U	40U	34U	43U	34U	34U	35U	41U	34U	34U	34U	36U	34U	34U	36U
delta-BHC	1.8U	1.8U	1.8U	2.2U	2U	1.7U	2.2U	1.8U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U
Dieldrin	3.4U	3.5U	3.5U	4.2U	4U	3.4U	4.3U	3.4U	3.4U	3.5U	4.1U	3.4U	3.4U	3.4U	3.6U	3.4U	3.4U	3.6U
Endosulfan I	1.8U	1.8U	1.8U	2.2U	2U	1.7U	2.2U	1.8U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U
Endosulfan II	3.4U	3.5U	3.5U	4.2U	4U	3.4U	4.3U	3.4U	3.4U	3.5U	4.1U	3.4U	3.4U	3.4U	3.6U	3.4U	3.4U	3.6U
Endosulfan sulfate	3.4U	3.5U	3.5U	4.2U	4U	3.4U	4.3U	3.4U	3.4U	3.5U	4.1U	3.4U	3.4U	3.4U	3.6U	3.4U	3.4U	3.6U
Endrin	3.4U	3.5U	3.5U	4.2U	4U	3.4U	4.3U	3.4U	3.4U	3.5U	4.1U	3.4U	3.4U	3.4U	3.6U	3.4U	3.4U	3.6U
Endrin aldehyde	3.4U	3.5U	3.5U	4.2U	4U	3.4U	4.3U	3.4U	3.4U	3.5U	4.1U	3.4U	3.4U	3.4U	3.6U	3.4U	3.4U	3.6U
Endrin ketone	3.4U	3.5U	3.5U	4.2U	4U	3.4U	4.3U	3.4U	3.4U	3.5U	4.1U	3.4U	3.4U	3.4U	3.6U	3.4U	3.4U	3.6U
gamma-Chlordane	1.8U	1.8U	1.8U	2.2U	2U	1.7U	2.2U	1.3J	3.5	2.2	2.3	3.4	1.1J	2J	7.2	1.8U	1.8U	1.8U
Heptachlor	1.8U	1.8U	1.8U	2.2U	2U	1.7U	2.2U	1.8U	1.8U	1.8U	2.1U	1.8U	1.8U	1.8U	0.73J	1.8U	1.8U	1.8U
Heptachlor epoxide	1.8U	1.8U	1.8U	2.2U	2U	1.7U	2.2U	1.8U	1.2J	0.98J	2.1U	1.8U	1.8U	0.77J	0.92J	1.8U	1.8U	1.8U
Methoxychlor	18U	18U	18U	22U	20U	17U	22U	18U	18U	18U	21U	18U	18U	18U	19U	18U	18U	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-20 : Summary of Detections Site 36 Organics

SHORT ID	0360014			0360015			0360017			0360018			0360019			0360020			
SAMPLE ID	*036S001401*	*036S001403*	*036S001405*	*036S001501*	*036S001503*	*036S001505*	*036S001701*	*036S001703*	*036S001705*	*036S001801*	*036S001803*	*036S001805*	*036S001901*	*036S001903*	*036S001904*	*036S002001*	*036S002003*	*036S002005*	*036S002007*
SAMPLE DATE	*4/29/1994*	*4/29/1994*	*4/29/1994*	*4/28/1994*	*4/28/1994*	*4/28/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*	*4/26/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*
VOC																			
1,1,1-Trichloroethane	11U	10U	10U	11U	11U	2J	10U	12U	12U	10U	12U	10U	11U	10U	11U	11U	2J	11U	11U
2-Butanone (MEK)	11U	10U	10U	11U	11U	10U	10U	12U	12U	10U	5U	10U	11U	10U	11U	11U	11U	11U	11U
2-Hexanone	11U	10U	10U	11U	11U	10U	10U	12U	12U	10U	12U	10U	11U	10U	11U	11U	11U	11U	11U
4-Methyl-2-Pentanone (MIBK)	11U	10U	10U	11U	11U	10U	10U	12U	12U	10U	12U	10U	11U	10U	11U	11U	11U	11U	11U
Acetone	3U	30U	70U	26U	28U	78U	5U	351U	406U	19U	229U	150U	13U	24U	24U	40U	11U	30U	12U
Benzene	11U	10U	10U	11U	11U	10U	10U	12U	12U	10U	12U	10U	11U	10U	11U	11U	11U	11U	11U
Chloroform	11U	10U	10U	11U	11U	10U	10U	12U	12U	10U	12U	10U	11U	10U	11U	11U	11U	11U	11U
Ethylbenzene	11U	10U	10U	11U	11U	10U	10U	12U	12U	10U	12U	10U	11U	10U	11U	11U	11U	11U	11U
Methylene chloride	2U	2U	2U	2U	3U	3U	10U	12U	12U	10U	12U	10U	11U	10U	11U	11U	11U	11U	11U
Tetrachloroethene	11U	10U	10U	11U	11U	10U	10U	12U	12U	10U	12U	10U	11U	10U	11U	11U	11U	11U	11U
Toluene	11U	10U	10U	11U	11U	10U	10U	12U	12U	10U	12U	10U	11U	10U	11U	11U	11U	11U	11U
Xylene (Total)	11U	10U	10U	11U	11U	10U	10U	12U	12U	10U	12U	10U	11U	10U	11U	11U	11U	11U	11U
SVOC																			
2-Methylnaphthalene	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
3,3-Dichlorobenzidine	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
4-Chloroaniline	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Acenaphthene	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Acenaphthylene	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Anthracene	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Benzo(a)anthracene	350U	340U	350U	380U	360U	350U	44J	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Benzo(a)pyrene	350U	340U	350U	380U	360U	350U	57J	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Benzo(b)fluoranthene	350U	340U	350U	380U	47J	350U	124J	62J	412U	44J	411U	407U	351U	341U	358U	347U	355U	346U	354U
Benzo(g,h,i)perylene	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Benzo(k)fluoranthene	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
bis(2-Ethylhexyl)phthalate (BEHP)	53U	56U	37U	58U	58U	55U	51U	45U	62U	81U	70U	46U	351U	341U	358U	347U	355U	346U	354U
Butylbenzylphthalate	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Carbazole	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Chrysene	350U	340U	350U	380U	360U	350U	49J	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Dibenz(a,h)anthracene	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Dibenzofuran	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Di-n-butylphthalate	350U	35U	350U	62U	72U	64U	345U	43U	47U	55U	59U	407U	351U	341U	358U	36U	355U	346U	354U
Di-n-octylphthalate	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Fluoranthene	350U	340U	350U	380U	360U	350U	62J	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Fluorene	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Indeno(1,2,3-cd)pyrene	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Naphthalene	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Nitrobenzene	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Phenanthrene	350U	340U	350U	380U	360U	350U	345U	411U	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
Pyrene	350U	340U	350U	380U	39J	350U	72J	48J	412U	340U	411U	407U	351U	341U	358U	347U	355U	346U	354U
PESTICIDES																			
4,4-DDD	3.5U	3.4U	3.5U	3.8U	3.6U	3.5U	3.4U	4.1U	4.1U	3.4U	4.1U	4.1U	3.5U	3.4U	3.6U	3.5U	3.5U	3.5U	3.5U
4,4-DDE	3.5U	3.4U	3.5U	3.8U	3.6U	3.5U	1.6J	4.1U	4.1U	3.4U	4.1U	4.1U	3.2J	3.4U	3.6U	3.5U	3.5U	3.5U	3.5U
4,4-DDT	3.5U	3.4U	3.5U	3.8U	3.6U	3.5U	5.6	4.1U	4.1U	3.4U	2.7J	4.1U	3.5U	3.4U	3.6U	3.5U	3.5U	3.5U	3.5U
Aldrin	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	2.1U	2.1U	1.8U	2.1U	2.1U	1.8U	1.7U	1.9U	1.8U	1.8U	1.8U	1.8U
alpha-BHC	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	2.1U	2.1U	1.8U	2.1U	2.1U	1.8U	1.7U	1.9U	1.8U	1.8U	1.8U	1.8U
alpha-Chlordane	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	2.1U	2.1U	1.8U	2.1U	2.1U	1.8U	1.7U	1.9U	3J	1.8U	1.8U	1.8U
Aroclor-1248	35U	34U	35U	38U	36U	35U	34U	41U	41U	34U	41U	41U	35U	34U	36U	35U	35U	35U	35U
Aroclor-1254	35U	34U	35U	38U	36U	35U	34U	41U	41U	34U	41U	41U	35U	34U	36U	35U	35U	35U	35U
Aroclor-1260	35U	34U	35U	38U	36U	35U	34U	41U	41U	33J	41U	41U	35U	34U	36U	35U	35U	35U	35U
delta-BHC	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	0.77J	2.1U	2.1U	1.8U	2.1U	2.1U	1.8U	1.7U	1.9U	1.8U	1.8U	1.8U	1.8U
Dieldrin	3.5U	3.4U	3.5U	1.1J	3.6U	2.9J	9.2	4.1U	2.9J	13	2.4J	22	3.5U	3.4U	3.6U	3.4J	1.8J	3.5U	3.5U
Endosulfan I	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	2.1U	2.1U	1.8U	2.1U	2.1U	1.8U	1.7U	1.9U	1.8U	1.8U	1.8U	1.8U
Endosulfan II	3.5U	3.4U	3.5U	3.8U	3.6U	3.5U	3.4U	4.1U	4.1U	3.4U	4.1U	4.1U	3.5U	3.4U	3.6U	3.5U	3.5U	3.5U	3.5U
Endosulfan sulfate	3.5U	3.4U	3.5U	3.8U	3.6U	3.5U	3.4U	4.1U	4.1U	3.4U	4.1U	4.1U	3.5U	3.4U	3.6U	3.5U	3.5U	3.5U	3.5U
Endrin	3.5U	3.4U	3.5U	3.8U	3.6U	3.5U	3.4U	4.1U	4.1U	3.4U	4.1U	4.1U	3.5U	3.4U	3.6U	3.5U	3.5U	3.5U	3.5U
Endrin aldehyde	3.5U	3.4U	3.5U	3.8U	3.6U	3.5U	3.4U	4.1U	4.1U	3.4U	4.1U	4.1U	3.5U	3.4U	3.6U	3.5U	3.5U	3.5U	3.5U
Endrin ketone	3.5U	3.4U	3.5U	3.8U	3.6U	3.5U	3.4U	4.1U	4.1U	3.4U	4.1U	4.1U	3.5U	3.4U	3.6U	3.5U	3.5U	3.5U	3.5U
gamma-Chlordane	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	2.1U	2.1U	0.89J	2.1U	0.83J	1.8U	1.7U	1.9U	4	1.8U	0.96J	1.8U
Heptachlor	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	2.1U	2.1U	1.8U	2.1U	2.1U	1.8U	1.7U	1.9U	1.8U	1.8U	1.8U	1.8U
Heptachlor epoxide	1.8U	1.7U	1.8U	1.9U	1.9U	1.8U	1.8U	2.1U	2.1U	1.8U	2.1U	2.1U	1.8U	1.7U	1.9U	1.8U	1.8U	1.8U	1.8U
Methoxychlor	18U	17U	18U	19U	19U	18U	18U	21U	21U	18U	21U	21U	18U	17U	19U	18U	18U	18U	18U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-20 : Summary of Detections Site 36 Organics

SHORT ID	0360022		0360023		0360024		0360025		0360026		0360027	0360028		0360029		0360030	0360031	0360032
SAMPLE ID	*036S002201*	*036S002203*	*036S002301*	*036S002303*	*036S002401*	*036S002403*	*036S002501*	*036S002503*	*036S002601*	*036S002603*	*036S002701*	*036S002801*	*036S002803*	*036S002901*	*036S002903*	*036S003001*	*036S003101*	*036S003201*
SAMPLE DATE	*4/28/1994*	*4/28/1994*	*5/9/1994*	*5/9/1994*	*5/9/1994*	*5/9/1994*	*6/28/1994*	*6/28/1994*	*6/28/1994*	*6/28/1994*	*6/28/1994*	*6/29/1994*	*6/29/1994*	*8/13/1993*	*6/29/1994*	*6/29/1994*	*6/29/1994*	*6/29/1994*
VOC																		
1,1,1-Trichloroethane	12U	12U	10U	11U	10U	11U	11U	11U	11U	10U	11U	50U	11U	56U	11U	11U	12U	12U
2-Butanone (MEK)	12U	18U	10UJ	11UJ	10UJ	11U	11U	11U	11U	10U	11U	50U	11U	56U	11U	11U	12U	12U
2-Hexanone	12U	12U	10UJ	2J	10UJ	11UJ	11U	11U	11U	10U	11U	50U	11U	56U	11U	11U	12U	12U
4-Methyl-2-Pentanone (MIBK)	12U	12U	10UJ	11UJ	10UJ	11UJ	11U	11U	11U	10U	11U	50U	11U	56U	11U	11U	12U	12U
Acetone	26U	230U	26UJ	11UJ	10UJ	101U	20U	51U	38U	27U	65U	260J	84U	90U	14U	75U	20U	37U
Benzene	12U	12U	10U	11U	10U	11U	11U	11U	11U	10U	11U	50U	11U	56U	11U	11U	12U	12U
Chloroform	12U	12U	10U	11U	10U	11U	11U	11U	11U	10U	11U	50U	11U	56U	11U	11U	12U	12U
Ethylbenzene	12U	12U	10U	11U	10U	11UJ	11U	11U	11U	10U	11U	50U	11U	56U	11U	11U	12U	12U
Methylene chloride	3U	4U	10U	11U	10U	11U	15U	16U	17U	16U	21U	67U	15U	96J	15U	15U	17U	18U
Tetrachloroethene	12U	12U	10U	11U	10U	11UJ	11U	11U	11U	10U	11U	50U	11U	1100	10J	11U	12U	12U
Toluene	12U	12U	10U	2J	10U	11UJ	11U	11U	11U	10U	11U	50U	11U	56U	11U	11U	12U	12U
Xylene (Total)	12U	12U	10U	11U	10U	11UJ	11U	11U	11U	10U	11U	50U	11U	56U	11U	11U	12U	12U
SVOC																		
2-Methylnaphthalene	400U	410U	340U	380U	340U	380U	340U	360U	360U	350U	370U	360U	340U	370U	360U	370U	380U	390U
3,3-Dichlorobenzidine	400U	410U	340UJ	380U	340U	380U	340U	360UJ	360UJ	350U	370U	360U	340U	370UJ	360U	370U	380UJ	390U
4-Chloroaniline	400U	410U	340U	380UJ	340UJ	380UJ	340U	360U	360U	350U	370U	360U	340U	370U	360U	370U	380U	390U
Acenaphthene	400U	110J	340U	380U	340U	380U	340U	360U	360U	350U	370U	360U	340U	370U	360U	370U	380U	390U
Acenaphthylene	400U	410U	340U	380U	340U	380U	340U	360U	360U	350U	370U	360U	340U	370U	360U	370U	380U	390U
Anthracene	400U	140J	340U	380U	340U	380U	340U	360U	360U	350U	370U	360U	340U	370U	360U	370U	380U	390U
Benzo(a)anthracene	400U	410U	340U	380U	340U	380U	230J	360UJ	360UJ	810	370U	360U	340U	370UJ	360U	370U	380UJ	100J
Benzo(a)pyrene	400U	410U	340U	380UR	340U	380UR	180J	360UR	360U	900	370UJ	360U	340U	370UR	360U	370UJ	380UJ	120J
Benzo(b)fluoranthene	400U	410U	340U	380UR	340U	380UR	260J	360UR	360U	800	370UJ	360U	340U	370UR	360U	370UJ	380UJ	130J
Benzo(g,h,i)perylene	400U	410U	340UJ	380UR	340UJ	380UR	73J	360UR	360U	370	370UJ	360U	340U	370UR	360U	370UJ	380UJ	390U
Benzo(k)fluoranthene	400U	410U	340U	380UR	340U	380UR	190J	360UR	360U	820	370UJ	360U	340U	370UR	360U	370UJ	380UJ	170J
bis(2-Ethylhexyl)phthalate (BEHP)	97U	85U	340U	380U	37J	380U	340U	360UJ	360UJ	350U	370U	87J	340U	370UJ	360U	76J	380UJ	390U
Butylbenzylphthalate	400U	410U	340U	380U	340U	380U	340UJ	360UJ	360UJ	350UJ	370U	360U	340U	370UJ	360U	370UJ	380UJ	390U
Carbazole	400U	410U	340UJ	380UJ	340UJ	380UJ	340U	360U	360U	84J	370U	360U	340U	370U	360U	370U	380U	390U
Chrysene	400U	410U	340U	380U	340U	380U	290J	360UJ	360UJ	1100	370U	360U	340U	370UJ	360U	370U	380UJ	120J
Dibenz(a,h)anthracene	400U	410U	340UJ	380UR	340UJ	380UR	340U	360UR	360U	160J	370UJ	360U	340U	370UR	360U	370UJ	380UJ	390U
Dibenzofuran	400U	410U	340U	380U	340U	380U	340U	360U	360U	350U	370U	360U	340U	370U	360U	370U	380U	390U
Di-n-butylphthalate	400U	410U	340U	380U	340U	380U	340U	360U	360U	350U	370U	360U	340U	370U	360U	370U	380U	390U
Di-n-octylphthalate	400U	410U	340U	380UR	340U	380UR	340UJ	360UR	360U	350UJ	370UJ	360U	340U	370UR	360U	370UJ	380UJ	390U
Fluoranthene	400U	75J	340U	380U	340U	380U	400	360U	360U	1100	370U	360U	340U	370U	360U	370U	380U	170J
Fluorene	400U	46J	340U	380U	340U	380U	340U	360U	360U	350U	370U	360U	340U	370U	360U	370U	380U	390U
Indeno(1,2,3-cd)pyrene	400U	410U	340U	380UR	340UJ	380UR	76J	360UR	360U	380	370UJ	360U	340U	370UR	360U	370UJ	380UJ	390U
Naphthalene	400U	410U	340U	380U	340U	380U	340U	360U	360U	350U	370U	360U	340U	370U	360U	370U	380U	390U
Nitrobenzene	400U	410U	340U	380U	340U	380U	340U	360U	360U	350U	370U	360U	340U	370U	360U	370U	380U	390U
Phenanthrene	400U	120J	340U	380U	340U	380U	80J	360U	360U	320J	370U	360U	340U	370U	360U	370U	380U	390U
Pyrene	400U	63J	340U	380U	340U	380U	590J	360UJ	360UJ	1400J	370U	360U	340U	370UJ	360U	370UJ	380UJ	190J
PESTICIDES																		
4,4-DDD	0.65J	4.1U	3.4U	3.8U	3.4U	3.8U	3.5U	3.6U	3.6U	3.5U	3.8U	3.7U	3.5U	3.7U	3.6U	3.8U	3.9U	4U
4,4-DDE	2J	3.7J	3.4U	3.8U	3.4U	3.8U	3.5U	3.6U	3.6U	3.5U	3.8U	3.7U	3.5U	3.7U	3.6U	3.8U	3.9U	4U
4,4-DDT	0.87J	4.1U	3.4U	3.8U	3.4U	3.8U	3.5U	3.6U	3.6U	3.5U	3.2J	3.7U	3.5U	3.7U	3.6U	3.8U	3.9U	3.9J
Aldrin	2U	2.1U	1.8U	1.9U	1.8U	1.9U	1.8U	1.9U	1.9U	1.8U	2U	1.9U	1.8U	1.9U	1.9U	2U	2U	2.1U
alpha-BHC	2U	2.1U	1.8U	1.9U	1.8U	1.9U	1.8U	1.9U	1.9U	1.8U	2U	1.9U	1.8U	1.9U	1.9U	2U	2U	2.1U
alpha-Chlordane	2U	2.1U	1.8U	1.9U	1.8U	1.9U	1.8U	1.9U	1.9U	1.8U	2U	1.9U	1.8U	1.9U	1.9U	2U	2U	2.1U
Aroclor-1248	40U	41U	34U	38U	34U	38U	35U	36U	36U	35U	38U	37U	35U	37U	36U	38U	39U	40U
Aroclor-1254	40U	41U	34U	38U	34U	38U	35U	36U	36U	35U	38U	37U	35U	37U	36U	38U	39U	40U
Aroclor-1260	40U	41U	34U	38U	34U	38U	35U	36U	36U	35U	38U	12J	13J	37U	36U	38U	39U	40U
delta-BHC	2U	2.1U	1.8U	1.9U	1.8U	1.9U	1.8U	1.9U	1.9U	1.8U	2U	1.9U	1.8U	1.9U	1.9U	2U	2U	2.1U
Dieldrin	1.1J	1.7J	3.4U	3.8U	3.4U	3.8U	3.5U	3.6U	3.6U	3.5U	3.8U	3.7U	3.5U	3.7U	3.6U	3.8U	3.9U	4U
Endosulfan I	2U	2.1U	1.8U	1.9U	1.8U	1.9U	1.8U	1.9U	1.9U	1.8U	2U	1.9U	1.8U	1.9U	1.9U	2U	2U	2.1U
Endosulfan II	4U	4.1U	3.4U	3.8U	3.4U	3.8U	3.5U	3.6U	3.6U	3.5U	3.8U	3.7U	3.5U	3.7U	3.6U	3.8U	3.9U	4U
Endosulfan sulfate	4U	4.1U	3.4U	3.8U	3.4U	3.8U	3.5U	3.6U	3.6U	3.5U	3.8U	3.7U	3.5U	3.7U	3.6U	3.8U	3.9U	4U
Endrin	4U	4.1U	3.4U	3.8U	3.4U	3.8U	3.5U	3.6U	3.6U	3.5U	3.8U	3.7U	3.5U	3.7U	3.6U	3.8U	3.9U	4U
Endrin aldehyde	4U	4.1U	3.4U	3.8U	3.4U	3.8U	3.5U	3.6U	3.6U	3.5U	3.8U	3.7U	3.5U	3.7U	3.6U	3.8U	3.9U	4U
Endrin ketone	4U	4.1U	3.4U	3.8U	3.4U	3.8U	3.5U	3.6U	3.6U	3.5U	3.8U	3.7U	3.5U	3.7U	3.6U	3.8U	3.9U	4U
gamma-Chlordane	2U	2.1U	1.8U	1.9U	1.8U	1.9U	1.8U	1.9U	1.9U	1.8U	2U	1.9U	1.8U	1.9U	1.9U	2U	2U	2.1U
Heptachlor	2U	2.1U	1.8U	1.9U	1.8U	1.9U	1.8U	1.9U	1.9U	1.8U	2U	1.9U	1.8U	1.9U	1.9U	2U	2U	2.1U
Heptachlor epoxide	2U	2.1U	1.8U	1.9U	1.8U	1.9U	1.8U	1.9U	1.9U	1.8U	2U	1.9U	1.8U	1.9U	1.9U	2U	2U	2.1U
Methoxychlor	20U	21U	18U	19U	18U	19U	18U	19U	19U	18U	20U	19U	18U	19U	19U	20U	20U	21U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-20 : Summary of Detections Site 36 Organics

SHORT ID	0360033		0360034	0360035		0360036		036031C		036031S	036032C		036032E		036073E		036073N	036073W	
SAMPLE ID	*036S003301*	*036S003303*	*036S003401*	*036S003501*	*036S003503*	*036S003601*	*036S003603*	*036S031C02*	*036S031C04*	*036S031S02*	*036S032C02*	*036S032C06*	*036S032E04*	*036S032E08*	*036S073E02*	*036S073E04*	*036S073N03*	*036S073W02*	*036S073W04*
SAMPLE DATE	*8/13/1993*	*6/29/1994*	*6/29/1994*	*6/29/1994*	*8/12/1993*	*7/17/1994*	*7/17/1994*	*2/11/1993*	*2/11/1993*	*2/12/1993*	*2/11/1993*	*2/11/1993*	*2/11/1993*	*2/11/1993*	*2/17/1993*	*2/17/1993*	*2/17/1993*	*2/16/1993*	*2/16/1993*
VOC																			
1,1,1-Trichloroethane	11U	12U	12U	12U	11U	12U	10U	12U	1300U	1300U	11U	10U	11U	1400U	11U	11U	11U	10U	10U
2-Butanone (MEK)	11U	12U	12U	12U	11U	12UJ	10UJ	12U	1300U	1300U	11U	10U	11U	1400U	11U	11U	11U	10U	10U
2-Hexanone	11U	12U	12U	12U	11U	12UJ	10UJ	12U	1300U	1300U	11U	10U	11U	1400U	11U	11U	11U	10U	10U
4-Methyl-2-Pentanone (MIBK)	11U	12U	12U	12U	11U	12U	10U	12U	1300U	1300U	11U	10U	11U	1400U	11U	11U	11U	10U	10U
Acetone	35U	37U	83U	50U	120U	18U	15U	12U	12000	1300U	160	10U	19U	6400	82	38U	49	110U	38U
Benzene	11U	12U	12U	12U	11U	12U	10U	12U	1300U	1300U	11U	10U	11U	1400U	11U	11U	11U	10U	10U
Chloroform	11U	12U	12U	12U	11U	12U	10U	12U	1300U	1300U	11U	10U	11U	1400U	11U	11U	11U	10U	10U
Ethylbenzene	11U	12U	12U	12U	11U	12U	10U	12U	1300U	1300U	11U	10U	11U	1400U	11U	11U	11U	10U	10U
Methylene chloride	28U	31U	32U	29U	15U	12U	10U	12U	730U	780U	11U	10U	11U	870U	4J	11U	11U	10U	10U
Tetrachloroethene	11U	12U	12U	12U	11U	12U	10U	12U	1300U	1300U	11U	10U	11U	1400U	11U	11U	11U	10U	10U
Toluene	11U	12U	12U	12U	11U	12U	10U	12U	1300U	1300U	11U	10U	11U	1400U	11U	11U	11U	10U	10U
Xylene (Total)	11U	12U	12U	12U	11U	12U	10U	12U	1300U	1300U	11U	10U	11U	1400U	11U	11U	11U	10U	10U
SVOC																			
2-Methylnaphthalene	380U	380U	400U	400U	370U	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
3,3-Dichlorobenzidine	380UJ	380UJ	400UJ	400U	370UJ	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
4-Chloroaniline	380U	380U	400U	400U	370U	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
Acenaphthene	380U	380U	400U	400U	370U	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
Acenaphthylene	380U	380U	400U	400U	370U	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
Anthracene	380U	380U	400U	400U	370U	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
Benzo(a)anthracene	380UJ	380UJ	400UJ	400U	370UJ	350U	360U	250J	370U	350U	360U	340U	360U	380U	340U	350U	340U	230J	330U
Benzo(a)pyrene	380UJ	380UJ	400UR	400U	370UR	350U	360U	240J	370U	350U	360U	340U	360U	380U	340U	350U	340U	260J	330U
Benzo(b)fluoranthene	380UJ	380UJ	400UR	400U	370UR	350U	360U	240J	370U	350U	360U	340U	360U	380U	340U	230J	340U	650	330U
Benzo(g,h,i)perylene	380UJ	380UJ	400UR	400U	370UR	350UJ	360UJ	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	190J	330U
Benzo(k)fluoranthene	380UJ	380UJ	400UR	400U	370UR	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
bis(2-Ethylhexyl)phthalate (BEHP)	380UJ	380UJ	400UJ	400U	370UJ	350U	360U	380U	370U	NS	360U	340U	360U	380U	340U	350U	340U	350U	330U
Butylbenzylphthalate	380UJ	380UJ	400UJ	400U	370UJ	110J	38J	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
Carbazole	380U	380U	400U	400U	370U	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
Chrysene	380UJ	380UJ	400UJ	400U	370UJ	350U	360U	260J	370U	350U	360U	340U	360U	380U	340U	350U	340U	330J	330U
Dibenz(a,h)anthracene	380UJ	380UJ	400UR	400U	370UR	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
Dibenzofuran	380U	380U	400U	400U	370U	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
Di-n-butylphthalate	380U	380U	400U	400U	370U	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
Di-n-octylphthalate	380UJ	380UJ	400UR	400U	370UR	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
Fluoranthene	380U	380U	400U	400U	370U	54J	360U	590	370U	350U	360U	340U	360U	380U	340U	350U	340U	520	330U
Fluorene	380U	380U	400U	400U	370U	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
Indeno(1,2,3-cd)pyrene	380UJ	380UJ	400UR	400U	370UR	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
Naphthalene	380U	380U	400U	400U	370U	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
Nitrobenzene	380U	380U	400U	400U	370U	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	350U	330U
Phenanthrene	380U	380U	400U	400U	370U	350U	360U	380U	370U	350U	360U	340U	360U	380U	340U	350U	340U	200J	330U
Pyrene	380UJ	380UJ	400UJ	400U	370UJ	45J	360U	390	370U	NS	360U	340U	360U	380U	340U	350U	340U	530	330U
PESTICIDES																			
4,4-DDD	3.8U	3.9U	4U	4U	3.8U	3.5U	3.5U	3.8U	3.7U	3.6U	3.6U	3.4U	3.6U	3.8U	3.4U	3.5U	3.4U	3.6U	3.4U
4,4-DDE	3.8U	3.9U	4U	4U	3.8U	3.5U	3.5U	5.8	3.7U	3.6U	3.6U	3.4U	3.6U	3.8U	3.4U	3.5U	3.4U	3.6U	3.4U
4,4-DDT	3.8U	3.9U	4U	4U	5	3.5U	3.5U	4	3.7U	3.6U	3.6U	3.4U	3.6U	3.8U	3.4U	3.5U	3.4U	3.6U	3.4U
Aldrin	2U	2U	2.1U	2.1U	1.9U	1.8U	1.8U	1.9U	1.9U	1.8U	1.9U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.8U	1.7U
alpha-BHC	2U	2U	2.1U	2.1U	1.9U	1.8U	1.8U	1.9U	1.9U	1.8U	1.9U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.8U	1.7U
alpha-Chlordane	2U	2U	2.1U	2.1U	1.9U	1.8U	1.8U	1.9U	1.9U	1.8U	1.9U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.8U	1.7U
Aroclor-1248	38U	39U	40U	40U	38U	35U	35U	38U	37U	36U	36U	34U	36U	38U	34U	0.5U	34U	33U	34U
Aroclor-1254	38U	39U	40U	40U	38U	35U	35U	28J	37U	36U	36U	34U	36U	38U	34U	0.5U	34U	33U	34U
Aroclor-1260	38U	39U	40U	40U	38U	35U	35U	38U	37U	36U	36U	34U	36U	38U	34U	0.5U	34U	33U	34U
delta-BHC	2U	2U	2.1U	2.1U	1.9U	1.8U	1.8U	1.9U	1.9U	1.8U	1.9U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.8U	1.7U
Dieldrin	3.8U	3.9U	4U	4U	3.8U	3.5U	3.5U	9.6	3.7U	3.6U	3.6U	3.4U	3.6U	3.8U	3.4U	0.94J	3.4U	3.6U	3.4U
Endosulfan I	2U	2U	2.1U	2.1U	1.9U	1.8U	1.8U	3.8U	3.7U	3.6U	3.6U	3.4U	3.6U	3.8U	3.4U	3.5U	3.4U	3.6U	3.4U
Endosulfan II	3.8U	3.9U	4U	4U	3.8U	3.5U	3.5U	3.8U	3.7U	3.6U	3.6U	3.4U	3.6U	3.8U	3.4U	3.5U	3.4U	3.6U	3.4U
Endosulfan sulfate	3.8U	3.9U	4U	4U	3.8U	3.5U	3.5U	1.9U	1.9U	1.8U	1.9U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.8U	1.7U
Endrin	3.8U	3.9U	4U	4U	3.8U	3.5U	3.5U	3.8U	3.7U	3.6U	3.6U	3.4U	3.6U	3.8U	3.4U	2.1J	3.4U	10J	3.4U
Endrin aldehyde	3.8U	3.9U	4U	4U	3.8U	3.5U	3.5U	3.8U	3.7U	3.6U	3.6U	3.4U	3.6U	3.8U	3.4U	3.5U	3.4U	3.6U	3.4U
Endrin ketone	3.8U	3.9U	4U	4U	3.8U	3.5U	3.5U	3.8U	3.7U	3.6U	3.6U	3.4U	3.6U	3.8U	3.4U	3.5U	3.4U	3.6U	3.4U
gamma-Chlordane	2U	2U	2.1U	2.1U	1.9U	1.8U	1.8U	1.9U	1.9U	1.8U	1.9U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.8U	1.7U
Heptachlor	2U	2U	2.1U	2.1U	1.9U	1.8U	1.8U	1.9U	1.9U	1.8U	1.9U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.8U	1.7U
Heptachlor epoxide	2U	2U	2.1U	2.1U	1.9U	1.8U	1.8U	1.9U	1.9U	1.8U	1.9U	1.7U	1.8U	2U	1.7U	1.7U	1.7U	1.8U	1.7U
Methoxychlor	20U	20U	21U	21U	19U	18U	18U	19U	19U	18U	19U	17U	18U	20U	17U	17U	17U	18U	17U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-20 : Summary of Detections Site 36 Organics

SHORT ID	0363700	0363800				0363900					0364100			0364400				036606E	
SAMPLE ID	*036S370003*	*036S380003*	*036S380005*	*036S380007*	*036S380009*	*036S390001*	*036S390003*	*036S390005*	*036S390007*	*036S390008*	*036S410001*	*036S410003*	*036S410005*	*036S440001*	*036S440003*	*036S440005*	*036S440007*	*036S606E04*	*036S606E05*
SAMPLE DATE	*1/4/1996*	*1/3/1996*	*1/3/1996*	*1/3/1996*	*1/3/1996*	*1/9/1996*	*1/9/1996*	*1/9/1996*	*1/3/1996*	*1/3/1996*	*1/3/1996*	*1/3/1996*	*1/3/1996*	*1/4/1996*	*1/4/1996*	*1/4/1996*	*1/4/1996*	*5/8/1995*	*5/15/1995*
VOC																			
1,1,1-Trichloroethane	11U	11U	10U	11U	11U	11U	10U	10U	11U	11U	10U	0.2J	10U	4J	10UJ	10U	0.4J	12U	10U
2-Butanone (MEK)	3J	4J	10U	2J	11U	11U	10U	10U	10U	11U	10U	10U	10U	7J	10UJ	3J	5J	12U	10U
2-Hexanone	11U	11U	10U	11U	11U	11U	10U	10U	11U	11U	10U	10U	10U	11U	10UJ	10U	10U	12U	10U
4-Methyl-2-Pentanone (MIBK)	30	42	18	58	21	11U	3J	6J	6J	16	10U	21	10U	27	5UJ	15U	28U	12U	10U
Acetone	30U	97	38U	160	26U	14	12	11	11U	18U	10U	71	16U	26U	10UJ	19U	12U	27U	10UJ
Benzene	11U	11U	10U	11U	11U	11U	10U	10U	11U	11U	10U	10U	10U	11U	10UJ	10U	10U	12U	10U
Chloroform	11U	11U	10U	11U	11U	11U	10U	10U	11U	11U	10U	10U	10U	11U	10UJ	10U	10U	12U	10U
Ethylbenzene	0.8J	11U	2J	11U	11U	11U	10U	10U	11U	11U	1J	3J	10U	2J	2J	10U	10U	12U	10U
Methylene chloride	14U	11U	10U	2J	1J	17U	13U	18U	10U	11U	1J	2J	1J	18	1J	10U	10U	28U	10UJ
Tetrachloroethene	11U	11U	10U	11U	11U	11U	10U	10U	10U	11U	10U	10U	10U	11U	10UJ	10U	10U	12U	10U
Toluene	11U	11U	10U	11U	11U	11U	3J	10U	10U	11U	10U	10U	10U	13U	10UJ	10U	10U	12U	10U
Xylene (Total)	5J	2J	10U	2J	1J	0.6J	0.6J	1J	6J	11U	5J	13	2J	10J	10UJ	10U	10U	12U	10U
SVOC																			
2-Methylnaphthalene	350U	350U	350U	350U	350U	350U	350U	350U	350U	370U	340U	350U	340U	350U	340U	330U	340U	390U	340U
3,3-Dichlorobenzidine	350U	350UJ	350U	350U	350UJ	350U	350U	350U	350U	370UJ	340UJ	350UJ	340UJ	350UJ	340U	330U	340U	390U	340U
4-Chloroaniline	350U	350UJ	350U	350U	350UJ	350U	350U	350U	350U	370UJ	340UJ	350UJ	340UJ	350U	340U	330U	340U	390U	340U
Acenaphthene	350U	350U	350U	350U	350U	350U	350U	350U	350U	370U	340U	350U	340U	350U	340U	330U	340U	390U	340U
Acenaphthylene	350U	350U	350U	350U	350U	28J	350U	350U	350U	370U	110J	350U	340U	350U	340U	330U	340U	390U	340U
Anthracene	350U	350U	350U	350U	350U	11J	6J	350U	350U	370U	53J	350U	340U	350U	340U	330U	340U	390U	340U
Benzo(a)anthracene	11J	350U	350U	350U	350U	72J	46J	13J	15J	370U	160J	21J	16J	8.7J	340U	330U	340U	390U	45J
Benzo(a)pyrene	11J	94U	93U	94U	94U	110	56J	16J	21J	99U	220	26J	18J	9.1J	90U	89U	92U	390U	340U
Benzo(b)fluoranthene	16J	350U	350U	350U	350U	160J	95J	27J	31J	370U	240J	37J	36J	13J	340U	330U	340U	390U	340U
Benzo(g,h,i)perylene	350U	350U	350U	350U	350U	120J	63J	18J	21J	370U	430	27J	20J	350U	340U	330U	340U	390UJ	340UJ
Benzo(k)fluoranthene	350U	350U	350U	350U	350U	49J	31J	350U	350U	370U	110J	16J	11J	350U	340U	330U	340U	390U	340U
bis(2-Ethylhexyl)phthalate (BEHP)	350UJ	20J	14J	16J	16J	350UJ	250UJ	350UJ	350U	370U	28J	170J	130J	350U	340UJ	330UJ	340UJ	390U	340U
Butylbenzylphthalate	350UJ	350U	350U	350U	350U	350UJ	350UJ	350UJ	350UJ	370U	15J	14J	16J	350U	340UJ	330UJ	340UJ	390U	340U
Carbazole	350U	350U	350U	350U	350U	350U	350U	350U	350U	370U	29J	350U	340U	350U	340U	330U	340U	390U	340U
Chrysene	8J	350U	350U	350U	350U	84J	50J	17J	350U	370U	180J	30J	15J	350U	340U	330U	340U	390U	40J
Dibenz(a,h)anthracene	94U	94U	93U	94U	94U	30J	18J	93U	93U	99U	82J	93U	92U	95U	90U	89U	92U	390UJ	340UJ
Dibenzofuran	350U	350U	350U	350U	350U	350U	350U	350U	350U	370U	340U	350U	340U	350U	340U	330U	340U	390U	340U
Di-n-butylphthalate	350U	350U	350U	350U	350U	350U	350U	350U	350U	370U	15J	350U	340U	350U	340U	330U	340U	52J	84J
Di-n-octylphthalate	350UJ	350U	350U	350U	350U	350U	350U	350U	350U	370U	340U	350U	340U	350UJ	340UJ	330UJ	340UJ	390UJ	340U
Fluoranthene	7.2J	350U	350U	350U	350U	73J	48J	16J	16J	370U	280J	33J	25J	10J	340U	330U	340U	62J	340U
Fluorene	350U	350U	350U	350U	350U	350U	350U	350U	350U	370U	14J	350U	340U	350UJ	340U	330U	340U	390U	340U
Indeno(1,2,3-cd)pyrene	6.9J	350U	350U	350U	350U	88J	48J	13J	18J	370U	230J	21J	15J	6.2J	340U	330U	340U	390U	340UJ
Naphthalene	350U	350U	350U	350U	350U	350U	350U	350U	350U	370U	340U	350U	340U	350U	340U	330U	340U	390U	340U
Nitrobenzene	350U	350U	350U	350U	350U	350U	350U	350U	350U	370U	340U	350U	8.7J	350U	340U	330U	340U	390U	340U
Phenanthrene	350U	350U	350U	350U	350U	11J	350U	350U	350U	370U	110J	350U	340U	350U	340U	330U	340U	42J	340U
Pyrene	8.6J	350U	350U	350U	350U	83J	50J	18J	21J	370U	270J	34J	24J	9.4J	340U	330U	340U	50J	340U
PESTICIDES																			
4,4-DDD	3.5U	3.5UJ	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.7U	3.4U	3.5U	3.4U	3.5U	3.4U	3.3U	3.4U	3.9U	3.4UJ
4,4-DDE	3.5U	0.42J	3.5U	3.5U	3.5U	0.55J	3.5U	3.5U	3.5U	3.7U	0.7J	0.56J	3.4U	3.5U	3.4U	3.3U	3.4U	3.9U	0.12J
4,4-DDT	3.5U	3.5UJ	3.5U	3.5U	3.5U	1.4J	3.5U	3.5U	3.5U	3.7U	3.4U	1.4J	3.4U	3.5U	3.4U	3.3U	3.4U	3.9U	0.22J
Aldrin	1.8U	1.8UJ	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	0.096J	1.7U
alpha-BHC	1.8U	1.8UJ	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	2U	1.8UJ
alpha-Chlordane	1.8U	1.8UJ	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	2U	1.7U
Aroclor-1248	35U	35UJ	35U	35U	35U	35U	35U	35U	35U	37U	34U	35U	34U	35U	34U	33U	34U	39U	34UJ
Aroclor-1254	35U	35UJ	35U	35U	35U	35U	35U	35U	35U	37U	34U	35U	34U	35U	34U	33U	34U	39U	33U
Aroclor-1260	35U	35UJ	35U	35U	35U	35U	35U	35U	35U	37U	34U	35U	34U	35U	34U	33U	34U	39U	34UJ
delta-BHC	1.8U	1.8UJ	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	2U	0.17J
Dieldrin	3.4J	0.53J	3.5U	3.5U	0.59J	3.5U	3.5U	3.5U	3.5U	3.7U	2.5J	2.4J	1.2J	0.69J	3.4U	3.3U	3.4U	3.9U	3.4UJ
Endosulfan I	1.8U	1.8UJ	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	2U	1.8UJ
Endosulfan II	3.5U	3.5UJ	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.7U	3.4U	3.5U	3.4U	3.5U	3.4U	3.3U	3.4U	3.9U	0.26J
Endosulfan sulfate	3.5U	3.5UJ	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.7U	3.4U	3.5U	3.4U	3.5U	3.4U	3.3U	3.4U	3.9U	3.3U
Endrin	3.5U	3.5UJ	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.7U	3.4U	3.5U	3.4U	3.5U	3.4U	3.3U	3.4U	3.9U	3.4UJ
Endrin aldehyde	3.5U	3.5UJ	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.5U	3.7U	3.4U	3.5U	3.4U	3.5U	3.4U	3.3U	3.4U	3.9U	3.4UJ
Endrin ketone	3.5U	3.5UJ	3.5U	0.11J	0.39J	0.71J	0.53J	0.31J	0.2U	3.7U	1.4J	3.5U	0.2J	3.5U	3.4U	3.3U	3.4U	3.9U	3.3U
gamma-Chlordane	1.8U	1.8UJ	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	2U	1.7U
Heptachlor	1.8U	1.8UJ	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	2U	1.7U
Heptachlor epoxide	1.8U	1.8UJ	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	1.7U	1.7U	1.8U	2U	0.12J
Methoxychlor	18U	18UJ	18U	18U	18U	18U	18U	18U	18U	19U	18U	18U	18U	18U	17U	17U	18U	3.9U	18UJ

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-20 : Summary of Detections Site 36 Organics

SHORT ID	036606N		036606S		036606W		036627E		036627N		036627S	036627W		036E001	036E002	036E003	036E004
SAMPLE ID	*036S606N04*	*036S606N05*	*036S606S04*	*036S606S05*	*036S606W04*	*036S606W05*	*036S627E02*	*036S627E03*	*036S627N02*	*036S627N03*	*036S627S03*	*036S627W02*	*036S627W03*	*036SE00104*	*036SE00204*	*036SE00304*	*036SE00404*
SAMPLE DATE	*5/8/1995*	*5/15/1995*	*5/8/1995*	*5/15/1995*	*5/8/1995*	*5/15/1995*	*5/8/1995*	*5/19/1995*	*5/8/1995*	*5/19/1995*	*5/8/1995*	*5/8/1995*	*5/19/1995*	*12/29/1995*	*12/29/1995*	*12/29/1995*	*12/29/1995*
VOC																	
1,1,1-Trichloroethane	11U	11U	11U	11U	12U	11U	11U	11U	11U	10U	11U	11U	11U	10U	11U	10U	10U
2-Butanone (MEK)	11U	11U	11U	11U	12U	11U	11U	11U	11U	10U	11U	11U	11U	10U	11U	10U	10U
2-Hexanone	11U	11U	11U	11U	12U	11U	11UJ	11U	11UJ	10U	11U	11UJ	11U	10U	11U	10U	10U
4-Methyl-2-Pentanone (MIBK)	11U	11U	11U	11U	12U	11U	11UJ	11U	11UJ	10U	11U	11UJ	11U	10U	11U	10U	10U
Acetone	21U	11UJ	58U	19UJ	38U	11UJ	19UJ	11UJ	18UJ	19	11UJ	12UJ	26J	60U	11U	27U	14U
Benzene	11U	11U	11U	11U	12U	11U	11U	11U	11U	10U	11U	11U	11U	10U	11U	10U	10U
Chloroform	11U	11U	11U	11U	1J	11U	11U	11U	11U	10U	11U	11U	11U	10U	11U	10U	10U
Ethylbenzene	11U	11U	11U	11U	12U	11U	11U	11U	11U	10U	11U	11U	11U	10U	11U	10U	10U
Methylene chloride	20U	11UJ	30U	11UJ	43U	11UJ	11U	16UJ	11U	10U	11UJ	13U	15UJ	10UJ	11UJ	10UJ	10UJ
Tetrachloroethene	11U	11U	11U	11U	12U	11U	11U	11U	11U	10U	11U	11U	11U	10U	11U	10U	10U
Toluene	11U	11U	11U	11U	12U	11U	11U	11U	11U	10U	11U	11U	11U	10U	11U	10U	10U
Xylene (Total)	11U	11U	11U	11U	12U	11U	11U	11U	11U	10U	11U	11U	11U	10U	11U	10U	10U
SVOC																	
2-Methylnaphthalene	370U	350U	360U	350U	400U	350U	360U	360U	360U	340U	380U	350U	350U	39U	34U	64	40U
3,3-Dichlorobenzidine	370U	350U	360U	350U	400U	350U	360U	360U	360U	340U	350U	350U	350U	390U	340U	340U	400U
4-Chloroaniline	370U	350U	360U	350U	400U	350U	360U	360U	360U	340U	380U	350U	350U	390U	340U	340U	400U
Acenaphthene	370U	350U	360U	350U	400U	350U	360U	360U	360U	340U	350U	350U	350U	19U	17U	140	19U
Acenaphthylene	370U	350U	360U	350U	400U	350U	360U	360U	360U	340U	380U	350U	350U	39U	34U	25J	40U
Anthracene	370U	350U	360U	350U	400U	350U	360U	360U	360U	340U	380U	350U	350U	39U	34U	250	40U
Benzo(a)anthracene	370U	350U	360U	56J	360J	580	360U	52J	74J	340U	110J	350U	350U	39U	42	790	26J
Benzo(a)pyrene	370U	350U	360U	350U	340J	570	360U	37J	90J	340U	380J	350U	350U	39U	44	590	36J
Benzo(b)fluoranthene	370U	350U	42J	130J	660	1300	360U	91J	280J	340UJ	160J	350U	54J	39U	43J	680J	33J
Benzo(g,h,i)perylene	370UJ	350UJ	360U	350UJ	270J	340J	360UJ	360UJ	360UJ	340UJ	380UJ	350UJ	350UJ	39U	29J	310	21J
Benzo(k)fluoranthene	370U	350U	44J	100J	680	1000	360U	110J	250J	340U	380J	350U	70J	39U	37J	530J	40U
bis(2-Ethylhexyl)phthalate (BEHP)	30J	350U	20J	350U	15J	350U	360U	360U	62J	340U	350U	130J	350U	410U	930	340U	400U
Butylbenzylphthalate	46J	350U	360U	350U	400U	350U	360U	360U	52J	340U	42J	160J	350U	390U	340U	1100	400U
Carbazole	370U	350U	360U	350U	400U	350U	360U	360U	360U	340U	350U	350U	350U	390U	340U	300J	400U
Chrysene	370U	350U	360U	61J	410	470	360U	64J	180J	340U	130J	350U	40J	39U	24J	640	28J
Dibenz(a,h)anthracene	370UJ	350UJ	360U	350UJ	74J	150J	360UJ	360UJ	360UJ	340UJ	350UJ	350UJ	350UJ	39U	34U	51	40U
Dibenzofuran	370U	350U	360U	350U	400U	350U	360U	360U	360U	340U	380U	350U	350U	390U	340U	140J	400U
Di-n-butylphthalate	370U	72J	360U	96J	400U	68J	62J	360U	47J	340U	350U	79J	350U	390U	340U	19J	400U
Di-n-octylphthalate	370UJ	350U	360U	350U	400U	350U	360UJ	360UJ	360UJ	340UJ	350UJ	350UJ	350UJ	390UJ	340UJ	340UJ	400UJ
Fluoranthene	34J	350U	360U	52J	410	580	360U	65J	210J	340U	180J	350U	350U	39U	70	1800	63
Fluorene	370U	350U	360U	350U	400U	350U	360U	360U	360U	340U	350U	350U	350U	19U	17U	140	19U
Indeno(1,2,3-cd)pyrene	370U	350UJ	360U	350UJ	240J	300J	360U	360UJ	360U	340UJ	350UJ	350U	350UJ	39U	26J	320	21J
Naphthalene	370U	350U	360U	350U	400U	350U	360U	360U	360U	340U	350U	57J	350U	39U	34U	140	40U
Nitrobenzene	370U	350U	360U	350U	400U	350U	360U	360U	360U	340U	380U	350U	350U	390U	340U	340U	400U
Phenanthrene	370U	350U	360U	350U	400U	43J	360U	42J	170J	340U	65J	350U	350U	39U	34U	1500J	30J
Pyrene	56J	350U	360U	55J	600	500	360U	62J	320J	340U	170J	350U	35J	39U	68	1200	42
PESTICIDES																	
4,4-DDD	3.7UJ	3.3U	3.6U	3.5UJ	4U	3.5UJ	3.6U	3.6U	3.6U	3.4U	3.5U	3.5U	3.5U	0.69	1.2J	0.18U	0.2U
4,4-DDE	3.7UJ	0.096J	3.6U	3.5UJ	4U	3.5UJ	3.6U	3.6U	3.6U	3.4U	2J	0.1J	3.5U	0.2U	0.18U	0.18U	0.2U
4,4-DDT	3.7UJ	3.5UJ	3.6U	3.5UJ	4U	3.3U	3.6U	3.6U	0.61J	3.4U	3.5U	0.39J	3.5U	0.27	0.71J	0.23J	0.2U
Aldrin	1.9UJ	1.7U	0.12J	1.8UJ	0.23J	1.7U	1.8U	1.8U	1.9U	1.8U	0.44J	1.8U	0.57J	0.099U	0.086U	0.087U	0.1U
alpha-BHC	1.9UJ	1.7U	1.9U	1.7U	2U	1.8UJ	1.8U	0.054J	1.9U	1.8U	1.9U	1.8U	1.8U	0.099U	0.086U	0.087U	0.1U
alpha-Chlordane	1.9UJ	1.8UJ	1.9U	1.7U	2U	1.8UJ	1.8U	1.8U	0.18J	1.8U	0.1J	1.8U	1.8U	0.099U	1J	0.087U	0.1U
Aroclor-1248	37UJ	35UJ	36U	35UJ	40U	35UJ	36U	36U	36U	34U	38U	35U	35U	3.9U	3.4U	3.5U	4U
Aroclor-1254	37UJ	33U	36U	33U	40U	33U	36U	36U	36U	34U	38U	35U	35U	3.9U	3.4U	12	4U
Aroclor-1260	37UJ	35UJ	36U	35UJ	40U	35UJ	36U	36U	36U	34U	35U	8J	35U	3.9U	3.4U	3.5U	4U
delta-BHC	1.9UJ	0.31J	1.9U	1.7U	2U	0.46J	1.8U	1.8U	1.9U	1.8U	1.9U	1.8U	0.29J	0.099U	0.086U	0.087U	0.1U
Dieldrin	3.7UJ	3.3U	3.6U	3.3U	4U	3.3U	3.6U	3.6U	3.6U	3.4U	3.5U	3.5U	3.5U	0.2U	0.18U	0.18U	0.2U
Endosulfan I	1.9UJ	1.8UJ	1.9U	1.8UJ	2U	0.092J	1.8U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	0.39J	0.086U	0.087U	0.1U
Endosulfan II	3.7UJ	3.3U	3.6U	3.3U	4U	0.24J	3.6U	3.6U	3.6U	3.4U	3.5U	3.5U	3.5U	0.2U	0.18U	0.18U	0.22
Endosulfan sulfate	3.7UJ	3.5UJ	3.6U	3.5UJ	4U	3.5UJ	3.6U	0.66J	3.6U	3.4U	3.8U	3.5U	0.69J	0.2U	0.18U	0.18U	0.2U
Endrin	3.7UJ	3.5UJ	3.6U	3.5UJ	4U	3.5UJ	3.6U	3.6U	0.33J	3.4U	3.5U	3.5U	3.5U	0.2U	0.18U	0.18U	0.2U
Endrin aldehyde	3.7UJ	3.5UJ	3.6U	3.3U	4U	3.5UJ	3.6U	3.6U	3.6U	3.4U	3.5U	3.5U	3.5U	0.2U	0.18U	0.18U	0.2U
Endrin ketone	3.7UJ	3.3U	3.6U	3.3U	4U	0.41J	3.6U	0.45J	3.6U	3.4U	3.8U	3.5U	3.5U	0.2U	0.16J	0.18U	0.2U
gamma-Chlordane	1.9UJ	1.8UJ	1.9U	1.7U	2U	1.8UJ	1.8U	1.8U	0.071J	0.075J	0.21J	0.099J	0.17J	0.099U	6.9J	0.1U	0.1U
Heptachlor	1.9UJ	1.8UJ	1.9U	0.087J	2U	0.11J	1.8U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	0.099U	0.54J	0.087U	0.1U
Heptachlor epoxide	1.9UJ	1.8UJ	1.9U	1.8UJ	2U	1.8UJ	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	0.099U	2.9J	0.27J	0.1U
Methoxychlor	19UJ	18UJ	19U	18UJ	20U	4.3J	18U	0.58J	19U	18U	0.64J	1.8U	1.8U	0.99U	0.86U	0.87U	1U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-21 : Summary of Detections Site 36 Metals

SHORT ID	0360001		0360002			0360003		0360004		0360005		0360006		0360007		0360008	
SAMPLE ID	*036S000101*	*036S000102*	*036S000201*	*036S000203*	*036S000205*	*036S000301*	*036S000303*	*036S000401*	*036S000403*	*036S000501*	*036S000502*	*036S000601*	*036S000603*	*036S000701*	*036S000703*	*036S000801*	*036S000803*
SAMPLE DATE	*5/4/1994*	*5/4/1994*	*5/4/1994*	*5/4/1994*	*8/10/1993*	*5/4/1994*	*8/10/1993*	*5/4/1994*	*5/4/1994*	*8/10/1993*	*8/10/1993*	*8/17/1993*	*8/17/1993*	*5/2/1994*	*5/2/1994*	*5/2/1994*	*5/2/1994*
METAL																	
Aluminum	1350J	505J	1120J	1190J	1370J	2590	2310	39.6J	41.8	2410	1490	3140	1020	7610	65.7	2400	1170
Antimony	5.5UJ	5.4UJ	5.5UJ	5.4U	5.5U	5.5UJ	5.5UJ	5.3UJ	5.4UJ	5.4UJ	5.9UJ	5.4UJ	5.4UJ	5.7UJ	5.4UJ	5.5UJ	5.5UJ
Arsenic	0.64U	0.95U	0.93U	0.62U	0.63U	5.4	3.5U	1U	0.62U	1.4U	1.5U	1.5U	0.63U	1.9U	0.65U	0.91U	1U
Barium	28.6J	24.5J	4.3J	2.1J	6.7J	86.1	50.6	2.7J	10.3J	13.4J	13.3J	4.8J	5J	2.5J	1.7J	5.3J	5.5J
Cadmium	3.2	1UJ	1.1UJ	1UJ	1.1UJ	0.85U	0.85U	0.82U	0.83U	0.83U	0.91U	0.84U	0.84U	1.1	2.3	0.84U	0.85U
Calcium	2290J	968J	338J	248J	1930	3210	1470	197J	168J	1810	3870	704J	161J	129J	73.5J	2690	430J
Chromium	44.5	1.7J	6	4.1	12.3	2.8	3.2	1.6U	3.3	3.1	3.6	2.7	2.5	7.4	2.1	3	2.3
Cobalt	1.1U	1U	1.1U	1U	1.1U	1.2J	1.7J	1U	1U	1U	1.1U	1U	1U	1.1U	1U	1.1U	1.1U
Copper	14.3	6.4U	6.1U	3.4U	4.5U	43.2	192	1.2J	2J	7.8	7.2	1.9J	1.4J	2.5J	0.94J	4.3J	4.8J
Cyanide (CN)	0.52U	1.2U	1U	1.1U	1.2U	0.53U	0.52U	0.51U	0.52U	0.51U	0.57U	0.52U	0.49U	0.54U	0.5U	0.52U	0.52U
Iron	2650J	582J	1000J	1100J	998J	3500J	3260J	117J	357J	2120J	1790J	2430J	995J	5690J	185J	1670J	1210J
Lead	165	81.5J	58.7J	15.8J	70.6J	1590	201	25.3	30.8	80.6	82	9.5	12.5	9.7	17.1	23.8	45.9
Magnesium	207J	77.2J	67.2J	57.1J	88.5J	283J	167J	23.4U	20.7U	60.9J	60.2J	109J	55.9J	28.9U	14.5U	76.4J	47.4J
Manganese	23.8	6.9J	28.6J	8.9J	14.5J	82	69.2	4.1U	12.9	29.2	17.7	17.3	5.7	11.1	2.7U	41	21.2
Mercury	0.12	0.1UJ	0.11UJ	0.1UJ	0.11UJ	0.14	0.19	0.1U	0.1U	0.11	0.11U	0.1U	0.1U	0.11	0.1U	0.11U	0.11U
Nickel	3.6U	3.6U	3.6U	3.5U	3.6U	3.6J	3.6U	3.5U	3.5U	3.5U	3.9U	3.6U	3.5U	3.7U	3.5U	3.6U	3.6U
Potassium	89.1U	88U	88.7U	86.6U	98.6J	225J	141J	86.1U	87U	87.5U	95.3U	87.9U	87.7U	91.4U	87.5U	88.6U	89.6U
Selenium	1.1U	1U	1.3U	1U	1.1U	1.1U	1.1U	1U	1U	1U	1.1U	1U	1U	1.1U	1U	1.1U	1.1U
Silver	0.76U	0.63UJ	0.63UJ	0.62UJ	0.63UJ	0.64U	0.64U	0.61U	0.62U	0.62U	0.68U	0.63U	0.63U	0.65U	0.62U	0.63U	0.64U
Sodium	35.9J	10.3U	10.1U	6.4U	25.3U	24.2J	21.1J	12.4J	6.8J	21.7J	36.3J	21J	13.9J	26.8J	9.9J	27.7J	16.3J
Vanadium	4J	0.88J	2.1J	2.1J	2.2J	5.7J	4.6J	0.82U	0.83U	4.6J	3.4J	5.3J	1.5J	13.4	0.83U	4.3J	2.5J
Zinc	256J	57.5J	26.8J	9.5U	33.7J	100J	86.7J	5.6UJ	13.9J	42.6J	36.4J	6UJ	7.4UJ	5.1UJ	8.2J	9.6J	18.6J

SHORT ID	0360009				0360010			0360011				0360012				0360013		
SAMPLE ID	*036S000901*	*036S000903*	*036S000905*	*036S000907*	*036S001001*	*036S001003*	*036S001005*	*036S001101*	*036S001103*	*036S001105*	*036S001107*	*036S001201*	*036S001203*	*036S001205*	*036S001207*	*036S001301*	*036S001303*	*036S001305*
SAMPLE DATE	*5/2/1994*	*5/2/1994*	*5/2/1994*	*5/2/1994*	*4/29/1994*	*4/29/1994*	*4/29/1994*	*4/29/1994*	*4/29/1994*	*4/29/1994*	*4/29/1994*	*4/28/1994*	*4/28/1994*	*4/28/1994*	*4/28/1994*	*5/9/1994*	*5/9/1994*	*5/9/1994*
METAL																		
Aluminum	1300	783	122	149	1210	3810	893	2450	686	797	679	929	4780	664	811	808J	297J	320J
Antimony	5.4UJ	5.5UJ	5.5UJ	6.6UJ	6.3U	5.4U	6.8U	5.4U	5.4U	5.5U	6.4U	5.4U	5.4U	5.4U	5.6U	5.4UJ	5.4UJ	5.7UJ
Arsenic	0.89U	0.75U	0.63U	0.76U	0.73U	0.77	0.78U	0.66	0.63U	0.63U	0.74U	0.62U	0.72	0.62U	0.65U	0.74U	0.63U	1U
Barium	4.6J	3.6J	0.68J	0.78J	4.7U	7.8	4.5U	6	1.8	2.2U	2.9U	3.7	5	1.5	2.3	3.4J	7.2J	3.3J
Cadmium	0.83U	0.84U	0.84U	1U	1.2U	1U	1.3U	1U	1U	1.1U	1.2U	1U	1U	1U	1.1U	1UJ	1UJ	1.1UJ
Calcium	6950	617J	205J	649J	94300	2880	58600	37300	239U	147U	312	369	473	765	993	820J	387J	1460
Chromium	1.9J	2.7	2.1	2J	2.3	4.6	4.2	3.2	3.7	2.9	3.1	1.8	5.4	3.3	5.2	2.9	1.8J	6.1
Cobalt	1U	1U	1U	1.3U	1.2U	1U	1.3U	1U	1U	1.1U	1.2U	1U	1U	1U	1.1U	1U	1U	1.1U
Copper	2J	1.3J	0.82J	0.86J	2.1	2.2	1.7	2.1	1.4	1.7	1.9	2	3.1	1.7	1.9	3.8U	5U	4.6U
Cyanide (CN)	0.5U	0.51U	0.51U	0.62U	1.4U	1.2U	1.3U	1.1U	1.2U	1.2U	0.98U	1.2U	0.95U	1.2U	1.3U	1U	1.3U	1.3U
Iron	867J	702J	116J	138J	984	2300	887	1490	538	605	543	575	1970	450	642	669J	505J	569J
Lead	15.6	7.5	2.2	2.6	19.1	14	10.3	18.7	12.6U	12.2U	12.4	16.6	14.5	9.7U	12.8	53.3J	72.3J	30.8J
Magnesium	95.4J	35.6J	15.1J	17.8J	552	44.1U	309	387	13.6U	15.9U	17.6U	25.7U	50.1U	32.3U	32.9U	49J	24U	77.3J
Manganese	27	32.5	5.3U	6.7U	145	25.6	101	128	15.1U	14.9U	32	16.3U	122	17.6U	22.2U	27.2J	33.1J	16.2J
Mercury	0.1U	0.1U	0.1U	0.13U	0.12U	0.1U	0.13U	0.1U	0.1U	0.11U	0.12U	0.1U	0.1U	0.1U	0.11U	0.14J	0.1UJ	0.11UJ
Nickel	3.5U	3.6U	3.6U	4.5J	4.1U	3.5U	4.4U	3.5U	3.5U	3.6U	4.2U	3.5U	3.6U	3.5U	3.7U	3.5U	3.6U	3.7U
Potassium	87.3U	88.1U	88.1U	107U	102U	86.9U	113	87.7U	87.6U	88.6U	103U	86.5U	87.8U	87.1U	105	87.7U	87.8U	91.5U
Selenium	1U	1U	1U	1.3U	1.2U	1U	1.3U	1U	1U	1.1U	1.2U	1U	1U	1U	1.1U	1U	1U	1.1U
Silver	0.62U	0.63U	0.63U	0.76U	1.2U	1U	1.3U	1U	1U	1.1U	1.2U	1U	1U	1U	1.1U	0.63UJ	0.63UJ	0.65UJ
Sodium	59.7J	15.9J	6.9J	9.8J	547J	24.1U	429J	267J	3.8U	3.8U	6.3UJ	6.8U	27.8U	13.6U	15.6J	3.8U	7.9U	3.9U
Vanadium	2.2J	2.1J	0.84U	1U	2.5U	5.9	2.2	4.2	1.6	1.7	1.7	2.1	6.1	1.4	2.1U	1.3J	0.84U	0.87U
Zinc	8.9J	11J	2.3UJ	1.6UJ	5.1U	4.3U	3.5U	8U	5.9U	5.9	4.8	5.9U	8.6U	6.1U	3.9U	8.9U	16.3J	9.6U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-21 : Summary of Detections Site 36 Metals

SHORT ID	0360014			0360015			0360017			0360018			0360019			0360020			
SAMPLE ID	*036S001401*	*036S001403*	*036S001405*	*036S001501*	*036S001503*	*036S001505*	*036S001701*	*036S001703*	*036S001705*	*036S001801*	*036S001803*	*036S001805*	*036S001901*	*036S001903*	*036S001904*	*036S002001*	*036S002003*	*036S002005*	*036S002007*
SAMPLE DATE	*4/29/1994*	*4/29/1994*	*4/29/1994*	*4/28/1994*	*4/28/1994*	*4/28/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*	*4/26/1994*	*4/27/1994*	*4/27/1994*	*4/27/1994*
METAL																			
Aluminum	5050	152	978	1220	407	2120	4920	9710	1220	2050	3330	4460	2550	778	634	3600	12300	5510	330
Antimony	5.6U	5.4U	5.5U	5.9U	5.7U	5.5U	5.4UJ	6.5UJ	6.5UJ	5.4UJ	6.5UJ	6.4UJ	5.5UJ	5.4UJ	5.6UJ	5.5UJ	5.6UJ	5.5UJ	5.6UJ
Arsenic	1.9	0.62U	0.78	0.68U	0.66U	0.69	2.1	2.4U	0.95U	1.3U	1.5U	2U	2.1U	0.91U	1.2U	1.7U	2.9U	1.7U	0.65U
Barium	4.8	1.2	1.6	2	0.8	4.9	7.1	14.5U	2U	5.5U	4.3U	7.3U	6.9U	0.96U	1.6U	4U	7.2U	4.4U	0.68U
Cadmium	1.1U	1U	1.1U	1.1U	1.1U	1.1U	1U	1.2U	1.2U	1U	1.3U	1.2U	1.1U	1U	1.1U	1.1U	1.1U	1U	1.1U
Calcium	303	92.8U	126U	888	303	7060	4020	681	2820	848	814	690	12400	262	2570	449	849	1500	303
Chromium	6.9	3.1	3.4	1.8	1.7	4.6	59.4	11.2	2.7	3.2	3.6	4.9	3.4	2	1.4	3.6	8.5	5.3	0.86U
Cobalt	1.1U	1U	1.1U	1.1U	1.1U	1.1U	1U	1.2U	1.2U	1U	1.3U	1.2U	1.1U	1U	1.1U	1.1U	1.3	1U	1.1U
Copper	2.5	1.6	1.5	0.99	1	1.7	5.2	3.9	2	1.7	1.8	2.3	1.9	0.83	0.65U	1.2	3	0.8	0.65U
Cyanide (CN)	1.2U	1.1U	1.2U	1.3U	1.3U	1.2U	1.3U	1.4U	1.3U	1.2U	1.3U	1.5U	1.1U	1.3U	1.3U	1.3U	1.1U	1.2U	1.3U
Iron	4830	294	749	1000	301	1590	6000	4170	1140	1560	1850	2530	1720	571	540	2180	6170	2950	293
Lead	13.6	23	7.7U	5.1	2.6	5.6U	36.2J	20.8J	11.6J	23.5J	41J	25.8J	6.7J	2.7J	3J	6.9J	4J	5.8J	0.68J
Magnesium	48.7U	8.6U	14.4U	64U	27.4	349	174	111J	79.3U	81.6U	268	76.2U	631	26.1U	116	67.7U	111	54U	16.7U
Manganese	41.2U	7.1U	20U	12.8U	5.5	20.4U	118J	224J	36.7J	61.3J	56.3J	41J	29.6J	9.2J	8J	62.4J	95.1J	55.1J	7.3J
Mercury	0.11U	0.1U	0.11U	0.11U	0.11U	0.11U	0.1U	0.12U	0.12U	0.1U	0.13U	0.12U	0.11U	0.1U	0.11U	0.11U	0.11U	0.1U	0.11U
Nickel	3.6U	3.5U	3.6U	3.9U	3.7U	3.6U	3.5U	5.8U	4.2U	3.5U	4.3U	4.2U	3.6U	3.5U	3.7U	3.6U	4.3U	3.6U	3.7U
Potassium	89.9U	86.7U	88.5U	95.5U	92.3U	88.2U	87.1U	105U	105U	86.8U	105U	103U	89.1U	86.8U	90.8U	88.5U	90.7U	88.1U	90.5U
Selenium	1.1U	1U	1.1U	1.1U	1.1U	1.1U	1U	1.2U	1.6	1U	2	1.2U	1.1U	1U	1.1U	1.1U	1.1U	1U	1.1U
Silver	1.1U	1U	1.1U	1.1U	1.1U	1.1U	0.62U	0.75U	0.75U	0.62U	0.75U	0.74U	0.64U	0.62U	0.65U	0.63U	0.65U	0.63U	0.65U
Sodium	29U	10.1U	8.9U	6U	4U	9.7U	51.6U	34.9	41	34.1	32.2	33.7	35.3	21.8	25.9	28.6	43.6	29.8	21.1
Vanadium	12.3	0.83U	2.2	2.3	1	4.1U	13.4	12.5	1.7	3.1	5	6.9	3.3	1.1	0.86U	4.9	17.1	7.8	0.86U
Zinc	8.9U	7.3U	2U	2.9U	2.4U	5.4	14.5U	10.3	5.1	12.9	8	12	7.4	2.1U	3.6U	4.3U	5	3.7U	0.81U

SHORT ID	0360022		0360023		0360024		0360025		0360026		0360027	0360028		0360029		0360030	0360031	0360032
SAMPLE ID	*036S002201*	*036S002203*	*036S002301*	*036S002303*	*036S002401*	*036S002403*	*036S002501*	*036S002503*	*036S002601*	*036S002603*	*036S002701*	*036S002801*	*036S002803*	*036S002901*	*036S002903*	*036S003001*	*036S003101*	*036S003201*
SAMPLE DATE	*4/28/1994*	*4/28/1994*	*5/9/1994*	*5/9/1994*	*5/9/1994*	*5/9/1994*	*6/28/1994*	*6/28/1994*	*6/28/1994*	*6/28/1994*	*6/28/1994*	*6/29/1994*	*6/29/1994*	*8/13/1993*	*6/29/1994*	*6/29/1994*	*6/29/1994*	*6/29/1994*
METAL																		
Aluminum	1320	826	807J	1350J	169J	770J	2000J	1460J	4630J	155J	1710J	1900J	636J	3510J	512J	841J	2110J	1360J
Antimony	6.3U	6.4U	5.4UJ	6UJ	5.4UJ	5.9UJ	2.1U	2.4U	2.2U	2.7U	2.7U	2.5U	2.7U	2.9U	2.6U	2.4U	2.2U	2.7U
Arsenic	0.84	0.81	0.76U	0.96U	0.75U	1.1U	0.54J	0.66J	1.6J	0.43UJ	0.45J	0.46J	0.43UJ	1.4J	0.42UJ	0.38UJ	0.38J	0.49J
Barium	3.2	3.4	7.3J	7.8J	48.4J	30.1J	3.9U	3U	3U	0.44J	2.7U	6U	1.9U	6.9U	2.2U	1.6U	1.2U	9U
Cadmium	1.2U	1.2U	1UJ	1.2UJ	1UJ	1.1UJ	0.57J	0.29U	0.27J	0.32U	0.53J	0.31U	0.33U	0.36U	0.32U	0.29U	0.27U	0.33U
Calcium	555U	1140	37200	5070	1500	1780	288J	360J	211U	35.3U	378J	374J	867J	6650	236U	228U	143U	4910
Chromium	9.2	8.4	5.7	24.9	1.3J	9.5	3.6	2.8U	5.6	0.49U	3.2U	2.4U	2.3U	5.5	1.5U	1.9U	2.9U	1.5U
Cobalt	1.2U	1.2U	1U	1.2U	1U	1.1U	0.44U	0.51U	0.61J	0.57U	0.57U	0.54U	0.58U	0.62U	0.55U	0.84J	0.48U	1.8J
Copper	3.6	7.7	2.7U	3.6U	8.7U	6U	1.2J	0.51J	1.7J	0.53UJ	3.2J	1.3J	0.61J	1.5J	2.2J	0.56J	1.3J	3.9J
Cyanide (CN)	1.5U	1.3U	1.1U	1.4U	1.1U	1.2U	0.09J	0.12J	0.09J	0.06U	0.12J	0.06U	0.06U	0.21J	0.22J	0.06J	0.07J	0.07U
Iron	2000	11500	724J	1710J	506J	2290J	1730J	1660J	4250J	141J	1530J	1170J	916J	4690J	1000J	1570J	1160J	469J
Lead	22.4	336	14.6J	17.4J	156J	88.2J	30.3	9.4	9.7	2.3	70.5	15.7	15	17.6	29.1	16.2	26.3	33.6
Magnesium	312	145	239J	64.7J	96J	223J	27.3J	29.1J	20J	11.6J	66J	13.4J	10.6J	55.4J	9.3J	21.6J	8.3J	953J
Manganese	29.2	41.6	31.1J	17.7J	66.4J	47.6J	54.3	9.8	89	4.6	24.8	66.2	9.3	51.5	3.2	12.5	13.1	48.4
Mercury	0.12U	0.12U	0.1UJ	0.12UJ	0.27J	0.11UJ	0.01U	0.04U	0.03U	0.04U	0.04U	0.03J	0.03J	0.11	0.07J	0.05U	0.03U	0.06J
Nickel	4.1U	4.2U	3.5U	3.9U	3.5U	3.9U	1.1U	1.2U	1.2U	1.4U	1.4U	1.3U	1.4U	1.7U	1.4U	1.3U	1.2U	1.4U
Potassium	102U	103U	87.3U	96.8U	87.1U	95.8U	88U	89.3U	85.2U	99.8U	101U	94.9U	102U	123U	111U	90.1U	112U	276U
Selenium	1.2U	1.2U	1U	1.2U	1U	1.1U	0.49U	0.56U	0.52U	0.63U	0.63U	0.6U	0.64U	0.69U	0.61U	0.57U	0.53U	0.63U
Silver	1.2U	1.2U	0.62UJ	0.69UJ	0.62UJ	0.68UJ	0.42U	0.49U	0.45U	0.55U	0.55U	0.52U	0.56U	0.6U	0.53U	0.49U	0.46U	0.55U
Sodium	7.7U	6.9U	271J	35.8U	66.5J	21.4U	3.3U	3.7U	4.2U	3.1U	3.7U	3.9U	7.3U	20U	3U	8.5U	4.8U	28.3U
Vanadium	3	1.9	2J	5.2J	0.83U	3.9J	5.2J	8.3J	13.9	0.71U	5.3J	4.4J	1.9J	15.8	2J	4.4J	4.8J	3J
Zinc	13.5U	13.5U	11.2U	13U	32.5J	38.3J	8.8UJ	1.7UJ	9.7UJ	0.8UJ	12.8UJ	4.4UJ	3.5UJ	6.1UJ	2.7UJ	7UJ	6.5UJ	14.3UJ

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-21 : Summary of Detections Site 36 Metals

SHORT ID	0360033		0360034	0360035		0360036		036031C		036031S	036032C		036032E		036073E		036073N	036073W	
SAMPLE ID	*036S003301*	*036S003303*	*036S003401*	*036S003501*	*036S003503*	*036S003601*	*036S003603*	*036S031C02*	*036S031C04*	*036S031S02*	*036S032C02*	*036S032C06*	*036S032E04*	*036S032E08*	*036S073E02*	*036S073E04*	*036S073N03*	*036S073W02*	*036S073W04*
SAMPLE DATE	*8/13/1993*	*6/29/1994*	*6/29/1994*	*6/29/1994*	*8/12/1993*	*7/17/1994*	*7/17/1994*	*2/11/1993*	*2/11/1993*	*2/12/1993*	*2/11/1993*	*2/11/1993*	*2/11/1993*	*2/11/1993*	*2/17/1993*	*2/17/1993*	*2/17/1993*	*2/16/1993*	*2/16/1993*
METAL																			
Aluminum	218J	19.2UJ	1990J	148J	777J	2370	1510	2850	68.3	776	5610	26.7	120	12.3J	495J	222J	1690J	543J	220J
Antimony	2.1U	2.1U	2.4U	2.8U	2.3U	2.7UJ	2.6UJ	2.8U	2.8U	3.1U	2.9U	1.7U	3.1J	1.8U	1.8U	2U	1.8U	2.1U	1.6U
Arsenic	0.33UJ	0.34UJ	1.3J	0.45UJ	0.37UJ	0.44U	0.49J	1.1J	0.27J	0.89J	0.95J	0.17U	2.8	0.2U	2.4J	0.8J	2.6J	4.8J	0.39J
Barium	21.6J	1.6U	33J	1.6U	2.8U	2.2J	4J	7.5J	0.81J	8.3J	22.8J	1.3J	27.4J	0.52J	17.4J	8.5J	8.8J	44.7	6.5J
Cadmium	0.25U	0.26U	0.46J	0.34U	0.28U	0.34U	0.31U	0.59U	0.61U	0.66U	0.62U	0.8	1.6	0.38U	0.4U	0.42U	0.39U	0.5J	0.34U
Calcium	741J	47.2U	10600	269U	4740	2030	1650	1510	48.8J	320J	2330	46.9J	731J	52J	5220J	263J	4250	1950	186J
Chromium	0.55U	0.46U	5.1	0.62U	1.9U	1.7J	1.4J	5	1.2J	3.2	5.9	50.1	5.8	0.81J	1.3J	0.42U	2.9J	2.9J	1.9J
Cobalt	4.2J	0.45U	5.2J	6.2J	0.65J	1J	1.5J	0.66J	0.4U	0.58J	0.48J	0.25U	4.2J	0.25U	0.26J	0.28U	0.45J	0.3U	0.28J
Copper	1.1J	0.42UJ	10.2	0.56UJ	0.46UJ	1.1J	2J	4.4J	0.43J	2.4J	5.5	4.5	227	1J	18.8	10.5	15	33.8	6.7
Cyanide (CN)	0.07U	0.07U	0.28J	0.07U	0.08J	0.07U	0.07U	0.34J	0.22U	0.19U	0.2U	0.19U	0.35J	0.2U	0.19U	0.32J	0.18U	0.21U	0.18U
Iron	1140J	37.4UJ	2870J	274J	1240J	2490	2160	1640	200	1580	4000	558	26400	17.7	935J	498J	2580J	1280J	1570J
Lead	167	6.7	38.7	21.6	19.5	12.1	31.2	41.9	2.6	36.3	10	13.7	1310	2.2	114J	61.7J	97.3J	498J	163J
Magnesium	32.8J	3.9U	187J	10.8J	37.8J	49.9U	170J	88.1J	19.7J	188J	142J	4J	32.5J	6.7J	173J	82.6J	157J	244J	18.6J
Manganese	10.3	1.8J	19.8	1.2UJ	8.5	38.6	16.6	129	1.4J	36.2	344	5.9	183	0.97J	57.7	8.3	89.7	25.3	11.8
Mercury	0.03U	0.04U	0.05U	0.04U	0.03U	0.04UJ	0.15	0.05U	0.06U	0.07U	0.06U	0.04U	0.98	0.08U	0.1	0.07	0.06	1.5	0.04
Nickel	1.1U	1.1U	1.9U	1.5U	1.3U	1.4UJ	1.3UJ	2U	2U	2.2U	2.1U	3.8J	6.9J	1.3U	1.3U	1.4U	1.4J	1.5U	1.1U
Potassium	77.2U	79.3U	240U	106U	87.1U	158J	96.2U	52.6J	32.2U	73.7J	62.6J	23.5J	69.4J	20.2U	53.1J	22.5U	51.7J	30J	17.9U
Selenium	0.49U	0.5U	0.58U	0.66U	0.55U	0.65U	0.6U	0.26J	0.35J	0.16J	0.66J	0.38J	0.24J	0.28J	0.15U	0.15U	0.14J	0.25J	0.11J
Silver	0.42U	0.43U	0.5U	0.58U	0.48U	0.57U	0.53U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sodium	18.5U	2.5U	27.1U	8.9U	4.1U	22.1U	18.4U	23.8J	8.4J	16.7J	32.9J	8J	31.1J	11.9J	44.1J	13J	41.6J	29J	7.1J
Vanadium	0.86J	0.56U	7.1J	0.75U	6.3J	4.7J	4.4J	4.3J	0.61U	1.7J	10.1J	0.37U	2.8J	0.38U	2J	0.52J	3.5J	1.4J	1.8J
Zinc	16.3J	2.3UJ	36.8J	2.9UJ	4.1UJ	5.1U	11.1J	13.9	1.9J	16.5	4.5	5.1	356	2.4J	39.2	23.4	152	198	16.8

SHORT ID	0363700	0363800				0363900					0364100			0364400				036606E	
SAMPLE ID	*036S370003*	*036S380003*	*036S380005*	*036S380007*	*036S380009*	*036S390001*	*036S390003*	*036S390005*	*036S390007*	*036S390008*	*036S410001*	*036S410003*	*036S410005*	*036S440001*	*036S440003*	*036S440005*	*036S440007*	*036S606E04*	*036S606E05*
SAMPLE DATE	*1/4/1996*	*1/3/1996*	*1/3/1996*	*1/3/1996*	*1/3/1996*	*1/9/1996*	*1/9/1996*	*1/9/1996*	*1/3/1996*	*1/3/1996*	*1/3/1996*	*1/3/1996*	*1/3/1996*	*1/4/1996*	*1/4/1996*	*1/4/1996*	*1/4/1996*	*5/8/1995*	*5/15/1995*
METAL																			
Aluminum	1000	1150	1290	630	424	3240	1410	589	316	93.6U	2470	1700	1560	4380	1040	86.9U	49U	252J	1190J
Antimony	0.5J	0.3J	0.26J	0.39J	0.46J	0.44U	0.72U	0.48U	0.36J	0.31J	0.26U	0.3J	0.27J	0.26U	0.3U	0.3U	0.3U	0.41UJ	0.4UJ
Arsenic	0.67U	0.79U	0.34U	0.35U	0.35U	1.3	0.71	0.5J	0.38U	0.47U	0.79U	1U	0.48U	1.2U	0.47U	0.27U	0.12U	0.69U	0.67U
Barium	3.4J	9.6J	6.8J	1.3U	1.2U	6.3J	2.1J	7.7J	12.7J	2.5U	7.2J	11.9J	6.1J	10.6J	3.3J	1.5U	0.49U	7.4J	3.5J
Cadmium	0.02U	0.05U	0.02U	0.02U	0.02U	0.1U	0.02U	0.06U	0.11U	0.02U	0.05U	0.2U	0.03U	0.02U	0.02U	0.02U	0.02U	0.06U	0.06U
Calcium	127U	8570	1170	1390	836	60000	372	977	834	30.4U	629	649	367U	29400	597	201U	170U	173J	174J
Chromium	1.1U	2.2	1.5U	1U	0.87U	3.4	1.9U	2U	1.9U	0.64U	3.5	3.5	2.3	5.2	1.5U	0.56U	0.4U	1J	1.3J
Cobalt	0.2J	0.21J	0.17J	0.1J	0.08J	0.37J	0.16J	0.15J	0.14J	0.08U	0.3J	0.35J	0.21J	0.44J	0.17J	0.08U	0.08U	0.13U	0.13J
Copper	1.7U	1.9U	0.82U	0.57U	0.42U	2.4J	1.7U	4.9	16.5	0.88U	3.7U	4.8U	2.4U	5U	2U	2.1U	1.2U	3.6J	7.7
Cyanide (CN)	0.27U	0.27U	0.26U	0.27U	0.26U	0.27UJ	0.26UJ	0.96J	0.26U	0.28U	0.26U	0.26U	0.26U	0.27U	0.25U	0.25U	0.26U	0.54U	0.52U
Iron	797	1600	1300	723	444	2000	1140	890	2210	107	2080	3240	1210	4360	705	225	90.4	568J	958J
Lead	14.7	24	4.2	2.8	6.1	17.2	16	69.4	116	12.1	32.6	46	22.9	8.5	37.9	28.5	5.8	66.3J	22.6J
Magnesium	21.8U	135	72.2	30U	22.5U	433	17.4U	35.8J	21.1U	5.3U	162	127	75	290	34.8U	8.8U	3.2U	11U	36.7J
Manganese	71.1	20.4	6.6	4	3.2	130	33.3	10.3	13.3	4.2	45.3	52.7	29.4	171	48.8	14.5	3.7	7.4	7
Mercury	0.03U	0.01U	0.01U	0.01U	0.01U	0.01UJ	0.03J	0.14	0.29	0.01U	0.02U	0.03U	0.03U	0.02U	0.01U	0.35	0.02U	0.12	0.27
Nickel	0.57U	0.86U	0.73U	0.48U	0.44U	0.8U	0.31U	0.36U	0.93U	0.31U	0.88U	0.99U	0.67U	1.1U	0.57U	0.33U	0.2U	0.3U	0.29U
Potassium	20.2U	28U	28.2U	8.4U	9.3U	51.3J	10.6J	15.7J	9.2J	8.1U	48.6U	30U	21.3U	51.7U	15.1U	7.4U	7.6U	14.2J	24.8J
Selenium	0.27U	0.27U	0.27U	0.27U	0.27U	0.27U	0.27U	0.27U	0.27U	0.29U	0.27U	0.27U	0.27U	0.28U	0.26U	0.26U	0.27U	0.94U	0.92U
Silver	0.14UJ	0.14UJ	0.14UJ	0.14UJ	0.14UJ	0.14U	0.13U	0.14U	0.14U	0.14UJ	0.13UJ	0.13UJ	0.13U	0.14U	0.13UJ	0.13UJ	0.13UJ	0.11UJ	0.1UJ
Sodium	4J	60.1	14.6J	16.7J	10.2J	403	14U	15.6U	6.7J	5.2J	15.2J	12.9J	9.4J	205	12.2J	5.8J	6.1J	123J	102J
Vanadium	1.8J	3.6J	2.2J	1U	0.74U	5.3J	3J	1.1U	1.2U	0.23U	4.9J	4.5J	3.1J	11	1.7U	0.24U	0.1U	0.65J	2.1J
Zinc	4U	7.1U	2.7U	1.9U	1.5U	10.7J	8.8J	31.1J	57.3J	7.4U	20U	22.1J	11.2U	8.2U	7.8U	9.8U	2.9U	28.6	14.6

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-21 : Summary of Detections Site 36 Metals

SHORT ID	036606N		036606S		036606W		036627E		036627N		036627S	036627W		036E001	036E002	036E003	036E004
SAMPLE ID	*036S606N04*	*036S606N05*	*036S606S04*	*036S606S05*	*036S606W04*	*036S606W05*	*036S627E02*	*036S627E03*	*036S627N02*	*036S627N03*	*036S627S03*	*036S627W02*	*036S627W03*	*036SE00104*	*036SE00204*	*036SE00304*	*036SE00404*
SAMPLE DATE	*5/8/1995*	*5/15/1995*	*5/8/1995*	*5/15/1995*	*5/8/1995*	*5/15/1995*	*5/8/1995*	*5/19/1995*	*5/8/1995*	*5/19/1995*	*5/8/1995*	*5/8/1995*	*5/19/1995*	*12/29/1995*	*12/29/1995*	*12/29/1995*	*12/29/1995*
METAL																	
Aluminum	561J	293J	424J	1040J	66.9U	2850J	155J	2450J	408J	560J	806J	367J	583J	64.4	2140	3320	2480
Antimony	0.43UJ	0.4UJ	0.42UJ	0.4UJ	0.46UJ	0.4UJ	0.41UJ	0.41UJ	0.42UJ	0.39UJ	0.42J	0.41UJ	0.4UJ	0.1UJ	0.11UJ	0.11UJ	0.11UJ
Arsenic	1.9J	0.68U	0.7U	0.68U	0.77U	0.68J	0.7U	0.69U	0.7U	0.66U	4.9	0.7U	0.99J	0.1UJ	0.36J	0.59J	0.52J
Barium	4.8J	2.6J	38.6J	4.9J	1.4J	3.7J	12.3J	21.2J	306	4.9J	22.8J	66.6	8.7J	0.49J	3J	3.1J	2.5J
Cadmium	0.19J	0.06U	0.07U	0.06U	0.61J	0.06U	0.07U	0.08J	0.07U	0.06U	0.83J	0.34J	0.06U	0.16UJ	0.16UJ	0.16UJ	0.17UJ
Calcium	249J	184J	391J	207J	84.5J	469J	389J	601J	1370	210J	1320	525J	606J	66J	995J	8660J	253J
Chromium	2.5	1.5J	1.5J	1.5J	0.5J	2.5	0.47J	2.7	2.4	0.85J	5.8	7.4	1.1J	0.41U	2.6	2.7	2
Cobalt	0.13U	0.13U	0.15J	0.18J	0.14U	0.18J	0.13U	0.61J	0.42J	0.14J	0.33J	0.13U	0.35J	0.16U	0.25J	0.19J	0.24J
Copper	8	6.2	8.5	3.7J	5210	3.3J	3.7J	25.9	16	9.6	33.1	26.8	20.6	0.21U	2.6	2.5	1.5
Cyanide (CN)	0.56U	0.53U	0.55U	0.53U	0.6U	0.52U	0.55U	NS	0.55U	0.52U	0.55U	0.54U	0.52U	0.5U	0.51U	0.5U	0.51U
Iron	645J	443J	885J	946J	279J	1720J	194J	2490J	4530J	913J	1220J	495J	1510J	66.5J	1050J	1620J	1240J
Lead	87.2J	42.6J	170J	28.8J	46.7J	17.1J	42.4J	69.5J	300J	22.4J	122J	231J	61.2J	1.2	27.1	26.4	15.5
Magnesium	21.8U	14.6U	29.2U	95.6J	12.9U	66.6J	68.1J	84.2J	126J	44.8J	115J	50.6J	49J	8J	30.2J	89.4J	25.7J
Manganese	16	7.8	23.2	10	6.9	15.7	6.9	86	44.5	8.7	16.6	6.4	19.4	4.4J	39.4J	22J	22.1J
Mercury	0.18	0.11U	0.14	0.11U	0.48	0.1U	0.11U	0.11U	0.24	0.1U	0.14	0.2	0.1U	0.04U	0.04U	0.05U	0.04U
Nickel	0.31U	0.3U	0.31U	0.3U	0.34U	0.29U	3.8J	1.2U	0.31U	0.34U	0.32U	0.3U	0.9U	0.62U	0.87J	0.89J	1.3J
Potassium	19.1J	18.2J	22.2J	35J	9.1J	31.2J	50.9J	138J	31.5J	60.8J	72.9J	26.5J	38.3J	5UJ	9.8J	15.8J	15.3J
Selenium	0.99U	0.93U	0.96U	0.94U	1.1U	0.92U	0.96U	0.94U	0.96U	0.91U	1U	0.96U	0.92U	0.16U	0.16U	0.16U	0.17U
Silver	0.11UJ	0.11UJ	0.11UJ	0.11UJ	1.6J	0.1UJ	0.11UJ	0.11UJ	0.11UJ	0.1UJ	0.12UJ	0.11UJ	0.1UJ	0.21U	0.21U	0.22U	0.23U
Sodium	134J	101J	161J	117J	158J	93.9J	138J	146J	183J	137J	182J	160J	134J	2.4U	13U	67.3J	5.8U
Vanadium	1.2J	0.69J	0.89J	2.1J	0.22J	4.4J	0.28J	4.3J	1.2J	1.3J	4.6J	1.1J	1.5J	0.2J	3.1J	4.5J	3.4J
Zinc	44.8	9.7	79.6	15	274	13.8	29.9	52.7	245	18.2	247	46.4	42.4	2.4	7.8	8.8	4.2

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-22 : Summary of Detections Groundwater Site 36 Organics

SHORT ID	0360001	0360002	0360003	0360004	0360005	0360006	0360007	0360008	0360009	0360010	0360011	0360012	0360013	0360014	0360015	0360016	0360017	0360018	0360019
SAMPLE ID	*036G000100*	*036G000200*	*036G000300*	*036G000400*	*036G000500*	*036G000600*	*036G000700*	*036G000800*	*036G000900*	*036G001000*	*036G001100*	*036G001200*	*036G001300*	*036G001400*	*036G001500*	*036G001600*	*036G001700*	*036G001800*	*036G001900*
SAMPLE DATE	*5/5/1994*	*5/5/1994*	*5/5/1994*	*5/5/1994*	*5/5/1994*	*5/4/1994*	*5/4/1994*	*5/4/1994*	*5/4/1994*	*4/20/1995*	*4/20/1995*	*4/24/1995*	*5/10/1994*	*5/10/1994*	*4/24/1995*	*5/2/1994*	*5/2/1994*	*5/2/1994*	*5/2/1994*
VOC																			
1,1,1-Trichloroethane	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	79	10U	10U	10U	10U
1,1,2-Trichloroethane	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	9J	10U	10U	10U	4J
1,1-Dichloroethene	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	8J	10U	10U	10U	10U
1,2-Dichlorobenzene	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
1,2-Dichloroethane	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,3-Dichlorobenzene	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
1,4-Dichlorobenzene	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
4-Methyl-2-Pentanone (MIBK)	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Acetone	19U	80U	10UJ	35U	21U	10U	10U	12U	90U	10U	18U	18U	13U	10U	12U	40U	83U	9U	42U
Benzene	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroethane	10UJ	10UJ	10UJ	10U	10UJ	10U	10U	10UJ	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloroform	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloromethane	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	6J	10U	10U	10U	10U	10U
Tetrachloroethene	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Xylene (Total)	10U	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	49	10U	10U	10U	10U	10U
SVOC																			
1,2-Dichlorobenzene	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
1,3-Dichlorobenzene	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
1,4-Dichlorobenzene	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
2,4-Dichlorophenol	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
2,4-Dimethylphenol	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
2-Methylnaphthalene	11UJ	11UJ	11UJ	11UJ	10UJ	11UJ	11UJ	11UJ	11UJ	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
3-Methylphenol/4-Methylphenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methylphenol (p-Cresol)	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
Acenaphthene	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
Anthracene	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
bis(2-Ethylhexyl)phthalate (BEHP)	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
Butylbenzylphthalate	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11UJ	11U	11U	11U	11U
Carbazole	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
Fluorene	11UJ	11UJ	11UJ	11UJ	10UJ	11U	11U	11U	11U	11UJ	11UJ	11UJ	10U	10U	11UJ	11U	11U	11U	11U
Naphthalene	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
Phenanthrene	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
Phenol	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	10J	11U
Pyrene	11U	11U	11U	11U	10U	11U	11U	11U	11U	11U	11U	11U	10U	10U	11U	11U	11U	11U	11U
PESTICIDES																			
beta-BHC	0.055U	0.057U	0.02J	0.053U	0.052U	0.053U	0.052U	0.054U	0.057U	0.053U	0.059U	0.054U	0.06U	0.05U	0.052U	0.055U	0.056U	0.056U	0.054U
gamma-Chlordane	0.055U	0.057U	0.053U	0.053U	0.052U	0.053U	0.052U	0.054U	0.057U	0.053U	0.059U	0.02J	0.06U	0.05U	0.052U	0.01J	0.056U	0.056U	0.054U
Heptachlor epoxide	0.055U	0.057U	0.053U	0.053U	0.052U	0.053U	0.052U	0.054U	0.057U	0.053U	0.059U	0.01J	0.05U	0.053U	0.052U	0.055U	0.056U	0.056U	0.054U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-22 : Summary of Detections Groundwater Site 36 Organics

SHORT ID	0360020	0360021	0360022	0360GR3		0360GR7	036ABB1	036GR14	036GR15	036GR37	036GR38	036GR39	036GR40	036GR41	036GR42	036GR43	036GR44	036GR45	036GR46
SAMPLE ID	*036G002000*	*036G002100*	*036G002200*	*036G0GR31C*	*036G0GR32C*	*036G0GR75N*	*036GABB101*	*036GGR1402*	*036GGR1502*	*036GGR3701*	*036GGR3801*	*036GGR3901*	*036GGR4001*	*036GGR4101*	*036GGR4201*	*036GGR4301*	*036GGR4401*	*036GGR4501*	*036GGR4601*
SAMPLE DATE	*5/2/1994*	*5/2/1994*	*5/11/1994*	*2/24/1993*	*2/24/1993*	*2/26/1993*	*9/27/1996*	*12/8/1994*	*4/25/1995*	*1/5/1996*	*1/4/1996*	*1/9/1996*	*1/5/1996*	*1/4/1996*	*1/5/1996*	*1/9/1996*	*1/5/1996*	*1/5/1996*	*1/8/1996*
VOC																			
1,1,1-Trichloroethane	2J	10U	10U	10U	10U	10U	0.1U	5U	54	1UJ	1UJ	1U	1UJ	1UJ	1U	1U	1UJ	1UJ	1U
1,1,2-Trichloroethane	10U	10U	10U	10U	10U	10U	0.3U	5U	3U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
1,1-Dichloroethane	10U	10U	10U	10U	10U	10U	0.1U	5U	16	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
1,1-Dichloroethene	10U	10U	10U	10U	10U	10U	0.2U	5U	5	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
1,2-Dichlorobenzene	10U	11U	11U	11U	12U	11U	0.4U	5U	3U	1U	10U	10U	10U	10U	1U	10U	1U	10U	10U
1,2-Dichloroethane	10U	10U	10U	10U	10U	11	0.1U	5U	3U	1U	1U	1U	1U	1U	1U	0.6J	1U	1U	1U
1,3-Dichlorobenzene	10U	11U	11U	11U	12U	11U	0.3U	5U	3U	10U	1U	1U	1U	1U	1U	10U	1U	10U	1U
1,4-Dichlorobenzene	10U	11U	11U	11U	12U	11U	0.4U	5U	3U	1U	1U	10U	1U	10U	1U	1U	10U	1U	10U
4-Methyl-2-Pentanone (MIBK)	10U	10U	10U	10U	10U	10U	0.2U	25U	14U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Acetone	5U	10U	23UJ	61	10U	10U	16J	25UR	14UR	13U	14U	11	18U	5U	7U	14	11U	15U	12UJ
Benzene	10U	10U	10U	10U	10U	10U	0.1U	5U	3U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Chlorobenzene	10U	10U	3J	10U	10U	10U	0.1U	5U	3U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Chloroethane	10U	10U	10U	10U	10U	10U	0.2U	5U	3U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Chloroform	10U	10U	10U	10U	10U	10U	0.1U	5U	3U	0.4J	0.8J	1U	1U	1U	1U	1U	1U	1U	1U
Chloromethane	10U	10U	10U	10U	10U	10U	0.2U	5	3U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
cis-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	0.3U	5U	3U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Ethylbenzene	10U	10U	10U	10U	10U	10U	0.1U	8	3U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Tetrachloroethene	10U	10U	10U	10U	10U	120	0.2U	5U	3U	1U	1U	1U	0.1J	1U	1U	1U	1U	1U	1U
Toluene	10U	10U	10U	10U	10U	10U	0.1U	5U	3U	1U	0.2J	1U	1U	1U	1U	0.2J	1U	1U	1U
trans-1,2-Dichloroethene	NS	NS	NS	NS	NS	NS	0.3U	5U	3U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Trichloroethene	10U	10U	10U	10U	10U	17	0.1U	5U	3U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Vinyl chloride	10U	10U	10U	10U	10U	6J	0.2U	5U	3U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Xylene (Total)	10U	10U	10U	10U	10U	10U	0.1U	70	3U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
SVOC																			
1,2-Dichlorobenzene	10U	11U	11U	11U	12U	11U	0.4U	5U	3U	1U	10U	10U	10U	10U	1U	10U	1U	10U	10U
1,3-Dichlorobenzene	10U	11U	11U	11U	12U	11U	0.3U	5U	3U	10U	1U	1U	1U	1U	1U	10U	1U	10U	1U
1,4-Dichlorobenzene	10U	11U	11U	11U	12U	11U	0.4U	5U	3U	1U	1U	10U	1U	10U	1U	1U	10U	1U	10U
2,4-Dichlorophenol	10U	11U	11U	11U	12U	11U	NS	NS	NS	4U	4U	4U	4U	4U	4U	4U	4U	4U	4U
2,4-Dimethylphenol	10U	11U	11U	11U	12U	11U	NS	NS	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Methylnaphthalene	10U	11U	11U	11U	12U	11U	NS	NS	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
3-Methylphenol/4-Methylphenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	10U	10U	10U	10U	10U	10U	2J	10U	10U	10U
4-Methylphenol (p-Cresol)	10U	11U	11U	11U	12U	11U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acenaphthene	10U	11U	11U	11U	12U	11U	NS	NS	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Anthracene	10U	11U	11U	11U	12U	11U	NS	NS	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
bis(2-Ethylhexyl)phthalate (BEHP)	1U	11U	11U	11U	12U	11U	NS	NS	NS	10UJ	10U	10U	10UJ	10U	10UJ	10U	10UJ	10UJ	10U
Butylbenzylphthalate	10U	11U	11U	11U	12U	11U	NS	NS	NS	10UJ	10U	10U	0.42J	10U	0.42J	10U	0.6J	10UJ	10U
Carbazole	10U	11U	11U	11U	12U	11U	NS	NS	NS	7.5U	7.5U	7.5U	7.5U	7.5U	7.5U	7.5U	7.5U	7.5U	7.5U
Fluorene	10U	11U	11U	11U	12U	11U	NS	NS	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Naphthalene	10U	11U	11U	11U	12U	11U	NS	NS	NS	6.8U	6.8U	6.8U	6.8U	6.8U	6.8U	6.8U	1.4J	6.8U	6.8U
Phenanthrene	10U	11U	11U	11U	12U	11U	NS	NS	NS	10U	10U	10U	10U	10U	10U	10U	1.3J	10U	10U
Phenol	10U	11U	11U	11U	12U	11U	NS	NS	NS	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Pyrene	10U	11U	11U	11U	12U	11U	NS	NS	NS	10U	10U	10U	10U	10U	10U	10U	0.25J	10U	10U
PESTICIDES																			
beta-BHC	0.054U	0.056U	0.05U	0.054U	0.054U	0.057U	NS	NS	NS	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
gamma-Chlordane	0.054U	0.056U	0.05U	0.054U	0.054U	0.057U	NS	NS	NS	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U
Heptachlor epoxide	0.054U	0.056U	0.05U	0.054U	0.054U	0.057U	NS	NS	NS	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-22 : Summary of Detections Groundwater Site 36 Organics

SHORT ID	036GR47	036GR48	036GR49	036GR51	036GR52	036GR54	036GR55	036GR56	036GS50	036I014	036I030	036I052	036MW06	036MW08	036MW09	036MW22	036MW31	036MW35	036TW01
SAMPLE ID	*036GGR4701*	*036GGR4801*	*036GGR4901*	*036GGR5101*	*036GGR5201*	*036GGR5401*	*036GGR5501*	*036GGR5601*	*036GGS5001*	*036GI01400*	*036GI03000*	*036GI05200*	*036GMW0600*	*036GMW0800*	*036GMW0900*	*036GMW2200*	*036GMW3100*	*036GMW3500*	*036GTW0100*
SAMPLE DATE	*1/8/1996*	*1/8/1996*	*1/8/1996*	*1/8/1996*	*1/10/1996*	*1/10/1996*	*9/27/1996*	*9/27/1996*	*1/8/1996*	*4/24/1995*	*2/24/1993*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*5/23/1995*	*5/23/1995*	*5/23/1995*	*5/23/1995*
VOC																			
1,1,1-Trichloroethane	1U	1U	1U	1U	1UJ	5UJ	0.1U	0.1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1,2-Trichloroethane	1U	1U	1U	1U	1U	5U	6J	0.3U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethane	1U	1U	1U	1U	1U	5U	0.1U	0.1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethene	1U	1U	1U	1U	0.2J	5U	0.2U	0.2U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
1,2-Dichlorobenzene	10U	10U	10U	10U	10U	250U	39DJ	4	10U	10U	10U	11U	10U	11U	11U	11U	12U	310J	1J
1,2-Dichloroethane	1U	1U	1U	1U	1U	5U	0.1U	0.1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	2J
1,3-Dichlorobenzene	1U	10U	1U	1U	1U	250U	72DJ	1	1U	10U	10U	11U	10U	11U	11U	11U	12U	370J	8J
1,4-Dichlorobenzene	10U	10U	10U	1U	10U	250U	43DJ	10	10U	10U	10U	11U	10U	11U	11U	11U	12U	460J	20
4-Methyl-2-Pentanone (MIBK)	5U	5U	5U	5U	5UJ	25UJ	0.2U	0.2U	5U	10U	10U	10U	10U	8J	16	10U	10U	10U	2J
Acetone	5UJ	5UJ	13UJ	18UJ	5UJ	25UJ	0.3UR	0.3UR	25UJ	6U	10U	10U	4U	7U	56U	2U	24U	9U	2U
Benzene	1U	1U	1U	1U	1U	37J	0.1U	8	1U	10U	10U	10U	10U	10U	10U	10U	10U	31	62
Chlorobenzene	1U	1U	1U	1U	1U	5U	5	710D	1U	10U	10U	6J	10U	10U	10U	10U	10U	160	400J
Chloroethane	1U	1U	1U	1U	1U	5U	0.2U	0.2U	1U	10U	10U	2J	10U	10U	10U	10U	10U	10U	10U
Chloroform	1U	1U	1U	1U	1U	5U	0.1U	0.1U	0.1J	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Chloromethane	1U	1U	1U	1U	1U	5U	0.2U	0.2U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
cis-1,2-Dichloroethene	1U	1U	1U	1U	0.9J	2J	0.3U	0.3U	1U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	1U	1U	1U	1U	1U	42J	0.1U	0.1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	14	10U
Tetrachloroethene	1U	1U	1U	1U	0.4J	5U	0.2U	0.2U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	0.7J	0.5J	1U	0.1J	1U	5U	0.1U	0.1U	1U	10U	10U	10U	10U	10U	4J	10U	10U	10U	10U
trans-1,2-Dichloroethene	1U	1U	1U	1U	1U	1J	0.3U	0.3U	1U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	1U	1U	1U	1U	10	5U	0.1U	0.1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Vinyl chloride	1U	1U	1U	1U	1U	5U	0.2U	0.2U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Xylene (Total)	1U	1U	1U	1U	1U	140J	0.1U	0.1U	1U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
SVOC																			
1,2-Dichlorobenzene	10U	10U	10U	10U	10U	250U	39DJ	4	10U	10U	10U	11U	10U	11U	11U	11U	12U	310J	1J
1,3-Dichlorobenzene	1U	10U	1U	1U	1U	250U	72DJ	1	1U	10U	10U	11U	10U	11U	11U	11U	12U	370J	8J
1,4-Dichlorobenzene	10U	10U	10U	1U	10U	250U	43DJ	10	10U	10U	10U	11U	10U	11U	11U	11U	12U	460J	20
2,4-Dichlorophenol	4U	4U	4U	4U	4U	100U	NS	NS	4U	10U	10U	11U	10U	11U	11U	11U	12U	4J	10U
2,4-Dimethylphenol	10U	10U	10U	10U	10U	81J	NS	NS	10U	10U	10U	11U	10U	11U	11U	11U	12U	11U	10U
2-Methylnaphthalene	10U	10U	10U	10U	10U	700	NS	NS	10U	10U	10U	11UJ	10U	8J	4J	7J	12U	15	10U
3-Methylphenol/4-Methylphenol	10U	10U	10U	10U	1.3J	250U	NS	NS	10U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4-Methylphenol (p-Cresol)	NS	NS	NS	NS	NS	NS	NS	NS	NS	10U	10U	11U	10U	11U	11U	11U	12U	11U	10U
Acenaphthene	10U	10U	10U	0.65J	10U	22J	NS	NS	10U	10U	10U	11U	10U	11U	11U	11U	12U	11U	2J
Anthracene	10U	10U	10U	10U	10U	18J	NS	NS	10U	10U	10U	11U	10U	11U	11U	11U	12U	11U	10U
bis(2-Ethylhexyl)phthalate (BEHP)	10U	10U	10U	10U	1.3J	250UJ	NS	NS	10U	10U	10U	2U	10U	11U	11U	11U	12U	11U	10U
Butylbenzylphthalate	10U	10U	10U	10U	10U	250U	NS	NS	10U	10U	10U	11U	10U	11U	11U	11U	12U	11U	10U
Carbazole	7.5U	7.5U	7.5U	7.5U	7.5U	22J	NS	NS	7.5U	10U	10U	11U	10U	11U	11U	11U	12U	11U	10U
Fluorene	10U	10U	10U	10U	10U	61J	NS	NS	10U	10U	10U	11U	10U	11U	11U	11U	12U	11U	10U
Naphthalene	6.8U	6.8U	6.8U	6.8U	6.8U	210	NS	NS	6.8U	10U	10U	11U	10U	2J	11U	50	12U	80	10U
Phenanthrene	10U	10U	10U	10U	10U	140J	NS	NS	10U	10U	10U	11U	10U	11U	11U	11U	12U	11U	10U
Phenol	10U	10U	10U	10U	10U	250U	NS	NS	10U	10U	10U	1J	10U	11U	11U	11U	12U	11U	10U
Pyrene	10U	10U	10U	10U	10U	7.5J	NS	NS	10U	10U	10U	11U	10U	11U	11U	11U	12U	11U	10U
PESTICIDES																			
beta-BHC	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05U	NS	NS	0.05U	0.051U	0.052U	0.056U	0.058U	0.052U	0.062U	0.056U	0.054U	0.06U	0.053U
gamma-Chlordane	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05U	NS	NS	0.05U	0.051U	0.052U	0.056U	0.058U	0.052U	0.062U	0.056U	0.054U	0.06U	0.053U
Heptachlor epoxide	0.05U	0.05U	0.05U	0.05U	0.05UJ	0.05U	NS	NS	0.05U	0.051U	0.052U	0.056U	0.058U	0.052U	0.062U	0.056U	0.054U	0.06U	0.053U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-22 : Summary of Detections Groundwater Site 36 Organics

SHORT ID SAMPLE ID SAMPLE DATE	036TW09 *036GTW0900* *5/23/1995*	036TW13 *036GTW1300* *5/23/1995*
VOC		
1,1,1-Trichloroethane	10U	10U
1,1,2-Trichloroethane	10U	10U
1,1-Dichloroethane	10U	10U
1,1-Dichloroethene	10U	10U
1,2-Dichlorobenzene	11U	11U
1,2-Dichloroethane	10U	10U
1,3-Dichlorobenzene	11U	11U
1,4-Dichlorobenzene	11U	11U
4-Methyl-2-Pentanone (MIBK)	10U	10U
Acetone	4U	8U
Benzene	10U	10U
Chlorobenzene	10U	4J
Chloroethane	10U	10U
Chloroform	10U	10U
Chloromethane	10U	10U
cis-1,2-Dichloroethene	NS	NS
Ethylbenzene	10U	10U
Tetrachloroethene	10U	10U
Toluene	10U	10U
trans-1,2-Dichloroethene	NS	NS
Trichloroethene	10U	10U
Vinyl chloride	10U	10U
Xylene (Total)	10U	10U
SVOC		
1,2-Dichlorobenzene	11U	11U
1,3-Dichlorobenzene	11U	11U
1,4-Dichlorobenzene	11U	11U
2,4-Dichlorophenol	11U	11U
2,4-Dimethylphenol	11U	11U
2-Methylnaphthalene	11U	11U
3-Methylphenol/4-Methylphenol	NS	NS
4-Methylphenol (p-Cresol)	11U	11U
Acenaphthene	11U	11U
Anthracene	11U	11U
bis(2-Ethylhexyl)phthalate (BEHP)	11U	11U
Butylbenzylphthalate	11U	11U
Carbazole	11U	11U
Fluorene	11U	11U
Naphthalene	11U	11U
Phenanthrene	11U	11U
Phenol	11U	11U
Pyrene	11U	11U
PESTICIDES		
beta-BHC	0.061U	0.062U
gamma-Chlordane	0.061U	0.062U
Heptachlor epoxide	0.061U	0.062U

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R or UR: Data Rejected
D: Diluted

Table A-23 : Summary of Detections Groundwater Site 36 Metal

SHORT ID	0360001	0360002	0360003	0360004	0360005	0360006	0360007	0360008	0360009	0360010	0360011	0360012	0360013	0360014	0360015	0360016	0360017	0360018	0360019
SAMPLE ID	*036G000100*	*036G000200*	*036G000300*	*036G000400*	*036G000500*	*036G000600*	*036G000700*	*036G000800*	*036G000900*	*036G001000*	*036G001100*	*036G001200*	*036G001300*	*036G001400*	*036G001500*	*036G001600*	*036G001700*	*036G001800*	*036G001900*
SAMPLE DATE	*5/5/1994*	*5/5/1994*	*5/5/1994*	*5/5/1994*	*5/5/1994*	*5/4/1994*	*5/4/1994*	*5/4/1994*	*5/4/1994*	*4/20/1995*	*4/20/1995*	*4/24/1995*	*5/10/1994*	*5/10/1994*	*4/24/1995*	*5/2/1994*	*5/2/1994*	*5/2/1994*	*5/2/1994*
METAL																			
Aluminum	211	110J	245	282	255	407	995	364	57.2J	52.1J	52.7J	441	3390J	753J	402	254	1060	263	413
Antimony	26U	26U	26U	26U	33.8J	26U	26U	26U	26U	26U	26U	26U	26U	26U	26U	26U	26U	26U	26U
Arsenic	3.2J	3J	4.6J	8.1J	4.4J	3U	3.5J	3U	3.4J	4.2J	3U	5.2J	4.2U	7U	3U	9.7	6.1	6.7	4.1
Barium	273	95.5J	93.6J	79.3J	150J	87.2J	84.2J	45.1J	75.5J	92.5J	77.2J	43.2J	101J	26.4J	54J	34.7	29.1J	33.1	44.5
Cadmium	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Calcium	54200	45300	43800	44100	77300	49400	11600	47200	67500	65700	47100	59900	22400	17200	49400	25300	45000	54800	65100
Chromium	4U	4U	4U	4.2J	4U	4U	6.1J	4U	4U	4U	4U	4U	7.2J	4U	4J	4U	4U	4U	4U
Cobalt	5U	5U	5.8J	5.8J	7.9J	5U	5U	5U	5U	5U	5U	5U	5.9J	5U	5U	5U	5U	5U	5U
Copper	3.7J	4.2J	24.8J	3U	3.8J	3.7J	9J	3.7J	3U	3U	3U	3U	54.7	4.7J	3U	3U	3U	3U	3U
Cyanide (CN)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Iron	104	91.8J	396	543	533	220	699	258	59.4UJ	68J	983	49.4UJ	1820	302	158	217	2280	431	716
Lead	24.6J	9.5J	180J	7.5J	9.7J	3J	9J	2.3J	2UJ	2UJ	3.3J	3.1J	36.9	35.4	2UJ	2U	2U	2U	2U
Magnesium	2110J	2950J	2030J	1890J	5210	3150J	1290J	1650J	3030J	2230J	1360J	2000J	1830J	627J	2080J	1170	7960	2790	5890
Manganese	326	227	332	264	645	658	39	135	705	160	526	103	553	26.1U	174	221	353	225	289
Mercury	0.2U	0.22	0.2U	0.2U	0.2U	0.32	0.21	0.2U	0.2U	0.2U	0.2U	0.2U	0.79	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U
Nickel	17U	17U	17U	17U	17.2J	17U	17U	17U	17U	17U	17U	17U	17U	17U	17U	17U	17U	17U	17U
Potassium	2430J	2400J	1430J	1470J	1500J	2770J	420U	1350J	2100J	1640J	1040J	3850J	1510J	2000J	21100	5230	3000	3910	9230
Selenium	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Sodium	4140J	7440	2750J	3010J	5390	5090	1690J	5960	7710	5160	5640	18600	3840J	3040J	14500	6480	12400	5570	17700
Thallium	6U	6U	6U	6U	6U	6U	6U	6U	6U	6U	6U	6J	6U	6U	6U	6U	6U	6U	6U
Vanadium	4U	4U	4U	4U	4U	4U	4.4J	4U	4U	4U	4U	13.2J	4U	9.1J	8.4J	4.3	4U	4U	4U
Zinc	99.2	34.1U	101	47.9U	82.6U	47.1U	112	22.2U	25.1U	20.4U	37.8U	12.9U	255	73.9U	19.1U	34.1	27.9J	11.1U	30.4

SHORT ID	0360020	0360021	0360022	0360GR3		0360GR7	036GR01	036GR03	036GR12	036GR13	036GR14	036GR37	036GR38	036GR39	036GR40	036GR41	036GR42	036GR43	036GR44
SAMPLE ID	*036G002000*	*036G002100*	*036G002200*	*036G0GR31C*	*036G0GR32C*	*036G0GR75N*	*036GGR0102*	*036GGR0302*	*036GGR1202*	*036GGR1302*	*036GGR1402*	*036GGR3701*	*036GGR3801*	*036GGR3901*	*036GGR4001*	*036GGR4101*	*036GGR4201*	*036GGR4301*	*036GGR4401*
SAMPLE DATE	*5/2/1994*	*5/2/1994*	*5/11/1994*	*2/24/1993*	*2/24/1993*	*2/26/1993*	*12/8/1994*	*12/8/1994*	*12/8/1994*	*12/8/1994*	*12/8/1994*	*1/5/1996*	*1/4/1996*	*1/9/1996*	*1/5/1996*	*1/4/1996*	*1/5/1996*	*1/9/1996*	*1/5/1996*
METAL																			
Aluminum	241	119	220UJ	2730	4100	4940	1380J	3050J	304UR	241UR	401UR	694	1600	324	266U	529	10400	96.5U	176U
Antimony	26U	26U	26U	14U	14U	14U	1.9U	1.9U	1.9U	1.9U	1.9U	2.5U	2.5U	2.5U	2.5U	2.5U	2.5U	2.5U	2.5U
Arsenic	5.1	3U	6U	4.2J	1.2J	5.8J	3.5U	3.5U	3.5U	3.5U	3.5U	2.5U	2.5U	2.6U	2.5U	2.5U	12.9U	2.5U	2.5U
Barium	18.4	26.3	17.8U	39.7J	79.8J	159J	325	100J	70.3J	48.8J	13.5J	21.8	18.6	48.3	18	26.8	135	143	120
Cadmium	5U	5U	5U	3U	3U	71	0.5U	0.5U	0.5U	0.78J	0.95J	0.17U	0.5U	0.17U	0.17U	0.17U	1.8U	0.29U	0.35U
Calcium	66300	27600	36800	45300	52400	57900	38100	29400	68000	28800	21700	20400	44800	41200	34000	20000	52900	143000	73600
Chromium	4U	4U	4U	10.1	10.2	328	3J	5J	2.2U	2.2U	2.2U	1.2U	18.3	1.1J	1.7U	1.4U	32.9	0.77U	1U
Cobalt	5U	5U	5U	3.3J	2U	2U	0.51J	0.5U	0.5U	0.5U	0.5U	0.74U	0.92J	0.74U	1.7J	0.74U	4.6J	1.3U	1.2J
Copper	3U	3U	3U	232	7.9J	223	5.7J	11.9J	1.5J	3.4J	2.6J	1.5U	4.7U	2.7U	6.8U	6.3U	36.9	1.6U	5.2U
Cyanide (CN)	10U	10U	10U	1.8U	1.8U	43.6	0	0	0	0	0	10U	10U	10U	10U	10U	10U	10U	10U
Iron	1140	1660	1500	7450	5620	4400	629J	1820J	164UJ	137UJ	363J	626	2580	786	308	397	22400	712	187
Lead	2U	2U	2UJ	239	16.3	446	41.7	31.8	6.6U	12.8U	13.3U	3.4	5.2	4.9J	2.4J	6	266	8.2J	19.8
Magnesium	4530	2230	3870J	3170J	2470J	4520J	2010J	2060J	2520J	1350J	647J	2380	2050	1630	1960	1620	7270	13700	2760
Manganese	89.5	378	107	93.3	177	98.1	28.3U	20.4U	763	6.2U	2.8U	39.9	9.3J	271	19.8	43.9	366	349	219
Mercury	0.2U	0.2U	0.2U	0.2U	0.2U	0.32	0.2U	0.2U	0.2U	0.2U	0.2U	0.05U	0.1U	0.08J	0.09U	0.1U	0.52U	0.05U	0.05U
Nickel	17U	17U	17U	10U	10U	10.2J	6.9U	6.9U	4.9U	5.6U	9.7U	0.93U	2.6U	0.69U	1.5U	2.2U	19.8J	4.7U	1.9U
Potassium	1020	822	2700J	1570J	2150J	4150J	2070J	1770J	2320J	1880J	4090J	1390	1080	1770	3340	837J	3780	2900	3150
Selenium	5U	5U	5U	1.5J	1U	1U	4.4UJ	4.4UJ	4.4UJ	4.4UJ	4.4UJ	2.6U	2.9J	2.6U	2.6U	2.6U	2.6J	2.6U	2.6U
Sodium	4850	4280	12800	16600	13400	9840	7490	3120U	6150	3270U	4650J	16600	18100	5580	7950	4070	4550	7420	6240
Thallium	6U	6U	6U	2U	2U	2U	5.5U	5.5U	5.5U	5.5U	5.5U	0.86U	0.86U	0.86U	0.86U	0.86U	0.86U	0.86U	0.86U
Vanadium	4U	4U	4U	6.5J	9.3J	9.5J	2J	1.3J	2.3J	2.3J	4.2J	1.9U	3.3U	1.5U	1.9U	1.9U	30	0.66U	1.9U
Zinc	11.6U	12.7U	14.6U	265	29.1	519	84U	38.6U	27.2U	35U	77.2U	8.4U	17.6J	42.5J	14.8U	28J	241J	619J	21.7J

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Table A-23 : Summary of Detections Groundwater Site 36 Metal

SHORT ID	036GR45	036GR46	036GR47	036GR48	036GR49	036GR51	036GR52	036GR54	036GS50	036I014	036I030	036I052	036MW06	036MW08	036MW09	036MW22	036MW31	036MW35	036TW01
SAMPLE ID	*036GGR4501*	*036GGR4601*	*036GGR4701*	*036GGR4801*	*036GGR4901*	*036GGR5101*	*036GGR5201*	*036GGR5401*	*036GGS5001*	*036GI01400*	*036GI03000*	*036GI05200*	*036GMW0600*	*036GMW0800*	*036GMW0900*	*036GMW2200*	*036GMW3100*	*036GMW3500*	*036GTW0100*
SAMPLE DATE	*1/5/1996*	*1/8/1996*	*1/8/1996*	*1/8/1996*	*1/8/1996*	*1/8/1996*	*1/10/1996*	*1/10/1996*	*1/8/1996*	*4/24/1995*	*2/24/1993*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*4/24/1995*	*5/23/1995*	*5/23/1995*	*5/23/1995*	*5/23/1995*
METAL																			
Aluminum	454U	144U	30.7U	34.3U	1590	72.2U	2040	146J	27.4U	48.7	21.4J	49.7J	29U	43.3	31.6	86.3	98.7	40.1	148U
Antimony	2.5U	7.3	2.5U	2.5U	2.5U	3.7J	2.5U	2.5U	2.5U	26U	14U	26U	26U	26U	26U	26U	26U	26U	26U
Arsenic	2.5U	2.6U	5.2U	2.5U	3.3U	4.1U	2.5U	2.5U	6.8U	3U	1U	3U	4.6	3.1	3U	4.5	4.3	3.7	3.8
Barium	47	90.1	275	256	42.1	239	45	146	73.9	4.6U	1U	26.3U	116	188	193	41.7	31.7	146	52.1
Cadmium	1U	0.32U	0.32U	0.41U	0.38U	0.17U	0.94U	0.58U	4.4J	5U	3U	5U	5U	5U	5U	5U	5U	5U	5U
Calcium	27300	48700	80600	58700	39600	79700	40600	62800	35900	42000	119J	48000	41300	77100	64000	55600	39700	58600	31800
Chromium	3U	1.3U	0.77U	0.77U	6.5U	0.99U	2.7J	0.91J	1.5U	4U	3U	4U	4.9	4U	4U	4U	4U	4U	7.2
Cobalt	0.83J	0.76J	1.5J	3.5J	0.74U	0.74U	1.6U	1.4U	0.74U	5U	2U	5U	5U	5U	5U	5U	5U	5U	5U
Copper	14.3U	5.8U	3.9U	6.4U	39.8	1.7U	23.1J	16J	26.8	3U	2U	3U	3U	3U	3U	3U	3U	3U	3U
Cyanide (CN)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	1.8U	10U	10U	10U	10U	10U	10U	10U	10U
Iron	723	133	160	404	894	390	1430	15100	46J	42.6U	15.8J	20.8UJ	77	9810	7790	2530	2150	3350	1110
Lead	15.4	12.9	5.6	2.7J	46.5	1.9U	19.7J	66.4J	1.5J	2U	1U	2UJ	2U	5.2	2U	2U	7.7	4.8	2.2
Magnesium	1310	6100	23000	18300	4910	21000	3310	6540	12800	8720	25.9J	7420	1590	4450	3440	2460	2300	2580	2260
Manganese	50	67.2	748	722	35.1	166	1260	331	5U	5.6	1.4J	21.1	17.7	718	404	256	112	193	53.9
Mercury	0.25U	0.07U	0.06U	0.06U	0.12U	0.05U	0.06J	0.08J	0.05U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U
Nickel	1.8U	1.7U	2.1U	3.8U	2.8U	0.69U	4U	2.1U	1.6U	17U	10U	17U	17U	17U	17U	17U	17U	17U	17U
Potassium	1410	4630	8730	7670	8940	7740	5420	2850	5120	4480	159U	4170J	1070	6050	4640	1300	420U	3010	1520
Selenium	2.6U	2.6U	2.6U	2.6U	2.6U	2.6U	2.6U	2.6U	2.6U	5U	1U	5U	5U	5U	5U	5U	5U	5U	5U
Sodium	33700	122000	186000	102000	108000	203000	11200	24500	102000	22200	91.4J	24100	3070	5600	4810	3030	4850	5060	8830
Thallium	0.86U	0.86U	0.86U	0.86U	0.86U	4.3U	0.86U	0.86U	0.86U	6U	2U	6U	6U	6U	6U	6U	6U	6U	6U
Vanadium	14	3.6U	2.1U	1.2U	4.3U	0.66U	4.6U	0.66U	4.8U	4U	3U	4.8J	4U	4U	4U	4U	4U	4U	4U
Zinc	18.3J	6.8U	821J	528J	24.9J	3.5U	30J	24.7J	397J	6.1U	5.1J	13.4U	170	15.2U	11.9U	15.5U	18.8U	7.3U	16.6U

SHORT ID	036TW09	036TW13
SAMPLE ID	*036GTW0900*	*036GTW1300*
SAMPLE DATE	*5/23/1995*	*5/23/1995*
METAL		
Aluminum	30.9U	86.9J
Antimony	26U	26U
Arsenic	3U	3.7J
Barium	32.6	11.5J
Cadmium	5U	5U
Calcium	46700	43600
Chromium	4U	19.3
Cobalt	5U	5U
Copper	3U	3U
Cyanide (CN)	10U	10U
Iron	847	269
Lead	2U	2U
Magnesium	10500	6520
Manganese	71.6	16
Mercury	0.2U	0.2U
Nickel	17U	17U
Potassium	1540	1040J
Selenium	5U	5U
Sodium	8420	8250
Thallium	6U	6U
Vanadium	4U	4.6J
Zinc	13.4U	6.3J

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers

U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-24 : Summary of Detections Site 16

SHORT ID	0160001		0160002		0160003		0160004		0160005		0160006		0160007		0160008			0160009	
SAMPLE ID	*016S000101*	*016S000104*	*016S000201*	*016S000205*	*016S000301*	*016S000303*	*016S000401*	*016S000405*	*016S000501*	*016S000505*	*016S000601*	*016S000607*	*016S000701*	*016S000706*	*016S000801*	*016S000807*	*016S000812*	*016S000901*	*016S000907*
SAMPLE DATE	*4/10/1996*	*4/10/1996*	*4/10/1996*	*4/10/1996*	*4/11/1996*	*4/11/1996*	*4/10/1996*	*4/10/1996*	*4/10/1996*	*4/10/1996*	*4/10/1996*	*4/10/1996*	*4/10/1996*	*4/10/1996*	*4/10/1996*	*4/10/1996*	*4/10/1996*	*4/10/1996*	*4/10/1996*
VOC																			
1,1-Dichloroethene	1UJ	1UJ	1UJ	1UJ	1U	2J	1UJ	1U	1UJ	1UJ	1UJ	1U	1UJ	1UJ	1UJ	1U	1UJ	1UJ	1UJ
1,4-Dichlorobenzene	0.2UJ	0.2U	0.2UJ	0.2U	0.2UJ	0.2UJ	0.2U	0.2U	0.2UJ	0.2U	0.2U	0.2U	0.2U	0.2U	2	0.2UJ	0.2U	0.2U	0.2UJ
2-Butanone (MEK)	2UJ	2UJ	2UJ	2UJ	2U	6J	2UJ	2U	2UJ	2UJ	2UJ	2U	2UJ	2UJ	2UJ	2U	2UJ	2UJ	2UJ
Acetone	1UJ	26UJ	84J	22UJ	27U	330J	13UJ	10U	1UJ	170J	6UJ	18U	22UJ	36UJ	25UJ	25U	7UJ	38UJ	89J
cis-1,2-Dichloroethene	0.3UJ	0.3UJ	0.3UJ	0.3UJ	0.3U	2J	0.3UJ	0.4U	0.4UJ	0.3UJ	0.3UJ	0.3U	0.3UJ	0.3UJ	0.3UJ	0.3U	0.3UJ	0.3UJ	0.4UJ
Toluene	0.3UJ	0.3U	0.3UJ	0.3U	0.3UJ	0.8J	0.3U	0.3U	0.4UJ	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	0.3UJ	0.3U	0.3U	0.3UJ
SVOC																			
2-Methylnaphthalene	35U	35U	35U	34U	35U	41U	34U	37U	27J	35U	34U	34U	35U	34U	34U	35U	34U	34U	36U
Acenaphthylene	14J	38U	38U	37U	37U	44U	37U	40U	41U	38U	37U	37U	37U	37U	37U	38U	37U	37U	39U
Anthracene	37U	36U	36U	36U	36U	43U	36U	38U	22J	36U	35U	36U	36U	36U	35U	36U	36U	36U	38U
Benzo(a)anthracene	50U	50U	49U	48U	49U	58U	49U	52U	110	50U	48U	49U	49U	49U	48U	50U	49U	49U	51U
Benzo(a)pyrene	37J	50U	50U	49U	50U	59U	50U	53U	99	50U	49U	50U	50U	49U	49U	50U	50U	49U	52U
Benzo(b)fluoranthene	51J	82U	82U	81U	82U	97U	81U	87U	170	83U	80U	82U	82U	81U	80U	82U	81U	81U	85U
Benzo(g,h,i)perylene	42U	41U	41U	40U	41U	49U	41U	44U	110	41U	40U	41U	41U	41U	40U	41U	41U	41U	43U
Benzo(k)fluoranthene	29J	54U	54U	53U	54U	63U	53U	57U	81	54U	52U	53U	53U	53U	52U	54U	53U	53U	56U
bis(2-Ethylhexyl)phthalate (BEHP)	52U	52U	52U	50U	51U	61U	51U	55U	290	52U	50U	51U	51U	51U	50U	52U	51U	51U	53U
Butylbenzylphthalate	34U	34U	34U	33U	33U	51	33U	35U	93	34U	33U	33U	33U	33U	33U	34U	33U	33U	35U
Carbazole	41U	41U	41U	40U	41U	48U	41U	44U	17J	41U	40U	41U	41U	40U	40U	41U	41U	40U	43U
Chrysene	40U	39U	39U	39U	39U	46U	39U	42U	200	40U	38U	39U	39U	39U	38U	40U	39U	39U	41U
Fluoranthene	34J	38U	38U	37U	38U	45U	38U	40U	200	38U	37U	38U	38U	38U	37U	38U	38U	38U	40U
Fluorene	36U	36U	36U	35U	36U	42U	35U	38U	9J	36U	35U	35U	36U	35U	35U	36U	35U	35U	37U
Indeno(1,2,3-cd)pyrene	51U	51U	50U	50U	50U	60U	50U	53U	89	51U	49U	50U	50U	50U	49U	51U	50U	50U	52U
Phenanthrene	34U	34U	34U	34U	34U	40U	34U	36U	160	34U	33U	34U	34U	34U	33U	34U	34U	34U	36U
Pyrene	43	38U	38U	37U	38U	45U	38U	40U	300	38U	37U	38U	38U	37U	37U	38U	38U	37U	39U
PESTICIDES																			
4,4-DDD	1.77U	1.75U	1.75U	1.72U	1.75U	2.07U	1.73U	1.85U	3.84J	1.76U	1.71U	1.74U	1.75U	1.72U	1.71U	1.76U	1.73U	1.72U	1.82U
4,4-DDE	1.4U	1.38U	1.38U	1.35U	1.38U	1.63U	1.37U	1.46U	1.91J	1.39U	1.35U	1.37U	1.38U	1.36U	1.35U	1.39U	1.37U	1.36U	1.44U
4,4-DDT	1.79U	1.78U	1.77U	1.74U	1.77U	2.09U	1.75U	1.88U	6.96J	1.78U	1.73U	1.76U	1.77U	1.74U	1.73U	1.78U	1.75U	1.74U	1.84U
Aldrin	0.735U	0.729U	0.728U	0.713U	0.729U	0.859U	0.72U	0.77U	1.46J	0.731U	0.71U	0.722U	0.726U	0.716U	0.71U	0.731U	0.719U	0.717U	0.756U
Endosulfan II	1.61U	1.6U	1.59U	1.56U	1.59U	1.88U	1.58U	1.68U	4.47J	1.6U	1.55U	1.58U	1.59U	1.57U	1.55U	1.6U	1.57U	1.57U	1.65U
Endosulfan sulfate	1.4U	1.38U	1.38U	1.35U	1.38U	1.63U	1.37U	1.46U	2.84J	1.39U	1.35U	1.37U	1.38U	1.36U	1.35U	1.39U	1.37U	1.36U	1.44U
Endrin ketone	1.42U	1.4U	1.4U	1.37U	1.4U	3.15	1.39U	1.48U	1.54U	1.41U	1.37U	1.39U	1.4U	1.38U	1.37U	1.41U	1.39U	1.38U	1.46U
METAL																			
Aluminum	1040	1290	1620	529	1500	462	1820	384	2740	840	576	310	139	811	345	1250	88.4	866	2310
Antimony	0.19UJ	0.19UJ	0.19UJ	0.18UJ	0.19UJ	0.22UJ	0.19UJ	0.2UJ	0.37J	0.19UJ	0.18UJ	0.18UJ	0.19UJ	0.19UJ	0.18UJ	0.19UJ	0.18UJ	0.19UJ	0.2UJ
Arsenic	0.4J	0.46J	0.63J	0.33J	0.6J	0.42J	0.57J	0.29UJ	5.5J	0.3J	0.27UJ	0.27UJ	0.27UJ	0.31J	0.26UJ	0.27UJ	0.27UJ	0.27UJ	0.64J
Barium	5.3J	1.4J	1.7J	0.79J	2.8J	2.9J	2.1J	0.65J	153J	2.3J	0.88J	0.77J	0.33J	1.3J	0.66J	0.96J	0.14UR	1.2J	2.9J
Beryllium	0.04UJ	0.04UJ	0.04UJ	0.04UJ	0.04UJ	0.05UJ	0.04UJ	0.04UJ	0.06J	0.04UJ	0.04UJ	0.04UJ	0.04UJ	0.04UJ	0.04UJ	0.04UJ	0.04UJ	0.04UJ	0.04UJ
Cadmium	0.05J	0.03U	0.03U	0.03U	0.03U	0.04U	0.03U	0.03U	0.49	0.03U	0.03U	0.03U	0.03U	0.03U	0.03U	0.03U	0.03U	0.03U	0.03U
Calcium	113J	39.5J	18.3U	9.3U	163J	199J	37.1J	6.3U	18500J	97.1J	20.7U	10.5U	5.1U	12.7U	8.7U	10.8U	5.5U	12.4U	423J
Chromium	1.1J	1.1J	1.3J	0.51J	1.4J	0.53J	1.4J	0.35J	9.9J	1.1J	0.51J	0.35J	0.25J	0.64J	0.34J	1.3J	0.33J	0.72J	1.7J
Cobalt	0.22U	0.22U	0.22U	0.22U	0.22U	0.26U	0.22U	0.23U	0.32J	0.22U	0.22U	0.22U	0.22U	0.22U	0.21U	0.22U	0.21U	0.22U	0.23U
Copper	2.2J	0.42J	1.5J	0.14J	0.68J	0.48J	0.51J	0.13U	6.9J	0.27J	0.27J	0.12U	0.12U	0.24J	0.19J	0.35J	0.12U	0.15J	0.83J
Iron	998J	952J	1160J	432J	1100J	442J	1270J	291J	4920J	252J	481J	102J	78.6J	582J	269J	96.4J	17.4J	661J	871J
Lead	29.9	1.1	5.1	0.43	3.5	5.5	1.9	0.27	33.4	0.91	0.91	0.35	0.25	1.4	0.81	1.7	0.36	0.86	3.2
Magnesium	66.9J	53.7J	60.1J	21J	76.5J	38.4J	60.8J	14.9J	5880J	52.1J	21J	15J	6.9J	24.7J	16.6J	20.4J	3.4U	36.5J	50.5J
Manganese	10J	4.7J	3.3J	1.9J	21.9J	7J	18J	3.7J	69.8J	1.3J	2.5J	0.45J	0.61J	1.9J	1.5J	0.44J	0.11J	2.3J	3J
Mercury	0.27	0.23	0.35	0.3	0.11U	0.19	0.24	0.24	0.39	0.31	0.34	0.29	0.33	0.37	0.29	0.31	0.35	0.32	0.32
Nickel	0.38J	0.66J	0.57J	0.29J	0.63J	0.22U	0.67J	0.2U	1.4J	0.34J	0.34J	0.18U	0.19U	0.21J	0.18U	0.26J	0.18U	0.43J	0.55J
Potassium	33.4J	27J	36.6J	9.7U	42.5J	14.8U	30.3J	8.9U	172	33.7J	12.3U	9.8U	4.9U	16U	10U	14.4U	3.6U	16.6U	29.1J
Selenium	0.41U	0.4U	0.4U	0.39U	0.4U	0.47U	0.39U	0.42U	0.44U	0.39U	0.39U	0.39U	0.39U	0.39U	0.38U	0.66	0.39U	0.4U	0.44
Sodium	44.1U	35.3U	495J	21.7U	16U	25.9U	18.1U	20.5U	86.9U	22.7U	19.6U	12.4U	15.8U	24U	15.4U	24U	19.8U	42.7U	24.9U
Vanadium	2	1.7	2.4	0.72J	2.3	0.54J	2.5	0.51J	4.9	1J	0.96J	0.5J	0.16J	1.3	0.54J	2.2	0.08J	1.4	2.5
Zinc	10.7J	2.4UJ	4.5J	1.7UJ	3.1UJ	1.2UJ	2.4UJ	1.1UJ	40.5J	1.2UJ	1.4UJ	0.91UJ	0.72UJ	1.2UJ	1.2UJ	1.4UJ	0.45UJ	1.5UJ	2.2UJ

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-24 : Summary of Detections Site 16

SHORT ID	0160010		0160011		0160012	
SAMPLE ID	*016S001001*	*016S001004*	*016S001101*	*016S001104*	*016S001201*	*016S001205*
SAMPLE DATE	*4/11/1996*	*4/11/1996*	*4/11/1996*	*4/11/1996*	*4/10/1996*	*4/10/1996*
VOC						
1,1-Dichloroethene	1U	1UJ	1U	1U	1U	1U
1,4-Dichlorobenzene	0.2UJ	0.2U	0.2UJ	0.2U	0.2UJ	0.2U
2-Butanone (MEK)	2U	2UJ	2U	2U	2U	2U
Acetone	1U	450J	390J	160	1U	38U
cis-1,2-Dichloroethene	0.3U	0.3UJ	0.3U	0.3U	0.3U	0.4U
Toluene	0.3UJ	0.3U	0.3UJ	0.3U	0.3UJ	0.4U
SVOC						
2-Methylnaphthalene	35U	34U	35U	34U	35U	39U
Acenaphthylene	38U	37U	38U	37U	37U	42U
Anthracene	36U	36U	36U	36U	36U	41U
Benzo(a)anthracene	50U	49U	50U	49U	49U	56U
Benzo(a)pyrene	50U	50U	50U	50U	50U	56U
Benzo(b)fluoranthene	82U	82U	82U	81U	82U	92U
Benzo(g,h,i)perylene	41U	41U	41U	41U	41U	46U
Benzo(k)fluoranthene	54U	53U	54U	53U	54U	60U
bis(2-Ethylhexyl)phthalate (BEHP)	52U	51U	52U	51U	51U	58U
Butylbenzylphthalate	34U	33U	34U	33U	33U	38U
Carbazole	41U	41U	41U	41U	41U	46U
Chrysene	39U	39U	39U	39U	39U	44U
Fluoranthene	38U	38U	38U	38U	38U	43U
Fluorene	36U	35U	36U	35U	36U	40U
Indeno(1,2,3-cd)pyrene	51U	50U	51U	50U	50U	57U
Phenanthrene	34U	34U	34U	34U	34U	38U
Pyrene	38U	38U	38U	38U	38U	43U
PESTICIDES						
4,4-DDD	1.76U	1.74U	1.76U	1.73U	1.75U	1.97U
4,4-DDE	1.39U	1.37U	1.39U	1.37U	1.38U	1.55U
4,4-DDT	1.78U	1.76U	1.78U	1.75U	1.77U	1.99U
Aldrin	0.732U	0.723U	0.731U	0.719U	0.726U	0.819U
Endosulfan II	1.6U	1.58U	1.6U	1.57U	1.59U	1.79U
Endosulfan sulfate	1.39U	1.37U	1.39U	1.37U	1.38U	1.55U
Endrin ketone	1.41U	1.39U	1.41U	1.39U	1.4U	1.58U
METAL						
Aluminum	1560	1340	2020	1090	2530	247
Antimony	0.19UJ	0.19UJ	0.19UJ	0.19UJ	0.19UJ	0.21UJ
Arsenic	0.51J	0.67J	0.39J	0.75J	0.72J	0.3UJ
Barium	2.3J	2.5J	2.4J	1.8J	3.4J	0.96J
Beryllium	0.04UJ	0.04UJ	0.04UJ	0.04UJ	0.04UJ	0.05UJ
Cadmium	0.03U	0.03U	0.03U	0.03U	0.03U	0.03U
Calcium	19.8U	16.5U	24.6U	9.9U	92.7J	14.6U
Chromium	1.1J	0.98J	1.3J	1.8J	1.7J	0.41J
Cobalt	0.22U	0.22U	0.22U	0.22U	0.38J	0.24U
Copper	0.86J	0.39J	0.9J	0.21J	1J	0.14U
Iron	1050J	851J	1040J	1190J	1660J	113J
Lead	2.5	0.9	3.5	0.65	2.1	0.98
Magnesium	45.3J	50.4J	51.8J	31.7J	85.4J	12J
Manganese	22.8J	9.1J	7.7J	3.3J	47.6J	3.2J
Mercury	0.11U	0.1U	0.11	0.1U	0.39	0.35
Nickel	0.54J	0.44J	0.47J	0.25J	1J	0.21U
Potassium	28.2J	22.7U	34.5J	14.3U	46.1J	11.2U
Selenium	0.4U	0.4U	0.4U	0.4U	0.39U	0.44U
Sodium	19U	17.1U	22U	18U	19.1U	18.3U
Vanadium	2.1	1.7	2.7	2.6	3.4	0.32J
Zinc	2.2UJ	1.1UJ	1.8UJ	1.1UJ	2.9UJ	1.1UJ

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-25 : Summary of Detections Site 14

SHORT ID	0140001											
SAMPLE ID	*014S000101*	*014S000103*	*014S000105*	*014S000107*	*014S000109*	*014S000111*	*014S000113*	*014S000115*	*014S000117*	*014S000119*	*014S000121*	*014S000123*
SAMPLE DATE	*2/11/1994*	*2/11/1994*	*2/11/1994*	*2/11/1994*	*2/11/1994*	*2/11/1994*	*2/11/1994*	*2/11/1994*	*2/11/1994*	*2/11/1994*	*2/11/1994*	*2/11/1994*
VOC												
Carbon disulfide	10U	13U	12U	12U	11U	10U	10U	10U	11U	11U	10U	10U
SVOC												
Benzo(a)anthracene	360U	400U	420U	410U	350U	340U	350U	340U	360U	350U	350U	350U
Benzo(a)pyrene	360U	400U	420U	410U	350U	340U	350U	340U	360U	350U	350U	350U
Benzo(b)fluoranthene	360U	400U	420U	410U	350U	340U	350U	340U	360U	350U	350U	350U
Benzo(g,h,i)perylene	360U	400U	420U	410U	350U	340U	350U	340U	360U	350U	350U	350U
Benzo(k)fluoranthene	360U	400U	420U	410U	350U	340U	350U	340U	360U	350U	350U	350U
Chrysene	360U	400U	420U	410U	350U	340U	350U	340U	360U	350U	350U	350U
Fluoranthene	360U	400U	420U	410U	350U	340U	350U	340U	360U	350U	350U	350U
Indeno(1,2,3-cd)pyrene	360U	400U	420U	410U	350U	340U	350U	340U	360U	350U	350U	350U
Pyrene	360U	400U	420U	410U	350U	340U	350U	340U	360U	350U	350U	350U
PESTICIDES												
Aldrin	1.8UJ	2.1UJ	2.2UJ	2.1UJ	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.9UJ	1.8UJ	2.9U	2.9U
Aroclor-1248	36UJ	40UJ	42UJ	41UJ	35UJ	34UJ	35UJ	35UJ	36UJ	35UJ	55U	56U
Aroclor-1254	36UJ	40UJ	42UJ	41UJ	35UJ	34UJ	35UJ	35UJ	36UJ	35UJ	55U	56U
Aroclor-1260	36UJ	40UJ	42UJ	41UJ	35UJ	34UJ	35UJ	35UJ	36UJ	35UJ	55U	56U
METAL												
Aluminum	724J	68.5J	208J	103J	116J	60.8J	62.8J	73.6J	81.7J	125U	39.4J	150J
Antimony	3UJ	2.9UJ	3.8UJ	2.8UJ	2.8UJ	2.5UJ	3.1UJ	2.9UJ	3.3UJ	2.4UJ	2.7UJ	3UJ
Arsenic	1.3	0.54U	0.74	0.51U	0.53U	0.47U	0.57U	0.53U	0.62U	0.44U	0.5U	0.55U
Barium	0.76UJ	0.45UJ	1UJ	0.42UJ	0.44UJ	0.39UJ	0.47UJ	0.44UJ	0.51UJ	0.37UJ	0.42UJ	0.45UJ
Beryllium	0.08UJ	0.07UJ	0.1UJ	0.07UJ	0.07UJ	0.07UJ	0.08UJ	0.07UJ	0.09UJ	0.06UJ	0.07UJ	0.08UJ
Cadmium	0.4U	0.39U	0.51U	0.37U	0.38U	0.34U	0.41U	0.38U	0.45U	0.32U	0.36U	0.4U
Calcium	1090J	3120J	2680J	3540J	4580J	4440J	8860J	3650J	4750J	10500J	7090J	27000J
Chromium	2J	0.92J	1.8J	3.5J	4.5J	0.79J	3.6J	2.3J	2.6J	2J	1.5J	8.3J
Cobalt	0.9UJ	0.59UJ	0.78UJ	0.57UJ	0.58UJ	0.52UJ	0.63UJ	0.59UJ	0.68UJ	0.49UJ	0.56UJ	0.61UJ
Copper	0.5UJ	0.48UJ	0.64UJ	0.46UJ	0.47UJ	0.42UJ	0.51UJ	0.48UJ	0.55UJ	0.4UJ	0.45UJ	0.49UJ
Cyanide (CN)	0.1UJ	0.1UJ	0.08UJ	0.08UJ	0.09UJ	0.08UJ	0.09UJ	0.09UJ	0.1UJ	0.08UJ	0.09UJ	0.1UJ
Iron	770J	188J	439J	328J	372J	199J	209J	198J	210J	286J	139J	365J
Lead	0.83UJ	0.54UJ	1.3UJ	0.86UJ	0.77UJ	0.64UJ	0.65UJ	0.63UJ	0.73UJ	0.6UJ	0.63UJ	0.83UJ
Magnesium	30.3J	30.2J	69.3J	85.5J	64.4J	55.1J	97.6J	73J	50.2J	125J	58.2J	205J
Manganese	3.2	1.6U	4.1	3.1U	3.3	2.1U	2.4U	1.4U	1.4U	2.9	1.6U	3
Mercury	0.03U	0.04U	0.03U	0.03U	0.03U	0.03U	0.03U	0.03U	0.04U	0.04U	0.04U	0.02U
Nickel	2U	1.9U	2.5U	1.8U	1.9U	1.7U	2U	1.9U	2.2U	1.6U	1.8U	2U
Potassium	124UJ	120UJ	159UJ	115UJ	118UJ	106UJ	128UJ	119UJ	138UJ	99.1UJ	113UJ	123UJ
Silver	0.69U	0.67U	0.88U	0.64U	0.65U	0.59U	0.71U	0.66U	0.77U	0.55U	0.63U	0.68U
Sodium	11.6UJ	36.3UJ	37UJ	38.5UJ	50.7J	55.7J	96.1J	41.5J	45.5J	113J	81.4J	247J
Vanadium	1.6J	0.61UJ	0.91J	0.72J	1.2J	0.67J	0.65UJ	0.95J	0.7UJ	0.64J	0.57UJ	1J
Zinc	1.6UJ	0.53UJ	1.6UJ	0.52UJ	0.4UJ	0.28UJ	0.33UJ	0.31UJ	0.36UJ	0.26UJ	0.3UJ	0.32UJ

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-25 : Summary of Detections Site 14

SHORT ID	0140002										0140003				0140004			
SAMPLE ID	*014S000201*	*014S000203*	*014S000205*	*014S000207*	*014S000209*	*014S000211*	*014S000213*	*014S000215*	*014S000217*	*014S000219*	*014S000301*	*014S000305*	*014S000310*	*014S000314*	*014S000401*	*014S000405*	*014S000410*	*014S000411*
SAMPLE DATE	*2/21/1994*	*2/21/1994*	*2/21/1994*	*2/21/1994*	*2/21/1994*	*2/21/1994*	*2/21/1994*	*2/21/1994*	*2/21/1994*	*2/21/1994*	*2/22/1994*	*2/22/1994*	*2/22/1994*	*2/22/1994*	*2/24/1994*	*2/24/1994*	*2/24/1994*	*2/24/1994*
VOC																		
Carbon disulfide	11U	11U	12U	11U	11U	10U	11U	11U	11U	54U	13U	12U	26UJ	13U	25U	28U	12U	13U
SVOC																		
Benzo(a)anthracene	350U	350U	390U	360U	370U	350U	360U	350U	370U	350U	62J	410U	830U	430U	170J	210J	390U	400U
Benzo(a)pyrene	350U	350U	390U	360U	370U	350U	360U	350U	370U	350U	100J	410U	180J	430U	250J	340J	390U	400U
Benzo(b)fluoranthene	350U	350U	390U	360U	370U	350U	360U	350U	370U	350U	100J	410U	830U	430U	320J	360J	390U	400U
Benzo(g,h,i)perylene	350U	350U	390U	360U	370U	350U	360U	350U	370U	350U	69J	410U	830U	430U	800U	960U	390U	400U
Benzo(k)fluoranthene	350U	350U	390U	360U	370U	350U	360U	350U	370U	350U	110J	410U	830U	430U	260J	350J	390U	400U
Chrysene	350U	350U	390U	360U	370U	350U	360U	350U	370U	350U	74J	410U	830U	430U	200J	260J	390U	400U
Fluoranthene	350U	350U	390U	360U	370U	350U	360U	350U	370U	350U	120J	410U	830U	430U	270J	310J	390U	400U
Indeno(1,2,3-cd)pyrene	350U	350U	390U	360U	370U	350U	360U	350U	370U	350U	63J	410U	830U	430U	800U	960U	390U	400U
Pyrene	350U	350U	390U	360U	370U	350U	360U	350U	370U	350U	120J	85J	180J	430U	260J	280J	390U	400U
PESTICIDES																		
Aldrin	1.8U	1.8UJ	2U	1.8U	1.9U	1.8U	1.9U	1.8U	1.9U	1.8U	8.4J	2.1U	4.3U	2.3UJ	4.1U	4.9U	2U	2.1U
Aroclor-1248	35U	35UJ	39U	36U	37U	36U	37U	35U	37U	36U	49J	41U	84U	44UJ	50J	96U	39U	40U
Aroclor-1254	35U	35UJ	39U	36U	37U	36U	37U	35U	37U	36U	68J	37J	61J	44UJ	80U	96U	39U	40U
Aroclor-1260	35U	35UJ	39U	36U	37U	36U	37U	35U	37U	36U	44U	41U	84U	44UJ	42J	96U	39U	40U
METAL																		
Aluminum	338	214	554	173	553	318	151	99.3	221	138	3770J	1730	4420	4570	17100J	14800J	2650J	214J
Antimony	3.1U	2.7U	2.8U	2.4U	2.8U	3U	2.2U	2.1U	2.6U	2.2U	3UJ	1690	6.5U	3.6U	6.7UJ	5.9UJ	2.8UJ	2.6UJ
Arsenic	0.58UJ	0.51UJ	0.52UJ	0.45UJ	0.51UJ	0.56UJ	0.42UJ	0.39UJ	0.49UJ	0.42UJ	2.4J	17.5	4.6	4.8	15.9	15.7	4.9J	0.48U
Barium	0.58U	0.42U	0.99U	0.69U	1U	0.46U	0.35U	0.98U	0.4U	0.34U	20.9	11.6J	12.7J	6.6U	26.2	24.9	2.4U	0.4U
Beryllium	0.08U	0.07U	0.07U	0.06U	0.07U	0.08U	0.06U	0.05U	0.07U	0.06U	0.23	0.13	0.33	0.32	1.3	1.2	0.25	0.07U
Cadmium	0.42U	0.38	0.37U	0.33U	0.37U	0.41U	0.3U	0.29U	0.35U	0.3U	0.41U	0.45U	0.88U	0.48U	0.91U	0.79U	0.38U	0.35U
Calcium	2780	3740	7040	6200	7540	6930	6050	19100	5520	12600	20600	16100	33000	6070	13900	11700	25900	24900
Chromium	2J	2J	3.3J	1.9J	2.9J	3.3	3.6	4.7	2.9J	9.4	8.3J	6	17	17.3	45.8J	42.4J	14.1J	0.88J
Cobalt	0.64U	0.56U	0.57U	0.5U	0.56U	0.62U	0.46U	0.43U	0.54U	0.46U	1.2	0.69U	1.6	1.9	6.7	6	1.7	0.53U
Copper	0.52U	0.45U	0.87U	0.4U	0.88U	0.5U	0.37U	0.46U	0.44U	0.37U	14.1	35.4	17.7	5.7J	20.8	19.7	4.6U	0.43U
Cyanide (CN)	0.08UJ	0.09UJ	0.11UJ	0.09UJ	0.1UJ	0.13J	0.08UJ	0.08UJ	0.11UJ	0.1UJ	0.13U	0.1UJ	0.21UJ	0.11UJ	0.23U	0.26U	0.1U	0.08U
Iron	808	534	1620	448	1830	988	330	344	481	384	6670	4920	10900	10100	34000	32200	7400	534
Lead	1.4	1.1	3.2	0.85	4.3	1.5	0.58	0.65	0.82	0.75	32.3	28600J	100J	32.5J	45.4	44	9.1	0.69
Magnesium	178	137	369	138	475	215	87.2	170	97.7	98.2	2060	1840	3970	2870	9090	9200	1500	385
Manganese	13.8J	9.4J	33.1	6.8J	37.7	11.6J	4.3J	4.8J	6J	3.7J	52.6	48.3	146	185	619	554	77.9	8.3
Mercury	0.03UJ	0.03UJ	0.02UJ	0.02UJ	0.04UJ	0.03UJ	0.04UJ	0.02UJ	0.02UJ	0.03UJ	0.2J	1.6J	0.19J	0.04J	0.15J	0.12UJ	0.04J	0.02UJ
Nickel	2.1UJ	1.8UJ	1.9UJ	1.6UJ	1.8UJ	2UJ	1.5UJ	1.4UJ	1.7UJ	4.2J	3.5	2.3UJ	4.3UJ	2.4UJ	11.4	9.7	3.8	1.7U
Potassium	129U	113U	116U	100U	114U	125U	93.5U	88.1U	109U	93.2U	360J	257	742	841	2650	2980	386J	107UJ
Silver	0.72U	0.63U	0.64U	0.56U	0.63U	0.7U	0.52U	0.49U	0.6U	0.52U	0.7UJ	2.9	1.5U	0.82U	1.6UJ	1.4UJ	0.65UJ	0.59UJ
Sodium	58.4J	65.3J	74.6J	71.3J	95.3J	76J	66.7J	210	66.1J	132J	829	2110	5680	5190	6690	18100	1930	1230
Vanadium	1.5U	0.71U	2.1U	0.81U	2.4U	1.7U	0.95U	0.79U	0.71U	0.71U	10.6J	4.8	13.1	11.9	43.3J	40.6J	13.6J	1.1UJ
Zinc	4UJ	2.7UJ	5.3UJ	2.3UJ	6.9UJ	3.3UJ	1.4UJ	3.6UJ	2.8UJ	1.2UJ	36.8J	29.5	58.9	27.5	96.9J	93.4J	15J	0.99UJ

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-25 : Summary of Detections Site 14

SHORT ID	0140005			0140060		
SAMPLE ID	*014S000501*	*014S000505*	*014S000507*	*014S006001*	*014S006005*	*014S006009*
SAMPLE DATE	*2/24/1994*	*2/24/1994*	*2/24/1994*	*2/24/1994*	*2/24/1994*	*2/24/1994*
VOC						
Carbon disulfide	26U	22J	12U	27U	28U	13U
SVOC						
Benzo(a)anthracene	820U	960U	380U	830U	280J	440U
Benzo(a)pyrene	240J	260J	380U	230J	330J	170J
Benzo(b)fluoranthene	330J	300J	380U	280J	380J	170J
Benzo(g,h,i)perylene	820U	960U	380U	830U	880U	440U
Benzo(k)fluoranthene	210J	270J	380U	220J	350J	220J
Chrysene	180J	190J	380U	200J	380J	100J
Fluoranthene	260J	260J	380U	260J	520J	120J
Indeno(1,2,3-cd)pyrene	820U	960U	380U	830U	880U	440U
Pyrene	240J	230J	380U	210J	390J	420J
PESTICIDES						
Aldrin	4.2U	5U	1.9U	4.3U	4.5U	2.2U
Aroclor-1248	82U	97U	38U	44J	88U	43U
Aroclor-1254	82U	97U	38U	84U	88U	43U
Aroclor-1260	82U	97U	38U	49J	88U	43U
METAL						
Aluminum	19400J	15000J	575J	14100J	20400J	1870J
Antimony	6UJ	6.8UJ	2.4UJ	6.5UJ	6.5UJ	3.2UJ
Arsenic	13.9	14.6	0.88J	13.8	15	1.3J
Barium	27.5	19.7	0.68U	26.3	26.3	2.5U
Beryllium	1.2	1.3	0.06	1.2	1.2	0.1
Cadmium	0.81U	0.92U	0.32U	0.87U	0.88U	0.43U
Calcium	11500	13500	14900	10800	14200	10900
Chromium	45.7J	43.5J	2.4J	42J	45.7J	5J
Cobalt	5.9	6.5	0.49U	6.8	6.8	0.66U
Copper	17.8	17.5	1.1U	21.4	16.5	1.8U
Cyanide (CN)	0.23U	0.28U	0.08U	0.17U	0.27U	0.12U
Iron	31400	31400	1560	30000	32300	3450
Lead	40.7	45.9	2.1	43.7	37.6	4.9
Magnesium	9530	9480	576	7910	9100	871
Manganese	586	646	15.1	575	541	52.7
Mercury	0.19J	0.18J	0.04UJ	0.18J	0.13J	0.03UJ
Nickel	11.3	11.4	1.6U	11.2	12.5	2.1U
Potassium	2710	3080	116J	2480	3170	257J
Silver	1.4UJ	1.6UJ	0.55UJ	1.5UJ	1.5UJ	0.74UJ
Sodium	11200	19100	1580	7430	18900	1710
Vanadium	42J	41.9J	2.7UJ	39.1J	43.4J	5.1UJ
Zinc	87.4J	79.5J	3.1UJ	97.1J	84.3J	8.8J

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-26 : Summary of Detections Groundwater Site 10

SHORT ID	010GM06	010GS01			010GS02			010GS03	010GS04		010GS05	
SAMPLE ID	*010GGM0600*	*010GGS0100*	*010GGS0100*	*010GGS0102*	*010GGS0200*	*010GGS0200*	*010GGS0202*	*010GGS0300*	*010GGS0400*	*010GGS0400*	*010GGS0500*	*010GGS0500*
SAMPLE DATE	*2/14/1994*	*2/11/1994*	*2/14/1994*	*12/14/1994*	*2/11/1994*	*2/14/1994*	*12/14/1994*	*2/14/1994*	*2/11/1994*	*2/14/1994*	*2/11/1994*	*2/14/1994*
VOC												
Acetone	10U	10U	NS	NS	3J	NS	NS	3J	10U	NS	3J	NS
METAL												
Aluminum	31.8	NS	179	NS	NS	3820	NS	1170	NS	248	NS	97.7
Arsenic	4U	NS	4U	NS	NS	4.4	NS	4U	NS	4U	NS	4U
Barium	7.4U	NS	4.3U	NS	NS	12.6	NS	7.4U	NS	6.7U	NS	6.5U
Calcium	22700	NS	9530	NS	NS	15300	NS	15000	NS	17100	NS	18600
Copper	3UJ	NS	3UJ	NS	NS	3.2J	NS	3UJ	NS	3UJ	NS	3UJ
Iron	27.3U	NS	101	NS	NS	2020	NS	1550	NS	775	NS	65.7
Lead	2U	NS	2U	NS	NS	3.8	NS	2.1	NS	2U	NS	2U
Magnesium	1720	NS	1300	NS	NS	1980	NS	1930	NS	1810	NS	1940
Manganese	4UJ	NS	11.7J	NS	NS	52.5J	NS	27.3J	NS	35.2J	NS	4UJ
Potassium	1110J	NS	1080J	NS	NS	888J	NS	715J	NS	1330J	NS	1070J
Sodium	6460	NS	4300	NS	NS	4340	NS	8800	NS	12700	NS	7580
Vanadium	6U	NS	6U	NS	NS	7.6	NS	6U	NS	6U	NS	6U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-27 : Summary of Detections Site 10

SHORT ID	0100001									0100002					0100003		0100004	
SAMPLE ID	*010S000101*	*010S000103*	*010S000105*	*010S000107*	*010S000109*	*010S000111*	*010S000113*	*010S000115*	*010S000116*	*010S000201*	*010S000203*	*010S000205*	*010S000207*	*010S000209*	*010S000301*	*010S000303*	*010S000401*	*010S000403*
SAMPLE DATE	*2/4/1994*	*2/4/1994*	*2/4/1994*	*2/4/1994*	*2/4/1994*	*2/4/1994*	*2/4/1994*	*2/4/1994*	*2/4/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*1/19/1993*	*1/19/1993*
SVOC																		
Fluoranthene	340U	340U	350U	350U	350U	350U	340U	340U	380U	340U	340U	340U	70J	380U	350U	390U	350U	390U
PESTICIDES																		
4,4-DDD	17UJ	3.4U	3.5U	3.5U	3.5UJ	3.5U	3.4U	3.4UJ	3.8UJ	3.4U	3.4UJ	3.4U	3.5U	3.8UJ	3.6UJ	3.9UJ	3.4UJ	4UJ
4,4-DDE	23J	3.4U	3.5U	3.5U	3.5UJ	3.5U	3.4U	3.4UJ	3.8UJ	35	2J	4.7	43	6.4J	3.6UJ	2.4J	3.4UJ	4UJ
4,4-DDT	16J	3.4U	3.5U	3.5U	3.5UJ	3.5U	3.4U	3.4UJ	3.8UJ	42	2.2J	8.4	65	9.7J	3.6UJ	3.9UJ	3.4UJ	4UJ
Aroclor-1260	170UJ	34U	35U	35U	35UJ	35U	34U	34UJ	38UJ	49	34UJ	34U	37	38UJ	60J	40J	34UJ	40UJ
Dieldrin	710J	3.4U	3.5U	19	7.6J	3.5U	3.4U	3.7J	3.8UJ	69	4.5J	6.5	74	11J	3.3J	15J	41	7.2J
METAL																		
Aluminum	752J	1010J	1110J	1010J	913J	165J	208J	624J	456J	785	192	679	1030	628	320	270	363	271
Barium	2.4U	1.1U	1.4U	2U	1.9U	0.32U	0.62U	1.2U	1U	6.1J	1.2J	3.3UJ	5.2J	4.1J	1.1U	0.91U	0.9U	1.4U
Calcium	75.9	14.3U	18.2U	18.1U	19.3U	4.6U	6U	13.1U	31.2U	652J	111J	561J	557J	189J	162J	146J	48.4J	116J
Chromium	1.7J	0.84J	2J	1.4J	3J	2J	3.8J	12.9	29.1	3.3J	1.9	4J	3.5J	2.7J	0.84J	1.3J	1.3J	1.7J
Copper	0.43UJ	0.39UJ	0.33UJ	0.43UJ	0.45U	0.35UJ	0.51UJ	0.51UJ	0.45UJ	1.4J	0.48UJ	0.48UJ	1J	0.5UJ	0.48UJ	0.53UJ	0.49UJ	0.59UJ
Cyanide (CN)	0.09	0.09	0.08U	0.08U	0.09U	0.08U	0.09U	0.1U	0.1U	0.12	3.5	0.33	0.69	5.6	0.11	0.11U	0.32	1.5
Iron	820J	1050J	1100J	1070J	981J	179	221J	839J	671J	724J	147J	903J	993J	488J	286J	164J	526J	333J
Lead	23.4	1.7	0.72U	1.4	1.3	0.3U	0.25U	0.62U	0.38U	92.4J	15.8J	26.1J	67.7J	12.7J	5.5J	3.5J	9J	4.5J
Magnesium	26.7J	22.5J	37.4J	49.4J	52.4J	3.6J	5.6J	15.7J	12.3J	55.9J	8.3J	36.6J	66.1J	33.7J	9.3J	10.6J	30.3J	37J
Manganese	19.2	12.2	6.7	5.9	7.5	1.7U	2.8	8.7	5.9	42.1	4.3	31.8	51.4	11	2.4	0.95U	3.6	3
Mercury	0.03UJ	0.15J	0.02UJ	0.03UJ	0.03U	0.03UJ	0.02UJ	0.03UJ	0.02UJ	0.03UJ	0.04UJ	0.03UJ	0.03U	0.03UJ	0.02UJ	0.75	0.03UJ	0.06UJ
Nickel	1.7U	1.6U	1.3U	1.7U	1.8U	1.4U	2U	2.1U	3.7	2.1U	1.9U	1.9U	2.1U	2U	1.9U	2.1U	1.9U	2.3U
Potassium	108UJ	98.6UJ	81.6UJ	108UJ	112UJ	86.7UJ	127UJ	128UJ	111UJ	130UJ	119UJ	121UJ	129UJ	124UJ	120UJ	133UJ	121UJ	146UJ
Selenium	0.28UJ	0.26UJ	0.21UJ	0.28UJ	0.29UJ	0.23UJ	0.41UJ	0.34UJ	0.29UJ	0.34UJ	0.31UJ	0.32UJ	0.34UJ	0.32UJ	0.32UJ	0.35UJ	0.32UJ	0.47J
Sodium	5.3	5.7	5	7	3.9U	3U	4.4U	4.4U	5	4.5U	4.1U	4.2U	4.6	4.3U	4.2U	4.6U	4.2U	9.7
Zinc	5.1J	1.9UJ	1.6UJ	1.7UJ	2UJ	0.51UJ	0.67UJ	1.4UJ	1.2UJ	19.9	3.5UJ	8.4	18	4.8J	4.7J	3.4UJ	4.6J	3.6UJ

SHORT ID	0100005	
SAMPLE ID	*010S000501*	*010S000503*
SAMPLE DATE	*2/3/1994*	*2/3/1994*
SVOC		
Fluoranthene	340U	370U
PESTICIDES		
4,4-DDD	1.4J	3.8U
4,4-DDE	31	3.8U
4,4-DDT	26	3.8U
Aroclor-1260	34U	38U
Dieldrin	4.8	3.8U
METAL		
Aluminum	230	71.8
Barium	2.2U	0.37U
Calcium	138J	19.4U
Chromium	1.5J	0.4J
Copper	2.4	0.4UJ
Cyanide (CN)	0.1U	0.08U
Iron	294J	44.6J
Lead	15.9J	1.2UJ
Magnesium	18J	3.9J
Manganese	5.7J	0.33U
Mercury	0.03UJ	0.05U
Nickel	1.8U	1.6U
Potassium	115UJ	99.6J
Selenium	0.3UJ	0.26J
Sodium	4U	3.4U
Zinc	12.7	3.9UJ

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-28 : Summary of Detections Groundwater Site 5

SHORT ID	005GI02	005GS01	005GS02		005GS03		005GS04		
SAMPLE ID	*005GGI0200*	*005GGS0101*	*005GGS0201*	*005GGS02M2*	*005GGS0301*	*005GGS03M2*	*005GGS0401*	*005GGS04D1*	*005GGS04M2*
SAMPLE DATE	*12/14/1993*	*12/14/1993*	*12/14/1993*	*12/14/1993*	*12/14/1993*	*12/14/1993*	*12/14/1993*	*12/14/1993*	*12/14/1993*
METAL									
Aluminum	NS	95800	12500J	3750J	58800J	2740J	52700J	30600J	13300J
Arsenic	NS	12.7U	2.4U	2.4U	11.8J	2.4U	3.9	2.4U	2.4U
Barium	NS	144	22.4U	19.9U	141	12.1U	139	82.7	42
Beryllium	NS	2.4	0.4U	0.4U	0.93J	0.4U	0.43	0.4U	0.4U
Calcium	NS	6250	1140	1180	4670	1460	11200	6870	4010
Chromium	NS	85.4J	16.2	6.1	55.5	2.7U	29.6	16	8.2
Copper	NS	91.7	15.9	6.7U	40	5.8U	29.7	19	59.2
Cyanide (CN)	NS	0.95U	0.95U	NS	1.8	NS	0.95U	0.95U	NS
Iron	NS	24200J	1730	560	44600	1620	5920	2590	1990
Lead	NS	66.2J	8.8	3	37.5	2	33.5	18.2	15.4
Magnesium	NS	2150	423	383	1470	402	2200	1380	1080
Manganese	NS	65.5J	19.6	18	195	12.4	110	62.1	38.1
Mercury	NS	0.79	0.28	0.33	0.56	0.1U	0.2	0.2	0.13
Nickel	NS	24.3	8.4U	8.4U	15.2	8.4U	8.5U	8.4U	8.4U
Potassium	NS	1300	487U	429U	500U	423	762U	371	352
Selenium	NS	5.3U	7.3U	2.3U	2.3U	2.3U	4.8	2.5	2.3U
Sodium	NS	1950	1630	1880	1810	1870	5350	4640	5620
Thallium	NS	2.2	2.2U	2.2U	2.2U	2.2U	2.2U	2.2U	2.2U
Vanadium	NS	80.5J	14.1U	3.9U	97.9U	6.8U	55.1	34.7	14U
Zinc	NS	36J	8.9U	12.7U	33.3	13.3	26.1	9.7U	32

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-29 : Summary of Detections Site 5

SHORT ID	0050001					0050002					0050003							
SAMPLE ID	*0055000101*	*0055000102*	*0055000104*	*0055000106*	*0055000112*	*0055000201*	*0055000202*	*0055000204*	*0055000206*	*0055000212*	*0055000301*	*0055000302*	*0055000303*	*0055000304*	*0055000306*	*0055000308*	*0055000310*	*0055000312*
SAMPLE DATE	*12/3/1993*	*12/1/1993*	*12/1/1993*	*12/1/1993*	*2/8/1994*	*12/3/1993*	*12/1/1993*	*12/1/1993*	*12/1/1993*	*2/4/1994*	*12/2/1993*	*12/2/1993*	*12/2/1993*	*12/2/1993*	*12/2/1993*	*12/2/1993*	*12/1/1993*	*2/3/1994*
VOC																		
Trichloroethene	7J	11U	10U	10U	11U	5J	19U	54U	11U	10U	40	17U	NS	51U	10U	1200U	11U	10U
PESTICIDES																		
4,4-DDT	3.3U	3.4U	3.3U	3.4U	NS	3.3U	3.6U	3.9U	3.4U	NS	3.4U	3.3U	3.4U	3.3U	3.4U	3.4U	3.4U	NS
METAL																		
Aluminum	958	707J	491J	225J	NS	660	1020J	2590J	291J	NS	1500	983J	NS	882J	459J	794J	182J	NS
Chromium	0.96U	1.3U	1.1U	1.7U	NS	0.99U	1.2U	3.3U	1.8U	NS	1.7U	1.7U	NS	1.9U	2.8U	1.6U	1.7U	NS
Copper	0.58U	0.26U	0.23U	0.23	NS	0.35U	0.16	0.25U	0.22U	NS	0.57U	0.25U	NS	0.26U	0.4	0.28	0.25U	NS
Iron	706	337J	382J	170J	NS	484	789J	1530J	202J	NS	1120	359J	NS	380J	405J	630J	166J	NS
Lead	1.1U	1.3U	0.86U	0.59U	NS	0.82U	1.6U	1.4U	0.51U	NS	2.1U	0.83U	NS	1U	0.7U	0.8U	0.37U	NS
Magnesium	30U	19.7U	8.7	8.4	NS	22.1U	21.1	41.2	8.6	NS	37.8U	24.4	NS	22.7	15.3	21.6	5.5	NS
Mercury	0.02U	0.02U	0.02U	0.02U	NS	0.02U	0.03U	0.03U	0.02U	NS	0.03U	0.25	NS	0.02U	0.02U	0.02U	0.02U	NS
Silver	0.28U	0.38U	0.34U	0.38	NS	0.29U	0.24U	0.36U	0.32U	NS	0.31U	0.37U	NS	0.37U	0.35U	0.27U	0.37U	NS
Vanadium	1.1U	0.77	0.7	0.63	NS	0.8U	1.4	2.3	0.67U	NS	2.9U	1.2	NS	1.1	0.8	1.2	0.75U	NS

SHORT ID	0050004					0050005				
SAMPLE ID	*0055000401*	*0055000402*	*0055000404*	*0055000406*	*0055000412*	*0055000501*	*0055000502*	*0055000504*	*0055000506*	*0055000512*
SAMPLE DATE	*12/2/1993*	*11/30/1993*	*11/30/1993*	*11/30/1993*	*2/10/1994*	*12/2/1993*	*11/30/1993*	*11/30/1993*	*11/30/1993*	*5/24/1994*
VOC										
Trichloroethene	11	11U	11U	11U	10U	20	10U	11U	10U	10U
PESTICIDES										
4,4-DDT	3.3U	3.4U	3.9U	3.8U	NS	4.2	3.3U	3.3U	3.3U	NS
METAL										
Aluminum	1010	429J	142J	82.9J	NS	1140	234J	127J	104J	NS
Chromium	0.81U	1.4U	3U	2.1U	NS	1.1U	1.3	1.7	1.2	NS
Copper	0.42U	0.23	0.31	0.21U	NS	0.4U	0.17U	0.16U	0.23U	NS
Iron	703	202J	305J	114J	NS	690	164J	104J	95.2J	NS
Lead	0.88U	0.77U	0.34U	0.21U	NS	1.2	0.41U	0.29U	0.37U	NS
Magnesium	25.8U	9.8	6.3	4.5	NS	25.8U	7.2	4.8	4.6	NS
Mercury	0.02U	0.03U	0.03U	0.03U	NS	0.08U	0.03U	0.02U	0.02U	NS
Silver	0.23U	0.34U	0.37	0.31U	NS	0.28U	0.25U	0.24	0.34U	NS
Vanadium	1.5U	0.69U	0.72U	0.65	NS	1.6U	0.56	0.49U	0.69U	NS

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-30 : Summary of Detections OU 13

SHORT ID	0080001			0080003			0080004		0080006		0080007		0080008		0240001	0240002		
SAMPLE ID	*008S000101*	*008S000106*	*008S000109*	*008S000301*	*008S000307*	*008S000311*	*008S000401*	*008S000407*	*008S000601*	*008S000607*	*008S000701*	*008S000707*	*008S000801*	*008S000807*	*024S000105*	*024S000201*	*024S000205*	*024S000210*
SAMPLE DATE	*3/26/1996*	*3/28/1996*	*3/28/1996*	*3/26/1996*	*3/26/1996*	*3/26/1996*	*4/4/1996*	*4/4/1996*	*4/4/1996*	*4/4/1996*	*4/4/1996*	*4/4/1996*	*4/4/1996*	*4/4/1996*	*8/29/1995*	*8/26/1995*	*8/29/1995*	*8/29/1995*
VOC																		
1,4-Dichlorobenzene	0.2U	0.2UJ	0.3	0.2UJ	0.2UJ	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	340U	420U	340U	350U
2-Butanone (MEK)	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2	3	2UJ	2UJ	10U	13U	10U	NS
Acetone	55J	8J	8J	55J	110J	83J	19UJ	25UJ	20J	11UJ	1U	33	21UJ	25UJ	33U	13U	36U	NS
Bromoform	0.5	0.4UJ	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	10U	13U	10U	NS
Ethylbenzene	0.3U	0.3UJ	0.3U	0.3UJ	0.3UJ	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	10U	13U	10U	NS
Tetrachloroethene	0.9U	0.8UJ	0.8U	0.9UJ	1J	2	0.9U	0.8U	0.9U	0.8U	0.9U	0.8U	0.8U	0.8U	10U	13U	10U	NS
Toluene	0.3U	0.4J	0.4	0.3UJ	0.5J	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	10U	13U	10U	NS
Trichloroethene	0.8U	0.8UJ	0.8U	0.8U	0.8U	2	0.8U	0.8U	0.8U	0.8U	0.8U	0.8U	0.8U	0.8U	10U	13U	10U	NS
Xylene (Total)	0.2U	0.2UJ	0.2U	0.2UJ	0.8J	0.9	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	10U	10U	10U	NS
TOC																		
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
Acenaphthene	25U	24U	24U	25U	24U	25U	25U	24U	25U	24U	25U	24U	24U	24U	340U	420U	340U	350U
Anthracene	37U	36U	36U	37U	36U	37U	37U	36U	37U	36U	37U	36U	36U	36U	340U	420U	340U	350U
Benzo(a)anthracene	50U	49U	49U	50U	48U	50U	51U	49U	140	50U	51U	49U	49U	49U	340U	420U	340U	350U
Benzo(a)pyrene	51U	50U	50U	51U	49U	51U	51U	50U	180	50U	52U	50U	50U	50U	150U	180U	150U	150U
Benzo(b)fluoranthene	84U	82U	82U	84U	81U	83U	84U	82U	230	82U	85U	82U	82U	82U	340U	420U	340U	350U
Benzo(g,h,i)perylene	42U	41U	41U	42U	40U	42U	42U	41U	42U	41U	42U	41U	41U	41U	340U	420U	340U	350U
Benzo(k)fluoranthene	55U	54U	53U	55U	53U	54U	55U	53U	200	54U	55U	53U	54U	53U	340U	420U	340U	350U
bis(2-Ethylhexyl)phthalate (BEHP)	52U	51U	260	53U	140	250	53U	51U	52U	52U	53U	150	52U	51U	340U	420U	340U	350U
Butylbenzylphthalate	34U	33U	33U	34U	33U	34U	34U	33U	34U	34U	34U	33U	33U	33U	24J	73J	340UJ	350UJ
Carbazole	42U	41U	41U	42U	40U	42U	42U	41U	42U	41U	42U	41U	41U	41U	340U	420U	340U	350U
Chrysene	40U	39U	39U	40U	39U	40U	40U	39U	170	39U	41U	39U	39U	39U	340U	420U	340U	350U
Dibenz(a,h)anthracene	42U	42U	41U	42U	41U	42U	43U	41U	42U	42U	43U	41U	42U	41U	150U	180U	150U	150U
Dibenzofuran	27U	26U	26U	27U	26U	27U	27U	26U	27U	26U	27U	26U	26U	26U	340U	420U	340U	350U
Di-n-butylphthalate	41U	79	140	41U	120	170	41U	40U	41U	300	41U	99	40U	40U	340U	420U	340U	37J
Fluoranthene	39U	38U	38U	39U	37U	39U	39U	38U	180	50	39U	38U	38U	38U	340U	41J	340U	350U
Fluorene	36U	36U	36U	36U	35U	36U	37U	35U	36U	36U	37U	36U	36U	35U	340U	420U	340U	350U
Indeno(1,2,3-cd)pyrene	51U	50U	50U	52U	49U	51U	52U	50U	51U	51U	52U	50U	50U	50U	340U	420U	340U	350U
Naphthalene	36U	36U	36U	37U	35U	36U	37U	36U	36U	36U	37U	36U	36U	36U	340U	420U	340U	350U
Phenanthrene	35U	34U	34U	35U	34U	35U	35U	34U	43	34U	35U	34U	34U	34U	340U	17J	340U	350U
Pyrene	39U	38U	38U	39U	37U	38U	39U	38U	200	46	39U	38U	38U	38U	340U	45J	340U	350U
PESTICIDES																		
4,4-DDD	1.79U	1.75U	1.74U	1.79U	1.72U	1.77U	1.8U	1.74U	2.11J	3.36J	1.8U	6.28	1.75U	1.74U	3.1J	2.7J	3.4UJ	3.5UJ
4,4-DDE	12.4	3.09J	2.53J	1.41U	1.35U	1.4U	1.42U	1.37U	23.1J	11.3J	10.3	6.35	5.77	1.37U	6.3J	36J	3.4UJ	13J
4,4-DDT	1.89J	9.67J	1.76U	12J	1.74U	1.79U	1.82U	1.76U	3.13J	2.3J	1.83U	1.77U	1.93J	1.76U	3.6J	48J	3.4UJ	27J
Aldrin	0.743U	0.726U	0.924J	19.3J	21J	9.06J	0.746U	0.722U	0.74U	0.73U	1.92J	2.91J	0.727U	0.723U	1.8UJ	2.2UJ	1.8UJ	1.8UJ
alpha-BHC	0.776U	0.757U	0.756U	0.775U	0.744U	0.769U	0.779U	0.754U	0.772U	0.762U	0.783U	0.757U	0.759U	0.755U	1.8UJ	2.2UJ	1.8UJ	1.8UJ
alpha-Chlordane	0.711U	0.716J	1.15J	0.711U	0.682U	1.04	0.714U	0.691U	0.728J	0.698U	0.718U	1.1	0.696U	0.692U	1.6J	2.2UJ	1.8UJ	1.8UJ
Aroclor-1260	35.6U	34.7U	85.2	35.5U	34.1U	35.2U	35.7U	34.5U	35.4U	34.9U	35.9U	34.7U	34.8U	34.6U	34UJ	42UJ	34UJ	130J
beta-BHC	0.625U	0.61U	0.609U	0.625U	0.6U	0.619U	0.627U	0.607U	0.622U	0.614U	0.631U	0.61U	0.611U	0.608U	1.8UJ	2.2UJ	1.8UJ	1.8UJ
delta-BHC	0.743U	0.726U	0.725U	0.743U	0.714U	0.737U	0.746U	0.722U	0.74U	0.73U	0.75U	0.726U	0.727U	0.723U	1.8UJ	2.2UJ	1.8UJ	1.8UJ
Dieldrin	1.81U	1.77U	3.48J	2010DJ	496D	134D	2.06	1.76U	2.03J	1.78U	4.9	1.77U	1.77U	1.76U	2.3J	1J	3.4UJ	3.3J
Endosulfan I	0.98U	0.957U	0.956U	0.98U	0.941U	0.972U	0.984U	0.952U	0.976U	0.963U	0.99U	0.957U	0.959U	0.954U	1.8UJ	1.5J	1.8UJ	1.8UJ
Endosulfan II	1.63U	1.59U	1.87J	1.63U	1.56U	1.61U	1.63U	1.58U	1.62U	1.6U	1.64U	1.59U	1.59U	1.58U	3.4UJ	4.2UJ	3.4UJ	3.5UJ
Endosulfan sulfate	1.41U	1.38U	1.38U	1.41U	1.35U	1.4U	1.42U	1.37U	2.54J	1.39U	1.42U	1.38U	1.38U	1.37U	3.4UJ	4.2UJ	3.4UJ	3.5UJ
Endrin	1.76U	1.71U	3.9J	4.61J	1.93	3.75	1.76U	1.71U	1.75U	1.72U	1.77U	1.71U	1.72U	1.71U	3.4UJ	4.2UJ	3.4UJ	3.5UJ
Endrin aldehyde	2.84U	2.78U	2.77U	2.84U	2.73U	2.82U	2.86U	2.76U	2.83U	2.79U	2.87U	2.78U	2.78U	2.77U	3.4UJ	4.2UJ	3.4UJ	3.5UJ
Endrin ketone	1.43U	1.4U	1.4U	18.1J	10.6J	2.11J	1.44U	1.39U	1.43U	1.41U	1.45U	1.4U	1.4U	1.39U	3.4UJ	4.2UJ	3.4UJ	3.5UJ
gamma-BHC (Lindane)	0.851U	0.831U	0.83U	0.851U	0.817U	0.844U	0.854U	0.827U	0.847U	0.836U	0.859U	0.831U	0.833U	0.828U	1.8UJ	2.2UJ	1.8UJ	1.8UJ
gamma-Chlordane	0.725J	0.673U	0.672U	1.89J	0.662U	1.13J	0.692U	0.67U	0.686U	0.677U	1.81	0.827J	0.675U	0.671U	1.8J	1.6J	1.8UJ	1.8UJ
Heptachlor	0.733U	0.715U	0.714U	0.732U	0.703U	0.726U	0.735U	0.712U	0.729U	0.72U	0.74U	0.715U	0.717U	0.713U	1.8UJ	2.2UJ	1.8UJ	1.8UJ
Heptachlor epoxide	1.06U	1.03U	1.25J	1.06U	1.01U	1.06J	1.06U	1.03U	1.05U	1.04U	1.07U	1.03U	1.03U	1.03U	1.8UJ	1.9J	1.8UJ	1.8UJ
Methoxychlor	21UJ	20.7J	20.5UJ	21UJ	20.2UJ	20.8UJ	21.1UJ	20.4UJ	20.9UJ	20.6UJ	21.2UJ	20.5UJ	20.6UJ	20.4UJ	18UJ	22UJ	18UJ	18UJ
PESTICIDE																		
4,4-DDD	1.79U	1.75U	1.74U	1.79U	1.72U	1.77U	1.8U	1.74U	2.11J	3.36J	1.8U	6.28	1.75U	1.74U	3.1J	2.7J	3.4UJ	3.5UJ
4,4-DDE	12.4	3.09J	2.53J	1.41U	1.35U	1.4U	1.42U	1.37U	23.1J	11.3J	10.3	6.35	5.77	1.37U	6.3J	36J	3.4UJ	13J
4,4-DDT	1.89J	9.67J	1.76U	12J	1.74U	1.79U	1.82U	1.76U	3.13J	2.3J	1.83U	1.77U	1.93J	1.76U	3.6J	48J	3.4UJ	27J
alpha-Chlordane	0.711U	0.716J	1.15J	0.711U	0.682U	1.04	0.714U	0.691U	0.728J	0.698U	0.718U	1.1	0.696U	0.692U	1.6J	2.2UJ	1.8UJ	1.8UJ
Aroclor-1260	35.6U	34.7U	85.2	35.5U	34.1U	35.2U	35.7U	34.5U	35.4U	34.9U	35.9U	34.7U	34.8U	34.6U	34UJ	42UJ	34UJ	130J
Dieldrin	1.81U	1.77U	3.48J	2010DJ	496D	134D	2.06	1.76U	2.03J	1.78U	4.9	1.77U	1.77U	1.76U	2.3J	1J	3.4UJ	3.3J
Endosulfan I	0.98U	0.957U	0.956U	0.98U	0.941U	0.972U	0.984U	0.952U	0.976U	0.963U	0.99U	0.957U	0.959U	0.954U	1.8UJ	1.5J	1.8UJ	1.8UJ
Endrin ketone	1.43U	1.4U	1.4U	18.1J	10.6J	2.11J	1.44U	1.39U	1.43U	1.41U	1.45U	1.4U	1.4U	1.39U	3.4UJ	4.2UJ	3.4UJ	3.5UJ
gamma-Chlordane	0.725J	0.673U	0.672U	1.89J	0.662U	1.13J	0.692U	0.67U	0.686U	0.677U	1.81	0.827J	0.675U	0.671U	1.8J	1.6J	1.8UJ	1.8UJ
Heptachlor epoxide	1.06U	1.03U	1.25J	1.06U	1.01U	1.06J	1.06U	1.03U	1.05U	1.04U	1.07U	1.03U	1.03U	1.03U	1.8UJ	1.9J	1.8UJ	1.8UJ

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-30 : Summary of Detections OU 13

SHORT ID	0240003		0240004		0240005			0240007	0240008	0240009	0240010		0240011		0240012		0240013	
SAMPLE ID	*024S000301*	*024S000305*	*024S000401*	*024S000405*	*024S000501*	*024S000505*	*024S000510*	*024S000701*	*024S000801*	*024S000901*	*024S001001*	*024S001007*	*024S001101*	*024S001106*	*024S001201*	*024S001206*	*024S001301*	*024S001307*
SAMPLE DATE	*8/30/1995*	*8/30/1995*	*8/30/1995*	*8/30/1995*	*8/30/1995*	*8/30/1995*	*8/30/1995*	*8/29/1995*	*8/29/1995*	*8/29/1995*	*4/2/1996*	*4/2/1996*	*4/2/1996*	*4/2/1996*	*4/2/1996*	*4/2/1996*	*4/3/1996*	*4/3/1996*
VOC																		
1,4-Dichlorobenzene	340U	350U	350U	340U	350U	340U	340U	340U	340U	330U	360U	350U	360U	350U	350U	350U	NS	NS
2-Butanone (MEK)	10U	10U	11U	10U	10U	10U	NS	10U	10U	10U	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	10U	10U	11U	10U	65U	20U	NS	10U	10U	10U	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	10U	10U	11U	10U	10U	10U	NS	10U	10U	10U	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	10UJ	10U	11U	10U	10U	10U	NS	10U	10U	10U	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	10UJ	10U	11U	10U	10U	10U	NS	10U	10U	10U	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	10UJ	10U	11U	10U	10U	10U	NS	10U	10U	5J	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	10U	10U	11U	10U	10U	10U	NS	10U	10U	10U	NS	NS	NS	NS	NS	NS	NS	NS
Xylene (Total)	3J	10U	2J	0.6J	10U	10U	NS	10U	3	7	NS	NS	NS	NS	NS	NS	NS	NS
TOC																		
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
Acenaphthene	340U	350U	350U	340U	350U	340U	340U	340U	340U	330U	160J	350U	360U	350U	350U	350U	NS	NS
Anthracene	340U	350U	350U	340U	350U	340U	340U	340U	340U	330U	190J	350U	360U	350U	19J	350U	NS	NS
Benzo(a)anthracene	180J	350U	350U	340U	25J	340U	340U	340U	31J	70J	670	350U	360U	350U	100J	350U	NS	NS
Benzo(a)pyrene	180	150U	150U	150U	150U	140U	150U	140U	29J	54J	630	93U	56J	93U	160	95U	NS	NS
Benzo(b)fluoranthene	280J	350U	350U	340U	42J	340U	340U	340U	58J	150J	990	350U	88J	350U	210J	350U	NS	NS
Benzo(g,h,i)perylene	87J	350U	350U	340U	350U	340U	340U	340U	340U	28J	310J	350U	33J	350U	170J	350U	NS	NS
Benzo(k)fluoranthene	100J	350U	350U	340U	350U	340U	340U	340U	22J	58J	300J	350U	32J	350U	88J	350U	NS	NS
bis(2-Ethylhexyl)phthalate (BEHP)	1000	350U	350U	340U	350U	340U	340U	350U	340U	590U	330J	37J	5200	350U	1300	48J	NS	NS
Butylbenzylphthalate	4700D	350UJ	350UJ	340U	350UJ	18J	340UJ	140J	180J	330UJ	160J	350U	72J	350U	3400	140J	NS	NS
Carbazole	23J	350U	350U	340U	350U	340U	340U	340U	340U	19J	200J	350U	360U	350U	350U	350U	NS	NS
Chrysene	200J	350U	350U	340U	30J	340U	340U	340U	43J	190J	760	350U	64J	350U	140J	350U	NS	NS
Dibenz(a,h)anthracene	150U	150U	150U	150U	150U	140U	150U	140U	140U	140U	100J	350U	360U	350U	42J	350U	NS	NS
Dibenzofuran	340U	350U	350U	340U	350U	340U	340U	340U	340U	330U	71J	350U	360U	350U	350U	350U	NS	NS
Di-n-butylphthalate	54J	37J	350U	340U	350U	340U	28J	340U	340U	330U	360U	350U	58J	350U	350U	350U	NS	NS
Fluoranthene	280J	350U	350U	340U	25J	340U	340U	340U	64J	400	1300	14J	87J	350U	140J	12J	NS	NS
Fluorene	340U	350U	350U	340U	350U	340U	340U	340U	340U	5J	120J	350U	360U	350U	350U	350U	NS	NS
Indeno(1,2,3-cd)pyrene	140J	350U	350U	340U	350U	340U	340U	340U	340U	45J	270J	350U	28J	350U	130J	350U	NS	NS
Naphthalene	340U	350U	350U	340U	350U	340U	340U	340U	340U	330U	75J	350U	360U	350U	350U	350U	NS	NS
Phenanthrene	98J	350U	350U	340U	350U	340U	340U	340U	16J	200J	1100	350U	43J	350U	70J	350U	NS	NS
Pyrene	220J	350U	350U	340U	32J	340U	340U	340U	98J	410J	1100	13J	87J	350U	220J	14J	NS	NS
PESTICIDES																		
4,4-DDD	99J	16J	16J	3.4UJ	3.5UJ	3.4U	3.4U	3.4J	3.5J	1.3J	51J	17	7.2J	3.5U	1100	55	17D	3.4U
4,4-DDE	240D	3.1J	46J	0.8J	0.49J	0.36J	3.5	26J	38J	16J	280D	48	290	3.8	1600D	83	240D	1J
4,4-DDT	300D	2.3J	80J	1.3J	3.5UJ	3.4U	2.1J	48J	42J	16J	140D	12	140D	2.2J	1100D	130D	73D	3.4U
Aldrin	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8U	1.8U	1.7UJ	1.7UJ	1.7UJ	0.94J	1.8U	9.2U	1.8U	36U	9.1U	1.8U	1.8U
alpha-BHC	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.7UJ	1.7UJ	1.7UJ	1.9U	1.8U	9.2U	1.8U	36U	9.1U	1.8U	1.8U
alpha-Chlordane	25J	1.8UJ	7.5J	0.87J	1.8UJ	1.8U	1.8U	1.4J	0.79J	1.7UJ	8.2J	3.6	3.6J	1.8U	240	9.3J	1.8U	1.8U
Aroclor-1260	100J	22J	35UJ	34UJ	35UJ	34U	34U	34UJ	34UJ	33UJ	36U	35U	280	35U	710U	180U	34U	34U
beta-BHC	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8U	1.8U	1.7UJ	1.7UJ	1.7UJ	1.9U	1.8U	9.2U	1.8U	36U	9.1U	1.8U	1.8U
delta-BHC	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8U	1.8U	1.7UJ	1.7UJ	1.7UJ	1.9U	1.8U	9.2U	1.8U	36U	9.1U	1.8U	1.8U
Dieldrin	36J	3.5UJ	3.1J	3.4UJ	3.5UJ	3.4U	3.4U	2.3J	2J	0.72J	58D	22DJ	32J	0.76J	100J	4.2J	3.4U	3.4U
Endosulfan I	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8U	1.8U	1.7UJ	1.2J	1.7UJ	7.9J	0.65J	3.5J	1.8U	13J	9J	1.8U	1.8U
Endosulfan II	3.4UJ	3.5UJ	3.5UJ	3.4UJ	3.5UJ	3.4U	3.4U	3.4UJ	3.4UJ	3.3UJ	4.7J	3.5U	18U	3.5U	71U	18U	3.4U	3.4U
Endosulfan sulfate	3.4UJ	3.5UJ	3.5UJ	3.4UJ	3.5UJ	3.4U	3.4U	3.4UJ	3.4UJ	3.3UJ	6.4J	0.93J	78J	3.5U	71U	18U	3.3J	3.4U
Endrin	3.4UJ	3.5UJ	3.5UJ	3.4UJ	3.5UJ	3.4U	3.4U	3.4UJ	3.4UJ	3.3UJ	7.2J	0.43J	18U	3.5U	16J	18U	3.4U	3.4U
Endrin aldehyde	3.4UJ	3.5UJ	3.5UJ	3.4UJ	3.5UJ	3.4U	3.4U	3.4UJ	3.4UJ	3.3UJ	9.2J	3.5U	18U	3.5U	71U	18U	3.4U	3.4U
Endrin ketone	3.4UJ	3.5UJ	3.5UJ	3.4UJ	3.5UJ	3.4U	3.4U	3.4UJ	3.4UJ	0.31J	24J	3.5U	18U	3.5U	71U	18U	3.4U	3.4U
gamma-BHC (Lindane)	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8U	1.8U	1.7UJ	1.7UJ	1.7UJ	1.9U	1.8U	9.2U	1.8U	36U	9.1U	1.8U	1.8U
gamma-Chlordane	23J	1.8UJ	5.2J	0.65J	1.8UJ	1.8U	1.8U	1.4J	1.7J	0.45J	9.5J	4J	6.7J	1.8U	270	9.2J	0.93J	1.8U
Heptachlor	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8U	1.8U	1.7UJ	1.7UJ	1.7UJ	1.9U	1.8U	9.2U	1.8U	36U	9.1U	1.8U	1.8U
Heptachlor epoxide	1.8UJ	1.8UJ	1.8UJ	0.88J	1.8UJ	1.8U	1.8U	1.7UJ	1.3J	1.7UJ	1.3J	1.8U	9.2U	1.8U	36U	9.1U	1.8U	1.8U
Methoxychlor	18UJ	18UJ	18UJ	18UJ	18UJ	18U	18U	17UJ	17UJ	17UJ	24J	18U	92U	18U	360U	91U	18U	18U
PESTICIDE																		
4,4-DDD	99J	16J	16J	3.4UJ	3.5UJ	3.4U	3.4U	3.4J	3.5J	1.3J	51J	17	7.2J	3.5U	1100	55	17D	3.4U
4,4-DDE	240D	3.1J	46J	0.8J	0.49J	0.36J	3.5	26J	38J	16J	280D	48	290	3.8	1600D	83	240D	1J
4,4-DDT	300D	2.3J	80J	1.3J	3.5UJ	3.4U	2.1J	48J	42J	16J	140D	12	140D	2.2J	1100D	130D	73D	3.4U
alpha-Chlordane	25J	1.8UJ	7.5J	0.87J	1.8UJ	1.8U	1.8U	1.4J	0.79J	1.7UJ	8.2J	3.6	3.6J	1.8U	240	9.3J	1.8U	1.8U
Aroclor-1260	100J	22J	35UJ	34UJ	35UJ	34U	34U	34UJ	34UJ	33UJ	36U	35U	280	35U	710U	180U	34U	34U
Dieldrin	36J	3.5UJ	3.1J	3.4UJ	3.5UJ	3.4U	3.4U	2.3J	2J	0.72J	58D	22DJ	32J	0.76J	100J	4.2J	3.4U	3.4U
Endosulfan I	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8UJ	1.8U	1.8U	1.7UJ	1.2J	1.7UJ	7.9J	0.65J	3.5J	1.8U	13J	9J	1.8U	1.8U
Endrin ketone	3.4UJ	3.5UJ	3.5UJ	3.4UJ	3.5UJ	3.4U	3.4U	3.4UJ	3.4UJ	0.31J	24J	3.5U	18U	3.5U	71U	18U	3.4U	3.4U
gamma-Chlordane	23J	1.8UJ	5.2J	0.65J	1.8UJ	1.8U	1.8U	1.4J	1.7J	0.45J	9.5J	4J	6.7J	1.8U	270	9.2J	0.93J	1.8U
Heptachlor epoxide	1.8UJ	1.8UJ	1.8UJ	0.88J	1.8UJ	1.8U	1.8U	1.7UJ	1.3J	1.7UJ	1.3J	1.8U	9.2U	1.8U	36U	9.1U	1.8U	1.8U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-30 : Summary of Detections OU 13

SHORT ID	0240014		0240015		0240016		0240017		0240018		0240019		0240020		0240021		0240022	
SAMPLE ID	*024S001401*	*024S001407*	*024S001501*	*024S001507*	*024S001601*	*024S001607*	*024S001701*	*024S001707*	*024S001801*	*024S001807*	*024S001901*	*024S001907*	*024S002001*	*024S002006*	*024S002101*	*024S002106*	*024S002201*	*024S002207*
SAMPLE DATE	*4/2/1996*	*4/2/1996*	*4/2/1996*	*4/2/1996*	*4/2/1996*	*4/2/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*
VOC																		
1,4-Dichlorobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-Butanone (MEK)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acetone	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Bromoform	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tetrachloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Xylene (Total)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
TOC																		
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
Acenaphthene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Anthracene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo(a)anthracene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo(a)pyrene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo(b)fluoranthene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo(g,h,i)perylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo(k)fluoranthene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
bis(2-Ethylhexyl)phthalate (BEHP)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Butylbenzylphthalate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Carbazole	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chrysene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibenz(a,h)anthracene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibenzofuran	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Di-n-butylphthalate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Fluoranthene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Fluorene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Indeno(1,2,3-cd)pyrene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phenanthrene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Pyrene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
PESTICIDES																		
4,4-DDD	3.1J	18U	3.5U	3.4U	2.4J	3.4U	3.5U	3.4U	3.6U	3.4U	3.5U	3.4U	3.6U	3.5U	6.6J	3.4U	2.4J	3.4U
4,4-DDE	36	4.3J	9.9J	18J	48	1.8J	6.1J	3.4U	10J	3.4U	8.8J	3.4U	4.9	0.4J	33J	1.4J	24J	0.55J
4,4-DDT	22	27J	2.5J	3J	19J	1.5J	3J	3.4U	3.3J	3.4U	3.4J	3.4U	1.7J	3.5U	25	0.65J	22	3.4U
Aldrin	1.8U	9.4U	1.8U	1.6J	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U
alpha-BHC	1.8U	9.4U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	0.32J	1.8U	0.52J	1.8U	1.9U	1.8U	1.8U	1.8U
alpha-Chlordane	0.91J	9.4U	2J	0.79J	1.8U	1.8U	1.8U	1.8U	0.87J	1.8U	0.52J	1.8U	1.1J	1.8U	14J	1.8U	1.7J	1.8U
Aroclor-1260	36U	160J	35U	34U	35U	34U	35U	34U	36U	34U	35U	34U	36U	35U	36U	34U	35U	34U
beta-BHC	1.8U	9.4U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U
delta-BHC	1.8U	9.4U	1.8U	2J	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U
Dieldrin	2.1J	18U	3.5U	18DJ	13J	3.4U	4.5J	3.4U	3.4J	3.4U	2.3J	3.4U	3.6U	3.5U	3.5J	3.4U	17	3.4U
Endosulfan I	0.87J	9.4U	1.9J	0.7J	1.8U	1.8U	1.8U	1.8U	3.8J	1.8U	2.6J	1.8U	5.4J	1.8U	22J	1.8U	2	1.8U
Endosulfan II	3.6U	18U	3.5U	3.4U	3.5U	3.4U	3.5U	3.4U	3.6U	3.4U	3.5U	3.4U	3.6U	3.5U	3.6U	3.4U	3.5U	3.4U
Endosulfan sulfate	2.2J	18U	1.3J	2.9J	1.7J	3.4U	0.88J	3.4U	3.6U	3.4U	3.5U	0.85J	3.6U	3.5U	2.9J	3.4U	3.5U	1.3J
Endrin	1.3J	18U	1.6J	3.5J	3.5U	3.4U	3.5U	3.4U	3.6U	3.4U	3.5U	3.4U	3.6U	3.5U	3.6U	3.4U	3.5U	3.4U
Endrin aldehyde	2.1J	18U	3.5U	3.4U	3.5U	3.4U	3.5U	3.4U	3.6U	3.4U	3.5U	3.4U	3.6U	3.5U	3.6U	3.4U	3.5U	3.4U
Endrin ketone	3.6U	18U	14J	25	3.5U	3.4U	3.5U	3.4U	3.6U	3.4U	3.5U	3.4U	3.6U	3.5U	0.45J	3.4U	3.5U	3.4U
gamma-BHC (Lindane)	1.8U	9.4U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U
gamma-Chlordane	1.2J	9.4U	1.8U	1.8U	1.3J	1.8U	0.49J	1.8U	1.8U	1.8U	0.92J	1.8U	6.3J	1.8U	120D	1.1J	1.8U	1.8U
Heptachlor	1.8U	9.4U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.5J	1.8U	1.8U	1.8U
Heptachlor epoxide	1.8U	9.4U	0.73J	5.6J	1.8U	1.8U	0.73J	1.8U	1.8U	1.8U	1.8U	1.8U	7.5	1.8U	71D	0.57J	1.8U	1.8U
Methoxychlor	18U	94U	31J	110J	18U	18U	18U	18U	18U	18U	18U	18U	18U	18U	19U	18U	18U	18U
PESTICIDE																		
4,4-DDD	3.1J	18U	3.5U	3.4U	2.4J	3.4U	3.5U	3.4U	3.6U	3.4U	3.5U	3.4U	3.6U	3.5U	6.6J	3.4U	2.4J	3.4U
4,4-DDE	36	4.3J	9.9J	18J	48	1.8J	6.1J	3.4U	10J	3.4U	8.8J	3.4U	4.9	0.4J	33J	1.4J	24J	0.55J
4,4-DDT	22	27J	2.5J	3J	19J	1.5J	3J	3.4U	3.3J	3.4U	3.4J	3.4U	1.7J	3.5U	25	0.65J	22	3.4U
alpha-Chlordane	0.91J	9.4U	2J	0.79J	1.8U	1.8U	1.8U	1.8U	0.87J	1.8U	0.52J	1.8U	1.1J	1.8U	14J	1.8U	1.7J	1.8U
Aroclor-1260	36U	160J	35U	34U	35U	34U	35U	34U	36U	34U	35U	34U	36U	35U	36U	34U	35U	34U
Dieldrin	2.1J	18U	3.5U	18DJ	13J	3.4U	4.5J	3.4U	3.4J	3.4U	2.3J	3.4U	3.6U	3.5U	3.5J	3.4U	17	3.4U
Endosulfan I	0.87J	9.4U	1.9J	0.7J	1.8U	1.8U	1.8U	1.8U	3.8J	1.8U	2.6J	1.8U	5.4J	1.8U	22J	1.8U	2	1.8U
Endrin ketone	3.6U	18U	14J	25	3.5U	3.4U	3.5U	3.4U	3.6U	3.4U	3.5U	3.4U	3.6U	3.5U	0.45J	3.4U	3.5U	3.4U
gamma-Chlordane	1.2J	9.4U	1.8U	1.8U	1.3J	1.8U	0.49J	1.8U	1.8U	1.8U	0.92J	1.8U	6.3J	1.8U	120D	1.1J	1.8U	1.8U
Heptachlor epoxide	1.8U	9.4U	0.73J	5.6J	1.8U	1.8U	0.73J	1.8U	1.8U	1.8U	1.8U	1.8U	7.5	1.8U	71D	0.57J	1.8U	1.8U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-30 : Summary of Detections OU 13

SHORT ID	0240023		0240024	0240025		0240026		0240027		0240028		0240029		0240030		024DG02	024UG01
SAMPLE ID	*024S002301*	*024S002307*	*024S002401*	*024S002501*	*024S002507*	*024S002601*	*024S002607*	*024S002701*	*024S002707*	*024S002801*	*024S002807*	*024S002901*	*024S002907*	*024S003001*	*024S003007*	*024SDG0206*	*024SUG0106*
SAMPLE DATE	*6/7/1996*	*6/7/1996*	*3/9/1999*	*3/10/1999*	*3/10/1999*	*3/10/1999*	*3/10/1999*	*3/10/1999*	*3/10/1999*	*3/9/1999*	*3/9/1999*	*3/9/1999*	*3/9/1999*	*3/10/1999*	*3/10/1999*	*9/11/1995*	*9/11/1995*
VOC																	
1,4-Dichlorobenzene	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
2-Butanone (MEK)	NS	NS	11U	10U	11U	11U	10U	11U	10U	11U	10U	11U	10U	10U	10U	NS	NS
Acetone	NS	NS	11U	10U	11U	11U	10U	11UJ	10U	11U	10U	11U	10U	10U	10U	NS	NS
Bromoform	NS	NS	11U	10U	11U	11U	10U	11U	10U	11U	10U	11U	10U	10U	10U	NS	NS
Ethylbenzene	NS	NS	11U	2.8J	11U	11U	10U	11U	10U	2.3J	10U	11U	10U	4J	10U	NS	NS
Tetrachloroethene	NS	NS	4.4J	4.6J	11U	11U	10U	4.5J	10U	4.1J	10U	11U	10U	4.2J	10U	NS	NS
Toluene	NS	NS	2.1J	2.5J	11U	11U	10U	2.3J	10U	2.2J	10U	11U	10U	2.4J	10U	NS	NS
Trichloroethene	NS	NS	11U	10U	11U	11U	10U	11U	10U	11U	10U	11U	10U	10U	10U	NS	NS
Xylene (Total)	NS	NS	11U	10U	11U	11U	10U	11U	10U	11U	10U	11U	10U	10U	10U	NS	NS
TOC																	
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2000	370
SVOC																	
Acenaphthene	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Anthracene	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Benzo(a)anthracene	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Benzo(a)pyrene	93U	91U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Benzo(b)fluoranthene	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Benzo(g,h,i)perylene	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Benzo(k)fluoranthene	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
bis(2-Ethylhexyl)phthalate (BEHP)	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Butylbenzylphthalate	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Carbazole	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Chrysene	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Dibenz(a,h)anthracene	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Dibenzofuran	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Di-n-butylphthalate	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Fluoranthene	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Fluorene	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Indeno(1,2,3-cd)pyrene	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Naphthalene	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Phenanthrene	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
Pyrene	350U	340U	370U	350U	350U	350U	340U	380U	340U	360U	340UR	370U	340U	350U	340U	NS	NS
PESTICIDES																	
4,4-DDD	3.4J	3.4U	3.7U	3.5U	3.5U	3.5U	3.4U	3.8U	3.4U	0.85J	3.4U	3.7U	3.4U	3.5U	3.4U	NS	NS
4,4-DDE	16J	3.4U	5	0.82J	3.5U	0.14J	0.39J	1.8J	3.4U	8.2	3.4U	1.6J	3.4U	0.92J	3.4U	NS	NS
4,4-DDT	25	3.4U	5J	1.2J	3.5U	3.5U	0.81J	1.9J	3.4U	9.4	3.4U	1.5J	3.4U	1U	3.4U	NS	NS
Aldrin	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	1.8U	NS	NS
alpha-BHC	1.8U	1.8U	1.9UJ	1.8UJ	1.8UJ	1.8UJ	1.8UJ	0.084J	1.8UJ	0.066J	1.8UJ	0.078J	0.069J	1.8UJ	1.8UJ	NS	NS
alpha-Chlordane	0.65J	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	2.2	1.8U	0.43U	1.8U	0.76J	1.8U	1.8U	1.8U	NS	NS
Aroclor-1260	35U	34U	12J	35U	35U	35U	34U	38U	34U	36U	34U	37U	34U	35U	34U	NS	NS
beta-BHC	1.8U	1.8U	0.11U	1.8U	1.8U	1.8U	1.8U	0.19J	1.8U	0.24J	1.8U	0.14J	1.8U	1.8U	1.8U	NS	NS
delta-BHC	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	1.8U	NS	NS
Dieldrin	8.4	3.4U	1.7J	3.5U	3.5U	3.5U	3.4U	0.92J	3.4U	3.6U	3.4U	0.32J	3.4U	3.5U	3.4U	NS	NS
Endosulfan I	0.72J	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	1.8U	NS	NS
Endosulfan II	3.5U	3.4U	3.7U	3.5U	3.5U	3.5U	3.4U	3.8U	3.4U	3.6U	3.4U	3.7U	3.4U	3.5U	3.4U	NS	NS
Endosulfan sulfate	3.5U	3.4U	3.7U	3.5U	3.5U	3.5U	3.4U	3.8U	3.4U	3.6U	3.4U	3.7U	3.4U	3.5U	3.4U	NS	NS
Endrin	3.5U	3.4U	3.7U	3.5U	3.5U	3.5U	3.4U	3.8U	3.4U	3.6U	3.4U	3.7U	3.4U	3.5U	3.4U	NS	NS
Endrin aldehyde	3.5U	3.4U	3.7U	3.5U	3.5U	3.5U	3.4U	3.8U	3.4U	3.6U	3.4U	3.7U	3.4U	3.5U	3.4U	NS	NS
Endrin ketone	3.5U	3.4U	3.7U	3.5U	3.5U	3.5U	3.4U	0.15U	3.4U	3.6U	3.4U	3.7U	3.4U	3.5U	3.4U	NS	NS
gamma-BHC (Lindane)	1.8U	1.8U	1.9UJ	1.8UJ	0.17UJ	1.8UJ	1.8UJ	0.16UJ	1.8UJ	1.9UJ	0.13J	1.9UJ	0.14J	1.8UJ	1.8UJ	NS	NS
gamma-Chlordane	0.91J	1.8U	0.12U	1.8U	1.8U	1.8U	1.8U	8.4	1.8U	1.6J	1.8U	2.7	0.06J	1.8U	1.8U	NS	NS
Heptachlor	1.8U	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	0.25U	1.8U	0.087U	1.8U	0.13U	1.8U	1.8U	1.8U	NS	NS
Heptachlor epoxide	0.67J	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	7.1P	1.8U	0.29J	1.8U	2J	1.8U	1.8U	1.8U	NS	NS
Methoxychlor	18U	18U	19U	18U	18U	18U	18U	1.5U	18U	1.2J	18U	1.1J	18U	18U	18U	NS	NS
PESTICIDE																	
4,4-DDD	3.4J	3.4U	3.7U	3.5U	3.5U	3.5U	3.4U	3.8U	3.4U	0.85J	3.4U	3.7U	3.4U	3.5U	3.4U	NS	NS
4,4-DDE	16J	3.4U	5	0.82J	3.5U	0.14J	0.39J	1.8J	3.4U	8.2	3.4U	1.6J	3.4U	0.92J	3.4U	NS	NS
4,4-DDT	25	3.4U	5J	1.2J	3.5U	3.5U	0.81J	1.9J	3.4U	9.4	3.4U	1.5J	3.4U	1U	3.4U	NS	NS
alpha-Chlordane	0.65J	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	2.2	1.8U	0.43U	1.8U	0.76J	1.8U	1.8U	1.8U	NS	NS
Aroclor-1260	35U	34U	12J	35U	35U	35U	34U	38U	34U	36U	34U	37U	34U	35U	34U	NS	NS
Dieldrin	8.4	3.4U	1.7J	3.5U	3.5U	3.5U	3.4U	0.92J	3.4U	3.6U	3.4U	0.32J	3.4U	3.5U	3.4U	NS	NS
Endosulfan I	0.72J	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	1.8U	NS	NS
Endrin ketone	3.5U	3.4U	3.7U	3.5U	3.5U	3.5U	3.4U	0.15U	3.4U	3.6U	3.4U	3.7U	3.4U	3.5U	3.4U	NS	NS
gamma-Chlordane	0.91J	1.8U	0.12U	1.8U	1.8U	1.8U	1.8U	8.4	1.8U	1.6J	1.8U	2.7	0.06J	1.8U	1.8U	NS	NS
Heptachlor epoxide	0.67J	1.8U	1.9U	1.8U	1.8U	1.8U	1.8U	7.1P	1.8U	0.29J	1.8U	2J	1.8U	1.8U	1.8U	NS	NS

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-31 : Summary of Detections OU 13 Metal

SHORT ID	0080001			0080003			0080004		0080006		0080007		0080008		0240001	0240002		0240003	
SAMPLE ID	*008S000101*	*008S000106*	*008S000109*	*008S000301*	*008S000307*	*008S000311*	*008S000401*	*008S000407*	*008S000601*	*008S000607*	*008S000701*	*008S000707*	*008S000801*	*008S000807*	*024S000105*	*024S000201*	*024S000205*	*024S000301*	*024S000305*
SAMPLE DATE	*3/26/1996*	*3/28/1996*	*3/28/1996*	*3/26/1996*	*3/26/1996*	*3/26/1996*	*4/4/1996*	*4/4/1996*	*4/4/1996*	*4/4/1996*	*4/4/1996*	*4/4/1996*	*4/4/1996*	*4/4/1996*	*8/29/1995*	*8/26/1995*	*8/29/1995*	*8/30/1995*	*8/30/1995*
METAL																			
Aluminum	8250J	4910J	2530J	15400J	1570J	1910J	2050J	370J	5140J	1970J	10500J	720J	8750J	1860J	608	4380	619	4000	838
Antimony	0.19UJ	4.4J	7.1J	0.75J	0.18UJ	0.2J	0.23J	0.19UJ	0.38J	0.72J	0.19UJ	0.9J	0.19UJ	0.19UJ	1.9U	2.3U	1.9U	1.9U	2.2J
Arsenic	1.3J	0.94J	2.5J	2.1J	0.53J	1.1J	0.51J	0.27UJ	1J	0.87J	2.2J	1.8J	1.4J	0.28J	0.22U	0.61U	0.31U	0.57U	0.22U
Barium	5.7J	52.1J	168J	27.2J	4.1J	5.3J	4.2J	0.6J	9.1J	13.2J	8.5J	26.1J	4.4J	10.1J	1.3J	6.5J	2.4J	18.5J	3J
Beryllium	0.04U	0.04U	0.04U	0.05J	0.04U	0.04U	0.04U	0.04U	0.04U	0.04U	0.05J	0.04U	0.04U	0.04U	0.06U	0.08U	0.06U	0.17	0.06U
Cadmium	0.09J	10.9	15.9	1.7	0.68	0.71	0.12	0.03U	0.68	2.3	0.12	5.7	0.03J	0.7	0.66U	0.8U	0.66U	2.8	0.74J
Calcium	491J	641J	841J	2890J	2570J	8280J	155J	26.7J	628J	411J	456J	299J	146J	92.9J	69.5J	342J	54.5J	10800	177J
Chromium	7.5J	20.5J	28.5J	16.6J	3.4J	6.1J	2J	0.3J	5.9J	8.8J	12.5J	11.7J	8.3J	1.8J	2.2	5	1.3J	26.5	3.9
Cobalt	0.22U	1.8	2	0.46J	0.21U	0.28J	0.22U	0.22U	0.23U	0.31J	0.22U	0.35J	0.22U	0.22U	0.33U	0.63J	0.33U	0.68J	0.33U
Copper	3.9J	168J	256J	30.5J	3.9J	7.3J	2J	0.13U	4.8J	42.6J	7.7J	47.4J	2.8J	3.9J	1.2U	2.9J	1.2U	18.2	3.3J
Cyanide (CN)	0.54U	0.53U	0.53U	0.54U	0.52U	0.53U	0.54U	0.52U	0.54U	0.53U	0.54U	0.53U	0.53U	0.52U	0.26U	0.32U	0.26U	0.58	0.26U
Iron	4250J	7120J	13900J	9140J	3130J	9010J	1240J	231J	3330J	5820J	8130J	4430J	4910J	892J	267	2890	486	2400	295
Lead	14.2J	273J	648J	82.4J	32.2J	16J	68J	1.9J	58J	137J	23.7J	160J	6J	3.3J	7.9	24.9	4.5	97.7	11
Magnesium	102J	94J	126J	244J	77.7J	328J	88.8J	15.7J	82.7J	64.2J	80.8J	71.4J	73.2J	71.4J	17.6J	119J	11.9J	768J	18.6J
Manganese	18J	65.2J	106J	33.7J	10.7J	24.6J	10.5J	0.7J	15.2J	19.7J	19.1J	18.4J	9.8J	5.9J	4.2	64.4	2.2J	96.5	1.2J
Mercury	0.1U	0.53	0.45	0.11	0.21	0.32	0.15	0.12	0.11	0.31	0.11	0.25	0.19	0.15	0.01U	0.03J	0.01U	0.1	0.12
Nickel	1.5J	11.9J	17.2J	4.4J	1.6J	4.1J	0.82J	0.19U	1.5J	5J	1.4J	6.3J	1.3J	1.3J	0.79U	1.1J	0.79U	2.7J	0.8U
Potassium	66.7J	44.2J	57.6J	128	18.5J	45J	41.2J	9.5J	48.1J	25.2J	64J	17.6J	56.5J	41.1J	12.1U	47.4J	12U	133J	12.2U
Silver	0.15U	3.2	6.9	0.83J	0.14U	0.15U	0.15U	0.15U	0.15U	0.17J	0.14U	4.6	0.15U	0.15U	0.46U	0.56U	0.46U	0.46U	0.46U
Sodium	56.4U	78.1J	51.9U	50.3U	36U	39.4U	36.4U	18.2U	32.9U	31.3U	39.9U	28.8U	33U	25.8U	8.5J	9.2J	5.5U	101J	7J
Vanadium	11.6J	9.7J	6.3J	21.6J	2.5J	3.3J	3.1J	0.52J	8.1J	3.7J	21.8J	1.2J	13.7J	2.6J	0.45J	7.2J	1.4J	9.3J	1.3J
Zinc	11.4J	347J	600J	69.7J	19.4J	33.5J	8.7J	0.86J	21.2J	94.1J	13.2J	100J	5J	41.8J	3J	7.9	19.7	49.2	24.2

SHORT ID	0240004		0240005		0240007	0240008	0240009	0240010		0240011		0240012		0240013		0240014		0240015	
SAMPLE ID	*024S000401*	*024S000405*	*024S000501*	*024S000505*	*024S000701*	*024S000801*	*024S000901*	*024S001001*	*024S001007*	*024S001101*	*024S001106*	*024S001201*	*024S001206*	*024S001301*	*024S001307*	*024S001401*	*024S001407*	*024S001501*	*024S001507*
SAMPLE DATE	*8/30/1995*	*8/30/1995*	*8/30/1995*	*8/30/1995*	*8/29/1995*	*8/29/1995*	*8/29/1995*	*4/2/1996*	*4/2/1996*	*4/2/1996*	*4/2/1996*	*4/2/1996*	*4/2/1996*	*4/3/1996*	*4/3/1996*	*4/2/1996*	*4/2/1996*	*4/2/1996*	*4/2/1996*
METAL																			
Aluminum	8550	1070	5890	1510	1440	1600	1210	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Antimony	2U	1.9U	1.9U	1.9U	2.4J	1.9U	1.9U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arsenic	1.2U	0.22U	0.47U	0.31U	0.46U	0.44U	0.4U	2.8J	0.25J	3.1J	0.21UJ	1.2J	0.29J	0.58	0.2U	1.6J	0.96J	2.2J	0.35J
Barium	26.8J	2.4J	3.2J	1.3J	4.4J	6J	2.7J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Beryllium	0.1J	0.06U	0.06U	0.06U	0.06U	0.06U	0.06U	0.4U	0.07U	0.64U	0.05U	0.44U	0.06U	0.09U	0.03U	0.1U	0.1U	0.13U	0.07U
Cadmium	0.68U	0.66U	0.67U	0.65U	0.65U	0.65U	0.64U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Calcium	50000	83.2J	126J	123J	212J	259J	8450	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chromium	10.3	0.73U	6	1.4J	10.6	3.7	2.4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cobalt	0.64J	0.33U	0.55J	0.32U	0.32U	0.32U	0.32U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Copper	5.1J	1.2U	1.8J	1.2U	2.8J	3.7J	1.6J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cyanide (CN)	0.27U	0.26U	0.26U	0.26U	0.26U	0.26U	0.25U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron	6490	623	3310	1170	796	1600	918	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	27.2	0.72	2.2	62.8	41.6	63.2	33.4	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Magnesium	987J	30J	51.7J	29.7J	33.6J	52.1J	77.1J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Manganese	105	3.5	5.3	2.4J	8.2	29.4	15.9	220	9.1	377	3.1	104	2.7	36	1.9	22.7	42.4	16.9	3.7
Mercury	0.01J	0.01U	0.01U	0.01U	0.11	0.02J	0.01U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	1.7J	0.78U	1.2J	0.78U	0.77U	0.77U	0.77U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Potassium	151J	12U	36.2J	18.6J	20.9J	28.9J	25.2J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Silver	0.47U	0.46	0.46U	0.45U	0.69J	0.45U	0.44U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sodium	265J	8.1J	10.3J	6.7J	5.4U	6J	81J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	15.9	1.2J	9.5J	3J	2.3J	2.8J	2J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	25.7	3.2J	2J	2.4J	17	15.1	5.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NOTES:
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2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-31 : Summary of Detections OU 13 Metal

SHORT ID	0240016		0240017		0240018		0240019		0240020		0240021		0240022		0240024	0240025		0240026	
SAMPLE ID	*024S001601*	*024S001607*	*024S001701*	*024S001707*	*024S001801*	*024S001807*	*024S001901*	*024S001907*	*024S002001*	*024S002006*	*024S002101*	*024S002106*	*024S002201*	*024S002207*	*024S002401*	*024S002501*	*024S002507*	*024S002601*	*024S002607*
SAMPLE DATE	*4/2/1996*	*4/2/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*4/3/1996*	*3/9/1999*	*3/10/1999*	*3/10/1999*	*3/10/1999*	*3/10/1999*
METAL																			
Aluminum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2860	2370	302	2230	724
Antimony	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.76UJ	0.65UJ	0.79UJ	0.79UJ	0.7UJ
Arsenic	0.97J	0.37J	0.81	0.21U	1.5	0.21U	0.64	0.2U	1.6	0.28J	1.1	0.21U	0.94	0.2U	0.55U	0.47U	0.57U	0.57U	0.51U
Barium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6.2J	3.4J	0.59U	2.4J	1.2U
Beryllium	0.09U	0.07U	0.04U	0.04U	0.07U	0.04U	0.07U	0.04U	0.11U	0.04U	0.11U	0.05U	0.08U	0.05U	0.02U	0.02U	0.02U	0.02U	0.02U
Cadmium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.15J	0.05U	0.06U	0.06U	0.06U
Calcium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	15700	81.4J	36.2J	25.8J	18.5J
Chromium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4.1	2.2	1.3U	1.6U	0.78U
Cobalt	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.18J	0.14U	0.17U	0.17U	0.15U
Copper	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.2J	1.5U	0.49U	1.7J	0.42U
Cyanide (CN)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.12U	0.12J	0.11U	0.11U	0.11U
Iron	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1720	967	281	1100	380
Lead	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	28.7	17.6	1.3	3.7	3.4
Magnesium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	187J	73.2U	11.7J	61.7J	25.3J
Manganese	11.6	4.6	6.5	1.2	27.9	0.81J	25.7	1.9	85.5	2.7	68.1	4.1	41.2	0.79J	44.9	3.7	2.3J	2.9J	1.4U
Mercury	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.1	0.02U	0.03U	0.02U	0.02U
Nickel	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.95J	0.92J	0.4J	0.5J	0.25U
Potassium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	49.5J	43.9J	9.8J	34J	16.9J
Silver	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.2U	0.18U	0.21U	0.21U	0.19U
Sodium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	101J	8.3U	4.7U	4.7J	2.9U
Vanadium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4.6J	2.8J	0.31J	2.7J	0.97J
Zinc	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	9.5	4.2U	2.5U	4.3U	2.6U

SHORT ID	0240027		0240028		0240029		0240030	
SAMPLE ID	*024S002701*	*024S002707*	*024S002801*	*024S002807*	*024S002901*	*024S002907*	*024S003001*	*024S003007*
SAMPLE DATE	*3/10/1999*	*3/10/1999*	*3/9/1999*	*3/9/1999*	*3/9/1999*	*3/9/1999*	*3/10/1999*	*3/10/1999*
METAL								
Aluminum	7160	678	4440	974	6320	801	1810	1140
Antimony	0.85UJ	0.7UJ	0.81UJ	0.77UJ	0.82UJ	0.7UJ	0.78UJ	0.77UJ
Arsenic	1.2J	0.51U	1.3J	0.56U	1.1J	0.51U	0.57J	0.56U
Barium	8.3J	1.1U	4.2J	1.5U	6.7J	1.7J	1.8J	1.4U
Beryllium	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U	0.02U
Cadmium	0.07U	0.06U	0.07U	0.06U	0.07U	0.06U	0.06U	0.06U
Calcium	343J	17.3J	279J	15J	414J	14.3J	20.8J	13.8J
Chromium	5.1	0.8U	4.4	0.93U	4.6	1U	1.5U	1U
Cobalt	0.49J	0.15U	0.23J	0.17U	0.39J	0.15U	0.17U	0.17U
Copper	9.2J	0.34U	4.2J	0.33U	18.5	0.43U	1.1U	0.5U
Cyanide (CN)	0.12U	0.11U	0.12U	0.11U	0.12U	0.11U	0.11U	0.11U
Iron	4030J	439	2730	724	3650	399	1020	647
Lead	87.7J	0.97	33.8	1.2	31.5	0.88	9	1.6
Magnesium	122J	27.4J	76.7J	35.6J	116J	32.1J	55.7J	39.1J
Manganese	65.2	1.6J	27.8	2.2J	54.5	1.5U	2.7J	3.5
Mercury	0.03J	0.02U	0.03U	0.02U	0.03J	0.02U	0.03U	0.03U
Nickel	1.8J	0.25J	2.9J	0.31J	1.3J	0.57J	0.49J	0.53J
Potassium	116J	18.5J	69.2J	23.3J	98.9J	22.6J	32.5J	26.6J
Silver	0.23U	0.19U	0.22U	0.21U	0.22U	0.19U	0.21U	0.21U
Sodium	7.9U	1.8U	5.2U	1.7U	6.8U	2.1U	6.7U	8.2U
Vanadium	10J	0.83U	6.7J	1.3J	9J	1.1U	2.5J	1.5J
Zinc	15	1.7U	7.6	2.2U	11.4	1.7U	5.4U	4.2U

NOTES:
1 - NS indicates sample was not tested for that analyte.
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4 - Qualifiers

U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-32 : Summary of Detections Groundwater OU 13

SHORT ID	008GR01	008GR02	008GR03	008GR04	008GR05		008GR06	008GR07	024GR09		024GR10	024GR12	024GR13	024GR14	024GS01		024GS02	
SAMPLE ID	*008GGR0101*	*008GGR0201*	*008GGR0301*	*008GGR0401*	*008GGR0501*	*008GGR0502*	*008GGR0601*	*008GGR0701*	*024GGR0901*	*024GGR0902*	*024GGR1001*	*024GGR1201*	*024GGR1301*	*024GGR1401*	*024GGS0101*	*024GGS0102*	*024GGS0201*	*024GGS0202*
SAMPLE DATE	*5/7/1996*	*5/7/1996*	*5/7/1996*	*5/7/1996*	*2/16/1993*	*4/2/1997*	*2/24/1993*	*4/2/1997*	*6/7/1996*	*6/24/1996*	*7/2/1996*	*3/16/1999*	*3/16/1999*	*3/17/1999*	*9/19/1995*	*4/17/1996*	*9/19/1995*	*4/17/1996*
VOC																		
1,1-Dichloroethene	0.2U	0.2U	0.2U	0.2U	0.2U	NS	0.2U	NS	1U	NS	NS	1U	1U	1U	1U	1U	1U	0.2J
1,4-Dichlorobenzene	0.4U	0.4U	0.4U	0.4U	0.4U	NS	0.4U	NS	NS	NS	NS	1U	1U	1U	1U	1U	1U	1U
2-Butanone (MEK)	0.2UR	0.2UR	0.2UR	0.2UR	0.2UR	NS	0.2UR	NS	5.8J	NS	NS	5UR	5UR	5UR	5UR	5U	5UR	5U
Acetone	0.3UR	0.3UR	0.3UR	0.3UR	3UR	NS	4UR	NS	10U	NS	NS	5UR	5UR	5UR	5UR	5U	5UR	5U
Benzene	0.1U	0.1U	0.1U	0.1U	0.1U	NS	0.1U	NS	1U	NS	NS	1U	1U	1U	1U	1U	1U	1U
Carbon disulfide	0.2U	0.2U	0.3	0.2U	0.2U	NS	0.2U	NS	1U	NS	NS	1U	1U	1U	1U	1U	1U	1U
Chlorobenzene	0.1U	0.1U	0.1U	0.1U	0.1U	NS	0.1U	NS	1U	NS	NS	1U	1U	1U	1U	1U	1U	1U
Chloroform	0.1U	0.1U	0.1U	0.2	0.1U	NS	0.1U	NS	1U	NS	NS	1U	1U	1U	1U	1U	1U	1U
cis-1,2-Dichloroethene	0.4	0.3U	0.3U	0.3U	0.3U	NS	0.3U	NS	NS	NS	NS	1U	1U	1U	0.9J	0.5J	42D	19
Ethylbenzene	0.1U	0.1U	0.1U	0.1U	0.1U	NS	0.1U	NS	1U	NS	NS	1U	1U	1U	1U	1U	1U	1U
Methylene chloride	1U	1U	1U	1U	1U	NS	1U	NS	1U	NS	NS	2U	2U	2U	2U	2U	2U	2U
Styrene	0.1U	0.1U	0.1U	0.1U	0.1U	NS	0.1U	NS	1U	NS	NS	1U	1U	1U	0.2J	1U	1U	1U
Tetrachloroethene	0.2U	0.2U	1	0.2U	0.2U	NS	0.2U	NS	1U	NS	NS	1U	1U	1U	1U	1U	0.3J	0.9J
Toluene	0.1U	0.1U	0.1U	0.1U	0.1U	NS	0.1U	NS	2.8	NS	NS	1U	1U	1U	1U	1U	1U	1U
trans-1,2-Dichloroethene	0.3U	0.3U	0.3U	0.3U	0.3U	NS	0.3U	NS	NS	NS	NS	1U	1U	1U	1U	1U	1	0.7J
Trichloroethene	1	0.1U	0.1U	0.1U	0.1U	NS	0.1U	NS	1U	NS	NS	1U	1U	1U	1U	1U	8	5
Vinyl chloride	0.2U	0.2U	0.2U	0.2U	0.2U	NS	0.2U	NS	1U	NS	NS	1U	1U	1U	1U	1U	1U	4
SVOC																		
bis(2-Ethylhexyl)phthalate (BEHP)	2U	2U	1J	2U	2U	NS	2U	NS	NS	NS	NS	5U	5U	5U	5U	NS	5U	NS
Butylbenzylphthalate	3U	1J	3J	3U	3U	NS	3U	NS	NS	NS	NS	5U	5U	5U	5U	NS	5U	NS
Diethylphthalate	2U	2U	2U	2U	2U	NS	2U	NS	NS	NS	NS	5U	5U	5U	5U	NS	5U	NS
Dimethylphthalate	1U	1U	1U	1U	1U	NS	1U	NS	NS	NS	NS	5U	5U	5U	5U	NS	5U	NS
Di-n-butylphthalate	2U	2U	2J	2U	2U	NS	2U	NS	NS	NS	NS	5U	5U	5U	5U	NS	5U	NS
Fluoranthene	1U	1U	1U	1U	1U	NS	1U	NS	NS	NS	NS	5U	5U	5U	5U	NS	5U	NS
PESTICIDES																		
4,4-DDD	0.08U	0.08U	0.08U	0.08U	0.08U	NS	0.08U	NS	NS	NS	NS	0.02U	0.02U	0.02U	0.01J	0.1U	0.02U	0.1U
4,4-DDE	0.06U	0.06U	0.06U	0.06U	0.06U	NS	0.06U	NS	NS	NS	NS	0.02U	0.02U	0.02U	0.0077J	0.012J	0.02U	0.1U
4,4-DDT	0.08U	0.08U	0.08U	0.08U	0.08U	NS	0.08U	NS	NS	NS	NS	0.02U	0.02U	0.02U	0.02U	0.1U	0.02U	0.1U
alpha-BHC	0.04U	0.04U	0.04U	0.04U	0.04UJ	NS	0.04UJ	NS	NS	NS	NS	0.01UJ	0.01UJ	0.01UJ	0.01UJ	0.05U	0.01U	0.05U
alpha-Chlordane	0.03U	0.03U	0.03U	0.03U	0.03U	NS	0.03U	NS	NS	NS	NS	0.01U	0.01U	0.01U	0.041	0.089	0.01UJ	0.05U
beta-BHC	0.03U	0.03U	0.03U	0.03U	0.03U	NS	0.03U	NS	NS	NS	NS	0.01U	0.01U	0.01U	0.01U	0.05U	0.01U	0.0062J
delta-BHC	0.03U	0.03U	0.03U	0.03U	0.03U	NS	0.03U	NS	NS	NS	NS	0.01U	0.01U	0.01U	0.01U	0.05U	0.01U	0.05U
Dieldrin	0.08U	0.08U	0.08U	0.08U	0.08U	NS	0.08U	NS	NS	NS	NS	0.02U	0.02U	0.02U	0.26	0.34	0.0017J	0.1U
Endosulfan I	0.04U	0.04U	0.04U	0.04U	0.04U	NS	0.04U	NS	NS	NS	NS	0.01U	0.01U	0.01U	0.01U	0.1	0.01U	0.05U
Endrin	0.1U	0.1U	0.1U	0.1U	0.1U	NS	0.1U	NS	NS	NS	NS	0.02U	0.02U	0.02U	0.02U	0.1U	0.0005J	0.1U
Endrin aldehyde	0.1U	0.1U	0.1U	0.1U	0.1U	NS	0.1U	NS	NS	NS	NS	0.02U	0.02U	0.02U	0.02U	0.1U	0.02U	0.1U
gamma-BHC (Lindane)	0.04U	0.04U	0.04U	0.04U	0.04U	NS	0.04U	NS	NS	NS	NS	0.01UJ	0.01UJ	0.01UJ	0.01U	0.05U	0.01U	0.05U
gamma-Chlordane	0.03U	0.03U	0.03U	0.03U	0.03U	NS	0.03U	NS	NS	NS	NS	0.01U	0.01U	0.01U	0.04	0.081	0.01U	0.05U
Heptachlor	0.04U	0.04U	0.04U	0.04U	0.04U	NS	0.04U	NS	NS	NS	NS	0.01U	0.01U	0.01U	0.01U	0.05U	0.01U	0.05U
Heptachlor epoxide	0.03U	0.03U	0.03U	0.03U	0.03U	NS	0.03U	NS	NS	NS	NS	0.01U	0.01U	0.01U	0.0043J	0.013J	0.01U	0.05U
METAL																		
Aluminum	341	129U	241U	1320	225J	NS	667J	NS	NS	NS	NS	988J	382J	531J	263J	312	1020J	499
Antimony	1.6U	1.6U	15	12.5	3.3U	5.2J	1.8U	3.1J	65.9	67	13	3.7U	3.7U	3.7U	13.8	6.4	2.3U	3.4U
Arsenic	4U	4U	4U	4U	4U	NS	4U	NS	NS	NS	NS	2.7U	2.7U	2.7U	1.5U	2.2J	1.5U	4.7J
Barium	274	411	155	10.8U	109J	NS	7.2J	NS	NS	NS	NS	114J	62.6J	22.9J	62J	19.9J	186J	179J
Beryllium	0.22U	0.22U	0.22U	0.22U	0.46U	NS	0.43U	NS	NS	NS	NS	0.1UJ	0.1UJ	0.1UJ	0.14U	0.61J	0.14U	0.63J
Cadmium	23.7	19	22.2	0.33U	32	27.4	0.33UJ	0.23U	0.35U	NS	NS	0.52U	0.3UJ	0.3UJ	5.9	11	4.9J	15.5
Calcium	87500	40000	43700	14300	34500	NS	27700	NS	NS	NS	NS	17300J	28400J	26000J	71300	78800	31000	33500
Chromium	4U	4U	4U	4U	1.2U	NS	1.9J	NS	NS	NS	NS	0.8U	0.8U	0.83U	4.2U	1.8J	5.3J	2.2J
Cobalt	0.67UJ	2.1J	0.67UJ	0.67UJ	0.67UJ	NS	0.67UJ	NS	NS	NS	NS	2.5J	0.8U	0.8U	1.2U	0.82J	8.1J	11J
Copper	8.4J	3.8J	8.3J	0.92J	11.7J	NS	0.92J	NS	NS	NS	NS	0.5U	0.5U	0.57U	4.7U	2U	13.3U	5.7J
Cyanide (CN)	10U	10U	10U	10U	10U	NS	10U	NS	NS	NS	NS	2.4J	2.1U	3.3J	10U	10U	10U	10U
Iron	1100	9950	76.4J	348	9.9U	NS	131J	NS	NS	NS	NS	30J	28.1J	191	6110	5110	17700	20400
Lead	14.8	2.4U	18.6	4.8	2.9	NS	2.4U	NS	NS	NS	NS	1.8U	1.8U	1.8U	1.5J	1.4J	12.2	4.5
Magnesium	10600	6240	7130	1750	3560	NS	1720	NS	NS	NS	NS	2010J	4400J	2800J	4120J	4300J	1840J	1930J
Manganese	368	602	8.2J	1.2UJ	28J	NS	5.5J	NS	8.6J	NS	NS	73J	151J	12.1J	146	129	546	496
Mercury	0.2U	0.2U	0.2U	0.22	0.2U	NS	0.2U	NS	NS	NS	NS	0.1U	0.1U	0.1U	0.06U	0.02U	0.14J	0.02J
Nickel	8J	14.2J	0.67UJ	0.67UJ	11.3J	NS	0.67U	NS	1.3U	NS	NS	3.1J	1.3U	1.3U	3.2J	1.9J	42.8	137
Potassium	6230	6150	4490	981	1260	NS	516J	NS	NS	NS	NS	3520J	5550J	3610J	6680	6160	3840J	3890J
Silver	0.67UJ	0.67UJ	0.67UJ	0.67UJ	1.9J	NS	1.8J	NS	NS	NS	NS	1UJ	1UJ	1UJ	1.5U	1U	1.5U	1U
Sodium	11900	12200	12300	9250	16900	NS	9870	NS	NS	NS	NS	5290J	10000J	11100J	2950J	7510	2000J	4270J
Thallium	5.3U	5.3U	5.3U	5.3U	5.3U	0.9J	5.3U	0.9J	1U	NS	NS	4.7U	4.7U	4.7U	0.74UJ	3.5J	0.74UJ	3.1J
Vanadium	0.53J	0.44U	0.44U	2J	0.64J	NS	1.1J	NS	NS	NS	NS	1U	1U	1.2U	5.7J	4.4J	3.4J	2.6J
Zinc	416	815	210	3.9U	1700J	NS	2.7J	NS	NS	NS	NS	99.4J	5.3U	3.9U	37.3J	22.1J	1200J	2050J

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-32 : Summary of Detections Groundwater OU 13

SHORT ID	024GS03		024GS04		024GS05		024GS06		024GS07	024GS08	024GS09	024GS10	024GS11	024GS15
SAMPLE ID	*024GGS0301*	*024GGS0302*	*024GGS0401*	*024GGS0402*	*024GGS0501*	*024GGS0502*	*024GGS0601*	*024GGS0602*	*024GGS0701*	*024GGS0801*	*024GGS0903*	*024GGS1001*	*024GGS1101*	*024GGS1501*
SAMPLE DATE	*9/18/1995*	*4/17/1996*	*9/19/1995*	*4/19/1996*	*9/15/1995*	*4/17/1996*	*9/18/1995*	*4/17/1996*	*4/18/1996*	*4/18/1996*	*7/29/1996*	*3/17/1999*	*3/17/1999*	*3/17/1999*
VOC														
1,1-Dichloroethene	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
1,4-Dichlorobenzene	1U	3	1U	1U	1U	1U	1U	1U	1U	10U	1U	1U	1U	1U
2-Butanone (MEK)	5UR	5U	5UR	5U	5UR	5U	5UR	5U	5U	5U	5U	5UR	5UR	5UR
Acetone	5UR	5U	5UR	5U	5UR	5U	5UR	5U	5U	5U	5U	25J	5UR	5UR
Benzene	1	0.7J	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Carbon disulfide	1U	1U	1U	1U	1U	1U	1U	1U	1U	0.2J	1U	1U	1U	1U
Chlorobenzene	1U	0.8J	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Chloroform	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	0.9J	1U	1U
cis-1,2-Dichloroethene	1U	1U	1U	1U	2	3	1U	1U	1U	1U	1U	1U	1U	1U
Ethylbenzene	0.1J	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Methylene chloride	2U	2U	2U	2U	2U	2U	11	2U	2U	2U	2U	2U	2U	2U
Styrene	1U	1U	1U	1U	0.2J	1U	1U	1U	1U	1U	1U	1U	1U	1U
Tetrachloroethene	1U	1U	3	2	1U	1U	1U	1U	0.3J	1U	1U	1U	1U	1U
Toluene	0.1J	1U	1U	1U	1U	1U	1U	1U	1U	1U	0.2J	1U	1U	1U
trans-1,2-Dichloroethene	1U	1U	1U	1U	1U	0.5J	1U	1U	1U	1U	1U	1U	1U	1U
Trichloroethene	1U	1U	1U	1U	1U	1	1U	1U	1U	1U	1U	1U	1U	1U
Vinyl chloride	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
SVOC														
bis(2-Ethylhexyl)phthalate (BEHP)	5UJ	NS	5UJ	NS	5UJ	NS	5UJ	NS	10U	10U	NS	5U	5U	5U
Butylbenzylphthalate	5U	NS	5UJ	NS	5U	NS	5U	NS	10U	10U	NS	5U	5U	5U
Diethylphthalate	2J	NS	5U	NS	5U	NS	5U	NS	10U	10U	NS	5U	5U	5U
Dimethylphthalate	1J	NS	5U	NS	5U	NS	5U	NS	10U	10U	NS	5U	5U	5U
Di-n-butylphthalate	5U	NS	5U	NS	5U	NS	5U	NS	10U	10U	NS	5U	5U	5U
Fluoranthene	5U	NS	5U	NS	5U	NS	5U	NS	10U	10U	NS	0.4J	5U	5U
PESTICIDES														
4,4-DDD	0.063J	0.059J	0.02U	0.1U	0.02U	0.1U	0.02U	0.1U	0.1U	0.1U	NS	0.02U	0.02U	0.025U
4,4-DDE	0.023J	0.021J	0.0026J	0.0023J	0.02U	0.1U	0.02U	0.1U	0.1U	0.1U	NS	0.02U	0.02U	0.025U
4,4-DDT	0.0075J	0.1U	0.02U	0.1U	0.02U	0.1U	0.02U	0.1U	0.1U	0.1U	NS	0.02U	0.02U	0.025U
alpha-BHC	0.01UJ	0.05U	0.0007J	0.05U	0.01UJ	0.05U	0.01UJ	0.05U	0.05U	0.05U	NS	0.01UJ	0.01UJ	0.012UJ
alpha-Chlordane	0.0081J	0.0074J	0.014	0.0085J	0.01U	0.05U	0.0018J	0.05U	0.0043J	0.05U	NS	0.01U	0.01U	0.012U
beta-BHC	0.0058J	0.012J	0.01U	0.05U	0.01U	0.05U	0.01U	0.05U	0.05U	0.05U	NS	0.01U	0.01U	0.012U
delta-BHC	0.0032J	0.013J	0.01U	0.05U	0.01U	0.05U	0.01U	0.05U	0.05U	0.05U	NS	0.01U	0.01U	0.012U
Dieldrin	0.057J	0.031J	0.0031J	0.1U	0.02U	0.1U	0.02U	0.1U	0.0027J	0.1U	NS	0.02U	0.02U	0.025U
Endosulfan I	0.01UJ	0.0083J	0.01U	0.05U	0.01U	0.05U	0.01U	0.05U	0.05U	0.05U	NS	0.01U	0.01U	0.012U
Endrin	0.02UJ	0.1U	0.02U	0.1U	0.02U	0.1U	0.02U	0.1U	0.1U	0.1U	NS	0.02U	0.02U	0.025U
Endrin aldehyde	0.02UJ	0.0093J	0.02U	0.1U	0.02U	0.1U	0.02U	0.1U	0.1U	0.1U	NS	0.02U	0.02U	0.025U
gamma-BHC (Lindane)	0.0071J	0.05U	0.01U	0.05U	0.01U	0.05U	0.01U	0.05U	0.05U	0.05U	NS	0.01UJ	0.01UJ	0.012UJ
gamma-Chlordane	0.0065J	0.05U	0.0083J	0.0094J	0.01U	0.05U	0.0044J	0.05U	0.05U	0.05U	NS	0.01U	0.01U	0.012U
Heptachlor	0.0048J	0.0063J	0.01U	0.05U	0.01U	0.05U	0.01U	0.05U	0.05U	0.05U	NS	0.01U	0.01U	0.012U
Heptachlor epoxide	0.01UJ	0.05U	0.029	0.021J	0.01U	0.05U	0.011	0.05U	0.05U	0.05U	NS	0.01U	0.01U	0.012U
METAL														
Aluminum	521J	48J	518J	658	786J	171J	136J	275	187J	1030	226	3460J	1260J	639J
Antimony	2.3U	3.7J	2.3U	3.4U	2.3U	3.4U	7.1	5.3J	3.6J	3.4U	27.1	3.7U	3.7U	3.7U
Arsenic	10.6	5.4J	1.5U	2U	1.5U	2U	1.5U	2U	2.6J	2U	1.5U	2.7U	2.7U	2.7U
Barium	183J	191J	49.4J	68.1J	154J	103J	17.2J	19.1J	3.6J	94.1J	31.2	39.1J	24.5J	32.1J
Beryllium	0.45U	0.68J	0.14U	0.76J	0.14U	0.68J	0.14U	0.71J	0.61J	0.51J	0.46J	0.1UJ	0.1UJ	0.1UJ
Cadmium	1.7J	1.9J	1.4U	1.3J	3.6J	5.1	1.4U	0.35U	0.35U	2J	2.6U	2.1U	0.3UJ	0.3UJ
Calcium	123000	132000	110000	96800	69300	40600	24800	29200	24500	24100	25700	9450J	14300J	16400J
Chromium	4.2U	2J	4.2U	1.1U	4.2U	1.1U	4.2U	1.1U	1.1U	1.1U	4.1U	3.7U	1.1U	0.91U
Cobalt	2.4J	1J	1.2U	0.71U	1.2U	1.2J	1.2U	0.71U	0.99J	1.9J	1.9U	1.6J	0.8U	0.8U
Copper	5.5U	1.8U	2.3U	1.3U	2.3U	1.3U	4U	1.4U	1.3U	1.4J	3.2U	13.1J	1.6U	1.2U
Cyanide (CN)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	3.2J	2.1U	2.9J
Iron	18400	7410	93U	126	785	2970	35.4U	109	65.8J	23U	99.5U	867	238	199
Lead	5.4	1.3U	0.7J	1.3U	1.7J	1.3U	5.8	5.1	1.3U	3J	0.6U	2.6J	1.8U	1.8U
Magnesium	14000	14700	7690	7480	6400	5270	2330J	2590J	1160J	2370J	3090	1890J	3750J	1930J
Manganese	311	145	7.2J	1.9J	173	284	6.4J	3J	1J	158	7.1U	25.5J	9.8J	16.7J
Mercury	0.13J	0.02U	0.07J	0.02U	0.1J	0.02J	0.06U	0.02U	0.02U	0.02U	0.03UJ	0.1U	0.1U	0.1U
Nickel	3.1J	3J	3U	1.7J	3.9J	2J	3U	1.3U	1.3U	1.4J	4.2U	4J	1.3U	1.3U
Potassium	5220	6280	3170J	4930J	5200	3680J	3750J	9500	2690J	7000	902J	3780J	4050J	2870J
Silver	1.5U	1U	1.5U	1U	1.5U	1U	1.5U	1U	1U	1U	1.1U	1UJ	1UJ	1UJ
Sodium	6480	7380	8100	13900	6550	4860J	3130J	12400	3880J	5500	5990	12500J	18900J	8280J
Thallium	0.74UJ	2.8U	0.74UJ	2.8U	0.74UJ	3.8J	0.74U	2.8U	2.8U	6.1J	1.4J	4.7U	4.7U	4.7U
Vanadium	2.5J	3.9J	2.2J	0.79U	2.1U	0.79U	2.1U	0.79U	1J	0.79U	2.3U	1.6U	1U	1U
Zinc	84.3J	130J	17.6J	14.2J	128J	202J	11.1U	116J	5.1J	8.2J	188	15.7J	3.6U	3.9U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers

U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-33 : Summary of Detections Operable Unit 10

SHORT ID	**0320006**	**0320039**	**0320067**	**0320101**	**0320102**	**0320103**	**0320104**	**032WC01**	**032WC02**	**032WC03**	**032WC04**	**032WC05**	**032WC06**
SAMPLE ID	***032S000600***	***032S003900***	***032S006700***	***032S010101***	***032S010201***	***032S010301***	***032S010401***	***032SWC0100***	***032SWC0200***	***032SWC0300***	***032SWC0400***	***032SWC0500***	***032SWC0600***
SAMPLE DATE	***3/8/1994***	***3/8/1994***	***3/8/1994***	***9/22/1994***	***9/22/1994***	***9/22/1994***	***9/22/1994***	***6/28/1994***	***6/28/1994***	***6/28/1994***	***6/28/1994***	***6/28/1994***	***7/21/1994***
PESTICIDES													
4,4-DDT	3.4U	3.7U	3.3U	3.6U	0.49J	3.4U	3.5U	NS	NS	NS	NS	NS	NS
alpha-Chlordane	1.8U	2.1	1.7U	1.9U	1.8U	1.8U	1.8U	NS	NS	NS	NS	NS	NS
Aroclor-1260	34U	35J	33U	36U	34U	34U	35U	NS	NS	NS	NS	NS	NS
gamma-Chlordane	1.8U	2.3	1.7U	1.9U	1.8U	1.8U	1.8U	NS	NS	NS	NS	NS	NS
METAL													
Aluminum	1210J	2410J	56.9J	50.4U	38.8U	28.6U	25.9U	NS	NS	NS	NS	NS	NS
Barium	7U	25.2U	0.96U	0.19J	0.19J	0.39J	0.33J	50U	50U	50U	50U	50U	NS
Cadmium	1.5J	7.1J	0.41UJ	0.22U	0.37U	0.16U	1J	0.5U	0.5U	0.5U	0.5U	0.5U	NS
Calcium	5320	928	29.4U	20.4U	24.6U	24.3U	20.4U	NS	NS	NS	NS	NS	NS
Chromium	60.3J	235J	1.8U	16.2	4.7	6.1	10	2.5U	2.5U	2.5U	2.5U	2.5U	NS
Copper	6.7J	23.6J	2.8J	0.54U	0.85U	1.1U	1U	NS	NS	NS	NS	NS	NS
Cyanide (CN)	0.08J	0.14J	0.08U	0.55U	0.52U	0.51U	0.54U	NS	NS	NS	NS	NS	NS
Iron	730	1030	72.1	35.9U	33.6	25	21.4	NS	NS	NS	NS	NS	NS
Lead	30J	23.5J	0.84U	0.66	0.47	0.4	0.65	2.5U	2.5U	2.5U	2.5U	2.5U	NS
Magnesium	72.8	62	11.2U	3.3U	1.5U	5U	1.6U	NS	NS	NS	NS	NS	NS
Manganese	30.1J	54.7J	0.42U	0.42	0.21	0.33	0.34	NS	NS	NS	NS	NS	NS
Mercury	0.03U	0.3	0.03U	0.11U	0.1U	0.1U	0.11U	0.1U	0.1U	0.1U	0.1U	0.1U	NS
Nickel	2U	16.9	1.8U	0.15U	0.15U	0.15U	0.15U	NS	NS	NS	NS	NS	NS
Potassium	120	144U	127U	24.5U	23.2U	28.4U	26.9U	NS	NS	NS	NS	NS	NS
Silver	0.63J	6.5J	0.71UJ	0.52U	0.5U	0.5U	0.5U	2.5U	2.5U	2.5U	2.5U	2.5U	NS
Vanadium	2	2.3	0.65U	0.09U	0.08U	0.08U	0.08U	NS	NS	NS	NS	NS	NS
Zinc	19.7J	51J	1.8U	1.7U	1.7U	1.5U	2.4U	NS	NS	NS	NS	NS	NS

NOTES:

1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers

U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-34 : Summary of Detections OU 6 Pesticides

SHORT ID	0090001		0090002	0090003		0090004		0090005	0090006		0090007	0090008		0090009		0090018		0090024	0090026
SAMPLE ID	009S000101	009S000103	009S000201	009S000301	009S000303	009S000401	009S000403	009S000501	009S000601	009S000603	009S000701	009S000801	009S000803	009S000901	009S000903	009S001801	009S001803	009S002403	009S002603
SAMPLE DATE	2/2/1994	2/2/1994	2/2/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	5/23/1994	5/23/1994	12/5/1994	12/5/1994
PESTICIDES																			
2,4-D	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDD	3.4U	3.4U	3.8U	4.2J	190J	3.8U	4.1U	3.7U	3.4U	3.4U	3.8U	3.6U	3.7U	3.5U	3.6U	4.2U	3.9U	3.4U	9.7J
4,4-DDE	3.4U	3.4U	5.3	270	210	3.8U	4.1U	5.6	3.4U	3.4U	2.4J	3.6U	3.7U	5.7	3.6U	4.2U	3.9U	3.4U	17U
4,4-DDT	2J	3.4U	7.6	220	60	3.8U	4.1U	19	3.4U	1.8J	3.8U	5.5	3.7U	9.8	3.6U	4.2U	3.9U	3.4U	260
Aldrin	1.7U	1.8U	2U	1.8U	2U	2U	2.1U	1.9U	1.8U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	2.1U	2U	1.8U	0.44J
alpha-BHC	1.7U	1.8U	2U	1.8U	2U	2U	2.1U	1.9U	1.8U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	2.1U	2U	1.8U	1.1J
alpha-Chlordane	1.7U	1.8U	2U	1.8U	2U	2U	2.1U	1.9U	1.8U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	2.1U	2U	1.8U	9U
Aroclor-1254	34U	34U	38U	35U	39U	38U	41U	37U	34U	34U	38U	36U	37U	35U	36U	42U	39U	34U	170U
beta-BHC	1.7U	1.8U	2U	1.8U	2U	2U	2.1U	1.9U	1.8U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	2.1U	2U	1.8U	9U
delta-BHC	1.7U	1.8U	2U	1.8U	2U	2U	2.1U	1.9U	1.8U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	2.1U	2U	1.8U	9U
Dieldrin	3.4U	3.4U	3.8U	9J	5.3J	16	4.1U	62	3.4U	3.4U	59	12	5.3	9.3	3.6U	4.2U	3.9U	0.5J	7J
Endosulfan I	1.7U	1.8U	2U	1.8U	2U	2U	2.1U	1.9U	1.8U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	2.1U	2U	1.8U	9U
Endosulfan II	3.4U	3.4U	3.8U	3.5U	3.9U	3.8U	4.1U	3.7U	3.4U	3.4U	3.8U	3.6U	3.7U	3.5U	3.6U	4.2U	3.9U	3.4U	0.72J
Endosulfan sulfate	3.4U	3.4U	3.8U	3.5U	3.9U	3.8U	4.1U	3.7U	3.4U	3.4U	3.8U	3.6U	3.7U	3.5U	3.6U	4.2U	3.9U	3.4U	0.43J
Endrin	3.4U	3.4U	3.8U	3.5U	3.9U	3.8U	4.1U	3.7U	3.4U	3.4U	3.8U	3.6U	3.7U	3.5U	3.6U	4.2U	3.9U	3.4U	17U
Endrin aldehyde	3.4U	3.4U	3.8U	3.5U	3.9U	3.8U	4.1U	3.7U	3.4U	3.4U	3.8U	3.6U	3.7U	3.5U	3.6U	4.2U	3.9U	3.4U	17U
Endrin ketone	3.4U	3.4U	3.8U	3.5U	3.9U	3.8U	4.1U	3.7U	3.4U	3.4U	3.8U	3.6U	3.7U	3.5U	3.6U	4.2U	3.9U	3.4U	0.81J
gamma-BHC (Lindane)	1.7U	1.8U	2U	1.8U	2U	2U	2.1U	1.9U	1.8U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	2.1U	2U	1.8U	1.6J
gamma-Chlordane	1.7U	1.8U	2U	1.8U	2U	2U	2.1U	1.9U	1.8U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	2.1U	2U	1.8U	0.33J
Heptachlor	1.7U	1.8U	2U	1.8U	2U	2U	2.1U	1.9U	1.8U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	2.1U	2U	1.8U	9U
Heptachlor epoxide	1.7U	1.8U	2U	1.8U	2U	2U	2.1U	1.9U	1.8U	1.8U	1.9U	1.8U	1.9U	1.8U	1.8U	2.1U	2U	1.8U	0.53J
Methoxychlor	17U	18U	20U	18U	20U	20U	21U	19U	18U	18U	19U	18U	19U	18U	18U	21U	20U	18U	90U

SHORT ID	0090027	0290001			0290002			0290003			0290004			0290005		0290006		0290007	
SAMPLE ID	009S002702	029S000101	029S000103	029S000105	029S000201	029S000203	029S000205	029S000301	029S000303	029S000305	029S000401	029S000403	029S000405	029S000501	029S000503	029S000601	029S000603	029S000701	029S000703
SAMPLE DATE	12/5/1994	2/2/1994	2/2/1994	2/2/1994	2/2/1994	2/2/1994	2/2/1994	2/3/1994	2/3/1994	2/3/1994	2/3/1994	2/3/1994	2/3/1994	2/3/1994	2/3/1994	2/4/1994	2/4/1994	2/4/1994	2/4/1994
PESTICIDES																			
2,4-D	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDD	1.3J	3.8U	21	13	3.4U	3.4U	3.8U	3.3U	3.4U	3.8U	3.4U	3.7U	4.1	3.4U	3.6U	3.4U	3.7U	3.5U	3.8U
4,4-DDE	1.2J	3.8U	36	24	3.4U	1.3J	3.8U	3.3U	3.4U	3.8U	1.1J	3.7U	1.4J	3.4U	3.6U	2.1J	3.7U	5.8	3.8U
4,4-DDT	0.74J	3.8U	47	38	3.4U	5	3.8U	3.3U	3.4U	3.8U	5.9	2.9J	0.99J	3.4U	3.6U	3.4U	3.7U	5.6	3.8U
Aldrin	4.7J	2U	1.7U	1.9U	1.8U	1.7U	2U	1.7U	1.7U	2U	1.7U	1.9U	2U	1.7U	1.8U	1.8U	1.9U	1.8U	2U
alpha-BHC	0.8J	2U	1.7U	1.9U	1.8U	1.7U	2U	1.7U	1.7U	2U	1.7U	1.9U	2U	1.7U	1.8U	1.8U	1.9U	1.8U	2U
alpha-Chlordane	2.3U	2U	1.7U	1.9U	1.8U	1.7U	2U	1.7U	1.7U	2U	1.7U	1.9U	2U	1.7U	1.8U	1.8U	1.9U	1.8U	2U
Aroclor-1254	44U	38U	34U	37U	34U	34U	38U	33U	34U	38U	34U	37U	40U	34U	36U	34U	37U	35U	38U
beta-BHC	1.6J	2U	1.7U	1.9U	1.8U	1.7U	2U	1.7U	1.7U	2U	1.7U	1.9U	2U	1.7U	1.8U	1.8U	1.9U	1.8U	2U
delta-BHC	2.3J	2U	1.7U	1.9U	1.8U	1.7U	2U	1.7U	1.7U	2U	1.7U	1.9U	2U	1.7U	1.8U	1.8U	1.9U	1.8U	2U
Dieldrin	4.4U	11	220	1300	3.4U	3.4U	3.8U	1.7J	3.4U	3.8U	0.83J	3.7U	4U	3.4U	3.6U	3.4U	3.7U	3.4J	3.8U
Endosulfan I	2.3U	2U	1.7U	1.9U	1.8U	1.7U	2U	1.7U	1.7U	2U	1.7U	1.9U	2U	1.7U	1.8U	1.8U	1.9U	1.8U	2U
Endosulfan II	4.4U	3.8U	3.4U	3.7U	3.4U	3.4U	3.8U	3.3U	3.4U	3.8U	3.4U	3.7U	4U	3.4U	3.6U	3.4U	3.7U	3.5U	3.8U
Endosulfan sulfate	2.8J	3.8U	3.4U	3.7U	3.4U	3.4U	3.8U	3.3U	3.4U	3.8U	3.4U	3.7U	4U	3.4U	3.6U	3.4U	3.7U	3.5U	3.8U
Endrin	0.28J	3.8U	3.4U	3.7U	3.4U	3.4U	3.8U	3.3U	3.4U	3.8U	3.4U	3.7U	4U	3.4U	3.6U	3.4U	3.7U	3.5U	3.8U
Endrin aldehyde	5.1J	3.8U	3.4U	3.7U	3.4U	3.4U	3.8U	3.3U	3.4U	3.8U	3.4U	3.7U	4U	3.4U	3.6U	3.4U	3.7U	3.5U	3.8U
Endrin ketone	4.4U	3.8U	26	25J	3.4U	3.4U	3.8U	3.3U	3.4U	3.8U	3.4U	3.7U	4U	3.4U	3.6U	3.4U	3.7U	3.5U	3.8U
gamma-BHC (Lindane)	2.3U	2U	1.7U	1.9U	1.8U	1.7U	2U	1.7U	1.7U	2U	1.7U	1.9U	2U	1.7U	1.8U	1.8U	1.9U	1.8U	2U
gamma-Chlordane	0.43J	2U	0.38J	1.9U	1.8U	1.7U	2U	1.7U	1.7U	2U	1.7U	1.9U	2U	1.7U	1.8U	1.8U	1.9U	1.8U	2U
Heptachlor	2.3U	2U	1.7U	1.9U	1.8U	1.7U	2U	1.7U	1.7U	2U	1.7U	1.9U	2U	1.7U	1.8U	1.8U	1.9U	1.8U	2U
Heptachlor epoxide	2.3U	2U	1.7U	1.9U	1.8U	1.7U	2U	1.7U	1.7U	2U	1.7U	1.9U	2U	1.7U	1.8U	1.8U	0.61J	1.8U	2U
Methoxychlor	23U	20U	17U	19U	18U	17U	20U	17U	17U	20U	17U	19U	20U	17U	18U	18U	19U	18U	19U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-34 : Summary of Detections OU 6 Pesticides

SHORT ID	0290008		0290009			0290010		0290011		0290012		0290013		0290014	0290015	0290016	0290017
SAMPLE ID	*029S000801*	*029S000803*	*029S000901*	*029S000903*	*029S000905*	*029S001001*	*029S001003*	*029S001101*	*029S001103*	*029S001201*	*029S001203*	*029S001301*	*029S001303*	*029S001403*	*029S001503*	*029S001603*	*029S001703*
SAMPLE DATE	*2/2/1994*	*2/2/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*6/15/1993*	*6/1/1993*	*6/1/1993*	*6/1/1993*	*6/1/1993*	*6/1/1993*	*6/1/1993*	*6/14/1993*	*5/16/1995*	*5/16/1995*	*5/16/1995*	*5/16/1995*
PESTICIDES																	
2,4-D	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDD	3.4U	3.4U	3.5U	3.5U	3.8U	3.4U	3.5U	3.4U	3.6U	3.5U	3.5U	3.5U	3.5U	3.4U	3.5U	3.7UJ	3.5U
4,4-DDE	3.4U	3.4U	3.5U	3.5U	3.8U	3.4U	3.5U	3.4U	3.6U	3.5U	3.5U	12	1.9J	3.4U	0.1J	3.7UJ	0.08J
4,4-DDT	3.4U	3.4U	3.5U	3.5U	3.8U	3.4U	3.5U	3.4U	3.6U	3.5U	3.5U	12	4.5	2.6J	1.4J	3.6U	1.2J
Aldrin	1.8U	1.7U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	0.12UJ	1.8U	1.8U	1.9UJ
alpha-BHC	1.8U	1.7U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9UJ	1.9UJ	1.8U
alpha-Chlordane	1.8U	1.7U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9UJ	1.8U	1.8U	1.8U
Aroclor-1254	34U	34U	35U	35U	38U	34U	35U	34U	36U	35U	35U	35U	35U	36UJ	37UJ	37UJ	37UJ
beta-BHC	1.8U	1.7U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9UJ	1.9UJ	1.8U	1.8U
delta-BHC	1.8U	1.7U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	0.16J	1.9UJ	1.8U	1.8U
Dieldrin	4.4	4	3.5U	3.5U	3.8U	9.1	2.3J	10	3.6U	5.6	3.5U	130J	8.4	0.59J	10J	3.7UJ	0.61J
Endosulfan I	1.8U	1.7U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9UJ	1.9UJ	1.8U
Endosulfan II	3.4U	3.4U	2J	3.5U	3.8U	3.4U	3.5U	3.4U	3.6U	3.5U	3.5U	3.5U	3.5U	3.6UJ	3.7UJ	3.6U	3.5U
Endosulfan sulfate	3.4U	3.4U	3.5U	3.5U	3.8U	3.4U	3.5U	3.4U	3.6U	3.5U	3.5U	3.5U	3.5U	3.4U	3.7UJ	3.7UJ	3.7UJ
Endrin	3.4U	3.4U	3.5U	3.5U	3.8U	3.4U	3.5U	3.4U	3.6U	3.5U	3.5U	3.5U	3.5U	3.4U	3.5U	3.7UJ	3.7UJ
Endrin aldehyde	3.4U	3.4U	3.5U	3.5U	3.8U	3.4U	3.5U	3.4U	3.6U	3.5U	3.5U	3.5U	3.5U	3.4U	3.7UJ	3.6U	3.5U
Endrin ketone	3.4U	3.4U	3.5U	3.5U	3.8U	3.4U	3.5U	3.4U	3.6U	3.5U	3.5U	3.5U	3.5U	0.47J	3.5U	3.7UJ	3.5U
gamma-BHC (Lindane)	1.8U	1.7U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9UJ	1.8U	1.8U
gamma-Chlordane	1.8U	1.7U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9UJ	1.9UJ	1.8U
Heptachlor	1.8U	1.7U	1.8U	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9UJ	1.9UJ	1.9UJ	0.043J
Heptachlor epoxide	1.8U	1.7U	2.9J	1.8U	2U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.9UJ	1.8U
Methoxychlor	18U	17U	18U	18U	20U	18U	18U	18U	18U	18U	18U	18U	18U	19UJ	18U	19UJ	18U

SHORT ID	0340001					0340002				0340003		0340005		0340008		0340009		0340010	0341101
SAMPLE ID	*034S000101*	*034S000103*	*034S000105*	*034S000107*	*034S000109*	*034S000201*	*034S000203*	*034S000205*	*034S000206*	*034S000301*	*034S000303*	*034S000501*	*034S000503*	*034S000803*	*034S000804*	*034S000903*	*034S000904*	*034S001002*	*034S110103*
SAMPLE DATE	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*8/30/1993*	*8/30/1993*	*8/31/1993*	*12/13/1994*	*9/3/1993*	*12/13/1994*	*9/1/1993*	*12/28/1995*
PESTICIDES																			
2,4-D	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	9.6J	NS	7.2J	NS	NS
4,4-DDD	3.5U	3.5U	3.5U	3.4U	3.8U	3.4U	3.6U	3.5U	3.6U	3.6U	3.6U	3.4U	3.7U	17U	NS	0.14J	NS	0.14J	2.4
4,4-DDE	3.5U	3.5U	3.5U	3.4U	3.8U	3.4U	3.6U	3.5U	3.6U	3.6U	3.6U	3.4U	3.7U	17U	NS	3.4U	NS	0.067JP	0.4
4,4-DDT	3.5U	3.5U	3.5U	3.4U	3.8U	3.4U	3.6U	3.5U	3.6U	3.6U	3.6U	3.4U	3.7U	17U	NS	2.3J	NS	0.66JBP	0.89
Aldrin	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.9U	1.8U	1.8U	1.9U	1.9U	1.7U	1.9U	8.8U	NS	1.8U	NS	1.7U	0.088U
alpha-BHC	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.9U	1.8U	1.8U	1.9U	1.9U	1.7U	1.9U	8.8U	NS	1.8U	NS	1.7U	0.088U
alpha-Chlordane	1.8U	1.2J	1.8U	1.8U	2.2	1.8U	1.9U	1.8U	1.8U	7.6	1.9U	1.7U	1.9U	8.8U	NS	2.4J	NS	1.7U	0.2U
Aroclor-1254	35U	35U	35U	34U	38U	34U	36U	35U	36U	36U	36U	34U	37U	170U	NS	34U	NS	34U	2.4J
beta-BHC	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.9U	1.8U	1.8U	1.9U	1.9U	1.7U	1.9U	8.8U	NS	1.8U	NS	1.7U	0.088U
delta-BHC	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.9U	1.8U	1.8U	1.9U	1.9U	1.7U	1.9U	8.8U	NS	1.8U	NS	1.7U	0.088U
Dieldrin	3.5U	3.5U	3.5U	3.4U	5.6	3.4U	3.6U	3.5U	3.6U	4.1	3.6U	3.3J	6	17U	NS	0.89J	NS	3.4U	1.8
Endosulfan I	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.9U	1.8U	1.8U	1.9U	1.9U	1.7U	1.9U	8.8U	NS	1.8U	NS	1.7U	0.088U
Endosulfan II	3.5U	3.5U	3.5U	3.4U	3.8U	3.4U	3.6U	3.5U	3.6U	3.6U	3.6U	3.4U	3.7U	17U	NS	3.4U	NS	3.4U	0.18U
Endosulfan sulfate	3.5U	3.5U	3.5U	3.4U	3.8U	3.4U	3.6U	3.5U	3.6U	3.6U	3.6U	3.4U	3.7U	17U	NS	3.4U	NS	0.081JP	0.18U
Endrin	3.5U	3.5U	3.5U	3.4U	3.8U	3.4U	3.6U	3.5U	3.6U	3.6U	3.6U	3.4U	3.7U	17U	NS	3.4U	NS	3.4U	0.18U
Endrin aldehyde	3.5U	3.5U	3.5U	3.4U	3.8U	3.4U	3.6U	3.5U	3.6U	3.6U	3.6U	3.4U	3.7U	17U	NS	3.4U	NS	3.4U	0.18U
Endrin ketone	3.5U	3.5U	3.5U	3.4U	3.8U	3.4U	3.6U	3.5U	3.6U	3.6U	3.6U	3.4U	3.7U	17U	NS	3.4U	NS	3.4U	0.18U
gamma-BHC (Lindane)	1.8U	1.8U	1.8U	1.8U	2U	1.8U	1.9U	1.8U	1.8U	1.9U	1.9U	1.7U	1.9U	8.8U	NS	1.8U	NS	1.7U	0.088U
gamma-Chlordane	3.2	5.1	1.8U	1.8U	11	1.8U	1.9U	1.8U	1.8U	5.5	1.9U	1.7U	1.9U	8.8U	NS	19	NS	0.089JP	0.18
Heptachlor	1J	1.8U	1.8U	1.6J	2.2J	1.8U	2.7J	1.8U	2J	2J	1.9U	1.7U	1.9U	8.8U	NS	1.4J	NS	0.085JBP	0.088U
Heptachlor epoxide	2.4	1.2J	1.8U	1.1J	1.1J	1.8U	1.9U	1.8U	1.8U	1.9U	1.9U	1.7U	1.9U	8.8U	NS	7.1	NS	1.7U	0.088U
Methoxychlor	18U	18U	18U	18U	20U	18U	19U	18U	18U	19U	19U	17U	19U	88U	NS	18U	NS	0.28JBP	0.36J

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-34 : Summary of Detections OU 6 Pesticides

SHORT ID SAMPLE ID SAMPLE DATE	0341201 *034S120103* *12/28/1995*	0341301 *034S130103* *12/28/1995*	0341401 *034S140103* *12/28/1995*	0341501 *034S150103* *12/28/1995*	09B0001 *09BS000103* *12/29/1995*	09B0002 *09BS000203* *12/29/1995*	09B0003 *09BS000303* *12/29/1995*	09B0004 *09BS000403* *12/29/1995*	09B0005 *09BS000503* *12/29/1995*
PESTICIDES									
2,4-D	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDD	2	2	1.3	0.17U	0.65	0.64	0.58	0.51	29
4,4-DDE	0.88U	0.17U	0.88U	0.17U	0.18U	0.18U	0.18U	0.18U	3.1
4,4-DDT	0.88U	0.84	0.6J	0.82	0.31	0.29	0.4	0.61	10
Aldrin	0.43U	0.085U	0.43U	0.52J	0.087U	0.088U	0.087U	0.087U	0.09U
alpha-BHC	0.43U	0.085U	0.43U	0.084U	0.087U	0.088U	0.087U	0.12	0.09U
alpha-Chlordane	2.3	1.9J	0.39J	0.2U	0.087U	0.088U	0.087U	0.087U	1.1J
Aroclor-1254	17U	3.4U	17U	7U	1J	2.7J	2.2J	1.9J	3.6U
beta-BHC	0.43U	0.085U	0.43U	0.084U	0.087U	0.088U	0.087U	0.087U	0.09U
delta-BHC	0.43U	0.085U	0.43U	0.084U	0.087U	0.088U	0.087U	0.087U	0.09U
Dieldrin	1.7	2.4	4.3	0.84J	0.2U	0.18U	0.2U	0.3U	1.9
Endosulfan I	0.43U	0.085U	0.43U	0.084U	0.31J	0.18U	0.31J	0.24J	0.09U
Endosulfan II	0.88U	0.17U	0.88U	0.48	0.18U	0.18U	0.18U	0.18U	0.18U
Endosulfan sulfate	0.88U	0.17U	0.88U	0.17U	0.18U	0.18U	0.18U	0.18U	0.18U
Endrin	0.88U	0.17U	0.88U	0.17U	0.18U	0.18U	0.18U	0.18U	0.3U
Endrin aldehyde	0.88U	0.17U	0.88U	0.17U	0.18U	0.18U	0.18U	0.18U	0.18U
Endrin ketone	0.88U	0.17U	0.88U	0.34J	0.18U	0.18U	0.18U	0.18U	0.6
gamma-BHC (Lindane)	0.43U	0.085U	0.43U	0.084U	0.087U	0.088U	0.087U	0.087U	0.09U
gamma-Chlordane	30	16	4.8	0.74	0.087U	0.088U	0.087U	0.087U	1.1J
Heptachlor	24	6.3	0.43U	0.29J	0.087U	0.088U	0.087U	0.087U	0.09U
Heptachlor epoxide	12	6	0.43U	0.33J	0.087U	0.088U	0.087U	0.2U	0.09U
Methoxychlor	4.3U	0.85U	4.3U	0.84U	0.87U	0.88U	0.87U	0.87U	2.4

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-35 : Summary of Detections OU 6

SHORT ID	0090001		0090002	0090003		0090004		0090005	0090006		0090007	0090008		0090009		0090010		
SAMPLE ID	*0095000101*	*0095000103*	*0095000201*	*0095000301*	*0095000303*	*0095000401*	*0095000403*	*0095000501*	*0095000601*	*0095000603*	*0095000701*	*0095000801*	*0095000803*	*0095000901*	*0095000903*	*0095001001*	*0095001003*	*0095001004*
SAMPLE DATE	*2/2/1994*	*2/2/1994*	*2/2/1994*	*2/1/1994*	*2/1/1994*	*2/1/1994*	*2/1/1994*	*2/1/1994*	*2/1/1994*	*2/1/1994*	*2/1/1994*	*2/1/1994*	*2/1/1994*	*2/1/1994*	*2/1/1994*	*5/18/1994*	*5/18/1994*	*5/18/1994*
VOC																		
1,1,1-Trichloroethane	10U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
1,1,2,2-Tetrachloroethane	10U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
1,1-Dichloroethane	10U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
1,1-Dichloroethene	10U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
1,2-Dichloroethane	1200U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
1,2-Dichloroethene (total)	10U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
2-Butanone (MEK)	10U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
2-Hexanone	10U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
4-Methyl-2-Pentanone (MIBK)	1200U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
Acetone	10U	780U	290U	720U	160U	90U	23U	210U	79U	110U	940U	790U	1000U	190U	88U	NS	NS	NS
Benzene	1200U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
Bromoform	1200U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
Carbon disulfide	1200U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
Carbon tetrachloride	10U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
Chlorobenzene	10U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
Chloroform	10U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
Chloromethane	10U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
Ethylbenzene	10U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
Methylene chloride	10U	23U	5U	19U	6U	6U	13U	6U	10U	5U	29U	23U	24U	7U	6U	NS	NS	NS
Styrene	1200U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
Tetrachloroethene	1200U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
Toluene	1200U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
Trichloroethene	10U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
Vinyl chloride	1200U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
Xylene (Total)	10U	47U	12U	30U	12U	11U	13U	11U	10U	11U	57U	49U	52U	11U	11U	NS	NS	NS
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
1,4-Dichlorobenzene	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
2,4-Dimethylphenol	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
2,6-Dinitrotoluene	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
2-Chloronaphthalene	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
2-Methylnaphthalene	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
2-Methylphenol (o-Cresol)	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
3,3-Dichlorobenzidine	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
4-Methylphenol (p-Cresol)	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
4-Nitrophenol	810U	820U	920U	860U	950U	930U	980U	890U	830U	840U	920U	870U	910U	860U	860U	810U	820U	860U
Acenaphthene	330U	340U	690	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Acenaphthylene	330U	340U	380U	350U	390U	380U	400U	370U	90J	350U	380U	360U	370U	350U	360U	330U	340U	350U
Anthracene	330U	340U	2800	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Benzo(a)anthracene	330U	340U	6000	73J	140J	380U	400U	370U	81J	350U	380U	360U	370U	350U	360U	330U	340U	350U
Benzo(a)pyrene	330U	340U	4100	86J	150J	380U	400U	370U	120J	350U	380U	360U	370U	350U	360U	330U	340U	350U
Benzo(b)fluoranthene	330U	340U	5600	140J	210J	380U	400U	370U	130J	350U	380U	360U	370U	350U	360U	330U	340U	350U
Benzo(g,h,i)perylene	330U	340U	1500	350U	390U	380U	400U	370U	95J	350U	380U	360U	370U	350U	360U	330U	340U	350U
Benzo(k)fluoranthene	330U	340U	4200	140J	170J	380U	400U	370U	140J	350U	380U	360U	370U	350U	360U	330U	340U	350U
bis(2-Ethylhexyl)phthalate (BEHP)	330U	340U	380U	130J	390U	380U	400U	370U	340U	350U	380U	80U	370U	350U	360U	330U	340U	350U
Butylbenzylphthalate	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Carbazole	330U	340U	920	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Chrysene	330U	340U	4900	100J	150J	380U	400U	370U	99J	350U	380U	360U	370U	350U	360U	330U	340U	350U
Dibenz(a,h)anthracene	330U	340U	550J	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Dibenzofuran	330U	340U	330J	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Diethylphthalate	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Dimethylphthalate	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Di-n-butylphthalate	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Di-n-octylphthalate	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Fluoranthene	330U	340U	9500	150J	280J	380U	400U	370U	96J	350U	380U	360U	370U	350U	360U	330U	340U	350U
Fluorene	330U	340U	970	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Hexachlorobutadiene	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Indeno(1,2,3-cd)pyrene	330U	340U	1400	350U	390U	380U	400U	370U	85J	350U	380U	360U	370U	350U	360U	330U	340U	350U
Isophorone	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Naphthalene	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Pentachlorophenol	810U	820U	920U	860U	950U	930U	980U	890U	830U	840U	920U	870U	910U	860U	860U	810U	820U	860U
Phenanthrene	330U	340U	8100	350U	99J	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Phenol	330U	340U	380U	350U	390U	380U	400U	370U	340U	350U	380U	360U	370U	350U	360U	330U	340U	350U
Pyrene	330U	340U	11000	150J	250J	380U	400U	370U	100J	350U	380U	360U	370U	350U	360U	330U	340U	350U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-35 : Summary of Detections OU 6

SHORT ID	0090011			0090012			0090013			0090014		0090015		0090016		0090017		0090018	
SAMPLE ID	*0095001101*	*0095001103*	*0095001104*	*0095001201*	*0095001203*	*0095001204*	*0095001301*	*0095001303*	*0095001304*	*0095001401*	*0095001403*	*0095001501*	*0095001503*	*0095001601*	*0095001603*	*0095001701*	*0095001703*	*0095001801*	*0095001803*
SAMPLE DATE	*5/18/1994*	*5/18/1994*	*5/18/1994*	*5/18/1994*	*5/18/1994*	*5/18/1994*	*5/18/1994*	*5/18/1994*	*5/18/1994*	*5/18/1994*	*5/18/1994*	*5/19/1994*	*5/19/1994*	*5/19/1994*	*5/19/1994*	*5/19/1994*	*5/19/1994*	*5/23/1994*	*5/23/1994*
VOC																			
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
1,1-Dichloroethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
1,1-Dichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
1,2-Dichloroethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
1,2-Dichloroethene (total)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
2-Butanone (MEK)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
2-Hexanone	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
4-Methyl-2-Pentanone (MIBK)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
Acetone	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
Benzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
Bromoform	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
Carbon disulfide	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
Carbon tetrachloride	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
Chlorobenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
Chloroform	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
Chloromethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
Methylene chloride	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	230U	310U
Styrene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
Tetrachloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
Toluene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4J	6J
Trichloroethene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
Vinyl chloride	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
Xylene (Total)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	12U	12U
TOC																			
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																			
1,2,4-Trichlorobenzene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
1,4-Dichlorobenzene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
2,4-Dimethylphenol	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
2,6-Dinitrotoluene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
2-Chloronaphthalene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
2-Methylnaphthalene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
2-Methylphenol (o-Cresol)	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
3,3-Dichlorobenzidine	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
4-Methylphenol (p-Cresol)	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
4-Nitrophenol	800U	820U	860U	810U	830U	860U	820U	820U	850U	810U	850U	810U	890U	820U	840U	810U	27000U	1000U	30000U
Acenaphthene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Acenaphthylene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Anthracene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	2600J
Benzo(a)anthracene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	340	3500J	420U	11000J
Benzo(a)pyrene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	310J	3100J	420U	12000J
Benzo(b)fluoranthene	330U	340U	350U	330U	340U	350U	340U	340U	350U	72J	350U	330U	370U	340U	340U	370	3300J	420U	13000
Benzo(g,h,i)perylene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	150J	11000U	420U	7800J
Benzo(k)fluoranthene	330U	340U	350U	330U	340U	350U	340U	340U	350U	73J	350U	330U	370U	340U	340U	310J	3900J	420U	10000J
bis(2-Ethylhexyl)phthalate (BEHP)	330U	340U	350U	330U	340U	350U	98U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Butylbenzylphthalate	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Carbazole	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Chrysene	330U	340U	350U	330U	340U	350U	340U	340U	350U	74J	350U	330U	370U	340U	340U	370	3900J	420U	11000J
Dibenz(a,h)anthracene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Dibenzofuran	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Diethylphthalate	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Dimethylphthalate	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Di-n-butylphthalate	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Di-n-octylphthalate	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Fluoranthene	330U	340U	350U	330U	340U	350U	340U	340U	350U	120J	350U	330U	370U	120J	340U	650	6700J	420U	21000
Fluorene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Hexachlorobutadiene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Indeno(1,2,3-cd)pyrene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	150J	11000U	420U	6600J
Isophorone	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Naphthalene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Pentachlorophenol	800U	820U	860U	810U	830U	860U	820U	820U	850U	810U	850U	810U	890U	820U	840U	810U	27000U	1000U	30000U
Phenanthrene	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	250J	3900J	420U	12000J
Phenol	330U	340U	350U	330U	340U	350U	340U	340U	350U	330U	350U	330U	370U	340U	340U	330U	11000U	420U	12000U
Pyrene	330U	340U	350U	330U	340U	350U	340U	340U	350U	110J	350U	330U	370U	120J	340U	650	5700J	420U	22000

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-35 : Summary of Detections OU 6

SHORT ID	0090019		0090020		0090021		0090024	0090026	0090027	0290001			0290002			0290003		
SAMPLE ID	*0095001901*	*0095001903*	*0095002001*	*0095002012*	*0095002101*	*0095002112*	*0095002403*	*0095002603*	*0095002702*	*0295000101*	*0295000103*	*0295000105*	*0295000201*	*0295000203*	*0295000205*	*0295000301*	*0295000303*	*0295000305*
SAMPLE DATE	*5/19/1994*	*5/19/1994*	*9/12/1994*	*9/12/1994*	*9/12/1994*	*9/12/1994*	*12/5/1994*	*12/5/1994*	*12/5/1994*	*2/2/1994*	*2/2/1994*	*2/2/1994*	*2/2/1994*	*2/2/1994*	*2/2/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*
VOC																		
1,1,1-Trichloroethane	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	5J	10U	10U	11U	10U	10U	11U
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
1,1-Dichloroethane	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
1,1-Dichloroethene	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
1,2-Dichloroethane	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
1,2-Dichloroethene (total)	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
2-Butanone (MEK)	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
2-Hexanone	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
4-Methyl-2-Pentanone (MIBK)	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
Acetone	NS	NS	NS	NS	NS	NS	29U	11U	14U	34U	150U	240U	14U	34U	11U	120	88	140
Benzene	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
Bromoform	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
Carbon disulfide	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
Carbon tetrachloride	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
Chlorobenzene	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
Chloroform	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
Chloromethane	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
Ethylbenzene	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
Methylene chloride	NS	NS	NS	NS	NS	NS	29U	15U	30U	12U	10U	11U	10U	10U	11U	10U	10U	11U
Styrene	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
Tetrachloroethene	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	3J	10U	10U	11U	10U	10U	11U
Toluene	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
Trichloroethene	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
Vinyl chloride	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
Xylene (Total)	NS	NS	NS	NS	NS	NS	10U	11U	14U	12U	10U	11U	10U	10U	11U	10U	10U	11U
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
1,4-Dichlorobenzene	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
2,4-Dimethylphenol	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
2,6-Dinitrotoluene	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
2-Chloronaphthalene	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
2-Methylnaphthalene	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
2-Methylphenol (o-Cresol)	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
3,3-Dichlorobenzidine	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
4-Methylphenol (p-Cresol)	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
4-Nitrophenol	820U	960U	940U	1000U	950U	1000U	830U	850U	1100U	930U	820U	890U	820U	820U	920U	820U	820U	910U
Acenaphthene	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
Acenaphthylene	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	53J	370U	340U	340U	380U	340U	340U	380U
Anthracene	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
Benzo(a)anthracene	340U	400U	390U	420U	390U	420U	340U	54J	360J	380U	110J	370U	340U	340U	380U	340U	340U	380U
Benzo(a)pyrene	340U	400U	390U	420U	390U	420U	340U	350U	420J	380U	120J	370U	340U	340U	380U	340U	340U	380U
Benzo(b)fluoranthene	95J	81J	390U	420U	390U	420U	340U	170J	1200J	380U	140J	54J	340U	340U	380U	340U	340U	380U
Benzo(g,h,i)perylene	340U	400U	390U	420U	390U	420U	340U	350U	430J	380U	340U	370U	340U	340U	380U	340U	340U	380U
Benzo(k)fluoranthene	65J	65J	390U	420U	390U	420U	340U	100J	1100J	380U	97J	370U	340U	340U	380U	340U	340U	380U
bis(2-Ethylhexyl)phthalate (BEHP)	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
Butylbenzylphthalate	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
Carbazole	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
Chrysene	75J	400U	390U	420U	390U	420U	340U	66J	360J	380U	100J	370U	340U	340U	380U	340U	340U	380U
Dibenz(a,h)anthracene	340U	400U	390U	420U	390U	420U	340U	350U	99J	380U	340U	370U	340U	340U	380U	340U	340U	380U
Dibenzofuran	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
Diethylphthalate	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
Dimethylphthalate	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
Di-n-butylphthalate	340U	400U	390U	420U	390U	420U	340U	350U	81J	380U	340U	170U	340U	340U	380U	340U	340U	380U
Di-n-octylphthalate	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
Fluoranthene	92J	95J	390U	420U	390U	420U	340U	110J	530	380U	120J	65J	340U	340U	380U	340U	340U	380U
Fluorene	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
Hexachlorobutadiene	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
Indeno(1,2,3-cd)pyrene	340U	400U	390U	420U	390U	420U	340U	350U	270J	380U	55J	370U	340U	340U	380U	340U	340U	380U
Isophorone	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
Naphthalene	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
Pentachlorophenol	820U	960U	940U	1000U	950U	1000U	830U	850U	1100U	930U	820U	890U	820U	820U	920U	820U	820U	910U
Phenanthrene	340U	400U	390U	420U	390U	420U	340U	66J	170J	380U	340U	370U	340U	340U	380U	340U	340U	380U
Phenol	340U	400U	390U	420U	390U	420U	340U	350U	450U	380U	340U	370U	340U	340U	380U	340U	340U	380U
Pyrene	130J	110J	390U	420U	390U	420U	340U	110J	600	380U	68J	38J	340U	340U	380U	340U	340U	380U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-35 : Summary of Detections OU 6

SHORT ID	0290004			0290005		0290006		0290007		0290008		0290009				0290010		0290011	
SAMPLE ID	*0295000401*	*0295000403*	*0295000405*	*0295000501*	*0295000503*	*0295000601*	*0295000603*	*0295000701*	*0295000703*	*0295000801*	*0295000803*	*0295000901*	*0295000903*	*0295000905*	*0295000906*	*0295001001*	*0295001003*	*0295001101*	*0295001103*
SAMPLE DATE	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/4/1994*	*2/4/1994*	*2/4/1994*	*2/4/1994*	*2/2/1994*	*2/2/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*6/2/1993*	*6/15/1993*	*6/1/1993*	*6/1/1993*	*6/1/1993*
VOC																			
1,1,1-Trichloroethane	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
1,1-Dichloroethane	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
1,1-Dichloroethene	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
1,2-Dichloroethane	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
1,2-Dichloroethene (total)	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
2-Butanone (MEK)	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
2-Hexanone	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
4-Methyl-2-Pentanone (MIBK)	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
Acetone	130B	960BE	180B	230BE	130B	11B	2BJ	410BE	50B	9100BE	320B	20	98	NS	9J	NS	NS	NS	NS
Benzene	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
Bromoform	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
Carbon disulfide	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
Carbon tetrachloride	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
Chlorobenzene	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
Chloroform	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
Chloromethane	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
Ethylbenzene	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
Methylene chloride	10U	11U	12U	10U	11U	2J	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
Styrene	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
Tetrachloroethene	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
Toluene	10U	4J	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
Trichloroethene	10U	11U	12U	10U	11U	2J	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
Vinyl chloride	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
Xylene (Total)	10U	11U	12U	10U	11U	10U	11U	11U	11U	10U	26U	11U	11U	NS	12U	NS	NS	NS	NS
TOC																			
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																			
1,2,4-Trichlorobenzene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
1,4-Dichlorobenzene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
2,4-Dimethylphenol	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
2,6-Dinitrotoluene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
2-Chloronaphthalene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
2-Methylnaphthalene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
2-Methylphenol (o-Cresol)	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
3,3-Dichlorobenzidine	330U	370U	390U	330U	360U	340U	370U	350U	380UR	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
4-Methylphenol (p-Cresol)	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
4-Nitrophenol	810U	900U	960U	810U	870U	830U	900U	840U	920U	830U	820U	840U	840U	930U	NS	830U	840U	820U	860U
Acenaphthene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Acenaphthylene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Anthracene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Benzo(a)anthracene	330U	370U	390U	34J	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Benzo(a)pyrene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Benzo(b)fluoranthene	330U	370U	58J	54J	360U	340U	370U	44J	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Benzo(g,h,i)perylene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Benzo(k)fluoranthene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
bis(2-Ethylhexyl)phthalate (BEHP)	330U	370U	390U	330U	360U	340U	370U	40U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Butylbenzylphthalate	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Carbazole	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Chrysene	330U	370U	390U	44J	360U	340U	370U	36J	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Dibenz(a,h)anthracene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Dibenzofuran	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Diethylphthalate	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Dimethylphthalate	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Di-n-butylphthalate	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Di-n-octylphthalate	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Fluoranthene	330U	39J	74J	93J	360U	340U	370U	56J	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Fluorene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Hexachlorobutadiene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Indeno(1,2,3-cd)pyrene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Isophorone	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Naphthalene	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Pentachlorophenol	810U	900U	960U	810U	870U	830U	900U	840U	920U	830U	820U	840U	840U	930U	NS	830U	840U	820U	860U
Phenanthrene	330U	370U	390U	38J	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Phenol	330U	370U	390U	330U	360U	340U	370U	350U	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U
Pyrene	330U	370U	61J	74J	360U	340U	370U	47J	380U	340U	340U	350U	350U	380U	NS	340U	350U	340U	360U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-35 : Summary of Detections OU 6

SHORT ID	0290012		0290013		0290014	0290015	0290016	0290017	0340001					0340002				0340003	
SAMPLE ID	*029S001201*	*029S001203*	*029S001301*	*029S001303*	*029S001403*	*029S001503*	*029S001603*	*029S001703*	*034S000101*	*034S000103*	*034S000105*	*034S000107*	*034S000109*	*034S000201*	*034S000203*	*034S000205*	*034S000206*	*034S000301*	*034S000303*
SAMPLE DATE	*6/1/1993*	*6/1/1993*	*6/1/1993*	*6/14/1993*	*5/16/1995*	*5/16/1995*	*5/16/1995*	*5/16/1995*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*
VOC																			
1,1,1-Trichloroethane	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
1,1-Dichloroethane	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
1,1-Dichloroethene	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
1,2-Dichloroethane	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
1,2-Dichloroethene (total)	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
2-Butanone (MEK)	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
2-Hexanone	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
4-Methyl-2-Pentanone (MIBK)	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
Acetone	NS	NS	NS	NS	11UJ	11UJ	11UJ	27UJ	10U	26U	120U	10U	1200U	10U	36U	11U	11U	59U	19U
Benzene	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
Bromoform	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
Carbon disulfide	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
Carbon tetrachloride	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
Chlorobenzene	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
Chloroform	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
Chloromethane	NS	NS	NS	NS	11UJ	11UJ	11UJ	11UJ	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
Ethylbenzene	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
Methylene chloride	NS	NS	NS	NS	13UJ	12UJ	15UJ	13UJ	8U	7U	7U	8U	650U	9U	9U	9U	9U	9U	9U
Styrene	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
Tetrachloroethene	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
Toluene	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
Trichloroethene	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
Vinyl chloride	NS	NS	NS	NS	11UJ	11UJ	11UJ	11UJ	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
Xylene (Total)	NS	NS	NS	NS	11U	11U	11U	11U	10U	11U	11U	10U	1200U	10U	11U	11U	11U	11U	11U
TOC																			
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																			
1,2,4-Trichlorobenzene	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
1,4-Dichlorobenzene	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
2,4-Dimethylphenol	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
2,6-Dinitrotoluene	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
2-Chloronaphthalene	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
2-Methylnaphthalene	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	460	340U	360U	350U	350U	350U	360U
2-Methylphenol (o-Cresol)	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
3,3-Dichlorobenzidine	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
4-Methylphenol (p-Cresol)	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
4-Nitrophenol	840U	840U	840U	850U	910U	930U	920U	910U	840U	830U	850U	830U	920U	820U	880U	850U	850U	860U	870U
Acenaphthene	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Acenaphthylene	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Anthracene	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Benzo(a)anthracene	120J	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Benzo(a)pyrene	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Benzo(b)fluoranthene	84J	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Benzo(g,h,i)perylene	350U	350U	350U	350U	360UJ	370UJ	360UJ	360UJ	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Benzo(k)fluoranthene	89J	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
bis(2-Ethylhexyl)phthalate (BEHP)	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Butylbenzylphthalate	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Carbazole	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Chrysene	170J	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Dibenz(a,h)anthracene	350U	350U	350U	350U	360UJ	370UJ	360UJ	360UJ	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Dibenzofuran	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Diethylphthalate	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Dimethylphthalate	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Di-n-butylphthalate	350U	350U	350U	350U	360U	370U	140J	81J	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Di-n-octylphthalate	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Fluoranthene	540	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Fluorene	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Hexachlorobutadiene	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Indeno(1,2,3-cd)pyrene	350U	350U	350U	350U	360U	370U	360UJ	360UJ	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Isophorone	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Naphthalene	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	170J	340U	360U	350U	350U	350U	360U
Pentachlorophenol	840U	840U	840U	850U	910U	930U	920U	910U	840U	830U	850U	830U	920U	820U	880U	850U	850U	860U	870U
Phenanthrene	350U	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Phenol	350U	350U	350U	350U	360U	370UJ	360UJ	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U
Pyrene	510	350U	350U	350U	360U	370U	360U	360U	350U	340U	350U	340U	380U	340U	360U	350U	350U	350U	360U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-35 : Summary of Detections OU 6

SHORT ID	0340004			0340005		0340008	0340009	0340010	0341101	0341201	0341301	0341401	0341501	09B0001	09B0002	09B0003	09B0004	09B0005
SAMPLE ID	*034S000401*	*034S000403*	*034S000405*	*034S000501*	*034S000503*	*034S000803*	*034S000903*	*034S001002*	*034S110103*	*034S120103*	*034S130103*	*034S140103*	*034S150103*	*09BS000103*	*09BS000203*	*09BS000303*	*09BS000403*	*09BS000503*
SAMPLE DATE	*9/1/1993*	*9/1/1993*	*8/30/1993*	*8/30/1993*	*8/30/1993*	*8/31/1993*	*9/3/1993*	*9/1/1993*	*12/28/1995*	*12/28/1995*	*12/28/1995*	*12/28/1995*	*12/28/1995*	*12/29/1995*	*12/29/1995*	*12/29/1995*	*12/29/1995*	*12/29/1995*
VOC																		
1,1,1-Trichloroethane	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
1,1,2,2-Tetrachloroethane	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
1,1-Dichloroethane	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
1,1-Dichloroethene	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
1,2-Dichloroethane	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
1,2-Dichloroethene (total)	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
2-Butanone (MEK)	10U	11U	10U	11U	11U	10U	10U	12U	12UJ	10UJ	10UJ	11UJ	10UJ	11U	11U	11U	11U	11U
2-Hexanone	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	3J
4-Methyl-2-Pentanone (MIBK)	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
Acetone	10U	11U	10U	11U	28U	10U	10U	37U	12U	15U	17U	11U	10U	15U	11U	11U	12U	22U
Benzene	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
Bromoform	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
Carbon disulfide	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
Carbon tetrachloride	10U	11U	10U	11U	11U	10U	10U	12U	12UJ	10UJ	10UJ	11UJ	10UJ	11U	11U	11U	11U	11U
Chlorobenzene	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
Chloroform	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
Chloromethane	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
Ethylbenzene	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
Methylene chloride	10U	5U	4U	5U	5U	10U	13U	16U	12UJ	10UJ	10UJ	11UJ	10UJ	11UJ	11UJ	11UJ	11UJ	11UJ
Styrene	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
Tetrachloroethene	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
Toluene	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
Trichloroethene	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
Vinyl chloride	10U	11U	10U	11U	11U	10U	10U	12U	4U	3U	3U	3U	3U	3U	3U	3U	3U	3U
Xylene (Total)	10U	11U	10U	11U	11U	10U	10U	12U	12U	10U	10U	11U	10U	11U	11U	11U	11U	11U
TOC																		
TOC (EPA 415.1)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon (TOC)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SVOC																		
1,2,4-Trichlorobenzene	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	340U	350U	350U	350U	350U	350U
1,4-Dichlorobenzene	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	340U	350U	350U	350U	350U	350U
2,4-Dimethylphenol	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	340U	350U	350U	350U	350U	350U
2,6-Dinitrotoluene	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	340U	350U	350U	350U	350U	350U
2-Chloronaphthalene	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	340U	350U	350U	350U	350U	350U
2-Methylnaphthalene	330U	350U	400U	390U	430U	340U	340U	400U	35U	34U	33U	34U	34U	19J	35U	35U	35U	35U
2-Methylphenol (o-Cresol)	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	340U	350U	350U	350U	350U	350U
3,3-Dichlorobenzidine	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	340U	350U	350U	350U	350U	350U
4-Methylphenol (p-Cresol)	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	340U	350U	350U	350U	350U	350U
4-Nitrophenol	800U	840U	980U	940U	1000U	820U	830U	960U	850U	810UJ	810UJ	830UJ	820UJ	840UJ	840UJ	840UJ	840UJ	860UJ
Acenaphthene	330U	350U	400U	390U	430U	340U	340U	400U	17U	16U	16U	17U	16U	17U	17U	17U	17U	17U
Acenaphthylene	330U	350U	400U	390U	430U	340U	340U	400U	35U	34U	33U	34U	34U	35U	35U	35U	35U	35U
Anthracene	330U	350U	400U	390U	430U	340U	340U	400U	35U	34U	33U	34U	34U	35U	35U	35U	35U	35U
Benzo(a)anthracene	330U	350U	400U	390U	430U	340U	340U	400U	35UJ	34U	33U	34U	34U	35U	35U	35U	35U	35U
Benzo(a)pyrene	330U	350U	400U	390U	430U	340U	340U	400U	35U	34U	33U	34U	34U	35U	35U	35U	35U	35U
Benzo(b)fluoranthene	330U	350U	400U	390U	430U	340U	340U	400U	35U	34U	33U	34U	34UJ	35UJ	35U	35UJ	35UJ	35U
Benzo(g,h,i)perylene	330U	350U	400U	390U	430U	340U	340U	400U	35U	34U	33U	34U	34U	35U	35U	35U	35U	35U
Benzo(k)fluoranthene	330U	350U	400U	390U	430U	340U	340U	400U	35U	34U	33U	34U	34UJ	35UJ	35U	35UJ	35UJ	35U
bis(2-Ethylhexyl)phthalate (BEHP)	89U	350U	400U	390U	430U	340U	340U	400U	350UJ	340U	330U	340U	340U	350U	350U	350U	660U	350U
Butylbenzylphthalate	330U	350U	400U	390U	430U	340U	340U	400U	350UJ	340U	330U	340U	17J	350U	350U	350U	350U	350U
Carbazole	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	340U	350U	350U	350U	350U	350U
Chrysene	330U	350U	400U	390U	430U	340U	340U	400U	35UJ	34U	33U	34U	34U	35U	35U	35U	35U	35U
Dibenz(a,h)anthracene	330U	350U	400U	390U	430U	340U	340U	400U	35U	34U	33U	34U	34U	35U	35U	35U	35U	35U
Dibenzofuran	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	340U	350U	350U	350U	350U	350U
Diethylphthalate	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	340U	350U	350U	350U	350U	350U
Dimethylphthalate	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	340U	350U	350U	350U	350U	350U
Di-n-butylphthalate	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	18J	350U	350U	19J	350U	350U
Di-n-octylphthalate	330U	350U	400U	390U	430U	340U	340U	400U	350U	340UJ	330UJ	340UJ	340UJ	350UJ	350UJ	350UJ	350UJ	350UJ
Fluoranthene	330U	350U	400U	390U	430U	340U	340U	400U	35U	34U	33U	34U	21J	35U	35U	35U	35U	35U
Fluorene	330U	350U	400U	390U	430U	340U	340U	400U	17U	16U	16U	17U	16U	17U	17U	17U	17U	17U
Hexachlorobutadiene	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	340U	350U	350U	350U	350U	350U
Indeno(1,2,3-cd)pyrene	330U	350U	400U	390U	430U	340U	340U	400U	35U	34U	33U	34U	34U	35U	35U	35U	35U	35U
Isophorone	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	340U	350U	350U	350U	350U	350U
Naphthalene	330U	350U	400U	390U	430U	50J	340U	400U	35U	34U	33U	34U	34U	35U	35U	35U	35U	35U
Pentachlorophenol	800U	840U	980U	940U	1000U	820U	830U	960U	850U	810U	810U	830U	820U	840U	840U	840U	840U	860U
Phenanthrene	330U	350U	400U	390U	430U	340U	340U	400U	35U	34U	33U	34U	34U	35U	35U	35U	35U	35U
Phenol	330U	350U	400U	390U	430U	340U	340U	400U	350U	340U	330U	340U	340U	350U	350U	350U	350U	350U
Pyrene	330U	350U	400U	390U	430U	340U	340U	400U	35UJ	34U	33U	34U	26J	35U	35U	35U	35U	35U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-36 : Summary of Detections OU 6 Metals

SHORT ID	0090001		0090002	0090003		0090004		0090005	0090006		0090007	0090008		0090009		0090018		0090020	
SAMPLE ID	009S000101	009S000103	009S000201	009S000301	009S000303	009S000401	009S000403	009S000501	009S000601	009S000603	009S000701	009S000801	009S000803	009S000901	009S000903	009S001801	009S001803	009S002001	009S002012
SAMPLE DATE	2/2/1994	2/2/1994	2/2/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	2/1/1994	5/23/1994	5/23/1994	9/12/1994	9/12/1994
METAL																			
Aluminum	217J	116J	1360J	954J	1450J	8050J	218J	2730J	756J	2060J	4010J	1780J	459J	4480J	100J	13400	6150	119U	40.6U
Antimony	2.7UJ	2.1UJ	3UJ	3.2UJ	3.2UJ	3.2UJ	3.5UJ	3.4UJ	3UJ	3.2UJ	3.4UJ	2.5UJ	2.8UJ	2.6UJ	2.6UJ	137J	16.3	8.7U	9.3U
Arsenic	0.49U	0.39U	2.5	1.5	1.2	2.5	0.66U	1.2	0.56U	1.1	1.5	0.78	0.52U	1.3	0.49U	18.8	11.7	0.94U	1U
Barium	2.3U	1.2U	78.1U	14.7U	22.2U	15.1U	3.7U	9.1U	2.6U	5.1U	10.2U	7.4U	2.1U	15.3U	10.7U	2940	945	0.64U	0.45U
Beryllium	0.07U	0.05U	0.12	0.08	0.2	0.08U	0.09U	0.09U	0.08U	0.08U	0.09U	0.07U	0.07U	0.07	0.07U	0.17U	0.25U	0.24U	0.25U
Cadmium	0.36U	0.28U	1.2	0.6	0.57	0.43U	0.48U	0.46U	0.46	0.43U	0.46U	0.54	0.37U	0.36U	0.53	37.7	12.3	1.2U	1.3U
Calcium	169	315U	2650	1170	4530	758	412	572	291	176	237	1400	179	202	434	11100	7350	128U	922U
Chromium	1J	1.3J	5.5J	4.4J	2.8J	8J	1.8J	7.1J	3.5J	3.8J	4.5J	4.5J	2.9J	4.7J	0.55J	502	69.2	1.2U	1.3U
Cobalt	0.54U	0.43U	0.61U	0.66U	0.66U	1.3	0.73U	0.7U	0.61U	0.66U	0.87	0.52U	0.57U	0.79	0.54U	28.5U	4.4U	0.94U	1U
Copper	0.53U	1.3U	131	18.5	23.4	3.1U	1.3U	2.9U	0.95U	0.54U	0.57U	123	0.46U	1.7U	7U	47700	2690	4.9J	6.4
Cyanide (CN)	0.09U	0.08U	0.08U	0.21	0.11U	0.17	0.1U	0.1U	0.09U	0.09U	0.19	0.1	0.08U	0.14	0.1U	0.14U	0.37	1.4U	1.6U
Iron	381J	270J	2890J	1440J	1060J	5180J	352J	2120J	710J	1760J	2810J	1390J	372J	2560J	180J	41700	25200	221	84.5U
Lead	12.8	17.1	363	109	76.3	18.7	16.9	39.2	10.6	11	9.6	63.7	13.4	19.1	58.2	51300	4470	9.9	9.5
Magnesium	34U	40.4U	428	224	338	80.9U	32.3U	87.8U	28.3U	19.8U	55.2U	88.1U	23.2U	42.8U	8.2U	3260	1110	30.9U	20.9U
Manganese	6.9J	3.3J	48.6J	35.4J	37.5J	635J	3.7J	93.4J	22.2J	115J	323J	79.9J	23.1J	400J	6.7J	444	252	2.5	0.76U
Mercury	0.06	0.03	0.41	0.09	0.1	0.03	0.04U	0.16	0.02U	0.02U	0.05	0.02	0.02U	0.03U	0.03U	0.04U	0.51	0.12U	0.13U
Nickel	1.8U	1.4U	3.3	2.1U	2.2U	2.6	2.4U	2.3U	2U	2.1U	2.3U	1.7U	1.9U	1.8U	1.8U	133J	64.3	3.1U	3.3U
Potassium	110U	87.8U	123U	134U	142	133U	147U	142U	124U	134U	143U	106U	115U	110U	110U	254U	377U	125U	134U
Selenium	0.29UJ	0.23UJ	0.34J	0.35UJ	0.35UJ	0.35UJ	0.39UJ	0.37UJ	0.33U	0.43J	0.49J	0.28UJ	0.32UJ	0.35J	0.29UJ	1.3U	1.3U	1.2U	1.7U
Silver	0.61UJ	0.49UJ	0.68UJ	0.74UJ	0.74UJ	0.74UJ	0.82UJ	0.79UJ	0.69U	0.74UJ	0.79UJ	0.59UJ	0.64UJ	0.61UJ	0.61UJ	23.2	0.72U	0.94U	1U
Sodium	4	4.7	23.7	9.2	31.7	9.9	5.1U	8	9.2	6.5	14.8	7.9	7.9	8.7	4.3	285	103	21.8U	16U
Thallium	0.48U	0.38U	0.53U	0.58U	0.58U	0.57U	0.64U	0.61U	0.54U	0.58U	0.62U	0.46U	0.5U	0.48U	0.47U	1U	1	1.3	1.3U
Vanadium	0.81	0.45U	3	2.8	1.8	17	0.75U	5.5	1.8	4.8	7.6	3.5	0.78	7.5	0.56U	16.5U	9.3U	0.47U	0.5U
Zinc	7.2U	13U	256	72.2	73.9	12.3U	21.4U	15.9U	9.8U	3.6U	3.8U	26.4U	5.9U	6.9U	98.2	18200J	5670J	3.6U	8.4U

SHORT ID	0090021		0090024	0090026	0090027	0090028	0090029	0090030	0090031	0290001			0290002			0290003		
SAMPLE ID	009S002101	009S002112	009S002403	009S002603	009S002702	009S002802	009S002903	009S003003	009S003103	029S000101	029S000103	029S000105	029S000201	029S000203	029S000205	029S000301	029S000303	029S000305
SAMPLE DATE	9/12/1994	9/12/1994	12/5/1994	12/5/1994	12/5/1994	6/5/1996	6/5/1996	6/5/1996	6/5/1996	2/2/1994	2/2/1994	2/2/1994	2/2/1994	2/2/1994	2/2/1994	2/3/1994	2/3/1994	2/3/1994
METAL																		
Aluminum	208U	39.6U	423J	638J	12100J	3190	3020	1310	2740	2340	3740	2200	948	875	206U	1040	310U	198U
Antimony	8.9U	9.3U	0.37U	0.39U	3.3	2J	0.33U	0.68J	1.4J	8.4UJ	7.6UJ	8.1UJ	7.4UJ	7.3UJ	8.3UJ	7.3UJ	7.4UJ	8.3UJ
Arsenic	0.96U	1U	0.68U	0.71U	8	21.4	1.7J	2.7	3.4	0.93U	0.84U	0.9U	0.83U	0.81U	0.92U	0.82U	0.82U	0.92U
Barium	1.3U	0.25U	4.5	31.7	921	421	58.4	137	254	8.3U	9.2U	5.7U	3.4U	3.8U	1.2U	1.5U	0.7U	0.46U
Beryllium	0.24U	0.25U	0.02U	0.06U	0.65U	0.29J	0.12J	0.18J	0.06J	0.7U	0.63U	0.67U	0.62U	0.61U	0.69U	0.61U	0.62U	0.69U
Cadmium	1.2U	1.3U	0.1U	0.89	28.6	3.4	0.51J	2	6.9	1.2U	1.1U	1.1U	1U	1U	1.1U	1U	1U	1.1U
Calcium	109U	65.1U	200	865	8230	7230	16000	2490	4070	15300	668U	1580	3060	298U	227U	312U	265U	156U
Chromium	1.2	1.3U	0.83J	2.4J	262J	17.3	4.1	6.8	11.6	4.9	9.6	8.8	2.9	10.8	25.5	2.6	8.3	45.9
Cobalt	0.96U	1U	0.1U	0.29	4.9	4.1J	0.53J	0.77J	0.3J	1.4U	1.3U	1.3U	1.2U	1.2U	1.4U	1.2U	1.2U	1.4U
Copper	0.72U	0.76U	4.3U	20.8J	2270J	767	28.6	70.4	329	2.3U	3.2U	3.2U	5.1U	2.5U	1.2U	1.3U	0.69U	1.2U
Cyanide (CN)	1.5U	1.6U	0.52U	0.53U	0.68U	NS	NS	NS	NS	1.3U	1.3U	1.3U	1.2U	1.2U	1.3U	1.2U	1.2U	1.4U
Iron	277	98.5	430J	1890	22500J	30200	2750	5100	8530	1770	1940	1410	598	603	361	558	266	404
Lead	2	0.76U	9.7J	123J	5100J	2700	158	495	1960	4	26.3	21.8	3.2	10.3	3.8	4.1	1.6	1.2
Magnesium	44.6U	18.1U	25.1	141	3290	1420	654J	308J	344J	673	91.8	108	195	43.7	21.9U	35.8	23	18.8
Manganese	2.6	0.76U	17.1U	15.6J	231J	153	35.2	62.9	62.8	34.7	57.4	33.6	13.8U	25.5U	6.2U	10.9U	5.3U	5.7U
Mercury	0.12U	0.13U	0.1U	0.7J	0.13U	2.1	0.12U	0.28	0.16	0.12U	0.11U	0.11U	0.1U	0.1U	0.11U	0.1U	0.1U	0.11U
Nickel	3.1U	3.3U	0.29U	1.2	60.5	36.7	2.1J	3.2J	6.8J	3.5U	3.2U	3.4U	3.1U	3U	3.6	3.1U	3.1U	6.7
Potassium	127U	134U	49.2U	91.4U	1030	215J	129J	75.8J	62.1J	120U	151U	113U	344U	207U	175U	100U	96.6U	137U
Selenium	1.2U	1.6U	0.85U	0.89U	1.8	1.1J	0.91U	0.9U	0.91U	1.5J	1.1UJ	1.5J	1.2J	1.7J	1.3J	1UJ	1UJ	1.1UJ
Silver	0.96U	1U	0.12U	0.12U	0.16U	0.45J	0.37J	1J	1.2J	1.4U	1.3U	1.3U	1.2U	1.2U	1.4U	1.2U	1.2U	1.4U
Sodium	7.7U	16.3U	229U	289U	977	89.8J	96.9J	54.8J	97.2J	2.1U	1.9U	2U	1.9U	1.8U	2.1U	1.8U	1.9U	2.1U
Thallium	1.2U	1.3U	1.1U	1.1U	1.4U	1.2U	1.1U	1.1U	1.1U	1.9U	1.7U	1.8U	1.7U	1.6U	1.8U	1.6U	1.6U	1.8U
Vanadium	0.48U	0.5U	0.85	1.6	26.7	12.7	5.7J	3J	4.7J	3.4	5	3.5	1.2U	1.5	1.4U	1.2U	1.2U	1.4U
Zinc	10.2U	9.5U	7.4U	69.5J	4090J	1560	252	464	988	7.5	9.6	7.1	6	10.4	4.4	3.4	1.9	2.6

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-36 : Summary of Detections OU 6 Metals

SHORT ID	0290004			0290005		0290006		0290007		0290008		0290009		0290014	0290015	0290016	0290017
SAMPLE ID	*029S000401*	*029S000403*	*029S000405*	*029S000501*	*029S000503*	*029S000601*	*029S000603*	*029S000701*	*029S000703*	*029S000801*	*029S000803*	*029S000901*	*029S000903*	*029S000905*	*029S001403*	*029S001503*	*029S001603*	*029S001703*
SAMPLE DATE	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/4/1994*	*2/4/1994*	*2/4/1994*	*2/4/1994*	*2/2/1994*	*2/2/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*5/16/1995*	*5/16/1995*	*5/16/1995*	*5/16/1995*
METAL																		
Aluminum	1820J	8660J	2640J	2010J	1080J	175J	109J	3870J	500J	1870	846	1890	336	287U	5610J	1280J	8960J	7470J
Antimony	7.4UJ	8.1UJ	8.7UJ	7.4UJ	7.8UJ	7.5UJ	8.1UJ	7.6UJ	8.3UJ	7.5UJ	7.5UJ	7.5UJ	7.6UJ	8.4UJ	0.42UJ	0.43UJ	0.43UJ	0.43UJ
Arsenic	0.82U	1.9U	0.96U	1.2U	0.87U	0.83U	0.9U	2U	0.99U	0.83U	0.83U	0.84U	0.84U	0.93U	0.7U	0.72U	1.2J	1.5J
Barium	3.7J	14.6J	2.8U	3.8J	2.1U	0.8U	0.75U	21.4J	3.8J	7.6U	1.7U	3.3U	0.44U	0.65U	10.7J	2.9J	10.3J	13.9J
Beryllium	0.61U	0.67U	0.72U	0.61U	0.65U	0.62U	0.67U	0.63U	0.69U	0.62U	0.62U	0.63U	0.63U	0.7U	0.04U	0.04U	0.04U	0.05U
Cadmium	1U	1.1U	1.2U	1U	1.1U	1U	1.1U	1U	1.1U	1U	1U	1U	1U	1.2U	0.07U	0.07U	0.07U	0.07U
Calcium	885	527	361	1490	98.6U	571	589	739	120U	387U	141U	1000	102U	444U	391J	202J	404J	361J
Chromium	2.9J	8.6J	4.9J	3.4J	5.3J	1.5J	5.2J	4.8J	5.1J	2.9	2.6	5.2	8.6	21.5	4.6	1.6J	6.8	6
Cobalt	1.2U	1.3U	1.4U	1.2U	1.3U	1.2U	1.3U	1.3U	1.4U	1.2U	1.2U	1.3U	1.3U	1.4U	0.81J	0.21J	1.6J	0.99J
Copper	1.7UJ	5U	1.4UJ	2.5UJ	1.1UJ	0.62U	0.67UJ	3.7UJ	1.7UJ	4.2U	4U	1.3U	0.63U	0.79U	4.5J	2.8J	5.1J	5.4J
Cyanide (CN)	1.3U	1.4U	1.5U	1.3U	1.4U	1.3U	1.4U	1.3U	1.4U	1.2U	1.3U	1.3U	1.2U	1.4U	0.55U	0.56U	0.56U	0.57U
Iron	939J	3550J	988J	1040J	543J	118J	109	2290J	1080J	976	458	966	214U	287	2850J	1050J	5880J	4070J
Lead	9.9	17.7	13.3	15.3	10.4	0.72	0.45U	25.2	9.3	12.9	6.6	5.5	1.2	0.75	7.9J	8.4J	7.2J	9.4J
Magnesium	64.4U	101	53.4U	72.4U	16.6U	29U	33.4U	89.5	30.8U	53.8	25.2	77.9	12.6	29.9	72J	18.1U	60.9U	87.7J
Manganese	33.6	168	14.5UJ	58.6	37.2	4.4UJ	0.9UJ	71.4	5.5UJ	22.4U	15.9U	41.6	4.5U	6.6U	203	50.1	337	321
Mercury	0.1U	0.1U	0.11U	0.1U	0.1U	0.1U	0.09U	0.09U	0.11U	0.1U	0.1U	0.1U	0.1U	0.12U	0.11U	0.11U	0.11U	0.11U
Nickel	3.1U	3.4U	3.6U	3.1U	3.2U	3.1U	3.4U	3.1U	3.4U	3.1U	3.1U	3.1U	3.1U	4.8	1.3U	0.31U	1.5U	1.6J
Potassium	144	105U	113U	96U	102U	97.4U	105U	98.4U	108U	151U	168U	192U	98.4U	109U	108J	66.8J	99J	118J
Selenium	1U	1.1U	1.2U	1U	1.1U	1U	1.1U	1U	1.1U	1UJ	1.2J	1UJ	1UJ	1.2UJ	0.96U	0.98U	0.99U	1U
Silver	1.2UJ	1.3UJ	1.4UJ	1.2UJ	1.3UJ	1.2UJ	1.3UJ	1.3UJ	1.4UJ	1.2U	1.2U	1.3U	1.3U	1.4U	0.11UJ	0.11UJ	0.11UJ	0.11UJ
Sodium	31.8	18.7	14.6U	17.4	4.6U	5.5U	12.4U	19.7	17U	1.9U	1.9U	1.9U	1.9U	2.1U	114J	139J	145J	86.7J
Thallium	1.6U	1.8U	1.9U	1.6U	1.7U	1.7U	1.8U	1.7U	1.8U	1.7U	1.7U	1.7U	1.7U	1.9U	0.98U	1U	1U	1U
Vanadium	2.7J	11.9J	3J	3.4J	1.6J	1.2U	1.3U	6.1J	4.5J	1.9	1.2U	2.4	1.3U	1.4U	8J	2.7J	12.3	10.5J
Zinc	5U	8.5U	6.9U	6.4U	1.9U	1.9U	2U	10.5U	6.5U	9.5	5.9	6.1	1.9U	2.1U	8.4	5.9	8.5	9

SHORT ID	0340001					0340002				0340003		0340005		0340007			0340008	0340009	0340010
SAMPLE ID	*034S000101*	*034S000103*	*034S000105*	*034S000107*	*034S000109*	*034S000201*	*034S000203*	*034S000205*	*034S000206*	*034S000301*	*034S000303*	*034S000501*	*034S000503*	*034S000701*	*034S000703*	*034S000705*	*034S000803*	*034S000903*	*034S001002*
SAMPLE DATE	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*2/7/1994*	*8/30/1993*	*8/30/1993*	*9/1/1993*	*9/1/1993*	*9/1/1993*	*8/31/1993*	*9/3/1993*	*9/1/1993*
METAL																			
Aluminum	563	614	559	399	327	395	948	163	51	1190	183	1980	1430	0	0	0	1320J	762J	2340
Antimony	3.2UJ	2.5UJ	3.1UJ	2.6UJ	2.9UJ	2.6UJ	2.7UJ	2.5UJ	2.5UJ	3.3UJ	2.8UJ	1.6U	1.9U	0	0	0	0.39U	0.39U	0.44U
Arsenic	0.6U	0.46U	0.58U	0.48U	0.54U	0.48U	0.5U	0.46U	0.46U	0.61U	0.51U	0.47U	0.55U	0	0	0	0.72U	0.72U	0.8U
Barium	1.1U	2.3U	1U	0.72U	1.2U	0.84U	2.4U	0.54U	0.38U	2.4U	0.5U	2.8U	3U	0	0	0	1.8	1.8	3
Beryllium	0.08U	0.06U	0.08U	0.07U	0.07U	0.07U	0.07U	0.06U	0.06U	0.08U	0.07U	0.04U	0.04U	0	0	0	0.02U	0.02U	0.02U
Cadmium	0.43U	0.34U	0.42U	0.35U	0.39U	0.35U	0.36U	0.33U	0.33U	0.44U	0.37U	0.27U	0.36U	0	0	0	0.1U	0.1U	0.11U
Calcium	133U	3260	72.7U	87U	141U	39.3U	168U	33.2U	25.5U	140U	33.6U	374	511	0	0	0	192	739	3790
Chromium	1U	1.1U	1.8U	2.8U	5.4U	1.2U	3	5.8	1.6U	8.4U	2.4U	3.8	3	0	0	0	1.5J	5.6J	3
Cobalt	0.87U	0.51U	0.64U	0.53U	0.6U	0.53U	0.55U	0.5U	0.51U	0.8U	0.56U	0.42U	0.49U	0	0	0	0.36	0.18	0.11U
Copper	0.54U	0.42U	0.52U	0.43U	0.49U	0.43U	0.44U	0.41U	0.41U	0.54U	0.46U	5.2U	2U	0	0	0	0.43U	0.67UJ	1.5
Cyanide (CN)	0.09U	0.1U	0.09U	0.08U	0.1U	0.1U	0.09U	0.07U	0.1U	0.11U	0.1U	0.11U	0.12U	0	0	0	0.52U	0.52U	0.57U
Iron	388	506	428	204	207	241	650	152	52.5	974	154	1240	776	0	0	0	827J	528J	1340
Lead	0.88	689	1.8	1.6U	89	0.47U	1.6U	0.35U	0.37U	6	0.65U	6.2	6.4	0.88	2.3	0.81	1.2J	3.8J	6.8
Magnesium	12.4U	75.7U	16.2U	9.9U	13U	12.2U	15.4U	8.2U	5.1U	18.7U	6.9U	34.7	41.4	0	0	0	60.5U	35.2U	79.1U
Manganese	10	14	1.6U	1.4U	5U	1.8U	17.1	2.4U	0.95U	31.8	4.2U	28.4J	9.9J	0	0	0	4.1J	6J	6.4
Mercury	0.04U	0.04U	0.04U	0.04U	0.08U	0.03U	0.08	0.04U	0.15U	0.04U	0.05U	0.03UJ	0.03UJ	0	0	0	0.09UJ	0.09UJ	0.11U
Nickel	2.1U	1.7U	2.1U	1.7U	1.9U	1.7U	1.8U	1.6U	1.7U	2.2U	1.8U	1.1U	1.3U	0	0	0	0.31U	0.31U	0.34U
Potassium	134U	104U	129U	108U	121U	108U	111U	102U	103U	136U	114U	107U	126U	0	0	0	71U	68.5U	95U
Selenium	0.35U	0.27U	0.34U	0.28U	0.32U	0.28U	0.29U	0.27U	0.27U	0.36U	0.3U	0.47U	0.55U	0	0	0	0.91U	0.9U	1U
Silver	0.74U	0.58U	0.72U	0.6U	0.67U	0.6U	0.62U	0.57U	0.57U	0.75U	0.63U	0.45UJ	0.53UJ	0	0	0	0.12U	0.12U	0.14U
Sodium	10.1U	11.6U	13.3U	9.2U	10.7U	16.4U	13.1U	5.9U	3.8U	7U	8.3U	4.6U	4.3U	0	0	0	251U	266U	243U
Thallium	0.58U	0.45U	0.56U	0.46U	0.52U	0.46U	0.48U	0.44U	0.45U	0.58U	0.49U	0.38U	0.45U	0	0	0	1.1U	1.1U	1.3U
Vanadium	1.2U	1U	0.84U	0.67U	0.83U	0.55U	2U	0.52U	0.53U	3.4U	0.79U	3.8U	3.3U	0	0	0	2.1	1.2	4.2
Zinc	1.4U	3.7	1.1U	1.3U	1.8U	1U	1.8U	0.96U	0.89U	12.9U	1.4U	5.8U	5.3U	0	0	0	2.9UJ	3.3UJ	6

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-36 : Summary of Detections OU 6 Metals

SHORT ID SAMPLE ID SAMPLE DATE	0341101 *034S110103* *12/28/1995*	0341201 *034S120103* *12/28/1995*	0341301 *034S130103* *12/28/1995*	0341401 *034S140103* *12/28/1995*	0341501 *034S150103* *12/28/1995*	09B0001 *09BS000103* *12/29/1995*	09B0002 *09BS000203* *12/29/1995*	09B0003 *09BS000303* *12/29/1995*	09B0004 *09BS000403* *12/29/1995*	09B0005 *09BS000503* *12/29/1995*
METAL										
Aluminum	1540	1600	1700	1290	2950	2830	7180	4340	4440	4480
Antimony	0.11UJ	0.1UJ	0.11UJ	0.11UJ	0.11UJ	0.11UJ	0.11UJ	0.11UJ	0.11UJ	0.11UJ
Arsenic	0.36J	0.23J	0.49J	0.36J	0.73J	0.7J	1.6J	0.93J	1.1J	0.68J
Barium	9.1J	1.9J	1.6J	1.9J	4J	10.8	4.6J	2.8J	4.3J	4.5J
Beryllium	0.05U	0.05U	0.05U	0.06U	0.05U	0.05U	0.06U	0.06U	0.06U	0.05U
Cadmium	0.16UJ	0.16UJ	0.16UJ	0.17UJ	0.16UJ	0.16UJ	0.16UJ	0.17UJ	0.17UJ	0.16UJ
Calcium	311J	548J	453J	336J	1780J	2380J	82.9J	151J	145J	57.8J
Chromium	2.1	3.2	2.4	4.3	3.2	4	7.3	4.8	4.8	3.9
Cobalt	0.16U	0.16U	0.18J	0.25J	0.3J	0.19J	0.27J	0.28J	0.18J	0.42J
Copper	0.68J	0.64J	0.87J	1.1J	1.2J	2.2	2.1	3.6	4.2	1.4
Cyanide (CN)	0.52U	0.52U	0.52U	0.52U	0.51U	0.49U	0.53U	0.53U	0.53U	0.52U
Iron	1120J	902J	1330J	1030J	1500J	2180J	4930J	2890J	2770J	2510J
Lead	1.2	1.9	1.4	3.1	2.6	13.7	2.9	5.7	8.7	1.7
Magnesium	34.3J	40.9J	28.8J	30.8J	106J	44J	55.2J	43.4J	61.9J	76J
Manganese	57.9J	13.6J	8.9J	14.6J	28.6J	43.9J	11.8J	20.9J	47J	35.2J
Mercury	0.05U	0.04U	0.04U	0.04U	0.05U	0.05U	0.05U	0.05U	0.04U	0.05U
Nickel	0.63U	0.63U	0.84J	0.85J	1.2J	0.81J	1.4J	1.1J	1J	1.4J
Potassium	19.4J	22.3J	21.9J	17.2J	68.5J	22.2J	31.8J	34J	30.3J	41.1J
Selenium	0.16U	0.16U	0.16U	0.17U	0.16U	0.16U	0.16U	0.17U	0.17U	0.16U
Silver	0.21U	0.21U	0.22U	0.22U	0.21U	0.21U	0.22U	0.22U	0.22U	0.22U
Sodium	4.4U	11U	10.6U	16.2U	21.9U	9.1U	3.5U	6.9U	6.1U	4.8U
Thallium	0.23U	0.16U	0.16U	0.17U	0.16U	0.16U	0.16U	0.17U	0.17U	0.16U
Vanadium	2.6J	2.5J	3.3J	2.4J	4.3J	5.6J	13.7J	6.9J	7.5J	6J
Zinc	2.1	2.2	2.1	4	4	3.9	2.3	5.4	6.5	2.6

NOTES:
1 - NS indicates sample was not tested for that analyte.
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3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-37 : Summary of Detections Groundwater OU 6

SHORT ID	0090001	0090002	0090003	0090004	0090005	0090006	0090007	0090008	0090009	009GM29	009GM30	009GR02	0290001	0290002	0290003	0290004	0290005	0290006
SAMPLE ID	*009G000100*	*009G000200*	*009G000300*	*009G000400*	*009G000500*	*009G000600*	*009G000700*	*009G000800*	*009G000900*	*009GGM2900*	*009GGM3000*	*009GGR0202*	*029G000100*	*029G000200*	*029G000300*	*029G000400*	*029G000500*	*029G000600*
SAMPLE DATE	*2/4/1994*	*2/3/1994*	*2/4/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/3/1994*	*2/4/1994*	*2/4/1994*	*12/15/1994*	*2/8/1994*	*2/8/1994*	*2/8/1994*	*2/8/1994*	*2/8/1994*	*2/8/1994*
VOC																		
Acetone	15	18B	44	10JB	5BJ	17	16B	3BJ	48B	11B	4BJ	NS	17U	74U	73U	44U	10U	10U
SVOC																		
2,4-Dinitrophenol	27U	27R	27U	28R	28R	26R	26R	28R	26R	26R	26R	NS	29U	28U	26U	28U	29U	27U
2-Methylnaphthalene	11U	11U	11U	11U	11U	10U	10U	11U	10U	10U	10U	NS	12U	11U	11U	11U	11U	11U
4-Chloroaniline	11UJ	11R	11UJ	11R	11R	10R	10R	11R	10R	10R	10R	NS	12U	11U	11U	11U	11U	11U
Acenaphthene	11U	11U	11U	11U	11U	10U	10U	11U	10U	10U	10U	NS	12U	11U	11U	11U	11U	11U
Naphthalene	11U	11U	11U	11U	11U	10U	10U	11U	10U	10U	10U	NS	12U	11U	11U	11U	11U	11U
PESTICIDES																		
4,4-DDE	0.11U	0.1UJ	0.11UJ	0.11U	0.1UJ	0.11U	0.11U	0.11U	0.11U	0.11U	0.11UJ	NS	0.11U	0.11U	0.11U	0.11U	0.12U	0.11U
Aldrin	0.05U	0.05UJ	0.05UJ	0.05U	0.05UJ	0.05U	0.06U	0.06U	0.06U	0.06U	0.05UJ	NS	0.054U	0.056U	0.056U	0.056U	0.06U	0.054U
Dieldrin	0.11U	0.1UJ	0.11UJ	0.11U	0.1UJ	0.11U	0.11U	0.11U	0.11U	0.11U	0.11UJ	NS	0.13	0.11U	0.11U	0.11U	0.12U	0.11U
Endosulfan sulfate	0.11U	0.1UJ	0.11UJ	0.11U	0.1UJ	0.11U	0.11U	0.11U	0.11U	0.11U	0.11UJ	NS	0.11U	0.11U	0.11U	0.11U	0.12U	0.11U
Endrin	0.11U	0.1UJ	0.11UJ	0.11U	0.1UJ	0.11U	0.11U	0.11U	0.11U	0.11U	0.11UJ	NS	0.11U	0.11U	0.11U	0.11U	0.12U	0.11U
Endrin ketone	0.11U	0.1UJ	0.11UJ	0.11U	0.1UJ	0.11U	0.11U	0.11U	0.11U	0.11U	0.11UJ	NS	0.11U	0.11U	0.11U	0.11U	0.12U	0.11U
gamma-BHC (Lindane)	0.05U	0.05UJ	0.05UJ	0.05U	0.05UJ	0.05U	0.06U	0.06U	0.06U	0.06U	0.05UJ	NS	0.054U	0.056U	0.056U	0.056U	0.06U	0.054U
gamma-Chlordane	0.05U	0.05UJ	0.05UJ	0.05U	0.05UJ	0.05U	0.06U	0.06U	0.06U	0.06U	0.05UJ	NS	0.054U	0.056U	0.056U	0.056U	0.06U	0.054U
Heptachlor	0.05U	0.05UJ	0.05UJ	0.05U	0.05UJ	0.05U	0.06U	0.06U	0.06U	0.06U	0.05UJ	NS	0.054U	0.056U	0.068U	0.056U	0.06U	0.054U
Heptachlor epoxide	0.05U	0.05UJ	0.05UJ	0.05U	0.05UJ	0.05U	0.06U	0.06U	0.06U	0.06U	0.05UJ	NS	0.054U	0.056U	0.056U	0.056U	0.06U	0.054U
METAL																		
Aluminum	29UJ	258J	375J	267J	404J	1190J	630J	393J	2050J	29UJ	268J	221J	1000	64.4U	203	649	49.6U	450
Arsenic	4U	7.5U	4U	4U	4U	10.2J	4U	6.6J	4U	4U	5.5U	3.5U	2.9U	2.9U	2.9U	2.9U	2.9U	2.9U
Barium	2.9U	129	8.8U	22.3	15.4	41.6	34.6	51.3	26.1	30.7	3.9U	16.6J	25.7U	32.5U	33.1U	14.4U	12.3U	14.9U
Cadmium	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	0.5U	2.1UJ	2.1UJ	2.1UJ	2.1UJ	2.1UJ	2.1UJ
Calcium	16200	14400	7390	20300	11900	17700	22100	17400	10900	36100	3600	9430	36900	35900	35700	32500	32800	34300
Chromium	4UJ	4UJ	4UJ	4UJ	4UJ	4UJ	4UJ	4UJ	6UJ	4UJ	4UJ	2.2U	3.9U	2.6U	2.4U	4.8U	5U	8.6U
Cobalt	6U	6U	6U	6U	6U	6U	6U	6U	6U	6U	6U	0.5U	3.2U	3.2U	3.2U	3.3U	3.2U	3.2U
Copper	3U	5.8	3U	3U	3U	5.9	4.6	3U	5.6	3U	3U	1U	2.6U	2.6U	2.6U	2.6U	2.6U	2.6U
Cyanide (CN)	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	0	1U	1U	1.6U	1U	1.5U	2.9U
Iron	318J	3940J	1240J	343J	1300J	1180J	544J	162U	1060J	819J	1230J	1650	1400	39.1	93.1	262	12U	73.1U
Lead	2UJ	27	2UJ	2.6J	2.3J	3.1J	2.7J	2J	3.4J	7.2J	2UJ	1.6U	7.8	1.4U	0.7U	4.1	0.7U	0.7U
Magnesium	2200	2500	5210	3200	2400	3100	3000	1590	1340	1670	2400	2260	1650	1840	1350	1180	797	631
Manganese	10.8J	59.3	51.6J	691	134	357	298	21.8J	61.5	30.4	27.8J	19.2	253	270	78.3	6.3U	91.8	3.8U
Nickel	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	1.5U	10.4U	10.4U	10.4U	10.4U	10.4U	10.4U
Potassium	1490J	1400J	2110J	1660J	601J	1250J	1850J	1840J	1300J	1190J	2550J	1420	10500	15600	7160	10500	11300	5680
Selenium	5U	5U	5.2	5U	5U	5U	5U	6.1	5U	5U	5U	4.4U	1.7U	1.7U	1.7U	1.7U	1.7U	1.7U
Silver	6U	6U	6U	6U	6U	6U	6U	6U	6U	6U	6U	0.6U	3.6U	3.6U	3.6U	3.6U	3.7U	3.9
Sodium	10000J	14300J	20000J	6730J	2430J	4860J	11200J	3390J	3920J	3270J	4050J	12100J	9330	10000	4760	5790	5380	3940
Vanadium	6U	6U	6U	6U	6U	6U	6U	6U	6U	6U	6U	0.5U	5	4.8	4.4	7.6	7.3	7.6
Zinc	9U	75.1	11	23.6J	14.6	61.8	21.5	61.1	58.7	9U	56.2	23.8	10.1	3.2U	6.8U	4.9U	3.6U	7.2U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-37 : Summary of Detections Groundwater OU 6

SHORT ID	0290007	0290008	0290009	029GM07	029GR01	029GR50	0340001	0340002	034GM53		034GM57	034GM61				034GR01	034GR02	034GS02
SAMPLE ID	*029G000700*	*029G000800*	*029G000900*	*029GGM0700*	*029GGR0102*	*029GGR5001*	*034G000100*	*034G000200*	*034GGM5300*	*034GGM5302*	*034GGM5700*	*034GGM6100*	*034GGM6102*	*034GGM61DR*	*034GGM61MR*	*034GGR0102*	*034GGR0202*	*034GGS0202*
SAMPLE DATE	*2/8/1994*	*2/8/1994*	*2/8/1994*	*2/8/1994*	*12/14/1994*	*3/16/1999*	*2/10/1994*	*2/10/1994*	*2/10/1994*	*12/12/1994*	*2/10/1994*	*2/10/1994*	*12/15/1994*	*12/15/1994*	*12/15/1994*	*12/12/1994*	*12/12/1994*	*12/12/1994*
VOC																		
Acetone	67U	46U	10U	10U	NS	NS	100U	8U	33U	5U	10U	10U	5U	NS	NS	120U	5U	5U
SVOC																		
2,4-Dinitrophenol	26U	29U	32U	30U	NS	NS	110U	110U	27U	20U	29U	28U	20U	NS	NS	20U	20U	20U
2-Methylnaphthalene	10U	12U	13U	12U	NS	NS	5U	4J	4J	2J	11U	11U	5U	NS	NS	51	5	5U
4-Chloroaniline	10U	12U	13U	12U	NS	NS	46U	6U	11U	5U	11U	11U	5U	NS	NS	5U	5U	5U
Acenaphthene	10U	12U	13U	12U	NS	NS	5U	44UJ	11U	5U	11U	11UJ	5U	NS	NS	1J	5U	5U
Naphthalene	10U	12U	13U	12U	NS	NS	5U	6U	2J	5U	11U	11U	5U	NS	NS	39	1J	5U
PESTICIDES																		
4,4-DDE	0.11U	0.11U	0.11U	0.11U	0.02U	NS	0.12UJ	0.12UJ	0.11U	NS	0.11U	0.11UJ	0.02U	0.14	0.13	NS	NS	0.02U
Aldrin	0.055U	0.057U	0.056U	0.057U	0.01U	NS	0.06UJ	0.058UJ	0.056U	NS	0.053U	0.056UJ	0.01U	0.0011J	0.01U	NS	NS	0.01U
Dieldrin	0.11U	0.11U	0.11U	0.11U	0.02U	NS	0.12UJ	0.12UJ	0.11U	NS	0.11U	0.11UJ	0.02U	0.15	0.14	NS	NS	0.02U
Endosulfan sulfate	0.11U	0.11U	0.11U	0.11U	0.02U	NS	0.12UJ	0.12UJ	0.11U	NS	0.11U	0.11UJ	0.02U	0.15	0.14	NS	NS	0.02U
Endrin	0.11U	0.11U	0.11U	0.11U	0.02U	NS	0.12UJ	0.12UJ	0.11U	NS	0.11U	0.11UJ	0.02U	0.16	0.14	NS	NS	0.02U
Endrin ketone	0.11U	0.11U	0.11U	0.11U	0.02U	NS	0.12UJ	0.12UJ	0.11U	NS	0.11U	0.11UJ	0.02U	0.0054J	0.0047J	NS	NS	0.02U
gamma-BHC (Lindane)	0.055U	0.057U	0.056U	0.057U	0.01U	NS	0.06UJ	0.058UJ	0.056U	NS	0.053U	0.056UJ	0.01U	0.076	0.07	NS	NS	0.01U
gamma-Chlordane	0.055U	0.057U	0.056U	0.057U	0.01U	NS	0.06UJ	0.058UJ	0.056U	NS	0.053U	0.056UJ	0.01U	0.074	0.068	NS	NS	0.01U
Heptachlor	0.055U	0.057U	0.056U	0.057U	0.01U	NS	0.06UJ	0.058UJ	0.056U	NS	0.053U	0.056UJ	0.01U	0.0011J	0.01U	NS	NS	0.01U
Heptachlor epoxide	0.055U	0.057U	0.056U	0.057U	0.01U	NS	0.06UJ	0.058UJ	0.056U	NS	0.053U	0.056UJ	0.01U	0.077J	0.073J	NS	NS	0.01U
METAL																		
Aluminum	269	2060	295	17.9U	NS	NS	63.2	17.9U	482	NS	17.9U	75.4	85.7U	NS	NS	NS	NS	156U
Arsenic	2.9U	2.9U	2.9U	2.9U	NS	NS	3.1	4.3	2.9U	NS	2.9U	2.9U	3.5U	NS	NS	NS	NS	3.5U
Barium	36.2U	12.4U	7.9U	53.6	NS	NS	3U	2.4U	2.4U	NS	2.4U	31.3U	37.5	NS	NS	NS	NS	26.3J
Cadmium	2.1UJ	2.1UJ	2.1UJ	2.1UJ	NS	NS	2.1U	2.1U	2.1U	NS	2.1U	2.1U	0.5U	NS	NS	NS	NS	4.4
Calcium	29200	20900	23900	19900	NS	NS	70800	69600	8550	NS	73300	48800	42400	NS	NS	NS	NS	77800
Chromium	3U	6.3U	2.3U	2.3U	NS	NS	2.3UJ	2.3UJ	2.3U	NS	2.3U	2.3UJ	2.2U	NS	NS	NS	NS	5.6
Cobalt	3.2U	3.2U	3.2U	3.2U	NS	NS	3.2U	3.2U	3.2U	NS	3.2U	3.2U	0.5U	NS	NS	NS	NS	3.7
Copper	2.6U	3.9U	2.6U	2.6U	NS	NS	2.6UJ	2.6UJ	2.6U	NS	2.6U	2.6UJ	0.94U	NS	NS	NS	NS	53.2
Cyanide (CN)	1U	1U	1.2U	276	NS	5.2J	4	1U	1U	NS	1U	1U	10UJ	NS	NS	NS	NS	10UJ
Iron	227	1240	170	740	NS	NS	2340	2240	1180	NS	295	5520	4610	NS	NS	NS	NS	1260
Lead	4.3	9.2	0.7U	0.91U	NS	NS	1.8U	3U	1.2U	NS	0.7U	3.4U	1.9U	NS	NS	NS	NS	73.2
Magnesium	1310	1280	1070	1010	NS	NS	3090	1560	1710J	NS	5130	6440	5730	NS	NS	NS	NS	2670
Manganese	163	81.6	69.1	138	NS	NS	475	117	71.4U	NS	67U	55.2	42.3	NS	NS	NS	NS	281
Nickel	10.4U	10.4U	10.4U	10.4U	NS	NS	10.4U	10.4U	10.4U	NS	10.4U	10.4U	1.5U	NS	NS	NS	NS	8.3
Potassium	3610	1250	6160	2910	NS	NS	2930J	1600J	2010J	NS	2300J	2790J	4470	NS	NS	NS	NS	3040
Selenium	1.7U	1.7U	1.7U	1.7U	NS	NS	1.7UJ	1.7UJ	1.7U	NS	1.7U	1.7UJ	4.4U	NS	NS	NS	NS	4.4U
Silver	3.6U	3.6U	3.6U	3.6U	NS	NS	3.6UJ	3.6UJ	3.6U	NS	3.6U	3.6UJ	0.6U	NS	NS	NS	NS	0.6U
Sodium	3480	2210	3650	3890	NS	NS	7570	4650	2850J	NS	4680J	124000	111000	NS	NS	NS	NS	7540J
Vanadium	5.2	7.3	6.3	3.3U	NS	NS	3.3U	3.3U	3.3U	NS	3.3U	3.3U	0.56	NS	NS	NS	NS	1.4
Zinc	22.1	22.1	7.8	4.2	NS	NS	2U	1.7U	1.7U	NS	1.7U	2.5U	4U	NS	NS	NS	NS	53.4U

NOTES:

1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-38 : Summary of Detections OU 4 Organics

SHORT ID	0150001			0150002			0150003			0150004			0150005			0150006		
SAMPLE ID	*0155S000101*	*0155S000105*	*0155S000110*	*0155S000201*	*0155S000205*	*0155S000209*	*0155S000301*	*0155S000305*	*0155S000309*	*0155S000401*	*0155S000405*	*0155S000410*	*0155S000501*	*0155S000505*	*0155S000510*	*0155S000601*	*0155S000605*	*0155S000609*
SAMPLE DATE	*9/1/1995*	*9/1/1995*	*9/1/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/6/1995*	*9/6/1995*	*9/6/1995*	*9/7/1995*	*9/7/1995*	*9/7/1995*	*9/7/1995*	*9/7/1995*	*9/7/1995*
VOC																		
1,1,1-Trichloroethane	11U	10U	11U	11U	11U	11U	11U	11U	10U	11U	10U	10U	10U	10U	10U	12U	11U	11U
1,1,2,2-Tetrachloroethane	11U	10U	11U	11U	11U	11U	11U	11U	10U	11U	10U	10U	10U	10U	10U	12U	11U	11U
1,1-Dichloroethene	11U	10U	11U	11U	11U	11U	11U	11U	10U	11U	10U	10U	10U	10U	10U	12U	11U	11U
2-Butanone (MEK)	11U	0.5J	11U	11U	11U	11U	11U	11U	10U	11U	10U	10U	10U	10U	10U	12U	11U	11U
Benzene	11U	10U	11U	11U	11U	11U	11U	11U	10U	11U	10U	10U	10U	10U	10U	12U	11U	11U
Chlorobenzene	11U	10U	11U	11U	11U	11U	11U	11U	10U	11U	10U	10U	10U	10U	10U	12U	11U	11U
Ethylbenzene	11U	10U	11U	11U	11U	11U	11U	11U	10U	11U	10U	10U	10U	10U	10U	12U	11U	11U
Methylene chloride	11U	10U	11U	11U	11U	11U	11U	11U	10U	11U	10U	10U	10U	10U	10U	12U	11U	11U
Tetrachloroethene	11U	10U	11U	11U	11U	11U	11U	11U	10U	0.9J	10U	10U	10U	10U	10U	12U	11U	11U
Toluene	11U	10U	11U	11U	11U	11U	11U	11U	10U	11U	10U	10U	10U	10U	10U	12U	11U	11U
Trichloroethene	11U	10U	11U	11U	11U	11U	11U	11U	10U	11U	10U	10U	10U	10U	10U	12U	11U	11U
Xylene (Total)	11U	10U	0.6J	0.4J	11U	11U	11U	11U	10U	1J	10U	10U	10U	10U	10U	12U	11U	11U
SVOC																		
2-Methyl-4,6-Dinitrophenol	850UJ	840UJ	850UJ	890U	850U	870U	860U	850U	840U	880U	820U	840U	830U	820U	8J	1000U	860U	870U
Acenaphthylene	350U	350U	350U	370UR	350U	360U	350U	350U	350U	360U	340U	350U	340U	340U	340U	410U	350U	360U
Anthracene	350U	350U	350U	10J	350U	360U	350U	350U	350U	360U	340U	350U	340U	340U	340U	410U	350U	360U
Benzo(a)anthracene	350U	350U	350U	92J	350U	360U	28J	350U	350U	13J	340U	350U	340U	340U	340U	63J	6J	360U
Benzo(a)pyrene	150U	150U	150U	77J	150U	150U	43J	150U	150U	16J	140U	150U	140U	140U	140U	29J	150U	150U
Benzo(b)fluoranthene	350U	350U	350U	110J	350U	360U	69J	350U	350U	25J	340U	350U	340U	340U	340U	120J	350U	360U
Benzo(g,h,i)perylene	350U	350U	350U	68J	350U	360U	46J	350U	350U	16J	340U	350U	340U	340U	340U	83J	350U	360U
Benzo(k)fluoranthene	350U	350U	350U	48J	350U	360U	27J	350U	350U	360U	340U	350U	340U	340U	340U	43J	350U	360U
bis(2-Ethylhexyl)phthalate (BEHP)	350UJ	350UJ	350UJ	370U	350U	360U	350U	350U	350U	360U	340U	350U	340UJ	340UJ	340UJ	420UJ	350UJ	360UJ
Butylbenzylphthalate	350UJ	350UJ	350UJ	370UR	350U	360U	14J	350U	350U	360U	340U	350U	15J	18J	340UJ	410UJ	24J	28J
Carbazole	350U	350U	350U	370UR	350U	360U	350U	350U	350U	360U	340U	350U	340U	340U	340U	410U	350U	360U
Chrysene	350U	350U	350U	120J	350U	360U	48J	350U	350U	16J	340U	350U	340U	340U	340U	84J	350U	360U
Dibenz(a,h)anthracene	150U	150U	150U	160UR	150U	150U	8J	150U	150U	150U	140U	150U	140U	140U	140U	15J	150U	150U
Diethylphthalate	350U	350U	350U	370UR	350U	360U	350U	350U	350U	360U	340U	350U	340U	340U	340U	410U	350U	360U
Di-n-butylphthalate	350U	350U	350U	370UR	350U	360U	350U	350U	15J	28J	340U	14J	54J	340U	9J	410U	350U	360U
Di-n-octylphthalate	350U	350U	350U	370UR	350U	360U	350U	350U	350U	360U	340U	350U	340UJ	340UJ	340UJ	410UJ	350UJ	360UJ
Fluoranthene	350U	350U	350U	130J	350U	360U	47J	350U	350U	16J	340U	350U	340U	340U	340U	81J	7J	6J
Fluorene	350U	350U	350U	370UR	350U	360U	350U	350U	350U	360U	340U	350U	340U	340U	340U	410U	350U	360U
Indeno(1,2,3-cd)pyrene	350U	350U	350U	57J	350U	360U	45J	350U	350U	16J	340U	350U	340U	340U	340U	73J	6J	360U
Phenanthrene	350U	350U	350U	56J	350U	360U	12J	350U	350U	360U	340U	350U	340U	340U	340U	25J	350U	360U
Pyrene	350U	350U	350U	140J	350U	360U	46J	350U	350U	14J	340U	350U	340U	340U	340U	70J	6J	7J
PESTICIDES																		
4,4-DDD	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aldrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
alpha-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aroclor-1254	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aroclor-1260	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
beta-BHC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
delta-BHC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dieldrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endosulfan I	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endosulfan sulfate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin aldehyde	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin ketone	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
gamma-BHC (Lindane)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Heptachlor	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Heptachlor epoxide	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methoxychlor	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-38 : Summary of Detections OU 4 Organics

SHORT ID	0150007		0150009			0150010			0150011			0150012			0150013		
SAMPLE ID	*0155000701*	*0155000705*	*0155000901*	*0155000905*	*0155000910*	*0155001001*	*0155001005*	*0155001010*	*0155001101*	*0155001105*	*0155001109*	*0155001201*	*0155001205*	*0155001210*	*0155001301*	*0155001305*	*0155001310*
SAMPLE DATE	*8/31/1995*	*8/31/1995*	*9/1/1995*	*9/1/1995*	*9/1/1995*	*9/1/1995*	*9/1/1995*	*9/1/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*
VOC																	
1,1,1-Trichloroethane	11U	10U	11U	10U	10U	11U	10U	10U	11U	11U	10U	11UJ	11U	10U	10U	10U	10U
1,1,2,2-Tetrachloroethane	11U	10U	11U	10U	10U	11U	10U	10U	11U	11U	10U	11UJ	11U	10U	10U	10U	10U
1,1-Dichloroethene	11U	10U	11U	10U	10U	11U	10U	10U	11U	11U	10U	11UJ	11U	10U	10U	10U	10U
2-Butanone (MEK)	11U	10U	11U	10U	10U	0.5J	10U	10U	11U	11U	10U	11UJ	11U	10U	10U	10U	10U
Benzene	11U	10U	11U	10U	10U	11U	10U	10U	11U	11U	10U	11UJ	11U	10U	10U	10U	10U
Chlorobenzene	11U	10U	11U	10U	10U	11U	10U	10U	11U	11U	10U	11UJ	11U	10U	10U	10U	10U
Ethylbenzene	11U	10U	11U	10U	10U	11U	10U	10U	11U	11U	10U	11UJ	11U	10U	10U	10U	10U
Methylene chloride	11U	10U	11U	10U	10U	11U	10U	10U	11U	11U	10U	11UJ	11U	10U	10U	10U	10U
Tetrachloroethene	11U	10U	11U	10U	10U	11U	10U	10U	11U	11U	10U	11UJ	11U	10U	10U	10U	10U
Toluene	11U	10U	11U	10U	10U	11U	10U	10U	11U	11U	10U	11UJ	11U	10U	10U	10U	10U
Trichloroethene	11U	10U	11U	10U	10U	11U	10U	10U	11U	11U	10U	11UJ	11U	10U	10U	10U	10U
Xylene (Total)	0.6J	10U	11U	10U	10U	11U	10U	10U	11U	11U	10U	11UJ	11U	10U	10U	10U	10U
SVOC																	
2-Methyl-4,6-Dinitrophenol	860U	840U	850UJ	840U	830UJ	890U	840UJ	840UJ	860U	850U	840U	860U	850U	840U	820U	820U	830U
Acenaphthylene	350U	350U	350U	350U	340U	370U	350U	350U	350U	350U	350U	350U	350U	350U	340U	340U	340U
Anthracene	350U	350U	350U	350U	340U	370U	350U	350U	350U	350U	350U	350U	350U	350U	340U	340U	340U
Benzo(a)anthracene	22J	350U	350U	350U	340U	36J	350U	350U	24J	350U	350U	350U	350U	350U	340U	340U	340U
Benzo(a)pyrene	24J	150U	150U	150U	140U	32J	150U	150U	22J	150U	150U	150U	150U	150U	140U	140U	140U
Benzo(b)fluoranthene	47J	350U	350U	350U	340U	46J	350U	350U	35J	350U	350U	350U	350U	350U	340U	340U	340U
Benzo(g,h,i)perylene	23J	350U	350U	350U	340U	27J	350U	350U	22J	350U	350U	350U	350U	350U	340U	340U	340U
Benzo(k)fluoranthene	15J	350U	350U	350U	340U	370U	350U	350U	15J	350U	350U	350U	350U	350U	340U	340U	340U
bis(2-Ethylhexyl)phthalate (BEHP)	41J	350U	350UJ	350U	340UJ	370U	350UJ	350UJ	350U	350U	350U	350U	350U	350U	340U	340U	340U
Butylbenzylphthalate	350U	350UJ	350UJ	350U	340UJ	370U	350UJ	350UJ	350U	350U	350U	350U	350U	350U	340U	340U	340U
Carbazole	350U	350U	350U	350U	340U	370U	350U	350U	350U	350U	350U	350U	350U	350U	340U	340U	340U
Chrysene	33J	350U	350U	350U	340U	40J	350U	350U	33J	350U	350U	350U	350U	350U	340U	340U	340U
Dibenz(a,h)anthracene	150U	150U	150U	150U	140U	160U	150U	150U	150U	150U	150U	150U	150U	150U	140U	140U	140U
Diethylphthalate	350U	350U	350U	350U	340U	370U	350U	350U	350U	350U	350U	350U	350U	350U	340U	340U	340U
Di-n-butylphthalate	350U	350U	350U	350U	340U	370U	350U	350U	350U	350U	350U	47J	350U	350U	340U	340U	340U
Di-n-octylphthalate	350U	350UJ	350U	350U	340U	370U	350U	350U	350U	350U	350U	350U	350U	350U	340U	340U	340U
Fluoranthene	42J	350U	350U	350U	340U	45J	350U	350U	29J	350U	350U	13J	350U	350U	340U	340U	340U
Fluorene	350U	350U	350U	350U	340U	370U	350U	350U	350U	350U	350U	350U	350U	350U	340U	340U	340U
Indeno(1,2,3-cd)pyrene	19J	350U	350U	350U	340U	24J	350U	350U	17J	350U	350U	350U	350U	350U	340U	340U	340U
Phenanthrene	16J	350U	350U	350U	340U	16J	350U	350U	10J	350U	350U	350U	350U	350U	340U	340U	340U
Pyrene	36J	350U	350U	350U	340U	48J	350U	350U	35J	350U	350U	15J	350U	7J	340U	340U	340U
PESTICIDES																	
4,4-DDD	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aldrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
alpha-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aroclor-1254	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aroclor-1260	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
beta-BHC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
delta-BHC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dieldrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endosulfan I	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endosulfan sulfate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin aldehyde	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin ketone	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
gamma-BHC (Lindane)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Heptachlor	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Heptachlor epoxide	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methoxychlor	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-38 : Summary of Detections OU 4 Organics

SHORT ID	0150014			0150015			0150016			0150017			0150018			0150020		
SAMPLE ID	*0155001401*	*0155001405*	*0155001410*	*0155001501*	*0155001505*	*0155001510*	*0155001601*	*0155001605*	*0155001610*	*0155001701*	*0155001705*	*0155001710*	*0155001801*	*0155001805*	*0155001810*	*0155002001*	*0155002005*	*0155002008*
SAMPLE DATE	*9/7/1995*	*9/7/1995*	*9/7/1995*	*9/7/1995*	*9/7/1995*	*9/7/1995*	*8/30/1995*	*8/30/1995*	*8/30/1995*	*8/30/1995*	*8/30/1995*	*8/30/1995*	*8/30/1995*	*8/30/1995*	*8/30/1995*	*8/31/1995*	*8/31/1995*	*8/31/1995*
VOC																		
1,1,1-Trichloroethane	11U	10U	10U	11U	10U	10U	10U	10U	10U	11U	10U	10U	10U	10U	10U	1J	10U	10U
1,1,2,2-Tetrachloroethane	11U	10U	10U	11UJ	10U	10U	10U	10U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U
1,1-Dichloroethene	11U	10U	10U	11U	10U	10U	10U	10U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U
2-Butanone (MEK)	11U	10U	10U	11U	10U	10U	10U	10U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U
Benzene	11U	10U	10U	11U	10U	10U	10U	10U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U
Chlorobenzene	11U	10U	10U	11U	10U	10U	10U	10U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U
Ethylbenzene	11U	10U	10U	11UJ	10U	10U	10U	10U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U
Methylene chloride	11U	1J	10U	11U	10U	10U	10U	10U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U
Tetrachloroethene	11U	10U	10U	11UJ	10U	10U	10U	10U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	11U	10U	10U	11UJ	10U	10U	10U	10U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U
Trichloroethene	11U	10U	10U	11U	10U	10U	10U	10U	10U	11U	10U	10U	10U	10U	10U	10U	10U	10U
Xylene (Total)	11U	10U	10U	11UJ	10U	10U	2J	10U	10U	3J	10U	10U	0.7J	3J	3J	19	3J	10U
SVOC																		
2-Methyl-4,6-Dinitrophenol	870U	830U	840U	860U	830U	830U	830U	830U	820U	850U	820U	820U	840U	820U	820U	830U	830U	840U
Acenaphthylene	360U	0.4J	350U	350U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	340U	340U	350U
Anthracene	360U	340U	350U	350U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	340U	340U	350U
Benzo(a)anthracene	10J	340U	350U	350U	340U	340U	33J	340U	340U	350UJ	340U	340U	350U	340U	340U	340U	340U	350U
Benzo(a)pyrene	11J	140U	150U	8J	140U	140U	140UJ	140U	140U	150UJ	140U	140U	150U	140U	140U	140U	140U	150U
Benzo(b)fluoranthene	18J	340U	350U	22J	340U	340U	53J	340U	340U	350UJ	340U	340U	350U	340U	340U	340U	340U	350U
Benzo(g,h,i)perylene	12J	340U	350U	11J	340U	340U	340UJ	340U	340U	350UJ	340U	340U	350U	340U	340U	340U	340U	350U
Benzo(k)fluoranthene	360U	340U	350U	350U	340U	340U	24J	340U	340U	350UJ	340U	340U	350U	340U	340U	340U	340U	350U
bis(2-Ethylhexyl)phthalate (BEHP)	360UJ	340UJ	700UJ	350UJ	340UJ	340UJ	95J	340U	340U	350UJ	340U	340U	350U	340U	340U	340U	340U	350U
Butylbenzylphthalate	35J	25J	22J	34J	28J	340UJ	340UJ	340UJ	340UJ	350UJ	340U	340U	350UJ	340U	340U	340U	340UJ	350UJ
Carbazole	360U	340U	350U	350U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	340U	340U	350U
Chrysene	12J	340U	350U	17J	340U	340U	45J	340U	340U	350UJ	340UJ	340U	350U	340U	340U	340U	340U	350U
Dibenz(a,h)anthracene	150U	140U	150U	150U	140U	140U	140UJ	140U	140U	150UJ	140U	140U	150U	140U	140U	140U	140U	150U
Diethylphthalate	360U	340U	13J	350U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	340U	340U	350U
Di-n-butylphthalate	17J	340U	350U	350U	340U	340U	340U	340U	340U	350U	340U	340U	45J	340U	340U	340U	340U	350U
Di-n-octylphthalate	360UJ	340UJ	350UJ	350UJ	340UJ	340UJ	340UJ	340UJ	340UJ	350UJ	340U	340U	350UJ	340U	340U	340U	340UJ	350UJ
Fluoranthene	15J	340U	350U	20J	340U	340U	75J	340U	340U	350U	340U	340U	350U	340U	340U	10J	340U	350U
Fluorene	360U	340U	350U	350U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	340U	340U	350U
Indeno(1,2,3-cd)pyrene	11J	340U	350U	8J	340U	340U	340UJ	340U	340U	350UJ	340U	340U	350U	340U	340U	340U	340U	350U
Phenanthrene	360U	340U	350U	7J	340U	340U	25J	340U	340U	350U	14J	12J	350U	340U	340U	340U	340U	350U
Pyrene	15J	340U	2J	20J	340U	340U	89J	340U	340U	350UJ	340U	340U	350U	340U	340U	12J	340U	350U
PESTICIDES																		
4,4-DDD	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aldrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
alpha-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aroclor-1254	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aroclor-1260	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
beta-BHC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
delta-BHC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dieldrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endosulfan I	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endosulfan sulfate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin aldehyde	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin ketone	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
gamma-BHC (Lindane)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Heptachlor	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Heptachlor epoxide	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methoxychlor	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-38 : Summary of Detections OU 4 Organics

SHORT ID	0150021			0150022			0150023		0150024			0150025			0150026		
SAMPLE ID	*015S002101*	*015S002105*	*015S002108*	*015S002201*	*015S002205*	*015S002208*	*015S002301*	*015S002305*	*015S002401*	*015S002405*	*015S002409*	*015S002501*	*015S002505*	*015S002508*	*015S002601*	*015S002605*	*015S002608*
SAMPLE DATE	*8/31/1995*	*8/31/1995*	*8/31/1995*	*8/31/1995*	*8/31/1995*	*8/31/1995*	*8/31/1995*	*8/31/1995*	*8/31/1995*	*8/31/1995*	*8/31/1995*	*8/31/1995*	*8/31/1995*	*8/31/1995*	*8/31/1995*	*8/31/1995*	*8/31/1995*
VOC																	
1,1,1-Trichloroethane	11U	10U	0.7J	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	10U	11U	11U
1,1,2,2-Tetrachloroethane	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	10U	11U	11U
1,1-Dichloroethene	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	10U	11U	11U
2-Butanone (MEK)	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	10U	11U	11U
Benzene	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	10U	11U	11U
Chlorobenzene	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	10U	11U	11U
Ethylbenzene	11U	4J	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	10U	11U	11U
Methylene chloride	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	10U	11U	11U
Tetrachloroethene	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	10U	11U	11U
Toluene	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	10U	11U	11U
Trichloroethene	11U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	11U	10U	12U	10U	11U	11U
Xylene (Total)	3J	10U	3J	10U	10U	10U	0.6J	10U	10U	10U	10U	11U	10U	12U	10U	11U	11U
SVOC																	
2-Methyl-4,6-Dinitrophenol	870U	840U	830U	830U	840U	5J	820U	840U	840U	840U	840U	860U	840U	1000U	830U	8J	870U
Acenaphthylene	100J	350U	340U	340U	350U	350U	340U	350U	350U	350U	350U	350U	350U	410U	340U	350U	360U
Anthracene	230J	350U	340U	340U	350U	350U	340U	350U	350U	350U	350U	350U	350U	410U	340U	350U	360U
Benzo(a)anthracene	1700	350U	340U	340U	350U	350U	340U	350U	350U	350U	350U	16J	350U	410U	340U	350U	360U
Benzo(a)pyrene	1100	150U	140U	140U	150U	150U	140U	150U	150U	150U	150U	19J	150U	170U	140U	150U	150U
Benzo(b)fluoranthene	2600	350U	340U	340U	350U	350U	340U	54J	350U	350U	350U	120J	350U	410U	340U	350U	360U
Benzo(g,h,i)perylene	600	350U	340U	340U	350U	350U	340U	19J	350U	350U	350U	32J	350U	410U	340U	350U	360U
Benzo(k)fluoranthene	830	350U	340U	340U	350U	350U	340U	350U	350U	350U	350U	54J	350U	410U	340U	350U	360U
bis(2-Ethylhexyl)phthalate (BEHP)	360U	350U	340U	340U	16J	350U	46J	350U	350U	350U	350U	350U	350U	410U	340U	350U	360UJ
Butylbenzylphthalate	360U	350U	340UJ	340U	350U	350U	340U	350U	350U	350U	350U	350U	350U	410U	340U	350U	360UJ
Carbazole	110J	350U	340U	340U	350U	350U	340U	350U	350U	350U	350U	350U	350U	410U	340U	350U	360U
Chrysene	2200	350U	340U	340U	350U	350U	340U	350U	350U	350U	350U	17J	350U	410U	340U	350U	360U
Dibenz(a,h)anthracene	150U	150U	140U	140U	150U	150U	140U	150U	150U	150U	150U	150U	150U	170U	140U	150U	150U
Diethylphthalate	360U	350U	340U	340U	350U	350U	340U	350U	350U	350U	350U	350U	350U	410U	340U	350U	360U
Di-n-butylphthalate	360U	350U	340U	340U	350U	350U	340U	350U	350U	350U	350U	350U	350U	410U	340U	350U	360U
Di-n-octylphthalate	360U	350U	340UJ	340U	350U	350U	340U	5J	350U	350U	350U	350U	350U	410U	340U	350U	360U
Fluoranthene	1900	350U	340U	340U	350U	350U	340U	350U	350U	350U	350U	25J	350U	410U	340U	350U	360U
Fluorene	360U	350U	340U	340U	350U	0.6J	340U	350U	350U	350U	350U	350U	350U	410U	340U	350U	360U
Indeno(1,2,3-cd)pyrene	740	350U	340U	340U	350U	350U	340U	20J	350U	350U	350U	43J	350U	410U	340U	350U	360U
Phenanthrene	290J	350U	340U	340U	350U	350U	340U	350U	350U	350U	350U	350U	350U	410U	340U	350U	360U
Pyrene	2200	350U	340U	340U	350U	350U	340U	350U	12J	350U	350U	25J	350U	410U	340U	350U	360U
PESTICIDES																	
4,4-DDD	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aldrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
alpha-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aroclor-1254	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aroclor-1260	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
beta-BHC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
delta-BHC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dieldrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endosulfan I	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endosulfan sulfate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin aldehyde	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin ketone	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
gamma-BHC (Lindane)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Heptachlor	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Heptachlor epoxide	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methoxychlor	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-38 : Summary of Detections OU 4 Organics

SHORT ID	0150027			0150029			0150030			0150031			0150045		0150046		0150047	
SAMPLE ID	*0155002701*	*0155002705*	*0155002710*	*0155002901*	*0155002905*	*0155002910*	*0155003001*	*0155003005*	*0155003010*	*0155003101*	*0155003105*	*0155003110*	*0155004501*	*0155004510*	*0155004601*	*0155004609*	*0155004701*	*0155004710*
SAMPLE DATE	*9/6/1995*	*9/6/1995*	*9/6/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*9/5/1995*	*3/19/1996*	*3/19/1996*	*3/19/1996*	*3/19/1996*	*3/20/1996*	*3/20/1996*
VOC																		
1,1,1-Trichloroethane	10U	10U	10U	2J	10U	1J	11U	10U	10U	11U	10U	10U	NS	NS	NS	NS	NS	NS
1,1,2,2-Tetrachloroethane	10U	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	NS	NS	NS	NS	NS	NS
1,1-Dichloroethene	53	53	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	NS	NS	NS	NS	NS	NS
2-Butanone (MEK)	10U	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	NS	NS	NS	NS	NS	NS
Benzene	53	52	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	NS	NS	NS	NS	NS	NS
Chlorobenzene	54	54	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	NS	NS	NS	NS	NS	NS
Ethylbenzene	10U	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	NS	NS	NS	NS	NS	NS
Methylene chloride	10U	10U	2J	10U	10U	10U	3J	10U	10U	11U	10U	10U	NS	NS	NS	NS	NS	NS
Tetrachloroethene	10U	10U	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	NS	NS	NS	NS	NS	NS
Toluene	56	56	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	NS	NS	NS	NS	NS	NS
Trichloroethene	51	50	10U	10U	10U	10U	11U	10U	10U	11U	10U	10U	NS	NS	NS	NS	NS	NS
Xylene (Total)	0.1J	10U	0.7J	0.7J	0.7J	0.6J	11U	1J	0.8J	11U	10U	10U	NS	NS	NS	NS	NS	NS
SVOC																		
2-Methyl-4,6-Dinitrophenol	830U	820U	820U	830U	820U	820U	860U	820U	820U	850U	820U	820U	1800U	1800U	1900U	1800U	1900U	1800U
Acenaphthylene	340U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	350U	350U	360U	350U	370U	340U
Anthracene	340U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	350U	350U	360U	350U	370U	340U
Benzo(a)anthracene	340U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	350U	350U	360U	350U	68J	340U
Benzo(a)pyrene	34J	140U	140U	140U	140U	140U	150U	140U	140U	150U	140U	140U	95U	93U	97U	94U	100	92U
Benzo(b)fluoranthene	340U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	350U	350U	360U	350U	140J	340U
Benzo(g,h,i)perylene	75J	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	350U	350U	360U	350U	82J	340U
Benzo(k)fluoranthene	340U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	350U	350U	360U	350U	54J	340U
bis(2-Ethylhexyl)phthalate (BEHP)	340U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	350U	350U	360U	350U	370U	340U
Butylbenzylphthalate	340U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	350U	350U	360U	350U	370U	340U
Carbazole	340U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	350U	350U	360U	350U	370U	340U
Chrysene	340U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	350U	350U	360U	350U	92J	340U
Dibenz(a,h)anthracene	140U	140U	140U	140U	140U	140U	150U	140U	140U	150U	140U	140U	350U	350U	360U	350U	370U	340U
Diethylphthalate	340U	340U	340U	47J	18J	12J	350U	340U	340U	350U	340U	340U	350U	350U	360U	350U	370U	340U
Di-n-butylphthalate	340U	340U	340U	340U	340U	15J	17J	340U	340U	32J	340U	340U	350U	350U	360U	350U	370U	340U
Di-n-octylphthalate	340U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	350U	350U	360U	350U	370U	340U
Fluoranthene	340U	340U	340U	8J	340U	340U	10J	340U	340U	6J	340U	340U	350U	350U	29J	350U	120J	340U
Fluorene	340U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	350U	350U	360U	350U	370U	340U
Indeno(1,2,3-cd)pyrene	340U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	350U	350U	360U	350U	83J	340U
Phenanthrene	340U	340U	340U	340U	340U	340U	350U	340U	340U	350U	340U	340U	350U	350U	360U	350U	34J	340U
Pyrene	340U	340U	340U	9J	340U	340U	11J	340U	340U	350U	340U	340U	350U	350U	31J	350U	100J	340U
PESTICIDES																		
4,4-DDD	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aldrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
alpha-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aroclor-1254	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aroclor-1260	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
beta-BHC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
delta-BHC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dieldrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endosulfan I	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endosulfan sulfate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin aldehyde	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin ketone	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
gamma-BHC (Lindane)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Heptachlor	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Heptachlor epoxide	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methoxychlor	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-38 : Summary of Detections OU 4 Organics

SHORT ID	0150048		0150061		0150062		0150063		0150064	
SAMPLE ID	*0155004801*	*0155004810*	*0155006101*	*0155006110*	*0155006201*	*0155006210*	*0155006301*	*0155006310*	*0155006401*	*0155006409*
SAMPLE DATE	*3/20/1996*	*3/20/1996*	*3/21/1996*	*3/21/1996*	*3/21/1996*	*3/21/1996*	*3/21/1996*	*3/21/1996*	*3/19/1996*	*3/19/1996*
VOC										
1,1,1-Trichloroethane	NS	NS	5.6U	5.2U	5.6U	5.2U	5.4UJ	5.3U	NS	NS
1,1,2,2-Tetrachloroethane	NS	NS	5.6UJ	5.2U	5.6U	5.2U	5.4UJ	5.3J	NS	NS
1,1-Dichloroethene	NS	NS	5.6U	5.2U	5.6U	5.2U	5.4UJ	5.3U	NS	NS
2-Butanone (MEK)	NS	NS	28U	26U	28U	26U	27UJ	26U	NS	NS
Benzene	NS	NS	3.4U	3.1U	3.3U	3.1U	3.3UJ	3.2U	NS	NS
Chlorobenzene	NS	NS	5.6UJ	5.2U	5.6U	5.2U	5.4UJ	5.3UJ	NS	NS
Ethylbenzene	NS	NS	5.6UJ	5.2U	5.6U	5.2U	5.4UJ	5.3UJ	NS	NS
Methylene chloride	NS	NS	5.6U	5.2U	5.6U	5.2U	5.4UJ	5.3U	NS	NS
Tetrachloroethene	NS	NS	5.6UJ	5.2U	5.6U	5.2U	5.4UJ	5.3UJ	NS	NS
Toluene	NS	NS	1.8J	5.2U	5.6U	5.2U	2.9J	5.3UJ	NS	NS
Trichloroethene	NS	NS	5.6U	5.2U	5.6U	5.2U	5.4UJ	5.3U	NS	NS
Xylene (Total)	NS	NS	5.6U	5.2U	5.6U	5.2U	5.4UJ	5.3UJ	NS	NS
SVOC										
2-Methyl-4,6-Dinitrophenol	1800U	1800U	NS	NS	NS	NS	NS	NS	1900U	1800U
Acenaphthylene	350U	340U	NS	NS	NS	NS	NS	NS	370U	350U
Anthracene	350U	340U	NS	NS	NS	NS	NS	NS	370U	350U
Benzo(a)anthracene	54J	340U	NS	NS	NS	NS	NS	NS	72J	350U
Benzo(a)pyrene	74J	91U	NS	NS	NS	NS	NS	NS	120	93U
Benzo(b)fluoranthene	110J	340U	NS	NS	NS	NS	NS	NS	180J	350U
Benzo(g,h,i)perylene	50J	340U	NS	NS	NS	NS	NS	NS	130J	350U
Benzo(k)fluoranthene	45J	340U	NS	NS	NS	NS	NS	NS	72J	350U
bis(2-Ethylhexyl)phthalate (BEHP)	350U	340U	NS	NS	NS	NS	NS	NS	370U	350U
Butylbenzylphthalate	350U	340U	NS	NS	NS	NS	NS	NS	370U	350U
Carbazole	350U	340U	NS	NS	NS	NS	NS	NS	370U	350U
Chrysene	69J	340U	NS	NS	NS	NS	NS	NS	110J	350U
Dibenz(a,h)anthracene	350U	340U	NS	NS	NS	NS	NS	NS	370U	350U
Diethylphthalate	350U	340U	NS	NS	NS	NS	NS	NS	370U	350U
Di-n-butylphthalate	350U	340U	NS	NS	NS	NS	NS	NS	370U	350U
Di-n-octylphthalate	350U	340U	NS	NS	NS	NS	NS	NS	370U	350U
Fluoranthene	88J	340U	NS	NS	NS	NS	NS	NS	89J	350U
Fluorene	350U	340U	NS	NS	NS	NS	NS	NS	370U	350U
Indeno(1,2,3-cd)pyrene	52J	340U	NS	NS	NS	NS	NS	NS	120J	350U
Phenanthrene	40J	340U	NS	NS	NS	NS	NS	NS	32J	350U
Pyrene	76J	340U	NS	NS	NS	NS	NS	NS	120J	350U
PESTICIDES										
4,4-DDD	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4,4-DDT	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aldrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
alpha-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aroclor-1254	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Aroclor-1260	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
beta-BHC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
delta-BHC	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dieldrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endosulfan I	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endosulfan sulfate	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin aldehyde	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Endrin ketone	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
gamma-BHC (Lindane)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
gamma-Chlordane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Heptachlor	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Heptachlor epoxide	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methoxychlor	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-39 : Summary of Detections OU 4 Metal

SHORT ID	0150001			0150002			0150003			0150004			0150005			0150006		
SAMPLE ID	0155S000101	0155S000105	0155S000110	0155S000201	0155S000205	0155S000209	0155S000301	0155S000305	0155S000309	0155S000401	0155S000405	0155S000410	0155S000501	0155S000505	0155S000510	0155S000601	0155S000605	0155S000609
SAMPLE DATE	9/1/1995	9/1/1995	9/1/1995	9/5/1995	9/5/1995	9/5/1995	9/5/1995	9/5/1995	9/5/1995	9/6/1995	9/6/1995	9/6/1995	9/7/1995	9/7/1995	9/7/1995	9/7/1995	9/7/1995	9/7/1995
METAL																		
Aluminum	1350	1190	379	1440	1070	422	688	1030	484	2870	1030	508	1030	689	1600	1830	1260	447
Antimony	2U	1.9U	2U	1U	0.99U	1U	0.99U	0.98U	0.98U	2.7J	0.95U	1.1J	0.97U	0.95U	0.96U	1.2U	1U	1U
Arsenic	3.4	0.3J	0.43J	8.1	0.83	0.39J	1.1	0.12U	0.16J	41.6	0.72	4.1	8.2J	0.51J	0.87J	2.3J	1.1J	0.32J
Barium	1.8J	1.4J	0.54J	9.6J	1.2J	0.5J	2.7J	1J	0.6J	7.1J	1.9J	0.88J	5J	1.4J	2.6J	6.2J	1.5J	0.68J
Beryllium	0.063U	0.062U	0.063U	0.03U	0.03U	0.03U	0.03U	0.03U	0.03U	0.04J	0.03U	0.03U	0.04J	0.03U	0.03U	0.04U	0.03U	0.03U
Calcium	383J	31J	15.2U	2140J	98.7J	75.1J	2130J	97.9J	358J	2030	58.7J	7.3J	365J	37.8U	69.7J	7950	271J	193J
Chromium	2J	1.1J	0.75U	8.3	1.1	0.55J	2.3	0.75J	0.73J	17.4	1.2	0.69J	2.7J	0.68J	2.6J	7.4J	1.2J	1J
Cobalt	0.33U	0.33U	0.33U	0.23J	0.24J	0.17U	0.17U	0.17U	0.17U	0.24J	0.16U	0.17U	0.17J	0.16U	0.21J	0.85J	0.22J	0.17U
Copper	1.2U	1.2U	1.2U	5.2U	0.6U	0.61U	1.7U	0.59U	0.59U	6.1U	0.58U	0.59U	2.3J	0.57U	0.93J	5.7	0.69J	0.61U
Cyanide (CN)	0.26UJ	0.26UJ	0.26UJ	0.28U	0.27U	0.27U	0.27U	0.26U	0.26U	0.27U	0.26U	0.26U	0.26U	0.26U	0.26U	1	0.27U	0.27U
Iron	913	976	335	1560	1040	343	733	909	367	2100	862	447	1300J	481J	1190J	2050J	1170J	419J
Lead	5.6	0.97J	0.38J	11.9J	1J	0.7J	11.8J	0.81J	2.8J	22.4J	2.1J	0.81J	48.7J	2.9J	1.9J	9J	1.1J	0.54J
Magnesium	157J	38.2J	12.1J	147J	45.7J	11.3J	402J	34.5J	25.7J	280J	39.9J	12.5J	21.4J	15.4J	30J	382J	41.5J	13.8J
Manganese	12	10.3	3.9	62.5	6.2	7.3	18.9	4.1	2.8	43.1	5.5	5.8	15.3J	3.1J	7.8J	70.2J	9.1J	4.3J
Mercury	0.008UJ	0.009UJ	0.009UJ	0.02J	0.01U	0.01U	0.01U	0.01U	0.01U	0.03J	0.01U	0.01U	0.01U	0.01U	0.01U	0.02U	0.01U	0.01U
Nickel	0.8U	0.79U	0.8U	0.77J	0.57J	0.41U	0.41U	0.4U	0.4U	0.7J	0.51J	0.4U	0.39U	0.55J	0.7J	6.8	0.43J	0.42J
Potassium	23.7J	22.3J	12.2U	63J	42.5J	13.2J	27.5J	30J	10.8J	77.2J	21.8J	7.4J	98.6J	18.7J	30.4J	61.6J	41.3J	12.8J
Sodium	12.5U	8.6U	7.7U	20.1J	3.9J	1.3J	7.7J	2.3J	2.4J	17.4J	3.6J	1.9J	17.1U	3.6U	6.5U	48.9J	5.6U	2.5U
Thallium	0.1U	0.12J	0.11U	0.06U	0.05U	0.05U	0.05U	0.06J	0.09J	0.05U	0.05U	0.05U	0.1U	0.1U	0.1U	0.12U	0.1U	0.1U
Vanadium	2.6J	2.1J	0.54U	2.8J	1.7J	0.43J	1.4J	1.4J	0.52J	5.4J	1.6J	0.67J	3.5J	0.82J	2.1J	3.6J	2.1J	0.73J
Zinc	3J	1.1J	0.36U	31.9	1.8J	2.4	10.5	0.88J	1.6J	14.3	1.3J	0.4J	2.4U	1.9U	1.9U	18.8	1.7U	1.4U

SHORT ID	0150007		0150009			0150010			0150011			0150012			0150013		
SAMPLE ID	0155S000701	0155S000705	0155S000901	0155S000905	0155S000910	0155S001001	0155S001005	0155S001010	0155S001101	0155S001105	0155S001109	0155S001201	0155S001205	0155S001210	0155S001301	0155S001305	0155S001310
SAMPLE DATE	8/31/1995	8/31/1995	9/1/1995	9/1/1995	9/1/1995	9/1/1995	9/1/1995	9/1/1995	9/5/1995	9/5/1995	9/5/1995	9/5/1995	9/5/1995	9/5/1995	9/5/1995	9/5/1995	9/5/1995
METAL																	
Aluminum	2090	1340	1210	1200	365	1740	1170	459	1300	1120	499	3040	1210	484	1430	1740	501
Antimony	2U	1.9U	2U	2U	0.96U	2.1U	0.98U	0.97U	0.99U	0.98U	0.97U	1U	0.99U	0.98U	0.96U	0.95U	0.96U
Arsenic	56.5J	3.1J	3.2	0.32J	0.12U	5	0.16J	0.14J	1.1	0.12U	0.12U	25.5	0.35	2.5	15.1	1.4	16.2
Barium	9.6J	2.1J	1.5J	1.3J	0.29J	2.5J	1.2J	0.43U	2.6J	1J	0.36U	6.7J	1.2J	1.3J	7.2J	2.5J	0.59J
Beryllium	0.064U	0.062U	0.063U	0.062U	0.03U	0.066U	0.03U	0.03U	0.03U	0.03U	0.03U	0.03U	0.03U	0.04J	0.03U	0.03U	0.03U
Calcium	23900	409J	148J	64.1J	11.4J	216J	47.9J	20.1J	6940	48.1J	42.1J	595	27.7J	14.8J	213J	21.4J	15.3J
Chromium	6.8	1.5U	2.3	1.4J	0.64J	3.8	0.89J	0.75J	1.7	0.97J	0.79J	5.2	0.68J	0.73J	5.2	1.6	0.76J
Cobalt	0.48J	0.33U	0.33U	0.33U	0.16U	0.35U	0.16U	0.16U	0.17U	0.17U	0.16U	0.28J	0.17U	0.17U	0.16U	0.22J	0.16U
Copper	9.5	1.2U	1.2U	1.2U	1.5U	1.3J	1U	0.94U	1.6U	0.59U	0.59U	2.5U	0.6U	1.1J	4.3	1J	0.6J
Cyanide (CN)	0.27U	0.26U	0.27UJ	0.26UJ	0.3	0.28UJ	5.1	0.26U	0.27U	0.26U	0.26U	0.27U	0.27U	0.26U	0.26U	0.26U	0.26U
Iron	2180	1110	786	1120	319	1060	1170	384	1290	1130	490	2460	792	469	1120	1460	488
Lead	29.8	0.67U	11.6	22.4	0.37J	7.1	0.77J	0.4J	3.9J	0.78J	0.58J	14.3J	1.2J	0.34	109	4.3	1.8
Magnesium	1440	51.8J	28J	41.5J	11.1J	43.4J	42.9J	13.7J	135J	47.7J	12.9J	32.2J	31J	47.6J	28.1J	70.8J	10.6J
Manganese	172	6.2	14.9	3.3	2.4	25	6.2	4.7	16.1	5.7	4.9	130	3.5	5.5J	17.9J	5.5J	2.9J
Mercury	0.03J	0.01J	0.008J	0.007UJ	0.01U	0.02J	0.01J	0.01U	0.01J	0.01U	0.01U	0.05U	0.01U	0.01U	0.14	0.01J	0.01U
Nickel	0.81U	0.79U	0.81U	0.8U	0.39U	0.84U	0.5J	0.4U	0.5J	0.4U	0.4U	0.73J	0.4U	0.4U	0.39U	0J	0.39U
Potassium	65.3J	45.7J	19J	33.3J	8.7J	38.8J	31.8J	8.8J	41.3J	31.3J	14.2J	31.2J	15.8J	65.8J	22.4J	28.3J	6U
Sodium	163J	11.8J	11.3U	7.8U	1.4J	12.5U	4.3J	3J	55.2J	4.5J	2.9J	8.4J	1.9J	1.4J	3J	2.9J	1.4J
Thallium	0.11U	0.1U	0.11U	0.1U	0.05U	0.11U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	0.1U	0.1U	0.1U	0.1U
Vanadium	4.7J	2.3J	2.1J	2J	0.59J	3J	2J	0.67J	2.1J	1.7J	0.69J	6.4	1.1J	0.8J	2.8J	2.8J	0.79J
Zinc	56.5	2J	3.1J	1.1J	0.5J	3.2J	0.98J	0.53J	19.8	1.1J	1.5J	13.1	0.63J	1.4J	10.1	2.6	0.72J

NOTES:
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4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-39 : Summary of Detections OU 4 Metal

SHORT ID	0150014			0150015			0150016			0150017			0150018			0150020		
SAMPLE ID	0155S001401	0155S001405	0155S001410	0155S001501	0155S001505	0155S001510	0155S001601	0155S001605	0155S001610	0155S001701	0155S001705	0155S001710	0155S001801	0155S001805	0155S001810	0155S002001	0155S002005	0155S002008
SAMPLE DATE	9/7/1995	9/7/1995	9/7/1995	9/7/1995	9/7/1995	9/7/1995	8/30/1995	8/30/1995	8/30/1995	8/30/1995	8/30/1995	8/30/1995	8/30/1995	8/30/1995	8/30/1995	8/31/1995	8/31/1995	8/31/1995
METAL																		
Aluminum	2590	1010	1640	2410	1150	562	2210	1460	541	3300	995	1040	2490	1350	312	1380	1140	1300
Antimony	1U	0.97U	0.98U	1U	0.96U	0.97	1.9U	1.9U	1.9U	2U	1.9U	1.9U	2U	1.9U	1.9U	1.9U	1.9U	2U
Arsenic	66.3J	0.65J	0.4J	34.6J	5J	6.5J	8.9J	0.47J	0.22U	2.4J	0.21U	0.22U	0.99J	0.5J	0.22U	16J	3J	1.1J
Barium	6.9J	2.2J	1.6J	4J	1.7J	1.2J	6.7J	1.8J	0.64J	16.9J	1.5J	1.6J	4.3J	1.8J	0.36U	5.4J	1.9J	1.9J
Beryllium	0.04J	0.03U	0.05U	0.03U	0.03U	0.03U	0.062U	0.062U	0.061U	0.063U	0.061U	0.061U	0.063U	0.061U	0.061U	0.062U	0.062U	0.062U
Calcium	1490	27.7U	110J	923	83.3J	71.9J	1850	225J	46.9J	10600	957J	234J	160J	196J	17.4U	20700	408J	244J
Chromium	12.2J	1J	2.8J	7.3J	1.8J	1.7J	6.2	1.2U	0.99U	7.2	1.2U	0.86U	6.2	0.74U	0.73U	4.1	1.3U	1.1U
Cobalt	0.3J	0.16U	0.17J	0.32J	0.16U	0.16U	0.33U	0.33U	0.32U	0.37J	0.32U	0.32U	0.33U	0.32U	0.32U	0.33U	0.33U	0.33U
Copper	6.6	0.58U	0.96J	4.8	0.64J	0.58U	4.1J	1.2U	1.2U	3.5J	1.1U	1.2U	1.9J	1.2U	1.2U	2.6J	1.2U	1.2U
Cyanide (CN)	0.27U	0.26U	0.26U	0.27U	0.26U	0.26U	0.26U	0.26U	0.26U	0.27U	0.26U	0.26U	0.26U	0.26U	0.26U	0.26U	0.26U	0.26U
Iron	3100J	1070J	1320J	2830J	1090J	571J	2190	1170	434	4470	897	1010	4680	1180	268	1580	956	850
Lead	28.5J	0.8J	0.99J	12.2J	2.1J	1.5J	26.2	1.5	0.18U	39.7	1.4J	0.32U	19.6	3.8	0.75U	13.4	0.81	0.75U
Magnesium	168J	36.2J	31.1J	77.7J	37J	16.7J	73.3J	47.5J	15.8J	756J	45.3J	45.4J	33.7J	37.4J	6.1U	429J	45.9J	39.8J
Manganese	48J	3.6J	10.4J	81.6J	6.7J	5.6J	99	7.7	3.5	56.8	6.3	5	36.5	6.4	3.2	79.9	5.6	6.9
Mercury	0.02J	0.01U	0.01U	0.11	0.03J	0.04J	1.9	0.13	0.02J	0.19	0.02J	0.009J	0.02J	0.01J	0.01J	0.03J	0.01J	0.007U
Nickel	0.43J	0.4J	0.64J	0.78J	0.39U	0.39U	0.79U	0.79U	0.78U	0.81U	0.78U	0.78U	0.8U	0.78U	0.78U	0.79U	0.79U	0.8U
Potassium	48.9J	14.1J	32.8J	38.7J	18.3J	9.8J	54J	28.1J	11.9U	85.4J	20J	19.5J	28J	17.2J	11.9U	36.4J	28.3J	24.2J
Sodium	8.9U	1.8U	2.9U	6.8U	2U	3.4U	22.9J	8.6J	4.6J	85.2J	16J	10.8J	47.2J	14.8J	6J	153J	8.8J	8.1J
Thallium	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.12J	0.1U	0.1U	0.11J	0.15J	0.1U	0.1U	0.13J	0.1U
Vanadium	7.5	1.8J	2.2J	6.2	2J	0.89J	5.8J	2.3J	1U	12.7	1.7U	1.9U	14	2.3J	0.59U	3.2J	1.6U	1.9J
Zinc	12.1	1.2U	1.7U	26	3.9U	3U	21	5.3	1.6U	32.3	2.6J	1.9J	19.1	6.8	1.8J	11	1.3U	1.2U

SHORT ID	0150021			0150022			0150023		0150024			0150025			0150026		
SAMPLE ID	0155S002101	0155S002105	0155S002108	0155S002201	0155S002205	0155S002208	0155S002301	0155S002305	0155S002401	0155S002405	0155S002409	0155S002501	0155S002505	0155S002508	0155S002601	0155S002605	0155S002608
SAMPLE DATE	8/31/1995	8/31/1995	8/31/1995	8/31/1995	8/31/1995	8/31/1995	8/31/1995	8/31/1995	8/31/1995	8/31/1995	8/31/1995	8/31/1995	8/31/1995	8/31/1995	8/31/1995	8/31/1995	8/31/1995
METAL																	
Aluminum	2100	1080	1130	724	1600	1390	1140	1630	1460	1370	179	2770	1460	879	1740	892	1440
Antimony	2U	1.9U	1.9U	1.9U	1.9U	2U	1.9U	2U	2U	2U	2U	2U	2U	2.3U	1.9U	2U	2U
Arsenic	13.1J	0.65J	0.68J	0.29J	0.79J	2.6	0.22U	8.5	1.5	0.36J	0.22U	3	0.22U	0.26U	0.22U	0.22U	2.1
Barium	11J	1.7J	1.5J	1.5J	1.9J	1.6J	2.1J	2.9J	13.6J	1.9J	0.33J	8.5J	1.8J	1.4J	2.9J	1.6J	4J
Beryllium	0.065U	0.062U	0.062U	0.062U	0.062U	0.064J	0.061U	0.062U	0.062U	0.063U	0.063U	0.073J	0.062U	0.074U	0.062U	0.063U	0.064U
Calcium	22900	234J	3360	62.2J	151J	97.9J	74.5J	1500J	238J	115J	21.1J	490J	122J	80.7J	50.6J	59.7J	265J
Chromium	8.5	0.74U	0.74U	1.1U	1.4U	1.2J	1.8J	2.1J	2J	1J	0.74U	4.5	1.4J	0.88U	1.3J	1.3J	2.8
Cobalt	0.34U	0.33U	0.33U	0.33U	0.33U	0.33U	0.32U	0.33U	0.33U	0.33U	0.33U	0.4J	0.33U	0.39U	0.33U	0.33U	0.34U
Copper	8.7	1.2U	1.2U	1.2U	1.2U	1.2U	1.2U	3.6J	1.9J	1.2U	1.2U	4.3J	1.2U	1.4U	1.2U	1.2U	1.2U
Cyanide (CN)	0.27U	0.26U	0.26U	0.26U	0.26U	0.26UJ	0.26UJ	0.26UJ	0.26UJ	0.26UJ	0.26UJ	0.27UJ	0.26UJ	0.31UJ	0.26UJ	0.26UJ	0.27UJ
Iron	2060	907	882	666	1420	1130	1070	1450	1230	1260	162	2320	1220	778	1590	808	1420
Lead	22.2	1.3	0.14U	0.52U	1.4	0.72J	1.9J	2.2	26.4	0.91J	0.23J	18.5	1J	0.9J	1.7J	1.1J	6.8
Magnesium	31IJ	39.6J	40.5J	22.4J	48.8J	39.3J	29.5J	67.2J	40J	53.3J	7.5J	60.4J	42.1J	33J	31.8J	22.3J	40.6J
Manganese	169	4.6	11.3	7	7.5	9.2	14.4	40.2	67.1	5.9	1.8J	121	4.3	8.4	21.8	7.7	48.2
Mercury	0.04J	0.009J	0.008U	0.03J	0.02J	0.008UJ	0.009UJ	0.008UJ	0.009J	0.008UJ	0.008UJ	0.01UJ	0.008UJ	0.01UJ	0.008UJ	0.008UJ	0.01J
Nickel	0.83U	0.79U	0.79U	0.78U	0.79U	0.8U	0.78U	0.8U	0.8U	0.8U	0.8U	0.81U	0.8U	0.94U	0.79U	0.8U	0.82U
Potassium	55.9J	23.5J	21.7J	24.5J	26.5J	26J	25.4J	34.5J	26J	33.4J	12.2U	71.9J	40.5J	15J	24.5J	16.4J	25.6J
Sodium	167J	7J	31.2J	4.6J	5.3J	7.2U	7.2U	18.4U	5.3UJ	10.1U	4.9U	14.3U	6.8U	7.1U	8.1U	7.5U	10.4U
Thallium	0.14J	0.1U	0.1U	0.23J	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13J	0.15J	0.21J	0.11U	0.11U
Vanadium	4.3J	1.7U	1.4U	1.5U	2.6J	2.1J	2.4J	2.9J	2.9J	2.5J	0.43U	5.8J	2.1J	0.83U	3.6J	1.7U	3.2J
Zinc	45.6	1.4U	1.6U	1.2U	1.7J	1.6J	2J	9.6	13	4.4	0.41U	33.4	1.1U	1.2J	1.6J	0.99U	5.6

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-39 : Summary of Detections OU 4 Metal

SHORT ID	0150027			0150029			0150030			0150031			0150032		0150041		0150042	
SAMPLE ID	0155S002701	0155S002705	0155S002710	0155S002901	0155S002905	0155S002910	0155S003001	0155S003005	0155S003010	0155S003101	0155S003105	0155S003110	0155S003201	0155S003210	0155S004101	0155S004112	0155S004201	0155S004212
SAMPLE DATE	9/6/1995	9/6/1995	9/6/1995	9/5/1995	9/5/1995	9/5/1995	9/5/1995	9/5/1995	9/5/1995	9/5/1995	9/5/1995	9/5/1995	3/21/1996	3/21/1996	3/14/1996	3/14/1996	3/14/1996	3/14/1996
METAL																		
Aluminum	3850	1520	220	1690	1010	404	4940	1720	695	3840	1360	988	NS	NS	NS	NS	NS	NS
Antimony	0.97U	0.95U	0.96U	0.96U	0.95U	0.95U	0.99U	0.95U	0.95U	0.98U	0.95U	0.95U	NS	NS	NS	NS	NS	NS
Arsenic	22.4	0.92	0.81	0.29J	0.12U	0.12U	0.41J	0.41J	0.26J	0.94	0.47J	0.4J	2.3J	0.18UJ	8.5	0.18U	6.5	0.19U
Barium	10.9J	2.7J	0.48J	4.4J	1.2J	0.48J	8.1J	1.7J	0.51J	4.8J	1.8J	1J	NS	NS	NS	NS	NS	NS
Beryllium	0.12	0.03U	0.03U	0.03J	0.03U	0.03U	0.04J	0.03U	0.03U	0.04J	0.03U	0.03U	NS	NS	NS	NS	NS	NS
Calcium	2590	257J	36.6J	396J	51J	18.4J	558	25.2J	7.8U	633	47.9J	77.8J	NS	NS	NS	NS	NS	NS
Chromium	10.2	1.8	0.65J	3.7	0.81J	0.68J	6.3	1.5	1.2	3.4	1.4	1.1	NS	NS	NS	NS	NS	NS
Cobalt	0.54J	0.16U	0.16U	4.6J	0.16U	0.16U	0.59J	0.16U	0.16U	0.92J	0.26J	0.55J	NS	NS	NS	NS	NS	NS
Copper	5.4	0.84J	0.58U	1.4J	0.57U	0.57U	3	0.58U	0.58U	2.3J	0.57U	0.57U	NS	NS	NS	NS	NS	NS
Cyanide (CN)	0.26U	0.54	0.26U	0.26U	0.26U	0.26U	0.27U	0.26U	0.26U	0.27U	0.26U	0.26U	NS	NS	NS	NS	NS	NS
Iron	3760	1170	206	2690	959	286	2870	1470	488	2730	1130	819	NS	NS	NS	NS	NS	NS
Lead	14.7	1.5	0.45	10	0.73	0.23J	13.1	0.88	0.22J	5.6	0.84	0.76	NS	NS	NS	NS	NS	NS
Magnesium	243J	154J	11.2J	45.6J	41.5J	12.3J	62.9J	57.5J	14.5J	51.5J	47J	22.4J	NS	NS	NS	NS	NS	NS
Manganese	58.2J	6.2	2.1J	30.5J	3.5J	1.8J	107J	5.4J	2.7J	126J	5.3J	11.1J	45.2	2.1	124	1.9	91.4	3.5
Mercury	0.04J	0.05J	0.01U	0.02J	0.01U	0.01U	0.02J	0.01U	0.01U	0.01U	0.01U	0.01U	NS	NS	NS	NS	NS	NS
Nickel	0.95J	0.77J	0.39U	0.39U	0.39U	0.39U	0.78J	0.58J	0.39U	0.79J	0.4J	0.41J	NS	NS	NS	NS	NS	NS
Potassium	113J	23.6J	6U	69.1J	26.5J	9J	103J	26.6J	6.7J	272J	24.1J	21.7J	NS	NS	NS	NS	NS	NS
Sodium	18.2J	5.7J	1.9J	9.5J	5.6J	3.9J	12.1J	2.8J	2.9J	21.4J	3.9J	4.6J	NS	NS	NS	NS	NS	NS
Thallium	0.1U	0.1U	0.1U	0.1U	0.13J	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	NS	NS	NS	NS	NS	NS
Vanadium	8.3	2.2J	0.45J	7.5	1.6J	0.6J	8.1	2.7J	0.71J	6.9	2J	1.3J	NS	NS	NS	NS	NS	NS
Zinc	18.8	3.8	0.78J	4.9	1.2J	1.3J	8.5	1.6J	0.86J	21.7	1.2J	1.7J	NS	NS	NS	NS	NS	NS

SHORT ID	0150043		0150044		0150045		0150046		0150047		0150048		0150049		0150050		0150051	
SAMPLE ID	0155S004301	0155S004312	0155S004401	0155S004410	0155S004501	0155S004510	0155S004601	0155S004609	0155S004701	0155S004710	0155S004801	0155S004810	0155S004901	0155S004910	0155S005001	0155S005010	0155S005101	0155S005110
SAMPLE DATE	3/14/1996	3/14/1996	3/15/1996	3/15/1996	3/19/1996	3/19/1996	3/19/1996	3/19/1996	3/20/1996	3/20/1996	3/20/1996	3/20/1996	3/15/1996	3/15/1996	3/20/1996	3/20/1996	3/20/1996	3/20/1996
METAL																		
Aluminum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Antimony	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arsenic	2.4	0.18U	1.8	0.33J	4	0.18U	2.4	0.6	3.6	0.4	1.5	0.18U	0.66	0.27J	1.9	0.18U	2.7	0.49
Barium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Beryllium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Calcium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chromium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cobalt	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Copper	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cyanide (CN)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Magnesium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Manganese	101	7.7	67.7	8.5	36.9	3.7	215	11.3	108	3.7	61.7	1.2	30.6	5	57.3	0.94J	43.8	11.1
Mercury	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Potassium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sodium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Thallium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-39 : Summary of Detections OU 4 Metal

SHORT ID	0150052		0150053	0150054	0150055	0150056		0150057		0150058		0150059		0150060		0150061	
SAMPLE ID	*0155005201*	*0155005210*	*0155005301*	*0155005401*	*0155005501*	*0155005601*	*0155005610*	*0155005701*	*0155005710*	*0155005801*	*0155005810*	*0155005901*	*0155005910*	*0155006001*	*0155006009*	*0155006101*	*0155006110*
SAMPLE DATE	*3/20/1996*	*3/20/1996*	*3/13/1996*	*3/13/1996*	*3/13/1996*	*3/21/1996*	*3/21/1996*	*3/21/1996*	*3/21/1996*	*3/20/1996*	*3/20/1996*	*3/15/1996*	*3/15/1996*	*3/15/1996*	*3/15/1996*	*3/21/1996*	*3/21/1996*
METAL																	
Aluminum	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Antimony	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arsenic	5.1	0.24J	16	3.1	11.1	0.43J	0.18UJ	1.9J	0.18UJ	7.5J	0.18UJ	2.9	0.19J	3.7	0.18U	18.9J	1.9J
Barium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Beryllium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Calcium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chromium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cobalt	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Copper	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cyanide (CN)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Iron	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Lead	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Magnesium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Manganese	30.9	5.5	92.2	9.8	45.3	24.7	5	91	7	42.4	2.6	149	3.3	88.5	6.6	180	3.5
Mercury	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Potassium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sodium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Thallium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

SHORT ID	0150062		0150063		0150064	
SAMPLE ID	*0155006201*	*0155006210*	*0155006301*	*0155006310*	*0155006401*	*0155006409*
SAMPLE DATE	*3/21/1996*	*3/21/1996*	*3/21/1996*	*3/21/1996*	*3/19/1996*	*3/19/1996*
METAL						
Aluminum	NS	NS	NS	NS	NS	NS
Antimony	NS	NS	NS	NS	NS	NS
Arsenic	3.1J	0.18UJ	5J	0.59J	5.6	0.71
Barium	NS	NS	NS	NS	NS	NS
Beryllium	NS	NS	NS	NS	NS	NS
Calcium	NS	NS	NS	NS	NS	NS
Chromium	NS	NS	NS	NS	NS	NS
Cobalt	NS	NS	NS	NS	NS	NS
Copper	NS	NS	NS	NS	NS	NS
Cyanide (CN)	NS	NS	NS	NS	NS	NS
Iron	NS	NS	NS	NS	NS	NS
Lead	NS	NS	NS	NS	NS	NS
Magnesium	NS	NS	NS	NS	NS	NS
Manganese	106	1.9	113	7.9	86.6	6.4
Mercury	NS	NS	NS	NS	NS	NS
Nickel	NS	NS	NS	NS	NS	NS
Potassium	NS	NS	NS	NS	NS	NS
Sodium	NS	NS	NS	NS	NS	NS
Thallium	NS	NS	NS	NS	NS	NS
Vanadium	NS	NS	NS	NS	NS	NS
Zinc	NS	NS	NS	NS	NS	NS

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - mg/kg = milligrams per kilogram
3 - g/L = micrograms per liter

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-40 : Summary of Detections Groundwater OU 4

SHORT ID	015GM59	015GM60	015GR01	015GR02	015GR03			015GR04	015GR06	015GR07					015GR08	015GR28	015GR32		015GR33
SAMPLE ID	*015GGM5901*	*015GGM6001*	*015GGR0101*	*015GGR0201*	*015GGR0301*	*015GGR0302*	*015GGR0303*	*015GGR0401*	*015GGR0601*	*015GGR0701*	*015GGR0702*	*015GGR0703*	*015GGR0704*	*015GGR0705*	*015GGR0801*	*015GGR2801*	*015GGR3201*	*015GGR3203*	*015GGR3301*
SAMPLE DATE	*9/14/1995*	*9/13/1995*	*9/14/1995*	*9/13/1995*	*9/13/1995*	*5/17/1996*	*7/26/1996*	*9/13/1995*	*9/14/1995*	*9/14/1995*	*4/16/1996*	*5/17/1996*	*7/26/1996*	*8/22/1996*	*9/13/1995*	*9/14/1995*	*4/16/1996*	*7/26/1996*	*4/16/1996*
VOC																			
Chloroform	1U	1U	1U	1U	1U	NS	NS	0.8J	1U	1U	NS	NS	NS	NS	1U	1U	NS	NS	NS
Dibromochloromethane	1U	1U	1U	1U	1U	NS	NS	0.8J	1U	1U	NS	NS	NS	NS	1U	1U	NS	NS	NS
SVOC																			
Diethylphthalate	5U	5U	5U	0.7J	5U	NS	NS	5U	5U	5U	10U	NS	NS	NS	5U	5U	NS	NS	NS
Di-n-octylphthalate	5U	5UJ	5U	5U	5UJ	NS	NS	5UJ	5U	5U	10U	NS	NS	NS	5UJ	5U	NS	NS	NS
PESTICIDES																			
4,4-DDE	0.02U	0.02U	0.02U	0.02UR	0.02U	NS	NS	0.0022J	0.02U	0.02U	0.1U	NS	NS	NS	0.002J	0.02U	0.1U	NS	0.0036J
4,4-DDT	0.02U	0.02U	0.02U	0.02UR	0.02U	NS	NS	0.0048J	0.02U	0.02U	0.013J	NS	NS	NS	0.02U	0.02U	0.1U	NS	0.0099J
alpha-Chlordane	0.01U	0.01U	0.01U	0.01UR	0.01U	NS	NS	0.019	0.01U	0.01U	0.05U	NS	NS	NS	0.011	0.01U	0.05U	NS	0.05U
Aroclor-1260	0.2U	0.2U	0.2U	0.2UR	0.2U	NS	NS	0.2U	0.32	0.2U	1U	NS	NS	NS	0.2U	0.2U	1U	NS	1U
delta-BHC	0.01U	0.01U	0.01U	0.01UR	0.0064J	NS	NS	0.01U	0.01U	0.01U	0.05U	NS	NS	NS	0.01U	0.01U	0.05U	NS	0.05U
Dieldrin	0.02U	0.02U	0.02U	0.0067J	0.0098J	NS	NS	0.014J	0.02U	0.0023J	0.039J	NS	NS	NS	0.033	0.025	0.1U	NS	0.016J
Endosulfan I	0.01U	0.01U	0.01U	0.01UR	0.01U	NS	NS	0.01U	0.01U	0.01U	0.0055J	NS	NS	NS	0.01U	0.01U	0.05U	NS	0.05U
Endosulfan sulfate	0.02U	0.02U	0.02U	0.02UR	0.02U	NS	NS	0.02U	0.02U	0.02U	0.1U	NS	NS	NS	0.02U	0.02U	0.1U	NS	0.018J
gamma-BHC (Lindane)	0.01U	0.01U	0.01U	0.01UR	0.01U	NS	NS	0.01U	0.01U	0.014J	0.05U	NS	NS	NS	0.01U	0.01U	0.05U	NS	0.05U
gamma-Chlordane	0.01U	0.1U	0.01U	0.01UR	0.01U	NS	NS	0.022	0.01U	0.01U	0.05U	NS	NS	NS	0.0079J	0.01U	0.05U	NS	0.05U
Heptachlor epoxide	0.01U	0.01U	0.01U	0.0019J	0.01U	NS	NS	0.0015J	0.01U	0.01U	0.056	NS	NS	NS	0.005J	0.01U	0.05U	NS	0.05U
METAL																			
Aluminum	488	203	133J	1620	2230	NS	982	179J	208	1270	351	NS	575	NS	719	112U	734	1630	405
Antimony	2.3U	2.3U	2.3U	2.3U	4.4J	NS	15.8	2.9J	2.5J	2.3U	NS	NS	3U	NS	2.3U	2.3U	NS	4.3J	NS
Arsenic	7.8J	1.2UJ	1.2UJ	32.9	783	373	415	56.5	1.2U	89.6	522	104	13.4	21.1	7.4J	1.2U	8.1J	9.4J	56.9
Barium	9.8J	10.3J	6.6J	4.5U	5.1U	NS	4.3J	6.1J	10J	8J	NS	NS	10.9	NS	13.9J	19.2J	NS	2.3J	NS
Beryllium	0.14UJ	0.31J	0.14UJ	0.14UJ	0.14UJ	NS	0.19UJ	0.14UJ	0.14UJ	0.14UJ	NS	NS	0.19UJ	NS	0.14UJ	0.14UJ	NS	0.19UJ	NS
Calcium	14500	12200	19900	40900	23200	NS	21400	17300	25400	21700	NS	NS	16000	NS	20300	70400	NS	52000	NS
Chromium	4.2U	4.2U	4.2U	4.2U	4.2U	NS	4.3J	4.2U	4.2U	4.2U	NS	NS	1060	NS	4.2U	4.2U	NS	4.1U	NS
Cobalt	1.2U	1.2U	1.2U	1.2U	1.2U	NS	1.9U	1.2U	1.2U	1.2U	NS	NS	1.9U	NS	1.2U	1.2U	NS	1.9U	NS
Iron	321	89.2J	84J	1070	1480	NS	531	54.3J	89.7J	744	638	NS	1820	NS	156	66.6J	406	1020	199
Lead	1.1J	1.5J	1.4J	1.4J	0.89J	NS	1.4J	0.75U	0.75U	0.75U	NS	NS	0.6UJ	NS	2.3J	1.8J	NS	1.7J	NS
Magnesium	5090	4680J	4150J	1420J	1500J	NS	2510	5470	4210J	3380J	NS	NS	4780	NS	2470J	2190J	NS	2560	NS
Manganese	10.3J	3.3U	7.8U	8.2J	12.8J	NS	3.3J	9.7J	7.8J	9.5J	5.3J	NS	2J	NS	50.9	7.9J	2.4U	6.8J	1.7U
Mercury	0.06J	0.14J	0.06J	0.06J	0.08J	NS	0.03U	0.17J	0.06U	0.07J	NS	NS	0.03U	NS	0.06U	0.06J	NS	0.03U	NS
Nickel	3U	3U	3.3J	4.9U	3U	NS	4.2U	3U	4.2U	4U	NS	NS	5.8J	NS	3.1U	3U	NS	4.2U	NS
Potassium	4950J	4800J	8640	4530J	4830J	NS	7980	6060	4640J	3810J	NS	NS	6860	NS	3400J	6480	NS	6420	NS
Selenium	1UJ	1UJ	1UJ	1UJ	1UJ	NS	2.5J	1.5J	1.4J	2.3J	NS	NS	1.6U	NS	1UJ	1UJ	NS	3.4J	NS
Silver	1.5U	1.5U	1.5U	1.5U	1.5U	NS	1.1U	1.7J	1.5U	1.5U	NS	NS	1.1UJ	NS	1.5U	1.5U	NS	1.1UJ	NS
Sodium	5500	5770	4840J	5910	5350	NS	15100	11300	5840	4380J	NS	NS	6880	NS	7270	12900	NS	4340	NS
Thallium	1.1J	1.5J	0.95U	0.95U	0.95U	NS	0.86U	0.95U	0.95U	0.95U	NS	NS	0.86U	NS	0.95U	0.95U	NS	0.86U	NS
Vanadium	2.1U	2.1U	2.1U	6.6J	8.1J	NS	2.3U	2.5J	2.1U	2.1U	NS	NS	2.3U	NS	2.1U	2.1U	NS	2.5J	NS
Zinc	14.5U	13.9U	5.7U	19.8U	22.9U	NS	7.7J	21.8U	11.1U	13.8U	NS	NS	1.8U	NS	205	13.3U	NS	3.1J	NS

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-40 : Summary of Detections Groundwater OU 4

SHORT ID	015GR34	015GR35	015GR36	015GR37	015GR38	015GR39		015GR40		015GR65			015GR66			015GR67		015GS68
SAMPLE ID	*015GGR3401*	*015GGR3501*	*015GGR3601*	*015GGR3701*	*015GGR3801*	*015GGR3901*	*015GGR3903*	*015GGR4001*	*015GGR4003*	*015GGR6501*	*015GGR6503*	*015GGR6504*	*015GGR6601*	*015GGR6603*	*015GGR6604*	*015GGR6701*	*015GGR6703*	*015GGR6704*	*015GGS6801*
SAMPLE DATE	*4/16/1996*	*4/16/1996*	*4/16/1996*	*4/16/1996*	*4/16/1996*	*4/16/1996*	*7/26/1996*	*4/16/1996*	*7/26/1996*	*5/17/1996*	*7/26/1996*	*8/22/1996*	*5/17/1996*	*7/26/1996*	*8/22/1996*	*5/17/1996*	*7/26/1996*	*8/22/1996*	*9/11/1996*
VOC																			
Chloroform	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1U
Dibromochloromethane	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1U
SVOC																			
Diethylphthalate	NS	10U	10U	NS	NS	NS	NS	10U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5U
Di-n-octylphthalate	NS	10U	10U	NS	NS	NS	NS	10U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5U
PESTICIDES																			
4,4-DDE	0.1U	0.1U	0.084J	0.1U	0.1U	0.1U	NS	0.1U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0012J
4,4-DDT	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	NS	0.1U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.02U
alpha-Chlordane	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	NS	0.05U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.01U
Aroclor-1260	1U	1U	1U	1U	1U	1U	NS	1U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.2U
delta-BHC	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	NS	0.05U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.01U
Dieldrin	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	NS	0.1U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.11
Endosulfan I	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	NS	0.05U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.01U
Endosulfan sulfate	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	NS	0.1U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.02U
gamma-BHC (Lindane)	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	NS	0.05U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.01U
gamma-Chlordane	0.05U	0.05U	0.05U	0.05U	0.05U	0.05U	NS	0.05U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.01U
Heptachlor epoxide	0.05U	0.05U	0.19	0.05U	0.05U	0.05U	NS	0.009J	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0021U
METAL																			
Aluminum	377	446	1580	914	298	82.9U	139U	51.7U	35.8U	NS	411	NS	NS	476	NS	NS	253	NS	703
Antimony	NS	NS	NS	NS	NS	NS	3U	NS	3J	NS	3U	NS	NS	3U	NS	NS	3U	NS	11.9U
Arsenic	2U	2U	96.1	3.1J	2U	2U	1.5J	2U	3.3J	12.2	231	184	7.6J	106	155	3.7J	9.2J	17.1	1.1J
Barium	NS	NS	NS	NS	NS	NS	13.1	NS	22.4	NS	1.9J	NS	NS	3.4J	NS	NS	1.9J	NS	18J
Beryllium	NS	NS	NS	NS	NS	NS	0.19UJ	NS	0.19UJ	NS	0.19UJ	NS	NS	0.19UJ	NS	NS	0.19UJ	NS	0.19U
Calcium	NS	NS	NS	NS	NS	NS	13400	NS	15300	NS	36800	NS	NS	15600	NS	NS	22200	NS	33800
Chromium	NS	NS	NS	NS	NS	NS	4.1U	NS	4.1U	NS	4.1U	NS	NS	4.1U	NS	NS	4.1U	NS	4.1U
Cobalt	NS	NS	NS	NS	NS	NS	1.9U	NS	2.6J	NS	1.9U	NS	NS	1.9U	NS	NS	1.9U	NS	1.9U
Iron	258	244	634	573	138	86.4	83.5U	112	214	NS	235	NS	NS	273	NS	NS	202	NS	399
Lead	NS	NS	NS	NS	NS	NS	0.6U	NS	0.71J	NS	0.6U	NS	NS	0.6U	NS	NS	1.8J	NS	1.6J
Magnesium	NS	NS	NS	NS	NS	NS	5050	NS	4900	NS	2380	NS	NS	1640	NS	NS	1750	NS	6600
Manganese	2.8U	5.7J	6.9J	4.9J	1.8U	5.1J	4.8J	37.4	31	NS	1.3J	NS	NS	1.5J	NS	NS	2.4J	NS	20
Mercury	NS	NS	NS	NS	NS	NS	0.03U	NS	0.03U	NS	0.03U	NS	NS	0.03U	NS	NS	0.03U	NS	0.03UJ
Nickel	NS	NS	NS	NS	NS	NS	4.2U	NS	4.2U	NS	4.2U	NS	NS	4.2U	NS	NS	4.2U	NS	4.2U
Potassium	NS	NS	NS	NS	NS	NS	5400	NS	4890	NS	4810	NS	NS	2800	NS	NS	3480	NS	11700
Selenium	NS	NS	NS	NS	NS	NS	1.6U	NS	1.6U	NS	1.6UJ	NS	NS	1.6U	NS	NS	1.6U	NS	1.6U
Silver	NS	NS	NS	NS	NS	NS	1.1UJ	NS	1.1UJ	NS	1.1UJ	NS	NS	1.1UJ	NS	NS	1.1UJ	NS	1.1U
Sodium	NS	NS	NS	NS	NS	NS	6910	NS	9490	NS	2230	NS	NS	6110	NS	NS	10000	NS	9040
Thallium	NS	NS	NS	NS	NS	NS	0.86U	NS	0.86U	NS	0.86U	NS	NS	0.86U	NS	NS	0.86U	NS	0.86U
Vanadium	NS	NS	NS	NS	NS	NS	2.3U	NS	7J	NS	2.3U	NS	NS	5.6J	NS	NS	2.3U	NS	2.3U
Zinc	NS	NS	NS	NS	NS	NS	1.8U	NS	3.3J	NS	3.5J	NS	NS	5J	NS	NS	3.9J	NS	4.1J

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

Table A-40 : Summary of Detections Groundwater OU 4

SHORT ID SAMPLE ID SAMPLE DATE	015GS69 *015GGS6901* *9/11/1996*	015GS70 *015GGS7001* *9/11/1996*	015GS71 *015GGS7101* *9/11/1996*	015MW01 *015GMW0101* *9/14/1995*	015MW02 *015GMW0201* *9/14/1995*
VOC					
Chloroform	1U	1U	1U	1U	1U
Dibromochloromethane	1U	1U	1U	1U	1U
SVOC					
Diethylphthalate	5U	5U	5U	5U	5U
Di-n-octylphthalate	5U	0.6J	5U	5U	5U
PESTICIDES					
4,4-DDE	0.0015J	0.02U	0.02U	0.02U	0.02U
4,4-DDT	0.02U	0.02U	0.02U	0.02U	0.02U
alpha-Chlordane	0.01U	0.01U	0.01U	0.01U	0.01U
Aroclor-1260	0.2U	0.2U	0.2U	0.2U	0.2U
delta-BHC	0.01U	0.01U	0.01U	0.01U	0.01U
Dieldrin	0.02U	0.02U	0.02U	0.02U	0.02U
Endosulfan I	0.01U	0.01U	0.01U	0.01U	0.01U
Endosulfan sulfate	0.02U	0.02U	0.02U	0.02U	0.02U
gamma-BHC (Lindane)	0.01U	0.01U	0.01U	0.01U	0.01U
gamma-Chlordane	0.01U	0.01U	0.01U	0.01U	0.01U
Heptachlor epoxide	0.01U	0.01U	0.01U	0.01U	0.01U
METAL					
Aluminum	3900	867	1110	780	293
Antimony	11.9U	11.9U	11.9U	2.3U	2.3U
Arsenic	4.3J	1.3J	1U	25.4	1.2U
Barium	13.2J	14.3J	32.5J	14.2J	13.1J
Beryllium	0.19U	0.19U	0.19U	0.14UJ	0.14UJ
Calcium	20800	21500	12400	14500	19100
Chromium	4.1U	4.1U	4.1U	4.2U	4.2U
Cobalt	1.9U	1.9U	1.9U	1.2U	1.2U
Iron	2130	497	382	568	117
Lead	4.9	0.8J	1J	1.2J	0.75U
Magnesium	4420J	3860J	3700J	5020	4320J
Manganese	25.8	3.1J	4.9J	10.4J	6.8J
Mercury	0.03UJ	0.03UJ	0.03UJ	0.09J	0.06J
Nickel	4.2U	4.2U	4.2U	3U	3U
Potassium	6260	6970	6030	5570	4310J
Selenium	2.9J	1.6U	1.6U	1.5J	2.1J
Silver	1.1U	1.1U	1.1U	1.5U	1.5U
Sodium	8040	8710	10100	7740	6090
Thallium	0.86U	0.86U	0.86U	0.95U	0.95U
Vanadium	4.5J	2.3U	2.3U	4J	3.2J
Zinc	5.2J	11.1J	5.3J	19.8U	13.9U

NOTES:
1 - NS indicates sample was not tested for that analyte.
2 - g/L = Micrograms per Liter
3 - mg/L = Milligrams per Liter ug/L.

4 - Qualifiers
U: Not Detected
E or J: Estimated
R or UR: Data Rejected
D: Diluted

FINAL REMEDIAL INVESTIGATION REPORT
SITE 41 — OPERABLE UNIT 16 — NAS PENSACOLA WETLANDS

NAVAL AIR STATION
PENSACOLA, FLORIDA

SOUTHNAVFACENGCOM
CONTRACT NUMBER: N62467-89-D-0318

CTO-036

VOLUME X OF XI
APPENDIX I

Prepared for:

Comprehensive Long-Term
Environmental Action Navy
Naval Air Station
Pensacola, Florida

Prepared by:

EnSafe Inc.
5724 Summer Trees Drive
Memphis, Tennessee 38134
(901) 372-7962
(800) 588-7962

August 17, 2005
Revised November 16, 2007

Appendix I

Validation Summary Reports

ENSAFE VALIDATION SUMMARY REPORT

Site Name:	Pensacola Phase III Sampling
CTO and Subtask No.:	0036-00100
Laboratory:	Savannah Laboratories
Sample Delivery Group:	SDG PEN15 Addendum
Method:	Semivolatile Organic Compounds - SW846 Method 8270 Appendix IX Metals - SW-846 Method 6010
Validation Guidance	USEPA Contract Laboratory Program National Functional Organic and Inorganic Data Review, February 1994
Matrix:	Tissue

Data were validated by EnSafe Inc. Ten tissue samples collected between September 2 and 8, 1997 were analyzed for semivolatile organic compounds (SVOCs) and Appendix IX metals by Savannah Laboratories of Savannah, Georgia, and were reported in sample delivery group (SDG) PEN15 Addendum. The data were reported and validated using USEPA definitive data without raw data (formerly USEPA Level III). All samples and analyses discussed in this summary report are listed in Table 1.

Table 1
Sample Summary

Sample ID	Appendix IX Metal	SVOC
041J400601	X	x
041J18B101	x	x
041J330201	x	x
041J640101	x	x
041J640601	x	x
041J750101	x	x
041J400602		x
041J330101		x
040J400601	X	X
040J400602	X	

ORGANIC VALIDATION RESULTS

All samples were received by the laboratory intact and with the proper documentation on September 18, 1997 with intact chains of custody and proper documentation. The following subsections summarize the data validation results. Tentatively identified compounds (TICs) were not reported and are not discussed in this report.

Semivolatile Organic Compound Fraction

1. All gas chromatography/mass spectroscopy tuning ion abundances and frequencies, initial calibration relative response factors (RRFs) and percent relative standard deviations, continuing calibration RRFs, surrogate recoveries, and internal standard retention times were within acceptable limits. There were no target analytes detected in the method blank. There are no field duplicates or field blanks associated with this SDG.

2. Bis(2-chloroethyl ether) had percent differences (%Ds) greater than the control limit of ≤25% for the calibration standards run 09/26/97 22:44 (25.4%) and 09/29/97 08:02. (26.5%) Nondetects of this compound in samples 041J18B101, 041J640101, 041J330201, 041J640601, and 041J750101 were qualified as estimated, "UJ."

3. The internal standard perylene-d12 exceeded the lower area limits for samples 041J18B101, 041J330201, 041J640101, and 041J750101. Nondetects of di-n-butylphthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene were qualified as estimated, "UJ."

   The internal standard chrysene-d12 exceeded the lower area limits for sample 041J750101. Nondetects of pyrene, butylbenzylphthalate, 3,3'dichlorobenzidine, benzo(a)anthracene, chrysene, and bis(2-ethylhexyl)phthalate were qualified as estimated "UJ."

INORGANIC VALIDATION RESULTS

Metals Fraction

1. All holding times, initial and continuing calibration recoveries, interference check sample recoveries, spike sample recoveries, laboratory duplicate relative percent differences, and laboratory control sample recoveries were within acceptable criteria. There were no field duplicates or field blanks associated with this SDG.

2. Selenium, arsenic, cobalt, silver, and thallium were detected in the preparation blank. Qualifiers were added to the data as outlined in Table 2.

Table 2
Laboratory Blank Contamination

Analyte	Samples Affected	Conc'n Found (mg/kg)	Qualifier Added
selenium	040J400601, 041J18B101, 041J330101, 041J330201, 041J640101, 041J640601, 041J750101	0.230	U
arsenic	040J400601, 040J400602, 041J18B101, 041J330101, 041J330201, 041J640101, 041J640601, 041J750101	-0.376	J(+),UJ (ND)
cobalt	040J400601, 040J400602, 041J18B101, 041J330101, 041J330201, 041J640101, 041J640601, 041J750101	-0.176	J(+),UJ (ND)
silver	040J400601, 040J400602, 041J18B101, 041J330101, 041J330201, 041J640101, 041J640601, 041J750101	-0.242	UJ (ND)
thallium	040J400601, 040J400602, 041J18B101, 041J330101, 041J330201, 041J640101, 041J640601, 041J750101	-0.798	UJ (ND)

NOTES:
J(+),UJ (ND) = Detects and nondetects qualified as estimated
UJ (ND) = There were no detects for this compound, only nondetects were qualified as estimated.

3. Copper, iron, and manganese exceeded the serial dilution %D control limit of 10%. Detections of these elements in all samples were qualified as estimated, "J." Nondetects were accepted without qualification.

4. Sample detections between the contract required detection limit and the instrument detection limit and flagged as "B" by the laboratory, were qualified as estimated "J" by the validator to indicate the sample detection was an estimated value.

PENSACOLA SITE 40
PENSACOLA, SITE 40, PHASE III SAMPLING

METAL									
		SAMPLE ID ------->	040-J-4006-01		040-J-4006-02				
		ORIGINAL ID ----->	040J400601		040J400602				
		LAB SAMPLE ID --->	S775281*1		S775281*2				
		ID FROM REPORT -->	040J400601		040J400602				
		SAMPLE DATE ----->	09/08/97		09/08/97				
		DATE EXTRACTED -->	09/24/97		09/24/97				
		DATE ANALYZED --->	09/26/97		09/26/97				
		MATRIX ---------->	Soil		Soil				
		UNITS ---------->	MG/KG		MG/KG				
CAS #	Parameter		PEN15	VAL	PEN15	VAL			
7439-92-1	Lead		1.5		2.2				
7429-90-5	Aluminum		4.5	U	5.8	J			
7440-36-0	Antimony		0.98	U	0.98	U			
7440-38-2	Arsenic		0.54	J	0.38	J			
7440-47-3	Chromium		0.36		0.43				
7440-48-4	Cobalt		0.13	UJ	0.13	UJ			
7440-50-8	Copper		1.4	J	1.1	J			
7439-89-6	Iron		11.7	J	21.3	J			
7439-96-5	Manganese		2.2	J	7.5	J			
7440-02-0	Nickel		0.27	U	0.27	U			
7782-49-2	Selenium		1.	U	1.4				
7440-22-4	Silver		0.06	UJ	0.06	UJ			
7440-28-0	Thallium		0.39	UJ	0.39	UJ			
7440-62-2	Vanadium		0.19	U	0.19	U			
7440-66-6	Zinc		33.3		27.2				
7440-39-3	Barium		NR		NR				
7440-41-7	Beryllium		NR		NR				
7440-43-9	Cadmium		NR		NR				
7440-70-2	Calcium		NR		NR				
57-12-5	Cyanide (CN)		NR		NR				
7439-95-4	Magnesium		NR		NR				
7439-97-6	Mercury		NR		NR				
7440-09-7	Potassium		NR		NR				
7440-23-5	Sodium		NR		NR				

*** Validation Complete ***

PENSACOLA SITE 40
PENSACOLA, SITE 40, PHASE III SAMPLING

SVOA

SAMPLE ID ------->	040-J-4006-01
ORIGINAL ID ----->	040J400601
LAB SAMPLE ID --->	S775281*1
ID FROM REPORT -->	040J400601
SAMPLE DATE ----->	09/08/97
DATE EXTRACTED -->	09/23/97
DATE ANALYZED --->	09/26/97
MATRIX ---------->	Soil
UNITS ----------->	UG/KG

CAS #	Parameter	PEN15	VAL
108-95-2	Phenol	330.	U
111-44-4	bis(2-Chloroethyl)ether	330.	U
95-57-8	2-Chlorophenol	330.	U
541-73-1	1,3-Dichlorobenzene	330.	U
106-46-7	1,4-Dichlorobenzene	330.	U
95-50-1	1,2-Dichlorobenzene	330.	U
95-48-7	2-Methylphenol (o-Cresol)	330.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	330.	U
9999900-32-2	3-Methylphenol/4-Methylphenol	330.	U
621-64-7	N-Nitroso-di-n-propylamine	330.	U
67-72-1	Hexachloroethane	330.	U
98-95-3	Nitrobenzene	330.	U
78-59-1	Isophorone	330.	U
88-75-5	2-Nitrophenol	330.	U
105-67-9	2,4-Dimethylphenol	330.	U
120-83-2	2,4-Dichlorophenol	330.	U
120-82-1	1,2,4-Trichlorobenzene	330.	U
91-20-3	Naphthalene	330.	U
106-47-8	4-Chloroaniline	660.	U
87-68-3	Hexachlorobutadiene	330.	U
111-91-1	bis(2-Chloroethoxy)methane	330.	U
59-50-7	4-Chloro-3-methylphenol	330.	U
91-57-6	2-Methylnaphthalene	330.	U
77-47-4	Hexachlorocyclopentadiene	330.	U
88-06-2	2,4,6-Trichlorophenol	330.	U
95-95-4	2,4,5-Trichlorophenol	330.	U
91-58-7	2-Chloronaphthalene	330.	U
88-74-4	2-Nitroaniline	1700.	U
131-11-3	Dimethylphthalate	330.	U
208-96-8	Acenaphthylene	330.	U
606-20-2	2,6-Dinitrotoluene	330.	U
99-09-2	3-Nitroaniline	1700.	U
83-32-9	Acenaphthene	330.	U
51-28-5	2,4-Dinitrophenol	1700.	U
100-02-7	4-Nitrophenol	1700.	U
132-64-9	Dibenzofuran	330.	U

*** Validation Complete ***

PENSACOLA SITE 40
PENSACOLA, SITE 40, PHASE III SAMPLING

SVOA

SAMPLE ID ------->	040-J-4006-01
ORIGINAL ID ----->	040J400601
LAB SAMPLE ID --->	S775281*1
ID FROM REPORT -->	040J400601
SAMPLE DATE ----->	09/08/97
DATE EXTRACTED -->	09/23/97
DATE ANALYZED --->	09/26/97
MATRIX ---------->	Soil
UNITS ---------->	UG/KG

CAS #	Parameter	PEN15	VAL
121-14-2	2,4-Dinitrotoluene	330.	U
84-66-2	Diethylphthalate	330.	U
7005-72-3	4-Chlorophenylphenyl ether	330.	U
86-73-7	Fluorene	330.	U
100-01-6	4-Nitroaniline	1700.	U
534-52-1	2-Methyl-4,6-Dinitrophenol	1700.	U
86-30-6	N-Nitrosodiphenylamine	330.	U
101-55-3	4-Bromophenyl-phenylether	330.	U
118-74-1	Hexachlorobenzene	330.	U
87-86-5	Pentachlorophenol	1700.	U
85-01-8	Phenanthrene	330.	U
120-12-7	Anthracene	330.	U
86-74-8	Carbazole	330.	U
84-74-2	Di-n-butylphthalate	330.	U
206-44-0	Fluoranthene	330.	U
129-00-0	Pyrene	330.	U
85-68-7	Butylbenzylphthalate	330.	U
91-94-1	3,3'-Dichlorobenzidine	660.	U
56-55-3	Benzo(a)anthracene	330.	U
218-01-9	Chrysene	330.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	330.	U
117-84-0	Di-n-octylphthalate	330.	U
205-99-2	Benzo(b)fluoranthene	330.	U
207-08-9	Benzo(k)fluoranthene	330.	U
50-32-8	Benzo(a)pyrene	330.	U
193-39-5	Indeno(1,2,3-cd)pyrene	330.	U
53-70-3	Dibenz(a,h)anthracene	330.	U
191-24-2	Benzo(g,h,i)perylene	330.	U

*** Validation Complete ***

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	030301
Date:	March 12, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	Pensacola
Date Sampled:	December 4 - 5, 1995
Number of Samples:	4 Aqueous Sample(s) with 0 MS/MSD(s) 10 Non-aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level III
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Low Concentration Volatiles, Volatiles, Low Concentration Semivolatiles, Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Simpson — 3-13-96

Eugene M. Watson, Vice President — Date

4127 Plaza 94 South · St. Charles, MO 63304
(314) 936-1332 · Fax (314) 936-1335

SDG# 030301

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	LVOA		VOA		LSV		SV		P/P		TAL/C	
041W030301	WATER	X				X				X		X	
041W030401	WATER	X				X				X		X	
041TM00801	WATER	X											
041TM00901	WATER	X											
041M030301	SOIL				X				X		X		X
041M030401	SOIL				X				X		X		X
041M030501	SOIL				X				X		X		X
041M030601	SOIL				X				X		X		X
041M030701	SOIL				X				X		X		X
041M04D101	SOIL				X				X		X		X
041M04D201	SOIL				X				X		X		X
041M04D301	SOIL				X				X		X		X
041M04D401	SOIL				X				X		X		X
041M04D501	SOIL				X				X		X		X
Total Billable Samples	(Water/Soil)	4	0	0	10	2	0	0	10	2	10	2	10

LVOA = CLP Low Volatiles
VOA = CLP Volatiles
LSV = CLP Low Semivolatiles
SV = CLP Semivolatiles
P/P = CLP Pesticide w/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # 030301

A validation was performed on the Volatile Data from SDG 030301. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, FM774, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W030301	acetone
041W030401	2-butanone
	2-hexanone

Method Blanks

Associated blank	Compound	Conc.	Action Level
VBLKFX	acetone	10	100
	methylene chloride	3	30

Samples	Compound	Qualification
041W030301	acetone	U
041W030401		
041W030301	methylene chloride	U

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W030301 041W030401	acetone 2-butanone 2-hexanone	+/-	J/R
041W030301 041W030401	acetone	+	U
041W030301	methylene chloride	+	U

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

SDG # 030301

A validation was performed on the Volatile Data from SDG 030301. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Method Blank

Associated blank	Compound	Concentration	Action Level
VBLKCB	Methylene chloride	3J	30
VBLKCC	methylene chloride	1J	10
VBLKCD	methylene chloride	3J	30
VBLKCE	methylene chloride	2J	20

Method Blank (continued)

Samples	Compound	Qualification
041M030601 041M030701 041M04D101 041M04D401 041M04D201	methylene chloride	U
041M030301 041M030401 041M030501 041M04D301 041M04D501	methylene chloride	CRQL

Trip Blank

Associated blank	Compound	Concentration	Action Level
040TM00801	acetone	3B	30

Samples	Compound	Qualification
041M030301 041M030401 041M030501 041M030601	acetone	U

System Performance and Overall Assessment

The overall system performance was fair The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M030601	methylene chloride	+	U
041M030701			
041M04D101			
041M04D401			
041M04D201			
041M030301	methylene chloride	+	CRQL
041M030401			
041M030501			
041M04D301			
041M04D501			
041M030301	acetone	+	U
041M030401			
041M030501			
041M030601			

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OlC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # 030301

A validation was performed on the Semivolatile Data from SDG 030301. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicate
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds that were not within %D continuing calibration criteria. All RRFs were within calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, DJ132, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041W030301	3-nitroaniline

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W030301	3-nitroaniline	+/-	J/UJ

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # 030301

A validation was performed on the Semivolatile Data from SDG 03031. The data was evaluated based on the following parameters.

*	•	Data Completeness
	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Holding Times

The following sample exceeded the method analysis holding time criteria of forty (40) days from date of sample extraction. Qualifications are required.

Specific Find:

040M04D401 exceeded holding time by four (4) days. Qualify all positive results as estimated (J).

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within %D and RRF continuing calibration criteria. Qualifications are required.

Specific Finding:

The continuing calibration, AJ105, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041M030401	2,4-dinitrophenol (64.9%)

The continuing calibration, DJ195, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041M030501	2,4-dinitrophenol (53.0%)
041M030601	4-nitrophenol (52.5%)
041M30701	4-nitroaniline (56.5%)
041M04D501	carbazole (51.2%)
041M04D301	
041M04D101	
041M04D201	

The continuing calibration, IF878, contained compounds with %Ds greater than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

041M030301	4-chloroaniline (221.7%)

Method Blanks

Associated blank	Compound	Concentration	Action Level
SBLKIN	bis(2ethylhexyl)phthalate	33J	330

Samples	Compound	Qualification
041M030301	bis(2ethylhexyl)phthalate	CRQL

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
040M04D401	All analytes	+	J
041M030401	2,4-dinitrophenol (64.9%)	+/-	J/UJ
041M030501 041M030601 041M30701 041M04D501 041M04D301 041M04D101 041M04D201	2,4-dinitrophenol (53.0%) 4-nitrophenol (52.5%) 4-nitroaniline (56.5%) carbazole (51.2%)	+/-	J/UJ
041M030301	4-chloroaniline (221.7%)	+/-	J/R
041M030301	bis(2ethylhexyl)phthalate	+	CRQL

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.9 Method; the National Functional Guidelines for Organic Data Validation, June 1991; and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # 030301

A validation was performed on the Pesticide/Aroclor Data from SDG 030301. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Initial Calibrations

The initial calibrations that were analyzed by the laboratory for these samples were not acceptably linear for all compounds.

Initial Calibrations, Continued

Specific Findings

The initial calibration of 1/11/96 contained compounds with %RSDs greater than 20%. For the samples and the non-compliant compound listed below, all positive results are qualified as estimated, J, and all non-detect results are qualified as estimated, UJ.

All samples	Alpha-BHC (20.2%/21.0%) Delta-BHC (21.2%/21.1%)

Surrogate Recoveries

Several samples exhibited non-compliant TCX and/or DCB recoveries.

Specific Finding

The samples listed below exhibited low TCX and/or DCB recoveries. The positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

Sample ID	Surrogate	% Recovery
041M030301	DCB-1	29%
041M04D101	TCX-1/DCB-2	21%/28%
041M04D201	DCB-1/DCB-2	24%/20%

The sample listed below exhibited a high TCX recovery. The positive results are qualified as estimated, J.

Sample ID	Surrogate	% Recovery
041M04D301	TCX-1	238%

Analyte Identification/Quantitation

Four (4) samples required dilution to accurately quantitate target compounds. Several samples exhibited column quantitation %Ds greater than 25%.

Specific Findings

For the following samples and compounds, the results from the original analysis are replaced with the corresponding results from the dilution analysis. All other results from the dilution are rejected, UR, in favor of the results reported from the undiluted analysis.

041M030601	4,4'-DDD
041M04D101	Delta-BHC
041M04D401	4,4'-DDE
	4,4'-DDD
041M04D201	4,4'-DDE
	4,4'-DDD

The positive results reported in all samples which exhibited column quantitation differences greater than 25% are qualified as estimated, J.

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 30% of the data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

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R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
ALL SAMPLES	Alpha-BHC Delta-BHC	+/-	J/UJ
041M030301 041M04D101 041M04D201	ALL	+/-	J/UJ
041M04D301	ALL	+	J
041M030601	4,4'-DDD	+	D
041M04D101 041M04D401	Delta-BHC 4,4'-DDE 4,4'-DDD	+	D
041M04D201	4,4'-DDE 4,4'-DDD	+	D
041M030601DL 041M04D101DL 041M04D401DL 041M04D201DL	ALL OTHERS	+/-	UR
ALL	ALL P >25%	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # 030301

A validation was performed on the Metals Data from SDG 030301. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
*	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Aluminum	3.07 mg/kg	no impact
Calcium	6.60 mg/kg	no impact
Copper	0.46 mg/kg	all soil samples below 2.3 mg/kg
Aluminum	29.6 ug/l	no impact

Calcium	44.2 ug/l	no impact
Sodium	107 ug/l	no impact
Thallium	3.52 ug/l	all water samples below 17.6 ug/l

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U". The field or DI water blanks exhibited contamination but had no impact on the data.

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Sodium	-7.78 mg/kg	no impact

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Matrix Spike Recovery

Specific Finding

The Matrix Spike recovery for soils for Silver (67%) was below the lower control limits. All positive and non-detect results are qualified as estimated, "J" or "UJ".

The Matrix Spike recovery for soils for Selenium was above the upper control limits. All positive results are qualified as estimated, "J".

Laboratory Duplicate Analysis

Specific Finding

The laboratory RPD for Aluminum was not greater than 35% and for Selenium was not greater than 2 times the CRDL will not be qualified.

Serial Dilution

Specific Finding

The Serial Dilution for soils for Manganese was outside the control limits. All positive results are qualified as estimated, "J".

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	041W030401	77
Antimony	041M030301	82
Antimony	041M030701	71

The post digestion spike recovery for GFAA was above the upper control limits. All positive results for the listed samples below are qualified as estimated, "J".

Element	Sample IDs	% recoveries
Antimony	041M030601	129
Antimony	041M04D101	130
Antimony	041M04D401	117

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
All soil samples below 2.30 mg/kg	Cu.	+	U
all water samples below 17.6 ug/l	Tl.		
all soil samples	Ag.	+/U	J/UJ
all soil samples	Se.	+	J
all soil samples	Mn.	+	J
041W030401, 041M030301, AND 041M030701.	Sb.	+/U	J/UJ
041M030601, 041M04D101 AND 041M04D401.	Sb.	+	J
All "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	041M10
Date:	February 14, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	NAS Pensacola; Site 40 & 41
Date Sampled:	November 27, 1995
Number of Samples:	4 Aqueous Sample(s) with 0 MS/MSD(s) 12 Non-aqueous Sample(s) with 1 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level IV
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Low Volatiles, Volatiles, Low Semivolatiles, Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig H. Sempson — 3-4-96

Eugene M. Watson, Vice President — Date

6716 Mexico Road · St. Peters, MO 63376
(314) 928-9533 · (314) 278-1828 · Fax (314) 278-2709

SDG# 041M10

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	LVOA		VOA		LSV		SV		P/P		TAL/C	
040TM01601	WATER	X											
041W130101	WATER	X				X				X		X	
041W5A0501	WATER	X				X				X		X	
041TM00401	WATER	X											
040MZ31301	SOIL				X				X		X		X
040MZ31501	SOIL				X				X		X		X
040MZ31901	SOIL				X				X		X		X
040MZ32001	SOIL				X				X		X		X
040MZ32101	SOIL				X				X		X		X
040MZ32201	SOIL				X				X		X		X
040MZ32301	SOIL				X				X		X		X
040NZ32301	SOIL				X				X		X		X
040MZ32401	SOIL				X				X		X		X
041M10A301	SOIL				X				X		X		X
041M130101	SOIL				X				X		X		X
041M5A0501	SOIL				X				X		X		X
Total Billable Samples (Water/Soil)		4	0	0	12	2	0	0	12	2	12	2	12

LVOA = CLP Low Volatiles
VOA = CLP Volatiles
LSV = CLP Low Semivolatiles
SV = CLP Semivolatiles
P/P = CLP Pesticide/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

SDG # 041M10

A validation was performed on the Volatile Data from SDG 041M10, low concentration. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, FM505, contained compounds with %Ds greater than 25%, but less than 50%, and RRF less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

041W130101	acetone
041W5A0501	2-butanone
040TM01601	
041TM00401	

The continuing calibration, FM295, contained compounds with %Ds greater than 25%, but less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J).

040TM01601	methylene chloride
041TM00401	

Method Blank

Associated blank	Compound	Concentration
VBLKFQ	acetone	5

Samples	Compound	Qualification
041W130101 041W5A0501	acetone	U

Trip Blank

Associated blank	Compound	Concentration
041TM00401	methylene chloride	8

Samples	Compound	Qualification
041W130101 041W5A0501	methylene chloride	U

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W130101 041W5A0501 040TM01601 041TM00401	acetone 2-butanone	+/-	J/R
040TM01601 041TM00401	methylene chloride	+	J
041W130101 041W5A0501	acetone	+	U
041W130101 041W5A0501	methylene chloride	+	U

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QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # 041M10

A validation was performed on the Volatile Data from SDG 041M10. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Internal Standards

All internal standard EICP areas did not meet the internal standard EICP area QA/QC criteria.

Specific Finding:

The Samples listed below, exhibited low internal standard areas. Qualify all associated positive results as estimated (J) and all non detects as estimated(UJ).

041M5A0501RE chlorobenzene-d_5

Internal Standards (continued)

Specific Finding:

The Samples listed below, exhibited low internal standard areas. Qualify all associated positive results as estimated (J) and all non detects as estimated(UJ).

040MZ31901	chlorobenzene-d_5
041M5A0501	bromochloromethane
041MZ31901RE	1,4-difluorobenzene
	chlorobenzene-d_5

Method Blank

Associated blank	Compound	Concentration
VBLKCW	methylene chloride	2J
VBLKCX	methylene chloride	4J
VBLKCY	methylene chloride	4J
VBLKCA	methylene chloride	2J

Samples	Compound	Qualification
040MZ31501 040MZ32301 040M32001 040M32201 040MZ32301	methylene chloride	CRQL
040MZ32101 041M10A301 041M130101 041M5A501RE 040M32401 040MZ31901 040MZ31901RE	methylene chloride	U

Trip Blank

Associated blank	Compound	Concentration
040TM01601	methylene chloride	7
	Acetone	23
041TM00401	acetone	10

Samples	Compound	Qualification
040MZ32201 040MZ32401	acetone	CRQL
040MZ32301 040NZ32301 040MZ31901 040MZ31901RE 040MZ32001 041M10A301 041M130101 041M5A0501 041M5A0501RE	acetone	U
040MZ31301	methylene chloride	CRQL

Compound Identification /Quantitation

Reject samples 041M5A0501 and 040MZ31901RE, in favor of 041M5A0501RE and 040MZ31901, due to non compliant internal standard area recoveries.

System Performance and Overall Assessment

The overall system performance was fair The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

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J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
040MZ31901	All associated analytes chlorobenzene-d_5	+/-	J/UJ
040MZ31501 040MZ32301 040M32001 040M32201 040MZ32301	methylene chloride	+	CRQL
040MZ32101 041M10A301 041M130101 041M5A501RE 040M32401 040MZ31901	methylene chloride	+	U
040MZ32201 040MZ32401	acetone	+	CRQL
040MZ32301 040NZ32301 040MZ31901 040MZ32001 041M10A301 041M130101 041M5A0501RE	acetone	+	U
040MZ31301	methylene chloride	+	CRQL
041M5A0501 040MZ31901RE	All analytes	+/-	R

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QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OLC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # 041M10

A validation was performed on the Semivolatile Data from SDG 041M10, low concentration. The data was evaluated based on the following parameters.

*	•	Data Completeness
	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Holding Times

The following water sample, 041W130101, exceeded the method holding time of 7 days by 10 days. Qualify all positive results as estimated (J) and all non detects as estimated (UJ).

Continuing Calibrations

The continuing calibrations that were analyzed all of the criteria and non criteria compounds met requirements for RRFs. Qualifications are required for compounds with non compliant %Ds.

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ANALYSIS

Continuing Standards (continued)

Specific Finding:

The continuing calibration, DJ132, contained compounds with %Ds greater than 25% D but less than 50% D. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041W130101 3-nitroaniline

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that none of the data requires qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W130101	All analytes	+/-	J/UJ
041W130101	3-nitroaniline	+/-	J/UJ

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QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OLC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # 041M10

A validation was performed on the Semivolatile Data from SDG 041M10. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing Calibrations

The continuing calibrations that were analyzed all of the criteria and non criteria compounds did not met requirements for RRFs and %D. Qualifications are required.

Continuing Standards (continued)

Specific Finding:

The continuing calibration, DI973, contained compounds with %Ds greater than 50% D but less than 90% D. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041MZ32401	carbazole

The continuing calibration, DI973, contained compounds with %Ds greater than 25% D but less than 50% D. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J).

041MZ32401	fluorene
	benzo(b)fluoranthene

The continuing calibration, JF804, contained compounds with %Ds greater than 50% D but less than 90% D. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041M10A301	di-n-octylphthalate
041M130101	
041M5A0501	
040MZ31501	
040MZ31901	
040MZ32001	
040MZ32101	
040MZ32201	
040MZ32301	
040NZ32301	

Continuing Standards (continued)

Specific Finding:

The continuing calibration, JF804, contained compounds with %Ds greater than 25% D but less than 50% D. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J).

040MZ31501	bis(2-ethylhexyl)phthalate
040MZ31901	
040MZ32001	
040MZ32101	
040MZ32201	
040MZ32301	
040NZ32301	
041M10A301	
041M130101	
041M5A0501	

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that none of the data requires qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041MZ32401	carbazole	+/-	J/UJ
041MZ32401	fluorene benzo(b)fluoranthene	+	J
041M10A301 041M130101 041M5A0501 040MZ31501 040MZ31901 040MZ32001 040MZ32101 040MZ32201 040MZ32301 040NZ32301	di-n-octylphthalate	+/-	J/UJ
040MZ31501 040MZ31901 040MZ32001 040MZ32101 040MZ32201 040MZ32301 040NZ32301 041M10A301 041M130101 041M5A0501	bis(2-ethylhexyl)phthalate	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results this report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.8 Method; the National Functional Guidelines for Organic Data Validation, June 1991, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # 041M10

A validation was performed on the Pesticide/Aroclor Data from SDG 041M10. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
*	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Surrogate Recoveries

Nine (9) samples required qualification due to non-compliant surrogate recoveries. One (1) of the samples exhibited recoveries below 10%.

Specific Findings

The following sample exhibited surrogate recoveries below 10%. All positive results are qualified as estimated, J, and all non-detect results are rejected, R.

041W130101

Surrogate Recoveries, continued

Specific Findings, continued

The following samples exhibited TCMX recoveries below the QC limit. All positive and non-detect results reported in the sample are qualified as estimated, J/UJ.

040MZ31301
040MZ32001
040MZ32101
041MZ32201
041MZ32401
040NZ32301
041M130101
041M5A0501

Field Duplicates

The field duplicate pair of sample 040MZ32301/040NZ32301 exhibited non-compliant precision results for the two (2) compounds reported above the compound CRQLs.

Specific Finding

The noted compounds in the following field duplicate pair exhibited non-compliant field duplicate precision. The reported positive results are qualified as estimated, J.

040MZ32301	4,4'-DDE
040NZ32301	AR1260

Compound Identification/Quantitation

Several reported results exhibited P flags due to column quantitation %Ds greater than 25%. Single component compounds in samples with reported aroclors should be considered suspect. The Form Is submitted by the laboratory indicated incorrect Concentrated Final Volumes for all samples. The laboratory indicated that the software limitation would not accommodate the correct final volume. The samples were to be calculated based on a final volume of 1.0 ml. Based on this information, calculation verification was possible. Supporting documentation explaining the discrepancy has been received. One sample required dilution to accurately quantitate target compounds.

Compound Identification, continued

Specific Findings

All positive results exhibiting P flags are qualified as estimated, J, due to column quantitation %Ds greater than 25%.

For the following sample, the compounds AR1260 and 4,4'-DDE are reported from the dilution analysis. All other compounds in the dilution analysis are rejected, UR.

041M5A0501

Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 5% of data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W130101	All compounds	+/-	J/R
040MZ31301 040MZ32001 040MZ32101 041MZ32201 041MZ32401 040NZ32301 041M130101 041M5A0501	All compounds	+/-	J/UJ
040MZ32301 040NZ32301	4,4'-DDE AR1260	+	J
041M5A0501	AR1260 4,4'-DDE	+	R
041M5A0501DL	All except D flagged corrsponding results	+/-	UR
All	All P flagged results	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # 041M10

A validation was performed on the Metals Data from SDG 041M10. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
	•	Matrix Duplicates
	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Calcium	3.06 mg/kg	no impact
Thallium	3.42 ug/l	no impact

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U". The field or DI water blanks exhibited contamination but had no impact on the data.

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Sodium	-21.0 mg/kg	no impact
Beryllium	-1.33 ug/l	all water samples
Iron	-6.16 ug/l	no impact
Potassium	-144. ug/l	no impact
Sodium	-81.1 ug/l	no impact

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Matrix Spike Recovery

Specific Finding

Tha Matrix Spike recovery for soils for Antimony was below 30%. All non-detect results are rejected and all positive results are qualified as estimated, "J".

The Matrix Spike recoveries for soils for Selenium, Thallium and Silver were below the lower control limits. All positive and non-detect results are qualified as estimated, "J" or "UJ".

Duplicate Analysis

Specific Finding

The Duplicate analyses for soils for Calcium and Lead were outside the control limits. All positive results are qualified as estimated, "J". The RPDs for Aluminum and Copper were below 35% and will not be qualified. The field duplicate for Calcium was greater than 50%. All positive results are qualified as estimated, "J".

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	040MZ31501	84
Antimony	040MZ31901	52
Antimony	040MZ32001	66
Antimony	040MZ32101	71

Antimony	041MZ32201	67
Antimony	041MZ32301	62
Antimony	041NZ32301	70

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
all water samples	Be.	+/U	J/UJ
all soil samples	Sb.	+	J
		U	R
all soil samples	Se, Ag and Tl.	+/U	J/UJ
all soil samples	Ca and Pb.	+	J
040MZ31501, 901, 32001, 32101, 201, 301 and NZ32301.	Sb.	+/U	J/UJ
All "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	5A0101
Date:	February 14, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	NAS Pensacola; Site 41
Date Sampled:	November 16, 1995
Number of Samples:	8 Aqueous Sample(s) with 1 MS/MSD(s) 17 Non-aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level IV
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Low Volatiles, Volatiles, Low Semivolatiles, Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig H. Sexton
Eugene M. Watson, Vice President

3-4-96
Date

4127 Plaza 94 South · St. Charles, MO 63304
(314) 936-1332 · Fax (314) 936-1335

SDG# 5A0101

Samples and Fractions Reviewed

Sample Identifications • Analytical Fractions

Ensafe ID	Matrix	LVOA		VOA		LSV		SV		P/P		TAL/CN	
041W061001	WATER	X				X				X		X	
041W5A0101	WATER	X				X				X		X	
041W5A0201	WATER	X				X				X		X	
041W5A0401	WATER	X				X				X		X	
041W5A0701	WATER	X				X				X		X	
041M060501	SOIL				X				X		X		X
041M060601	SOIL				X				X		X		X
041M061001	SOIL				X				X				X
041M061101	SOIL				X				X		X		X
041M5A0101	SOIL				X				X		X		X
041M5A0201	SOIL				X				X		X		X
041M5A0301	SOIL				X				X		X		X
041M5A0401	SOIL				X				X		X		X
041M5A0701	SOIL				X				X		X		X
041M641001	SOIL				X				X		X		X
041M641101	SOIL				X				X		X		X
041M641301	SOIL				X				X		X		X
041M641401	SOIL				X				X		X		X
041M641601	SOIL				X				X		X		X
041M641701	SOIL				X				X		X		X
041M642001	SOIL				X				X		X		X
041M642101	SOIL				X				X		X		X
041TM00201	WATER			X									
041TM00202	WATER			X									
041TM00203	WATER			X									
Total Billable Samples (Water/Soil)		5	0	3	17	5	0	0	17	5	16	5	17

LVOA = CLP Low Volatiles
VOA = CLP Volatiles
LSV = CLP Low Semivolatiles
SV = CLP Semivolatiles
P/P = CLP Pesticide/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

SDG # 5A0101

A validation was performed on the Volatile Data from SDG 5A0101, low concentration. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, FM362, contained compounds with %Ds greater than 25%, but less than 50%, and RRF less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

041W5A0101	acetone
041W5A0201	2-butanone
041W5A0401	
041W5A0701	
041W061001	

Method Blank

Associated blank	Compound	Concentration
VBLKFG	acetone	7

Samples	Compound	Qualification
041W061001	acetone	U
041W5A0101		
041W5A0201		
041W5A0401		
041W5A0701		

Trip Blank

Associated blank	Compound	Concentration
041TM00203	methylene chloride	10

Samples	Compound	Qualification
041W061001	methylene chloride	U
041W5A0101		

Trip Blank (continued)

Associated blank	Compound	Concentration
041TM00203	methylene chloride	10

Samples	Compound	Qualification
041W5A0201 041W5A0401 041W5A0701	methylene chloride	U

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W5A0101	acetone	+/-	J/R
041W5A0201	2-butanone		
041W5A0401			
041W5A0701			
041W061001			
041W061001	acetone	+	U
041W5A0101			
041W5A0201			
041W5A0401			
041W5A0701			
041W061001	methylene chloride	+	U
041W5A0101			
041W5A0201			
041W5A0401			
041W5A0701			

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # 5A0101

A validation was performed on the Volatile Data from SDG 5A0101. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds that were not within continuing calibration criteria. All RRFs were within calibration criteria. Qualifications are required.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, BT652, contained compounds with %Ds greater than 25%, but less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J).

041M5A0101	methylene chloride
041M641401	
041M641601	
041M641701	
041M642001	

Method Blank

Associated blank	Compound	Concentration
VBLKBY	methylene chloride	12
VBLKCQ	methylene chloride	10
VBLKCR	methylene chloride	15
VBLKCS	methylene chloride	13

Samples	Compound	Qualification
041M5A0201	methylene chloride	CRQL
041M5A0301		
041M5A0401		
041M5A0701		
041M641001		
041M641101		
041M060501		
041M060601		
041M061101DL		
041M5A0101DL		

Method Blank (continued)

Samples	Compound	Qualification
041M061101	methylene chloride	U
041M641301		
041M642101		
041M061001		

Compound Identification /Quantitation

Reject E-flagged results for samples, 041M5A0101 and 041M061101, in favor of D-flagged results in diluted samples, 041M5A0101DL and 041M061101DL.

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M5A0101 041M641401 041M641601 041M641701 041M642001	methylene chloride	+	J
041M5A0201 041M5A0301 041M5A0401 041M5A0701 041M641001 041M641101 041M060501 041M060601 041M061101DL 041M5A0101DL	methylene chloride	+	CRQL
041M061101 041M641301 041M642101 041M061001	methylene chloride	+	U
041M5A0101 041M061101	All E-flagged results	+	R
041M5A0101DL 041M061101DL	All analytes except D-flagged results	+	R

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OLC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # 5A0101

A validation was performed on the Semivolatile Data from SDG 5A0101, low concentration. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that none of the data requires qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OLC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # 5A0101

A validation was performed on the Semivolatile Data from SDG 5A0101. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing Calibrations

The continuing calibrations that were analyzed all of the criteria and non criteria compounds did not met requirements for RRFs and %D. Qualifications are required.

Continuing Standards (continued)

Specific Finding:

The continuing calibration, AI739, contained compounds with %Ds greater than 50% D but less than 90% D. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041M642101	4-chloroaniline
041M5A0201	
041M5A0301	
041M641401	
041M5A0101	
041M641601	
041M640101	

The continuing calibration, IF423, contained compounds with %Ds greater than 50% D but less than 90% D. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041M5A0701	hexachlorocyclopentadiene
	2,4-dinitrophenol
	4-nitroaniline
	3,3'-dichlorobenzidine

The continuing calibration, IF423, contained compounds with %Ds greater than 25% D and RRFs less than 0.050. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

041M5A0701	2,2'-oxybis(1-chloropropane)
	3-nitroaniline

Method Blank

Associated blank	Compound	Concentration
SBLKAI	bis(2-ethylhexyl)phthalate	82J
SBLKJF	bis(2-ethylhexyl)phthalate	140J

Samples	Compound	Qualification
041M5A0101 041M5A0201 041M5A0301 041M5A0401 041M641401 041M641601 041M642101 041M060501 041M060601 041M061001 041M641701 041M642001	bis(2-ethylhexyl)phthalate	CRQL
041M640101 041M061101 041M641101 041M641301	bis(2-ethylhexyl)phthalate	U

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that none of the data requires qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M642101 041M5A0201 041M5A0301 041M641401 041M5A0101 041M641601 041M640101	4-chloroaniline	+/-	J/UJ
041M5A0701	hexachlorocyclopentadiene 2,4-dinitrophenol 4-nitroaniline 3,3'-dichlorobenzidine	+/-	J/UJ
041M5A0701	2,2'-oxybis(1-chloropropane) 3-nitroaniline	+/-	J/R
041M5A0101 041M5A0201 041M5A0301 041M5A0401 041M641401 041M641601 041M642101 041M060501 041M060601 041M061001 041M641701 041M642001	bis(2-ethylhexyl)phthalate	+	CRQL
041M640101 041M061101 041M641101 041M641301	bis(2-ethylhexyl)phthalate	+	U

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results this report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.8 Method; the National Functional Guidelines for Organic Data Validation, June 1991, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # 5A0101

A validation was performed on the Pesticide/Aroclor Data from SDG 5A0101. The data was evaluated based on the following parameters:

- * Data Completeness
- * Holding Times
- * GC Performance
- * Calibration
- Blanks
- Surrogate Recoveries
- * Matrix Spike/Matrix Spike Duplicates
- * GPC and Florisil Clean-up Procedures
- * Field Duplicates
- * Compound Identification
- Compound Quantitation

* - All criteria were met for this parameter.

Method Blanks

One (1) method blank exhibited contamination for two (2) target compounds.

	PBLK02
α-BHC	0.11 μg/Kg
Endosulfan I	0.13 μg/Kg

Method Blanks, continued

Specific Finding

Samples	Compound	Qualification
041M060501 041M060601 041M5A0701 041M641101 041M641701 041M642001 041M642101	α-BHC	U
041M5A0201 041M5A0401 041M641601 041M641701 041M642001 041M642101	endosulfan I	U

Surrogate Recoveries

Five (5) samples required qualification due to non-compliant surrogate recoveries.

Specific Findings

The following sample exhibited a TCMX recovery below the QC limit. All positive and non-detect results reported in the sample are qualified as estimated, J/UJ.

041M5A0101
041M5A0201
041M5A0301
041M5A0401
041M641301

Compound Identification/Quantitation

One (1) sample required dilution to accurately quantitate target compounds. Several reported results exhibited P flags due to column quantitation %Ds greater than 25%. Single component compounds in samples with reported aroclors should be considered suspect. The Form Is submitted by the laboratory indicated incorrect Concentrated Final Volumes for all samples. The laboratory indicated that the software limitation would not accommodate the correct final volume. The samples were to be calculated based on a final volume of 1.0 ml. Based on this information, calculation verification was possible. Supporting documentation explaining the discrepancy has been received.

Specific Findings

All positive results exhibiting P flags are qualified as estimated, J, due to column quantitation %Ds greater than 25%.

For the following sample, the E flagged results are rejected in favor of the D flagged results reported from the dilution analysis. In the dilution analysis all other results are rejected, UR, in favor of the results reported from the undiluted analysis.

041M60601

Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 5% of data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M060501 041M060601 041M5A0701 041M641101 041M641701 041M642001 041M642101	α-BHC	+B	U
041M5A0201 041M5A0401 041M641601 041M641701 041M642001 041M642101	endosulfan I	+B	U
041M5A0101 041M5A0201 041M5A0301 041M5A0401 041M641301	All Compounds	+/-	J/UJ
041M60601	All E flagged results	+E	R
041M60601DL	All except corresponding D flagged results	+/-	UR
All	All P flagged results	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # 5A0101

A validation was performed on the Metals Data from SDG 5A0101. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
*	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Barium	0.14 mg/kg	041M642101
Calcium	17.4 mg/kg	no impact
Copper	0.56 mg/kg	041M061001
Iron	3.96 mg/kg	no impact
Lead	0.13 mg/kg	no impact

Zinc	0.62 mg/kg	no impact
Aluminum	23.4 ug/l	no impact
Barium	1.19 ug/l	no impact
Calcium	134. ug/l	no impact
Copper	6.86 ug/l	all water samples
Iron	22.1 ug/l	no impact
Manganese	1.09 ug/l	no impact
Sodium	76.1 ug/l	no impact
Vanadium	3.38 ug/l	all water samples
Zinc	11.4 ug/l	all water samples

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U". The field or DI water blanks exhibited contamination but had no impact on the data.

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Cobalt	-0.49 mg/kg	all soil samples
Cobalt	-5.88 ug/l	all water samples

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Matrix Spike Recovery

Specific Finding

The Matrix Spike recovery for waters for Antimony was below the lower control limits. All positive and non-detect results are qualified as estimated, "J" or "UJ".

The Matrix Spike recovery for waters for Lead was above the upper control limits. All positive results are qualified as estimated, "J".

Serial Dilution

Specific Finding

The Serial Dilution for waters for Iron and Magnesium were outside the control limits. All positive results are qualified as estimated, "J".

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	041W5A0101	70
Antimony	041W5A0401	72
Antimony	041W5A0701	77
Antimony	041W061001	66
Antimony	041M641001	68
Antimony	041M41101	67
Antimony	041M5A0201	25
Antimony	041M5A0701	16
Antimony	041M641301	48
Antimony	041M642001	49
Antimony	041M642101	53
Antimony	041M060501	60
Antimony	041M060601	40
Antimony	041M641401	63
Antimony	041M061101	61
Antimony	041M5A0401	67

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
041M642101	Ba.	+	U
041M061001	Cu.		
all water samples	Cu, V and Zn.		
all soil and water samples	Co.	+/U	J/UJ
all water samples	Sb.	+/U	J/UJ
all water samples	Pb.	+	J
all water samples	Fe and Mg.	+	J
all samples	Sb.	+/U	J/UJ
All "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	63A401
Date:	March 29, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	Pensacola
Date Sampled:	January 17 - 18, 1996
Number of Samples:	7 Aqueous Sample(s) with 0 MS/MSD(s) 9 Non-aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level IV
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Volatiles, Low Concentration Volatiles, Semivolatiles, Low Concentration Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig H. Sergeson

for Eugene M. Watson, Vice President

4-1-96

Date

4127 Plaza 94 South St Charles, MO 63304
(314) 936-1332 Fax (314) 936-1335

SDG# 63A401

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	VOA		LVOA		SV		LSV		P/P		TAL/CN	
041M010101	SOIL		X				X				X		X
041M010201	SOIL		X				X				X		X
041M010301	SOIL		X				X				X		X
041M010401	SOIL		X				X				X		X
041M63A401	SOIL		X				X				X		X
041M63A501	SOIL		X				X				X		X
041M63B101	SOIL		X				X				X		X
041M63B201	SOIL		X				X				X		X
041M63B301	SOIL		X				X				X		X
041W010301	WATER			X				X		X		X	
041W190101	WATER			X				X		X		X	
041W190301	WATER			X				X		X		X	
041W63A201	WATER			X				X		X		X	
010W63B201	WATER			X				X		X		X	
041TM01701	WATER			X									
041TM01801	WATER			X									
Total Billable Samples (Water/Soil)		0	9	7	0	0	9	5	0	5	9	5	9

VOA = CLP Volatiles
LVOA = CLP Low Concentration Volatiles
SV = CLP Semivolatiles
LSV = CLP Low Concentration Semivolatiles
P/P = CLP Pesticide/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # 63A401

A validation was performed on the Volatile Data from SDG 63A401. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, BU497, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041M63A401	acetone (61.9%)
040M63A501	

Internal Standards

All internal standard EICP areas did not meet the internal standard EICP area QA/QC criteria.

Specific Finding:

The Samples listed below, exhibited low internal standard areas. Qualify all associated positive results as estimated (J) and all non detects as estimated (UJ).

041M010201RE	1,4-difluorobenzene chlorobenzene-d_5
041M010301	chlorobenzene-d_5
041M010101RE	

Blanks

The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria to field samples.

DATA ASSESSMENT AND NARRATIVE

VOLATILE ANALYSIS

Method Blank

Associated blank	Compound	Concentration	Action Level
VBLKBZ	methylene chloride	3J	30
VBLKGK	methylene chloride	2J	20
	Acetone	4J	40

Samples	Compound	Qualification
041M010301	methylene chloride	CRQL
041M010401		
041M63B101		
041M63B201		
041M63B301		
041M010101RE		
041M010201RE		
041M010101RE	acetone	U

Trip Blank

Associated blank	Compound	Concentration	Action Level
041TM01701	acetone	14	140
041TM01801	methylene chloride	3	3J
	Acetone	46	460

Trip Blank (continued)

Samples	Compound	Qualification
041M010301 041M010401 041M63B201 041M63B301	acetone	U
041M63A401 041M63A501	acetone	CRQL
041M63A401 041M63A501	methylene chloride	CRQL

Compound Identification /Quantitation

Reject samples 041M010101, 041M010201, and 041M010301RE, in favor of 041M010101RE, 041M01201RE, and 041M010301, due to non compliant internal standard area recoveries.

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 10% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M63A401 040M63A501	acetone	+/-	J/UJ
041M010201RE	All associated analytes 1,4-difluorobenzene chlorobenzene-d_5	+/-	J/UJ
041M010301 041M010101RE	chlorobenzene-d_5		
041M010301 041M010401 041M63B101 041M63B201 041M63B301 041M010101RE 041M010201RE	methylene chloride	+	CRQL
041M010101RE 041M010301 041M010401 041M63B201 041M63B301	acetone	+	U
041M63A401 041M63A501	acetone	+	CRQL
041M63A401 041M63A501	methylene chloride	+	CRQL
041M010101 041M010201 041M010301RE	all analytes	+/-	R

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # 63A401

A validation was performed on the Volatile Data from SDG 63A401. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, FN448, contained compounds with %Ds that were greater than 50% but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041W63A201	chloromethane (-58.2)
041W63B201	
041W010301	

The continuing calibration, FN448, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W63A201	acetone (47.4)
041W63B201	2-butanone
041W010301	

The continuing calibration, FN469, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W190301	acetone (47.4)
	2-butanone

The continuing calibration, FN492, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W190101	acetone (57.9)
	2-butanone

Method Blanks

Associated blank	Compound	Conc.	Action Level
VBLKFM	acetone	6	60
VBLKFN	acetone	5	50
VBLKFO	acetone	7	70

Samples	Compound	Qualification
041W010301	acetone	U
041W63A201		
041W63B201		
041W190301		
041W190101		

Trip Blank

Associated blank	Compound	Conc.	Action Level
041TM01701	methylene chloride	4	40
	acetone	14	140

Samples	Compound	Qualification
041W010301	methylene chloride	U
041W63A201		
041W63B201		
041W190301		
041W190101		

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W63A201 041W63B201 041W010301	chloromethane (-58.2)	+/-	J/UJ
041W63A201 041W63B201 041W010301	acetone (47.4) 2-butanone	+/-	J/R
041W190301	acetone (47.4) 2-butanone	+/-	J/R
041W190101	acetone (57.9) 2-butanone	+/-	J/R
041W010301 041W63A201 041W63B201 041W190301 041W190101	acetone	+	U
041W010301 041W63A201 041W63B201 041W190301 041W190101	methylene chloride	+	U

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # 63A401

A validation was performed on the Semivolatile Data from SDG 63A401. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that none of the data requires qualification.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OLC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # 63A0401

A validation was performed on the Semivolatile Data from SDG 63A0401. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicate
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL

No qualifications are required.

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.9 Method; the National Functional Guidelines for Organic Data Validation, June 1991; and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # 63A401

A validation was performed on the Pesticide/Aroclor Data from SDG 63A401. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
*	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Surrogate Recoveries

Six (6) samples exhibited non-compliant TCX and/or DCB recoveries.

Surrogate Recoveries, Continued

Specific Finding

The samples listed below exhibited low TCX recoveries. The positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

Sample ID	Surrogate	% Recovery
041M010101	TCX-1	22%
041M010201	TCX-1	13%
	TCX-2	20%
041M010301	TCX-1	21%
041M63A401	TCX-1	26%

The samples listed below did not exhibit a DCB recovery. The positive results are qualified as estimated, J, and the non-detect results are rejected, R.

Sample ID	Surrogate	% Recovery
041M010401	DCB-1	0%
	DCB-2	166%
041M63B101	TCX-1	24%
	DCB-1	0%

Analyte Identification/Quantitation

Two (2) samples required dilution to accurately quantitate target compounds. Several samples exhibited column quantitation %Ds greater than 25%.

Analyte Identification/Quantitation, Continued

Specific Findings

For the following samples and compounds, the results from the original analysis are replaced with the corresponding results from the dilution analysis. All other results from the dilution are rejected, UR, in favor of the results reported from the undiluted analysis.

041M010301	Aroclor 1260 4,4'-DDD Gamma-Chlordane
041M010401	Aroclor 1260 Alpha-Chlordane 4,4'-DDE 4,4'-DDD 4,4'-DDT Gamma-Chlordane

The positive results reported in all samples which exhibit column quantitation differences greater than 25% are qualified as estimated, J.

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 20% of the data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M010101 041M010201 041M010301 041M63A401	ALL	+/-	J/UJ
041M010401 041M63B101	ALL	+/-	J/R
041M010301	Aroclor 1260 4,4'-DDD Gamma-Chlordane	+	D
041M010401	Aroclor 1260 Alpha-Chlordane 4,4'-DDE 4,4'-DDD 4,4'-DDT Gamma-Chlordane	+	D
041M010301DL 041M010401DL	ALL OTHERS	+/-	UR
ALL	ALL P >25%	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # 63A401

A validation was performed on the Metals Data from SDG 63A401. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Aluminum	14.4 mg/kg	no impact
Calcium	1.90 mg/kg	no impact
Iron	3.90 mg/kg	no impact
Magnesium	2.23 mg/kg	no impact
Sodium	3.64 mg/kg	all soil samples below 18.2 mg/kg

Aluminum	27.2 ug/l	all water samples below 136 ug/l
Sodium	57.6 ug/l	noimpact

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U". The field or DI water blanks exhibited contamination but had no impact on the data.

Matrix Spike Recovery

Specific Finding

The Matrix Spike recovery for soils for Antimony (54%) was below the lower control limits (<75% but >30%). All positive and non-detect results are qualified as estimated, "J" or "UJ".

Laboratory Duplicate Analysis

Specific Finding

The Duplicate analyses for Aluminum (49%) and Calcium (90%) were outside the control limits of 35%. All positive results are qualified as estimated, 'J". The RPD for Iron (22%) was below 35% and will not be qualified.

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	041M63A401	67
Antimony	041M63A501	83
Antimony	041M63B201	41
Antimony	041M63B301	81
Antimony	041M010101	57
Antimony	041W63A201	82
Antimony	041W010301	61
Antimony	041W190301	42
Antimony	041M63B101	47
Antimony	041M190101	39

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
all soil samples below 18.2 mg/kg	Na.	+	U
all water samples below 136 ug/l	Al.		
all soil samples	Sb.	+/U	J/UJ
all soil samples	Al and Ca.	+	J
041M63S401, 63A501, 63B201, 63B301, 010101, 63A201, 010301, 190301,63B101 and W190101.	Sb.	+/U	J/UJ
All "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	640801
Date:	April 10, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	NAS Pensacola
Date Sampled:	February 1 - 9, 1996
Number of Samples:	1 Aqueous Sample(s) with 0 MS/MSD(s) 5 Non-aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively with Region IV Modifications
QA/QC Level:	EPA DQO Level IV
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Low Concentration Volatiles, Volatiles, Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Seaton

Eugene M. Watson, Vice President

5-3-96

Date

4127 Plaza 94 South St Charles, MO 63304
(314) [illegible] Fax (314) 936-1335

SDG# 640801

Samples and Fractions Reviewed

Sample Identifications | Analytical Fractions

Ensafe ID	Matrix	LVOA		VOA		SV		P/P		TAL/CN	
041TM02401	WATER	X									
041M640101	SOIL				X		X		X		X
041M640401	SOIL				X		X		X		X
041M640801	SOIL				X		X		X		X
041M641801	SOIL				X		X		X		X
041M641901	SOIL				X		X		X		X
Total Billable Samples	(Water/Soil)	1	0	0	5	0	5	0	5	0	5

LVOA = CLP Low Volatiles
VOA = CLP Volatiles
SV = CLP Semivolatiles
P/P = CLP Pesticide/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG #640801

A validation was performed on the Volatile Data from SDG 640801. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

System Performance and Overall Assessment

The overall system performance was fair. The data reviewer estimates that none of the data requires qualification.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG #640801

A validation was performed on the Volatile Data from SDG 640801. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, GD599, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041M641901RE	chloroethane (52.4%)

Internal Standards

All internal standard EICP areas did not meet the internal standard EICP area QA/QC criteria. Qualifications are required.

Specific Finding:

The Samples listed below, exhibited low internal standard areas. Qualify all associated positive results as estimated (J) and all non detects as estimated (UJ).

041M641901RE	chlorobenzene-d_5
041M64901	1,4-difluorobenzene chlorobenzene-d_5

Blanks

The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria to field samples.

Method Blank

Associated blank	Compound	Concentration	Action Level
VBLKGS	acetone	4J	40

Method Blank (continued)

Samples	Compound	Qualification
041M640801	acetone	CRQL

Trip Blank

Associated blank	Compound	Concentration	Action Level
041TM02401	methylene chloride	4	40
	Acetone	9	90

Samples	Compound	Qualification
041M640801 041M641801 041M641901	methylene chloride	CRQL
041M640101	acetone	U

Compound Identification /Quantitation

Reject sample 041M641901, in favor of the reanalysis, due to non compliant internal standard area recoveries.

System Performance and Overall Assessment

The overall system performance was fair The data reviewer estimates that less than 10% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

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J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M641901RE	chloroethane	+/-	J/UJ
041M641901RE	All associated analytes chlorobenzene-d_5	+/-	J/UJ
041M64901	1,4-difluorobenzene chlorobenzene-d_5		
041M640801	acetone	+	CRQL
041M640801 041M641801 041M641901	methylene chloride	+	CRQL
041M640101	acetone	+	U
041M641901	all results	+/-	R

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QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # 640801

A validation was performed on the Semivolatile Data from SDG 640801. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicate
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds that were not within %D continuing calibration criteria. All RRFs were within calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, JG481, contained compounds with %Ds greater than 25%, but less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J).

041M640801	pyrene (-31.8) butylbenzylphthalate (-30.2) bis(2-ethylhexyl)phthalate (-29.4)

The continuing calibration, JG481, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041M640801	di-n-octylphthalate (-73.0)

The continuing calibration, JG502, contained compounds with %Ds greater than 25%, but less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J).

041M641901	butylbenzylphthalate (-29.0)
041M641801	bis(2-ethylhexyl)phthalate (-39.1)

The continuing calibration, JG534, contained compounds with %Ds greater than 25%, but less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J).

041M640401 041M640101	pyrene (-30.7)

The continuing calibration, JG534, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041M640401 041M640101	2,2'-oxybis(1-chloropropane) (-58.6)

Method Blanks

Associated blank	Compound	Conc.	Action Level
SBLKJU	bis(2-ethylhexyl) phthalate	93J	930

Samples	Compound	Qualification
041M640101 041M640401	bis(2-ethylhexyl) phthalate	CRQL

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M640801	pyrene (-31.8) butylbenzylphthalate (-30.2) bis(2-ethylhexyl)phthalate (-29.4)	+	J
041M640801	di-n-octylphthalate (-73.0)	+/-	J/UJ
041M641901 041M641801	butylbenzylphthalate (-29.0) bis(2-ethylhexyl)phthalate (-39.1)	+	J
041M640401 041M640101	pyrene (-30.7)	+	J
041M640401 041M640101	2,2'-oxybis- (1-chloropropane) (-58.6)	+/-	J/UJ
041M640101 041M640401	bis(2-ethylhexyl) phthalate	+	CRQL

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QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.9 Method; the National Functional Guidelines for Organic Data Validation, June 1991; and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # 640801

A validation was performed on the Pesticide/Aroclor Data from SDG 640801. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Initial Calibrations

The initial calibrations that were analyzed by the laboratory for these samples were not acceptably linear for all compounds.

Initial Calibrations, Continued

Specific Findings

The initial calibration of 2/20/96 contained a compound with a %RSD greater than 20%. For the samples and the non-compliant compound listed below, all positive results are qualified as estimated, J, and all non-detect results are qualified as estimated, UJ.

All samples	Endosulfan II (39.3%)

Surrogate Recoveries

One (1) sample exhibited a non-compliant DCB recovery.

Specific Finding

The sample listed below exhibited a high DCB recovery. The positive results are qualified as estimated, J.

Sample ID	Surrogate	% Recovery
041M640101	DCB-1	475%

Analyte Identification/Quantitation

One (1) sample required dilution to accurately quantitate target compounds. Several samples exhibited column quantitation %Ds greater than 25%.

Specific Findings

For the following sample and compounds, the results from the original analysis are replaced with the corresponding results from the dilution analysis. All other results from the dilution are rejected, UR, in favor of the results reported from the undiluted analysis.

041M640101	Endrin
	4,4'-DDD
	4,4'-DDT

Analyte Identification/Quantitation, Continued

Specific Findings, Continued

The positive results reported in all samples which exhibit column quantitation differences greater than 25% are qualified as estimated, J.

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 30% of the data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
All samples	Endosulfan II	+/-	J/UJ
041M640101	ALL	+	J
041M640101	Endrin 4,4'-DDD 4,4'-DDT	+	D
041M640101DL	ALL OTHERS	+/-	UR
ALL	ALL P >25%	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # 640801

A validation was performed on the Metals Data from SDG 640801. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
*	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Aluminum	2.68 mg/kg	no impact
Calcium	0.76 mg/kg	no impact
Copper	0.60 mg/kg	all soil samples below 3.0 mg/kg
Lead	0.20 mg/kg	no impact

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U". The field or DI water blanks exhibited more contamination but had no impact on the data.

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Arsenic	-0.20 mg/kg	all soil samples below 2.0 mg/kg
Sodium	-4.71 mg/kg	all soil samples below 47.1 mg/kg

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Matrix Spike Recovery

Specific Finding

The Matrix Spike recovery for soils for Antimony (9%) was below 30%. All non-detect results are rejected and all positive results are qualfied as estimated, "J".

The Matrix Spike recovery for Thallium (73%) was below the lower control limits (<85% but >10%). All positive and non-detect results are qualified as estimated, "J" or "UJ".

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits (<85% BUT >10%). All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	041M640101	66
Antimony	041M640401	11
Antimony	041M640801	65
Antimony	041M641801	48
Antimony	041M641901	59

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
All soil samples below 3.0 mg/kg	Cu.	+	U
All soil samples below 2.0 mg/kg	As.	+/U	J/UJ
All soil samples below 47.1 mg/kg	Na.		
All soil samples	Sb.	+	J
		U	R
All soil samples	Tl.	+/U	J/UJ
041M640101, 40401, 40801, 411801 and 41901.	Sb.	+/U	J/UJ
All "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	EM0040
Date:	March 12, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	Pensacola
Date Sampled:	November 30 - December 1, 1995
Number of Samples:	7 Aqueous Sample(s) with 1 MS/MSD(s) 10 Non-aqueous Sample(s) with 1 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level III
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Low Concentration Volatiles, Volatiles, Low Concentration Semivolatiles, Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Eugene M. Watson, Vice President

3-13-96
Date

4127 Plaza 44 South St Charles, MO 63304
(314) 936-1337 Fax (314) 936-1335

SDG# EM0040

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	LVOA		VOA		LSV		SV		P/P		TAL/C	
040EM00401	WATER	X				X				X		X	
040FM00401	WATER	X				X				X		X	
040TM01901	WATER	X											
041W030101	WATER	X				X				X		X	
041R030101	WATER	X				X				X		X	
041W030201	WATER	X				X				X		X	
041TM00701	WATER	X											
040MZ30401	SOIL				X				X		X		X
040MZ30601	SOIL				X				X		X		X
040MZ30801	SOIL				X				X		X		X
040MZ31401	SOIL				X				X		X		X
040MZ31701	SOIL				X				X		X		X
040MZ41801	SOIL				X				X		X		X
040MZ42401	SOIL				X				X		X		X
041M030101	SOIL				X				X		X		X
041N030101	SOIL				X				X		X		X
041M030201	SOIL				X				X		X		X
Total Billable Samples	(Water/Soil)	7	0	0	10	5	0	0	10	5	10	5	10

LVOA = CLP Low Volatiles
VOA = CLP Volatiles
LSV = CLP Low Semivolatiles
SV = CLP Semivolatiles
P/P = CLP Pesticide w/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # EM0040

A validation was performed on the Volatile Data from SDG EM0040. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, FM602, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041R030101	acetone
	2-butanone

The continuing calibration, FM622, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W030101	acetone
041W030201	2-butanone
	2-hexanone

Method Blanks

Associated blank	Compound	Conc.	Action Level
VBLKFW	acetone	6	60

Samples	Compound	Qualification
041W030101	acetone	U
041W030201		
041R030101		

Trip Blanks

Associated blank	Compound	Conc.	Action Level
041TM00701	methylene chloride	6	60
	acetone	17	170

Samples	Compound	Qualification
041W030201	methylene chloride	U

DATA ASSESSMENT AND NARRATIVE

VOLATILE ANALYSIS

PAGE - 3

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041R030101	acetone 2-butanone	+/-	J/R
041W030101 041W030201	acetone 2-butanone 2-hexanone	+/-	J/R
041W030101 041W030201 041R030101	acetone	+	U
041W030201	methylene chloride	+	U

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

SDG #EM0040

A validation was performed on the Volatile Data from SDG EM0040. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
	•	Internal Standard Performance
	•	Blanks
	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Internal Standards

All internal standard EICP areas did not meet the internal standard EICP area QA/QC criteria.

Specific Finding:

The Samples listed below, exhibited low internal standard areas. Qualify all associated positive results as estimated (J) and all non detects as estimated(UJ).

041M030201 chlorobenzene-d_5

DATA ASSESSMENT AND NARRATIVE

VOLATILE ANALYSIS

PAGE - 2

Method Blank

Associated blank	Compound	Concentration	Action Level
VBLKCY	Methylene chloride	4J	40
VBLKCZ	methylene chloride	2J	20
VBLKCA	methylene chloride	2J	20

Samples	Compound	Qualification
040MZ30601 040MZ30801 040MZ30401 040MZ31401 040MZ31701 040MZ31801 040MZ41201 041M030101 041M030201	methylene chloride	CRQL

Trip Blank

Associated blank	Compound	Concentration	Action Level
040TM01901	acetone	26B	260
	Methylene chloride	2	20

Samples	Compound	Qualification
041M030101 041NZ030101 041M030201 040MZ30401 040MZ31801	acetone	U

Trip Blank (continued)

Samples	Compound	Qualification
040MZ30801 040MZ31401 040MZ31701	acetone	CRQL
041N030101	methylene chloride	CRQL

Surrogates

All of the surrogate recoveries for these samples were not within QA/QC limits.

Specific Finding:

Sample listed below exhibited high recoveries for toluene-d_8. Qualify all positive results as estimated (J).

041M030201

Compound Identification /Quantitation

Reject sample 041M030201RE, in favor of the initial analysis, due to non compliant surrogate recoveries.

System Performance and Overall Assessment

The overall system performance was fair. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M030201	All associated analytes chlorobenzene-d_5	+/-	J/UJ
040MZ30601 040MZ30801 040MZ30401 040MZ31401 040MZ31701 040MZ31801 040MZ41201 041M030101 041M030201	methylene chloride	+	CRQL
041M030101 041NZ030101 041M030201 040MZ30401 040MZ31801	acetone	+	U
040MZ30801 040MZ31401 040MZ31701	acetone	+	CRQL
041N030101	methylene chloride	+	CRQL
041M030201	all analytes	+	J
041M030201RE	all analytes	+/-	R

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DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OlC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # EM0040

A validation was performed on the Semivolatile Data from SDG EM0040. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicate
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Method Blanks

Associated blank	Compound	Conc.	Action Level
041EM00201	bis(2-ethylhexyl) phthalate	2J	20

Samples	Compound	Qualification
041R030101	bis(-ethylhexyl)phthalate	CRQL

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041R030101	bis(-ethylhexyl)phthalate	+	CRQL

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QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # EM0040

A validation was performed on the Semivolatile Data from SDG EM0040. The data was evaluated based on the following parameters.

*	•	Data Completeness
	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
	•	Internal Standard Performance
	•	Blanks
	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Holding Times

The following samples had extractions that exceeded the method criteria of fourteen (14) days from date sampled. Samples exceeded the holding time by thirteen (13) and fifteen (15) days. Qualifications are required.

Specific Find:

040MZ30601 exceeded holding time by fifteen (15) days and sample 040MZ30801 exceeded holding time by thirteen (13) days. Qualify all positive results as estimated (J) and non detects as estimated (UJ)

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within %D and RRF continuing calibration criteria. Qualifications are required.

Specific Finding:

The continuing calibration, DJ216, contained compounds with %Ds greater than 25% an less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J).

041N030101	pyrene (37.9%)
	Chrysene (27.0%)
	Benzo(k)fluoranthene (33.6%)

The continuing calibration, DJ216, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041N030101	4-chloroaniline (54.9%)
	3-nitroaniline (78.8%)
	2,4-dinitrophenol (51.2%)
	4-nitroaniline (74.1%)
	Bis(2-ethylhexyl)phthalate (55.9%)
	Di-n-octyl phthalate (54.2%)

The continuing calibration, IF760, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

040MZ30401	hexachlorocyclopentadiene (50.6%)
041M030101	

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, IF760, contained compounds with %Ds greater than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

040MZ30401 4-chloroaniline (218.2%)
041M030101

The continuing calibration, IF723, contained compounds with %Ds greater than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

041M030201 4-chloroaniline (230.1%)

The continuing calibration, IF780, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

040MZ31401 hexachlorocyclopentadiene (68.4%)
040MZ31701

The continuing calibration, IF723, contained compounds with %Ds greater than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

040MZ31401 4-chloroaniline (190.9%)
040MZ31701

The continuing calibration, AJ074, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

040MZ41801 4,6-dinitro-2-methylphenol (63.2%)

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, IF723, contained compounds with RRF less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

040MZ41801 2,4-dinitrophenol (0.034)
040MZ42401

Internal Standards

All internal standard EICP areas did not meet the internal standard EICP area QA/QC criteria.

Specific Finding:

The Samples listed below, exhibited low internal standard areas. Qualify all associated positive results as estimated (J) and all non detects as estimated(UJ).

040MZ31401 perylene-d_{12}
040MZ31701

Method Blanks

Associated blank	Compound	Concentration	Action Level
SBLKII	bis(2ethylhexyl)phthalate	45J	450
SBLKAM	bis(2ethylhexyl)phthalate	48J	480
SBLKDL	bis(2ethylhexyl)phthalate	37J	370
SBLKJO	bis(2ethylhexyl)phthalate	90J	900

Method Blanks (continued)

Samples	Compound	Qualification
040MZ31401 040MZ31701 041M030101 040MZ42401 040MZ41801 041N030101	bis(2ethylhexyl)phthalate	CRQL
040MZ30801	bis(2ethylhexyl)phthalate	U

Field Blanks

Associated blank	Compound	Concentration	Action Level
040FM00401	bis(2ethylhexyl)phthalate	1J	10

Samples	Compound	Qualification
040MZ30601	bis(2ethylhexyl)phthalate	CRQL

Surrogates

All of the surrogate recoveries for these samples were not within QA/QC limits.

Specific Finding:

Sample listed below exhibited low recoveries for 2-fluorophenol and 2,4,6-tribromophenol. Qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041N030101 (15%, 18%)

Compound Identification /Quantitation

Specific Finding:

Reject samples 040MZ31701RE and 040MZ31401RE, in favor of the initial analysis, due to non compliant internal standard areas.

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 10% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
040MZ30601 040MZ30801	All analytes	+/-	J/UJ
041N030101	pyrene (37.9%) Chrysene (27.0%) Benzo(k)fluoranthene (33.6%)	+	J
041N030101	4-chloroaniline (54.9%) 3-nitroaniline (78.8%) 2,4-dinitrophenol (51.2%) 4-nitroaniline (74.1%) Bis(2-ethylhexyl)phthalate (55.9%) Di-n-octyl phthalate (54.2%)	+/-	J/UJ
040MZ30401 041M030101	hexachlorocyclopentadiene (50.6%)	+/-	J/UJ
040MZ30401 041M030101	4-chloroaniline (218.2%)	+/-	J/R
041M030201	4-chloroaniline (230.1%)	+/-	J/R
040MZ31401 040MZ31701	hexachlorocyclopentadiene (68.4%)	+/-	J/UJ
040MZ31401 040MZ31701	4-chloroaniline (190.9%)	+/-	J/R
040MZ41801	4,6-dinitro-2-methylphenol (63.2%)	+/-	J/UJ
040MZ41801 040MZ42401	2,4-dinitrophenol (0.034)	+/-	J/R

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
040MZ31401 040MZ31701	All associated analytes perylene-d_{12}	+/-	J/UJ
040MZ31401 040MZ31701 041M030101 040MZ42401 040MZ41801 041N030101	bis(2ethylhexyl)phthalate	+	CRQL
040MZ30801	bis(2ethylhexyl)phthalate	+	U
040MZ30601	bis(2ethylhexyl)phthalate	+	CRQL
041N030101	All analytes	+/-	J/UJ
040MZ31701RE 040MZ31401RE	All analytes	+/-	R

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.9 Method; the National Functional Guidelines for Organic Data Validation, June 1991; and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # EM0040

A validation was performed on the Pesticide/Aroclor Data from SDG EM0040. The data was evaluated based on the following parameters:

*	•	Data Completeness
	•	Holding Times
*	•	GC Performance
	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Holding Times

The analysis holding times were exceeded for many samples.

Holding Times, Continued

Specific Findings

The following samples exceeded the analysis holding time by one (1) to four (4) days. It is the professional opinion of the data validator that the positive results should be qualified as estimated, J.

040MZ30401
040MZ30401DL
040MZ30601
040MZ30801
040MZ31401
040MZ31701
040MZ41801
041M030101
041N030101
041M030101DL
041N030101DL
041M030201
041W030201
041M030201DL

Initial Calibrations

The initial calibrations that were analyzed by the laboratory for these samples were not acceptably linear for all compounds.

Specific Findings

The initial calibration of 1/11/96 contained compounds with %RSDs greater than 20%. For the samples and the non-compliant compound listed below, all positive results are qualified as estimated, J, and all non-detect results are qualified as estimated, UJ.

All samples	Alpha-BHC (20.2%/21.0%)
	Delta-BHC (21.2%/21.1%)

Surrogate Recoveries

Several samples exhibited non-compliant TCX and/or DCB recoveries.

Specific Finding

The sample listed below exhibited a TCX recovery below 10%. The positive results are qualified as estimated, J, and the non-detect results are rejected, R.

Sample ID	Surrogate	% Recovery
041W030201	TCX-1	8%

The sample listed below exhibited a high DCB recovery. The positive results are qualified as estimated, J.

Sample ID	Surrogate	% Recovery
040MZ30401	DCB-1	282%

Field Duplicates

The field duplicate pair of samples 041M030101 and 041N030101 exhibited positive results and non-compliant RPDs for several target compounds. Three (3) compounds required qualification due to poor duplicate precision.

Specific Finding

The field duplicate pair of samples 041M030101 and 041N030101 exhibited positive results and non-compliant RPDs for three (3) compounds. For the compounds listed below, the positive results are qualified as estimated, J, due to poor duplicate precision.

041M030101	Delta-BHC (72%)
041N030101	4,4'-DDE (67%)
	4,4'-DDT (110%)

Analyte Identification/Quantitation

Four (4) samples required dilution to accurately quantitate target compounds. Several samples exhibited column quantitation %Ds greater than 25%.

Specific Findings

For the following samples and compounds, the results from the original analysis are replaced with the corresponding results from the dilution analysis. All other results from the dilution are rejected, UR, in favor of the results reported from the undiluted analysis.

040MZ30401	Dieldrin Alpha Chlordane
041M030101 041N030101	4,4'-DDE 4,4'-DDD 4,4'-DDT
041M030201	Aroclor 1260 4,4'-DDD

The positive results reported in all samples which exhibited column quantitation differences greater than 25% are qualified as estimated, J.

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 30% of the data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
040MZ30401 040MZ30401DL 040MZ30601 040MZ30801 040MZ31401 040MZ31701 040MZ41801 041M030101 041N030101 041M030101DL 041N030101DL 041M030201 041W030201 041M030201DL	ALL	+	J
All samples	Alpha-BHC Delta-BHC	+/-	J/UJ
041W030201	ALL	+/-	J/R
040MZ30401	ALL	+	J
041M030101 041N030101	Delta-BHC 4,4'-DDE 4,4'-DDT	+	J
040MZ30401	Dieldrin Alpha Chlordane	+	D
041M030101 041N030101	4,4'-DDE 4,4'-DDD 4,4'-DDT	+	D
041M030201	Aroclor 1260 4,4'-DDD	+	D

SUMMARY OF DATA QUALIFICATIONS, Continued

SAMPLE ID	ANALYTE ID	DL	QL
040MZ30401DL 041M030101DL 041N030101DL 041M030201DL	ALL OTHERS	+/-	UR
ALL	ALL P >25%	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # EM0040

A validation was performed on the Metals Data from SDG EM0040. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
*	•	Matrix Duplicates
	•	Field Duplicates
*	•	Laboratory Control Samples
	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Calcium	6.25 mg/kg	no impact
Iron	9.25 mg/kg	no impact
Lead	0.11 mg/kg	all soil samples below 0.55 mg/kg
Iron	4.28 ug/l	no impact

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U". The field or DI water blanks exhibited contamination but had no impact on the data.

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Barium	-0.13 mg/kg	all soil samples below 1.3 mg/kg
Copper	-0.49 mg/kg	all soil samples below 4.9 mg/kg
Potassium	-20.3 mg/kg	all soil samples below 203 mg/kg
Silver	-0.42 mg/kg	all soil samples below 4.2 mg/kg
Barium	-1.81 ug/l	all water samples below 18.1 ug/l
Potassium	-152 ug/l	all water samples below 1520 ug/l
Selenium	-3.26 ug/l	all water samples below 32.6 ug/l
Zinc	-5.32 ug/l	all water samples below 53.2 ug/l

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Matrix Spike Recovery

Specific Finding

The Matrix Spike recoveries for soils for Antimony (52%), Cadmium (74%), Selenium (74%), Silver (64%) and Thallium (65%) and for waters for Antimony (65%) were below the lower control limits. All positive and non-detect results are qualified as estimated, "J" or "UJ".

Field Duplicate Analysis

Specific Finding

The field duplicate analyses for soils for Aluminum, Iron, Magnesium, Manganese, Vanadium and Zinc were above 50% and will be qualified as estimated, "J".

Serial Dilution

Specific Finding

The Serial Dilutions for soils for Lead and Calcium were outside the control limits. All positive results are qualified as estimated, "J".

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	041R030101	61
Antimony	041W030201	65
Antimony	040MZ30601	79
Antimony	041M030201	53
Antimony	040MZ30801	83

The post digestion spike recovery for GFAA was above the upper control limits. All positive results for the listed samples below are qualified as estimated, "J".

Element	Sample IDs	% recoveries
Antimony	040EM00401	122
Antimony	040MZ30401	125

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
All soil samples below 0.55 mg/kg	Pb.	+	U
all soil samples below 1.3 mg/kg	Ba.	+/U	J/UJ
all soil samples below 4.9 mg/kg	Cu.		
all soil samples below 203 mg/kg	K.		
all soil samples below 4.2 mg/kg	Ag.		
all water samples below 18.1 ug/l	Ba.		
all water samples below 1520 ug/l	K.		
all water samples below 32.6 ug/l	Se.		
all water samples below 53.2 ug/l	Zn.		
allsoil samples	Sb, Cd, Se, Ag and Tl.	+/U	J/UJ
all water samples	Sb.		
all soil samples	Al, Fe, Mg, Mn, V and Zn.	+	J
all soil samples	Pb and Ca.	+	J
041R030101, 041W030201, 040MZ30601, 040MZ31401, 041M030201 and 040MZ30801.	Sb.	+/U	J/UJ
040EM00401 and 040MZ30401.	Sb.	+	J
All "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	EM005
Date:	March 29, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	Pensacola
Date Sampled:	January 15 - 18, 1996
Number of Samples:	7 Aqueous Sample(s) with 0 MS/MSD(s) 13 Non-aqueous Sample(s) with 1 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level IV
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Volatiles, Low Concentration Volatiles, Semivolatiles, Low Concentration Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig B. Sieger
Eugene M. Watson, Vice President

4-2-96
Date

4107 Plaza 94 South St. Charles, MO 63304
(314) [illegible] Fax (314) 936-1335

SDG# EM005

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	VOA		LVOA		SV		LSV		P/P		TAL/CN	
041M170101	SOIL		X				X				X		X
041M170201	SOIL		X				X				X		X
041M170301	SOIL		X				X				X		X
041M19A101	SOIL		X				X				X		X
041M19A201	SOIL		X				X				X		X
041M19B101	SOIL		X				X				X		X
041C490101	SOIL		X				X				X		X
041M490101	SOIL		X				X				X		X
041M490201	SOIL		X				X				X		X
041M490301	SOIL		X				X				X		X
041M63A101	SOIL		X				X				X		X
041M63A201	SOIL		X				X				X		X
041M63A301	SOIL		X				X				X		X
041W04D101	WATER			X				X		X		X	
041W04D401	WATER			X				X		X		X	
041W170101	WATER			X				X		X		X	
041EM00501	WATER			X				X		X		X	
041FM00501	WATER			X				X		X		X	
040TM01501	WATER			X									
041TM01601	WATER			X									
Total Billable Samples (Water/Soil)		0	13	7	0	0	13	5	0	5	13	5	13

VOA = CLP Volatiles
LVOA = CLP Low Concentration Volatiles
SV = CLP Semivolatiles
LSV = CLP Low Concentration Semivolatiles
P/P = CLP Pesticide/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries. GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG #EM005

A validation was performed on the Volatile Data from SDG EM005. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, BU497, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041M63A101 acetone (61.9%)

Internal Standards

All internal standard EICP areas did not meet the internal standard EICP area QA/QC criteria.

Specific Finding:

The Samples listed below, exhibited low internal standard areas. Qualify all associated positive results as estimated (J) and all non detects as estimated (UJ).

041M63A301 chlorobenzene-d_5

Blanks

The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria to field samples.

Method Blank

Associated blank	Compound	Concentration	Action Level
VBLKCZ	bromomethane	3J	15
	Methylene chloride	1J	10
	4-methyl-2-pentanone	5J	25
	2-hexanone	5J	25
VBLKCA	acetone	6J	60
	Bromomethane	3J	15

Method Blank (continued)

Associated blank	Compound	Concentration	Action Level
VBLKBZ	methylene chloride	3J	30

Samples	Compound	Qualification
041C490101 041M170101 041M170201 041M170301 041M490101 041M490201 041M490301	bromomethane	CRQL
041C490101 041M170101 041M170201 041M19B101 041M490101 041M490201 041M63A301	methylene chloride	CRQL
041M170101	4-methyl-2-pentanone	CRQL
041M170101	2-hexanone	CRQL
041M19A101 041M490301	acetone	U
041M19A201	acetone	CRQL

Trip Blank

Associated blank	Compound	Concentration	Action Level
041TM01601	acetone	28	280
041TM01801	methylene chloride	3	30

Samples	Compound	Qualification
041M170201 041M63A101 041M63A201	acetone	CRQL
041M170301 041M19B101 041C490101 041M490201	acetone	U
041M19A101 041M19A201 041M490301 041M63A101 041M63A201	methylene chloride	CRQL

Compound Identification /Quantitation

Reject sample 041M63A301RE, in favor of the initial analysis, due to non compliant internal standard area recoveries.

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 10% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M63A101	acetone	+/-	J/UJ
041M63A301	All associated analytes chlorobenzene-d_5	+/-	J/UJ
041C490101 041M170101 041M170201 041M170301 041M490101 041M490201 041M490301	bromomethane	+	CRQL
041C490101 041M170101 041M170201 041M19B101 041M490101 041M490201 041M63A301	methylene chloride	+	CRQL
041M170101	4-methyl-2-pentanone	+	CRQL
041M170101	2-hexanone	+	CRQL
041M19A101 041M490301	acetone	+	U
041M19A201 041M170201 041M63A101 041M63A201	acetone	+	CRQL

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M170301 041M19B101 041C490101 041M490201	acetone	+	U
041M19A101 041M19A201 041M490301 041M63A101 041M63A201	methylene chloride	+	CRQL
041M63A301RE	all analytes	+/-	R

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # EM005

A validation was performed on the Volatile Data from SDG EM005. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, EN139, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W04D401DL	acetone 2-butanone 1,2-dibromo-3-chloropropane

The continuing calibration, FN414, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W04D101	acetone (55.3)
041W04D401	2-butanone

The continuing calibration, FN433, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W170101	acetone (55.3) 2-butanone

The continuing calibration, FN571, contained compounds with %Ds that were greater than 50% but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041W170101DL	chloromethane (63.9)

The continuing calibration, FN571, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W170101DL	acetone (65.8) 2-butanone (26.9) 2-hexanone (40.3)

Method Blanks

Associated blank	Compound	Conc.	Action Level
VBLKFL	acetone	3	30
VBLKFJ	acetone	6	60

Samples	Compound	Qualification
041W04D101	acetone	U
041W04D401		
041W170101		

Rinseate Blank

Associated blank	Compound	Conc.	Action Level
041EM00501	acetone	23	230
	2-butanone	2J	20

Samples	Compound	Qualification
041W170101	2-butanone	CRQL

Compound Identification/Quantitation

Specific Finding:

For sample 041W170101 and 041W04D401 reject the E-flagged results in favor of the results from the diluted samples 041W170101DL and 041W04D401DL.

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W04D401DL	acetone 2-butanone 1,2-dibromo-3-chloropropane	+/-	J/R
041W04D101 041W04D401	acetone (55.3) 2-butanone	+/-	J/R
041W170101	acetone (55.3) 2-butanone	+/-	J/R
041W170101DL	chloromethane (63.9)	+/-	J/UJ
041W170101DL	acetone (65.8) 2-butanone (26.9) 2-hexanone (40.3)	+/-	J/R
041W04D101 041W04D401 041W170101	acetone	+	U
041W170101	2-butanone	+	CRQL
041W170101 041W04D401	E-Flagged results	+	R

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # EM005

A validation was performed on the Semivolatile Data from SDG EM005. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within %D and RRF continuing calibration criteria. Qualifications are required.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, DJ559, contained compounds with %Ds greater than 50% an less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041M170301	2,4-dinitrophenol (58.2%)
041M170201	4,6-dinitro-2-methylphenol (59.7%)
041C490101	
041M19A101	
041M19A201	
041M63A201	
041M19B101	
041M490101	
041M490201	
041M490301	
041M63A101	

The continuing calibration, JG243, contained compounds with %Ds greater than 50% an less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041M170101	4-chloroaniline (58.0%)
041M63A301	

Blanks

The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria to field samples.

Method Blanks

Associated blank	Compound	Concentration	Action Level
SBLKDJ	bis(2-ethylhexyl)phthalate	33J	330
SBLKJK	bis(2-ethylhexyl)phthalate	71J	710

Samples	Compound	Qualification
041C490101	bis(2-ethylhexyl)phthalate	CRQL
041M170301		
041M19A101		
041M19A201		
041M19B101		
041M490201		
041M490301		
041M63A101		
041M63A201		
041M170101		
041M63A301		

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M170301	2,4-dinitrophenol	+/-	J/UJ
041M170201	4,6-dinitro-2-methylphenol		
041C490101			
041M19A101			
041M19A201			
041M63A201			
041M19B101			
041M490101			
041M490201			
041M490301			
041M63A101			
041M170101	4-chloroaniline	+/-	J/UJ
041M63A301			
041C490101	bis(2-ethylhexyl)phthalate	+	CRQL
041M170301			
041M19A101			
041M19A201			
041M19B101			
041M490201			
041M490301			
041M63A101			
041M63A201			
041M170101			
041M63A301			

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OLC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # EM005

A validation was performed on the Semivolatile Data from SDG EM005. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicate
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds that were not within %D continuing calibration criteria. All RRFs were within calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, DJ601, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041W04D401 hexachlorocyclopentadiene (54.5)
041W04D101
041W170101

Method Blanks

Associated blank	Compound	Conc.	Action Level
041EM00501	bis(2-ethylhexyl) phthalate	2J	20

Samples	Compound	Qualification
041W04D401	bis(2-ethylhexyl) phthalate	CRQL
041W170101		

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W04D401 041W04D101 041W170101	hexachlorocyclopentadiene (54.5)	+/-	J/UJ
041W04D401 041W170101	bis(2-ethylhexyl) phthalate	+	CRQL

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.9 Method; the National Functional Guidelines for Organic Data Validation, June 1991; and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # EM005

A validation was performed on the Pesticide/Aroclor Data from SDG EM005. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
	•	Calibration
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Initial Calibrations

The initial calibrations that were analyzed by the laboratory for these samples were not acceptably linear for all compounds.

Initial Calibrations, Continued

Specific Findings

The initial calibration of 1/20/96 contained a compound with a %RSD greater than 20%. For the samples and the non-compliant compound listed below, all positive results are qualified as estimated, J, and all non-detect results are qualified as estimated, UJ.

All samples	Alpha-BHC (20.6%)

Field Duplicates

The field duplicate pair of samples 041M490101 and 041C490101 exhibited positive results for three (3) compounds. One (1) compound exhibited a non-compliant RPD.

Specific Findings

The field duplicate pair of samples 040MZ21801 and 040NZ21801 exhibited positive results and a non-compliant RPD for one (1) compound. For the non-compliant compound listed below, the positive results are qualified as estimated, J.

041M490101 041C490101	4,4'-DDD (63%)

Analyte Identification/Quantitation

Five (5) samples required dilution to accurately quantitate target compounds. Several samples exhibited column quantitation %Ds greater than 25%.

Analyte Identification/Quantitation, Continued

Specific Findings

For the following samples and compounds, the results from the original analysis are replaced with the corresponding results from the dilution analysis. All other results from the dilution are rejected, UR, in favor of the results reported from the undiluted analysis.

041M19A101	Heptachlor Epoxide
041C490101 041M490101 041M490201	4,4'-DDD
041M63A301	Aroclor 1260 4,4'-DDD

The positive results reported in all samples which exhibit column quantitation differences greater than 25% are qualified as estimated, J.

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 20% of the data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
All samples	Alpha-BHC	+/-	J/UJ
041M490101 041C490101	4,4'-DDD	+	J
041M19A101	Heptachlor Epoxide	+	D
041C490101 041M490101 041M490201	4,4'-DDD	+	D
041M63A301	Aroclor 1260 4,4'-DDD	+	D
041M19A101DL 041C490101DL 041M490101DL 041M490201DL 041M63A301DL	ALL OTHERS	+/-	UR
ALL	ALL P >25%	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # EM005

A validation was performed on the Metals Data from SDG EM005. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
*	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Aluminum	6.26 mg/kg	no impact
Cadmium	0.23 mg/kg	all soil samples below 1.15 mg/kg
Calcium	3.83 mg/kg	no impact
Iron	2.50 mg/kg	no impact
Magnesium	3.85 mg/kg	no impact

Aluminum	23.9 ug/l	all water samples below 120 ug/l
Cadmium	2.78 ug/l	all water samples below 13.9 ug/l
Manganese	1.05 ug/l	no impact
Sodium	66.2 ug/l	no impact

The field and equipment blank exhibited contamination for the following elements.

Barium	4.0 ug/l	all water non QC samples below 20.0 ug/l

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U". The field or DI water blanks exhibited contamination but had no impact on the data.

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Antimony	-0.36 mg/kg	all soil samples below 3.6 mg/kg

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Matrix Spike Recovery

Specific Finding

The Matrix Spike recoveries for soils for Antimony (55%) and Selenium (67%) were below the lower control limits (<75% but >30%). All positive and non-detect results are qualified as estimated, "J" or "UJ".

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	041M170201	68
Antimony	041M170301	65
Antimony	041C490101	49
Antimony	041M19A101	84
Antimony	041M19B101	57
Antimony	041M490101	61
Antimony	041M490201	73

Antimony	041M490301	70
Antimony	041M63A201	75
Antimony	041M63A101	68
Antimony	041W04D101	62
Antimony	041W04D401	70
Antimony	041W170101	74

The post digestion spike recovery for GFAA was above the upper control limits. All positive results for the listed samples below are qualified as estimated, "J".

Element	Sample IDs	% recoveries
Antimony	041M63A301	130

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
all soil samples below 1.15 mg/kg	Cd.	+	U
all water samples below 120 ug/l	Al.		
all water samples below 13.9 ug/l	Cd.		
allwater samples below 20.0 ug/l	Ba.		
all soil samples below 3.6 mg/kg	Sb.	+/U	J/UJ
all soil samples	Sb and Se.	+/U	J/UJ
014M170201, 70301, 041C490101, 041M19A101, 19B101, 490101, 490201, 490301, 63A201, 63A101, 041W04D101, 04D401 and 170101.	Sb.	+/U	J/UJ
041M63S201.	Sb.	+	J
All "B" results	all analytes	B	J

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Data Validation Report

SDG#:	EM0050
Date:	March 12, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	Pensacola
Date Sampled:	December 6 - 7, 1995
Number of Samples:	7 Aqueous Sample(s) with 0 MS/MSD(s) 13 Non-aqueous Sample(s) with 1 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level III
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Low Concentration Volatiles, Volatiles, Low Concentration Semivolatiles, Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig H. Swanson
Eugene M. Watson, Vice President

3-25-96
Date

4127 Plaza 94 South St Charles, MO 63304
(314) 936-1332 Fax (314) 936-1335

SDG# EM0050

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	LVOA		VOA		LSV		SV		P/P		TAL/C	
040EM00501	WATER	X				X				X		X	
040FM00501	WATER	X				X				X		X	
041W150101	WATER	X				X				X		X	
041W150201	WATER	X				X				X		X	
041EM00301	WATER	X				X				X		X	
041FM00301	WATER	X				X				X		X	
041TM01001	WATER	X											
040MZ52101	SOIL				X				X		X		X
040MZ52201	SOIL				X				X		X		X
040MZ52301	SOIL				X				X		X		X
040MZ52601	SOIL				X				X		X		X
040MZ52801	SOIL				X				X		X		X
040MZ52901	SOIL				X				X		X		X
040MZ53001	SOIL				X				X		X		X
040NZ53001	SOIL				X				X		X		X
040MZ53201	SOIL				X				X		X		X
041M150101	SOIL				X				X		X		X
041M150201	SOIL				X				X		X		X
041M150301	SOIL				X				X		X		X
041M150401	SOIL				X				X		X		X
Total Billable Samples	(Water/Soil)	7	0	0	13	6	0	0	13	6	13	6	13

LVOA = CLP Low Volatiles
VOA = CLP Volatiles
LSV = CLP Low Semivolatiles
SV = CLP Semivolatiles
P/P = CLP Pesticide w/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # EM0050

A validation was performed on the Volatile Data from SDG EM0050. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, GD003, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041M150301	2-butanone (64.4%)
040MZ52101	
040MZ52201	
040MZ52301	
040MZ52601	
040MZ52801	

Internal Standards

All internal standard EICP areas did not meet the internal standard EICP area QA/QC criteria.

Specific Finding:

The Samples listed below, exhibited low internal standard areas. Qualify all associated positive results as estimated (J) and all non detects as estimated (UJ).

041M150101RE	1,4-difluorobenzene
	chlorobenzene-d_5

Blanks

The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria to field samples.

Method Blank

Associated blank	Compound	Concentration	Action Level
VBLKGV	methylene chloride	4J	40
	Acetone	5J	50
VBLKBL	methylene chloride	10	100

Samples	Compound	Qualification
040MZ52101	methylene chloride	U
040MZ52201		
040MZ52301		
040MZ52601		
040MZ52801		
041M150101		
041M150301		
040MZ53201		
040MZ52201	acetone	U

Compound Identification /Quantitation

Reject sample 041M150101, in favor of reanalysis, due to non compliant surrogate recoveries.

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 10% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M150301 040MZ52101 040MZ52201 040MZ52301 040MZ52601 040MZ52801	2-butanone	+/-	J/UJ
041M150101RE	All associated analytes 1,4-difluorobenzene chlorobenzene-d_5	+/-	J/UJ
040MZ52101 040MZ52201 040MZ52301 040MZ52601 040MZ52801 041M150101 041M150301 040MZ53201	methylene chloride	+	U
040MZ52201	acetone	+	U
041M150101	all analytes	+/-	R

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\- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # EM0050

A validation was performed on the Volatile Data from SDG EM0050. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, FM737, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W150101 acetone

The continuing calibration, FM881, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W150201 acetone
2-butanone
2-hexanone

Method Blanks

Associated blank	Compound	Conc.	Action Level
VBLKFE	acetone	9	90
VBLKFM	acetone	11	110
	methylene chloride	3	30

Samples	Compound	Qualification
041W150101	acetone	U
041W150201		
041W150201	methylene chloride	U

DATA ASSESSMENT AND NARRATIVE

VOLATILE ANALYSIS

Trip Blanks

Associated blank	Compound	Conc.	Action Level
041TM01001	methylene chloride	4	40
	2-butanone	1J	10

Samples	Compound	Qualification
041W150101	methylene chloride	U
041W150101	2-butanone	CRQL

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W150101	acetone	+/-	J/R
041W150201	acetone 2-butanone 2-hexanone	+/-	J/R
041W150101 041W150201	acetone	+	U
041W150201	methylene chloride	+	U
041W150101	methylene chloride	U	
041W150101	2-butanone	+	CRQL

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QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # EM0050

A validation was performed on the Semivolatile Data from SDG EM0050. The data was evaluated based on the following parameters.

*	•	Data Completeness
	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Holding Times

The following sample had extractions that exceeded the method criteria of fourteen (14) days from date sampled. Qualifications are required

Specific Find:

040MZ53201 exceeded holding time by nine (9) days. Qualify all positive results as estimated (J) and non detects as estimated (UJ).

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within %D and RRF continuing calibration criteria. Qualifications are required.

Specific Finding:

The continuing calibration, AJ074, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

040MZ52201	4,6-dinitro-2-methylphenol (63.2%)
040MZ52901	
040MZ53001	

The continuing calibration, AJ074, contained compounds with RRF less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

040MZ52201	2,4-dinitrophenol (0.034)
040MZ52901	
040MZ53001	

The continuing calibration, AJ105, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

040MZ52801	2,4-dinitrophenol (64.9%)
040MZ52601	
041M150301	

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, IF809, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

040MZ53001	hexachlorocyclopentadiene (57.6%)
040MZ50101	
040MZ52301	
041M150201	
041M150401	

The continuing calibration, IF809, contained compounds with RRF less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

040MZ53001	4-chloroaniline (191.6%)
040MZ50101	
040MZ52301	
041M150201	
041M150401	

The continuing calibration, IF833, contained compounds with RRF less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

040MZ52101	4-chloroaniline (219.6%)

Method Blanks

Associated blank	Compound	Concentration	Action Level
SBLKAR	bis(2ethylhexyl)phthalate	61J	610

Samples	Compound	Qualification
040MZ52201	bis(2ethylhexyl)phthalate	CRQL
040MZ52601		
040MZ52801		
040MZ52901		
040MZ53001		
041M150301		

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
040MZ53201	All analytes	+/-	J/UJ
040MZ52201 040MZ52901 040MZ53001	4,6-dinitro-2-methylphenol (63.2%)	+/-	J/UJ
040MZ52201 040MZ52901 040MZ53001	2,4-dinitrophenol (0.034)	+/-	J/R
040MZ52801 040MZ52601 041M150301	2,4-dinitrophenol (64.9%)	+/-	J/UJ
040MZ53001 040MZ50101 040MZ52301 041M150201 041M150401	hexachlorocyclopentadiene (57.6%)	+/-	J/UJ
040MZ53001 040MZ50101 040MZ52301 041M150201 041M150401	4-chloroaniline (191.6%)	+/-	J/R
040MZ52101	4-chloroaniline (219.6%)	+/-	J/R
040MZ52201 040MZ52601 040MZ52801 040MZ52901 040MZ53001 041M150301	bis(2ethylhexyl)phthalate	+	CRQL

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OlC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # EM0050

A validation was performed on the Semivolatile Data from SDG EM0050. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicate
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Method Blanks

Associated blank	Compound	Conc.	Action Level
041FM00301	bis(2-ethylhexyl) phthalate	1J	10

Samples	Compound	Qualification
041W150101	bis(-ethylhexyl)phthalate	U

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W150101	bis(-ethylhexyl)phthalate	+	U

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.9 Method; the National Functional Guidelines for Organic Data Validation, June 1991; and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # EM0050

A validation was performed on the Pesticide/Aroclor Data from SDG EM0050. The data was evaluated based on the following parameters:

*	•	Data Completeness
	•	Holding Times
*	•	GC Performance
	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Holding Times

The analysis holding times were exceeded for many samples.

Holding Times, Continued

Specific Findings

The following samples exceeded the analysis holding time by three (3) to four (4) days. It is the professional opinion of the data validator that the positive results should be qualified as estimated, J.

040MZ52101
040MZ52201
040MZ52301
040MZ52601
040MZ52901
040MZ53001
040NZ53001
040MZ53201
041M150101
041W150101
041M150101DL
041M150201
041M150201DL
041M150301
041M150301DL
041M150401

Initial Calibrations

The initial calibrations that were analyzed by the laboratory for these samples were not acceptably linear for all compounds.

Specific Findings

The initial calibration of 1/20/96 contained compounds with %RSDs greater than 20%. For the samples and the non-compliant compound listed below, all positive results are qualified as estimated, J, and all non-detect results are qualified as estimated, UJ.

All samples	Alpha-BHC (20.6%)

Surrogate Recoveries

One (1) sample exhibited a non-compliant TCX recovery.

Specific Finding

The sample listed below exhibited a high TCX recovery. The positive results are qualified as estimated, J.

Sample ID	Surrogate	% Recovery
041M150301	TCX-2	385%

Analyte Identification/Quantitation

Three (3) samples required dilution to accurately quantitate target compounds. Several samples exhibited column quantitation %Ds greater than 25%.

Specific Findings

For the following samples and compounds, the results from the original analysis are replaced with the corresponding results from the dilution analysis. All other results from the dilution are rejected, UR, in favor of the results reported from the undiluted analysis.

041M150101	4,4'-DDE
041M150201	4,4'-DDD
041M150301	

The positive results reported in all samples which exhibit column quantitation differences greater than 25% are qualified as estimated, J.

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 30% of the data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

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J = Estimated value

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R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
040MZ52101	ALL	+	J
040MZ52201			
040MZ52301			
040MZ52601			
040MZ52901			
040MZ53001			
040NZ53001			
040MZ53201			
041M150101			
041W150101			
041M150101DL			
041M150201			
041M150201DL			
041M150301			
041M150301DL			
041M150401			
All samples	Alpha-BHC	+/-	J/UJ
041M150301	ALL	+	J
041M150101	4,4'-DDE	+	D
041M150201	4,4'-DDD		
041M150301			
041M150101DL	ALL OTHERS	+/-	UR
041M150201DL			
041M150301DL			
ALL	ALL P >25%	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # EM0050

A validation was performed on the Metals Data from SDG EM0050. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
	•	Matrix Duplicates
	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Antimony	0.53 mg/kg	all soil samples below 2.65 mg/kg
Calcium	2.45 mg/kg	no impact
Iron	2.64 mg/kg	no impact
Antimony	2.44 ug/l	no impact

Calcium	11.9 ug/l	no impact
Iron	8.04 ug/l	no impact

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U". The field or DI water blanks exhibited contamination but had no impact on the data.

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Chromium	-0.86 mg/kg	all soil samples below 8.6 mg/kg
Copper	-0.56 mg/kg	all soil samples below 5.6 mg/kg
Manganese	-0.12 mg/kg	all soil samples below 1.2 mg/kg
Silver	-0.86 mg/kg	all soil samples below 8.6 mg/kg
Sodium	-16.3 mg/kg	no impact
Vanadium	-0.23 mg/kg	all soil samples below 2.3 mg/kg
Arsenic	-2.02 ug/l	no impact

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Matrix Spike Recovery

Specific Finding

The Matrix Spike recovery for soils for Antimony (72%) was were below the lower control limits. All positive and non-detect results are qualified as estimated, "J" or "UJ".

Field and Laboratory Duplicate Analysis

Specific Finding

The duplicate analyses for Calcium and Chromium were outside teh control limits of 35%. All positive results are qualified as estimated, "J". The field duplicate analysis for soils for Calcium was above 50% and will be qualified as estimated, "J".

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	040EM00501	70
Antimony	041W150201	41
Antimony	041M150101	58
Antimony	041M150401	40
Antimony	040M152101	68
Antimony	040M155201	48
Antimony	040M152301	73
Antimony	040M152801	77
Antimony	040M152901	55
Antimony	041M153001	48
Antimony	041M153201	64
Antimony	041W150101	21
Antimony	040NZ53001	61

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
All soil samples below 2.65 mg/kg	Sb.	+	U
all soil samples below 8.6 mg/kg	Cr.	+/U	J/UJ
all soil samples below 5.6 mg/kg	Cu.		
all soil samples below 1.2 mg/kg	Mn.		
all soil samples below 8.6 mg/kg	Ag.		
all soil samples below 2.3 mg/kg	V.		
all soil samples	Sb.	+/U	J/UJ
all soil samples	Ca and Cr.	+	J
040EM00501, 041W150201, 0401150101, 041M150401, 041M152101, 01M1522201, 041M152301, 041M152801, 041M152901, 040M153001, 040M153201, 041W150101 AND 040NZ53001.	Sb.	+/U	J/UJ
All "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	EM0060
Date:	March 29, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	Pensacola
Date Sampled:	January 25 - 26, 1996
Number of Samples:	4 Aqueous Sample(s) with 0 MS/MSD(s) 2 Non-aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level IV
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Volatiles, Low Concentration Volatiles, Semivolatiles, Low Concentration Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig H. Sexton

Eugene M. Watson, Vice President

4-2-96

Date

4127 Plaza 94 South St. Charles, MO 63304
(314) 936-1332 Fax (314) 936-1335

SDG# EM0060

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	VOA		LVOA		SV		LSV		P/P		TAL/CN	
041M790101	SOIL		X			X					X		X
041M790301	SOIL		X			X					X		X
041EM00601	WATER			X				X		X		X	
040FM00601	WATER			X				X		X		X	
041TM02201	WATER			X									
041TM02301	WATER			X									
Total Billable Samples (Water/Soil)		0	2	4	0	2	0	2	0	2	2	2	2

VOA = CLP Volatiles
LVOA = CLP Low Concentration Volatiles
SV = CLP Semivolatiles
LSV = CLP Low Concentration Semivolatiles
P/P = CLP Pesticide/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # EM0060

A validation was performed on the Volatile Data from SDG EM0060. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Blanks

The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria to field samples.

Trip Blank

Associated blank	Compound	Concentration	Action Level
041TM02301	acetone	21	210

Samples	Compound	Qualification
041M790101	acetone	U

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 10% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M790101	acetone	+	U

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QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # EM0060

A validation was performed on the Volatile Data from SDG EM0060. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

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The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL

No qualifications are required.

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times. blank analysis results. surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # EM0060

A validation was performed on the Semivolatile Data from SDG EM0060. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within %D and RRF continuing calibration criteria. Qualifications are required.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, IG222, contained compounds with %Ds greater than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

041M790101	4-chloroaniline (230.1%)
041M790301	

Blanks

The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria to field samples.

Method Blanks

Associated blank	Compound	Concentration	Action Level
SBLKIA	bis(2-ethylhexyl)phthalate	53J	530

Samples	Compound	Qualification
041M790101	bis(2-ethylhexyl)phthalate	CRQL

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M790101 041M790301	4-chloroaniline	+/-	J/R
041M790101	bis(2-ethylhexyl)phthalate	CRQL	

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OLC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # EM0060

A validation was performed on the Semivolatile Data from SDG EM0060. The data was evaluated based on the following parameters.

* • Data Completeness
* • Holding Times
* • GC/MS Tuning
* • Calibrations
* • Internal Standard Performance
* • Blanks
* • Surrogate Recoveries
* • Matrix Spike/Matrix Spike Duplicate
* • Field Duplicates
* • Compound Identification /Quantitation

* - All criteria were met for this parameter

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL

No qualifications are required.

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.9 Method; the National Functional Guidelines for Organic Data Validation, June 1991; and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # EM0060

A validation was performed on the Pesticide/Aroclor Data from SDG EM0060. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
*	•	Calibration
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Analyte Identification/Quantitation

One (1) sample required dilution to accurately quantitate target compounds. Several samples exhibited column quantitation %Ds greater than 25%.

Analyte Identification/Quantitation, Continued

Specific Findings

For the following sample and compounds, the results from the original analysis are replaced with the corresponding results from the dilution analysis. All other results from the dilution are rejected, UR, in favor of the results reported from the undiluted analysis.

041M790101	Alpha Chlordane
	4,4'-DDD

The positive results reported in all samples which exhibit column quantitation differences greater than 25% are qualified as estimated, J.

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 20% of the data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M790101	Alpha Chlordane 4,4'-DDD	+	D
041M790101DL	ALL OTHERS	+/-	UR
ALL	ALL P >25%	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # EM0060

A validation was performed on the Metals Data from SDG EM0060. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
*	•	Matrix Spike Recovery
*	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Aluminum	9.38 mg/kg	no impact
Calcium	26.8 mg/kg	all soil samples below 134 mg/kg
Iron	6.19 mg/kg	no impact
Magnesium	2.35 mg/kg	no impact
Manganese	0.13 mg/kg	no impact

Sodium	11.5 mg/kg	all soil samples below 57.5 mg/kg
Zinc	1.05 mg/kg	all soil samples below 5.25 mg/kg

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U". The field or DI water blanks exhibited contamination but had no impact on the data.

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Arsenic	-0.25 mg/kg	all soil samples below 2.5 mg/kg

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	041M790301	76

The post digestion spike recovery for GFAA was above the upper control limits. All positive results for the listed samples below are qualified as estimated, "J".

Element	Sample IDs	% recoveries
Antimony	041MZ90101	146

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
all soil samples below 134 mg/kg	Ca.	+	U
all soil samples below 57.5 mg/kg	Na.		
all soil samples below 5.25 mg/kg	Zn.		
all soil samples below 2.5 mg/kg	As.	+/U	J/UJ
041M790301.	Sb.	+/U	J/UJ
041M790101.	Sb.	+	J
All "B" results	all analytes	B	J

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Data Validation Report

SDG#:	EMD060
Date:	March 22, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	Pensacola
Date Sampled:	December 13 - 15, 1995
Number of Samples:	9 Aqueous Sample(s) with 0 MS/MSD(s) 12 Non-aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level III
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Volatiles, Low Concentration Volatiles, Semivolatiles, Low Concentration Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig M. Sevison
Eugene M. Watson, Vice President

3-25-96
Date

4127 Plaza 94 South · St. Charles, MO 63304
(314) 936-1332 · Fax (314) 936-1335

SDG# EMD060

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	VOA		LVOA		SV		LSV		P/P		TAL/CN	
040EM00601	WATER	X				X				X		X	
040FM00601	WATER	X				X				X		X	
040MZ24101	SOIL		X				X				X		X
040MZ24201	SOIL		X				X				X		X
040MZ274401	SOIL		X				X				X		X
040MZ24501	SOIL		X				X				X		X
040MZ24601	SOIL		X				X				X		X
040MZ24701	SOIL		X				X				X		X
040MZ24801	SOIL		X				X				X		X
040MZ24901	SOIL		X				X				X		X
041M18A101	SOIL		X				X				X		X
041M18A201	SOIL		X				X				X		X
041M18A301	SOIL		X				X				X		X
041M18B101	SOIL		X				X				X		X
040TM02601	WATER			X									
041W18A201	WATER			X				X		X		X	
041W18B101	WATER			X				X		X		X	
041EM00401	WATER			X				X		X		X	
041FM00401	WATER			X				X		X		X	
041TM01301	WATER			X									
041TM01401	WATER			X									
Total Billable Samples (Water/Soil)		2	12	7	0	2	12	4	0	6	12	6	12

VOA = CLP Volatiles
LVOA = CLP Low Concentrtion Volatiles
SV = CLP Semivolatiles
LSV = CLP Low Concentration Semivolatiles
P/P = CLP Pesticide/PCB's
TAL/CN = CLP Metals w/cyanide

DATA ASSESSMENT NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and are based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.8 Method; the National Functional Guidelines for Organic Data Validation, June 1991, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # EMD060

A validation was performed on the Volatile Data from SDG EMD060. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibration
	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
	•	Internal Standard Performance
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Continuing Calibrations

The continuing calibrations that were analyzed by the laboratory for these samples were not acceptable for all compound %Ds. The average RRF requirements were met for all continuing calibration standards.

Continuing Calibrations, continued
Specific Findings

The continuing calibration standard, BU156, contained compounds with %Ds greater than 25% but less than 50%. For the samples and noncompliant compounds listed below, the positive results are qualified as estimated, J.

041M18A301 041M18B101	acetone (25.7%)
041M18A301 041M18B101	2-butanone (33.0%)
040MZ24201 040MZ24801	methylene chloride (33.4%)

Field QC Blanks

Contamination for methylene chloride was detected in the field QC blanks. The end-user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria.

	040EM00601	**040FM00601**
methylene chloride	58 μg/L	56 μg/L

Field QC Blanks, continued

	Samples	Contaminant	Action Levels	Qualification
040EM00601	040MZ24201 040MZ24501 040MZ24701RE 040MZ24801 040MZ24901	methylene chloride	580 μg/Kg	CRQL
	041M18A101RE			U

Internal Standard Areas

Three (3) samples exhibited noncompliant IS EICP area recoveries.

Specific Findings

The following samples exhibited noncompliant internal standard area recoveries. All associated positive and non-detect results are qualified as estimated, J/UJ.

040MZ24701 041M18A301 040MZ24701RE 041M18A101RE	chlorobenzene-d_5
040M18A101	1,4-difluorobenzene chlorobenzene-d_5
041M18A301RE	All internal standards

Compound Quantitation

Specific Finding

The samples noted below are rejected, UR, in favor of the initial or RE analysis of the sample. The reviewer chose the analysis exhibiting the best IS area recoveries.

041M18A101
040MZ24701RE
041M18A301RE

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 5% of data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M18A301 041M18B101	acetone	+	J
041M18A301 041M18B101	2-butanone	+	J
040MZ24201 040MZ24801	methylene chloride	+	J
040MZ24201 040MZ24501 040MZ24701RE 040MZ24801 040MZ24901	methylene chloride	+	CRQL
041M18A101RE	methylene chloride	+	U
040MZ24701 041M18A301 040MZ24701RE 041M18A101RE	All associated with chlorobenzene-d_5	+/-	J/UJ
040M18A101	All associated with 1,4-difluorobenzene chlorobenzene-d_5	+/-	J/UJ
041M18A301RE	All associated with All internal standards	+/-	J/UJ

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M18A101	ALL	+/-	UR
040MZ24701RE			
041M18A301RE			

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QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # EMD060

A validation was performed on the Volatile Data from SDG EMD060. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, FN006, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W18A201	acetone
041W18B101	2-butanone

Method Blanks

Associated blank	Compound	Conc.	Action Level
VBLKFQ	acetone	8	80

Samples	Compound	Qualification
041W18A201	acetone	U
041W18B101		

Trip Blanks

Associated blank	Compound	Conc.	Action Level
041TM01401	methylene chloride	5B	50

Samples	Compound	Qualification
041W18A201	methylene chloride	CRQL

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W18A201 041W18B101	acetone 2-butanone	+/-	J/R
041W18A201 041W18B101	acetone	+	U
041W18A201	methylene chloride	+	CRQL

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # EMD060

A validation was performed on the Semivolatile Data from SDG EMD060. The data was evaluated based on the following parameters.

*	•	Data Completeness
	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Holding Times

The following samples had extractions that exceeded the method criteria of fourteen (14) days from date sampled. Qualifications are required.

Specific Find:

040MZ24401 and 040MZ24501 exceeded holding time by twenty-three (23) days. Qualify all positive results as estimated (J) and non detects as rejected (R).

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within %D and RRF continuing calibration criteria. Qualifications are required.

Specific Finding:

The continuing calibration, AJ317, contained compounds with %Ds greater than 50% an less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

040MZ24501 · 2,4-dinitrophenol (61.6%)

The continuing calibration, DJ491, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

040MZ24701 3-nitroaniline (58.3%)
2,4-dinitrophenol (59.7%)

Internal Standards

All internal standard EICP areas did not meet the internal standard EICP area QA/QC criteria.

Specific Finding:

The Samples listed below, exhibited low internal standard areas. Qualify all associated positive results as estimated (J) and all non detects as estimated (UJ).

041M18A201 perylene-d_{12}

Blanks

The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria to field samples.

Method Blanks

Associated blank	Compound	Concentration	Action Level
SBLKDZ	bis(2ethylhexyl)phthalate	61J	610
SBLKAQ	bis(2ethylhexyl)phthalate	86J	860

Samples	Compound	Qualification
040MZ24101	bis(2ethylhexyl)phthalate	CRQL
040MZ24601		
040MZ24701		
040MZ24801		
040MZ24901		
041M18A101		
041M18A201		
041M18A301		
041M18B101		
040MZ24401		
040MZ24501		

Rinseate Blanks

Associated blank	Compound	Concentration	Action Level
040EM00601	diethylphthalate	3J	30

Samples	Compound	Qualification
041M18A101	diethylphthalate	CRQL

Compound Identification /Quantitation

Specific Finding:

Reject sample 041M18A201RE, in favor of the initial analysis, due to non compliant internal standard area recoveries.

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
040MZ24401 040MZ24501	all analytes	+/-	J/R
040MZ24501	2,4-dinitrophenol	+/-	J/UJ
040MZ24701	3-nitroaniline 2,4-dinitrophenol	+/-	J/UJ
041M18A201	All associated analytes perylene-d_{12}	+/-	J/UJ
040MZ24101 040MZ24601 040MZ24701 040MZ24801 040MZ24901 041M18A101 041M18A201 041M18A301 041M18B101 040MZ24401 040MZ24501	bis(2ethylhexyl)phthalate	+	CRQL
041M18A101	diethylphthalate	+	CRQL
041M18A201RE	all analytes	+/-	R

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OLC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # EMD060

A validation was performed on the Semivolatile Data from SDG EMD060. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicate
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Field Blanks

Associated blank	Compound	Conc.	Action Level
041FM00401	bis(2-ethylhexyl) phthalate	9J	90

Samples	Compound	Qualification
041W18A201	bis(2-ethylhexyl) phthalate	CRQL

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ANALYSIS

PAGE - 2

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W18A201	bis(2-ethylhexyl) phthalate	+	CRQL

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.9 Method; the National Functional Guidelines for Organic Data Validation, June 1991; and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # EMD060

A validation was performed on the Pesticide/Aroclor Data from SDG EMD060. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Initial Calibrations

The initial calibrations that were analyzed by the laboratory for these samples were not acceptably linear for all compounds.

Initial Calibrations, Continued

Specific Findings

The initial calibration of 1/20/96 contained compounds with %RSDs greater than 20%. For the samples and the non-compliant compound listed below, all positive results are qualified as estimated, J, and all non-detect results are qualified as estimated, UJ.

040MZ24201	Alpha-BHC (20.6%)
040MZ24601	
040MZ24901	
040MZ24801	
041M18A301	
040MZ24501	
040MZ24101	
040MZ24401	
040MZ24701	
041M18A201	
041M18B101	
041M18A101DL	
041M18A201DL	
041M18A101	
041M18B101DL	

Surrogate Recoveries

Several samples exhibited non-compliant TCX and/or DCB recoveries.

Specific Finding

One (1) sample exhibited a high TCX recovery. For the samples listed below, the positive results are qualified as estimated, J.

Sample ID	Surrogate	% Recovery
040MZ24101	TCX-2	170%

Surrogate Recoveries, Continued

Specific Finding, Continued

Three (3) samples exhibited low TCX or DCB recoveries. For the samples listed below, the positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

Sample ID	Surrogate	% Recovery
040MZ24401	TCX-1	14%
040EM00601	DCB-1	25%
041FM00401	TCX-1	29%

Two (2) samples exhibited TCX recoveries below 10%. For the samples listed below, the positive results are qualified as estimated, J, and the non-detect results are rejected, R.

Sample ID	Surrogate	% Recovery
041EM00401	TCX-1	3%
	TCX-2	4%
040MZ24201	TCX-1	9%
	TCX-2	25%
	DCB-1	21%
	DCB-2	17%

Analyte Identification/Quantitation

Three (3) samples required dilution to accurately quantitate target compounds. Several samples exhibited column quantitation %Ds greater than 25%.

Analyte Identification/Quantitations, Continued

Specific Findings

For the following samples and compounds, the results from the original analysis are replaced with the corresponding results from the dilution analysis. All other results from the dilution are rejected, UR, in favor of the results reported from the undiluted analysis.

041M18A101	4,4'-DDD
041M18A201	4,4'-DDE
	4,4'-DDT
041M18B101	4,4'-DDT

The positive results reported in all samples which exhibit column quantitation differences greater than 25% are qualified as estimated, J.

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 30% of the data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
040MZ24201	Alpha-BHC	+/-	J/UJ
040MZ24601			
040MZ24901			
040MZ24801			
041M18A301			
040MZ24501			
040MZ24101			
040MZ24401			
040MZ24701			
041M18A201			
041M18B101			
041M18A101DL			
041M18A201DL			
041M18A101			
041M18B101DL			
040MZ24101	ALL	+	J
040MZ24401	ALL	+/-	J/UJ
040EM00601			
041FM00401			
041EM00401	ALL	+/-	J/R
040MZ24201			
041M18A101	4,4'-DDD	+	D
041M18A201	4,4'-DDE		
	4,4'-DDT		
041M18B101	4,4'-DDT	+	D
041M18A101DL	ALL OTHERS	+/-	UR
041M18A201DL			
041M18B101DL			
ALL	ALL P >25%	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # EMD060

A validation was performed on the Metals Data from SDG EMD060. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
*	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Aluminum	10.1 mg/kg	no impact
Barium	0.21 mg/kg	all soil samples below 1.05 mg/kg
Calcium	14.6 mg/kg	no impact
Iron	5.74 mg/kg	no impact
Lead	0.48 mg/kg	all soil samples below 2.4 mg/kg

Magnesium	4.11 mg/kg	no impact
Potassium	15.4 mg/kg	all soil samples below 77.0 mg/kg
Silver	0.45 mg/kg	no impact
Sodium	6.48 mg/kg	no impact
Zinc	0.82 mg/kg	all soil samples below 4.1 mg/kg
Calcium	117.0 ug/l	no impact
Iron	13.7 ug/l	no impact
Sodium	118.0 ug/l	no impact

The field and equipment blank exhibited contamination for the following elements.

Arsenic	2.1 ug/l	all water non QC samples below 10.5 ug/l
Barium	4.8 ug/l	all water non QC samples below 24.0 ug/l

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U". The field or DI water blanks exhibited contamination but had no impact on the data.

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Thallium	-0.35 mg/kg	all soil samples below 3.5 mg/kg
Antimony	-2.2 ug/l	all water non QC samples below 22.0 ug/l

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Matrix Spike Recovery

Specific Finding

The Matrix Spike recovery for soils for Antimony (45%) was below the lower control limits (<75% but >30%). All positive and non-detect results are qualified as estimated, "J" or "UJ".

The Matrix Spike recovery for Mercury (172%) was abvoe the upper control limits (>125%). All positive results are qualified as estimated, "J".

Laboratory Duplicate Analysis

Specific Finding

The duplicate analysis for Mercury was less than 2 times the CRDL. No qualification is necessary.

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	041M18B101	77
Antimony	041W18A301	52
Antimony	040MZ24101	76
Antimony	040MZ24201	56
Antimony	040MZ24401	54
Antimony	040MZ24801	60
Antimony	040MZ24901	63
Antimony	041M18A101	45
Antimony	040MZ24601	78
Antimony	041M18A201	80
Antimony	041W18B101	41
Antimony	041W18A201	42

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
all soil samples below 1.05 mg/kg	Ba.	+	U
all soil samples below 2.4 mg/kg	Pb.		
all soil samples below 77.0 mg/kg	K.		
all soil samples below 4.1 mg/kg	Zn.		
all water samples below 10.5 ug/l	As.		
all water samples below 24.0 ug/l	Ba.		
all soil samples below 3.5 mg/kg	Tl.	+/U	J/UJ
all water sdamples below 22.0 ug/l	Sb.		
all soil samples	Sb.	+/U	J/UJ
all soil samples	Hg.	+	J
041M18B101, 041M18A301, 040MZ24101, 040MZ24201, 040MZ24401, 040MZ24801, 040MZ24901, 041M18A101, 040MZ24601, 041M18A201, 041W18B101 AND 041W18A201.	Sb.	+/U	J/UJ
All "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	EW0010
Date:	March 12, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	Pensacola
Date Sampled:	December 7 - 11, 1995
Number of Samples:	6 Aqueous Sample(s) with 0 MS/MSD(s) 8 Non-aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level III
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Low Concentration Volatiles, Volatiles, Low Concentration Semivolatiles, Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig H. Swan — 3-13-96

Eugene M. Watson, Vice President — Date

4127 Plaza 94 South St. Charles, MO 63304
(314) 936-1332 Fax (314) 936-1335

SDG# EW0010

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	LVOA		VOA		LSV		SV		P/P		TAL/C	
040TM02301	WATER	X											
040TM02401	WATER	X											
041W160101	WATER	X				X				X		X	
041W160201	WATER	X				X				X		X	
041TM01101	WATER	X											
041EW00101	WATER	X											
040M251501	SOIL				X				X		X		X
040MZ51701	SOIL				X				X		X		X
040MZ51801	SOIL				X				X		X		X
040MZ51901	SOIL				X				X		X		X
040MZ52001	SOIL				X				X		X		X
041M160101	SOIL				X				X		X		X
041M160201	SOIL				X				X		X		X
041M160301	SOIL				X				X		X		X
Total Billable Samples	(Water/Soil)	6	0	0	8	2	0	0	8	2	8	2	8

LVOA = CLP Low Volatiles
VOA = CLP Volatiles
LSV = CLP Low Semivolatiles
SV = CLP Semivolatiles
P/P = CLP Pesticide w/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # EM0010

A validation was performed on the Volatile Data from SDG EM0010. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, FM774, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W160101	acetone
041W160201	2-butanone
	2-hexanone

Method Blanks

Associated blank	Compound	Conc.	Action Level
VBLKFH	acetone	7	70
	methylene chloride	2	20

Samples	Compound	Qualification
041W160101 041W160201	acetone	U
041W160101 041W160201	methylene chloride	U

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W160101 041W160201	acetone 2-butanone 2-hexanone	+/-	J/R
041W160101 041W160201	acetone	+	U
041W160101 041W160201	methylene chloride	+	U

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+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, 3/90; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. .

SDG # EW0010

A validation was performed on the Volatile Data from SDG EW0010. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds that were not within %D continuing calibration criteria. All RRFs were within calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, BT957, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041M160101	acetone (72.0%)
040MZ51501	
040MZ51701	
040MZ51901	
040MZ52001	

Method Blank

Associated blank	Compound	Concentration	Action Level
VBLKBN	Methylene chloride	2J	20

Samples	Compound	Qualification
040MZ51501	methylene chloride	CRQL
040MZ51701		
040MZ51901		
040MZ52001		
041M160101		

Trip Blank

Associated blank	Compound	Concentration	Action Level
040TM02401	acetone	25B	250
041TM01101	methlyene chloride	4B	40
	Acetone	11B	110

Trip Blank (continued)

Samples	Compound	Qualification
040MZ51801 041M160201 041M160301	acetone	U
041M160201	methlyene chloride	U

System Performance and Overall Assessment

The overall system performance was fair. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M160101 040MZ51501 040MZ51701 040MZ51901 040MZ52001	acetone (72.0%)	+/-	J/UJ
040MZ51501 040MZ51701 040MZ51901 040MZ52001 041M160101	methylene chloride	+	CRQL
040MZ51801 041M160201 041M160301	acetone	+	U
041M160201	methlyene chloride	+	U

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OlC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # EM0010

A validation was performed on the Semivolatile Data from SDG EM0010. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicate
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds that were not within %D continuing calibration criteria. All RRFs were within calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, DJ174, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041W160201	4-chloroaniline (51.9) butylbenzylphthalate (50.6) 3,3'-dichlorobenzidine (52.9)

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W160201	4-chloroaniline (51.9) butylbenzylphthalate (50.6) 3,3'-dichlorobenzidine (52.9)	+/-	J/UJ

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # EW0010

A validation was performed on the Semivolatile Data from SDG EW0010. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within %D and RRF continuing calibration criteria. Qualifications are required.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, IF833, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041MZ160101	hexachlorocyclopentadiene (63.6%)
041MZ160201	
041MZ160301	
040MZ51501	

The continuing calibration, IF833, contained compounds with %Ds greater than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

041MZ160101	4-chloroaniline (219.6%)
041MZ160201	
041MZ160301	
040MZ51501	

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041MZ160101 041MZ160201 041MZ160301 040MZ51501	hexachlorocyclopentadiene (63.6%)	+/-	J/UJ
041MZ160101 041MZ160201 041MZ160301 040MZ51501	4-chloroaniline (219.6%)	+/-	J/R

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.9 Method; the National Functional Guidelines for Organic Data Validation, June 1991; and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # EM0010

A validation was performed on the Pesticide/Aroclor Data from SDG EM0010. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
*	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Surrogate Recoveries

Six (6) samples exhibited non-compliant TCX recoveries.

Surrogate Recoveries, Continued

Specific Finding

The samples listed below exhibited high TCX recoveries. The positive results are qualified as estimated, J.

Sample ID	Surrogate	% Recovery
040MZ51501	TCX-2	163%
040MZ51701	TCX-2	246%
040MZ51801	TCX-2	160%
040MZ52001	TCX-2	176%
041M160101	TCX-2	255%
041M160201	TCX-2	298%

Analyte Identification/Quantitation

Several samples exhibited column quantitation %Ds greater than 25%.

Specific Findings

The positive results reported in all samples which exhibit column quantitation differences greater than 25% are qualified as estimated, J.

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 30% of the data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
040MZ51501	ALL	+	J
040MZ51701			
040MZ51801			
040MZ52001			
041M160101			
041M160201			
ALL	ALL P >25%	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # EW0010

A validation was performed on the Metals Data from SDG EW0010. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
*	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Aluminum	9.97 mg/kg	no impact
Barium	0.13 mg/kg	all soils samples below 0.65 mg/kg
Calcium	7.31 mg/kg	no impact
Iron	22.5 mg/kg	all soil samples below 112.5 mg/kg
Lead	0.18 mg/kg	all soil samples below 0.90 mg/kg

Aluminum	35.2 ug/l	all water samples below 176 ug/l
Calcium	96.5 ug/l	no impact
Iron	16.9 ug/l	no impact
Lead	1.37 ug/l	no impact
Sodium	138 ug/l	no impact

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U". The field or DI water blanks exhibited contamination but had no impact on the data.

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Antimony	-0.60 mg/kg	all soil samples below 6.0 mg/kg
Antimony	-3.58 ug/l	all water samples below 35.8 ug/l
Potassium	-113 ug/l	no impact

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Matrix Spike Recovery

Specific Finding

The Matrix Spike recovery for soils for Antimony (27%) was below 30%. All non-detect results are rejected and all positive results are qualified as estimated, "J".

Laboratory Duplicate Analysis

Specific Finding

The RPD for Iron was below 35%. No qualification is required.

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	041M160201	40
Antimony	041M160301	69

Antimony	041M151901	40
Antimony	041M151701	67
Antimony	041M151801	67
Antimony	041M152001	70
Antimony	041M160101	57

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
All soil samples below 0.65 mg/kg	Ba.	+	U
all soil samples below 112 mg/kg	Fe.		
all soil samples below 0.90 mg/kg	Pb.		
all water samples below 176 ug/l	Al.		
all soil samples below 6.0 mg/kg	Sb.	+/U	J/UJ
all water samples below 35.8 ug/l	Sb.		
all soil samples	Sb.	+	J
		U	R
04QM160201, 041M160301, 041M151901, 041M151701, 041M151801, 041M152001 AND 041M160101	Sb.	+/U	J/UJ
All "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	M00901
Date:	March 29, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	Pensacola
Date Sampled:	January 19 - 22, 1996
Number of Samples:	14 Aqueous Sample(s) with 1 MS/MSD(s) 5 Non-aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level IV
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Volatiles, Low Concentration Volatiles, Semivolatiles, Low Concentration Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Swan

Eugene M. Watson, Vice President

4-2-96

Date

4127 Plaza 94 South · St. Charles, MO 63304
(314) 936-1332 · Fax (314) 936-1335

SDG# M00901

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	VOA		LVOA		SV		LSV		P/P		TAL/CN	
RABM000101	SOIL		X				X				X		X
RABM000201	SOIL		X				X				X		X
RABM000301	SOIL		X				X				X		X
041M480101	SOIL		X				X				X		X
041N480101	SOIL		X				X				X		X
040EM00901	WATER			X		X				X		X	
040FM00901	WATER			X		X				X		X	
040TM03501	WATER			X									
RABW000101	WATER			X				X		X		X	
RABW000201	WATER			X				X		X		X	
RABW000301	WATER			X				X		X		X	
041W480101	WATER			X				X		X		X	
041R480101	WATER			X				X		X		X	
041W490301	WATER			X				X		X		X	
041TM01901	WATER			X									
041WW10101	WATER			X				X		X		X	
041WW10201	WATER			X				X		X		X	
041WW10301	WATER			X				X		X		X	
041W490101	WATER			X				X		X		X	
Total Billable Samples	(Water/Soil)	0	5	14	0	2	5	10	0	12	5	12	5

VOA = CLP Volatiles
LVOA = CLP Low Concentration Volatiles
SV = CLP Semivolatiles
LSV = CLP Low Concentration Semivolatiles
P/P = CLP Pesticide/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # M00901

A validation was performed on the Volatile Data from SDG M00901. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Blanks

The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria to field samples.

Method Blank

Associated blank	Compound	Concentration	Action Level
VBLKCB	acetone	4J	40
	Methylene chloride	2J	20

Samples	Compound	Qualification
RABM000101 RABM000201 RABM000301	methylene chloride	CRQL
RABM000201	acetone	U

Trip Blank

Associated blank	Compound	Concentration	Action Level
040TM03501	acetone	59	590
	Methylene chloride	3	30

Samples	Compound	Qualification
041M480101 041N480101	acetone	U
041N480101	methylene chloride	CRQL

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 10% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
RABM000101 RABM000201 RABM000301	methylene chloride	+	CRQL
RABM000201 041M480101 041N480101	acetone	+	U
041N480101	methylene chloride	+	CRQL

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QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # M00901

A validation was performed on the Volatile Data from SDG M00901. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, EN139, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

RABW000201	acetone
RABW000301	2-butanone
	1,2-dibromo-3-chloropropane

The continuing calibration, FN531, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

RABW000101	acetone
	2-butanone

The continuing calibration, FN571, contained compounds with %Ds that were greater than 50% but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041W490101	chloromethane (63.9)
041W490301	
041WW10101	
041WW10201	

The continuing calibration, FN571, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W490101	acetone (65.8)
041W490301	2-butanone (26.9)
041WW10101	2-hexanone (40.3)
041WW10201	

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, FN591, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041WW10201DL	acetone (63.2)
041WW10301	2-butanone

The continuing calibration, FN610, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W480101	acetone (63.2)
2-butanone	

Method Blanks

Associated blank	Compound	Conc.	Action Level
VBLKFQ	acetone	6	60
VBLKFU	acetone	6	6

Samples	Compound	Qualification
RABW000101	acetone	U
041W480101		

Trip Blanks

Associated blank	Compound	Conc.	Action Level
040TM03501	methylene chloride	3	30
	acetone	59	590

Samples	Compound	Qualification
RABW000101	methylene chloride	U
RABW000201		
RABW000301		

Trip Blanks

Associated blank	Compound	Conc.	Action Level
040TM03501	methylene chloride	3	30
	acetone	59	590
041TM01901	methylene chloride	1	10
	acetone	72	720

Samples	Compound	Qualification
041W480101	methylene chloride	U
041W490101		
041W490301		
041WW10101		
041WW10201		
041WW10201DL		
RABW000201	acetone	U
RABW000301		
041W490301		
041WW10201		
041WW10201DL		
041WW10301		

Compound Identification/Quantitation

Specific Finding:

For sample 041WW10201, reject the E-flagged results in favor of the results from the diluted samples 041WW10201DL.

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
RABW000201 RABW000301	acetone 2-butanone 1,2-dibromo-3-chloropropane	+/-	J/R
RABW000101	acetone 2-butanone	+/-	J/R
041W490101 041W490301 041WW10101 041WW10201	chloromethane (63.9)	+/-	J/UJ
041W490101 041W490301 041WW10101 041WW10201	acetone (65.8) 2-butanone (26.9) 2-hexanone (40.3)	+/-	J/R
041WW10201DL 041WW10301	acetone (63.2) 2-butanone	+/-	J/R
041W480101	acetone (63.2) 2-butanone	+/-	J/R
RABW000101 041W480101	acetone	+	U
RABW000101 RABW000201 RABW000301	methylene chloride	+	U

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QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W480101	methylene chloride	+	U
041W490101			
041W490301			
041WW10101			
041WW10201			
041WW10201DL			
RABW000201	acetone	+	U
RABW000301			
041W490301			
041WW10201			
041WW10201DL			
041WW10301			

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # M00901

A validation was performed on the Semivolatile Data from SDG M00901. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within %D and RRF continuing calibration criteria. Qualifications are required.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, DJ674, contained compounds with %Ds greater than 50% an less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

RABM000101	2,4-dinitrophenol (74.6%)
041M480101	
041N480101	
RABM000201	

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
RABM000101	2,4-dinitrophenol	+/-	J/UJ
041M480101			
041N480101			
RABM000201			

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OLC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # M00901

A validation was performed on the Semivolatile Data from SDG M00901, the sample data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicate
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds that were not within %D continuing calibration criteria. All RRFs were within calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, DJ602, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041WW10101	hexachlorocyclopentadiene (54.5)
041W490101	

The continuing calibration, DJ715, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

RABW000201	hexachlorocyclopentadiene (60.8)
RABW000301	
041W480101	
RABW000101	
041WW10301	
041W490301	
041WW10201	

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041WW10101 041W490101	hexachlorocyclopentadiene (54.5)	+/-	J/UJ
RABW000201 RABW000301 041W480101 RABW000101 041WW10301 041W490301 041WW10201	hexachlorocyclopentadiene (60.8)	+/-	J/UJ

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.9 Method; the National Functional Guidelines for Organic Data Validation, June 1991; and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # M00901

A validation was performed on the Pesticide/Aroclor Data from SDG M00901. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
*	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Surrogate Recoveries

One (1) sample exhibited a non-compliant DCB recovery.

Surrogate Recoveries, Continued

Specific Finding

The sample listed below exhibited a low DCB recovery. The positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

Sample ID	Surrogate	% Recovery
041WW10201	DCB-2	29%

Field Duplicates

The field duplicate pair of samples 41M480101 and 41N480101 exhibited positive results for several compounds. Three (3) compounds exhibited non-compliant RPDs.

Specific Findings

The field duplicate pair of samples 41M480101 and 41N480101 exhibited positive results and non-compliant RPDs for three (3) compounds. For the non-compliant compounds listed below, the positive results are qualified as estimated, J.

041M480101	4,4'-DDE (61%)
041N480101	4,4'-DDD (60%)
	4,4'-DDT (53%)

Analyte Identification/Quantitation

Four (4) samples required dilution to accurately quantitate target compounds. Several samples exhibited column quantitation %Ds greater than 25%.

Analyte Identification/Quantitation, Continued

Specific Findings

For the following samples and compounds, the results from the original analysis are replaced with the corresponding results from the dilution analysis. All other results from the dilution are rejected, UR, in favor of the results reported from the undiluted analysis.

RABM000101	4,4'-DDD
	4,4'-DDT
RABM000201	4,4'-DDE
041M480101	4,4'-DDD
041N480101	

The positive results reported in all samples which exhibit column quantitation differences greater than 25% are qualified as estimated, J.

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 20% of the data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041WW10201	ALL	+/-	J/UJ
041M480101 041N480101	4,4'-DDE 4,4'-DDD 4,4'-DDT	+	J
RABM000101	4,4'-DDD 4,4'-DDT	+	D
RABM000201 041M480101 041N480101	4,4'-DDE 4,4'-DDD	+	D
RABM000101DL RABM000201DL 041M480101DL 041N480101DL	ALL OTHERS	+/-	UR
ALL	ALL P >25%	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # M00901

A validation was performed on the Metals Data from SDG M00901. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
*	•	Matrix Spike Recovery
	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Aluminum	14.2 mg/kg	no impact
Calcium	3.01 mg/kg	no impact
Lead	0.28 mg/kg	all soil samples below 1.4 mg/kg
Sodium	71.4 mg/kg	all soil samples below 357 mg/kg
Zinc	0.95 mg/kg	all soil samples below 4.75 mg/kg

Aluminum	21.4 ug/l	no impact
Arsenic	3.28 ug/l	all water samples below 16.4 ug/l
Calcium	26.1 ug/l	no impact
Magnesium	22.7 ug/l	no impact
Sodium	889 ug/l	all water samples below 4445 ug/l

The field and equipment blank exhibited contamination for the following elements.

Aluminum	315 ug/l	all water samples below 1575 ug/l
Arsenic	3.9 ug/l	all water samples below 19.5 ug/l
Barium	5.1 ug/l	all water samples below 25.5 ug/l
Calcium	163 ug/l	no impact
Mercury	0.18 mg/kg	all water samples below 0.9 ug/l
Sodium	949 ug/l	all water samples below 4745 ug/l
Zinc	42.7 ug/l	all water samples below 214 ug/l

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U". The field or DI water blanks exhibited contamination but had no impact on the data.

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Thallium	0.5 mg/kg	all soil samples below 5.0 mg/kg
Cobalt	-2.23 ug/l	all water samples below 23.3 ug/l

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Duplicate Analysis

Specific Finding

The Duplicate analysis for waters for Aluminum was outside the control limits (>20%). All positive results are qualified as estimated, "J".

Serial Dilution

Specific Finding

The Serial Dilution for waters for Calcium and Magnesium were outside the control limits (10%). All positive results are qualified as estimated, "J".

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	041WW10101	79
Antimony	041WW10301	69
Antimony	RABM000101	67
Antimony	RABM000301	77
Antimony	041M480101	68
Antimony	RABW000301	54
Antimony	041W480101	64

The post digestion spike recovery for GFAA was above the upper control limits. All positive results for the listed samples below are qualified as estimated, "J".

Element	Sample IDs	% recoveries
Antimony	041N480101	116

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
all soil samples below 1.4 mg/kg	Pb.	+	U
all soil samples below 357 mg/kg	Na.		
all soil samples below 4.75 mg/kg	Zn.		
all water samples below 16.4 ug/l	As.		
all water samples below 4445 ug/l	Na.		
all water samples below 1575 ug/l	Al.		
all water samples below 19.5 ug/l	As.		
all water samples below 25.5 ug/l	Ba.		
all water samples below 0.9 ug/l	Hg.		
all water samples below 4745 ug/l	Na.		
all water samples below 214 ug/l	Zn.		
all water samples	Al.	+	J
all water samples	Ca and Mg.	+	J
041WW10101, WW10301, RABM000101, 301, 041M480101, RABW000301 AND 041W480101.	Sb.	+/U	J/UJ
041N480101.	Sb.	+	J
All "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	M06010
Date:	February 14, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	NAS Pensacola; Site 41
Date Sampled:	November 15, 1995
Number of Samples:	1 Aqueous Sample(s) with 0 MS/MSD(s) 19 Non-aqueous Sample(s) with 2 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level IV
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Volatiles, Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Searson

Eugene M. Watson, Vice President

3-7-96
Date

6716 Mexico Road St Peters, MO 63376
(314) 928-9533 (314) 278-1828 · Fax (314) 278-2709

SDG# M06010

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	VOA		SV		P/P		TAL/C	
041M060101	SOIL		X		X		X		X
041M060201	SOIL		X		X		X		X
041M060301	SOIL		X		X		X		X
041M060401	SOIL		X		X		X		X
041N060401	SOIL		X		X		X		X
041M250101	SOIL		X		X		X		X
041M250201	SOIL		X		X		X		X
041M250301	SOIL		X		X		X		X
041N250301	SOIL		X		X		X		X
041M270101	SOIL		X		X		X		X
041M270201	SOIL		X		X		X		X
041M640201	SOIL		X		X		X		X
041M640301	SOIL		X		X		X		X
041M640501	SOIL		X		X		X		X
041M640601	SOIL		X		X		X		X
041M640701	SOIL		X		X		X		X
041M640901	SOIL		X		X		X		X
041M641201	SOIL		X		X		X		X
041M641501	SOIL		X		X		X		X
041TM00101	WATER	X							
Total Billable Samples (Water/Soil)		1	19	0	19	0	19	0	19

VOA = CLP Volatiles
SV = CLP Semivolatiles
P/P = CLP Pesticide/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and are based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.8 Method; the National Functional Guidelines for Organic Data Validation, June 1991, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # M06010

A validation was performed on the Volatile Data from SDG MO6010. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibration
	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
	•	Internal Standard Performance
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Continuing Calibrations

The continuing calibrations that were analyzed by the laboratory for these samples were not acceptable for all compound %Ds. The average RRF requirements were met for all continuing calibration standards.

Continuing Calibrations, continued

Specific Findings

The continuing calibration standard, BT611 contained compounds with %Ds greater than 50% but less than 90%. For the samples and noncompliant compounds listed below, the positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

041M640301 2-hexanone
041M640501
041M641201

The continuing calibration standard, CP944 contained compounds with %Ds greater than 25% but less than 50%. For the samples and noncompliant compounds listed below, the positive results are qualified as estimated, J.

041M250301 acetone
041M640301RE
041M640701
041M640901
041M641501

Method Blanks

Contamination for methylene chloride was detected in eight (8) of the nine (9) method blanks.

	VBLKHR	VBLKBU	VBLKCM	VBLKBW
methylene chloride	3 μg/Kg	8 μg/Kg	5 μg/Kg	7 μg/Kg

	VBLKCN	VBLKCO	VBLKHX	VBLKBZ
methylene chloride	3 μg/Kg	8 μg/Kg	220 μg/Kg	4 μg/Kg

Method Blanks, continued

Specific Finding

Samples	Contaminant	Qualification
041M060201	methylene chloride	U
041M060301		
041M270101		
041M060401		
041N060401		
041M250201		
041M250201RE		
041M270101RE		
041M270201		
041M640301RE		
041M640901		
041NZ50301		
041M640201		
041M060101		
041M640601		
041M250101	methylene chloride	CRQL
041M250301		
041M640701		
041M641501		

Field QC Blanks

Contamination for methylene chloride or acetone was detected in the two (2) trip blanks.

	041TM00102	041TM00101
methylene chloride	-------	8 μg/L
acetone	6 μg/L	--------

Field QC Blanks, continued

Specific Finding

	Samples	Contaminant	Qualification
041TM00102	041N250301 041M270201	acetone	U
	041M270101RE	acetone	CRQL
041TM00101	041M641201	methylene chloride	U
	041M640301 041M640501	methylene chloride	CRQL

Internal Standard Areas

Several samples exhibited noncompliant IS EICP area recoveries.

Specific Findings

The following samples exhibited noncompliant internal standard area recoveries. All associated positive and non-detect results are qualified as estimated, J/UJ.

041M250201 041M640301RE	chlorobenzene-d_5
041M250201RE 041M270101RE 041M270101 041M640301	1,4-difluorobenzene chlorobenzene-d_5

Compound Quantitation

Specific Finding

The sample noted below is rejected, UR, in favor of the RE or initial analysis of the sample.

041M250201RE
041M270101RE
041M640301

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 5% of data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M640301	2-hexanone	+/-	J/UJ
041M640501			
041M641201			
041M250301	acetone	+	J
041M640301RE			
041M640701			
041M640901			
041M641501			
041M060201	methylene chloride	+B	U
041M060301			
041M270101			
041M060401			
041N060401			
041M250201			
041M250201RE			
041M270101RE			
041M270201			
041M640301RE			
041M640901			
041NZ50301			
041M640201			
041M060101			
041M640601			
041M250101	methylene chloride	+B	CRQL
041M250301			
041M640701			
041M641501			
041N250301	acetone	+	U
041M270201			
041M270101RE	acetone	+	CRQL
041M641201	methylene chloride	+	U

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M640301 041M640501	methylene chloride	+	CRQL
041M250201 041M640301RE	chlorobenzene-d_5	+/-	J/UJ
041M250201RE 041M270101RE 041M270101 041M640301	1,4-difluorobenzene chlorobenzene-d_5	+/-	J/UJ
041M250201RE 041M270101RE 041M640301	All compounds	+/-	UR

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLC01.8, 3/90 Method; the National Functional Guidelines for Organic Data Validation, June 1991, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # M06010

A validation was performed on the Semivolatile Data from SDG M06010. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibration
	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Internal Standard Performance
*	•	Compound Identification
*	•	Compound Quantitation

* - All criteria were met for this parameter.

Continuing Calibrations

The continuing calibrations that were analyzed by the laboratory for these samples were not acceptable for all compound %Ds. All average RRF requirements were not met.

Continuing Calibrations, continued

Specific Findings

The continuing calibration standard, DI748 contained compounds with %Ds greater than 50% but less than 90%. For the samples and non-compliant compounds listed below, the positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

041M641201	3,3'-dichlorobenzidine
041M640901	bis(2-ethylhexyl)phthalate
	Di-n-octylphthalate

The continuing calibration standard, IF240 contained compounds with %Ds greater than 50% but less than 90%. For the samples and non-compliant compounds listed below, the positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

041M060201	2,2'-oxybis(1-chloropropane)
041M060301	4-nitrophenol
041M250101	
041M250201	
041M250301	

The continuing calibration standard, IF258 contained compounds with %Ds greater than 90%. For the samples and non-compliant compounds listed below, the positive results are qualified as estimated, J, and the non-detect results are rejected, R.

041M060101	2,2'-oxybis(1-chloropropane)
041M060401	

The continuing calibration standard, IF348 contained compounds with %Ds greater than 50% but less than 90%. For the samples and non-compliant compounds listed below, the positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

041M641501	4-chloroaniline
	4-nitroaniline
	Carbazole

Continuing Calibrations, continued

Specific Findings

The continuing calibration standard, IF348 contained compounds with %Ds greater than 90%. For the samples and non-compliant compounds listed below, the positive results are qualified as estimated, J, and the non-detect results are rejected, R.

041M641501 2,2'-oxybis(1-chloropropane)
3-nitroaniline (RRF 0.012)

The continuing calibration standard, IF423 contained compounds with %Ds greater than 50% but less than 90%. For the samples and non-compliant compounds listed below, the positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

041M640601 hexachlorocyclopentadiene
2,4-dinitrophenol
4-nitroaniline
3,3'-dichlorobenzidine

The continuing calibration standard, IF348 contained compounds with %Ds greater than 90%. For the samples and non-compliant compounds listed below, the positive results are qualified as estimated, J, and the non-detect results are rejected, R.

041M640601 2,2'-oxybis(1-chloropropane)
3-nitroaniline (RRF 0.012)

Method Blanks

The six (6) method blanks exhibited contamination for bis(2-ethylhexyl)phthalate and/or di-n-butylphthalate.

	SBLKJW	SBLKJY	SBLKIV	SBLKIC
bis(2-ethylhexyl)phthalate	82 µg/Kg	120 µg/Kg	120 µg/Kg	110 µg/Kg
di-n-butylphthalate	-------	------	-------	39 µg/Kg

Method Blanks, continued

	SBLKDL	SBLKAI
bis(2-ethylhexyl)phthalate	130 µg/Kg	100 µg/Kg
di-n-butylphthalate	34 µg/Kg	-------

Specific Finding

Samples	Contaminant	Qualification
041M270101	bis(2-ethylhexyl)phthalate	CRQL
041M270201		
041M640301		
041M640701		
041N060401		
041N250301		
041M640601		
041M641501		
041M640901		
041M641201		
041M640201		
041M060101		
041M060201		
041M060401		
041M250101		
041M250201		
041M250301		
041M640301	bis(2-ethylhexyl)phthalate	U
041M640501		
041M060301		
041M641501	di-n-butylphthalate	CRQL
041M640901		
041M641201		

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 5% of data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M641201 041M640901	3,3'-dichlorobenzidine bis(2-ethylhexyl)phthalate Di-n-octylphthalate	+/-	J/UJ
041M060201 041M060301 041M250101 041M250201 041M250301	2,2'-oxybis(1-chloropropane) 4-nitrophenol	+/-	J/UJ
041M060101 041M060401	2,2'-oxybis(1-chloropropane)	+/-	J/R
041M641501	4-chloroaniline 4-nitroaniline Carbazole	+/-	J/UJ
041M641501	2,2'-oxybis(1-chloropropane) 3-nitroaniline (RRF 0.012)	+/-	J/R
041M640601	hexachlorocyclopentadiene 2,4-dinitrophenol 4-nitroaniline 3,3'-dichlorobenzidine	+/-	J/UJ
041M640601	2,2'-oxybis(1-chloropropane) 3-nitroaniline (RRF 0.012)	+/-	J/R

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M270101	bis(2-ethylhexyl)phthalate	+B	CRQL
041M270201			
041M640301			
041M640701			
041N060401			
041N250301			
041M640601			
041M641501			
041M640901			
041M641201			
041M640201			
041M060101			
041M060201			
041M060401			
041M250101			
041M250201			
041M250301			
041M640301	bis(2-ethylhexyl)phthalate	+B	U
041M640501			
041M060301			
041M641501	di-n-butylphthalate	+B	CRQL
041M640901			
041M641201			

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results this report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.8 Method; the National Functional Guidelines for Organic Data Validation, June 1991, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # M06010

A validation was performed on the Pesticide/Aroclor Data from SDG M06010. The data was evaluated based on the following parameters:

*	•	Data Completeness
	•	Holding Times
*	•	GC Performance
	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Holding Times

One (1) sample required qualifications due to exceeded holding times.

Specific Finding

The following sample was extracted fourteen (14) days outside the extraction holding time. All positive and non-detect results are qualified as estimated, J/UJ.

041M250201

Initial Calibrations

The initial calibrations analyzed for these samples were not all within the 20% RSD criteria.

Specific Finding

The initial calibration analyzed on 12/02/95 exhibited a non-compliant RPD for two (2) compounds. Reported results for the noted compounds in the following samples are qualified as estimated, J/UJ.

041M250101	α-BHC (20.7/23.8)
041M270101	4,4'-DDT (21.1)
041M270201	
041M641501	
041M640501DL	
041M060101DL	

Surrogate Recoveries

Three (3) samples required qualification due to non-compliant surrogate recoveries.

Specific Findings

The following samples exhibited TCMX recoveries below the QC limit. All positive and non-detect results reported in the sample are qualified as estimated, J/UJ.

Samples	Surrogate	% Recoveries
041M060201	Tetrachloro-m-xylene	23%
041M270101		29%
041M641501		26%

Compound Identification/Quantitation

Several reported results exhibited P flags due to column quantitation %Ds greater than 25%. Single component compounds in samples with reported aroclors should be considered suspect. The Form Is submitted by the laboratory indicated incorrect Concentrated Final Volumes for all samples. The laboratory indicated that the software limitation would not accommodate the correct final volume. The samples were to be calculated based on a final volume of 1.0 ml. Based on this information, calculation verification was possible. Supporting documentation

Compound Identification, continued

explaining the discrepancy has been received. Several samples required dilution to accurately quantitate detected target compounds. Sample 041M060101DL was reported incorrectly on the Form Is and on the spreadsheet deliverables. The laboratory calculated the results in this sample based on a dilution factor of 10. However, the actual dilution factor for the sample analysis was 100. Therefore, the laboratory has resubmitted a corrected Form I to the validator reflecting corrected dilution factor and results for sample 041M060101DL. The results on the spreadsheet were changed by the validator. A copy of the resubmitted Form I is contained in the validation worksheets of this report. One (1) compound in one (1) sample was reported slightly above the calibration range. However, the compound was not detected in the dilution analysis of the sample. Therefore, the compound was qualified as estimated in the lessor dilution analysis of the sample.

Specific Findings

For the following samples and noted compounds, the results are rejected, UR, and replaced with the corresponding D flagged result from the dilution analysis. All other results from the dilution analysis are rejected, UR, in favor of the results from the undiluted analysis of the sample.

041M060301	4,4'-DDE
	4,4'-DDD
	4,4'-DDT
041M640201	AR1254
	4,4'-DDE
	4,4'-DDD
041M640501	4,4'-DDE
041M640701	4,4'-DDD
041M060101	4,4'-DDD
	4,4'-DDT

The noted compound in the following sample is qualified as estimated, J, because it is above the calibration range.

041M640501	4,4'-DDD

Compound Identification, continued

Specific Findings, continued

All positive results exhibiting P flags are qualified as estimated, J, due to column quantitation %Ds greater than 25%.

Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 5% of data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M250101 041M270101 041M270201 041M641501 041M640501DL 041M060101DL 041N641501	α-BHC 4,4'-DDT	+/-	J/UJ
041M060201 041M270101 041M641501	All compounds	+/-	J/UJ
041M060301	4,4'-DDE 4,4'-DDD 4,4'-DDT	+	UR
041M640201	AR1254 4,4'-DDE 4,4'-DDD	+	UR
041M640501	4,4'-DDE	+	UR
041M640701	4,4'-DDD	+	UR
041M060101	4,4'-DDD 4,4'-DDT	+	UR
041M060301DL 041M640201DL 041M640501DL 041M640701DL 041M060101DL	All except corresponding D flagged results	+/-	UR
041M640501	4,4'-DDD		

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
All	All P flagged results	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # M06010

A validation was performed on the Metals Data from SDG M06010. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
	•	Matrix Duplicates
	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Aluminum	6.08 mg/kg	no impact
Calcium	4.58 mg/kg	no impact
Iron	4.17 mg/kg	no impact
Lead	0.27 mg/kg	no impact

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U". The field or DI water blanks exhibited contamination but had no impact on the data.

Matrix Spike Recovery

Specific Finding

The Matrix Spike recovery for soils for Antimony was below 30%. All non-detect results are rejected and all positive results are qualified as estimated, "J".

The Matrix Spike recoveries for soils for Copper and Silver were below the lower control limits. All positive and non-detect results are qualified as estimated, "J" or "UJ".

The Matrix Spike recovery for soils for Selenium was above the upper control limits. All positive results are qualified as estimated, "J".

Duplicate Analysis

Specific Finding

The Duplicate analyses for Calcium, Lead and Zinc were outside the control limits. All positive results are qualified as estimated, "J". The RPDs for Aluminum, Cadmium, Chromium and Iron were not greater than 35% and will not be qualified. The field duplicate RPDs for Aluminum, Calcium, Iron and Sodium were greater than 50%. All positive results are qualified as estimated, "J".

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	041M060101	59
Antimony	041M060201	48
Antimony	041M060301	55
Antimony	041M060401	69
Antimony	041M250301	58
Antimony	041M250201	42
Antimony	041M270201	55
Antimony	041M270101	70

Antimony	041M060401	69
Antimony	041M640201	54
Antimony	041M640301	71
Antimony	041M640601	59
Antimony	041M640501	79
Antimony	041M640701	46
Antimony	041M640901	55
Antimony	041M641201	59
Antimony	041M641501	67

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
all soil samples	Sb.	+	J
		U	R
all soil samples	Pb and Ag.	+/U	J/UJ
all soil samples	Se.	+	J
all soil samples	Pb, Ca, Zn, Al, Fe and Na.	+	J
041M060101, 201, 301, 401, 250301, 201, 270201, 101, 640601, 201, 301, 501, 701 901, 641201 and 501.	Sb.	+/U	J/UJ
All "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	M06070
Date:	February 14, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	NAS Pensacola; Site 41
Date Sampled:	November 13 - 15, 1995
Number of Samples:	13 Aqueous Sample(s) with 0 MS/MSD(s) 9 Non-aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level IV
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Volatiles, Low Concentration Volatiles, Low Concentration Semivolatiles, Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Watson — 3-7-96

Eugene M. Watson, Vice President — Date

4127 Plaza 94 South · St. Charles, MO 63304
(314) 936-1332 · Fax (314) 936-1335

SDG# M06070

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	VOA		LVOA		LSV		SV		P/P		TAL/CN	
041W060301	WATER			X		X				X		X	
041M060701	SOIL		X						X		X		X
041W060701	WATER			X		X				X		X	
041M060801	SOIL		X						X		X		X
041M060901	SOIL		X						X		X		X
041W250101	WATER			X		X				X		X	
041W250301	WATER			X		X				X		X	
041R250301	WATER			X		X				X		X	
041W270201	WATER			X		X				X		X	
041M320101	SOIL		X						X		X		X
041W320101	WATER			X		X				X		X	
041M320201	SOIL		X						X		X		X
041M320301	SOIL		X						X		X		X
041W320301	WATER			X		X				X		X	
041M330101	SOIL		X						X		X		X
041W330101	WATER			X		X				X		X	
041M330201	SOIL		X						X		X		X
041M330301	SOIL		X						X		X		X
041W330301	WATER			X		X				X		X	
041EM00101	WATER			X		X				X		X	
041FM00101	WATER			X		X				X		X	
041TM00102	WATER			X									
Total Billable Samples (Water/Soil)		0	9	13	0	12	0	0	9	12	9	12	9

VOA = CLP Volatiles
LVOA = CLP Low Concentration Volatiles
LSV = CLP Low Concentration Semivolatiles
SV = CLP Semivolatiles
P/P = CLP Pesticide/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

SDG # M06070

A validation was performed on the Volatile Data from SDG M06070. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Internal Standards

All internal standard EICP areas did not meet the internal standard EICP area QA/QC criteria.

Specific Finding:

The Samples listed below, exhibited low internal standard areas. Qualify all associated positive results as estimated (J) and all non detects as estimated(UJ).

041M320201	1.4-difluorobenzene chlorobenzene-d_5

Internal Standards (continued)

Specific Finding:

The Samples listed below, exhibited low internal standard areas. Qualify all associated positive results as estimated (J) and all non detects as estimated(UJ).

041M320201RE	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5

Method Blank

Associated blank	Compound	Concentration
VBLKCK	Methylene chloride	7
VBLKCL	methylene chloride	3J
VBLKCM	methylene chloride	5J
VBLKCO	methylene chloride	8J

Samples	Compound	Qualification
041M060901 041M320201 041M320201RE 041M060701 041M320101 041M330101 041M330201	methylene chloride	U
041M060801 041M060901DL 041M320301 041M330301	methylene chloride	CRQL

DATA ASSESSMENT AND NARRATIVE

VOLATILE ANALYSIS

PAGE - 3

Trip Blank

Associated blank	Compound	Concentration
041TM00102	acetone	6B

Samples	Compound	Qualification
041M060701 041M320101 041M330301	acetone	U

Compound Identification /Quantitation

Reject E-flagged results for samples 041M060901, in favor of the diluted sample.

Reject 041M320201RE, in favor of the initial analysis, due to non compliant internal standard area recoveries.

System Performance and Overall Assessment

The overall system performance was fair. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M320201	All associated analytes 1,4-difluorobenzene chlorobenzene-d_5	+/-	J/UJ
041M320201RE	bromochloromethane 1,4-difluorobenzene chlorobenzene-d_5		
041M060901 041M320201 041M320201RE 041M060701 041M320101 041M330101 041M330201	methylene chloride	+	U
041M060801 041M060901DL 041M320301 041M330301	methylene chloride	+	CRQL
041M060701 041M320101 041M330301	acetone	+	U
041M060901	All E-flagged results	+	R
041M060901DL	All analytes except D-flagged results	+/-	R
041M320201RE	All analytes	+/-	R

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

SDG # M06070

A validation was performed on the Volatile Data from SDG M06070, low concentration. The data was evaluated based on the following parameters.

- * Data Completeness
- * Holding Times
- * GC/MS Tuning
- Calibrations
- * Internal Standard Performance
- Blanks
- * Surrogate Recoveries
- * Laboratory Control Samples
- * Field Duplicates
- Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, FM272, contained compounds with %Ds greater than 25%, but less than 50%, and RRF less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

041W060701	acetone
041W320101	2-butanone

The continuing calibration, FM295, contained compounds with %Ds greater than 25%, but less than 50%, and RRF less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

041W320301	acetone
041EM00101	2-butanone
041FM00101	
041W330101	
041W330301	
041R250301	
041W060301	
041W250101	
041W250301	
041W270201	

The continuing calibration, FM295, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041W320301	methylene chloride
041EM00101	
041FM00101	
041W330101	
041W330301	
041R250301	
041W060301	

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, FM295, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041W250101	methylene chloride
041W250301	
041W270201	

The continuing calibration, FM3645, contained compounds with RRF less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

041TM00102	acetone
	2-butanone

Method Blank

Associated blank	Compound	Concentration
VBLKFC	acetone	9
	Methylene chloride	1
VBLKFD	acetone	7

Samples	Compound	Qualification
041W060701	acetone	U
041W320101		
041R250301		
041W250101		
041W250301		
041W270201		
041W320301		
041W330101		
041W330301		
041W320101	methylene chloride	U

Rinseate Blank

Associated blank	Compound	Concentration
041EM00101	methylene chloride	1

Samples	Compound	Qualification
041W060301 041W250101 041W270201 041W330101 041W330301	methylene chloride	U

Compound Identification /Quantitation

Reject E-flagged results for samples 041R250301 and 041W250301, in favor of the diluted samples, 041R250301DL and 041W250301DL, D-flagged results.

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W060701 041W320101	acetone 2-butanone	+/-	J/R
041W320301 041EM00101 041FM00101 041W330101 041W330301 041R250301 041W060301 041W250101 041W250301 041W270201	acetone 2-butanone	+/-	J/R
041W320301 041EM00101 041FM00101 041W330101 041W330301 041R250301 041W060301 041W250101 041W250301 041W270201	methylene chloride	+/-	J/UJ
041TM00102	acetone 2-butanone	+/-	J/R
041W060701 041W320101 041R250301 041W250101 041W250301	acetone	+	U

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W270201 041W320301 041W330101 041W330301	acetone	+	U
041W320101 041W060301 041W270201 041W330101 041W330301	methylene chloride	+	U
041R250301 041W250301	All E-flagged results	+	R
041R250301DL 041W250301DL	All analytes except D-flagged results	+	R

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP3/90; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # M06070

A validation was performed on the Semivolatile Data from SDG M06070, low concentration. The data was evaluated based on the following parameters.

*	•	Data Completeness
	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Holding Times

All extraction holding times for all samples were not met for all samples per the SOW and National Functional Guidelines. Qualifications are required.

Specific Finding:

The following samples extraction date exceeded the required hold time of twenty seven (27) days by twenty two (22) days. Qualify all positive results as estimated (J) and non detects as reject (R).

041W250101
041R250301
041W270201

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within %D and RRF continuing calibration criteria.

Specific Finding:

The continuing calibration, DI842, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041W060301	4-nitrophenol
041W250301	

The continuing calibration, DJ132, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041W250101	3-nitroaniline
041W270201	

The continuing calibration,DJ154, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041R250301	4-chloroaniline
	3-nitroaniline
	3,3'-dichlorobenzidine

Field Blanks

Associated blank	Compound	Concentration
041FM00101	bis(2ethylhexyl)phthalate	10

Samples	Compound	Qualification
041W330301	bis(2ethylhexyl)phthalate	CRQL

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 10% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W250101 041R250301 041W270201	all analytes	+/-	J/R
041W060301 041W250301	4-nitrophenol	+/-	J/UJ
041W250101 041W270201	3-nitroaniline	+/-	J/UJ
041R250301	4-chloroaniline 3-nitroaniline 3,3'-dichlorobenzidine	+/-	J/UJ
041W330301	bis(2ethylhexyl)phthalate	+	CRQL

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # M06070

A validation was performed on the Semivolatile Data from SDG M06070. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Contractual Non compliance

The analysis of samples 041M060701 and 041M330101 exhibited low internal standard area recoveries. No reanalysis of these samples were performed, as required by method EPA CLP3/90 section 8.1 page D-52/SV

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within %D and RRF continuing calibration criteria. Qualifications are required.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, IF348, contained compounds with %Ds greater than 90% and RRF less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

SBLKIF	2,2'-oxybis(1-chloropropane)
041M060801	3-nitroaniline

The continuing calibration, IF348, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

SBLKIF	4-chloroaniline
041M060801	4-nitroaniline
	Carbazole

The continuing calibration, IF462, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

SBLKIN	2,2'-oxybis(1-chloropropane)
041M320301	

Internal Standards

All internal standard EICP areas did not meet the internal standard EICP area QA/QC criteria.

Specific Finding:

The Samples listed below, exhibited low internal standard areas. Qualify all associated positive results as estimated (J) and all non detects as estimated(UJ).

041M060701	perylene-d_{12}
041M330101	

Method Blanks

Associated blank	Compound	Concentration
SBLKJY	bis(2ethylhexyl)phthalate	120J
SBLKIF	di-n-butylphthalate bis(2ethylhexyl)phthalate	21J 75J
SBLKJK	bis(2ethylhexyl)phthalate	69J
SBLKIN	bis(2ethylhexyl)phthalate	33J

Samples	Compound	Qualification
041M060701 041M060901 041M330301 041M320301	bis(2ethylhexyl)phthalate	CRQL
041M060801	bis(2ethylhexyl)phthalate	U
041M060801	di-n-butylphthalate	CRQL

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 10% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M060801	2,2'-oxybis(1-chloropropane) 3-nitroaniline	+/-	J/R
041M060801	4-chloroaniline 4-nitroaniline Carbazole	+/-	J/UJ
041M320301	2,2'-oxybis(1-chloropropane)	+/-	J/UJ
041M060701 041M330101	All associated analytes perylene-d_{12}	+/-	J/UJ
041M060701 041M060901 041M330301 041M320301	bis(2ethylhexyl)phthalate	+	CRQL
041M060801	bis(2ethylhexyl)phthalate	+	U
041M060801	di-n-butylphthalate	+	CRQL

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results this report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.8 Method; the National Functional Guidelines for Organic Data Validation, June 1991, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # M06070

A validation was performed on the Pesticide/Aroclor Data from SDG M06070. The data was evaluated based on the following parameters:

*	•	Data Completeness
	•	Holding Times
*	•	GC Performance
	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Holding Times

One (1) sample required qualification for exceeded holding times.

Specific Finding

The following sample's extraction holding time was exceeded by eight (8) days. All positive and non-detect results are qualified as estimated, J/UJ.

041M060701

Initial Calibrations

The initial calibrations analyzed for these samples were not all within the 20% RSD criteria.

Specific Finding

The initial calibration analyzed on 11/28/95 exhibited a non-compliant RPD for two (2) compounds. Reported results for the noted compounds in the following samples are qualified as estimated, J/UJ.

041W060701	α-BHC
041W320101	δ-BHC
041W320301	
041EM00101	
041FM00101	
041W330101	
041W330301	
041R250301	
041W060301	
041W250301	
041M060901	
041M320101	
041M320301	
041M330101	
041W250101	
041W270201	
041M330201	
041M330301	
041M060801	
041M060801DL	

The initial calibration analyzed on 12/02/95 exhibited a non-compliant RPD for two (2) compounds. Reported results for the noted compounds in the following samples are qualified as estimated, J/UJ.

041M060701	α-BHC
	4,4'-DDT

Surrogate Recoveries

Three (3) samples required qualification due to non-compliant surrogate recoveries.

Specific Findings

The following samples exhibited a TCMX recovery below the QC limit. All positive and non-detect results reported in the sample are qualified as estimated, J/UJ.

041M320201
041M320301
041M330101

Compound Identification/Quantitation

One (1) sample required dilution to accurately quantitate target compounds. Several reported results exhibited P flags due to column quantitation %Ds greater than 25%. Single component compounds in samples with reported aroclors should be considered suspect. The Form Is submitted by the laboratory indicated incorrect Concentrated Final Volumes for all samples. The laboratory indicated that the software limitation would not accommodate the correct final volume. The samples were to be calculated based on a final volume of 1.0 ml. Based on this information, calculation verification was possible. Supporting documentation explaining the discrepancy has been received.

Specific Findings

All positive results exhibiting P flags are qualified as estimated, J, due to column quantitation %Ds greater than 25%.

For the following sample, the noted compounds are rejected in favor of the D flagged results reported from the dilution analysis. In the dilution analysis all other results are rejected, UR, in favor of the results reported from the undiluted analysis.

041M060801	4,4'-DDE
	4,4'-DDD

Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 5% of data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M060701	All compounds	+/-	J/UJ
041W060701 041W320101 041W320301 041EM00101 041FM00101 041W330101 041W330301 041R250301 041W060301 041W250301 041M060901 041M320101 041M320301 041M330101 041W250101 041W270201 041M330201 041M330301 041M060801 041M060801DL	α-BHC δ-BHC	+/-	J/UJ
041M060701	α-BHC 4,4'-DDT	+/-	J/UJ
041M320201 041M320301 041M330101	All compounds	+/-	J/UJ
041M060801	4,4'-DDE 4,4'-DDD	+	R
041M060801DL	All but corresponding D flagged results	+/-	UR

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
All	All P flagged results	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # M06070

A validation was performed on the Metals Data from SDG M06070. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
*	•	Matrix Spike Recovery
*	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Aluminum	3.41 mg/kg	no impact
Iron	0.39 mg/kg	no impact
Lead	0.21 mg/kg	no impact
Zinc	0.71 mg/kg	041M330301.
Calcium	17.3 ug/l	no impact

Sodium	153. ug/l	no impact

The field and equipment blanks exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Aluminum	40.4 ug/l	all water samples
Barium	3.0 ug/l	all water samples
Zinc	47.9 ug/l	all water samples

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U".

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	041W060301	73
Antimony	041W060701	61
Antimony	041W250101	44
Antimony	041R250301	59
Antimony	041W270201	45
Antimony	041W320101	58
Antimony	041M320301	71
Antimony	041M330101	45
Antimony	041M330201	50
Antimony	041M330301	62
Antimony	041M060801	67
Antimony	041M060901	64
Antimony	041M320101	67
Antimony	041W330301	77

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
041M330301.	Zn.	+	U
all water samples	Al, Ba and Zn.		
041W060301, 701, 041W250101, 041R250301, 041W270201, 041W320101, 041M320201, 041M330101, 041M 330201, 041M330301, 041M 060801, 041M060901, 041M320101 AND 041W330301.	Sb.	+/U	J/UJ
All "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	M52A10
Date:	March 29, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	Pensacola
Date Sampled:	January 23 -24, 1996
Number of Samples:	8 Aqueous Sample(s) with 0 MS/MSD(s) 11 Non-aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level IV
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Volatiles, Low Concentration Volatiles, Semivolatiles, Low Concentration Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig H. Scufan — 4-2-96

Eugene M. Watson, Vice President — Date

4127 Plaza 94 South St. Charles, MO 63304
(314) 936-1332 · Fax (314) 936-1335

SDG# M52A10

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	VOA		LVOA		SV		LSV		P/P		TAL/CN	
041M52A101	SOIL		X				X				X		X
041M52D101	SOIL		X				X				X		X
041M52E101	SOIL		X				X				X		X
041M52E201	SOIL		X				X				X		X
041M52E301	SOIL		X				X				X		X
041M56A101	SOIL		X				X				X		X
041M580101	SOIL		X				X				X		X
041M63B401	SOIL		X				X				X		X
041MW20101	SOIL		X				X				X		X
041MW20201	SOIL		X				X				X		X
041MW20301	SOIL		X				X				X		X
041W52A101	WATER			X				X		X		X	
041W52E301	WATER			X				X		X		X	
041W56A101	WATER			X				X		X		X	
041W580101	WATER			X				X		X		X	
041W63B401	WATER			X				X		X		X	
041TM02001	WATER			X									
041TM02101	WATER			X									
041WW20201	WATER			X				X		X		X	
Total Billable Samples (Water/Soil)		0	11	8	0	0	11	6	0	6	11	6	11

VOA = CLP Volatiles
LVOA = CLP Low Concentration Volatiles
SV = CLP Semivolatiles
LSV = CLP Low Concentration Semivolatiles
P/P = CLP Pesticide/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG #M52A10

A validation was performed on the Volatile Data from SDG M52A10. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Internal Standards

All internal standard EICP areas did not meet the internal standard EICP area QA/QC criteria.

Specific Finding:

The Samples listed below, exhibited low internal standard areas. Qualify all associated positive results as estimated (J) and all non detects as estimated (UJ).

041M52A101RE	chlorobenzene-d_5
041M52E201	

Blanks

The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria to field samples.

Method Blank

Associated blank	Compound	Concentration	Action Level
VBLKGN	methylene chloride	3J	30

Samples	Compound	Qualification
041MW20301	methylene chloride	CRQL

Trip Blank

Associated blank	Compound	Concentration	Action Level
041TM02001	acetone	33	330
	Methylene chloride	3J	30

Samples	Compound	Qualification
041M52A101RE	methylene chloride	CRQL
041M52E201		
041M52E301		
041M56A101		
041M580101		
041M63B401		
041M52D101	acetone	U
041M52E101		
041M52E201		
041M52E301		
041M56A101		
041MW20101		
041MW20201		

Compound Identification /Quantitation

Reject samples 041M52A101 and 041M52E201RE, in favor of 041M52A101RE and 041M52E201, due to non compliant surrogate recoveries.

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M52A101RE 041M52E201	All associated analytes chlorobenzene-d_5	+/-	J/UJ
041MW20301 041M52E201 041M52E301 041M56A101 041M580101 041M63B401 041M52A101RE	methylene chloride	+	CRQL
041M52D101 041M52E101 041M52E201 041M52E301 041M56A101 041MW20101 041MW20201	acetone	+	U
041M52A101 041M52E201RE	all analytes	+/-	R

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # M52A10

A validation was performed on the Volatile Data from SDG M52A10. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration,FN610, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W52A101	acetone (65.8)
041W52E301	2-butanone
041W63B401	
041WW20201	
041W56A101	
041W580101	

Method Blanks

Associated blank	Compound	Conc.	Action Level
VBLKFU	acetone	6	60

Samples	Compound	Qualification
041W52A101	acetone	CRQL
041W52E301	acetone	U
041W56A101		
041W580101		
041W63B401		
041WW20201		

Trip Blanks

Associated blank	Compound	Conc.	Action Level
041TM02101	methylene chloride	3	30
	acetone	33	330

Samples	Compound	Qualification
041W52A101	methylene chloride	U
041W52E301		

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W52A101	acetone (65.8)	+/-	J/R
041W52E301	2-butanone		
041W63B401			
041WW20201			
041W56A101			
041W580101			
041W52A101	acetone	+	CRQL
041W52E301	acetone	+	U
041W56A101			
041W580101			
041W63B401			
041WW20201			
041W52A101	methylene chloride	+	U
041W52E301			

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # M52A10

A validation was performed on the Semivolatile Data from SDG M52A10. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within %D and RRF continuing calibration criteria. Qualifications are required.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, JG447, contained compounds with %Ds greater than 50% an less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041MZ20101	2,2'-oxybis(1-chloropropane) (57.9%)
041M52A101	

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041MZ20101 041M52A101	2,2'-oxybis(1-chloropropane)	+/-	J/UJ

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OLC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # M52A10

A validation was performed on the Semivolatile Data from SDG M52A10. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicate
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds that were not within %D continuing calibration criteria. All RRFs were within calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, DJ659, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041W63B401 hexachlorocyclopentadiene (60.8)

The continuing calibration, DJ715, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041WW20201 hexachlorocyclopentadiene (67.5)

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W63B401	hexachlorocyclopentadiene (60.8)	+/-	J/UJ
041WW20201	hexachlorocyclopentadiene (67.5)	+/-	J/UJ

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.9 Method; the National Functional Guidelines for Organic Data Validation, June 1991; and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # M52A10

A validation was performed on the Pesticide/Aroclor Data from SDG M52A10. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
*	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Surrogate Recoveries

Three (3) samples exhibited non-compliant TCX and/or DCB recoveries.

Surrogate Recoveries, Continued

Specific Finding

The samples listed below exhibited low TCX and/or DCB recoveries. The positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

Sample ID	Surrogate	% Recovery
041W52E301	DCB-1	24%
	DCB-2	21%
041W56A101	TCX-1	21%
	TCX-2	21%
	DCB-1	21%
	DCB-2	18%
041WW20201	DCB-1	21%
	DCB-2	15%

Analyte Identification/Quantitation

Three (3) samples required dilution to accurately quantitate target compounds. Several samples exhibited column quantitation %Ds greater than 25%.

Specific Findings

For the following samples and compounds, the results from the original analysis are replaced with the corresponding results from the dilution analysis. All other results from the dilution are rejected, UR, in favor of the results reported from the undiluted analysis.

041M52E101	4,4'-DDE
041M56A101	4,4'-DDD
041MW20101	4,4'-DDD

The positive results reported in all samples which exhibit column quantitation differences greater than 25% are qualified as estimated, J.

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 20% of the data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W52E301 041W56A101 041WW20201	ALL	+/-	J/UJ
041M52E101 041M56A101	4,4'-DDE 4,4'-DDD	+	D
041MW20101	4,4'-DDD	+	D
041M52E101DL 041M56A101DL 041MW20101DL	ALL OTHERS	+/-	UR
ALL	ALL P >25%	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # M52A10

A validation was performed on the Metals Data from SDG M52A10. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
*	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Aluminum	2.94 mg/kg	no impact
Calcium	10.6 mg/kg	no impact
Iron	1.95 mg/kg	no impact
Sodium	4.65 mg/kg	all soil samples below 23.3 mg/kg
Aluminum	22.6 ug/l	no impact

Calcium	126 ug/l	no impact
Iron	19.4 ug/l	all water samples below 97 ug/l
Magnesium	23.8 ug/l	no impact
Manganese	1.34 ug/l	all water samples below 6.7 ug/l
Sodium	118 ug/l	no impact

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U". The field or DI water blanks exhibited contamination but had no impact on the data.

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Antimony	-0.21 mg/kg	all soil samples below 2.1 mg/kg
Antimony	-2.52 ug/l	all water samples below 25.2 ug/l
Cadmium	-2.01 ug/l	all water samples below 20.1 ug/l

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Matrix Spike Recovery

Specific Finding

The Matrix Spike recoveries for soils for Antimony (43%) and Selenium (47%) were below the lower control limits (<75% but >30%). All positive and non-detect results are qualified as estimated, "J" or "UJ".

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	041M52A101	69
Antimony	041M52D101	62
Antimony	041M52E101	74
Antimony	041M52E201	71
Antimony	041M56A101	44
Antimony	041M58A101	50
Antimony	041MW20201	82
Antimony	041W52S101	61

Antimony	041W63B401	48
Antimony	041WW20201	58
Antimony	041W56A101	58
Antimony	041W580101	46
Antimony	041M52E201	62

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
all soil samples below 23.3 mg/kg	Na.	+	U
all water samples below 97 ug/l	Fe.		
all water samples below 6.7 ug/l	Mn.		
all soil samples bellow 2.1 mg/kg	Sb.	+/U	J/UJ
all water samples below 25.2 ug/l	Sb.		
all water samples below 20.1 ug/l	Cd.		
all soil samples	Sb and Se.	+/U	J/UJ
041M52A101, 52D101, 52E101, 52E301, 56A101, 580101, W20201, 52A101, W63B401, WW20201, W56A101, W580101 and 52E201.	Sb.	+/U	J/UJ
All "B" results	all analytes	B	J

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Chemical Services, Inc.

P. O. Box 930422, Norcross, GA 30093

(770) 923-3890
(770) 923-8769 (Fax)

5/15/96

EnSafe/Allen & Hoshall
5720 Summer Trees Drive, Suite 8
Memphis, TN 38134
Attn: Drew Cowan

Dear Mr. Cowan:

Please find enclosed data validation narratives, flagged Form I's and qualified electronic data for SDGs Z13601 and Z30201.

We are pleased to be of service to EnSafe/Allen & Hoshall. Please call me at (770) 923-3890 if you have any questions.

Sincerely,

Kevin C. Harmon
Client Services Director

VALIDATA

Chemical Services, Inc.

P. O. Box 930422, Norcross, GA 30093

(770) 923-3890
(770) 923-8769 (Fax)

DATA VALIDATION SUMMARY REPORT

COMPANY:	Ensafe/Allen & Hoshall
SITE NAME:	NAS Pensacola, Sites 40 and 41
PROJECT NUMBER:	8500.14
CONTRACTED LAB:	Ceimic Corporation
QA/QC LEVEL:	EPA Level IV
EPA METHOD:	SOW ILM03.0
VALIDATION GUIDELINES:	*USEPA CLP National Functional Guidelines for Inorganic Data Review,* 1994
SAMPLE MATRIX:	Sediment
TYPE OF ANALYSIS:	Total Metals
SDG NUMBER:	Z13601 (Level IV)

SAMPLES:

Client Sample #	Lab Sample #	Matrix	Total Metals
040MZ13001	960182-02	Sediment	X
040MZ13601	960182-01	Sediment	X
040MZ21501	960182-05	Sediment	X
040MZ21801	960182-14	Sediment	X
040MZ22001	960182-07	Sediment	X
040MZ22201	960182-06	Sediment	X
040MZ22501	960182-11	Sediment	X
040MZ22601	960182-09	Sediment	X
040MZ22801	960182-10	Sediment	X
040MZ23101	960182-13	Sediment	X
040MZ23601	960182-12	Sediment	X
040MZ24401	960182-15	Sediment	X
040MZ24701	960182-16	Sediment	X
040MZ40501	960182-03	Sediment	X
040MZ51301	960182-08	Sediment	X
041M030401	960182-19	Sediment	X
041M030501	960182-20	Sediment	X
041M04D201	960182-18	Sediment	X
041M160201	960182-17	Sediment	X
040M63A301	960182-04	Sediment	X

Data Qualifier Definitions

J	-	The association numerical value is an estimated quantity.
R	-	The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification.
U	-	The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit.
UJ	-	The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity.

Client Sample #	Lab Sample #	Matrix	Total Metals
040MZ13001RE/D*	960182-02D	Sediment	+
040MZ13001S	960182-02S	Sediment	+

* = Reanalysis and Laboratory Duplicate samples are one and the same.
+ = Non-billable Quality Control Sample

RE/D* = MATRIX DUPLICATE, S = MATRIX SPIKE

DATA REVIEWER(S): Marvin L. Smith, Jean M. Delashmit

RELEASE SIGNATURE: Kevin C. Harmon

DATA QUALIFICATION SUMMARY

Ceimic Corporation - Z13601, Level IV CLP Inorganics

SAMPLES: 040MZ13001, 040MZ13601, 040MZ21501, 040MZ21801, 040MZ22001, 040MZ22201, 040MZ22501, 040MZ22601, 040MZ22801, 040MZ23101, 040MZ23601, 040MZ24401, 040MZ24701, 040MZ40501, 040MZ51301, 041M030401, 041M030501, 041M04D201, 041M160201, 041M63A301, 040MZ13001RE/D*, 040MZ13001S

TOTAL METALS

I.) Holding Times:

The holding times from sampling date to analysis date were 78 to 129 days for all samples in this SDG, which grossly exceeded the 28 day QC limit for mercury. All positive results for mercury were flagged as estimated (J) and all non-detect mercury results were rejected (R).

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met, so no action was necessary.

Continuing Calibration Verification (CCV):

All Continuing Calibration criteria were met, so no action was necessary.

III.) Blanks:

The following blank results represent the highest detections associated with the samples and were used for data qualification:

Blank Type/ID#	Analyte	Max Conc.	Action Level
PBS	aluminum	13.4 mg/kg	67.0 mg/kg
CCB11	barium	7.00 ug/L	7.00 mg/kg
CCB12	cadmium	2.70 ug/L	2.70 mg/kg
CCB6	calcium	97.6 ug/L	97.6 mg/kg
CCB11	cobalt	4.20 ug/L	4.20 mg/kg
PBS	iron	19.9 mg/kg	99.5 mg/kg
CCB6	lead	80.6 ug/L	80.6 mg/kg
PBS	magnesium	11.2 mg/kg	56.0 mg/kg
CCB11	manganese	4.10 ug/L	4.10 mg/kg

Blank Type/ID#	Analyte	Max Conc.	Action Level
PBS	mercury	0.06 mg/kg	0.30 mg/kg
PBS	selenium	0.27 mg/kg	1.35 mg/kg
CCB4	sodium	597 ug/L	2990 mg/kg
CCB11	silver	5.40 ug/L	5.40 mg/kg
PBS	zinc	0.28 mg/kg	1.40 mg/kg

CCB = Continuing Calibration Blank, PBS = Preparation Blank (Soil)

After correction for percent solids, all results greater than the IDL but less than 5X the blank amount (Action Level, mg/kg for sediment samples) for which the contaminated blank was an associated calibration or preparation blank were flagged as undetected (U).

The following analytes had negative results with absolute values greater than the IDL:

Blank Type/ID#	Analyte	Neg. Conc.	5X Conc.
CCB8	arsenic	-4.10 ug/L	4.10 mg/kg
CCB1	cadmium	-2.20 ug/L	2.20 mg/kg
CCB2	chromium	-5.40 ug/L	5.40 mg/kg
CCB4	manganese	-1.50 ug/L	1.50 mg/kg
CCB4	nickel	-12.4 ug/L	12.4 mg/kg
PBS	silver	-0.26 mg/kg	1.30 mg/kg
PBS	thallium	-0.59 mg/kg	2.95 mg/kg
ICB1	zinc	-8.10 ug/L	8.10 mg/kg

ICB = Initial Calibration Blank, PBS = Preparation Blank (Soil)

After correction for percent solids, all associated positive sample results less than 5X the absolute value of the negative blank results and all associated non-detects were flagged as estimated (J) and (UJ).

IV.) ICP Interference Check Sample Results:

All Percent Recovery criteria were met, so no action was taken.

The following analytes were present in ICS Solution A at concentrations greater than the IDL:

antimony	50 ug/L
barium	3 ug/L
manganese	8 ug/L
silver	8 ug/L
sodium	350 ug/L
vanadium	10 ug/L

These analytes should not be present. Since neither aluminum, calcium, iron nor magnesium was present in the samples at a concentration comparable to or greater than the amount in Solution A, no action was required.

Negative results were observed in ICS Solution A at absolute concentrations greater than the IDL for the following analytes:

arsenic	-4 ug/L
chromium	-10 ug/L
cobalt	-8 ug/L
silver	-6 ug/L
sodium	-79 ug/L
zinc	-6 ug/L

Since neither aluminum, calcium, iron nor magnesium was present in the samples at a concentration comparable to or greater than the amount in Solution A, no action was required.

V.) ICP Serial Dilution Analysis:

The Serial Dilution Percent Differences (%D's) of selenium (21%) and vanadium (11%) in sediment sample 040MZ13001L exceeded the 10% QC limit. Positive results for selenium and vanadium in all associated sediment samples were flagged as estimated (J).

VI.) Laboratory Control Samples (LCS):

The soil LCS Percent Recoveries (%R's) of cobalt (131%) and selenium (450%) exceeded the 80-120% QC limits. All positive results for these analytes in the associated sediment samples were flagged as estimated (J).

VII.) Duplicate Sample Analysis:

The Relative Percent Differences (RPD's) of lead (78%) and selenium (47%) in laboratory duplicate samples 040MZ13001 and 040MZ13001D exceeded the 35% QC limit for sediment samples. All positive and non-detect results for these analytes in the associated sediment samples were flagged as estimated (J) and (UJ).

VIII.) Matrix Spike Recoveries:

The Percent Recoveries (%R's) of the following analytes in sediment spiked sample 040MZ30101S were outside the 75-125% QC limits:

antimony	-272%
arsenic	131%
copper	127%
lead	337%
silver	0%
thallium	0%

All positive results for arsenic, copper and lead in the associated samples were flagged as estimated (J). All associated positive sample results for antimony, silver and thallium were flagged as estimated (J) and all non-detects were rejected (R) since the recoveries for these analytes were below the 30% rejection limit.

The concentration of selenium in unspiked sample 040MZ13001 exceeded the concentration of the spike added by more than 4X. No action was required.

IX.) Field Duplicates:

There were no field duplicate samples designated in this SDG. No action was necessary.

X.) Graphite Furnace Atomic Absorption QC (GFAA):

Graphite Furnace analyses were not used for the samples in this SDG. No action was required.

XI.) Sample Result, Calculation/Transcription Verification:

All criteria were met, so no action was necessary.

XII.) Quarterly Verification of Instrumental Parameters:

All criteria were met, so no action was taken.

XIII.) Overall Assessment of Data/General:

Laboratory Duplicate sample 041MZ13001D was identified on the spreadsheet as "041MZ13001RE." This sample was processed and routinely flagged by the laboratory. The laboratory flags were removed during validation. This sample was not validated as a routine sample, but rather was treated as a QC laboratory duplicate sample which did not require qualification. The validator changed the sample ID on the spreadsheet to "041MZ13001RE/D."

All non-detect mercury results were rejected because of excessive (greater than 2X QC limits) holding time exceedances. All non-detect results for antimony, silver and thallium were rejected because of very low (less than 30%) matrix spike recoveries. All other laboratory data were acceptable with qualifications.

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Chemical Services, Inc.

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DATA VALIDATION SUMMARY REPORT

COMPANY:	Ensafe/Allen & Hoshall
SITE NAME:	NAS Pensacola, Sites 40 and 41
PROJECT NUMBER:	8500.14
CONTRACTED LAB:	Ceimic Corporation
QA/QC LEVEL:	EPA Level IV
EPA METHOD:	SOW ILM03.0
VALIDATION GUIDELINES:	*USEPA CLP National Functional Guidelines for Inorganic Data Review*, 1994
SAMPLE MATRIX:	Sediment
TYPE OF ANALYSIS:	Total Metals
SDG NUMBER:	Z30201 (Level IV)

SAMPLES:

Client Sample #	Lab Sample #	Matrix	Total Metals
040MZ30101	960183-02	Sediment	X
040MZ30201	960183-01	Sediment	X
040MZ40801	960183-11	Sediment	X
040MZ42401	960183-05	Sediment	X
040MZ53701	960183-03	Sediment	X
040MZ54101	960183-20	Sediment	X
040MZ61301	960183-12	Sediment	X
040MZ61801	960183-13	Sediment	X
040MZ62001	960183-14	Sediment	X
040MZ71401	960183-15	Sediment	X
040MZ73501	960183-17	Sediment	X
040MZ80701	960183-16	Sediment	X
040MZ81201	960183-19	Sediment	X
040MZ82101	960183-18	Sediment	X
040MZ90601	960183-10	Sediment	X
041M10A101	960183-04	Sediment	X
041M320301	960183-08	Sediment	X
041M330201	960183-09	Sediment	X
041M641401	960183-06	Sediment	X
040M641501	960183-07	Sediment	X

Client Sample #	Lab Sample #	Matrix	Total Metals
040MZ30101RE/D*	960183-02D	Sediment	+
040MZ30101S	960183-02S	Sediment	+

* = Reanalysis and Laboratory Duplicate samples are one and the same.
+ = Non-billable Quality Control Sample

RE/D* = MATRIX DUPLICATE, S = MATRIX SPIKE

D = MATRIX DUPLICATE, RE = REANALYSIS, S = MATRIX SPIKE

DATA REVIEWER(S): Marvin L. Smith, Jean M. Delashmit

RELEASE SIGNATURE:

Data Qualifier Definitions

J	-	The association numerical value is an estimated quantity.
R	-	The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification.
U	-	The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit.
UJ	-	The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity.

DATA QUALIFICATION SUMMARY

Ceimic Corporation - Z30201, Level IV CLP Inorganics

SAMPLES: 040MZ30101, 040MZ30201, 040MZ40801, 040MZ42401, 040MZ53701, 040MZ54101, 040MZ61301, 040MZ61801, 040MZ62001, 040MZ71401, 040MZ73501, 040MZ80701, 040MZ81201, 040MZ82101, 040MZ90601, 041M10A101, 041M320301, 041M330201, 041M641401, 041M641501, 040MZ30101RE/D*, 040MZ30101S

TOTAL METALS

I.) Holding Times:

The holding times from sampling to analysis were 134 to 170 days for all samples in this SDG, which grossly exceeded the 28 day QC limit for mercury. All positive results for mercury were flagged as estimated (J) and all non-detect mercury results were rejected (R).

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met, so no action was necessary.

Continuing Calibration Verification (CCV):

All Continuing Calibration criteria were met, so no action was necessary.

III.) Blanks:

The following blank results represent the highest detections associated with the samples and were used for data qualification:

Blank Type/ID#	Analyte	Max Conc.	Action Level
PBS	aluminum	18.3 mg/kg	91.5 mg/kg
CCB9	antimony	46.8 ug/L	46.8 mg/kg
PBS	arsenic	4.83 mg/kg	24.2 mg/kg
CCB7	barium	7.1 ug/L	7.1 mg/kg
PBS	calcium	19.9 mg/kg	99.5 mg/kg
PBS	chromium	1.94 mg/kg	9.70 mg/kg
CCB9	cobalt	2.5 ug/L	2.5 mg/kg
PBS	copper	0.29 mg/kg	1.45 mg/kg
PBS	iron	25.1 mg/kg	126 mg/kg

Blank Type/ID#	Analyte	Max Conc.	Action Level
PBS	magnesium	10.9 mg/kg	54.5 mg/kg
CCB7	potassium	121 ug/L	121 mg/kg
PBS	selenium	0.80 mg/kg	4.0 mg/kg
CCB9	sodium	211 ug/L	211 mg/kg
PBS	zinc	0.38 mg/kg	1.9 mg/kg

CCB = Continuing Calibration Blank, PBS = Preparation Blank (Soil)

After correction for percent solids, all results greater than the IDL but less than 5X the blank amount (Action Level, mg/kg for sediment samples) for which the contaminated blank was an associated calibration or preparation blank were flagged as undetected (U).

The following analytes had negative results with absolute values greater than the IDL:

Blank Type/ID#	Analyte	Neg. Conc.	5X Conc.
ICB2	calcium	-6.40 ug/L	6.40 mg/kg
ICB2	iron	-17.2 ug/L	17.2 mg/kg
ICB2	manganese	-1.90 ug/L	1.90 mg/kg
PBS	sodium	-6.16 mg/kg	30.8 mg/kg
PBS	thallium	-0.84 mg/kg	4.20 mg/kg

ICB = Initial Calibration Blank, PBS = Preparation Blank (Soil)

After correction for percent solids, all associated positive sample results less than 5X the absolute value of the negative blank results and all associated non-detects were flagged as estimated (J) and (UJ).

IV.) ICP Interference Check Sample Results:

All Percent Recovery criteria were met.

The following analytes were present in ICS Solution A at concentrations greater than the IDL:

antimony	56 ug/L
manganese	2 ug/L
potassium	157 ug/L
silver	9 ug/L
sodium	48 ug/L
vanadium	10 ug/L

These analytes should not be present. Since neither aluminum, calcium, iron nor magnesium was present in the samples at a concentration comparable to or greater than the amount in Solution A, no action was required.

Negative results were observed in ICS Solution A at absolute concentrations greater than the IDL for the following analytes:

chromium	-6 ug/L
cobalt	-5 ug/L
copper	-5 ug/L
nickel	-10 ug/L
sodium	-102 ug/L
zinc	-7 ug/L

Since neither aluminum, calcium, iron nor magnesium was present in the samples at a concentration comparable to or greater than the amount in Solution A, no action was required.

V.) ICP Serial Dilution Analysis:

The Serial Dilution Percent Differences (%D's) of iron (43%) and lead (12%) in sediment sample 040MZ30101L exceeded the 10% QC limit. Positive results for these analytes in all associated sediment samples were flagged as estimated (J).

VI.) Laboratory Control Samples (LCS):

The soil LCS Percent Recoveries (%R's) of aluminum (76%), magnesium (61%) and sodium (76%) were below the 80-120% QC limits. All positive and non-detect results for these analytes in the associated sediment samples were flagged as estimated (J) and (UJ).

The soil LCS Percent Recoveries (%R's) of cobalt (137%) and potassium (131%) exceeded the 80-120% QC limits. All positive results for these analytes in the associated sediment samples were flagged as estimated (J).

VII.) Duplicate Sample Analysis:

The Relative Percent Differences (RPD's) of iron (56%), manganese (177%) and selenium (46%) in laboratory duplicate samples 040MZ30101 and 040MZ30101D exceeded the 35% QC limit for sediment samples. All positive and non-detect results for these analytes in the associated sediment samples were flagged as estimated (J) and (UJ).

VIII.) Matrix Spike Recoveries:

The Percent Recoveries (%R's) of the following analytes in sediment spiked sample 040MZ30101S were below the 75-125% QC limits:

arsenic	38%
beryllium	62%
cadmium	30%
cobalt	71%
manganese	-248%
nickel	27%
silver	0%
thallium	0%
zinc	56%

All positive and non-detect results for arsenic, beryllium, cadmium, cobalt and zinc in all associated samples were flagged as estimated (J) and (UJ). All positive results for manganese, nickel, silver and thallium were flagged as estimated (J) and the non-detects were rejected (R) since the recoveries for these analytes were less than the 30% rejection limit.

The concentrations of antimony, chromium, lead and selenium in unspiked sample 040MZ30101 exceeded the concentration of the spike added to spiked sample 040MZ30101S by more than 4X. No action was required.

IX.) Field Duplicates:

There were no field duplicate samples designated in this SDG. No action was necessary.

X.) Graphite Furnace Atomic Absorption QC (GFAA):

Graphite Furnace analyses were not used for the samples in this SDG. No action was required.

XI.) Sample Result, Calculation/Transcription Verification:

All criteria were met, so no action was necessary.

XII.) Quarterly Verification of Instrumental Parameters:

All criteria were met, so no action was taken.

XIII.) Overall Assessment of Data/General:

Laboratory Duplicate sample 041MZ30101D was identified on the spreadsheets as "041MZ30101RE." This sample was processed and routinely flagged by the laboratory. The laboratory flags were removed during validation. This sample was not validated as a routine sample, but rather was treated as a QC laboratory duplicate sample which would not require qualification. The validator changed the sample ID on the spreadsheet to "041MZ301D1RE/D."

All non-detect mercury results were rejected because of excessive (greater than 2X QC limits) holding time exceedances. All non-detect results for manganese, nickel, silver and thallium were rejected because of very low (less than 30%) matrix spike recoveries. All other laboratory data were acceptable with qualifications.

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

RECEIVED

Data Validation Report

SDG#:	Z30301
Date:	March 22, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	Pensacola
Date Sampled:	November 29, 1995
Number of Samples:	4 Aqueous Sample(s) with 0 MS/MSD(s) 11 Non-aqueous Sample(s) with 1 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level IV
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Volatiles, Low Concentration Volatiles, Semivolatiles, Low Concentration Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Serfass

Eugene M. Watson, Vice President

3-25-96

Date

4127 Plaza 94 South St. Charles, MO 63304
(314) 936-1332 Fax (314) 936-1335

SDG# Z30301

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	VOA		LVOA		SV		LSV		P/P		TAL/CN	
040MZ30101	SOIL		X				X				X		X
040MZ30201	SOIL		X				X				X		X
040MZ30301	SOIL		X				X				X		X
040MZ30701	SOIL		X				X				X		X
040MZ30901	SOIL		X				X				X		X
040MZ31101	SOIL		X				X				X		X
040MZ40901	SOIL		X				X				X		X
041M120201	SOIL		X				X				X		X
041M570101	SOIL		X				X				X		X
041M720101	SOIL		X				X				X		X
041MZ20201	SOIL		X				X				X		X
040TM01801	WATER			X									
041W570101	WATER			X				X		X		X	
041W720101	WATER			X				X		X		X	
041TM00601	WATER			X									
Total Billable Samples (Water/Soil)		0	11	4	0	0	11	2	0	2	11	2	11

VOA = CLP Volatiles
LVOA = CLP Low Concentrtion Volatiles
SV = CLP Semivolatiles
LSV = CLP Low Concentration Semivolatiles
P/P = CLP Pesticide/PCB's
TAL/CN = CLP Metals w/cyanide

DATA ASSESSMENT NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and are based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.8 Method; the National Functional Guidelines for Organic Data Validation, June 1991, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # Z30301

A validation was performed on the Volatile Data from SDG Z30301. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibration
	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
	•	Internal Standard Performance
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Continuing Calibrations

The continuing calibrations that were analyzed by the laboratory for these samples were not acceptable for all compound %Ds. The average RRF requirements were met for all continuing calibration standards.

Continuing Calibrations, continued

Specific Findings

The continuing calibration standard, HB326, contained compounds with %Ds greater than 50% but less than 90%. For the samples and noncompliant compounds listed below, the positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

041M120201 acetone (68.2%)
041M720101

Method Blanks

Contamination for several target compounds was detected in the method blanks. All B flagged TICs are rejected.

	VBLKGL	VBLKCZ	VBLKCA
methylene chloride	10 µg/Kg	2 µg/Kg	2 µg/Kg
bromomethane	--------	3 µg/Kg	--------

Specific Finding

	Samples	Contaminant	Action Levels	Qualification
VBLKGL	040MZ30301 041MZ20201 040MZ30901 040MZ31101	methylene chloride	100 µg/Kg	CRQL
VBLKCZ	040MZ30201 040MZ30701RE 040MZ40901		20 µg/Kg	CRQL
VBLKCA	041M570101		20 µg/Kg	CRQL
VBLKGL	040MZ30701 040MZ30101	methylene chloride	100 µg/Kg	U

Method Blanks, continued

The end-user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria.

Internal Standard Areas

One sample and its RE exhibited noncompliant IS EICP area recoveries.

Specific Findings

The following samples exhibited noncompliant internal standard area recoveries. All associated positive and non-detect results are qualified as estimated, J/UJ.

040MZ30701	1,4-difluorobenzene chlorobenzene-d_5
040MZ30701RE	All internal standards

Surrogate Recoveries

Specific Finding

The following sample exhibited a surrogate recovery above the QC limits. All reported positive results in the sample are qualified as estimated, J.

Samples	Surrogate	%Recovery
040MZ30701	1,2-dichloroethane-d4	125%

Compound Quantitation

Specific Finding

The samples noted below are rejected, UR, in favor of the initial analysis of the sample. The samples exhibited similar internal standard results.

040MZ30701RE

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 5% of data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M120201 041M720101	acetone	+/-	J/UJ
040MZ30301 041MZ20201 040MZ30901 040MZ31101 040MZ30201 040MZ30701RE 040MZ40901 041M570101	methylene chloride	+B	CRQL
040MZ30701 040MZ30101	methylene chloride	+B	U
040MZ30701	All associated with 1,4-difluorobenzene chlorobenzene-d_5	+/-	J/UJ
040MZ30701RE	All associated with All internal standards	+/-	J/UJ
040MZ30701	1,2-dichloroethane-d4	+	J
040MZ30701RE	All compounds	+/-	UR

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # Z30301

A validation was performed on the Volatile Data from SDG Z30301. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Initial Calibrations

The initial calibrations that were analyzed by the laboratory for these samples were not acceptable for all compound %RSDs. The average RRFs for all of the compounds met the initial calibration criteria.

Initial Calibrations (continued)

Specific Finding:

The initial calibration analyzed on, 12/04/95, contained compounds with %RSD greater than 30% and RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detect (R).

041W720101	acetone (43.2)
	2-butanone

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Specific Finding:

The continuing calibration, FM602, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W570101	acetone
	2-butanone
	2-hexanone (25.9)

Method Blanks

Associated blank	Compound	Conc.	Action Level
VBLKFW	acetone	11	110

Samples	Compound	Qualification
041W570101	acetone	U

Trip Blanks

Associated blank	Compound	Conc.	Action Level
041TM00601	methylene chloride	4	40

Samples	Compound	Qualification
041W720101	methylene chloride	CRQL

Compound Identification/Quantitation

Specific Finding:

For sample 041W570101, reject all E-flagged results in favor of the D-flagged results in the diluted sample. For the diluted sample 041W570101DL, reject all results (R) except for the D-flagged results with corresponding E-flagged results.

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

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J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W720101	acetone (43.2) 2-butanone	+/-	J/R
041W570101	acetone 2-butanone 2-hexanone (25.9)	+/-	J/R
041W570101	acetone	+	U
041W720101	methylene chloride	+	CRQL
041W570101	All E-flagged results	+	R
041W570101DL	All results (R) except	+/-	R

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # Z30301

A validation was performed on the Semivolatile Data from SDG Z30301. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within %D and RRF continuing calibration criteria. Qualifications are required.

Specific Finding:

The continuing calibration, IF723, contained compounds with %Ds greater than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

041M570101 4-chloroaniline (230.1%)

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, IF780, contained compounds with %Ds greater than 50% an less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041M120201 hexachlorocyclopentadiene (68.4%)

The continuing calibration, IF780, contained compounds with %Ds greater than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

041M120201 4-chloroaniline (190.9%)

Blanks

The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into consideration when applying the 5X and 10X criteria to field samples.

Method Blanks

Associated blank	Compound	Concentration	Action Level
SBLKIK	bis(2ethylhexyl)phthalate	150J	1500
	Di-n-butylbenzylphthalte	21J	210
SBLKAI	bis(2ethylhexyl)phthalate	150J	1500
SBLKDF	bis(2ethylhexyl)phthalate	150J	1500

Method Blanks (continued)

Samples	Compound	Qualification
041M570101 040MZ30101 040MZ30701 040MZ31101 040MZ30201 041M720101	bis(2ethylhexyl)phthalate	CRQL
041MZ20201	bis(2ethylhexyl)phthalate	U
041M570101	Di-n-butylbenzylphthalte	CRQL

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

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D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

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SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M120201	hexachlorocyclopentadiene	+/-	J/UJ
041M120201	4-chloroaniline	+/-	J/R
041M570101 040MZ30101 040MZ30701 040MZ31101 040MZ30201 041M720101	bis(2ethylhexyl)phthalate	+	CRQL
041MZ20201	bis(2ethylhexyl)phthalate	+	U
041M570101	Di-n-butylbenzylphthalte	+	CRQL

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DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

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SDG # Z30301

A validation was performed on the Semivolatile Data from SDG Z30301. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicate
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds that were not within %D continuing calibration criteria. All RRFs were within calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, DJ154, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and all non detects as estimated (UJ).

041W570101	4-chloroaniline (59.4) 3,3'-dichlorobenzidine (60.2) 3-nitroaniline (64.1)

Field Blanks

Associated blank	Compound	Conc.	Action Level
041FM00401	bis(2-ethylhexyl) phthalate	9J	90

Samples	Compound	Qualification
041W720101	bis(2-ethylhexyl) phthalate	U

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

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J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

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K = Result is biased high

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METHOD BLANK QUALIFICATION CODES

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U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W570101	4-chloroaniline (59.4) 3,3'-dichlorobenzidine (60.2) 3-nitroaniline (64.1)	+/-	J/UJ
041W720101	bis(2-ethylhexyl) phthalate	+	U

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.9 Method; the National Functional Guidelines for Organic Data Validation, June 1991; and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # Z30301

A validation was performed on the Pesticide/Aroclor Data from SDG Z30301. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
	•	GC Performance
*	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

GC Performance

PEM0D and PEM1D (1/5/96 17:38) exhibited high %Ds for two (2) compounds.

GC Performance, Continued

Specific Finding

PEM0D and PEM1D (1/5/96 17:38) exhibited high %Ds for 4,4'-DDT and Methoxychlor. For the following samples and non-compliant compounds the positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

041W720101	4,4'-DDT (-49.0%/-45.0%)
041MZ20201	Methoxychlor (-46.8%/-38.4%)
040MZ40901	
040MZ31101	
041M570101	
040MZ30301	
040MZ30901	
040MZ30701	
041W570101	
040MZ30101	
040MZ30201	
041M120201	
041M720101	

Surrogate Recoveries

One (1) sample exhibited a non-compliant TCX recovery.

Specific Finding

The sample listed below exhibited a low TCX recovery. The positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

Sample ID	Surrogate	% Recovery
040MZ30901	TCX-2	25%

Analyte Identification/Quantitation

One (1) sample required dilution to accurately quantitate target compounds. Several samples exhibited column quantitation %Ds greater than 25%.

Specific Findings

For the following sample and compounds, the results from the original analysis are replaced with the corresponding results from the dilution analysis. All other results from the dilution are rejected, UR, in favor of the results reported from the undiluted analysis.

040MZ40101	Gamma-BHC Endrin

The positive results reported in all samples which exhibit column quantitation differences greater than 25% are qualified as estimated, J.

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 10% of the data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W720101 041MZ20201 040MZ40901 040MZ31101 041M570101 040MZ30301 040MZ30901 040MZ30701 041W570101 040MZ30101 040MZ30201 041M120201 041M720101	4,4'-DDT Methoxychlor	+/-	J/UJ
040MZ30901	ALL	+/-	J/UJ
040MZ40101	Gamma-BHC Endrin	+	D
040MZ40101DL	ALL OTHERS	+/-	UR
ALL	ALL P >25%	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # Z30301

A validation was performed on the Metals Data from SDG Z30301. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
*	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Sodium	-7.14 mg/kg	all soil samples below 71.4 mg/kg
Zinc	-0.30 mg/kg	all soil samples below 3.0 mg/kg

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Matrix Spike Recovery

Specific Finding

The Matrix Spike recovery for soils for Antimony (27%) was below 30%. All non-detect results are rejected and all positive results are qualified as estimated, "J".

The Matrix Spike recovery for soils for Thallium (68%) was below the lower control limits (<75% but >30%). All positive and non-detect results are qualified as estimated, "J" or "UJ".

The Matrix Spike recovery for Chromium (131%) was abvoe the upper control limits (>125%). All positive results are qualified as estimated, "J".

Laboratory Duplicate Analysis

Specific Finding

The duplicate analysis for Selenium was less than 2 times the CRDL. No qualification is necessary.

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	040MZ30301	74
Antimony	040MZ30701	76
Antimony	040MZ31101	84
Antimony	040MZ40901	66
Antimony	041M120201	69

The post digestion spike recovery for GFAA was above the upper control limits. All positive results for the listed samples below are qualified as estimated, "J".

Element	Sample IDs	% recoveries
Antimony	040MZ30101	135
Antimony	041M570101	134
Antimony	041MZ20201	118

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
all soil samples below 71.4 mg/kg	Na.	+/U	J/UJ
all soil samples below 3.0 mg/kg	Zn.		
all soil samples	Sb.	+	J
		U	R
all soil samples	Tl.	+/U	J/UJ
all soil samples	Cr.	+	J
040MZ30301, 040MZ30701, 040MZ31101, 040MZ40901 and 041M120201.	Sb.	+/U	J/UJ
040MZ30101, 041M570101 and 041MZ20201.	Sb.	+	J
All "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	Z42101
Date:	February 14, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	NAS Pensacola; Site 40 & 41
Date Sampled:	November 17, 1995
Number of Samples:	4 Aqueous Sample(s) with 0 MS/MSD(s) 11 Non-aqueous Sample(s) with 1 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level IV
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Low Volatiles, Volatiles, Low Semivolatiles, Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig R. Ayer

Eugene M. Watson, Vice President

3-4-96

Date

6716 Mexico Road St Peters, MO 63376
(314) 928-9533 (314) 278-1828 · Fax (314) 278-2709

SDG# Z42101

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	LVOA		VOA		LSV		SV		P/P		TAL/C	
041W5A0601	WATER	X				X				X		X	
041W5B0201	WATER	X				X				X		X	
040TM01501	WATER			X									
040MZ42101	SOIL				X				X		X		X
040MZ42201	SOIL				X				X		X		X
040NZ42201	SOIL				X				X		X		X
040MZ42301	SOIL				X				X		X		X
040MZ42401	SOIL				X				X		X		X
041M5A0601	SOIL				X				X		X		X
041M5B0101	SOIL				X				X		X		X
041M5B0201	SOIL				X				X		X		X
041M642301	SOIL				X				X		X		X
041M642401	SOIL				X				X		X		X
041TM00301	WATER			X									
041M642201	SOIL				X				X		X		X
Total Billable Samples	(Water/Soil)	2	0	2	11	2	0	0	11	2	11	2	11

LVOA = CLP Low Volatiles
VOA = CLP Volatiles
LSV = CLP Low Semivolatiles
SV = CLP Semivolatiles
P/P = CLP Pesticide/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # Z42101

A validation was performed on the Volatile Data from SDG Z42101. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds that were not within continuing calibration criteria. All RRFs were within calibration criteria. Qualifications are required.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, CQ029, contained compounds with %Ds greater than 25%, but less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J)

041M5A0601 acetone

Method Blank

Associated blank	Compound	Concentration
VBLKCQ	methylene chloride	10
VBLKCR	methylene chloride	15
VBLKCS	methylene chloride	13

Samples	Compound	Qualification
040MZ42101 040MZ42201 040MZ42301 040MZ42401 040NZ42201 041M642301	methylene chloride	U
041M5B0101 041M642201 041M642401 041M5A0601	methylene chloride	CRQL

System Performance and Overall Assessment

The overall system performance was fair The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M5A0601	acetone	+	J
040MZ42101	methylene chloride	+	U
040MZ42201			
040MZ42301			
040MZ42401			
040NZ42201			
041M642301			
041M5B0101	methylene chloride	+	CRQL
041M642201			
041M642401			
041M5A0601			

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

SDG # Z42101

A validation was performed on the Volatile Data from SDG Z42101, low concentration. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, FM384, contained compounds with %Ds greater than 25%, but less than 50%, and RRF less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

041W5A0601	acetone
041W5B0201	2-butanone

The continuing calibration, FM384, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041W5A0601	2-hexanone
041W5B0201	

Trip Blank

Associated blank	Compound	Concentration
041TM00301	methylene chloride	11

Samples	Compound	Qualification
041W5A0601 041W5A0201	methylene chloride	U

Compound Identification /Quantitation

Reject E-flagged analytes for sample 041W5B0201, in favor of D-flagged results in diluted sample 041W5B0201DL.

System Performance and Overall Assessment

The overall system performance was fair The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W5A0601 041W5B0201	acetone 2-butanone	+/-	J/R
041W5A0601 041W5B0201	2-hexanone	+/-	J/UJ
041W5A0601 041W5A0201	methylene chloride	+	U
041W5B0201	All E-flagged results	+	R
041W5B0201DL	All analytes except D-flagged results	+/-	R

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OLC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # Z42101

A validation was performed on the Semivolatile Data from SDG Z42101, low concentration. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that none of the data requires qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

DATA ASSESSMENT NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLC01.8, 3/90 Method; the National Functional Guidelines for Organic Data Validation, June 1991, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # Z42101

A validation was performed on the Semivolatile Data from SDG Z42101. The data was evaluated based on the following parameters:

*	•	Data Completeness
	•	Holding Times
*	•	GC/MS Tuning
	•	Calibration
	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Internal Standard Performance
*	•	Compound Identification
*	•	Compound Quantitation

* - All criteria were met for this parameter.

Holding Times

Three (3) samples were extracted outside the extraction holding time.

Specific Finding

The following samples were extracted sixteen (16) days outside the extraction holding time. All positive results are qualified as estimated, J, and all non-detect results are rejected, R.

040MZ42101 040MZ42301 041M642301

Continuing Calibrations

The continuing calibrations that were analyzed by the laboratory for these samples were not acceptable for all compound %Ds. All average RRF requirements were met.

Specific Finding

The continuing calibration standard, DJ216 contained compounds with %Ds greater than 50% but less than 90%. For the samples and non-compliant compounds listed below, the positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

040MZ42101	4-chloroaniline
040MZ42301	3-nitroaniline
041M642301	2,4-dinitrophenol
	4-nitroaniline
	Bis(2-ethylhexyl)phthalate
	Di-n-octylphthalate

The continuing calibration standard, IF285 contained compounds with %Ds greater than 50% but less than 90%. For the samples and non-compliant compounds listed below, the positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

040NZ42201	2,2'-oxybis(1-chloropropane)
040MZ42401	hexachlorocyclopentadiene
041M5A0601	3-nitroaniline
	2,4-dinitrophenol
	4-nitroaniline
	3,3'-dichlorobenzidine

The continuing calibration standard, IF314 contained compounds with %Ds greater than 50% but less than 90%. For the samples and non-compliant compounds listed below, the positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

041M642401	hexachlorocyclopentadiene
040MZ42201	3-nitroaniline
041M5B0201	carbazole
041M5B0101	
041M642201	

Continuing Calibrations, continued

Specific Findings

The continuing calibration standard, IF314 contained compounds with %Ds greater than 90%. For the samples and non-compliant compounds listed below, the positive results are qualified as estimated, J, and the non-detect results are rejected, R.

041M642401 2,2'-oxybis(1-chloropropane)

Method Blanks

One (1) of the two (2) method blanks exhibited contamination for bis(2-ethylhexyl)phthalate.

	SBLKIX
bis(2-ethylhexyl)phthalate	110 µg/Kg

Specific Finding

Samples	Contaminant	Qualification
041M5B0101	bis(2-ethylhexyl)phthalate	CRQL
041M5B0201		
041M642201		
041M642401		
040MZ42201		
040NZ42201		

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 5% of data required qualifications. A typographical error was noted on the Form V. The data noted is 12/29/96, but should be 12/29/95.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
040MZ42101	4-chloroaniline	+/-	J/UJ
040MZ42301	3-nitroaniline		
041M642301	2,4-dinitrophenol		
	4-nitroaniline		
	Bis(2-ethylhexyl)phthalate		
	Di-n-octylphthalate		
040NZ42201	2,2'-oxybis(1-chloropropane)	+/-	J/UJ
040MZ42401	hexachlorocyclopentadiene		
041M5A0601	3-nitroaniline		
	2,4-dinitrophenol		
	4-nitroaniline		
	3,3'-dichlorobenzidine		
041M642401	hexachlorocyclopentadiene	+/-	J/UJ
040MZ42201	3-nitroaniline		
041M5B0201	carbazole		
041M5B0101			
041M642201			
041M642401	3,3'-oxybis(1-chloropropane)	+/-	J/R
041M5B0101	bis(2-ethylhexyl)phthalate	+B	CRQL
041M5B0201			
041M642201			
041M642401			
040MZ42201			
040NZ42201			

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results this report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.8 Method; the National Functional Guidelines for Organic Data Validation, June 1991, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # Z42101

A validation was performed on the Pesticide/Aroclor Data from SDG Z42101. The data was evaluated based on the following parameters:

- * Data Completeness
- * Holding Times
- * GC Performance
- * Calibration
- Blanks
- Surrogate Recoveries
- * Matrix Spike/Matrix Spike Duplicates
- * GPC and Florisil Clean-up Procedures
- * Field Duplicates
- * Compound Identification
- Compound Quantitation

* - All criteria were met for this parameter.

Method Blanks

One (1) method blank exhibited contamination for one (1) target compound.

	PBLK02
endosulfan I	0.24 μg/Kg

Method Blanks, continued

Specific Finding

Samples	Compound	Qualification
040MZ42101	endosulfan I	U
040MZ42201		
040MZ42301		
040MZ42401		
040NZ42201	endosulfan I	CRQL

Surrogate Recoveries

One (1) sample required qualification due to non-compliant surrogate recoveries.

Specific Findings

The following sample exhibited a TCMX recovery below the QC limit. All positive and non-detect results reported in the sample are qualified as estimated, J/UJ.

041M642401

Compound Identification/Quantitation

Several reported results exhibited P flags due to column quantitation %Ds greater than 25%. Single component compounds in samples with reported aroclors should be considered suspect. The Form Is submitted by the laboratory indicated incorrect Concentrated Final Volumes for all samples. The laboratory indicated that the software limitation would not accommodate the correct final volume. The samples were to be calculated based on a final volume of 1.0 ml. Based on this information, calculation verification was possible. Supporting documentation explaining the discrepancy has been received.

Specific Findings

All positive results exhibiting P flags are qualified as estimated, J, due to column quantitation %Ds greater than 25%.

Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 5% of data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
040MZ42101 040MZ42201 040MZ42301 040MZ42401	endosulfan I	+B	U
040NZ42201	endosulfan I	+B	CRQL
041M642401	All Samples	+/-	J/UJ
All	All P flagged results	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # Z42101

A validation was performed on the Metals Data from SDG Z42101. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
	•	Matrix Duplicates
	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Barium	0.21 mg/kg	all soil samples below 1.05 mg/kg
Calcium	9.14 mg/kg	no impact
Copper	0.81 mg/kg	all soil samples below 4.05 mg/kg
Iron	3.74 mg/kg	no impact
Lead	0.22 mg/kg	all soil samples below 1.1 mg/kg

Selenium	0.36 mg/kg	no impact
Vanadium	0.44 mg/kg	all soil samples below 2.2 mg/kg
Zinc	0.53 mg/kg	all soil samples below 2.65 mg/kg
Aluminum	29.0 ug/l	all water samples below 145 ug/l
Calcium	123. ug/l	no impact
Iron	49.3 ug/l	no impact
Lead	1.32 ug/l	all water samples below 6.6 ug/l
Nickel	17.1 ug/l	all water samples below 85.5 ug/l

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U". The field or DI water blanks exhibited contamination but had no impact on the data.

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Arsenic	-0.37 mg/kg	all soil samples below 3.7 mg/kg
Sodium	-19.7 mg/kg	no impact
Arsenic	-2.28 ug/l	all water samples
Chromium	-8.44 ug/l	all water samples
Potassium	-138. ug/l	all water samples below 1380 ug/l
Silver	-6.94 ug/l	all water samples
Sodium	-124. ug/l	no impact

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Matrix Spike Recovery

Specific Finding

Tha Matrix Spike recovery for soils for Antimony was below 30%. All non-detect results are rejected and all positive results are qualified as estimated, "J".

The Matrix Spike recoveries for soils for Lead and Silver were below the lower control limits. All positive and non-detect results are qualified as estimated, "J" or "UJ".

The Matrix Spike recovery for soils for Selenium was above the upper control limits. All positive results are qualified as estimated, "J".

Duplicate Analysis

Specific Finding

The Duplicate analysis for Lead was outside the control limits. All positive results are qualified as estimated, "J". The field duplicate for Calcium was greater than 50%. All positive results are qualified as estimated, "J".

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	040MZ42101	64
Antimony	040MZ42201	50
Antimony	040NZ42201	76
Antimony	040MZ42401	77
Antimony	041M5B0101	77
Antimony	041M5B0201	72
Antimony	041M642201	74
Antimony	041M642301	66

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
all soil samples below 1.05 mg/kg	Ba.	+	U
all soil samples below 4.05 mg/kg	Cu.		
all soil samples below 1.1 mg/kg	Pb.		
all soil samples below 2.2 mg/kg	V.		
all soil samples below 2.65 mg/kg	Zn.		
all water samples below 145 ug/l	Al.		
all water samples below 6.6 ug/l	Pb.		
all water samples below 85.5 ug/l	Ni.		
all soils samples below 197 mg/kg	Na.	+/U	J/UJ
all water samples	As.		
all water samples	Cr.		
all water samples	Ag.		
all water samples below 1380 ug/l	K.		
all soil samples	Sb.	+	J
		U	R
all soil samples	Pb and Ag.	+/U	J/UJ
all soil samples	Se.	+	J
all soil samples	Pb.	+	J
040MZ42101, 42201, NZ42201, MZ42401, 041M5B0101, 201, 642201 and 301.	Sb.	+/U	J/UJ
All "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	Z53301
Date:	March 12, 1996
Client Name:	Ensafe/Allen & Hoshall
Project/Site Name:	Pensacola
Date Sampled:	November 28, 1995
Number of Samples:	5 Aqueous Sample(s) with 0 MS/MSD(s) 9 Non-aqueous Sample(s) with 1 MS/MSD(s)
Laboratory:	CEIMIC Corporation
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level III
Method(s) Utilized:	CLP Multimedia SOW
Analytical Fractions:	Low Concentration Volatiles, Volatiles, Low Concentration Semivolatiles, Semivolatiles, Pesticides w/PCB's, Metals w/Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user in urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Scayos

Eugene M. Watson, Vice President

3-13-96

Date

4107 Plaza 94 South St. Charles, MO 63304
(314) 936-1332 Fax (314) 936-1335

SDG# Z53301

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

Ensafe ID	Matrix	LVOA		VOA		LSV		SV		P/P		TAL/C	
040TM01701	WATER	X											
041W120101	WATER	X				X				X		X	
041EM00201	WATER	X				X				X		X	
041FM00201	WATER	X				X				X		X	
041TM00501	WATER	X											
040MZ53301	SOIL				X				X		X		X
040MZ53401	SOIL				X				X		X		X
040MZ53501	SOIL				X				X		X		X
040MZ53601	SOIL				X				X		X		X
040MZ53701	SOIL				X				X		X		X
040MZ53801	SOIL				X				X		X		X
041M10A101	SOIL				X				X		X		X
041M10A201	SOIL				X				X		X		X
041M120101	SOIL				X				X		X		X
Total Billable Samples	(Water/Soil)	5	0	0	9	3	0	0	9	3	9	3	9

LVOA = CLP Low Volatiles
VOA = CLP Volatiles
LSV = CLP Low Semivolatiles
SV = CLP Semivolatiles
P/P = CLP Pesticide w/PCB's
TAL/CN = CLP Metals w/Cyanide

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP OLC01.0, 10/92 SOW; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # Z53301

A validation was performed on the Volatile Data from SDG Z53301. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within continuing calibration criteria.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, FM505, contained compounds with RRFs less than 0.05. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and reject all non detects (R).

041W120101	acetone
	2-butanone

Method Blanks

Associated blank	Compound	Conc.	Action Level
VBLKFQ	acetone	5	50

Samples	Compound	Qualification
041W120101	acetone	U

Trip Blanks

Associated blank	Compound	Conc.	Action Level
041TM00501	methylene chloride	9	90
	acetone	10	100

Samples	Compound	Qualification
041W120101	methylene chloride	U

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041W120101	acetone 2-butanone	+/-	J/R
041W120101	acetone	+	U
041W120101	methylene chloride	+	U

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; the National Functional Guidelines for Organic Data Review, June 1991, and DQO Level IV. All comments made within this report should be considered when examining the analytical results.

SDG # Z53301

A validation was performed on the Volatile Data from SDG Z53301. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Method Blank

Associated blank	Compound	Concentration	Action Level
VBLKCV	Methylene chloride	2J	20
VBLKCX	methylene chloride	4J	40
VBLKCY	methylene chloride	4J	40
VBLKHB	methylene chloride	970J	9700

Method Blank (continued)

Samples	Compound	Qualification
040MZ5350 040MZ53301 040MZ53401 040MZ53601 040MZ53701 040MZ53801 041M10A101 041M10A201	methylene chloride	U
041M120101	methylene chloride	CRQL

Trip Blank

Associated blank	Compound	Concentration	Action Level
040TM01701	acetone	5B	50
040TM00501	acetone	10B	100

Samples	Compound	Qualification
040MZ53301	acetone	CRQL
040MZ53501 040MZ53601 040M10A101	acetone	U

System Performance and Overall Assessment

The overall system performance was fair. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
040MZ5350	methylene chloride	+	U
040MZ53301			
040MZ53401			
040MZ53601			
040MZ53701			
040MZ53801			
041M10A101			
041M10A201			
041M120101	methylene chloride	+	CRQL
040MZ53301	acetone	+	CRQL
040MZ53501	acetone	+	U
040MZ53601			
040M10A101			

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP, OlC01.0 10/92; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # Z53301

A validation was performed on the Semivolatile Data from SDG Z53301. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicate
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL

No qualifications are required.

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA CLP 3/90; National Functional Guidelines for Organic Data Review, and DQO Level IV. All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # Z53301

A validation was performed on the Semivolatile Data from SDG Z53301. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds and RRFs that were not within %D and RRF continuing calibration criteria. Qualifications are required.

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, IF423, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041M120101	hexzchloropentadiene (54.4%)
040MZ53801	2,4-dinitrophenol (52.9%)
	4-nitroaniline (60.3%)
	3,3'-dichlorobenzidine (65.0%)

The continuing calibration, IF423, contained compounds with %Ds greater than 90% and RRF less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

041M120101	2,2'-oxybis(1-chloropropane) (113.9%)
040MZ53801	3-nitroaniline (95.6% and 0.018)

The continuing calibration, IF374, contained compounds with %Ds greater than 50%, but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

040MZ53301	2,2'-oxybis(1-chloropropane) (83.2%)
040MZ53401	4-nitroaniline (53.6%)
040MZ53501	butylbenzylphthalate (54.4%)
040MZ53601	3,3'-dichlorobenzidene (67.0%)
040MZ53701	bis(2-ethylhexyl)phthalate (68.9%)
041M10A101	
041M10A201	

Continuing calibrations (continued)

Specific Finding:

The continuing calibration, IF374, contained compounds with %Ds greater than 90% and RRF less than 0.050. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as rejected (R).

040MZ53301	3-nitroaniline (95.6% and 0.018)
040MZ53401	
040MZ53501	
040MZ53601	
040MZ53701	
041M10A101	
041M10A201	

Method Blanks

Associated blank	Compound	Concentration	Action Level
SBLKIG	bis(2ethylhexyl)phthalate	17J	170
	Di-n-octylphthalate	25J	250

Samples	Compound	Qualification
041M10A101	bis(2ethylhexyl)phthalate	CRQL
041M10A201		
040MZ53301		
040MZ53401		
040MZ53501		
040MZ53601		
040MZ53701		
040MZ53801		
041M10A101	Di-n-octylphthalate	CRQL
040MZ53801		

System Performance and Overall Assessment

The overall system performance was fair. The laboratory did not encounter any large problems. The data reviewer estimates that less than 5% of the data is qualified.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M120101 040MZ53801	hexzchloropentadiene (54.4%) 2,4-dinitrophenol (52.9%) 4-nitroaniline (60.3%) 3,3'-dichlorobenzidine (65.0%)	+/-	J/UJ
041M120101 040MZ53801	2,2'-oxybis(1-chloropropane) 3-nitroaniline (95.6% and 0.018)	+/-	J/R
040MZ53301 040MZ53401 040MZ53501 040MZ53601 040MZ53701 041M10A101 041M10A201	2,2'-oxybis(1-chloropropane) 4-nitroaniline (53.6%) butylbenzylphthalate (54.4%) 3,3'-dichlorobenzidene (67.0%) bis(2-ethylhexyl)phthalate (68.9%)	+/-	J/UJ
040MZ53301 040MZ53401 040MZ53501 040MZ53601 040MZ53701 041M10A101 041M10A201	3-nitroaniline (95.6% and 0.018)	+/-	J/R
041M10A101 041M10A201 040MZ53301 040MZ53401 040MZ53501 040MZ53601 040MZ53701 040MZ53801	bis(2ethylhexyl)phthalate	+	CRQL
041M10A101 040MZ53801	Di-n-octylphthalate	+	CRQL

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP OLM01.9 Method; the National Functional Guidelines for Organic Data Validation, June 1991; and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # Z53301

A validation was performed on the Pesticide/Aroclor Data from SDG Z53301. The data was evaluated based on the following parameters:

*	•	Data Completeness
	•	Holding Times
	•	GC Performance
*	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	GPC and Florisil Clean-up Procedures
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Holding Times

The analysis holding times were exceeded for many samples.

Holding Times, Continued

Specific Findings

The following samples exceeded the analysis holding time by two (2) to three (3) days. It is the professional opinion of the data validator that the positive results should be qualified as estimated, J.

040MZ53501
040MZ53601
040MZ53801
041M10A101
041M10A201
041M120101
041M120101DL

GC Instrument Performance

Several PEM RPDs were above the QC limit.

Specific Findings

PEM1D (1/10/96 22:22) exhibited a RPD greater than 25%. For the following samples and non-compliant compound, the positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

040MZ53301	4,4'-DDT
040MZ53401	
040MZ53501	
040MZ53601	
040MZ53701	
041M120101DL	
041W120101	
041EM00201	
041FM00201	
040MZ53801	
041M10A201	
041M120101	
041M10A101	

GC Instrument Performance, Continued

Specific Findings, Continued

PEM1E (1/11/96 23:01) exhibited a RPD greater than 25%. For the following samples and non-compliant compound, the positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

040MZ53801	4,4'-DDT
041M10A201	
041M120101	
041M10A101	

Surrogate Recoveries

Several samples exhibited non-compliant TCX and/or DCB recoveries.

Specific Finding

The sample listed below exhibited a low TCX recovery. The positive results are qualified as estimated, J, and the non-detect results are qualified as estimated, UJ.

Sample ID	Surrogate	% Recovery
040MZ53801	TCX-1	26%

The sample listed below exhibited a high DCB recovery. The positive results are qualified as estimated, J.

Sample ID	Surrogate	% Recovery
041M120101	DCB-2	160%

Analyte Identification/Quantitation

One (1) sample required dilution to accurately quantitate target compounds. Several samples exhibited column quantitation %Ds greater than 25%.

Specific Findings

For the following sample and compound, the results from the original analysis are replaced with the corresponding results from the dilution analysis. All other results from the dilution are rejected, UR, in favor of the results reported from the undiluted analysis.

041M120101 Endrin Ketone

The positive results reported in all samples which exhibit column quantitation differences greater than 25% are qualified as estimated, J.

System Performance and Overall Assessment

Overall performance was acceptable. The data reviewer estimates less than 30% of the data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
040MZ53501	ALL	+	J
040MZ53601			
040MZ53801			
041M10A101			
041M10A201			
041M120101			
041M120101DL			
040MZ53301	4,4'-DDT	+/-	J/UJ
040MZ53401			
040MZ53501			
040MZ53601			
040MZ53701			
041M120101DL			
041W120101			
041EM00201			
041FM00201			
040MZ53801			
041M10A201			
041M120101			
041M10A101			
040MZ53801	4,4'-DDT	+/-	J/UJ
041M10A201			
041M120101			
041M10A101			
040MZ53801	ALL	+/-	J/UJ
041M120101	ALL	+	J
041M120101	Endrin Ketone	+	D
041M120101DL	ALL OTHERS	+/-	UR
ALL	ALL P >25%	+	J

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level IV requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # Z53301

A validation was performed on the Metals Data from SDG Z53301. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
	•	MSAs

* - All criteria were met for this parameter.

Preparation and Field Blanks

Specific Finding

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Antimony	0.20 mg/kg	all soil samples below 1.0 mg/kg
Calcium	14.5 mg/kg	no impact
Iron	1.53 mg/kg	no impact
Lead	0.14 mg/kg	all soil samples below 0.70 mg/kg

Antimony	3.37 ug/l	all water samples below 33.7 ug/l
Iron	20.9 ug/l	no impact

The field QC blanks exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Aluminum	81.0 ug/l	all water samples below 405 ug/l
Barium	4.7 ug/l	all water samples below 23.5 ug/l
Zinc	12.2 ug/l	all water samples below 61.0 ug/l

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U".

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Manganese	-0.19 mg/kg	all soil samples below 1.9 mg/kg
Sodium	-32.1 mg/kg	all soil samples below 321 mg/kg
Thallium	-0.33 mg/kg	all soil samples below 3.3 mg/kg
Zinc	-0.36 mg/kg	all soil samples below 3.6 mg/kg
Barium	-2.07 ug/l	all water samples below 20.7 ug/l
Copper	-5.08 ug/l	all water samples below 50.8 ug/l
Potassium	-275 ug/l	all water samples below 2750 ug/l
Sodium	-98.4 ug/l	all water samples below 984 ug/l

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Matrix Spike Recovery

Specific Finding

The Matrix Spike recoveries for soils for Antimony (58%) and Silver (59%) were below the lower control limits All positive and non-detect results are qualified as estimated, "J" or "UJ".

Duplicate Analysis

Specific Finding

The duplicate analysis for soils for Calcium was above 35% and will be qualified as estimated, "J".

MSAs

Specific Finding

The post digestion spike recovery for GFAA was below the lower control limits. All positive and non-detect results for the listed samples below are qualified as estimated, "J" or "UJ".

Element	Sample IDs	% recoveries
Antimony	041W120101	77
Antimony	040MZ53501	65
Antimony	040MZ53601	75
Antimony	040MZ53701	62
Antimony	040MZ53801	81

The post digestion spike recovery for GFAA was above the upper control limits. All positive results for the listed samples below are qualified as estimated, "J".

Element	Sample IDs	% recoveries
Antimony	041FM00201	118
Antimony	041M10A201	138

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
All soil samples below 1.00 mg/kg	Sb.	+	U
all soil samples below 0.7 mg/kg	Pb.		
all water samples below 16.9mg/kg	Sb.		
all water samples below 23.5 mg/kg	Ba.		
all water samples below 405 mg/kg	Al.		
all water samples below 61.0 mg/kg	Zn.		
all soil samples below 1.9 mg/kg	Mn.	+/U	J/UJ
all soil samples below 321 mg/kg	Na.		
all soil samples below 3.3 mg/kg	Tl.		
all soil samples below 3.6 mg/kg	Zn.		
all water samples below 20.7 ug/l	Ba.		
all water samples below 50.8 ug/l	Cu.		
allsoil samples	Sb and Ag.	+/U	J/UJ
all soil samples	Ca.	+	J
041W120101, 040MZ53501, 040MZ53601, 040MZ53701 and 040MZ53801.	Sb.	+/U	J/UJ
040FM00201 and 041M10A201.	Sb.	+	J
All "B" results	all analytes	B	J

HEARTLAND
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Data Validation Report

SDG#:	PEN11
Date:	October 8, 1997
Client Name:	EnSafe
Project/Site Name:	Pensacola, Sites 40 & 41
Date Sampled:	August 26-September 3, 1997
Number of Samples:	12 Aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	Savannah Laboratories
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level III
Method(s) Utilized:	SW846 Third Edition
Analytical Fractions:	Volatiles, Semivolatiles, Pesticide/PCB's, Metals, Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i e spectra, chromatograms, etc., for each sample have been carefully reviewed The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Searfoss
for Paul B Humburg, President

10-10-97
Date

SDG# PEN11

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

ENSAFE ID	MATRIX	VOA		SVOA		P/P		TAL/CN	
040W2B0701	WATER	X		X		X		X	
040W2B0901	WATER	X		X		X		X	
041W030101	WATER	X		X		X		X	
041W330101	WATER	X		X		X		X	
041W330201	WATER	X		X		X		X	
041W5A0401	WATER	X		X		X		X	
041W5A0501	WATER	X		X		X		X	
041W5A0601	WATER	X		X		X		X	
041R5A0601	WATER	X		X		X		X	
041W750101	WATER	X		X		X		X	
041T082697	WATER	X							
041T082797	WATER	X							
Total Billable Samples	(Water/Soil)	12	0	10	0	10	0	10	0

VOA = Volatiles
SV = Semivolatiles
P/P = Pesticide/PCB's
TAL/CN = Metals w/Cyanide

DATA ASSESSMENT NARRATIVES

DATA ASSESSMENT NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8240; the National Functional Guidelines for Organic Data Validation, February 1994, and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PEN11

A validation was performed on the Volatile Data from SDG PEN11. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibration
	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Internal Standard Performance
*	•	Compound Identification
*	•	Compound Quantitation

* - All criteria were met for this parameter.

Field QC Blanks

The trip and rinseate blanks associated with these samples exhibited contamination. The samples required qualification. The end-user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into consideration when applying the 5X or 10X criteria to field samples

Field QC Blanks, continued

Associated Blanks	Compound	Conc.	Action Level
040TW09047	carbon disulfide	0.46 μg/L	4.6 μg/L
041E082897	carbon disulfide	0.90 μg/L	9.0 μg/L

Samples	Compound	Qualification
041W330101	carbon disulfide	CRQL
041W5A0401		
041W5A0601		

System Performance and Overall Assessment

The data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
041W330101	carbon disulfide	+	CRQL
041W5A0401			
041W5A0601			

DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA SW846 8270; the National Functional Guidelines for Organic Data Review, February 1994; and DQO Level III. All comments made within this report should be considered when examining the analytical results.

SDG # PEN11

A validation was performed on the Semivolatile Data from SDG PEN11. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
  Calibrations
* Internal Standard Performance
* Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Field Duplicates
* Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing Calibrations

The continuing calibrations were acceptable for all average RRFs. All %Ds were not within continuing calibration criteria. Qualifications are required.

Continuing Calibrations (continued)

The continuing calibration, JQ750, contained compounds with %Ds greater than 50% but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

041W030101	2,4-dinitrophenol (64.1%)
041W5A0401	4,6-dinitro-2-methylphenol (58.8%)
041W5A0501	
041W5A0601	
041R5A0601	
041W750101	
041W330101	
041W330201	

System Performance and Overall Assessment

The data as presented requires qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
041W030101	2,4-dinitrophenol	+/-	J/UJ
041W5A0401	4,6-dinitro-2-methylphenol		
041W5A0501			
041W5A0601			
041R5A0601			
041W750101			
041W330101			
041W330201			

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW846 Method 8080; the National Functional Guidelines for Organic Data Validation, February 1994; and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PEN11

A validation was performed on the Pesticide/Aroclor Data from SDG PEN11. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
*	•	Calibration
	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Contractual Non-Compliance

The method requires that all target compounds, including the multi-component compounds, be analyzed with a five (5) point calibration curve. The laboratory analyzed a single point curve for the Aroclors 1221, 1232, 1242, 1248 and 1254. No positive results were reported for the compounds analyzed with a single point calibration, therefore the data did not require qualification.

Method Blanks

One (1) associated method blank exhibited contamination for target compounds and required qualifications. The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moistures as associated samples. These factors must be taken into consideration when applying the 5X criteria to field samples. The method blank results were compared to the associated samples.

Blank ID	Compound	Concentration	Action Level
08290-MMB	4,4'-DDD	0.0035 JP µg/L	0.0175 µg/L

The following samples have been qualified for method blank contamination. The qualifications are for all the blanks.

Sample	Compound	Qualification
041W5A0501 041R5A0601 041W750101	4,4'-DDD	CRQL

QC Blanks

The associated QC blank exhibited contamination for target compounds and required qualifications. The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moistures as associated samples. These factors must be taken into consideration when applying the 5X criteria to field samples. The QC blank results were compared to the associated samples.

Blank ID	Compound	Concentration	Action Level
041E082897	Heptachlor	0.0020 JBP µg/L	0.01 µg/L

The following sample has been qualified for QC blank contamination. The qualifications are for all the blanks.

Sample	Compound	Qualification
041R5A0601	Heptachlor	CRQL

Surrogate Recoveries

The sample listed below exhibited a DCB recovery less than 10%. The positive results are qualified as estimated, J, and the non-detect results are rejected, UR.

Sample ID	Surrogate	% Recovery
041W750101	DCB-2	6%

Compound Identification/Quantitation

Several samples exhibited column quantitation %Ds greater than 40%. The following guidelines were used to qualify the data:

1. No qualifications are required for positive sample results which exhibited column quantitation differences <40%. The "P" flag is removed from the result.

2. The positive sample result which exhibited a column quantitation difference >40%, but ≤100% is qualified as estimated, J.

3. The positive single component pesticide sample result which exhibited a column quantitation difference >100% and is <10X the respective compound CRQL, is qualified as non-detect, U. (All multi-component results are exempt from this rule.)

4. The positive single component pesticide sample result which exhibited a column quantitation difference >100% and >10X the respective compound CRQL, is qualified as presumptively present at an estimated concentration, NJ. (All multi-component results are exempt from this rule.)

5. The positive multi-component pesticide sample result which exhibited a column quantitation difference >100% and <10X the respective multi-component CRQL is qualified as presumptively present at an estimated concentration, NJ.

Compound Identification/Quantitation, Continued

The following samples and compounds have been qualified for high column quantitation %Ds.

Sample ID	Compound	%D	Lab Qual.	HESI Qual.	Ref. #
041W5A0501	Beta-BHC	222.6%	P	U	3
	Gamma-BHC	134.0%	P	U	3
	Dieldrin	117.8%	P	U	3
	4,4'-DDD	233.3%	P	U	3
041W5A0601	Gamma-Chlordane	269.9%	P	U	3
041R5A0601	Alpha-BHC	154.2%	P	U	3
	4,4'-DDD	284.6%	P	U	3
041W750101	Dieldrin	87.1%	P	J	2
	4,4'-DDE	137.9%	P	U	3
	4,4'-DDD	83.9%	P	J	2
041W330101	Dieldrin	30.0%	P		1
040W2B0901	Delta-BHC	111.5%	P	U	3
040W2B0701	Delta-BHC	93.5%	P	J	2
	Gamma-BHC	230.0	P	U	3

System Performance and Overall Assessment

The data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

NJ = Result is considered presumptively present at an estimated concentration

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
041W5A0501 041R5A0601 041W750101	4,4'-DDD	+	CRQL
041R5A0601	Heptachlor	+	CRQL
041W750101	ALL	+/-	J/UR
ALL	All P < 40%	+	
ALL	All P > 40% But ≤ 100%	+	J
ALL	single component pests All P > 100% And < 10X CRQL	+	U
ALL	single component pests All P > 100% And > 10X CRQL	+	NJ
ALL	multi-component pests All P> 100% And < 10X CRQL	+	NJ

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PEN11

A validation was performed on the Metals and Cyanide Data from SDG PEN11. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
*	•	Matrix Spike Recovery
*	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
	•	Post Digestion Spiking

* - All criteria were met for this parameter.

Preparation and Field Blanks

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Beryllium	0.20 ug/l	all water samples below 1.0 ug/l
Lead	1.2 ug/l	all water samples below 6.0 ug/l
Mercury	0.06 ug/l	all water samples 0.3 ug/l

The calibration blanks exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Barium	0.8 ug/l	no impact
Chromium	1.1 ug/l	all water samples below 5.5 ug/l
Manganese	0.9 ug/l	all water samples below 4.5 ug/l
Nickel	2.1 ug/l	all water samples below 10.5 ug/l

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U".

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Arsenic	-5.38 ug/l	all water samples below 53.8 ug/l
Chromium	-0.9 ug/l	all water samples below 9.0 ug/l
Cobalt	-1.17 ug/l	all water samples below 11.7 ug/l
Iron	-20.6 ug/l	all water samples below 206 ug/l
Vanadium	-1.99 ug/l	all water samples below 19.9 ug/l
Cyanide	-4.56 ug/l	all water samples below 45.6 ug/l

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Post Digestion Spiking results

The post digestion spiking for the following samples were below the lower control limits (>10% but <85%). All positive and non-detect results are qualified as estimated, "J" or "UJ".

Analytes	Sample IDs	Recovery
Silver	040W2B0701	60
Silver	040W2B0901	59
Silver	041W330101	80
Thallium	040W2B0701	47
Thallium	040W2B0901	40
Thallium	041W330101	64

"B" qualifier

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
All water samples below 1.0 ug/l	Be.	+	U
All water samples below 5.5 ug/l	Cr.		
All water samples below 6.0 ug/l	Pb.		
All water samples below 4.5 ug/l	Mn.		
All water samples below 0.3 ug/l	Hg.		
All water samples below 10.5 ug/l	Ni.		
All water samples below 53.8 ug/l	As.	+/U	J/UJ
All water samples below 9.0 ug/l	Cr.		
All water samples below 11.7 ug/l	Co.		
All water samples below 206 ug/l	Fe.		
All water samples below 19.9 ug/l	V.		
All water samples below 45.6 ug/l	Cn.		
040W2B0701, 040W2B0901 and 041W330101.	Ag and Tl.	+/U	J/UJ
All "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	PEN12
Date:	October 14, 1997
Client Name:	EnSafe
Project/Site Name:	Pensacola - Sites 40 & 41
Date Sampled:	August 27-September 3, 1997
Number of Samples:	4 Aqueous Sample(s) with 0 MS/MSD(s) 20 Non-aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	Savannah Laboratories
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level III
Method(s) Utilized:	SW846 Third Edition
Analytical Fractions:	Volatiles, Semivolatiles, Pesticide/PCB's, Metals, Cyanide, Total Organic Carbons

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

for Kimberly S. Shopp
Paul B. Humburg, President

14 October 1997
Date

4127 Plaza 94 South · St. Charles, MO 63304
(314) 936-1332 · Fax (314) 936-1335

SDG# PEN12

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

ENSAFE ID	MATRIX	VOA		SVOA		P/P		TAL		CN		TOC	
040T082997	WATER	X											
040M2B0101	SOIL		X		X		X		X		X		X
040M2B0201	SOIL		X		X		X		X		X		X
040M2B0301	SOIL		X		X		X		X		X		X
040M2B0401	SOIL		X		X		X		X		X		X
040M2B0501	SOIL		X		X		X		X		X		X
040M2B0601	SOIL		X		X		X		X		X		X
040M2B0701	SOIL		X										
040M2B0901	SOIL		X										
040M2B1001	SOIL		X										
040TW09037	WATER	X											
041M030201	SOIL		X		X		X		X		X		X
041M030701	SOIL		X		X		X		X		X		X
041E082897	WATER	X		X		X		X		X			
041T082897	WATER	X											
041M18B101	SOIL		X		X		X		X		X		X
041M330101	SOIL		X		X		X		X		X		X
041M330201	SOIL		X		X		X		X		X		X
041M5A0401	SOIL		X		X		X		X		X		X
041M5A0501	SOIL		X		X		X		X		X		X
041M5A0601	SOIL		X		X		X		X		X		X
041M640601	SOIL		X										
041M750101	SOIL		X		X		X		X		X		X
041N750101	SOIL		X		X		X		X		X		X
Total Billable Samples (Water/Soil)		4	20	1	16	1	16	1	16	1	16	0	16

VOA = Volatiles
SV = Semivolatiles
P/P = Pesticide/PCB's
TAL = Metals
CN = Cyanide
TOC = Total Organic Carbons

DATA ASSESSMENT NARRATIVES

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries. GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA SW846, Method 8240; the National Functional Guidelines for Organic Data Review, February 1994, and DQO Level III. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # PEN12

A validation was performed on the Volatile Data from SDG PEN12. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicate
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds that were not within %D continuing calibration criteria. All RRFs were within calibration criteria.

Continuing calibrations (continued)

The continuing calibration, MQ306, contained compounds with %Ds greater than 25% D but less than 50% D. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J).

041M030201RE acetone (28.0)

Compound Identification/Quantitation

Specific Finding:

Do not use results for the samples listed below, in favor of the re-analyzed sample results due to non compliant surrogate recoveries and/or non compliant internal standard areas.

041M030201
041M330101

Do not use results for the re-analyzed samples listed below, due to non compliant internal standard areas.

041M5A601RE
041M640601RE
041N750101RE
040M2B0501RE
040M2B0601RE
040M2B0201RE

System Performance and Overall Assessment

The laboratory did not encounter any large problems. The data as presented requires qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D= result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M030201RE	acetone (28.0)	+	J
041M030201 041M330101	All results	+/-	Do not use
041M5A601RE 041M640601RE 041N750101RE 040M2B0501RE 040M2B0601RE 040M2B0201RE	All results	+/-	Do not use

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA SW846 8270; the National Functional Guidelines for Organic Data Review, February 1994, and DQO Level III. All comments made within this report should be considered when examining the analytical results.

SDG # PEN12

A validation was performed on the Semivolatile Data from SDG PEN12. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
* Calibrations
* Internal Standard Performance
* Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Field Duplicates
* Compound Identification /Quantitation

* - All criteria were met for this parameter

System Performance and Overall Assessment

The data as presented requires no qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL

No qualifications are required.

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW846 Method 8080; the National Functional Guidelines for Organic Data Validation, February 1994; and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PEN12

A validation was performed on the Pesticide/Aroclor Data from SDG PEN12. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
*	•	Calibration
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Contractual Non-Compliance

The method requires that all target compounds, including the multi-component compounds, be analyzed with a five (5) point calibration curve. The laboratory analyzed a single point curve for the Aroclors 1221, 1232, 1242, 1248, and 1254. No positive results were reported for the compounds analyzed with a single point calibration, therefore the data did not require qualification.

Compound Identification/Quantitation

Two (2) samples required dilution to accurately quantitate target compounds. For the following samples, the E flagged results are replaced with the corresponding results from the dilution analysis. All other results from the dilution are not used in favor of the results reported from the original analysis.

041M18B101
041M5A0401

Several samples exhibited column quantitation %Ds greater than 40%. The following guidelines were used to qualify the data:

1. No qualifications are required for positive sample results which exhibited column quantitation differences <40%. The "P" flag is removed from the result.

2. The positive sample result which exhibited a column quantitation difference >40%, but ≤100% is qualified as estimated, J.

3. The positive single component pesticide sample result which exhibited a column quantitation difference >100% and is <10X the respective compound CRQL, is qualified as non-detect, U. (All multi-component results are exempt from this rule.)

4. The positive single component pesticide sample result which exhibited a column quantitation difference >100% and >10X the respective compound CRQL, is qualified as presumptively present at an estimated concentration, NJ. (All multi-component results are exempt from this rule.)

5. The positive multi-component pesticide sample result which exhibited a column quantitation difference >100% and <10X the respective multi-component CRQL is qualified as presumptively present at an estimated concentration, NJ.

Compound Identification/Quantitation, Continued

The following samples and compounds have been qualified for high column quantitation %Ds.

Sample ID	Compound	%D	Lab Qual.	HESI Qual.	Ref. #
041M330201	Gamma-BHC	45.4%	P	J	2
	Dieldrin	2197%	P	U	3
	Methoxychlor	3700%	P	U	3
041M030201	Gamma-BHC	666.0%	P	U	3
	Methoxychlor	1150%	P	U	3
041M030701	Dieldrin	1998%	P	U	3
	Endosulfan Sulfate	52.8%	P	J	2
	Gamma-Chlordane	75.7%	P	J	2
041M5A0401	Gamma-BHC	83.3%	P	J	2
	Dieldrin	762.1%	P	U	3
	Endrin	146.4%	P	U	3
	Endosulfan Sulfate	56.5%	P	J	2
	Methoxychlor	990.9%	P	U	3
	Endrin Aldehyde	364.3%	P	U	3
	Gamma-Chlordane	77.2%	P	J	2
041M5A0501	Endrin	158.3%	P	U	3
041M5A0601	Endosulfan I	[illegible].0%	P	U	3
	Dieldrin	64.3%	P	J	2
	Endrin	36.4%	P		1
	Endosulfan Sulfate	50.0%	P	J	2
	Methoxychlor	1385%	P	U	3
	Alpha-Chlordane	115.4%	P	U	3
	Gamma-Chlordane	828.6%	P	U	3

Compound Identification/Quantitation, Continued

The following samples and compounds have been qualified for high column quantitation %Ds.

Sample ID	Compound	%D	Lab Qual.	HESI Qual.	Ref. #
041M750101	Gamma-BHC	32.0%	P		1
	Dieldrin	1040%	P	U	3
	4,4'-DDT	70.0%	P	J	2
	Methoxychlor	386.5%	P	U	3
	Endrin Aldehyde	793.6%	P	U	3
	Gamma-Chlordane	300.0%	P	U	3
041N750101	Dieldrin	596.4%	P	U	3
	4,4'-DDT	100.0%	P	J	2
	Methoxychlor	633.3%	P	U	3
	Gamma-Chlordane	217.1%	P	U	3
040M2B0201	Gamma-BHC	34.1%	P		1
	Endrin	74.6%	P	J	2
	Endrin Aldehyde	309.1%	p	U	3
041M18B101	4,4'-DDE	49.2%	P	J	2
040M2B0501	Endrin	48.6%	P	J	2
	Endrin Ketone	114.3%	P	U	3
	Endrin Aldehyde	420.8%	P	U	3
040M2B0601	Gamma-BHC	152.9%	P	U	3
	Dieldrin	670.3%	P	U	3
	4,4'-DDT	81.8%	p	J	2

System Performance and Overall Assessment

The data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

NJ = Result is considered presumptively present at an estimated concentration

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
041M18B101 041M5A0401	All E flagged	+E	D
041M18B101DL 041M5A0401DL	All except corresponding D flagged results	+/-	Not Used
ALL	All P < 40%	+	
ALL	All P > 40% But ≤ 100%	+	J
ALL	single component pests All P > 100% And < 10X CRQL	+	U
ALL	single component pests All P > 100% And > 10X CRQL	+	NJ
ALL	multi-component pests All P> 100% And < 10X CRQL	+	NJ

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS, CYANIDE AND TOC

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Methods 6010, 7000, 9012, and 9060; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PEN12

A validation was performed on the Metals, Cyanide and TOC data from SDG PEN12. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
*	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions
*	•	Post Digestion Spiking

* - All criteria were met for this parameter

Preparation and Field Blanks

The preparation blank exhibited contamination for the following elements.

Elements	Conc	Samples Affected
Mercury	0.005 mg/Kg	All soil samples ≤ 0.025 mg/Kg
Potassium	3.426 mg/Kg	All soil samples ≤ 17.3 mg/Kg

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U"

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples Affected
Arsenic	-0.479 mg/Kg	All samples ≤ 4.79 mg/Kg
Cadmium	-0.049 mg/Kg	All samples ≤ 0.49 mg/Kg
Cobalt	-0.165 mg/Kg	All samples ≤ 1.65 mg/Kg
Silver	-0.221 mg/Kg	All samples ≤ 2.21 mg/Kg

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

The equipment rinseate blank 041E082897 exhibited contamination for some target analytes. However, there was no impact on the analytical data because of this contamination.

Matrix Spike Recoveries

The matrix spike recoveries for soils for Antimony (71.3%) and Cyanide (40.6%) were below the lower control limits (>30% but ≤75%). All positive and non-detect results for these analytes are qualified as estimated, "J" or "UJ".

"B" Qualifier

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
All soil samples ≤ 0.025 mg/Kg	Hg	+	U
All soil samples ≤ 17.3 mg/Kg	K	+	U
All soil samples ≤ 4.79 mg/Kg	As	+/-	J/UJ
All soil samples ≤ 0.49 mg/Kg	Cd	+/-	J/UJ
All samples ≤ 1.65 mg/Kg	Co	+/-	J/UJ
All samples ≤ 2.21 mg/Kg	Ag	+/-	J/UJ
All soil samples	Sb, CN	+/-	J/UJ
All soil samples	All	+ "B"	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	PEN13
Date:	October 14, 1997
Client Name:	EnSafe
Project/Site Name:	Pensacola - Sites 40 & 41
Date Sampled:	September 3-8, 1997
Number of Samples:	11 Non-aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	Savannah Laboratories
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level III
Method(s) Utilized:	SW846 Third Edition
Analytical Fractions:	Volatiles, Semivolatiles, Pesticide/PCB's, Metals, Cyanide, Total Organic Carbons

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

for Kimberly S. Stopp
Paul B. Humburg, President

14 October 1997
Date

4127 Plaza 94 South · St. Charles, MO 63304
(314) 936-1337 Fax (314) 936-1335

SDG# PEN13

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

ENSAFE ID	MATRIX	VOA		SVOA		P/P		TAL		CN		TOC	
040M2B0701	SOIL				X		X		X				X
040M2B0801	SOIL		X		X		X		X				X
040M2B0901	SOIL				X		X		X		X		X
040M2B1001	SOIL				X		X		X				X
040SR10910	SOIL								X				
040SR20920	SOIL								X				
040SR30930	SOIL								X				
041M160301	SOIL		X		X		X		X				X
041M640401	SOIL		X		X		X		X				X
041M640501	SOIL		X		X		X		X				X
041M640601	SOIL				X		X		X				X
Total Billable Samples	(Water/Soil)	0	4	0	8	0	8	0	11	0	1	0	8

VOA = Volatiles
SV = Semivolatiles
P/P = Pesticide/PCB's
TAL = Metals
CN = Cyanide
TOC = Total Organic Carbons

DATA ASSESSMENT NARRATIVES

DATA ASSESSMENT AND NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA SW846, Method 8240; the National Functional Guidelines for Organic Data Review, February 1994, and DQO Level III. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualifications table.

SDG # PEN13

A validation was performed on the Volatile Data from SDG PEN13. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibrations
*	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicate
*	•	Field Duplicates
	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing calibrations

The continuing calibrations that were analyzed with this data package exhibited %Ds that were not within %D continuing calibration criteria. All RRFs were within calibration criteria.

Continuing calibrations (continued)

The continuing calibration, MQ349, contained compounds with %Ds greater than 25% D but less than 50% D. For the samples and non compliant compounds listed below, qualify all positive results as estimated (J).

041M640401	acetone (25.8)
041M640501RE	

Compound Identification/Quantitation

Specific Finding:

Do not use results for the sample 041M640501, in favor of the re-analyzed sample results due to non compliant internal standard areas.

System Performance and Overall Assessment

The laboratory did not encounter any large problems. The data as presented requires qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

D= result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
041M640401 041M640501RE	acetone (25.8)	+	J
041M640501	All results	+/-	Do not use

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis. results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA SW846 8270; the National Functional Guidelines for Organic Data Review, February 1994, and DQO Level III. All comments made within this report should be considered when examining the analytical results.

SDG # PEN13

A validation was performed on the Semivolatile Data from SDG PEN13. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
  Calibrations
  Internal Standard Performance
* Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Field Duplicates
  Compound Identification /Quantitation

* - All criteria were met for this parameter

Continuing Calibrations

The continuing calibrations were acceptable for all average RRFs. All %Ds were not within continuing calibration criteria. Qualifications are required.

Continuing Calibration (continued)

The continuing calibration, GQ569, contained compounds with %Ds greater than 25% but less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J).

040M2B0801	pyrene (25.8%)
041M640401	
041M640501	
041M640601	

The continuing calibration, GQ569, contained compounds with %Ds greater than 25% but less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J).

041M640401	carbazole (27.8%)
041M640501	
041M640601	

The continuing calibration, JQ766, contained compounds with %Ds greater than 25% but less than 50%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J).

040M2B0701	pyrene (40.2%)

The continuing calibration, JQ766, contained compounds with %Ds greater than 50% but less than 90%. For the samples and non-compliant compounds listed below, qualify all positive results as estimated (J) and non detects as estimated (UJ).

040M2B0701	2,2'-oxybis(1-chloropropene) (68.8%)
040M2B1001	3,3'-dichlorobenzidine (65.3%)
041M160301	

Internal Standards

All internal standard EICP areas did not meet the internal standard EICP area QA/QC criteria. Qualifications are required.

Internal Standards (continued)

The following samples exhibited low internal standard area for the internal standard listed. Qualify associated positive results as estimated (J) and non detects as estimated (UJ).

041M640501	perylene-d_{12}
041M640401	

Compound Identification/Quantitation

Do not use samples 041M640501RE and 041M640401RE, in favor of the initial analysis, due to non compliant internal standard area recoveries.

System Performance and Overall Assessment

The data as presented requires qualifications.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
040M2B0801 041M640401 041M640501 041M640601	pyrene	+	J
041M640401 041M640501 041M640601	carbazole	+	J
040M2B0701	pyrene	+	J
040M2B0701 040M2B1001 041M160301	bis(2-chloroisopropyl)ether 3,3'-dichlorobenzidine	+/-	J/UJ
041M640501 041M640401	All associated compounds perylene-d_{12}	+/-	J/UJ
041M640501RE 041M640401RE	all compounds	+/-	do not use

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
– in the DL column denotes a positive result
- in the DL column denotes a non detect result

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
040M2B0801 041M640401 041M640501 041M640601	pyrene	+	J
041M640401 041M640501 041M640601	carbazole	+	J
040M2B0701	pyrene	+	J
040M2B0701 040M2B1001 041M160301	bis(2-chloroisopropyl)ether 3,3'-dichlorobenzidine	+/-	J/UJ
041M640501 041M640401	All associated compounds perylene-d_{12}	+/-	J/UJ
041M640501RE 041M640401RE	all compounds	+/-	do not use

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW846 Method 8080; the National Functional Guidelines for Organic Data Validation, February 1994; and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PEN13

A validation was performed on the Pesticide/Aroclor Data from SDG PEN13. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
*	•	Calibration
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Contractual Non-Compliance

The method requires that all target compounds, including the multi-component compounds, be analyzed with a five (5) point calibration curve. The laboratory analyzed a single point curve for the Aroclors 1221, 1232, 1242, 1248, and 1254. No positive results were reported for the compounds analyzed with a single point calibration, therefore the data did not require qualification.

Compound Identification/Quantitation

Several target compounds were not confirmed due to coelution of matrix interferences and flagged X by the laboratory. The sample concentrations were too low for GC/MS confirmation. It is the profession opinion of the data reviewer that these results be considered presumptively present at an estimated concentration. For the following samples and compounds, the positive results which did not meet the confirmation criteria should be considered presumptively present and are qualified as estimated, NJ.

041M640401	Delta-BHC
041M640601	

Several samples exhibited column quantitation %Ds greater than 40%. The following guidelines were used to qualify the data:

1. No qualifications are required for positive sample results which exhibited column quantitation differences <40%. The "P" flag is removed from the result.

2. The positive sample result which exhibited a column quantitation difference >40%, but ≤100% is qualified as estimated, J.

3. The positive single component pesticide sample result which exhibited a column quantitation difference >100% and is <10X the respective compound CRQL, is qualified as non-detect, U. (All multi-component results are exempt from this rule.)

4. The positive single component pesticide sample result which exhibited a column quantitation difference >100% and >10X the respective compound CRQL, is qualified as presumptively present at an estimated concentration, NJ. (All multi-component results are exempt from this rule.)

5. The positive multi-component pesticide sample result which exhibited a column quantitation difference >100% and <10X the respective multi-component CRQL is qualified as presumptively present at an estimated concentration, NJ.

Compound Identification/Quantitation, Continued

The following samples and compounds have been qualified for high column quantitation %Ds.

Sample ID	Compound	%D	Lab Qual.	HESI Qual.	Ref. #
041M640601	Gamma-BHC	1689.5%	P	U	3
	Aldrin	605.9%	P	U	3
	Heptachlor Epoxide	50920%	P	U	3
	Endosulfan I	76.9%	P	J	2
	Dieldrin	27.3%	P		1
	4,4'-DDT	31.6%	P		1
	Alpha-Chlordane	116.7%	P	U	3
	Gamma-Chlordane	144.4%	P	U	3
040M2B0701	4,4'-DDE	139.1%	P	U	3
041M640501	Aldrin	2207.7%	P	U	3
	Heptachlor Epoxide	499.0%	P	U	3
	Endosulfan I	237.2%	P	U	3
	4,4'-DDT	120.8%	P	U	3
	Gamma-Chlordane	185.7%	P	U	3
041M640401	Aldrin	1207.7%	P	U	3
	Endosulfan I	50.0%	P	J	2
	4,4'-DDT	72.2%	P	J	2
	Alpha-Chlordane	94.6%	P	J	2
	Gamma-Chlordane	1275.0%	P	U	3
	Aroclor-1260	26.7%	P		1
040M2B0801	Dieldrin	38.5%	P		1

System Performance and Overall Assessment

The data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

NJ = Result is considered presumptively present at an estimated concentration

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
041M640401 041M640601	Delta-BHC	+	NJ
ALL	All P < 40%	+	
ALL	All P > 40% But ≤ 100%	+	J
ALL	single component pests All P > 100% And < 10X CRQL	+	U
ALL	single component pests All P > 100% And > 10X CRQL	+	NJ
ALL	multi-component pests All P> 100% And < 10X CRQL	+	NJ

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS, CYANIDE AND TOC

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Methods 6010, 7000, 9012, and 9060; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PEN13

A validation was performed on the Metals, Cyanide and TOC data from SDG PEN13. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
*	•	Matrix Spike Recovery
*	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
	•	Serial Dilutions
*	•	Post Digestion Spiking

* - All criteria were met for this parameter

Preparation and Field Blanks

The preparation blank exhibited contamination for the following elements.

Elements	Conc.	Samples Affected
Mercury	0.002 mg/Kg	All soil samples ≤ 0.010 mg/Kg
Sodium	6.636 mg/Kg	No Impact
Zinc	0.518 mg/Kg	All soil samples ≤ 2.59 mg/Kg

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U".

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples Affected
Silver	-0.180 mg/Kg	All samples ≤ 1.80 mg/Kg
Thallium	-0.472 mg/Kg	All samples ≤ 4.72 mg/Kg

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

The equipment rinseate blank 041E082897 exhibited contamination for some target analytes. However there was no impact on the analytical data because of this contamination.

Serial Dilution Results

The serial dilution for Aluminum was outside the control limits of 10% (42.1%). All positive results are qualified as estimated, "J".

"B" Qualifier

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
All soil samples ≤ 0.010mg/kg	Hg	+	U
All soil samples ≤ 2.59mg/kg	Zn	+	U
All soil samples ≤ 1.80mg/kg	Ag	+/-	J/UJ
All soil samples ≤ 4.72mg/kg	Tl	+/-	J/UJ
All soil samples	Al	+	J
All soil samples	All	+ "B"	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	PEN14
Date:	October 8, 1997
Client Name:	EnSafe
Project/Site Name:	Pensacola, Sites 40 & 41
Date Sampled:	September 4, 1997
Number of Samples:	5 Aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	Savannah Laboratories
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level III
Method(s) Utilized:	SW846 Third Edition
Analytical Fractions:	Volatiles, Semivolatiles, Pesticide/PCB's, Metals, Cyanide

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Searles
for Paul B. Humburg, President

10/10/97
Date

4127 Plaza 94 South St. Charles, MO 63304
(314) 936-1332 · Fax (314) 936-1335

SDG# PEN14

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

ENSAFE ID	MATRIX	VOA		SVOA		P/P		TAL/CN	
040W2B0101	WATER	X		X		X		X	
040TW09047	WATER	X							
041W640101	WATER	X		X		X		X	
041W640501	WATER	X		X		X		X	
041R640501	WATER	X		X		X		X	
Total Billable Samples	(Water/Soil)	5	0	4	0	4	0	4	0

VOA = Volatiles
SV = Semivolatiles
P/P = Pesticide/PCB's
TAL/CN = Metals w/Cyanide

DATA ASSESSMENT NARRATIVES

DATA ASSESSMENT NARRATIVE

VOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8240; the National Functional Guidelines for Organic Data Validation, February 1994, and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PEN14

A validation was performed on the Volatile Data from SDG PEN14. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibration
	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Internal Standard Performance
*	•	Compound Identification
*	•	Compound Quantitation

* - All criteria were met for this parameter.

Field QC Blanks

The trip and rinseate blanks associated with these samples exhibited contamination. The samples required qualification. The end-user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moisture as associated samples. These factors must be taken into consideration when applying the 5X or 10X criteria to field samples.

Field QC Blanks, continued

Associated Blanks	Compound	Conc.	Action Level
040TW09047	carbon disulfide	0.46 μg/L	4.6 μg/L
041E082897	carbon disulfide	0.90 μg/L	9.0 μg/L

Samples	Compound	Qualification
040W2B0101	carbon disulfide	CRQL
041W640101		
041W640501		
041R640501		

System Performance and Overall Assessment

The data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
040W2B0101	carbon disulfide	+	CRQL
041W640101			
041W640501			
041R640501			

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results. surrogate and matrix spike recoveries. GC/MS performance. tuning results. calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA SW846 8270; the National Functional Guidelines for Organic Data Review, February 1994; and DQO Level III. All comments made within this report should be considered when examining the analytical results.

SDG # PEN14

A validation was performed on the Semivolatile Data from SDG PEN14. The data was evaluated based on the following parameters.

* Data Completeness
* Holding Times
* GC/MS Tuning
* Calibrations
* Internal Standard Performance
* Blanks
* Surrogate Recoveries
* Laboratory Control Samples
* Field Duplicates
* Compound Identification /Quantitation

* - All criteria were met for this parameter

System Performance and Overall Assessment

The data as presented requires no qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL

No qualifications are required.

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW846 Method 8080; the National Functional Guidelines for Organic Data Validation, February 1994; and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PEN14

A validation was performed on the Pesticide/Aroclor Data from SDG PEN14. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
*	•	Calibration
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Contractual Non-Compliance

The method requires that all target compounds, including the multi-component compounds, be analyzed with a five (5) point calibration curve. The laboratory analyzed a single point curve for the Aroclors 1221, 1232, 1242, 1248, and 1254. No positive results were reported for the compounds analyzed with a single point calibration, therefore the data did not require qualification.

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLOR ANALYSIS

Compound Identification/Quantitation

Several samples exhibited column quantitation %Ds greater than 40%. The following guidelines were used to qualify the data:

1. No qualifications are required for positive sample results which exhibited column quantitation differences <40%. The "P" flag is removed from the result.

2. The positive sample result which exhibited a column quantitation difference >40%, but ≤100% is qualified as estimated, J.

3. The positive single component pesticide sample result which exhibited a column quantitation difference >100% and is <10X the respective compound CRQL, is qualified as non-detect, U. (All multi-component results are exempt from this rule.)

4. The positive single component pesticide sample result which exhibited a column quantitation difference >100% and >10X the respective compound CRQL, is qualified as presumptively present at an estimated concentration, NJ. (All multi-component results are exempt from this rule.)

5. The positive multi-component pesticide sample result which exhibited a column quantitation difference >100% and <10X the respective multi-component CRQL is qualified as presumptively present at an estimated concentration, NJ.

The following samples and compounds have been qualified for high column quantitation %Ds.

Sample ID	Compound	%D	Lab Qual.	HESI Qual.	Ref. #
041W640501	Beta-BHC	303.2%	P	U	3
	Gamma-BHC	207.7%	P	U	3
041W640101	Beta-BHC	52.8%	P	J	2
	Gamma-BHC	220.0%	P	U	3
041R640501	Beta-BHC	82.4%	P	J	2
	Gamma-BHC	328.6%	P	U	3
040W2B0101	Beta-BHC	157.1%	P	U	3
	Gamma-BHC	441.7%	P	U	3

System Performance and Overall Assessment

The data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

NJ = Result is considered presumptively present at an estimated concentration

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
ALL	All P < 40%	+	
ALL	All P > 40% But ≤ 100%	+	J
ALL	single component pests All P > 100% And < 10X CRQL	+	U
ALL	single component pests All P > 100% And > 10X CRQL	+	NJ
ALL	multi-component pests All P> 100% And < 10X CRQL	+	NJ

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
METALS AND CYANIDE

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the CLP ILM03.0 Method; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PEN14

A validation was performed on the Metals and Cyanide Data from SDG PEN14. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
	•	Blanks
*	•	Interferences
	•	Matrix Spike Recovery
*	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
	•	Serial Dilutions
	•	Post Digestion Spiking

* - All criteria were met for this parameter.

Preparation and Field Blanks

The calibration blanks exhibited contamination for the following elements.

Elements	Conc.	Samples affected
Aluminum	30.0 ug/l	all water samples below 150 ug/l
Barium	3.9 ug/l	no impact
Calcium	30.4 ug/l	no impact
Magnesium	25.3 ug/l	no impact
Manganese	0.8 ug/l	no impact
Vanadium	0.8 ug/l	all water samples below 4.0 ug/l

The USEPA requires that all sample values below five times the preparation, field, DI or calibration blank contamination be qualified as non-detect, "U".

The preparation blank exhibited negative bias for the following elements.

Elements	Conc.	Samples affected
Cadmium	-0.75 ug/l	all water samples below 7.5 ug/l
Chromium	-1.06 ug/l	all water samples below 10.6 ug/l
Nickel	-1.75 ug/l	all water samples below 17.5 ug/l

This reviewer qualifies all samples results below ten times the negative bias as estimated, "J" or "UJ".

Matrix Spike Recovery

The Matrix Spike recoveries for waters for Mercury (68%) and Silver (61%) were below the lower control limits (>30% but <75%). All positive and non-detect results are qualified as estimated, "J" or "UJ".

The Matrix Spike recovery for waters for Zinc (128%) was above the upper control limits (>125%). All positive results are qualified as estimated, "J".

Serial Dilution results

The serial dilution for waters for Potassium was outside the control limits of 10%. All positive results are qualified as estimated, "J".

Post Digestion Spiking results

The post digestion spiking for the following samples were below the lower control limits (>10% but <85%). All positive and non-detect results are qualified as estimated, "J" or "UJ".

Analytes	Sample IDs	Recovery
Silver	040W2B0101	53
Silver	041W640101	62
Silver	041W640501	60
Silver	041R640501	64
Thallium	040W2B0101	63
Thallium	041W640101	81
Thallium	041W640501	67
Thallium	041R640501	68

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
All water samples below 150 ug/l	Al.	+	U
All water samples below 4.0 ug/l	V.		
All water samples below 7.5 ug/l	Cd.	+/U	J/UJ
All water samples below 10.6 ug/l	Cr.		
All water samples below 17.5 ug/l	Ni.		
All water samples	Hg and Ag.	+/U	J/UJ
All water samples	Zn.	+	J
All water samples	K.	+	J
041W640101, 041W640501, 041R640501 and 040W2B0101.	Ag and Tl.	+/U	J/UJ
All "B" results	all analytes	B	J

"B" qualifier

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	PEN15
Date:	October 30, 1997
Client Name:	EnSafe
Project/Site Name:	Pensacola
Date Sampled:	September 2-8, 1997
Number of Samples:	8 Non-aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	Savannah Laboratories
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data, June 1991 and February, 1994, respectively
QA/QC Level:	EPA DQO Level III
Method(s) Utilized:	SW846 Third Edition
Analytical Fractions:	Polynuclear Aromatic Hydrocarbons, Pesticide/PCB's, Lead

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Searfoss
for Paul B. Humburg, President

11/4/97
Date

4127 Plaza 94 South St Charles, MO 63304
(314) 936-1332 Fax (314) 936-1335

SDG# PEN15

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

ENSAFE ID	MATRIX	PAH		P/P		PB	
040J400601	SOIL		X		X		X
040J400602	SOIL				X		X
041J18B101	SOIL		X		X		X
041J330101	SOIL				X		X
041J330201	SOIL		X		X		X
041J640101	SOIL		X		X		X
041J640601	SOIL		X		X		X
041J750101	SOIL		X		X		X
Total Billable Samples	(Water/Soil)	0	6	0	8	0	8

PAH = Polynuclear Aromatic Hydrocarbons
P/P = Pesticide/PCB's
PB = Lead

DATA ASSESSMENT NARRATIVES

DATA ASSESSMENT AND NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the U.S. EPA SW846, method 8270; National Functional Guidelines for Organic Data Review, February 1994 and DQO Level III All comments made within this report should be considered when examining the analytical results (Form I's).

SDG # PEN15

A validation was performed on the Semivolatile Data from SDG PEN15. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibrations
	•	Internal Standard Performance
*	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Control Sample
*	•	Field Duplicates
*	•	Compound Identification /Quantitation

* - All criteria were met for this parameter

Internal Standards

The samples listed below, exhibited low internal standard areas. Qualify all associated positive results as estimated (J) and all non detects as estimated (UJ).

041J750101	chrysene-d_{12} perylene-d_{12}
041J188101	perylene-d_{12}
041J330201	
041J640101	

System Performance and Overall Assessment

The laboratory did not encounter any large problems. The data requires qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

R = Result is rejected and unusable

NJ = Presumptive evidence for the presence of the material at an estimated value

K = Result is biased high

L = Result is biased low

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that analyte is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 10X the method blank value. The sample result for the blank contaminant is qualified as non detected at the analyte value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 10X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

The specific findings will be noted in numerical form on the Form Is in this data validation report. These specific finding footnotes will reflect the conclusions found in the data validation process that resulted in the qualification of the data.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	ANALYTE ID	DL	QL
	All associated compounds	+/-	J/UJ
041J750101	chrysene-d_{12} perylene-d_{12}		
041J188101 041J330201 041J640101	perylene-d_{12}		

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDE/AROCLORS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance, and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW846 Method 8080; the National Functional Guidelines for Organic Data Validation, February 1994; and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PEN15

A validation was performed on the Pesticide/Aroclor Data from SDG PEN15. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
*	•	Calibration
	•	Blanks
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Contractual Non-Compliance

The method requires that all target compounds, including the multi-component compounds, be analyzed with a five (5) point calibration curve. The laboratory analyzed a single point curve for the Aroclors 1221, 1232, 1242, 1248, and 1254. No positive results were reported for the compounds analyzed with a single point calibration, therefore the data did not require qualification.

Method Blanks

The associated method blank exhibited contamination for target compounds and required qualifications. The end user should note that the action levels indicated for the blank analysis may not involve the same weights, volumes, dilution factors, or percent moistures as associated samples. These factors must be taken into consideration when applying the 5X criteria to field samples. The method blank results were compared to the associated samples.

Blank ID	Compound	Concentration	Action Level
0923Q-KMB	Delta-BHC	0.20 J µg/Kg	1.0 µg/Kg
	4,4'-DDD	0.28 JP µg/Kg	1.4 µg/Kg

The following samples have been qualified for method blank contamination. The qualifications are for all the blanks.

Sample	Compound	Qualification
040J400602	Delta-BHC	CRQL
041J330201	4,4'-DDD	CRQL

Compound Identification/Quantitation

Several samples exhibited column quantitation %Ds greater than 40%. The following guidelines were used to qualify the data:

1. No qualifications are required for positive sample results which exhibited column quantitation differences < 40%. The "P" flag is removed from the result.

2. The positive sample result which exhibited a column quantitation difference > 40%, but ≤ 100% is qualified as estimated, J.

3. The positive single component pesticide sample result which exhibited a column quantitation difference > 100% and is < 10X the respective compound CRQL, is qualified as non-detect, U. (All multi-component results are exempt from this rule.)

Compound Identification/Quantitation, Continued

4. The positive single component pesticide sample result which exhibited a column quantitation difference >100% and >10X the respective compound CRQL, is qualified as presumptively present at an estimated concentration, NJ. (All multi-component results are exempt from this rule.)

5. The positive multi-component pesticide sample result which exhibited a column quantitation difference >100% and <10X the respective multi-component CRQL is qualified as presumptively present at an estimated concentration, NJ.

The following samples and compounds have been qualified for high column quantitation %Ds.

Sample ID	Compound	%D	Lab Qual.	HESI Qual.	Ref. #
040J400601	Gamma-BHC	26.4%	P		1
	Alpha-chlordane	1081.8%	P	U	3
	Gamma-Chlordane	41.2%	P	J	2
040J400602	Delta-BHC	88.2%	P	J	2
	Gamma-BHC	35.1%	P		1
	Aldrin	106.4%	P	U	3
	Heptachlor Epoxide	135.3%	P	U	3
	Dieldrin	46.2%	P	J	2
	Alpha-Chlordane	533.8%	P	U	3
	Gamma-Chlordane	82.4%	P	J	2
041J18B101	4,4'-DDT	159.7	P	U	3
	Alpha-Chlordane	85.7%	P	J	2
041J640101	Gamma-BHC	50.0%	P	J	2
	Endosulfan I	100.0%	P	J	2
	Dieldrin	30.3%	P		1
	4,4'-DDT	89.3%	P	J	2
	Alpha-Chlordane	143.6%	P	U	3
	Gamma-Chlordane	109.0%	P	U	3
	Aroclor-1260	92.3%	P	J	2

Compound Identification/Quantitation, Continued

Sample ID	Compound	%D	Lab Qual.	HESI Qual.	Ref. #
041J640601	Endosulfan I	58.3%	P	J	2
	Dieldrin	262.5%	P	U	3
	Alpha-Chlordane	58.3%	P	J	2
	Gamma-Chlordane	73.7%	P	J	2
	Aroclor-1260	46.3%	P	J	2
041J330201	Dieldrin	361.5%	P	U	3
	4,4'-DDE	86.7%	P	J	2
	4,4'-DDD	414.3%	P	U	3
	4,4'-DDT	42.8%	P	J	2
	Gamma-Chlordane	486.2%	P	U	3
041J330101	Heptachlor	37.5%	P		1
	Aldrin	423.8%	P	U	3
	Endosulfan I	233.3%	P	U	3
	Dieldrin	445.4%	P	U	3
	4,4'-DDE	27.8%	P		1
	Endrin Aldehyde	214.3%	P	U	3
	Alpha-Chlordane	227.3%	P	U	3
	Gamma-Chlordane	81.8%	P	J	2
041J750101	4,4'-DDT	237.0%	P	U	3

System Performance and Overall Assessment

The data required qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported quantitation limit is qualified as estimated

NJ = Result is considered presumptively present at an estimated concentration

UR = Result is rejected and unusable

D = Result value is based on dilution analysis

METHOD BLANK QUALIFICATION CODES

CRQL = The sample result for the blank contaminant is less than the sample CRQL and is less than 5X the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.

U = The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.

No Action = The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
040J400602	Delta-BHC	+	CRQL
041J330201	4,4'-DDD	+	CRQL
ALL	All P < 40%	+	
ALL	All P > 40% But ≤ 100%	+	J
ALL	single component pests All P > 100% And < 10X CRQL	+	U
ALL	single component pests All P > 100% And > 10X CRQL	+	NJ
ALL	multi-component pests All P> 100% And < 10X CRQL	+	NJ

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non-detect result

DATA ASSESSMENT NARRATIVE
LEAD ONLY

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 Methods; the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # PEN15

A validation was performed on the Lead only Data from SDG PEN15. The data was evaluated based on the following parameters.

*	•	Data Completeness
*	•	Holding Times
*	•	Calibrations
*	•	Blanks
*	•	Interferences
*	•	Matrix Spike Recovery
*	•	Matrix Duplicates
*	•	Field Duplicates
*	•	Laboratory Control Samples
*	•	Serial Dilutions

* - All criteria were met for this parameter.

Specific Finding

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B" per Ensafe's request.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
All "B" results	all analytes	B	J

Data Validation Report

ENSAFE
Pensacola
SDG #: NASP14 and NASP15

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	NASP14
Date:	October 18, 2001
Client Name:	EnSafe
Project/Site Name:	Pensacola
Date Sampled:	August 1 - 3, 2001
Number of Samples:	2 Aqueous Sample(s) with 0 MS/MSD(s) 17 Non-Aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	STL Savannah Laboratories
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data
QA/QC Level:	EPA DQO Level III
Method(s) Utilized:	SW846 Third Edition and STL SOP
Analytical Fractions:	Semivolatiles, Pesticides, PCBs, Metals, SEM Metals, Acid Volatile Sulfide, Mercury and Total Organic Carbon

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Seafoss — 10-18-01.

Paul B. Humburg, President — Date

4127 Plaza 94 South • St. Charles, MO 63304
(636) 936-1332 • Fax (636) 936-1335

SDG# NASP14

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

ENSAFE ID	MATRIX	SVOA		PEST		PCB		MET		S MET		AV SUL		Hg		TOC	
041M640202	SOIL		X		X		X		X		X		X				X
041N640202	SOIL		X		X		X		X		X		X				X
041M640302	SOIL		X		X		X		X		X		X				X
041M640502	SOIL		X		X		X		X		X		X				X
041M640602	SOIL		X		X		X		X		X		X				X
041M640702	SOIL		X		X		X		X		X		X				X
041M641102	SOIL		X		X		X		X		X		X				X
041M642402	SOIL		X		X		X		X		X		X				X
040MZ13002	SOIL								X		X		X				X
040MZ21602	SOIL								X		X		X				X
040NZ21602	SOIL										X		X		X		X
040MZ23702	SOIL										X		X		X		X
040NZ23702	SOIL								X		X		X				X
040MZ24402	SOIL										X		X		X		X
040MZ24702	SOIL										X		X		X		X
040MZ31602	SOIL										X		X		X		X
040MZ40102	SOIL										X		X		X		X
041E640803	WATER	X		X		X		X									
041F640803	WATER	X		X		X		X									
Total Billable Samples (Water/Soil)		2	8	2	8	2	8	2	11	0	17	0	17	0	6	0	17

SVOA= Semivolatiles
PEST= Pesticides
PCB= PCBs
MET= Metals
S MET= SEM Metals
AV SUL= Acid Volatile Sulfide
Hg= Mercury
TOC= Total Organic Carbon

DATA ASSESSMENT NARRATIVES

DATA ASSESSMENT NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8270C for Semivolatiles; the National Functional Guidelines for Organic Data Validation, 10/99, as applicable; and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # NASP14

A validation was performed on the Semivolatile Data from SDG NASP14. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
	•	Calibration
*	•	Blanks
*	•	Internal Standard Performance
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Compound Identification
*	•	Compound Quantitation

* - All criteria were met for this parameter.

Calibration

The continuing calibration standard DQ586 exhibited a non-compliant %D greater than 50% but less than 90%. For the following sample and compound, the reported positive or non-detect result is qualified as estimated, J or UJ.

041M641102 benzidine (50.4%)

System Performance and Overall Assessment

The data, as reported, did require qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

L = Result is estimated and biased low.

K = Result is estimated and biased high.

R = Result is rejected and unusable

D = Result value is based on dilution analysis

BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
041M641102	benzidine (50.4%)	+/-	J/UJ

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDES/PCBs

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Methods 80801A/8082; the National Functional Guidelines for Organic Data Validation, 10/99, as applicable; and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # NASP14

A validation was performed on the Pesticides/PCB Data from SDG NASP14. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Calibrations

The continuing calibration MAG14024 analyzed on 8/14/01 at 2344 Instrument SGMECD1 on the RTX-CLP column exhibited a non-compliant %D greater than 50% but less than 90%. For the following samples and non-compliant compounds, the reported positive and non-detect results are qualified as estimated, J/UJ.

All Soil Samples	methoxychlor (52.8%)

Calibrations (continued)

The continuing calibration MAG14024 analyzed on 8/14/01 at 2344 on Instrument SGMECD2 exhibited non-compliant %Ds greater than 15% but less than 50% on the RTX-CLP 2 column for which qualifications were required. For the following samples and non-compliant compound, the reported positive results are qualified as estimated, J.

041N640202	4,4'-DDD (38.5%)
041M640602	

The closing continuing calibration MAG14024 analyzed on 8/15/01 at 1021 on Instrument SGMECD1/2 exhibited non-compliant %Ds greater than 15% on both columns for which qualifications were required. For the following samples and non-compliant compound, the reported positive results are qualified as estimated, J.

041N640202	4,4'-DDD (39.3%/35.2%)
041M640602	

Surrogate Recoveries

The following samples exhibited non-compliant surrogate recoveries for the compound TCX on one or both columns. All reported positive and non-detect results in the sample are qualified as estimated, J/UJ.

041M640302	TCX (23%/20%)
041M642402	TCX (25%)
041M641102	TCX (24%/27%)

Compound Quantitation

Several samples exhibited column quantitation %Ds greater than 40%. The following guidelines were used to qualify the data:

1. No qualifications are required for positive sample results which exhibited column quantitation differences <40%. The "P" flag is removed from the result.

2. The positive sample result which exhibited a column quantitation difference >40%, but ≤100% is qualified as estimated, J.

3. The positive sample result which exhibited a column quantitation difference >100% and is <10X the respective compound CRQL, is qualified as non-detect, U.

4. The positive sample result which exhibited a column quantitation difference >100% and >10X the respective compound CRQL, is qualified as presumptively present at an estimated concentration, NJ.

The following samples and compounds have been qualified for high column quantitation %Ds.

Sample ID	Compound	%D	Lab Qual.	HESI Qual.	Ref. #
041M640702	delta-BHC	41.0	P	J	2
041M640602	delta-BHC	98.8	P	J	2
	4,4'-DDD	94.7	P	J	2
041M640302	4,4'-DDE	50.0	P	J	2
	4,4'-DDD	105.1	P	U	3
041M640202	delta-BHC	77.8	P	J	2
	4,4'-DDE	32.4	P		1
	4,4'-DDD	114.3	P	U	3
040N640202	delta-BHC	37.3	P		1
	4,4'-DDD	63.5	P	J	2

Compound Quantitation (continued)

The following samples and compounds have been qualified for high column quantitation %Ds.

Sample ID	Compound	%D	Lab Qual.	HESI Qual.	Ref. #
041M640502	delta-BHC	41.8	P	J	2
	heptachlor epoxide	98.8	P	J	2
	4,4'-DDE	32.7	P		1
	4,4'-DDD	139.9	P	U	3

System Performance and Overall Assessment

The data, as reported, did require qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

L = Result is estimated and biased low.

K = Result is estimated and biased high.

R = Result is rejected and unusable

D = Result value is based on dilution analysis

BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
All Soil Samples	methoxychlor (52.8%)	+/-	J/UJ
041N640202 041M640602	4,4'-DDD (38.5%)	+	J
041N640202 041M640602	4,4'-DDD (39.3%/35.2%)	+	J
041M640302 041M642402 041M641102	All compounds	+/-	J/UJ
ALL	All P < 40%	+	
ALL	All P > 40% But ≤ 100%	+	J
ALL	All P > 100% And < 10X CRQL	+	U
ALL	All P > 100% And > 10X CRQL	+	NJ

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
TOTAL AND SEM METALS

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods: the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDGs # NASP14

A validation was performed on the total and sem Metals Data from SDG NASP14. The data was evaluated based on the following parameters.

*	●	Data Completeness
*	●	Holding Times
*	●	Calibrations
	●	Blanks
*	●	Interferences
	●	Matrix Spike Recovery
*	●	Matrix Duplicates
*	●	Field Duplicates
*	●	Laboratory Control Samples
*	●	Serial Dilutions

* - All criteria were met for this parameter.

Preparation and Field Blanks

The preparation and calibration blanks exhibited contamination for the following elements.

Total soil samples

Elements	Conc.	Samples affected
Chromium	0.20 mg/kg	all soil samples below 1.0 mg/kg
Iron	2.53 mg/kg	no impact

SEM metals

Zinc	0.14 mg/kg	all sem samples below 0.7 mg/kg

The USEPA requires that all sample values below five times the preparation or calibration blank contamination be qualified as non-detect, "U".

The preparation blanks exhibited negative bias for the following elements.

total soil samples

Elements	Conc.	Samples affected
Cadmium	-0.06 mg/kg	all soil samples below 0.6 mg/kg
Zinc	-0.63 mg/kg	all soil samples below 6.3 mg/kg

This reviewer qualifies all samples results below 10 times the absolute value of the negative blank value.

Matrix Spike Recovery results

The matrix spike recovery results for the SEM samples for Copper (0%) was below 30%. All positive results are qualified as estimated, "J" and all non-detect results are rejected.

The matrix spike recovery results for the SEM samples for Cadmium (47%) was below the lower control limits (>30% but <75%). All positive and non-detect results are qualified as estimated, "J" and "UJ".

Matrix Duplicate RPD results

The matrix duplicate RPD results for SEM samples for Copper (32%) and Lead (21%) were not greater than 35% and will not be qualified.

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B". Value is below the CRDL but greater than the IDL.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
all soil samples below 1.0 mg/kg	Cr.	+	U
all sem samples below 0.7 mg/kg	Zn.		
all soil samples below 0.6 mg/kg	Cd.	+/U	J/UJ
all soil samples below 6.3 mg/kg	Zn.		
all sem samples	Cu.	+	J
		U	R
all sem samples	Cd.	+/U	J/UJ
all "B" results	all analytes	B	J

DATA ASSESSMENT NARRATIVE
AVS AND TOC

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods: the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDGs # NASP14

A validation was performed on the AVS and toc Data from SDG NASP14. The data was evaluated based on the following parameters.

*	●	Data Completeness
*	●	Holding Times
*	●	Calibrations
*	●	Blanks
*	●	Interferences
*	●	Matrix Spike Recovery
*	●	Matrix Duplicates
	●	Field Duplicates
*	●	Laboratory Control Samples
*	●	Serial Dilutions

* - All criteria were met for this parameter.

Field Duplicate RPD results

The field duplicate RPD results for samples (040M-Z216-02 and 040N-Z216-02) for AVS (141%) and for samples (040M-6402-02 and 040N-6402-02) for AVS (56%) were greater than 50%.. All positive and non-detect results are qualified as estimated, "J" and "UJ".

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B". Value is below the CRDL but greater than the IDL.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
040M-Z216-02 and 040N-Z216-02.	AVS.	+/U	J/UJ
040M-6402-02 and 040N-6402-02.	AVS.	+/U	J/UJ
all "B" results	all analytes	B	J

HEARTLAND
ENVIRONMENTAL SERVICES, INC.

Data Validation Report

SDG#:	NASP15
Date:	October 18, 2001
Client Name:	EnSafe
Project/Site Name:	Pensacola
Date Sampled:	August 2 - 3, 2001
Number of Samples:	16 Non-Aqueous Sample(s) with 0 MS/MSD(s)
Laboratory:	STL Savannah Laboratories
Validation Guidance:	National Functional Guidelines for Organic and Inorganic Data
QA/QC Level:	EPA DQO Level III
Method(s) Utilized:	SW846 Third Edition and STL SOP
Analytical Fractions:	Semivolatiles, Pesticides, PCBs, Metals and Mercury

Analytical data in this report were screened to determine usability of results and also to determine contractual compliance relative to these requirements and deliverables. This screening assumes analytical results are correct as reported and merely provides an interpretation of the reported quality control results. A minimum of 10% of all laboratory calculations have been verified as part of this validation. All instrument output, i.e. spectra, chromatograms, etc., for each sample have been carefully reviewed. The end-user is urged to review the Specific Findings and associated Data Qualifications presented in this report. Annotated Form 1s or spreadsheets for all samples reviewed are included after the Data Assessment Narratives. Form 1s for MS/MSD samples or spreadsheets are not annotated.

The release of this Data Validation Report is authorized by the following signature:

Craig G. Simpson
Paul B. Humburg, President

10-18-01.
Date

4127 Plaza 94 South • St. Charles, MO 63304
(636) 936-1332 • Fax (636) 936-1335

SDG# NASP15

Samples and Fractions Reviewed

Sample Identifications — Analytical Fractions

ENSAFE ID	MATRIX	SVOA		PEST		PCB		MET		Hg	
040JZ13002	SOIL										X
040NZ23702	SOIL										X
040JZ23702	SOIL										X
040MZ24401	SOIL										X
040JZ24701	SOIL										X
040JZ31601	SOIL										X
040JZ21602	SOIL		X		X		X		X		
041J640202	SOIL		X		X		X		X		
041J640301	SOIL		X		X		X		X		
041J640302	SOIL		X		X		X		X		
041J64030K	SOIL		X		X		X		X		
041J640501	SOIL		X		X		X		X		
041J640602	SOIL		X		X		X		X		
041J640701	SOIL		X		X		X		X		
041B640803	SOIL		X		X		X		X		
041J642401	SOIL		X		X		X		X		
Total Billable Samples (Water/Soil)		0	10	0	10	0	10	0	10	0	6

SVOA= Semivolatiles
PEST= Pesticides
PCB= PCBs
MET= Metals
Hg= Mercury

DATA ASSESSMENT NARRATIVE

SEMIVOLATILE ORGANICS

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS performance, tuning results, calibration results and internal standard areas. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Method 8270C for Semivolatiles; the National Functional Guidelines for Organic Data Validation, 10/99, as applicable; and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # NASP15

A validation was performed on the Semivolatile Data from SDG NASP15. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC/MS Tuning
*	•	Calibration
*	•	Blanks
*	•	Internal Standard Performance
*	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Field Duplicates
*	•	Compound Identification
*	•	Compound Quantitation

* - All criteria were met for this parameter.

System Performance and Overall Assessment

The data, as reported, did not require qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

L = Result is estimated and biased low.

K = Result is estimated and biased high.

R = Result is rejected and unusable

D = Result value is based on dilution analysis

BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL

NO QUALIFICATIONS WERE REQUIRED.

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
+ in the DL column denotes a positive result
- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE

PESTICIDES/PCBs

General

The organic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, surrogate and matrix spike recoveries, GC performance and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW-846 Methods 80801A/8082; the National Functional Guidelines for Organic Data Validation, 10/99, as applicable; and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDG # NASP15

A validation was performed on the Pesticides/PCB Data from SDG NASP15. The data was evaluated based on the following parameters:

*	•	Data Completeness
*	•	Holding Times
*	•	GC Performance
	•	Calibration
*	•	Blanks
	•	Surrogate Recoveries
*	•	Matrix Spike/Matrix Spike Duplicates
*	•	Laboratory Control Samples
*	•	Field Duplicates
*	•	Compound Identification
	•	Compound Quantitation

* - All criteria were met for this parameter.

Calibrations

The continuing calibration MAG15041 analyzed on 8/16/01 on Instrument SGMECD1 on the RTX-CLP columns exhibited a non-compliant %D greater than 50% but less than 90%. For the following samples and non-compliant compounds, the reported positive and non-detect results are qualified as estimated, J/UJ.

041B640803 methoxychlor (52%)

Calibrations (continued)

The continuing calibration MAG17128 analyzed on 8/18/01 at 0912 on Instrument SGMECD1/2 exhibited non-compliant %Ds greater than 15% but less than 50% on one or both columns for which qualifications were required. For the following samples and non-compliant compounds, the reported positive results are qualified as estimated, J.

041J64030K	heptachlor (20.1%)
041J64030K 041J640301 041J640602	gamma-chlordane (16.0%) 4,4'-DDD (27.8%/21.7%)

The closing continuing calibration MAG17162 analyzed on 8/19/01 at 0244 on Instrument SGMECD1/2 exhibited non-compliant %Ds greater than 15% on one or both columns for which qualifications were required. For the following samples and non-compliant compounds, the reported positive results are qualified as estimated, J.

041J64030K	heptachlor (18.9%)
041J64030K 041J640301 041J640602	gamma-chlordane (15.5%) 4,4'-DDD (44.8%/39.1%)
041J640301 041J640202 041J640302 041J640602 041J640701	4,4'-DDT (21.1%/21.5%)

Surrogate Recoveries

The following sample exhibited a non-compliant surrogate recovery for the compound decachlorobiphenyl on the RTX-CLP2 column (28%). All reported positive and non-detect results in the sample are qualified as estimated, J/UJ.

041J64030K

Compound Quantitation

Several samples exhibited column quantitation %Ds greater than 40%. The following guidelines were used to qualify the data:

1. No qualifications are required for positive sample results which exhibited column quantitation differences <40%. The "P" flag is removed from the result.

2. The positive sample result which exhibited a column quantitation difference >40%, but ≤100% is qualified as estimated, J.

3. The positive sample result which exhibited a column quantitation difference >100% and is <10X the respective compound CRQL, is qualified as non-detect, U.

4. The positive sample result which exhibited a column quantitation difference >100% and >10X the respective compound CRQL, is qualified as presumptively present at an estimated concentration, NJ.

The following samples and compounds have been qualified for high column quantitation %Ds.

Sample ID	Compound	%D	Lab Qual.	HESI Qual.	Ref. #
041J640301	heptachlor epoxide	164.2	P	U	3
	gamma-chlordane	41.4	P	J	2
	4,4'-DDD	100.0	P	J	2
041J640301K	heptachlor	58.8	P	J	2
	gamma-chlordane	35.3	P		1
	4,4'-DDE	69.8	P	J	2
	4,4'-DDD	97.4	P	J	2
041J640602	4,4'-DDE	37.8	P		1
	4,4'-DDD	79.1	P	J	2
	AR1260	45.2	P	J	2
041J640302	gamma-chlordane	115.8	P	U	3
	4,4'-DDE	132.4	P	U	3
	4,4'-DDT	50.0	P	J	2
040MZ21602	gamma-chlordane	161.6	P	U	3
	4,4'-DDE	159.8	P	U	3

Compound Quantitation (continued)

The following samples and compounds have been qualified for high column quantitation %Ds.

Sample ID	Compound	%D	Lab Qual.	HESI Qual.	Ref. #
041M640202	gamma-chlordane	127.5	P	U	3
	4,4'-DDE	95.7	P	J	2
041J642401	gamma-BHC	75.9	P	J	2
041J640501	gamma-chlordane	153.8	P	U	3
041J640701	gamma-BHC	83.6	P	J	2

System Performance and Overall Assessment

The data, as reported, did require qualifications.

GLOSSARY OF DATA QUALIFIERS

QUALIFICATION CODES

U = Not detected

J = Estimated value

UJ = Reported Quantitation limit is qualified as estimated

L = Result is estimated and biased low.

K = Result is estimated and biased high.

R = Result is rejected and unusable

D = Result value is based on dilution analysis

BLANK QUALIFICATION CODES

CRQL =	The sample result for the blank contaminant is less than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is rejected and the CRQL for that compound is reported.
U =	The sample result for the blank contaminant is greater than the sample CRQL and is less than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is qualified as non detected at the compound value reported.
No Action =	The sample result for the blank contaminant is greater than the sample CRQL and is greater than 5X (10X for common laboratory contaminants) the method blank value. The sample result for the blank contaminant is not qualified with any blank qualifiers.

SUMMARY OF DATA QUALIFICATIONS

SAMPLE ID	COMPOUND ID	DL	QL
041B640803	methoxychlor (52%)	+/-	J/UJ
041J64030K	heptachlor (20.1%)	+	J
041J64030K 041J640301 041J640602	gamma-chlordane (16.0%) 4,4'-DDD (27.8%/21.7%)	+	J
041J64030K	heptachlor (18.9%)	+	J
041J64030K 041J640301 041J640602	gamma-chlordane (15.5%) 4,4'-DDD (44.8%/39.1%)	+	J
041J640301 041J640202 041J640302 041J640602 041J640701	4,4'-DDT (21.1%/21.5%)	+	J
041J64030K	All compounds	+/-	J/UJ
ALL	All P < 40%	+	
ALL	All P > 40% But ≤ 100%	+	J
ALL	All P > 100% And < 10X CRQL	+	U
ALL	All P > 100% And > 10X CRQL	+	NJ

* DL denotes the Form I qualifier supplied by the laboratory
QL denotes the qualifier used by the data validation firm
\+ in the DL column denotes a positive result
\- in the DL column denotes a non detect result

DATA ASSESSMENT NARRATIVE
METALS

General

The inorganic findings offered in this screening report assumes that all analytical results are correct as reported and is based upon the examination of the reported holding times, blank analysis results, matrix spike and LCS recoveries, matrix duplicates and calibration results. This report was prepared in compliance relative to the analytical and deliverable requirements specified in the SW 846 methods: the Functional Guidelines for Inorganic Data Validation, February 1994, and DQO Level III requirements. All comments made within this report should be considered when examining the analytical results. Please refer the specific findings found in each category to the Summary of Data Qualification table.

SDGs # NASP15

A validation was performed on the Metals Data from SDG NASP15. The data was evaluated based on the following parameters.

*	●	Data Completeness
*	●	Holding Times
*	●	Calibrations
	●	Blanks
*	●	Interferences
	●	Matrix Spike Recovery
*	●	Matrix Duplicates
*	●	Field Duplicates
*	●	Laboratory Control Samples
*	●	Serial Dilutions

* - All criteria were met for this parameter.

Preparation and Field Blanks

The preparation and calibration blanks exhibited contamination for the following elements.

tiisue samples

Elements	Conc.	Samples affected
Barium	0.035 mg/kg	no impact
Calcium	0.81 mg/kg	no impact
Chromium	0.18 mg/kg	all tissue samples below 0.9 mg/kg
Lead	0.30 mg/kg	all tissue samples below 1.5 mg/kg

Manganese	0.06 mg/kg	no impact
Sodium	33.7 mg/kg	no impact

solid samples

Iron	2.53 mg/kg	no impact

The USEPA requires that all sample values below five times the preparation or calibration blank contamination be qualified as non-detect, "U".

The preparation blanks exhibited negative bias for the following elements.

tissue samples

Elements	Conc.	Samples affected
Thallium	-0.54 mg/kg	all tissue samples below 5.4 mg/kg
Zinc	-0.32 mg/kg	all tissue samples below 3.2 mg/kg

solid samples

Cadmium	-0.06 mg/kg	all solid samples below 0.6 mg/kg

This reviewer qualifies all samples results below 10 times the absolute value of the negative blank value.

Matrix Spike Recovery results

The matrix spike recovery results for the solid samples for Mercury (68%) was below the lower control limits (>30% but <75%). All positive and non-detect results are qualified as estimated, "J" and "UJ".

All sample results left with a "B" qualifier after all other qualifications, will be qualified with a "J" qualifier in place of the "B". Value is below the CRDL but greater than the IDL.

SUMMARY OF DATA QUALIFICATIONS

Sample ID	Analyte	DL	QL
all tissue samples below 0.9 mg/kg	Cr.	+	U
all tissue samples below 1.5 mg/kg	Pb.		
all solid samples below 0.6 mg/kg	Cd.	+/U	J/UJ
all tissue samples below 5.4 mg/kg	Tl.		
all tissue samples below 6.3 mg/kg	Zn.		
all solid samples	Hg.	+/U	J/UJ
all "B" results	all analytes	B	J

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Report

For: Ms. Allison Harris
EnSafe, Inc.
5724 Summer Trees Drive
Memphis, TN 38134
CC:

Order Number: S443041
SDG Number: PEN17
Client Project ID: 0036-001-00-130-00
Project: NAS Pensacola Site 41 Resampling/PEN17
Report Date: 05/13/2004
Sampled By: Client
Sample Received Date: 04/09/2004
Requisition Number:
Purchase Order: PO 6071

Linda A Wolfe

Linda A. Wolfe, Project Manager
lwolfe@stl-inc.com

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Sample Summary

Order: S443041
Date Received: 04/09/2004

Client: EnSafe, Inc.
Project: NAS Pensacola Site 41 Resampling/PEN17

Client Sample ID	Lab Sample ID	Matrix	Date Sampled
041M19A101	S443041*1	Solid	04/08/2004 13:00
041M19A101	S443041*1-DL	Solid	04/08/2004 13:00
041W061002	S443041*2	Liquid	04/08/2004 09:00
041EW00001	S443041*3	Liquid	04/08/2004 09:15
041TB00002	S443041*4	Liquid	04/08/2004 16:10
033W000102	S443041*5	Liquid	04/08/2004 09:30
041W63A202	S443041*6	Liquid	04/08/2004 10:15
041W170102	S443041*7	Liquid	04/08/2004 11:30
041W150102	S443041*8	Liquid	04/08/2004 11:45
041W19A102	S443041*9	Liquid	04/08/2004 13:00
041W720102	S443041*10	Liquid	04/08/2004 14:00
041R720102	S443041*11	Liquid	04/08/2004 14:00

SEVERN TRENT STL

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-1	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17
43041-1-DL	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17

Parameter	Units	Lab Sample IDs 43041-1	43041-1-DL
TAL Metals (6010)			
Aluminum	mg/kg dw	910	
Antimony	mg/kg dw	1.1I	
Arsenic	mg/kg dw	0.56I	
Barium	mg/kg dw	0.99I	
Beryllium	mg/kg dw	0.036I	
Cadmium	mg/kg dw	0.067U	
Calcium	mg/kg dw	50I	
Chromium	mg/kg dw	0.95I	
Cobalt	mg/kg dw	0.13U	
Copper	mg/kg dw	0.47I	
Iron	mg/kg dw	540	
Lead	mg/kg dw	1.5	
Magnesium	mg/kg dw	27I	
Manganese	mg/kg dw	1.6	
Nickel	mg/kg dw	0.26I	
Potassium	mg/kg dw	21I	
Selenium	mg/kg dw	0.59U	
Silver	mg/kg dw	0.12U	
Sodium	mg/kg dw	3.5I	
Thallium	mg/kg dw	0.85U	
Vanadium	mg/kg dw	1.5	
Zinc	mg/kg dw	1.3I	
Percent Solids		76	76
Dilution Factor		1	
Prep Date		04/12/04	
Prep Time		07:00	
Analysis Date		04/15/04	
Analysis Time		14:56	
Batch ID		0412C	
Quantitation Factor		0.8474	

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-1	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17
43041-1-DL	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17

Parameter	Units	Lab Sample IDs 43041-1	43041-1-DL
Mercury (7471)			
Mercury	mg/kg dw	0.0048U	
Percent Solids		76	76
Dilution Factor		1	
Prep Date		04/12/04	
Prep Time		15:35	
Analysis Date		04/13/04	
Analysis Time		18:07	
Batch ID		0412T	
Quantitation Factor		0.8474	
TCL Pesticides (8081)			
alpha-BHC	ug/kg dw	0.32U*J4	1.6U
beta-BHC	ug/kg dw	0.38U	1.9U
delta-BHC	ug/kg dw	0.16U	0.79U
gamma-BHC (Lindane)	ug/kg dw	0.20U	0.99U
Heptachlor	ug/kg dw	0.37U	1.8U
Aldrin	ug/kg dw	0.14U	0.72U
Heptachlor epoxide	ug/kg dw	0.22U	1.1U
Endosulfan I	ug/kg dw	0.22U	1.1U
Dieldrin	ug/kg dw	0.41U	2.0U
4,4'-DDE	ug/kg dw	0.71U	3.6U
Endrin	ug/kg dw	0.56U	2.8U
Endrin aldehyde	ug/kg dw	0.41U	2.0U
Endosulfan II	ug/kg dw	0.29U	1.4U
4,4'-DDD	ug/kg dw	0.46U	2.3U
Endosulfan sulfate	ug/kg dw	0.58U	2.9U
4,4'-DDT	ug/kg dw	0.41U	2.0U
Endrin ketone	ug/kg dw	0.50U	2.5U

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-1	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17
43041-1-DL	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17

Parameter	Units	Lab Sample IDs 43041-1	43041-1-DL
TCL Pesticides (8081)			
Methoxychlor	ug/kg dw	0.26U	1.3U
alpha-Chlordane	ug/kg dw	0.14U	0.72U
gamma-Chlordane	ug/kg dw	0.17U	0.86U
Toxaphene	ug/kg dw	43U	220U
Surrogate - DCB *	%	54 %	82 %
Surrogate - 2,4,5,6-Tetrachloro-m-xylene (TCMX) *	%	64 %	59 %
Percent Solids		76	76
Dilution Factor		1	5
Prep Date		04/15/04	04/15/04
Prep Time		13:00	13:00
Analysis Date		04/29/04	04/29/04
Analysis Time		16:40	13:39
Batch ID		0415N	0415N
Quantitation Factor		1.000	5.000
PCB's (8082)			
Aroclor-1016	ug/kg dw	5.1U	26U
Aroclor-1221	ug/kg dw	22U	110U
Aroclor-1232	ug/kg dw	8.8U	44U
Aroclor-1242	ug/kg dw	8.8U	44U
Aroclor-1248	ug/kg dw	8.6U	43U
Aroclor-1254	ug/kg dw	8.8U	44U
Aroclor-1260	ug/kg dw	5.8U	29U
Surrogate - TCX *	%	64 %	59 %
Surrogate - DCB *	%	54 %	82 %
Percent Solids		76	76
Dilution Factor		1	5
Prep Date		04/15/04	04/15/04
Analysis Date		04/29/04	04/29/04
Analysis Time		16:40	13:39
Batch ID		0415N	0415N
Quantitation Factor		1.000	5.000

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-1	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17
43041-1-DL	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17

Parameter	Units	Lab Sample IDs 43041-1	43041-1-DL
TCL Semivolatiles (8270)			
Phenol	ug/kg dw	54U	
bis(2-Chloroethyl)ether	ug/kg dw	49U	
2-Chlorophenol	ug/kg dw	54U	
1,3-Dichlorobenzene	ug/kg dw	30U	
1,4-Dichlorobenzene	ug/kg dw	32U	
1,2-Dichlorobenzene	ug/kg dw	30U	
2-Methylphenol (o-Cresol)	ug/kg dw	60U	
2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether	ug/kg dw	42U	
3-Methylphenol/4-Methylphenol (m&p-Cresol)	ug/kg dw	53U	
N-Nitroso-di-n-propylamine	ug/kg dw	39U	
Hexachloroethane	ug/kg dw	25U	
Nitrobenzene	ug/kg dw	41U	
Isophorone	ug/kg dw	34U	
2-Nitrophenol	ug/kg dw	34U	
2,4-Dimethylphenol	ug/kg dw	37U	
bis(2-Chloroethoxy)methane	ug/kg dw	42U	
2,4-Dichlorophenol	ug/kg dw	38U	
1,2,4-Trichlorobenzene	ug/kg dw	50U	
4-Chloroaniline	ug/kg dw	38U	
Hexachlorobutadiene	ug/kg dw	36U	
4-Chloro-3-methylphenol	ug/kg dw	53U	
Hexachlorocyclopentadiene	ug/kg dw	360U	
2,4,6-Trichlorophenol	ug/kg dw	42U	
2,4,5-Trichlorophenol	ug/kg dw	41U	
2-Chloronaphthalene	ug/kg dw	49U	
2-Nitroaniline	ug/kg dw	33U	
Dimethylphthalate	ug/kg dw	46U	

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-1	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17
43041-1-DL	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17

Parameter	Units	Lab Sample IDs 43041-1	43041-1-DL
TCL Semivolatiles (8270)			
3-Nitroaniline	ug/kg dw	39U	
2,4-Dinitrophenol	ug/kg dw	450U	
4-Nitrophenol	ug/kg dw	33U	
Dibenzofuran	ug/kg dw	45U	
2,4-Dinitrotoluene	ug/kg dw	29U	
2,6-Dinitrotoluene	ug/kg dw	38U	
Diethylphthalate	ug/kg dw	46U	
4-Chlorophenylphenyl ether	ug/kg dw	34U	
4-Nitroaniline	ug/kg dw	34U	
4,6-Dinitro-2-methylphenol	ug/kg dw	41U	
N-Nitrosodiphenylamine	ug/kg dw	39U	
4-Bromophenylphenyl ether	ug/kg dw	39U	
Hexachlorobenzene	ug/kg dw	50U	
Pentachlorophenol	ug/kg dw	68J	
Di-n-butylphthalate	ug/kg dw	51U	
Butylbenzylphthalate	ug/kg dw	42U	
3,3'-Dichlorobenzidine	ug/kg dw	34U	
bis(2-Ethylhexyl)phthalate	ug/kg dw	58U	
Di-n-octylphthalate	ug/kg dw	42U	
Carbazole	ug/kg dw	39U	
Surrogate - Phenol-d5 *	%	59 %	
Surrogate - 2-Fluorophenol *	%	59 %	
Surrogate - 2,4,6-Tribromophenol *	%	75 %	
Surrogate - Nitrobenzene - d5 *	%	59 %	
Surrogate - 2-Fluorobiphenyl *	%	68 %	
Surrogate - Terphenyl-d14 *	%	73 %	
Percent Solids		76	76
Dilution Factor		1	
Prep Date		04/15/04	
Prep Time		11:55	
Analysis Date		04/22/04	
Analysis Time		19:48	
Batch ID		0415C	
Quantitation Factor		1.000	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-1	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17
43041-1-DL	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17

Parameter	Units	Lab Sample IDs 43041-1	43041-1-DL
Low Level PAH (8270PAH)			
Naphthalene	ug/kg dw	3.7U	
Acenaphthylene	ug/kg dw	4.5U	
Acenaphthene	ug/kg dw	4.7U	
Fluorene	ug/kg dw	4.1U	
Phenanthrene	ug/kg dw	5.6I	
Anthracene	ug/kg dw	5.0U	
Fluoranthene	ug/kg dw	4.5U	
Pyrene	ug/kg dw	6.3U	
Chrysene	ug/kg dw	5.3U	
Benzo(a)anthracene	ug/kg dw	4.0U	
Benzo(b)fluoranthene	ug/kg dw	5.0U	
Benzo(k)fluoranthene	ug/kg dw	5.2U	
Benzo(a)pyrene	ug/kg dw	4.7U	
Indeno(1,2,3-cd)pyrene	ug/kg dw	3.4U	
Dibenzo(a,h)anthracene	ug/kg dw	4.6U	
Benzo(g,h,i)perylene	ug/kg dw	3.2U	
2-Methylnaphthalene	ug/kg dw	2.8U	
1-Methylnaphthalene	ug/kg dw	1.8U	
Surrogate - o-Terphenyl *	%	84 %	
Percent Solids		76	76
Dilution Factor		4	
Prep Date		04/15/04	
Prep Time		15:00	
Analysis Date		04/17/04	
Analysis Time		16:23	
Batch ID		0415B	
Quantitation Factor		4.000	

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-1	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17
43041-1-DL	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17

Parameter	Units	Lab Sample IDs 43041-1	43041-1-DL
Volatiles by GC/MS (8260)			
Chloromethane	ug/kg dw	1.7U	
Bromomethane (Methyl bromide)	ug/kg dw	4.2U	
Vinyl chloride	ug/kg dw	1.7U	
Chloroethane	ug/kg dw	2.1U	
Methylene chloride (Dichloromethane)	ug/kg dw	3.0U	
Acetone	ug/kg dw	9.9U	
Carbon disulfide	ug/kg dw	2.5U	
1,1-Dichloroethene	ug/kg dw	2.1U	
1,1-Dichloroethane	ug/kg dw	1.2U	
cis-1,2-Dichloroethene	ug/kg dw	1.4U	
trans-1,2-Dichloroethene	ug/kg dw	1.5U	
Chloroform	ug/kg dw	3.4I	
1,2-Dichloroethane	ug/kg dw	1.9U	
2-Butanone (MEK)	ug/kg dw	5.8U	
1,1,1-Trichloroethane	ug/kg dw	1.0U	
Carbon tetrachloride	ug/kg dw	2.3I	
Bromodichloromethane	ug/kg dw	1.6U	
1,1,2,2-Tetrachloroethane	ug/kg dw	2.5U	
1,2-Dichloropropane	ug/kg dw	1.5U	
trans-1,3-Dichloropropene	ug/kg dw	2.0U	
Trichloroethene	ug/kg dw	1.4U	
Dibromochloromethane	ug/kg dw	1.7U	
1,1,2-Trichloroethane	ug/kg dw	2.2U	
Benzene	ug/kg dw	1.4U	
cis-1,3-Dichloropropene	ug/kg dw	1.5U	
Bromoform	ug/kg dw	2.1U	
2-Hexanone	ug/kg dw	6.3U	
4-Methyl-2-pentanone (MIBK)	ug/kg dw	6.2U	

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-1	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17
43041-1-DL	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17

Parameter	Units	Lab Sample IDs 43041-1	43041-1-DL
Volatiles by GC/MS (8260)			
Tetrachloroethene	ug/kg dw	1.9U	
Toluene	ug/kg dw	2.2U	
Chlorobenzene	ug/kg dw	1.6U	
Ethylbenzene	ug/kg dw	1.2U	
Styrene	ug/kg dw	1.4U	
Xylenes, Total	ug/kg dw	3.7U	
Surrogate - Toluene-d8 *	%	100 %	
Surrogate - 4-Bromofluorobenzene *	%	97 %	
Surrogate - Dibromofluoromethane *	%	103 %	
Percent Solids		76	76
Dilution Factor		1	
Prep Date		04/19/04	
Prep Time		17:29	
Analysis Date		04/19/04	
Analysis Time		17:29	
Batch ID		1M0419	
Quantitation Factor		0.9434	
Total Organic Carbon (9060)			
Total Organic Carbon	mg/kg dw	1700	
Percent Solids		76	76
Dilution Factor		1	
Prep Date		04/19/04	
Prep Time		16:00	
Analysis Date		04/20/04	
Analysis Time		17:11	
Batch ID		0420X	
Quantitation Factor		1.000	

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-1	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17
43041-1-DL	041M19A101	Solid	04/09/04	04/08/04 13:00	PEN17

Parameter	Units	Lab Sample IDs 43041-1	43041-1-DL
Grain Size * (D422)			
Grain Size *		Attached	
Percent Solids		76	76

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-2	041W061002	Liquid	04/09/04	04/08/04 09:00	PEN17
43041-3	041EW00001	Liquid	04/09/04	04/08/04 09:15	PEN17

Parameter	Units	Lab Sample IDs 43041-2	43041-3
TAL Metals (6010)			
Aluminum	ug/l	1200	23I
Antimony	ug/l	3.9U	3.9U
Arsenic	ug/l	5.7I	3.3U
Barium	ug/l	46	0.42I
Beryllium	ug/l	0.34I	0.31I
Cadmium	ug/l	2.5I	0.60U
Calcium	ug/l	30000	15I
Chromium	ug/l	21	1.4U
Cobalt	ug/l	1.2U	1.2U
Copper	ug/l	19I	0.60U
Iron	ug/l	3300	31I
Lead	ug/l	40	1.9U
Magnesium	ug/l	3800	8.5U
Manganese	ug/l	110	0.40U
Nickel	ug/l	2.5I	1.5U
Potassium	ug/l	2400	23I
Selenium	ug/l	6.9I	5.3U
Silver	ug/l	1.1U	1.1U
Sodium	ug/l	13000	21I
Thallium	ug/l	7.6U	7.6U
Vanadium	ug/l	3.4I	0.70U
Zinc	ug/l	78	0.60U
Dilution Factor		1	1
Prep Date		04/13/04	04/13/04
Prep Time		12:00	12:00
Analysis Date		04/14/04	04/14/04
Analysis Time		05:56	06:11
Batch ID		0413I	0413I
Quantitation Factor		1.000	1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-2	041W061002	Liquid	04/09/04	04/08/04 09:00	PEN17
43041-3	041EW00001	Liquid	04/09/04	04/08/04 09:15	PEN17

Parameter	Units	Lab Sample IDs 43041-2	43041-3
Mercury (7470)			
Mercury	ug/l	0.078U	0.078U
Dilution Factor		1	1
Prep Date		04/12/04	04/12/04
Prep Time		16:05	16:05
Analysis Date		04/14/04	04/14/04
Analysis Time		12:02	12:04
Batch ID		0412U	0412U
Quantitation Factor		1.000	1.000
TAL Metals (Dissolved) (6010DISS)			
Aluminum (Dissolved)	ug/l	53I	13I
Antimony (Dissolved)	ug/l	3.9U	3.9U
Arsenic, (Dissolved)	ug/l	3.3U	3.3U
Barium, (Dissolved)	ug/l	40	0.70I
Beryllium (Dissolved)	ug/l	0.94I	0.30I
Cadmium (Dissolved)	ug/l	0.60U	0.60U
Calcium (Dissolved)	ug/l	24000	31I
Chromium, (Dissolved)	ug/l	1.7I	1.4U
Cobalt (Dissolved)	ug/l	1.2U	1.2U
Copper, Dissolved	ug/l	1.3I	0.60U
Iron (Dissolved)	ug/l	450	18U
Lead, (Dissolved)	ug/l	3.6I	1.9U
Magnesium (Dissolved)	ug/l	3500	8.5U
Manganese (Dissolved)	ug/l	6.8I	0.40U
Nickel, (Dissolved)	ug/l	1.5U	1.5U
Potassium (Dissolved)	ug/l	2600	12I
Selenium (Dissolved)	ug/l	5.3U	5.3U
Silver (Dissolved)	ug/l	1.1U	1.1U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-2	041W061002	Liquid	04/09/04	04/08/04 09:00	PEN17
43041-3	041EW00001	Liquid	04/09/04	04/08/04 09:15	PEN17

Parameter	Units	Lab Sample IDs 43041-2	43041-3
TAL Metals (Dissolved) (6010DISS)			
Sodium (Dissolved)	ug/l	13000	59I
Thallium (Dissolved)	ug/l	7.6U	7.6U
Vanadium (Dissolved)	ug/l	0.94I	0.70U
Zinc, (Dissolved)	ug/l	17I	0.60U
Dilution Factor		1	1
Prep Date		04/13/04	04/13/04
Prep Time		09:50	09:50
Analysis Date		04/14/04	04/14/04
Analysis Time		07:16	07:41
Batch ID		0413G	0413G
Quantitation Factor		1.000	1.000
Mercury (Dissolved) (7470)			
Mercury (Dissolved)	ug/l	0.078U	0.078U
Dilution Factor		1	1
Prep Date		04/14/04	04/14/04
Prep Time		09:30	09:30
Analysis Date		04/15/04	04/15/04
Analysis Time		09:58	10:00
Batch ID		0414R	0414R
Quantitation Factor		1.000	1.000
Volatiles by GC/MS (8260)			
Chloromethane	ug/l	0.39U	0.39U
Bromomethane (Methyl bromide)	ug/l	0.62U	0.62U
Vinyl chloride	ug/l	0.56U	0.56U
Chloroethane	ug/l	0.78U	0.78U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-2	041W061002	Liquid	04/09/04	04/08/04 09:00	PEN17
43041-3	041EW00001	Liquid	04/09/04	04/08/04 09:15	PEN17

Parameter	Units	Lab Sample IDs 43041-2	43041-3
Volatiles by GC/MS (8260)			
Methylene chloride (Dichloromethane)	ug/l	0.64U	0.64U
Acetone	ug/l	5.0U	5.0U
Carbon disulfide	ug/l	0.66U	0.66U
1,1-Dichloroethene	ug/l	0.98I	0.36U
1,1-Dichloroethane	ug/l	0.80I	0.36U
cis-1,2-Dichloroethene	ug/l	5.1	0.38U
trans-1,2-Dichloroethene	ug/l	0.40U	0.40U
Chloroform	ug/l	0.37U	0.37U
1,2-Dichloroethane	ug/l	0.26U	0.26U
2-Butanone (MEK)	ug/l	5.6IV	6.1IV
1,1,1-Trichloroethane	ug/l	0.32U	0.32U
Carbon tetrachloride	ug/l	0.31U	0.31U
Bromodichloromethane	ug/l	0.14U	0.14U
1,1,2,2-Tetrachloroethane	ug/l	0.18U	0.18U
1,2-Dichloropropane	ug/l	0.33U	0.33U
trans-1,3-Dichloropropene	ug/l	0.26U	0.26U
Trichloroethene	ug/l	1.3	0.37U
Dibromochloromethane	ug/l	0.50U	0.50U
1,1,2-Trichloroethane	ug/l	0.22U	0.22U
Benzene	ug/l	0.36U	0.36U
cis-1,3-Dichloropropene	ug/l	0.23U	0.23U
Bromoform	ug/l	0.33U	0.33U
2-Hexanone	ug/l	0.93U	0.93U
4-Methyl-2-pentanone (MIBK)	ug/l	0.65U	0.65U
Tetrachloroethene	ug/l	0.35U	0.35U
Toluene	ug/l	0.54U	0.54U
Chlorobenzene	ug/l	11	0.34U
Ethylbenzene	ug/l	0.34U	0.34U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-2	041W061002	Liquid	04/09/04	04/08/04 09:00	PEN17
43041-3	041EW00001	Liquid	04/09/04	04/08/04 09:15	PEN17

Parameter	Units	Lab Sample IDs 43041-2	43041-3
Volatiles by GC/MS (8260)			
Styrene	ug/l	0.25U	0.25U
Xylenes, Total	ug/l	1.3U	1.3U
Surrogate - Toluene-d8 *	%	106 %	108 %
Surrogate - 4-Bromofluorobenzene *	%	110 %	114 %
Surrogate - Dibromofluoromethane *	%	108 %	112 %
Dilution Factor		1	1
Prep Date		04/15/04	04/15/04
Prep Time		16:12	16:39
Analysis Date		04/15/04	04/15/04
Analysis Time		16:12	16:39
Batch ID		1P0415C1	1P0415C1
Quantitation Factor		1.000	1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-4	041TB00002	Liquid	04/09/04	04/08/04 16:10	PEN17

Parameter	Units	Lab Sample IDs 43041-4
Volatiles by GC/MS (8260)		
Chloromethane	ug/l	0.39U
Bromomethane (Methyl bromide)	ug/l	0.62U
Vinyl chloride	ug/l	0.56U
Chloroethane	ug/l	0.78U
Methylene chloride (Dichloromethane)	ug/l	0.64U
Acetone	ug/l	8.7I
Carbon disulfide	ug/l	0.66U
1,1-Dichloroethene	ug/l	0.36U
1,1-Dichloroethane	ug/l	0.36U
cis-1,2-Dichloroethene	ug/l	0.38U
trans-1,2-Dichloroethene	ug/l	0.40U
Chloroform	ug/l	0.37U
1,2-Dichloroethane	ug/l	0.26U
2-Butanone (MEK)	ug/l	7.3IV
1,1,1-Trichloroethane	ug/l	0.32U
Carbon tetrachloride	ug/l	0.31U
Bromodichloromethane	ug/l	0.14U
1,1,2,2-Tetrachloroethane	ug/l	0.18U
1,2-Dichloropropane	ug/l	0.33U
trans-1,3-Dichloropropene	ug/l	0.26U
Trichloroethene	ug/l	0.37U
Dibromochloromethane	ug/l	0.50U
1,1,2-Trichloroethane	ug/l	0.22U
Benzene	ug/l	0.36U
cis-1,3-Dichloropropene	ug/l	0.23U
Bromoform	ug/l	0.33U
2-Hexanone	ug/l	0.93U
4-Methyl-2-pentanone (MIBK)	ug/l	0.65U
Tetrachloroethene	ug/l	0.35U

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-4	041TB00002	Liquid	04/09/04	04/08/04 16:10	PEN17

Parameter	Units	Lab Sample IDs 43041-4
Volatiles by GC/MS (8260)		
Toluene	ug/l	0.54U
Chlorobenzene	ug/l	0.34U
Ethylbenzene	ug/l	0.34U
Styrene	ug/l	0.25U
Xylenes, Total	ug/l	1.3U
Surrogate - Toluene-d8 *	%	108 %
Surrogate - 4-Bromofluorobenzene *	%	110 %
Surrogate - Dibromofluoromethane *	%	110 %
Dilution Factor		1
Prep Date		04/15/04
Prep Time		15:16
Analysis Date		04/15/04
Analysis Time		15:16
Batch ID		1P0415C1
Quantitation Factor		1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-5	033W000102	Liquid	04/09/04	04/08/04 09:30	PEN17
43041-6	041W63A202	Liquid	04/09/04	04/08/04 10:15	PEN17
43041-7	041W170102	Liquid	04/09/04	04/08/04 11:30	PEN17
43041-8	041W150102	Liquid	04/09/04	04/08/04 11:45	PEN17
43041-9	041W19A102	Liquid	04/09/04	04/08/04 13:00	PEN17

Parameter	Units	Lab Sample IDs 43041-5	43041-6	43041-7	43041-8	43041-9
TAL Metals (6010)						
Aluminum	ug/l	480	25I	66I	500	330
Antimony	ug/l	3.9U	3.9U	3.9U	11I	3.9U
Arsenic	ug/l	3.3U	3.3U	4.8I	5.5I	3.3U
Barium	ug/l	15	61	18	43	8.5I
Beryllium	ug/l	0.50I	0.44I	0.62I	0.67I	0.74I
Cadmium	ug/l	0.82I	0.60U	0.60U	0.60U	0.60U
Calcium	ug/l	46000	76000	240000	180000	6400
Chromium	ug/l	1.4U	1.4U	1.4U	2.5I	1.4U
Cobalt	ug/l	1.2U	1.2U	1.2U	1.2U	1.2U
Copper	ug/l	1.6I	0.98I	0.60U	0.60U	0.60U
Iron	ug/l	900	140	110	2600	1000
Lead	ug/l	1.9U	1.9U	1.9U	1.9U	1.9U
Magnesium	ug/l	6900	5800	740000	480000	1100
Manganese	ug/l	290	15	26	210	18
Nickel	ug/l	2.7I	1.5U	1.5U	1.5U	1.5U
Potassium	ug/l	4000	1400	280000	200000	780I
Selenium	ug/l	8.9I	5.3U	5.9I	5.3U	5.3U
Silver	ug/l	1.1U	1.1U	1.1U	1.1U	1.1U
Sodium	ug/l	33000	14000	5600000	3600000	5800
Thallium	ug/l	7.6U	7.6U	8.3I	17	7.6U
Vanadium	ug/l	3.3I	1.7I	0.70U	2.3I	3.0I
Zinc	ug/l	2.0I	1.8I	0.60U	13I	1.6I
Dilution Factor		1	1	1	1	1
Prep Date		04/13/04	04/13/04	04/13/04	04/13/04	04/13/04
Prep Time		12:00	12:00	12:00	12:00	12:00
Analysis Date		04/14/04	04/14/04	04/14/04	04/14/04	04/14/04
Analysis Time		06:16	06:31	06:36	06:41	06:45
Batch ID		0413I	0413I	0413I	0413I	0413I
Quantitation Factor		1.000	1.000	1.000	1.000	1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-5	033W000102	Liquid	04/09/04	04/08/04 09:30	PEN17
43041-6	041W63A202	Liquid	04/09/04	04/08/04 10:15	PEN17
43041-7	041W170102	Liquid	04/09/04	04/08/04 11:30	PEN17
43041-8	041W150102	Liquid	04/09/04	04/08/04 11:45	PEN17
43041-9	041W19A102	Liquid	04/09/04	04/08/04 13:00	PEN17

Parameter	Units	Lab Sample IDs 43041-5	43041-6	43041-7	43041-8	43041-9
Mercury (7470)						
Mercury	ug/l	0.078U	0.078U	0.078U	0.078U	0.078U
Dilution Factor		1	1	1	1	1
Prep Date		04/12/04	04/12/04	04/12/04	04/12/04	04/12/04
Prep Time		16:05	16:05	16:05	16:05	16:05
Analysis Date		04/14/04	04/14/04	04/14/04	04/14/04	04/14/04
Analysis Time		12:07	12:09	12:12	12:24	12:31
Batch ID		0412U	0412U	0412U	0412U	0412U
Quantitation Factor		1.000	1.000	1.000	1.000	1.000
TAL Metals (Dissolved) (6010DISS)						
Aluminum (Dissolved)	ug/l	32I	17I	44I	35I	57I
Antimony (Dissolved)	ug/l	3.9U	3.9U	3.9U	3.9U	3.9U
Arsenic, (Dissolved)	ug/l	3.3U	3.9I	3.3U	3.6I	3.3U
Barium, (Dissolved)	ug/l	12	58	17	40	5.4I
Beryllium (Dissolved)	ug/l	0.30I	0.33I	0.66I	0.57I	0.28I
Cadmium (Dissolved)	ug/l	0.60U	0.60U	0.60U	0.60U	0.60U
Calcium (Dissolved)	ug/l	44000	74000	230000	170000	6900
Chromium, (Dissolved)	ug/l	1.4U	1.4U	1.4U	1.4U	1.4U
Cobalt (Dissolved)	ug/l	1.2U	1.2U	1.2U	1.2U	1.2U
Copper, Dissolved	ug/l	0.60U	0.60U	0.60U	0.60U	0.60U
Iron (Dissolved)	ug/l	24I	22I	18U	18U	190
Lead, (Dissolved)	ug/l	1.9U	1.9U	1.9U	1.9U	1.9U
Magnesium (Dissolved)	ug/l	6600	5700	700000	440000	1100
Manganese (Dissolved)	ug/l	1.9I	0.40U	19	3.4I	2.2I
Nickel, (Dissolved)	ug/l	1.5U	1.5U	1.5U	1.5U	1.5U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-5	033W000102	Liquid	04/09/04	04/08/04 09:30	PEN17
43041-6	041W63A202	Liquid	04/09/04	04/08/04 10:15	PEN17
43041-7	041W170102	Liquid	04/09/04	04/08/04 11:30	PEN17
43041-8	041W150102	Liquid	04/09/04	04/08/04 11:45	PEN17
43041-9	041W19A102	Liquid	04/09/04	04/08/04 13:00	PEN17

		Lab Sample IDs				
Parameter	**Units**	**43041-5**	**43041-6**	**43041-7**	**43041-8**	**43041-9**
TAL Metals (Dissolved) (6010DISS)						
Potassium (Dissolved)	ug/l	3800	1300	250000	160000	690I
Selenium (Dissolved)	ug/l	5.3U	5.3U	5.3U	5.3U	5.3U
Silver (Dissolved)	ug/l	1.1U	1.1U	1.1U	1.1U	1.1U
Sodium (Dissolved)	ug/l	31000	14000	5100000	3400000	5400
Thallium (Dissolved)	ug/l	7.6U	7.6U	8.7I	8.9I	7.6U
Vanadium (Dissolved)	ug/l	0.70U	1.2I	0.70U	0.70U	0.70U
Zinc, (Dissolved)	ug/l	0.60U	3.8I	2.7I	5.6I	1.9I
Dilution Factor		1	1	1	1	1
Prep Date		04/13/04	04/13/04	04/13/04	04/13/04	04/13/04
Prep Time		09:50	09:50	09:50	09:50	09:50
Analysis Date		04/14/04	04/14/04	04/14/04	04/14/04	04/14/04
Analysis Time		07:46	07:51	07:56	08:01	08:06
Batch ID		0413G	0413G	0413G	0413G	0413G
Quantitation Factor		1.000	1.000	1.000	1.000	1.000
Mercury (Dissolved) (7470)						
Mercury (Dissolved)	ug/l	0.11I	0.078U	0.081I	0.093I	0.078U
Dilution Factor		1	1	1	1	1
Prep Date		04/14/04	04/14/04	04/14/04	04/14/04	04/14/04
Prep Time		09:30	09:30	09:30	09:30	09:30
Analysis Date		04/15/04	04/15/04	04/15/04	04/15/04	04/15/04
Analysis Time		10:07	10:10	10:12	10:14	10:16
Batch ID		0414R	0414R	0414R	0414R	0414R
Quantitation Factor		1.000	1.000	1.000	1.000	1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-10	041W720102	Liquid	04/09/04	04/08/04 14:00	PEN17
43041-11	041R720102	Liquid	04/09/04	04/08/04 14:00	PEN17

Parameter	Units	Lab Sample IDs 43041-10	43041-11
TAL Metals (6010)			
Aluminum	ug/l	830	740
Antimony	ug/l	3.9U	3.9U
Arsenic	ug/l	3.3U	3.3U
Barium	ug/l	12	12
Beryllium	ug/l	0.78I	0.41I
Cadmium	ug/l	0.60U	0.60U
Calcium	ug/l	9700	10000
Chromium	ug/l	1.4U	1.4U
Cobalt	ug/l	1.2U	1.2U
Copper	ug/l	0.60U	0.60U
Iron	ug/l	1200	1000
Lead	ug/l	2.3I	2.5I
Magnesium	ug/l	1400	1400
Manganese	ug/l	7.7I	7.7I
Nickel	ug/l	1.5U	1.5U
Potassium	ug/l	990I	930I
Selenium	ug/l	5.3U	5.3U
Silver	ug/l	1.1U	1.1U
Sodium	ug/l	5400	5100
Thallium	ug/l	7.6U	7.6U
Vanadium	ug/l	3.7I	2.9I
Zinc	ug/l	1.7I	0.60U
Dilution Factor		1	1
Prep Date		04/13/04	04/13/04
Prep Time		12:00	12:00
Analysis Date		04/14/04	04/14/04
Analysis Time		06:50	06:55
Batch ID		0413I	0413I
Quantitation Factor		1.000	1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-10	041W720102	Liquid	04/09/04	04/08/04 14:00	PEN17
43041-11	041R720102	Liquid	04/09/04	04/08/04 14:00	PEN17

Parameter	Units	Lab Sample IDs 43041-10	43041-11
Mercury (7470)			
Mercury	ug/l	0.078U	0.078U
Dilution Factor		1	1
Prep Date		04/12/04	04/12/04
Prep Time		16:05	16:05
Analysis Date		04/14/04	04/14/04
Analysis Time		12:33	12:36
Batch ID		0412U	0412U
Quantitation Factor		1.000	1.000
TAL Metals (Dissolved) (6010DISS)			
Aluminum (Dissolved)	ug/l	220	210
Antimony (Dissolved)	ug/l	3.9U	3.9U
Arsenic, (Dissolved)	ug/l	3.3U	3.3U
Barium, (Dissolved)	ug/l	11	11
Beryllium (Dissolved)	ug/l	0.31I	0.32I
Cadmium (Dissolved)	ug/l	0.60U	0.60U
Calcium (Dissolved)	ug/l	11000	11000
Chromium, (Dissolved)	ug/l	1.4U	1.4U
Cobalt (Dissolved)	ug/l	1.2U	1.2U
Copper, Dissolved	ug/l	0.60U	0.60U
Iron (Dissolved)	ug/l	110	110
Lead, (Dissolved)	ug/l	1.9U	1.9U
Magnesium (Dissolved)	ug/l	1500	1400
Manganese (Dissolved)	ug/l	3.9I	4.8I
Nickel, (Dissolved)	ug/l	1.5U	1.5U
Potassium (Dissolved)	ug/l	920I	910I
Selenium (Dissolved)	ug/l	5.3U	5.3U
Silver (Dissolved)	ug/l	1.1U	1.1U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-10	041W720102	Liquid	04/09/04	04/08/04 14:00	PEN17
43041-11	041R720102	Liquid	04/09/04	04/08/04 14:00	PEN17

Parameter	Units	Lab Sample IDs 43041-10	43041-11
TAL Metals (Dissolved) (6010DISS)			
Sodium (Dissolved)	ug/l	5200	5100
Thallium (Dissolved)	ug/l	7.6U	7.6U
Vanadium (Dissolved)	ug/l	0.94I	1.2I
Zinc, (Dissolved)	ug/l	3.0I	1.9I
Dilution Factor		1	1
Prep Date		04/13/04	04/13/04
Prep Time		09:50	09:50
Analysis Date		04/14/04	04/14/04
Analysis Time		08:11	08:16
Batch ID		0413G	0413G
Quantitation Factor		1.000	1.000
Mercury (Dissolved) (7470)			
Mercury (Dissolved)	ug/l	0.078U	0.078U
Dilution Factor		1	1
Prep Date		04/14/04	04/14/04
Prep Time		09:30	09:30
Analysis Date		04/15/04	04/15/04
Analysis Time		10:28	10:35
Batch ID		0414R	0414R
Quantitation Factor		1.000	1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-12	Method Detection Limit (MDL)	Solid	04/09/04		PEN17
43041-13	Reporting Limit (RL)	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-12	43041-13
TCL Pesticides (8081)			
alpha-BHC	ug/kg dw	0.24	1.7
beta-BHC	ug/kg dw	0.29	1.7
delta-BHC	ug/kg dw	0.12	1.7
gamma-BHC (Lindane)	ug/kg dw	0.15	1.7
Heptachlor	ug/kg dw	0.28	1.7
Aldrin	ug/kg dw	0.11	1.7
Heptachlor epoxide	ug/kg dw	0.17	1.7
Endosulfan I	ug/kg dw	0.17	1.7
Dieldrin	ug/kg dw	0.31	3.3
4,4'-DDE	ug/kg dw	0.54	3.3
Endrin	ug/kg dw	0.43	3.3
Endrin aldehyde	ug/kg dw	0.31	3.3
Endosulfan II	ug/kg dw	0.22	3.3
4,4'-DDD	ug/kg dw	0.35	3.3
Endosulfan sulfate	ug/kg dw	0.44	3.3
4,4'-DDT	ug/kg dw	0.31	3.3
Endrin ketone	ug/kg dw	0.38	3.3
Methoxychlor	ug/kg dw	0.20	17
alpha-Chlordane	ug/kg dw	0.11	1.7
gamma-Chlordane	ug/kg dw	0.13	1.7
Toxaphene	ug/kg dw	33	170
PCB's (8082)			
Aroclor-1016	ug/kg dw	3.9	33
Aroclor-1221	ug/kg dw	17	67
Aroclor-1232	ug/kg dw	6.7	33
Aroclor-1242	ug/kg dw	6.7	33
Aroclor-1248	ug/kg dw	6.5	33

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-12	Method Detection Limit (MDL)	Solid	04/09/04		PEN17
43041-13	Reporting Limit (RL)	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-12	43041-13
PCB's (8082)			
Aroclor-1254	ug/kg dw	6.7	33
Aroclor-1260	ug/kg dw	4.4	33
TCL Semivolatiles (8270)			
Phenol	ug/kg dw	41	330
bis(2-Chloroethyl)ether	ug/kg dw	37	330
2-Chlorophenol	ug/kg dw	41	330
1,3-Dichlorobenzene	ug/kg dw	23	330
1,4-Dichlorobenzene	ug/kg dw	24	330
1,2-Dichlorobenzene	ug/kg dw	23	330
2-Methylphenol (o-Cresol)	ug/kg dw	46	330
2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether	ug/kg dw	32	330
3-Methylphenol/4-Methylphenol (m&p-Cresol)	ug/kg dw	40	330
N-Nitroso-di-n-propylamine	ug/kg dw	30	330
Hexachloroethane	ug/kg dw	19	330
Nitrobenzene	ug/kg dw	31	330
Isophorone	ug/kg dw	26	330
2-Nitrophenol	ug/kg dw	26	330
2,4-Dimethylphenol	ug/kg dw	28	330
bis(2-Chloroethoxy)methane	ug/kg dw	32	330
2,4-Dichlorophenol	ug/kg dw	29	330
1,2,4-Trichlorobenzene	ug/kg dw	38	330
4-Chloroaniline	ug/kg dw	29	660
Hexachlorobutadiene	ug/kg dw	27	330
4-Chloro-3-methylphenol	ug/kg dw	40	330
Hexachlorocyclopentadiene	ug/kg dw	270	330

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-12	Method Detection Limit (MDL)	Solid	04/09/04		PEN17
43041-13	Reporting Limit (RL)	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-12	43041-13
TCL Semivolatiles (8270)			
2,4,6-Trichlorophenol	ug/kg dw	32	330
2,4,5-Trichlorophenol	ug/kg dw	31	330
2-Chloronaphthalene	ug/kg dw	37	330
2-Nitroaniline	ug/kg dw	25	1700
Dimethylphthalate	ug/kg dw	35	330
3-Nitroaniline	ug/kg dw	30	1700
2,4-Dinitrophenol	ug/kg dw	340	1700
4-Nitrophenol	ug/kg dw	25	1700
Dibenzofuran	ug/kg dw	34	330
2,4-Dinitrotoluene	ug/kg dw	22	330
2,6-Dinitrotoluene	ug/kg dw	29	330
Diethylphthalate	ug/kg dw	35	330
4-Chlorophenylphenyl ether	ug/kg dw	26	330
4-Nitroaniline	ug/kg dw	26	1700
4,6-Dinitro-2-methylphenol	ug/kg dw	31	1700
N-Nitrosodiphenylamine	ug/kg dw	30	330
4-Bromophenylphenyl ether	ug/kg dw	30	330
Hexachlorobenzene	ug/kg dw	38	330
Pentachlorophenol	ug/kg dw	34	1700
Di-n-butylphthalate	ug/kg dw	39	330
Butylbenzylphthalate	ug/kg dw	32	330
3,3'-Dichlorobenzidine	ug/kg dw	26	660
bis(2-Ethylhexyl)phthalate	ug/kg dw	44	330
Di-n-octylphthalate	ug/kg dw	32	330
Carbazole	ug/kg dw	30	330

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-12	Method Detection Limit (MDL)	Solid	04/09/04		PEN17
43041-13	Reporting Limit (RL)	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-12	43041-13
Low Level PAH (8270PAH)			
Naphthalene	ug/kg dw	0.71	6.7
Acenaphthylene	ug/kg dw	0.86	6.7
Acenaphthene	ug/kg dw	0.90	6.7
Fluorene	ug/kg dw	0.78	6.7
Phenanthrene	ug/kg dw	0.80	6.7
Anthracene	ug/kg dw	0.96	6.7
Fluoranthene	ug/kg dw	0.86	6.7
Pyrene	ug/kg dw	1.2	6.7
Chrysene	ug/kg dw	1.0	6.7
Benzo(a)anthracene	ug/kg dw	0.76	6.7
Benzo(b)fluoranthene	ug/kg dw	0.96	6.7
Benzo(k)fluoranthene	ug/kg dw	0.98	6.7
Benzo(a)pyrene	ug/kg dw	0.90	6.7
Indeno(1,2,3-cd)pyrene	ug/kg dw	0.65	6.7
Dibenzo(a,h)anthracene	ug/kg dw	0.88	6.7
Benzo(g,h,i)perylene	ug/kg dw	0.61	6.7
2-Methylnaphthalene	ug/kg dw	0.53	6.7
1-Methylnaphthalene	ug/kg dw	0.35	6.7
Volatiles by GC/MS (8260)			
Chloromethane	ug/kg dw	1.4	5.0
Bromomethane (Methyl bromide)	ug/kg dw	3.4	5.0
Vinyl chloride	ug/kg dw	1.4	5.0
Chloroethane	ug/kg dw	1.7	5.0
Methylene chloride (Dichloromethane)	ug/kg dw	2.4	5.0
Acetone	ug/kg dw	8.0	50
Carbon disulfide	ug/kg dw	2.0	5.0

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43041-12	Method Detection Limit (MDL)	Solid	04/09/04		PEN17
43041-13	Reporting Limit (RL)	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-12	43041-13
Volatiles by GC/MS (8260)			
1,1-Dichloroethene	ug/kg dw	1.7	5.0
1,1-Dichloroethane	ug/kg dw	1.0	5.0
cis-1,2-Dichloroethene	ug/kg dw	1.1	5.0
trans-1,2-Dichloroethene	ug/kg dw	1.2	5.0
Chloroform	ug/kg dw	1.2	5.0
1,2-Dichloroethane	ug/kg dw	1.5	5.0
2-Butanone (MEK)	ug/kg dw	4.7	25
1,1,1-Trichloroethane	ug/kg dw	0.81	5.0
Carbon tetrachloride	ug/kg dw	0.94	5.0
Bromodichloromethane	ug/kg dw	1.3	5.0
1,1,2,2-Tetrachloroethane	ug/kg dw	2.0	5.0
1,2-Dichloropropane	ug/kg dw	1.2	5.0
trans-1,3-Dichloropropene	ug/kg dw	1.6	5.0
Trichloroethene	ug/kg dw	1.1	5.0
Dibromochloromethane	ug/kg dw	1.4	5.0
1,1,2-Trichloroethane	ug/kg dw	1.8	5.0
Benzene	ug/kg dw	1.1	5.0
cis-1,3-Dichloropropene	ug/kg dw	1.2	5.0
Bromoform	ug/kg dw	1.7	5.0
2-Hexanone	ug/kg dw	5.1	25
4-Methyl-2-pentanone (MIBK)	ug/kg dw	5.0	25
Tetrachloroethene	ug/kg dw	1.5	5.0
Toluene	ug/kg dw	1.8	5.0
Chlorobenzene	ug/kg dw	1.3	5.0
Ethylbenzene	ug/kg dw	1.0	5.0
Styrene	ug/kg dw	1.1	5.0
Xylenes, Total	ug/kg dw	3.0	10

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-12	Method Detection Limit (MDL)	Solid	04/09/04		PEN17
43041-13	Reporting Limit (RL)	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-12	43041-13
Total Organic Carbon (9060)			
Total Organic Carbon	mg/kg dw	390	1000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-30	Method Detection Limit (MDL)	Solid	04/09/04		PEN17
43041-15	Reporting Limit (RL)	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-30	43041-15
TAL Metals (6010)			
Aluminum	mg/kg dw	0.93	20
Antimony	mg/kg dw	0.39	2.0
Arsenic	mg/kg dw	0.33	1.0
Barium	mg/kg dw	0.020	1.0
Beryllium	mg/kg dw	0.020	0.40
Cadmium	mg/kg dw	0.060	0.50
Calcium	mg/kg dw	0.74	50
Chromium	mg/kg dw	0.14	1.0
Cobalt	mg/kg dw	0.12	1.0
Copper	mg/kg dw	0.060	2.0
Iron	mg/kg dw	1.8	5.0
Lead	mg/kg dw	0.19	0.50
Magnesium	mg/kg dw	0.85	50
Manganese	mg/kg dw	0.040	1.0
Nickel	mg/kg dw	0.15	4.0
Potassium	mg/kg dw	0.89	100
Selenium	mg/kg dw	0.53	1.0
Silver	mg/kg dw	0.11	1.0
Sodium	mg/kg dw	0.11	50
Thallium	mg/kg dw	0.76	1.0
Vanadium	mg/kg dw	0.070	1.0
Zinc	mg/kg dw	0.060	2.0
Mercury (7471)			
Mercury	mg/kg dw	0.0043	0.020

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-16	Method Blank	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-16
TAL Metals (6010)		
Aluminum	mg/kg dw	2.0I
Antimony	mg/kg dw	0.90I
Arsenic	mg/kg dw	0.33U
Barium	mg/kg dw	0.046I
Beryllium	mg/kg dw	0.023I
Cadmium	mg/kg dw	0.083I
Calcium	mg/kg dw	0.74U
Chromium	mg/kg dw	0.14U
Cobalt	mg/kg dw	0.12U
Copper	mg/kg dw	0.060U
Iron	mg/kg dw	2.8I
Lead	mg/kg dw	0.34I
Magnesium	mg/kg dw	0.88I
Manganese	mg/kg dw	0.040U
Nickel	mg/kg dw	0.15U
Potassium	mg/kg dw	2.5I
Selenium	mg/kg dw	0.53U
Silver	mg/kg dw	0.11U
Sodium	mg/kg dw	0.77I
Thallium	mg/kg dw	0.76U
Vanadium	mg/kg dw	0.097I
Zinc	mg/kg dw	0.51I
Dilution Factor		1
Prep Date		04/12/04
Prep Time		07:00
Analysis Date		04/15/04
Analysis Time		13:25
Batch ID		0412C
Quantitation Factor		1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-16	Method Blank	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-16
Mercury (7471)		
Mercury	mg/kg dw	0.0043U
Dilution Factor		1
Prep Date		04/12/04
Prep Time		15:35
Analysis Date		04/13/04
Analysis Time		17:17
Batch ID		0412T
Quantitation Factor		1.000
TCL Pesticides (8081)		
alpha-BHC	ug/kg dw	0.24U
beta-BHC	ug/kg dw	0.29U
delta-BHC	ug/kg dw	0.12U
gamma-BHC (Lindane)	ug/kg dw	0.15U
Heptachlor	ug/kg dw	0.28U
Aldrin	ug/kg dw	0.026I
Heptachlor epoxide	ug/kg dw	0.17U
Endosulfan I	ug/kg dw	0.17U
Dieldrin	ug/kg dw	0.31U
4,4'-DDE	ug/kg dw	0.54U
Endrin	ug/kg dw	0.43U
Endrin aldehyde	ug/kg dw	0.31U
Endosulfan II	ug/kg dw	0.22U
4,4'-DDD	ug/kg dw	0.35U
Endosulfan sulfate	ug/kg dw	0.44U
4,4'-DDT	ug/kg dw	0.31U
Endrin ketone	ug/kg dw	0.38U
Methoxychlor	ug/kg dw	0.20U
alpha-Chlordane	ug/kg dw	0.11U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-16	Method Blank	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-16
TCL Pesticides (8081)		
gamma-Chlordane	ug/kg dw	0.13U
Toxaphene	ug/kg dw	33U
Surrogate - DCB *	%	94 %
Surrogate - 2,4,5,6-Tetrachloro-m-xylene (TCMX) *	%	88 %
Dilution Factor		1
Prep Date		04/15/04
Prep Time		13:00
Analysis Date		04/29/04
Analysis Time		12:45
Batch ID		0415N
Quantitation Factor		1.000
PCB's (8082)		
Aroclor-1016	ug/kg dw	3.9U
Aroclor-1221	ug/kg dw	17U
Aroclor-1232	ug/kg dw	6.7U
Aroclor-1242	ug/kg dw	6.7U
Aroclor-1248	ug/kg dw	6.5U
Aroclor-1254	ug/kg dw	6.7U
Aroclor-1260	ug/kg dw	4.4U
Surrogate - TCX *	%	88 %
Surrogate - DCB *	%	94 %
Dilution Factor		1
Prep Date		04/15/04
Analysis Date		04/29/04
Analysis Time		12:45
Batch ID		0415N
Quantitation Factor		1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-16	Method Blank	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-16
TCL Semivolatiles (8270)		
Phenol	ug/kg dw	41U
bis(2-Chloroethyl)ether	ug/kg dw	37U
2-Chlorophenol	ug/kg dw	41U
1,3-Dichlorobenzene	ug/kg dw	23U
1,4-Dichlorobenzene	ug/kg dw	24U
1,2-Dichlorobenzene	ug/kg dw	23U
2-Methylphenol (o-Cresol)	ug/kg dw	46U
2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether	ug/kg dw	32U
3-Methylphenol/4-Methylphenol (m&p-Cresol)	ug/kg dw	40U
N-Nitroso-di-n-propylamine	ug/kg dw	30U
Hexachloroethane	ug/kg dw	19U
Nitrobenzene	ug/kg dw	31U
Isophorone	ug/kg dw	26U
2-Nitrophenol	ug/kg dw	26U
2,4-Dimethylphenol	ug/kg dw	28U
bis(2-Chloroethoxy)methane	ug/kg dw	32U
2,4-Dichlorophenol	ug/kg dw	29U
1,2,4-Trichlorobenzene	ug/kg dw	38U
4-Chloroaniline	ug/kg dw	29U
Hexachlorobutadiene	ug/kg dw	27U
4-Chloro-3-methylphenol	ug/kg dw	40U
Hexachlorocyclopentadiene	ug/kg dw	270U
2,4,6-Trichlorophenol	ug/kg dw	32U
2,4,5-Trichlorophenol	ug/kg dw	31U
2-Chloronaphthalene	ug/kg dw	37U
2-Nitroaniline	ug/kg dw	25U
Dimethylphthalate	ug/kg dw	35U
3-Nitroaniline	ug/kg dw	30U

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-16	Method Blank	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-16
TCL Semivolatiles (8270)		
2,4-Dinitrophenol	ug/kg dw	340U
4-Nitrophenol	ug/kg dw	25U
Dibenzofuran	ug/kg dw	34U
2,4-Dinitrotoluene	ug/kg dw	22U
2,6-Dinitrotoluene	ug/kg dw	29U
Diethylphthalate	ug/kg dw	35U
4-Chlorophenylphenyl ether	ug/kg dw	26U
4-Nitroaniline	ug/kg dw	26U
4,6-Dinitro-2-methylphenol	ug/kg dw	31U
N-Nitrosodiphenylamine	ug/kg dw	30U
4-Bromophenylphenyl ether	ug/kg dw	30U
Hexachlorobenzene	ug/kg dw	38U
Pentachlorophenol	ug/kg dw	34U
Di-n-butylphthalate	ug/kg dw	39U
Butylbenzylphthalate	ug/kg dw	32U
3,3'-Dichlorobenzidine	ug/kg dw	26U
bis(2-Ethylhexyl)phthalate	ug/kg dw	44U
Di-n-octylphthalate	ug/kg dw	32U
Carbazole	ug/kg dw	30U
Surrogate - Phenol-d5 *	%	76 %
Surrogate - 2-Fluorophenol *	%	76 %
Surrogate - 2,4,6-Tribromophenol *	%	79 %
Surrogate - Nitrobenzene - d5 *	%	70 %
Surrogate - 2-Fluorobiphenyl *	%	76 %
Surrogate - Terphenyl-d14 *	%	106 %
Dilution Factor		1
Prep Date		04/15/04
Prep Time		11:55
Analysis Date		04/19/04
Analysis Time		10:12
Batch ID		0415C
Quantitation Factor		1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-16	Method Blank	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-16
Low Level PAH (8270PAH)		
Naphthalene	ug/kg dw	0.71U
Acenaphthylene	ug/kg dw	0.86U
Acenaphthene	ug/kg dw	0.90U
Fluorene	ug/kg dw	0.78U
Phenanthrene	ug/kg dw	0.80U
Anthracene	ug/kg dw	0.96U
Fluoranthene	ug/kg dw	0.86U
Pyrene	ug/kg dw	1.2U
Chrysene	ug/kg dw	1.0U
Benzo(a)anthracene	ug/kg dw	0.76U
Benzo(b)fluoranthene	ug/kg dw	0.96U
Benzo(k)fluoranthene	ug/kg dw	0.98U
Benzo(a)pyrene	ug/kg dw	0.90U
Indeno(1,2,3-cd)pyrene	ug/kg dw	0.65U
Dibenzo(a,h)anthracene	ug/kg dw	0.88U
Benzo(g,h,i)perylene	ug/kg dw	0.61U
2-Methylnaphthalene	ug/kg dw	0.53U
1-Methylnaphthalene	ug/kg dw	0.35U
Surrogate - o-Terphenyl *	%	97 %
Dilution Factor		1
Prep Date		04/15/04
Prep Time		15:00
Analysis Date		04/16/04
Analysis Time		11:10
Batch ID		0415B
Quantitation Factor		1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-16	Method Blank	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-16
Volatiles by GC/MS (8260)		
Chloromethane	ug/kg dw	1.4U
Bromomethane (Methyl bromide)	ug/kg dw	3.4U
Vinyl chloride	ug/kg dw	1.4U
Chloroethane	ug/kg dw	1.7U
Methylene chloride (Dichloromethane)	ug/kg dw	2.4U
Acetone	ug/kg dw	8.0U
Carbon disulfide	ug/kg dw	2.0U
1,1-Dichloroethene	ug/kg dw	1.7U
1,1-Dichloroethane	ug/kg dw	1.0U
cis-1,2-Dichloroethene	ug/kg dw	1.1U
trans-1,2-Dichloroethene	ug/kg dw	1.2U
Chloroform	ug/kg dw	1.2U
1,2-Dichloroethane	ug/kg dw	1.5U
2-Butanone (MEK)	ug/kg dw	4.7U
1,1,1-Trichloroethane	ug/kg dw	0.81U
Carbon tetrachloride	ug/kg dw	0.94U
Bromodichloromethane	ug/kg dw	1.3U
1,1,2,2-Tetrachloroethane	ug/kg dw	2.0U
1,2-Dichloropropane	ug/kg dw	1.2U
trans-1,3-Dichloropropene	ug/kg dw	1.6U
Trichloroethene	ug/kg dw	1.1U
Dibromochloromethane	ug/kg dw	1.4U
1,1,2-Trichloroethane	ug/kg dw	1.8U
Benzene	ug/kg dw	1.1U
cis-1,3-Dichloropropene	ug/kg dw	1.2U
Bromoform	ug/kg dw	1.7U
2-Hexanone	ug/kg dw	5.1U
4-Methyl-2-pentanone (MIBK)	ug/kg dw	5.0U
Tetrachloroethene	ug/kg dw	1.5U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-16	Method Blank	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-16
Volatiles by GC/MS (8260)		
Toluene	ug/kg dw	1.8U
Chlorobenzene	ug/kg dw	1.3U
Ethylbenzene	ug/kg dw	1.0U
Styrene	ug/kg dw	1.1U
Xylenes, Total	ug/kg dw	3.0U
Surrogate - Toluene-d8 *	%	100 %
Surrogate - 4-Bromofluorobenzene *	%	100 %
Surrogate - Dibromofluoromethane *	%	104 %
Dilution Factor		1
Prep Date		04/19/04
Prep Time		12:18
Analysis Date		04/19/04
Analysis Time		12:18
Batch ID		1M0419
Quantitation Factor		1.000
Total Organic Carbon (9060)		
Total Organic Carbon	mg/kg dw	390U
Dilution Factor		1
Prep Date		04/20/04
Prep Time		15:59
Analysis Date		04/20/04
Analysis Time		15:59
Batch ID		0420X
Quantitation Factor		1.000

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-17	Lab Control Standard Result	Solid	04/09/04		PEN17
43041-18	Spike Amount Added, LCS	Solid	04/09/04		PEN17
43041-19	Lab Control Standard % Recovery	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-17	43041-18	43041-19
TAL Metals (6010)				
Aluminum	mg/kg dw	222	214	104 %
Antimony	mg/kg dw	51.5	50.0	103 %
Arsenic	mg/kg dw	199	200	100 %
Barium	mg/kg dw	217	200	109 %
Beryllium	mg/kg dw	5.27	5.00	105 %
Cadmium	mg/kg dw	5.05	5.00	101 %
Calcium	mg/kg dw	507	500	101 %
Chromium	mg/kg dw	21.6	20.0	108 %
Cobalt	mg/kg dw	51.9	50.0	104 %
Copper	mg/kg dw	26.4	25.0	106 %
Iron	mg/kg dw	111	109	102 %
Lead	mg/kg dw	51.8	50.0	104 %
Magnesium	mg/kg dw	490	500	98 %
Manganese	mg/kg dw	54.6	50.0	109 %
Nickel	mg/kg dw	52.7	50.0	105 %
Potassium	mg/kg dw	528	510	104 %
Selenium	mg/kg dw	189	200	95 %
Silver	mg/kg dw	4.99	5.00	100 %
Sodium	mg/kg dw	502	555	90 %
Thallium	mg/kg dw	207	200	104 %
Vanadium	mg/kg dw	52.0	50.0	104 %
Zinc	mg/kg dw	51.5	50.0	103 %
Dilution Factor		1		1
Prep Date		04/12/04		04/12/04
Prep Time		07:00		07:00
Analysis Date		04/15/04		04/15/04
Analysis Time		13:31		13:31
Batch ID		0412C	0412C	0412C
Quantitation Factor		1.000		

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-17	Lab Control Standard Result	Solid	04/09/04		PEN17
43041-18	Spike Amount Added, LCS	Solid	04/09/04		PEN17
43041-19	Lab Control Standard % Recovery	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-17	43041-18	43041-19
Mercury (7471)				
Mercury	mg/kg dw	0.116	0.125	92 %
Dilution Factor		1		1
Prep Date		04/12/04		04/12/04
Prep Time		15:35		15:35
Analysis Date		04/13/04		04/13/04
Analysis Time		17:23		17:23
Batch ID		0412T	0412T	0412T
Quantitation Factor		1.000		
TCL Pesticides (8081)				
alpha-BHC	ug/kg dw	3.2	3.3	97 %
beta-BHC	ug/kg dw	3.6	3.3	109 %
delta-BHC	ug/kg dw	2.4	3.3	73 %
gamma-BHC (Lindane)	ug/kg dw	2.2	3.3	67 %
Heptachlor	ug/kg dw	2.4	3.3	73 %
Aldrin	ug/kg dw	5.6	3.3	127 %J3
Heptachlor epoxide	ug/kg dw	2.9	3.3	88 %
Endosulfan I	ug/kg dw	3.5	3.3	106 %
Dieldrin	ug/kg dw	8.3	6.7	124 %
4,4'-DDE	ug/kg dw	5.8	6.7	86 %
Endrin	ug/kg dw	7.9	6.7	118 %
Endrin aldehyde	ug/kg dw	4.3	6.7	64 %
Endosulfan II	ug/kg dw	6.5	6.7	97 %
4,4'-DDD	ug/kg dw	7.4	6.7	110 %
Endosulfan sulfate	ug/kg dw	7.4	6.7	110 %
4,4'-DDT	ug/kg dw	8.0	6.7	119 %
Endrin ketone	ug/kg dw	8.4	6.7	125 %

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-17	Lab Control Standard Result	Solid	04/09/04		PEN17
43041-18	Spike Amount Added, LCS	Solid	04/09/04		PEN17
43041-19	Lab Control Standard % Recovery	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-17	43041-18	43041-19
TCL Pesticides (8081)				
Methoxychlor	ug/kg dw	8.9	6.7	133 %
alpha-Chlordane	ug/kg dw	3.3	3.3	100 %
gamma-Chlordane	ug/kg dw	3.6	3.3	109 %
Surrogate - DCB *	ug/kg dw	14		82 %
Surrogate - 2,4,5,6-Tetrachloro-m-xylene (TCMX) *	ug/kg dw	13		76 %
Dilution Factor		1		1
Prep Date		04/15/04		04/15/04
Prep Time		13:00		13:00
Analysis Date		04/29/04		04/29/04
Analysis Time		13:03		13:03
Batch ID		0415N	0415N	0415N
Quantitation Factor		1.000		
PCB's (8082)				
Aroclor-1016	ug/kg dw	310	330	94 %
Aroclor-1260	ug/kg dw	340	330	103 %
Surrogate - TCX *	ug/kg dw	14		82 %
Surrogate - DCB *	ug/kg dw	15		88 %
Dilution Factor		1		1
Prep Date		04/15/04		04/15/04
Analysis Date		04/29/04		04/29/04
Analysis Time		13:21		13:21
Batch ID		0415N	0415N	0415N
Quantitation Factor		1.000		

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-17	Lab Control Standard Result	Solid	04/09/04		PEN17
43041-18	Spike Amount Added, LCS	Solid	04/09/04		PEN17
43041-19	Lab Control Standard % Recovery	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-17	43041-18	43041-19
TCL Semivolatiles (8270)				
Phenol	ug/kg dw	2500	3300	76 %
2-Chlorophenol	ug/kg dw	2400	3300	73 %
1,4-Dichlorobenzene	ug/kg dw	2300	3300	70 %
N-Nitroso-di-n-propylamine	ug/kg dw	2200	3300	67 %
1,2,4-Trichlorobenzene	ug/kg dw	2800	3300	85 %
4-Chloro-3-methylphenol	ug/kg dw	3400	3300	103 %
4-Nitrophenol	ug/kg dw	2600	3300	79 %
2,4-Dinitrotoluene	ug/kg dw	3300	3300	100 %
Pentachlorophenol	ug/kg dw	3100	3300	94 %
Surrogate - Phenol-d5 *	ug/kg dw	2800	3300	85 %
Surrogate - 2-Fluorophenol *	ug/kg dw	2600	3300	79 %
Surrogate - 2,4,6-Tribromophenol *	ug/kg dw	3400	3300	103 %
Surrogate - Nitrobenzene - d5 *	ug/kg dw	1300	1700	76 %
Surrogate - 2-Fluorobiphenyl *	ug/kg dw	1400	1700	82 %
Surrogate - Terphenyl-d14 *	ug/kg dw	1800	1700	106 %
Dilution Factor		1		1
Prep Date		04/15/04		04/15/04
Prep Time		11:55		11:55
Analysis Date		04/19/04		04/19/04
Analysis Time		11:08		11:08
Batch ID		0415C	0415C	0415C
Quantitation Factor		1.000		

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-17	Lab Control Standard Result	Solid	04/09/04		PEN17
43041-18	Spike Amount Added, LCS	Solid	04/09/04		PEN17
43041-19	Lab Control Standard % Recovery	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-17	43041-18	43041-19
Low Level PAH (8270PAH)				
Naphthalene	ug/kg dw	42	67	63 %
Acenaphthene	ug/kg dw	44	67	66 %
Fluorene	ug/kg dw	46	67	69 %
Pyrene	ug/kg dw	49	67	73 %
Benzo(a)pyrene	ug/kg dw	50	67	75 %
Surrogate - o-Terphenyl *	ug/kg dw	54	67	80 %
Dilution Factor		1		1
Prep Date		04/15/04		04/15/04
Prep Time		15:00		15:00
Analysis Date		04/16/04		04/16/04
Analysis Time		11:39		11:39
Batch ID		0415B	0415B	0415B
Quantitation Factor		1.000		
Volatiles by GC/MS (8260)				
1,1-Dichloroethene	ug/kg dw	57	50	114 %
Trichloroethene	ug/kg dw	53	50	106 %
Benzene	ug/kg dw	52	50	104 %
Toluene	ug/kg dw	52	50	104 %
Chlorobenzene	ug/kg dw	53	50	106 %
Surrogate - Toluene-d8 *	ug/kg dw	52	50	104 %
Surrogate - 4-Bromofluorobenzene *	ug/kg dw	53	50	106 %
Surrogate - Dibromofluoromethane *	ug/kg dw	56	50	112 %
Dilution Factor		1		1
Prep Date		04/19/04		04/19/04
Prep Time		11:57		11:57
Analysis Date		04/19/04		04/19/04
Analysis Time		11:57		11:57
Batch ID		1M0419	1M0419	1M0419
Quantitation Factor		1.000		

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-17	Lab Control Standard Result	Solid	04/09/04		PEN17
43041-18	Spike Amount Added, LCS	Solid	04/09/04		PEN17
43041-19	Lab Control Standard % Recovery	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-17	43041-18	43041-19
Total Organic Carbon (9060)				
Total Organic Carbon	mg/kg dw	400000	408000	98 %
Dilution Factor		1		1
Prep Date		04/20/04		04/20/04
Prep Time		16:07		16:07
Analysis Date		04/20/04		04/20/04
Analysis Time		16:07		16:07
Batch ID		0420X	0420X	0420X
Quantitation Factor		1.000		

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-20	LCS Accuracy Control Limit (%R)	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-20
TAL Metals (6010)		
Aluminum	%	75-125 %
Antimony	%	75-125 %
Arsenic	%	75-125 %
Barium	%	75-125 %
Beryllium	%	75-125 %
Cadmium	%	75-125 %
Calcium	%	75-125 %
Chromium	%	75-125 %
Cobalt	%	75-125 %
Copper	%	75-125 %
Iron	%	75-125 %
Lead	%	75-125 %
Magnesium	%	75-125 %
Manganese	%	75-125 %
Nickel	%	75-125 %
Potassium	%	75-125 %
Selenium	%	75-125 %
Silver	%	75-125 %
Sodium	%	75-125 %
Thallium	%	75-125 %
Vanadium	%	75-125 %
Zinc	%	75-125 %
Mercury (7471)		
Mercury	%	80-120 %

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-20	LCS Accuracy Control Limit (%R)	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-20
TCL Pesticides (8081)		
alpha-BHC	%	22-125 %
beta-BHC	%	36-144 %
delta-BHC	%	32-140 %
gamma-BHC (Lindane)	%	35-132 %
Heptachlor	%	31-142 %
Aldrin	%	34-124 %
Heptachlor epoxide	%	29-133 %
Endosulfan I	%	31-133 %
Dieldrin	%	40-133 %
4,4'-DDE	%	33-139 %
Endrin	%	42-137 %
Endrin aldehyde	%	37-152 %
Endosulfan II	%	34-150 %
4,4'-DDD	%	37-149 %
Endosulfan sulfate	%	45-163 %
4,4'-DDT	%	46-156 %
Endrin ketone	%	44-165 %
Methoxychlor	%	37-185 %
alpha-Chlordane	%	40-139 %
gamma-Chlordane	%	39-143 %
Surrogate - DCB *	%	30-150 %
Surrogate - 2,4,5,6-Tetrachloro-m-xylene (TCMX) *	%	30-150 %

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-20	LCS Accuracy Control Limit (%R)	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-20
PCB's (8082)		
Aroclor-1016	%	24-132 %
Aroclor-1260	%	28-153 %
Surrogate - TCX *	%	30-150 %
Surrogate - DCB *	%	30-150 %
TCL Semivolatiles (8270)		
Phenol	%	20-108 %
2-Chlorophenol	%	22-109 %
1,4-Dichlorobenzene	%	25-93 %
N-Nitroso-di-n-propylamine	%	17-110 %
1,2,4-Trichlorobenzene	%	26-102 %
4-Chloro-3-methylphenol	%	22-124 %
4-Nitrophenol	%	13-133 %
2,4-Dinitrotoluene	%	18-125 %
Pentachlorophenol	%	17-140 %
Surrogate - Phenol-d5 *	%	31-105 %
Surrogate - 2-Fluorophenol *	%	31-105 %
Surrogate - 2,4,6-Tribromophenol *	%	26-127 %
Surrogate - Nitrobenzene - d5 *	%	31-99 %
Surrogate - 2-Fluorobiphenyl *	%	37-106 %
Surrogate - Terphenyl-d14 *	%	38-120 %

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-20	LCS Accuracy Control Limit (%R)	Solid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-20
Low Level PAH (8270PAH)		
Naphthalene	%	29-106 %
Acenaphthene	%	28-110 %
Fluorene	%	27-116 %
Pyrene	%	28-130 %
Benzo(a)pyrene	%	28-128 %
Surrogate - o-Terphenyl *	%	14-129 %
Volatiles by GC/MS (8260)		
1,1-Dichloroethene	%	46-142 %
Trichloroethene	%	64-126 %
Benzene	%	65-130 %
Toluene	%	63-133 %
Chlorobenzene	%	69-128 %
Surrogate - Toluene-d8 *	%	65-128 %
Surrogate - 4-Bromofluorobenzene *	%	68-121 %
Surrogate - Dibromofluoromethane *	%	66-127 %
Total Organic Carbon (9060)		
Total Organic Carbon	%	60-140 %

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-21	Method Detection Limit (MDL)	Liquid	04/09/04		PEN17
43041-22	Reporting Limit (RL)	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-21	43041-22
Volatiles by GC/MS (8260)			
Chloromethane	ug/l	0.39	1.0
Bromomethane (Methyl bromide)	ug/l	0.62	1.0
Vinyl chloride	ug/l	0.56	1.0
Chloroethane	ug/l	0.78	1.0
Methylene chloride (Dichloromethane)	ug/l	0.64	5.0
Acetone	ug/l	5.0	25
Carbon disulfide	ug/l	0.66	1.0
1,1-Dichloroethene	ug/l	0.36	1.0
1,1-Dichloroethane	ug/l	0.36	1.0
cis-1,2-Dichloroethene	ug/l	0.38	1.0
trans-1,2-Dichloroethene	ug/l	0.40	1.0
Chloroform	ug/l	0.37	1.0
1,2-Dichloroethane	ug/l	0.26	1.0
2-Butanone (MEK)	ug/l	1.3	10
1,1,1-Trichloroethane	ug/l	0.32	1.0
Carbon tetrachloride	ug/l	0.31	1.0
Bromodichloromethane	ug/l	0.14	1.0
1,1,2,2-Tetrachloroethane	ug/l	0.18	1.0
1,2-Dichloropropane	ug/l	0.33	1.0
trans-1,3-Dichloropropene	ug/l	0.26	1.0
Trichloroethene	ug/l	0.37	1.0
Dibromochloromethane	ug/l	0.50	1.0
1,1,2-Trichloroethane	ug/l	0.22	1.0
Benzene	ug/l	0.36	1.0
cis-1,3-Dichloropropene	ug/l	0.23	1.0
Bromoform	ug/l	0.33	1.0
2-Hexanone	ug/l	0.93	10
4-Methyl-2-pentanone (MIBK)	ug/l	0.65	10

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-21	Method Detection Limit (MDL)	Liquid	04/09/04		PEN17
43041-22	Reporting Limit (RL)	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-21	43041-22
Volatiles by GC/MS (8260)			
Tetrachloroethene	ug/l	0.35	1.0
Toluene	ug/l	0.54	1.0
Chlorobenzene	ug/l	0.34	1.0
Ethylbenzene	ug/l	0.34	1.0
Styrene	ug/l	0.25	1.0
Xylenes, Total	ug/l	1.3	2.0

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-31	Method Detection Limit (MDL)	Liquid	04/09/04		PEN17
43041-24	Reporting Limit (RL)	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-31	43041-24
TAL Metals (6010)			
Aluminum	ug/l	9.3	200
Antimony	ug/l	3.9	20
Arsenic	ug/l	3.3	10
Barium	ug/l	0.20	10
Beryllium	ug/l	0.20	4.0
Cadmium	ug/l	0.60	5.0
Calcium	ug/l	7.4	500
Chromium	ug/l	1.4	10
Cobalt	ug/l	1.2	10
Copper	ug/l	0.60	20
Iron	ug/l	18	50
Lead	ug/l	1.9	5.0
Magnesium	ug/l	8.5	500
Manganese	ug/l	0.40	10
Nickel	ug/l	1.5	40
Potassium	ug/l	8.9	1000
Selenium	ug/l	5.3	10
Silver	ug/l	1.1	10
Sodium	ug/l	1.1	500
Thallium	ug/l	7.6	10
Vanadium	ug/l	0.70	10
Zinc	ug/l	0.60	20
Mercury (7470)			
Mercury	ug/l	0.078	0.20

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-31	Method Detection Limit (MDL)	Liquid	04/09/04		PEN17
43041-24	Reporting Limit (RL)	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-31	43041-24
TAL Metals (Dissolved) (6010DISS)			
Aluminum (Dissolved)	ug/l	9.3	200
Antimony (Dissolved)	ug/l	3.9	20
Arsenic, (Dissolved)	ug/l	3.3	10
Barium, (Dissolved)	ug/l	0.20	10
Beryllium (Dissolved)	ug/l	0.20	4.0
Cadmium (Dissolved)	ug/l	0.60	5.0
Calcium (Dissolved)	ug/l	7.4	500
Chromium, (Dissolved)	ug/l	1.4	10
Cobalt (Dissolved)	ug/l	1.2	10
Copper, Dissolved	ug/l	0.60	20
Iron (Dissolved)	ug/l	18	50
Lead, (Dissolved)	ug/l	1.9	5.0
Magnesium (Dissolved)	ug/l	8.5	500
Manganese (Dissolved)	ug/l	0.40	10
Nickel, (Dissolved)	ug/l	1.5	40
Potassium (Dissolved)	ug/l	8.9	1000
Selenium (Dissolved)	ug/l	5.3	10
Silver (Dissolved)	ug/l	1.1	10
Sodium (Dissolved)	ug/l	1.1	500
Thallium (Dissolved)	ug/l	7.6	10
Vanadium (Dissolved)	ug/l	0.70	10
Zinc, (Dissolved)	ug/l	0.60	20
Mercury (Dissolved) (7470)			
Mercury (Dissolved)	ug/l	0.078	0.20

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-25	Method Blank	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-25
TAL Metals (6010)		
Aluminum	ug/l	13I
Antimony	ug/l	3.9U
Arsenic	ug/l	3.3U
Barium	ug/l	0.20U
Beryllium	ug/l	0.31I
Cadmium	ug/l	0.60U
Calcium	ug/l	43I
Chromium	ug/l	1.4U
Cobalt	ug/l	1.2U
Copper	ug/l	0.60U
Iron	ug/l	18U
Lead	ug/l	1.9U
Magnesium	ug/l	8.5U
Manganese	ug/l	0.45I
Nickel	ug/l	1.5U
Potassium	ug/l	8.9U
Selenium	ug/l	5.3U
Silver	ug/l	1.5I
Sodium	ug/l	23I
Thallium	ug/l	7.6U
Vanadium	ug/l	0.70U
Zinc	ug/l	0.72I
Dilution Factor		1
Prep Date		04/13/04
Prep Time		12:00
Analysis Date		04/14/04
Analysis Time		04:42
Batch ID		0413I
Quantitation Factor		1.000

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-25	Method Blank	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-25
Mercury (7470)		
Mercury	ug/l	0.078U
Dilution Factor		1
Prep Date		04/12/04
Prep Time		16:05
Analysis Date		04/14/04
Analysis Time		11:17
Batch ID		0412U
Quantitation Factor		1.000
TAL Metals (Dissolved) (6010DISS)		
Aluminum (Dissolved)	ug/l	39I
Antimony (Dissolved)	ug/l	3.9U
Arsenic, (Dissolved)	ug/l	3.7I
Barium, (Dissolved)	ug/l	0.30I
Beryllium (Dissolved)	ug/l	0.82I
Cadmium (Dissolved)	ug/l	0.60U
Calcium (Dissolved)	ug/l	11I
Chromium, (Dissolved)	ug/l	1.4U
Cobalt (Dissolved)	ug/l	1.4I
Copper, Dissolved	ug/l	0.60U
Iron (Dissolved)	ug/l	21I
Lead, (Dissolved)	ug/l	1.9U
Magnesium (Dissolved)	ug/l	8.5U
Manganese (Dissolved)	ug/l	0.45I
Nickel, (Dissolved)	ug/l	1.5U
Potassium (Dissolved)	ug/l	8.9U
Selenium (Dissolved)	ug/l	5.3U
Silver (Dissolved)	ug/l	1.5I
Sodium (Dissolved)	ug/l	67I

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-25	Method Blank	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-25
TAL Metals (Dissolved) (6010DISS)		
Thallium (Dissolved)	ug/l	7.6U
Vanadium (Dissolved)	ug/l	0.70U
Zinc, (Dissolved)	ug/l	3.9I
Dilution Factor		1
Prep Date		04/13/04
Prep Time		09:50
Analysis Date		04/14/04
Analysis Time		07:07
Batch ID		0413G
Quantitation Factor		1.000
Mercury (Dissolved) (7470)		
Mercury (Dissolved)	ug/l	0.10I
Dilution Factor		1
Prep Date		04/14/04
Prep Time		09:30
Analysis Date		04/15/04
Analysis Time		09:41
Batch ID		0414R
Quantitation Factor		1.000
Volatiles by GC/MS (8260)		
Chloromethane	ug/l	0.39U
Bromomethane (Methyl bromide)	ug/l	0.62U
Vinyl chloride	ug/l	0.56U
Chloroethane	ug/l	0.78U
Methylene chloride (Dichloromethane)	ug/l	0.64U

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-25	Method Blank	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-25
Volatiles by GC/MS (8260)		
Acetone	ug/l	5.0U
Carbon disulfide	ug/l	0.66U
1,1-Dichloroethene	ug/l	0.36U
1,1-Dichloroethane	ug/l	0.36U
cis-1,2-Dichloroethene	ug/l	0.38U
trans-1,2-Dichloroethene	ug/l	0.40U
Chloroform	ug/l	0.37U
1,2-Dichloroethane	ug/l	0.26U
2-Butanone (MEK)	ug/l	5.7I
1,1,1-Trichloroethane	ug/l	0.32U
Carbon tetrachloride	ug/l	0.31U
Bromodichloromethane	ug/l	0.14U
1,1,2,2-Tetrachloroethane	ug/l	0.18U
1,2-Dichloropropane	ug/l	0.33U
trans-1,3-Dichloropropene	ug/l	0.26U
Trichloroethene	ug/l	0.37U
Dibromochloromethane	ug/l	0.50U
1,1,2-Trichloroethane	ug/l	0.22U
Benzene	ug/l	0.36U
cis-1,3-Dichloropropene	ug/l	0.23U
Bromoform	ug/l	0.33U
2-Hexanone	ug/l	0.93U
4-Methyl-2-pentanone (MIBK)	ug/l	0.65U
Tetrachloroethene	ug/l	0.35U
Toluene	ug/l	0.54U
Chlorobenzene	ug/l	0.34U
Ethylbenzene	ug/l	0.34U
Styrene	ug/l	0.25U
Xylenes, Total	ug/l	1.3U
Surrogate - Toluene-d8 *	%	104 %

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-25	Method Blank	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-25
Volatiles by GC/MS (8260)		
Surrogate - 4-Bromofluorobenzene *	%	110 %
Surrogate - Dibromofluoromethane *	%	110 %
Dilution Factor		1
Prep Date		04/15/04
Prep Time		11:17
Analysis Date		04/15/04
Analysis Time		11:17
Batch ID		1P0415C1
Quantitation Factor		1.000

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-26	Lab Control Standard Result	Liquid	04/09/04		PEN17
43041-27	Spike Amount Added, LCS	Liquid	04/09/04		PEN17
43041-28	Lab Control Standard % Recovery	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-26	43041-27	43041-28
TAL Metals (6010)				
Aluminum	ug/l	2080	2000	104 %
Antimony	ug/l	534	500	107 %
Arsenic	ug/l	2100	2000	105 %
Barium	ug/l	2080	2000	104 %
Beryllium	ug/l	55.4	50.0	111 %
Cadmium	ug/l	55.3	50.0	111 %
Calcium	ug/l	5610	5000	112 %
Chromium	ug/l	221	200	110 %
Cobalt	ug/l	536	500	107 %
Copper	ug/l	267	250	107 %
Iron	ug/l	1080	1000	108 %
Lead	ug/l	541	500	108 %
Magnesium	ug/l	5220	5000	104 %
Manganese	ug/l	553	500	111 %
Nickel	ug/l	549	500	110 %
Potassium	ug/l	5200	5000	104 %
Selenium	ug/l	2100	2000	105 %
Silver	ug/l	50.3	50.0	101 %
Sodium	ug/l	5040	5000	101 %
Thallium	ug/l	2150	2000	108 %
Vanadium	ug/l	525	500	105 %
Zinc	ug/l	538	500	108 %
Dilution Factor		1		1
Prep Date		04/13/04		04/13/04
Prep Time		12:00		12:00
Analysis Date		04/14/04		04/14/04
Analysis Time		04:47		04:47
Batch ID		0413I	0413I	0413I
Quantitation Factor		1.000		

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-26	Lab Control Standard Result	Liquid	04/09/04		PEN17
43041-27	Spike Amount Added, LCS	Liquid	04/09/04		PEN17
43041-28	Lab Control Standard % Recovery	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-26	43041-27	43041-28
Mercury (7470)				
Mercury	ug/l	2.06	2.5	82 %
Dilution Factor		1		1
Prep Date		04/12/04		04/12/04
Prep Time		16:05		16:05
Analysis Date		04/14/04		04/14/04
Analysis Time		11:19		11:19
Batch ID		0412U	0412U	0412U
Quantitation Factor		1.000		
TAL Metals (Dissolved) (6010DISS)				
Aluminum (Dissolved)	ug/l	2070	2000	103 %
Antimony (Dissolved)	ug/l	518	500	104 %
Arsenic, (Dissolved)	ug/l	2050	2000	103 %
Barium, (Dissolved)	ug/l	2090	2000	105 %
Beryllium (Dissolved)	ug/l	53.1	50.0	106 %
Cadmium (Dissolved)	ug/l	52.8	50.0	106 %
Calcium (Dissolved)	ug/l	5270	5000	105 %
Chromium, (Dissolved)	ug/l	212	200	106 %
Cobalt (Dissolved)	ug/l	515	500	103 %
Copper, Dissolved	ug/l	268	250	107 %
Iron (Dissolved)	ug/l	1040	1000	104 %
Lead, (Dissolved)	ug/l	520	500	104 %
Magnesium (Dissolved)	ug/l	5070	5000	101 %
Manganese (Dissolved)	ug/l	535	500	107 %
Nickel, (Dissolved)	ug/l	531	500	106 %
Potassium (Dissolved)	ug/l	5280	5000	106 %
Selenium (Dissolved)	ug/l	2050	2000	103 %

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-26	Lab Control Standard Result	Liquid	04/09/04		PEN17
43041-27	Spike Amount Added, LCS	Liquid	04/09/04		PEN17
43041-28	Lab Control Standard % Recovery	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-26	43041-27	43041-28
TAL Metals (Dissolved) (6010DISS)				
Silver (Dissolved)	ug/l	49.7	50.0	99 %
Sodium (Dissolved)	ug/l	5040	5000	101 %
Thallium (Dissolved)	ug/l	2100	2000	105 %
Vanadium (Dissolved)	ug/l	511	500	102 %
Zinc, (Dissolved)	ug/l	514	500	103 %
Dilution Factor		1		1
Prep Date		04/13/04		04/13/04
Prep Time		09:50		09:50
Analysis Date		04/14/04		04/14/04
Analysis Time		07:11		07:11
Batch ID		0413G	0413G	0413G
Quantitation Factor		1.000		
Mercury (Dissolved) (7470)				
Mercury (Dissolved)	ug/l	2.25	2.50	90 %
Dilution Factor		1		1
Prep Date		04/14/04		04/14/04
Prep Time		09:30		09:30
Analysis Date		04/15/04		04/15/04
Analysis Time		09:51		09:51
Batch ID		0414R	0414R	0414R
Quantitation Factor		1.000		

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-26	Lab Control Standard Result	Liquid	04/09/04		PEN17
43041-27	Spike Amount Added, LCS	Liquid	04/09/04		PEN17
43041-28	Lab Control Standard % Recovery	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-26	43041-27	43041-28
Volatiles by GC/MS (8260)				
1,1-Dichloroethene	ug/l	26	25	104 %
Trichloroethene	ug/l	25	25	100 %
Benzene	ug/l	26	25	104 %
Toluene	ug/l	26	25	104 %
Chlorobenzene	ug/l	26	25	104 %
Surrogate - Toluene-d8 *	ug/l	24	25	96 %
Surrogate - 4-Bromofluorobenzene *	ug/l	26	25	104 %
Surrogate - Dibromofluoromethane *	ug/l	26	25	104 %
Dilution Factor		1		1
Prep Date		04/15/04		04/15/04
Prep Time		09:54		09:54
Analysis Date		04/15/04		04/15/04
Analysis Time		09:54		09:54
Batch ID		1P0415C1	1P0415C1	1P0415C1
Quantitation Factor		1.000		

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-29	LCS Accuracy Control Limit (%R)	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-29
TAL Metals (6010)		
Aluminum	%	75-125 %
Antimony	%	75-125 %
Arsenic	%	75-125 %
Barium	%	75-125 %
Beryllium	%	75-125 %
Cadmium	%	75-125 %
Calcium	%	75-125 %
Chromium	%	75-125 %
Cobalt	%	75-125 %
Copper	%	75-125 %
Iron	%	75-125 %
Lead	%	75-125 %
Magnesium	%	75-125 %
Manganese	%	75-125 %
Nickel	%	75-125 %
Potassium	%	75-125 %
Selenium	%	75-125 %
Silver	%	75-125 %
Sodium	%	75-125 %
Thallium	%	75-125 %
Vanadium	%	75-125 %
Zinc	%	75-125 %
Mercury (7470)		
Mercury	%	80-120 %

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-29	LCS Accuracy Control Limit (%R)	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-29
TAL Metals (Dissolved) (6010DISS)		
Aluminum (Dissolved)	%	75-125 %
Antimony (Dissolved)	%	75-125 %
Arsenic, (Dissolved)	%	75-125 %
Barium, (Dissolved)	%	75-125 %
Beryllium (Dissolved)	%	75-125 %
Cadmium (Dissolved)	%	75-125 %
Calcium (Dissolved)	%	75-125 %
Chromium, (Dissolved)	%	75-125 %
Cobalt (Dissolved)	%	75-125 %
Copper, Dissolved	%	75-125 %
Iron (Dissolved)	%	75-125 %
Lead, (Dissolved)	%	75-125 %
Magnesium (Dissolved)	%	75-125 %
Manganese (Dissolved)	%	75-125 %
Nickel, (Dissolved)	%	75-125 %
Potassium (Dissolved)	%	75-125 %
Selenium (Dissolved)	%	75-125 %
Silver (Dissolved)	%	75-125 %
Sodium (Dissolved)	%	75-125 %
Thallium (Dissolved)	%	75-125 %
Vanadium (Dissolved)	%	75-125 %
Zinc, (Dissolved)	%	75-125 %
Mercury (Dissolved) (7470)		
Mercury (Dissolved)	%	80-120 %

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
43041-29	LCS Accuracy Control Limit (%R)	Liquid	04/09/04		PEN17

Parameter	Units	Lab Sample IDs 43041-29
Volatiles by GC/MS (8260)		
1,1-Dichloroethene	%	53-144 %
Trichloroethene	%	70-123 %
Benzene	%	69-128 %
Toluene	%	71-129 %
Chlorobenzene	%	72-126 %
Surrogate - Toluene-d8 *	%	74-122 %
Surrogate - 4-Bromofluorobenzene *	%	70-119 %
Surrogate - Dibromofluoromethane *	%	68-129 %

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Order Number: S443041

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.

SW-846, Test Methods for Evaluating Solid Waste, Third Edition, September 1986, and Updates I, II, IIA, IIB, and III.

Attached - Grain-size analysis was performed by STL Burlington. Data is provided as a seperate attachment.

J4 = Due to matrix interference from samples, DDT breakdown occured therefore the continuing calibration failed. Samples were diluted and reanalyzed and both sets of results are reported. The continuing calibration passed criteria for diluted samples.

U = Indicates that the compound was analyzed for but not detected.

I = Reported value between the method detection limit andreporting limit and is estimated.
V = Analyte was detected in the associated method blank.
J3 = Spike recovery was outside control limits.

SEVERN TRENT STL

STL Burlington
208 South Park Drive, Suite 1
Colchester, VT 05446

Tel: 802 655 1203 Fax: 802 655 1248
www.stl-inc.com

April 21, 2004

Ms. Linda Wolfe
Severn Trent Laboratories
5102 LaRoche Avenue
Savannah, GA 31404

Re: Laboratory Project No.: 24005
Case: 24005; ETR 99537

Dear Ms. Wolfe:

Enclosed are the analytical results for samples received by STL Burlington on April 10, 2004. This report is sequentially numbered starting with page 0001 and ending with page 0004.

Laboratory ID numbers were designated as follows:

Lab ID	Client Sample ID	Sample Date	Sample Matrix
	Received: 04/10/04	ETR No: 99537	
566800	041M19A101	04/08/04	Solid

ASTM Method D422 – Particle Size:
The laboratory noted at the time of sample receipt, that some water from the bag of ice that accompanied the sample might have leaked into the sample baggie.

No exceptions to the method prescribed quality control criteria were observed during the analysis of the sample in this delivery group.

Client specified matrix spike/matrix spike duplicate samples were not analyzed or requested with the above sample. However, routine method quality control analyses were performed.

Leaders in Environmental Testing

Severn Trent Laboratories, Inc.

The analytical results presented in this data report were generated under a quality system that adheres to the requirements specified in the NELAC standard. This report shall not be reproduced, except in full, without the written approval of the laboratory. The release of the data in this report is authorized by the Laboratory Director or his designee, as verified by the following signature.

If there are any questions regarding this test report, please contact Ron Pentkowski at (802) 655-1203.

Sincerely,

Michael F. Wheeler, Ph.D.
Laboratory Director

Enclosure

STL Burlington Data Qualifier Definitions

Organic

U: Compound analyzed but not detected at a concentration above the reporting limit.

J: Estimated value.

N: Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds (TICs) where the identification of a compound is based on a mass spectral library search.

P: Greater than 25% difference for detected concentrations between two GC columns. Unless otherwise specified in project QA plan, the lower of the two values is reported on the Form I.

C: Pesticide result whose identification has been confirmed by GC/MS.

B: Analyte is found in the sample and the associated method blank. The flag is used for tentatively identified compounds as well as positively identified compounds.

E: Compounds whose concentrations exceed the upper limit of the calibration range of the instrument for that specific analysis.

D: Concentrations identified from analysis of the sample at a secondary dilution.

A: Tentatively identified compound is a suspected aldol condensation product.

X,Y,Z: Laboratory defined flags that may be used alone or combined, as needed. If used, the description of the flag is defined in the project narrative.

Inorganic/Metals

E: Reported value is estimated due to the presence of interference.

N: Matrix spike sample recovery is not within control limits.

* Duplicate sample analysis is not within control limits.

B: The result reported is less than the reporting limit but greater than the instrument detection limit.

U: Analyte was analyzed for but not detected above the reporting limit.

Method Codes:

P ICP-AES
MS ICP-MS
CV Cold Vapor AA
AS Semi-Automated Spectrophotometric

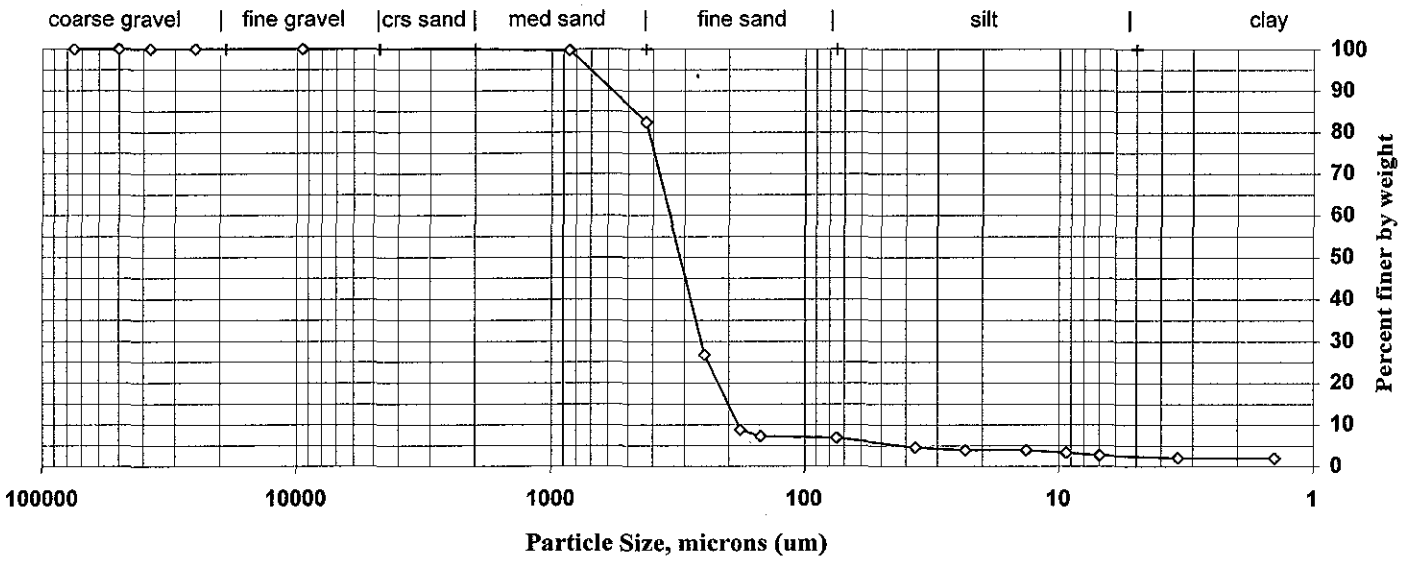
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLGAS	**Project No.:**	24005	**ETR(s) #:**	99537
Client Code:	STLGAS	**Job No.:**	N/A	**SDG(s):**	N/A
Date Received:	10-Apr-04	**Start Date:**	12-Apr-04	**End Date:**	16-Apr-04

Lab ID: 566800 **Sample ID:** 041M19A101

Percent Solids:	82.8%		**Maximum Particle Size:**	Med sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	N/A
Non-soil mass:	0.1%		**Hardness (> #10):**	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.7	0.3
#40	425	82.4	17.2
#60	250	26.8	55.6
#80	180	8.8	18.0
#100	150	7.3	1.5
#200	75	6.9	0.4
Hydrometer	36.6	4.6	2.3
|	23.2	3.9	0.6
|	13.4	3.9	0.0
|	9.4	3.3	0.6
|	6.9	2.7	0.6
|	3.4	2.1	0.6
V	1.4	2.0	0.1

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	93.1
Coarse Sand	0.0
Medium Sand	17.6
Fine Sand	75.5
Silt	4.2
Clay	2.7

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

ATTN: Ron P. FEP-SAT

Serial Number 38214

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

○ STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

⊗ Alternate Laboratory Name/Location STL Burlington
208 S. Park Dr. Suite 1
Colchester, VT 05446
Phone:
Fax:

PROJECT REFERENCE: Ensate Pensacola	PROJECT NO.	PROJECT LOCATION (STATE): FL	PAGE / OF
STL (LAB) PROJECT MANAGER: Linda Wolte	P.O. NUMBER: 5443041	CONTRACT NO.	STANDARD REPORT DELIVERY ⊗ DATE DUE 11/14
CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX	
CLIENT NAME: STL Savannah	CLIENT E-MAIL		EXPEDITED REPORT DELIVERY (SURCHARGE) ○ DATE DUE
CLIENT ADDRESS: See above			
COMPANY CONTRACTING THIS WORK (if applicable)			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	REQUIRED ANALYSIS: grain-size	NUMBER OF CONTAINERS SUBMITTED	REMARKS
4-8-4	1300	041M19A101			X				2	Contact Linda Wolte w/ questions. Reference PO# on order & invoice

PRESERVATIVE

0004

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
						[signature]	4/10/04	1900
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	4.10.04	1100	YES ○ NO ⊗			

STL8240-680 (12/02)

SAMPLE RECEIPT INFORMATION FORM

Completed By: ____Abbie Page_____ **Date:** ___4/9/2004____

Client: _____Ensafe_____

STL Savannah Log # _____S443041_____

Courier: __X__ FedEx ____ UPS ____ Client ____ Other

Date Received: _____04/09/04_____

Cooler Temperature upon receipt: __1.7/1.7__Degrees C.___
(If >6C or frozen, notify client and document below.)

Cooler/Custody Seals: __X___ Intact _____ Broken _____ NA
(If broken, notify client and document below)

ANOMALY	CLIENT NOTIFIED: CONTACT / DATE / TIME	COMMENTS / DESCRIPTION
Sample container breakage		NA
Sample ID discrepancy between COC & container		NA
Sample listed on COC is not received		NA
Sample received is not listed on COC		NA
Incomplete COC		NA
Insufficient sample volume		NA
Improper container or preservation		NA
Other (Describe)*	Phil Hardy 04/09/04	Client submitted 3 vials for Trip blank, not 4 as per COC.

*Attach additional pages, if necessary.

PM: Review: _____

SEVERN TRENT STL

FAN089:10.21.03:2

Serial Number 37877

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

(X) STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

( ) Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE: 0036-001-00-130-00	PROJECT NO.	PROJECT LOCATION (STATE): FL	PAGE 1 OF 1
STL (LAB) PROJECT MANAGER: Linda Wolfe	P.O. NUMBER	CONTRACT NO.	STANDARD REPORT DELIVERY ( ) DATE DUE ____
CLIENT (SITE) PM: Allison Harris	CLIENT PHONE: 901-352-7962	CLIENT FAX	EXPEDITED REPORT DELIVERY (SURCHARGE) ( ) DATE DUE ____
CLIENT NAME: EnSafe	CLIENT E-MAIL: AHarris@ensafe.com		
CLIENT ADDRESS			
COMPANY CONTRACTING THIS WORK (if applicable)			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID (SEDIMENT)	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	TAL Metals	Filtered Metals	TCL VOCs	TAL METALS	TCL Pest/PCBs	TCL SVOCs	Low Conc PAHs	TCL VOCs	TOC	Grain Size	REMARKS
8 Apr 04	0900	041W061002		X				1	1	4								
	0930	033W000102		X				1	1									
	1015	041W63A202		X				1	1									
	1130	041W170102		X				1	1									
	1145	041W150102		X				1	1									
	0915	041EW00001		X				1	1	4								Rinseate Blank
	1300	041W19A102		X				1	1									
	1300	~~041MW19A102~~ 041MW19A101			X						1	—	1	—	1	1	2	Bags
	1400	041W720102		X				1	1									
	1400	041R720102		X				1	1									
	1610	041TB0002		X						4 3								Trip Blank

one sample

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
PB Hardy	4/8/04	1615						
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
RLSchee	4/9/04	10:00	YES ( ) NO ( )		543041	

STL8240-680 (12/02)

Validation Worksheets - LEVEL II

Site: Pensacola Site 41 - Resampling Project No. 0036-001-00-130-00

SDG # PEN16 Matrix sediment + QC blanks Lab: STL Savannah

List Method(s)/Method number(s):

VOCs (8260B) Low Concentration PAHs (8270C) TOC (9060)

SVOCs minus PAHs (8270C) Pesticides/PCBs (8081A/8082) Total & Dissolved Metals (6010B/7470A/7471A)

CRITERIA MET? YES	NO		NONCOMPLIANCE NOTES
☐	☑	Hold Times Met	Attach list of samples which exceed hold times. Indicate total hold time and qualifiers. **041FE00001 RE was extracted 14 days outside of holding times due to poor surrogates. The original results were used because the surrogates did not improve.**
System Monitoring Compounds Recovery			Attach list noncompliant %Rs or attach form. Indicate all noncompliances and qualifiers.
☐	☑	All recoveries within criteria	**All diluted pesticide surrogates were diluted out (0%). The undiluted surrogates were acceptable. Because the diluted surrogates were diluted out and undiluted surrogates were acceptable, the diluted results are acceptable without qualification per Method 8000B.** **All Low PAH samples (except 041M5B0401) were diluted at a factor of 10, due to elevated concentrations and had %Rs of 0%. The diluted results with 0% Rs are acceptable without qualification per Method 8000B.**
Matrix Spike/Matrix Spike Duplicate		☑ Not Applicable	List noncompliant %Rs and RPDs or attach form. Indicate all noncompliances and qualifiers.
Sample used for MS/MSD _____			
☐	☐	Recoveries for MS within lab limits	
☐	☐	Recoveries for MSD within lab limits ☐NA	
☐	☐	RPDs within lab limits ☐NA	
Lab Control Standard		☐ Not Applicable	List noncompliant %Rs or attach form. Indicate all noncompliances and qualifiers. LCS 42931-19; Batch 0415N; Parm aldrin; LCS%R 127*; Limits 34-124; Action: none-bias is high and all aldrin was undetected (after blank assessment)
☐	☑	Recoveries within limits	
Blanks: Method - Trip - Field			List all contaminants, concentrations and action level. **See attached** **–naphthalene: no action - all results were undetected.** **–phenanthrene: 041M5B0202, 041M5B0301, 041N5B0301 & 041M5B0501 flagged "U".** **–aldrin: 041M5B0401, 041M5B0401DL, 041M5B0501, 041M5B0601, 041M5B0601 DL flagged "U".** **--Metals were not flagged based on judgement**
☐	☑	Method blank clean?	
☐	☑	Field blank clean? ☐NA	
☐	☑	Equip. blank clean? ☐NA	
☐	☑	Trip blank clean? ☐NA	
☑	☐	***Comments Below Applies to Metals Blanks***	
Field Duplicates		☐NA	Identify field duplicate pair and attach list of all compounds with noncompliant RPDs. Indicate qualifiers. **See attached**
Sample IDs: 041M5B0301 , 041N5B0301			
☐	☑	Within RPD Criteria	
Sample Results		☐NA	Call (fax) lab for resubmittals. Attach all resubmittal correspondence to this review.
☑	☐	Reporting Limits adjusted for % moisture/dilutions	
☐	☐NA	Results > Calibration qualified E	
☑	☐	Dilutions/Reanalyses present (if necessary)	

COMMENTS: Lab, and Field QC blanks were assessed but no inorganics were flagged "U" because of blank contaminants. This was based on professional judgment and the fact that many elements are naturally occurring in potable water. Therefore, results represent worst-case.

Reviewer: [signature] Date 5 / 24 / 04

VALIDATION NOTES (Check all that apply)

☑ Sample(s) **All Pesticide samples were diluted because of DDT breakdown. Upon dilution, the surrogates were diluted out, but are acceptable per Method 8000B. The PCB samples were also diluted because lab analyzed it on the same run; however, the original (undiluted) results for PCBs were used because DDT breakdown does not affect PCB quantitation.**

were DILUTED due to:

[ ] Surrogates outside QC limit
[ ] Internal standard area counts outside QC limits
[ ] Internal standard retention times outside QC limits
[ ] Tuning criteria was not met
[X] Other (specify) **DDT breakdown in performance evaluation mixture.**

Sample(s) **Undiluted results for pesticides & PCBs (other than DDD, DDE, & DDT), which were reported from the diluted results.**

are the PREFERRED analysis and will be reported on the data table as a primary (A) sample

☐ Sample(s) _____

were REANALYZED due to:

[ ] Surrogates outside QC limit
[ ] Internal standard area counts outside QC limits
[ ] Internal standard retention times outside QC limits
[ ] Tuning criteria was not met
[ ] Other (specify) _____

Sample(s) _____

are the PREFERRED analysis and will be reported on the data table as a primary (A) sample

☐ Sample(s) _____

were DILUTED because one or more compounds exceeded the calibration range (flagged "E" by the lab). The values that exceeded the calibration range in the original sample were substituted by the diluted values. The "D" flag was left on the substituted values to alert the data user that the results were taken from a secondary dilution. The remaining values in the diluted sample should not be used for interpretation and will not appear on the data tables.

☐ In Sample(s) _____

One or more compounds exceeded the calibration range (flagged "E" by the lab) and the sample was diluted. However, the compound(s) were undetected upon dilution. The original result reported outside the calibration range was used and the estimated concentration flagged "J"

Holding Times

SDG	Method	Matrix	Lab ID	Sample ID	Ext	Sample Date	Date Extr	Date Anal	Days from Sample to Extraction	Holding Time to Extraction	Extr HT Met?	Days from Extraction to Analysis	Holding Time to Analysis	Analysis HT Met?
PEN16	LOW PAH	S	S442931*1	041M5B0202		4/6/2004	4/15/2004	4/16/2004	9	14	Yes	1	40	Yes
PEN16	LOW PAH	S	S442931*2	041M5B0301		4/6/2004	4/15/2004	4/16/2004	9	14	Yes	1	40	Yes
PEN16	LOW PAH	S	S442931*3	041N5B0301		4/6/2004	4/15/2004	4/16/2004	9	14	Yes	1	40	Yes
PEN16	LOW PAH	S	S442931*4	041M5B0401		4/6/2004	4/15/2004	4/17/2004	9	14	Yes	2	40	Yes
PEN16	LOW PAH	S	S442931*5	041M5B0501		4/6/2004	4/15/2004	4/16/2004	9	14	Yes	1	40	Yes
PEN16	LOW PAH	S	S442931*6	041M5B0601		4/6/2004	4/15/2004	4/16/2004	9	14	Yes	1	40	Yes
PEN16	PCB	S	S442931*1	041M5B0202		4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PCB	S	S442931*1*DL	041M5B0202	DL	4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PCB	S	S442931*2	041M5B0301		4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PCB	S	S442931*2*DL	041M5B0301	DL	4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PCB	S	S442931*3	041N5B0301		4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PCB	S	S442931*3*DL	041N5B0301	DL	4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PCB	S	S442931*4	041M5B0401		4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PCB	S	S442931*4*DL	041M5B0401	DL	4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PCB	S	S442931*5	041M5B0501		4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PCB	S	S442931*5*DL	041M5B0501	DL	4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PCB	S	S442931*6	041M5B0601		4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PCB	S	S442931*6*DL	041M5B0601	DL	4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PEST	S	S442931*1	041M5B0202		4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PEST	S	S442931*1*DL	041M5B0202	DL	4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PEST	S	S442931*2	041M5B0301		4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PEST	S	S442931*2*DL	041M5B0301	DL	4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PEST	S	S442931*3	041N5B0301		4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PEST	S	S442931*3*DL	041N5B0301	DL	4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PEST	S	S442931*4	041M5B0401		4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PEST	S	S442931*4*DL	041M5B0401	DL	4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PEST	S	S442931*5	041M5B0501		4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PEST	S	S442931*5*DL	041M5B0501	DL	4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PEST	S	S442931*6	041M5B0601		4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	PEST	S	S442931*6*DL	041M5B0601	DL	4/6/2004	4/15/2004	5/3/2004	9	14	Yes	18	40	Yes
PEN16	SVOA	S	S442931*1	041M5B0202		4/6/2004	4/15/2004	4/19/2004	9	14	Yes	4	40	Yes
PEN16	SVOA	S	S442931*2	041M5B0301		4/6/2004	4/15/2004	4/20/2004	9	14	Yes	5	40	Yes
PEN16	SVOA	S	S442931*3	041N5B0301		4/6/2004	4/15/2004	4/20/2004	9	14	Yes	5	40	Yes
PEN16	SVOA	S	S442931*4	041M5B0401		4/6/2004	4/15/2004	4/20/2004	9	14	Yes	5	40	Yes
PEN16	SVOA	S	S442931*5	041M5B0501		4/6/2004	4/15/2004	4/20/2004	9	14	Yes	5	40	Yes
PEN16	SVOA	S	S442931*6	041M5B0601		4/6/2004	4/15/2004	4/20/2004	9	14	Yes	5	40	Yes
PEN16	TOC	S	S442931*1	041M5B0202		4/6/2004	4/19/2004	4/20/2004	N/A	N/A	N/A	14	28	Yes
PEN16	TOC	S	S442931*2	041M5B0301		4/6/2004	4/19/2004	4/20/2004	N/A	N/A	N/A	14	28	Yes
PEN16	TOC	S	S442931*3	041N5B0301		4/6/2004	4/19/2004	4/20/2004	N/A	N/A	N/A	14	28	Yes
PEN16	TOC	S	S442931*4	041M5B0401		4/6/2004	4/19/2004	4/20/2004	N/A	N/A	N/A	14	28	Yes
PEN16	TOC	S	S442931*5	041M5B0501		4/6/2004	4/19/2004	4/20/2004	N/A	N/A	N/A	14	28	Yes
PEN16	TOC	S	S442931*6	041M5B0601		4/6/2004	4/19/2004	4/20/2004	N/A	N/A	N/A	14	28	Yes
PEN16	TOT METAL	S	S442931*1	041M5B0202		4/6/2004	4/12/2004	4/15/2004	N/A	N/A	N/A	9	28	Yes
PEN16	TOT METAL	S	S442931*2	041M5B0301		4/6/2004	4/12/2004	4/15/2004	N/A	N/A	N/A	9	28	Yes
PEN16	TOT METAL	S	S442931*3	041N5B0301		4/6/2004	4/12/2004	4/13/2004	N/A	N/A	N/A	7	28	Yes
PEN16	TOT METAL	S	S442931*4	041M5B0401		4/6/2004	4/12/2004	4/15/2004	N/A	N/A	N/A	9	28	Yes
PEN16	TOT METAL	S	S442931*5	041M5B0501		4/6/2004	4/12/2004	4/15/2004	N/A	N/A	N/A	9	28	Yes
PEN16	TOT METAL	S	S442931*6	041M5B0601		4/6/2004	4/12/2004	4/15/2004	N/A	N/A	N/A	9	28	Yes
PEN16	VOA	S	S442931*1	041M5B0202		4/6/2004	4/9/2004	4/9/2004	N/A	N/A	N/A	3	14	Yes

Holding Times

SDG	Method	Matrix	Lab ID	Sample ID	Ext	Sample Date	Date Extr	Date Anal	Days from Sample to Extraction	Holding Time to Extraction	Extr HT Met?	Days from Extraction to Analysis	Holding Time to Analysis	Analysis HT Met?
PEN16	VOA	S	S442931*2	041M5B0301		4/6/2004	4/9/2004	4/9/2004	N/A	N/A	N/A	3	14	Yes
PEN16	VOA	S	S442931*3	041N5B0301		4/6/2004	4/12/2004	4/12/2004	N/A	N/A	N/A	6	14	Yes
PEN16	VOA	S	S442931*4	041M5B0401		4/6/2004	4/12/2004	4/12/2004	N/A	N/A	N/A	6	14	Yes
PEN16	VOA	S	S442931*5	041M5B0501		4/6/2004	4/12/2004	4/12/2004	N/A	N/A	N/A	6	14	Yes
PEN16	VOA	S	S442931*6	041M5B0601		4/6/2004	4/12/2004	4/12/2004	N/A	N/A	N/A	6	14	Yes
PEN16	DISS METAL	W	S442931*7	041FE00001		4/6/2004	4/12/2004	4/13/2004	N/A	N/A	N/A	7	28	Yes
PEN16	DISS METAL	W	S442931*8	041EM00001		4/6/2004	4/12/2004	4/13/2004	N/A	N/A	N/A	7	28	Yes
PEN16	LOW PAH	W	S442931*7	041FE00001		4/6/2004	4/13/2004	4/14/2004	7	7	Yes	1	40	Yes
PEN16	LOW PAH	W	S442931*8	041EM00001		4/6/2004	4/13/2004	4/14/2004	7	7	Yes	1	40	Yes
PEN16	PCB	W	S442931*7	041FE00001		4/6/2004	4/12/2004	4/16/2004	6	7	Yes	4	40	Yes
PEN16	PCB	W	S442931*8	041EM00001		4/6/2004	4/12/2004	4/16/2004	6	7	Yes	4	40	Yes
PEN16	PEST	W	S442931*7	041FE00001		4/6/2004	4/12/2004	4/16/2004	6	7	Yes	4	40	Yes
PEN16	PEST	W	S442931*8	041EM00001		4/6/2004	4/12/2004	4/16/2004	6	7	Yes	4	40	Yes
PEN16	SVOA	W	S442931*7	041FE00001		4/6/2004	4/9/2004	4/22/2004	3	7	Yes	13	40	Yes
PEN16	SVOA	W	S442931*7*RE	041FE00001	RE	4/6/2004	4/27/2004	4/30/2004	21	7	**No**	3	40	Yes
PEN16	SVOA	W	S442931*8	041EM00001		4/6/2004	4/9/2004	4/22/2004	3	7	Yes	13	40	Yes
PEN16	TOT METAL	W	S442931*7	041FE00001		4/6/2004	4/12/2004	4/13/2004	N/A	N/A	N/A	7	28	Yes
PEN16	TOT METAL	W	S442931*8	041EM00001		4/6/2004	4/12/2004	4/13/2004	N/A	N/A	N/A	7	28	Yes
PEN16	VOA	W	S442931*7	041FE00001		4/6/2004	4/16/2004	4/16/2004	N/A	N/A	N/A	10	14	Yes
PEN16	VOA	W	S442931*8	041EM00001		4/6/2004	4/19/2004	4/19/2004	N/A	N/A	N/A	13	14	Yes
PEN16	VOA	W	S442931*9	041TB00001		4/6/2004	4/17/2004	4/17/2004	N/A	N/A	N/A	11	14	Yes

Field Duplicate Precision

SDG	Method	Parameter	Result	Vqual	Result	Vqual	Units	RPD	RPD >50?	Flags
			041M5B0301		041N5B0301					
PEN16	LOW PAH	Naphthalene	13.0000	U	11.0000	U	UG/KG	-16.7	No	
PEN16	LOW PAH	Acenaphthylene	15.0000	U	13.0000	U	UG/KG	-14.3	No	
PEN16	LOW PAH	Acenaphthene	16.0000	U	14.0000	U	UG/KG	-13.3	No	
PEN16	LOW PAH	Fluorene	14.0000	U	12.0000	U	UG/KG	-15.4	No	
PEN16	LOW PAH	Phenanthrene	54.0000	U	70.0000	U	UG/KG	25.8	No	
PEN16	LOW PAH	Anthracene	17.0000	U	14.0000	U	UG/KG	-19.4	No	
PEN16	LOW PAH	Fluoranthene	200.0000		170.0000		UG/KG	-16.2	No	
PEN16	LOW PAH	Pyrene	160.0000		140.0000		UG/KG	-13.3	No	
PEN16	LOW PAH	Chrysene	120.0000		110.0000		UG/KG	-8.7	No	
PEN16	LOW PAH	Benzo(a)anthracene	98.0000	I	65.0000	I	UG/KG	-40.5	No	
PEN16	LOW PAH	Benzo(b)fluoranthene	17.0000	U	14.0000	U	UG/KG	-19.4	No	
PEN16	LOW PAH	Benzo(k)fluoranthene	17.0000	U	15.0000	U	UG/KG	-12.5	No	
PEN16	LOW PAH	Benzo(a)pyrene	16.0000	U	14.0000	U	UG/KG	-13.3	No	
PEN16	LOW PAH	Indeno(1,2,3-cd)pyrene	12.0000	U	9.8000	U	UG/KG	-20.2	No	
PEN16	LOW PAH	Dibenz(a,h)anthracene	16.0000	U	13.0000	U	UG/KG	-20.7	No	
PEN16	LOW PAH	Benzo(g,h,i)perylene	11.0000	U	9.2000	U	UG/KG	-17.8	No	
PEN16	LOW PAH	2-Methylnaphthalene	9.5000	U	8.0000	U	UG/KG	-17.1	No	
PEN16	LOW PAH	1-Methyl naphthalene	6.2000	U	5.3000	U	UG/KG	-15.7	No	
PEN16	PCB	Aroclor-1016	7.0000	U	5.9000	U	UG/KG	-17.1	No	
PEN16	PCB	Aroclor-1221	30.0000	U	26.0000	U	UG/KG	-14.3	No	
PEN16	PCB	Aroclor-1232	12.0000	U	10.0000	U	UG/KG	-18.2	No	
PEN16	PCB	Aroclor-1242	12.0000	U	10.0000	U	UG/KG	-18.2	No	
PEN16	PCB	Aroclor-1248	12.0000	U	9.8000	U	UG/KG	-20.2	No	
PEN16	PCB	Aroclor-1254	12.0000	U	10.0000	U	UG/KG	-18.2	No	
PEN16	PCB	Aroclor-1260	60.0000		62.0000		UG/KG	3.3	No	
PEN16	PEST	alpha-BHC	0.4300	U	0.3600	U	UG/KG	-17.7	No	
PEN16	PEST	beta-BHC	0.5200	U	0.4400	U	UG/KG	-16.7	No	
PEN16	PEST	delta-BHC	0.2100	U	0.1800	U	UG/KG	-15.4	No	
PEN16	PEST	gamma-BHC (Lindane)	0.2700	U	0.2300	U	UG/KG	-16.0	No	
PEN16	PEST	Heptachlor	0.5000	U	0.4200	U	UG/KG	-17.4	No	
PEN16	PEST	Aldrin	0.2000	U	0.1700	U	UG/KG	-16.2	No	
PEN16	PEST	Heptachlor epoxide	0.3000	U	0.2600	U	UG/KG	-14.3	No	
PEN16	PEST	Endosulfan I	0.3000	U	0.2600	U	UG/KG	-14.3	No	
PEN16	PEST	Dieldrin	14.0000		14.0000		UG/KG	0.0	No	
PEN16	PEST	**4,4'-DDE**	23.0000	I	12.0000	I	UG/KG	-62.9	Yes	None-already I-flagged
PEN16	PEST	Endrin	0.7700	U	0.6500	U	UG/KG	-16.9	No	
PEN16	PEST	Endrin aldehyde	0.5500	U	0.4700	U	UG/KG	-15.7	No	
PEN16	PEST	Endosulfan II	0.3900	U	0.3300	U	UG/KG	-16.7	No	
PEN16	PEST	4,4'-DDD	6.2000	U	5.3000	U	UG/KG	-15.7	No	
PEN16	PEST	Endosulfan sulfate	0.7800	U	0.6700	U	UG/KG	-15.2	No	
PEN16	PEST	4,4'-DDT	5.5000	U	4.7000	U	UG/KG	-15.7	No	
PEN16	PEST	Endrin ketone	0.6800	U	0.5800	U	UG/KG	-15.9	No	
PEN16	PEST	Methoxychlor	0.3600	U	0.3000	U	UG/KG	-18.2	No	
PEN16	PEST	alpha-Chlordane	0.2000	U	0.1700	U	UG/KG	-16.2	No	
PEN16	PEST	gamma-Chlordane	0.2300	U	0.2000	U	UG/KG	-14.0	No	
PEN16	PEST	Toxaphene	59.0000	U	50.0000	U	UG/KG	-16.5	No	
PEN16	SVOA	Phenol	73.0000	U	62.0000	U	UG/KG	-16.3	No	
PEN16	SVOA	bis(2-Chloroethyl)ether	66.0000	U	56.0000	U	UG/KG	-16.4	No	
PEN16	SVOA	2-Chlorophenol	73.0000	U	62.0000	U	UG/KG	-16.3	No	
PEN16	SVOA	1,3-Dichlorobenzene	41.0000	U	35.0000	U	UG/KG	-15.8	No	
PEN16	SVOA	1,4-Dichlorobenzene	43.0000	U	36.0000	U	UG/KG	-17.7	No	
PEN16	SVOA	1,2-Dichlorobenzene	41.0000	U	35.0000	U	UG/KG	-15.8	No	
PEN16	SVOA	2-Methylphenol (o-Cresol)	82.0000	U	70.0000	U	UG/KG	-15.8	No	
PEN16	SVOA	2,2'-oxybis(1-Chloropropane)/bis(2-chlor	57.0000	U	48.0000	U	UG/KG	-17.1	No	
PEN16	SVOA	**3-Methylphenol/4-Methylphenol**	73.0000	I	410.0000	I	UG/KG	139.5	Yes	None-already I-flagged

Field Duplicate Precision

SDG	Method	Parameter	Result	Vqual	Result	Vqual	Units	RPD	RPD >50?	Flags
			041M5B0301		041N5B0301					
PEN16	SVOA	N-Nitroso-di-n-propylamine	54.0000	U	45.0000	U	UG/KG	-18.2	No	
PEN16	SVOA	Hexachloroethane	34.0000	U	29.0000	U	UG/KG	-15.9	No	
PEN16	SVOA	Nitrobenzene	55.0000	U	47.0000	U	UG/KG	-15.7	No	
PEN16	SVOA	Isophorone	46.0000	U	39.0000	U	UG/KG	-16.5	No	
PEN16	SVOA	2-Nitrophenol	46.0000	U	39.0000	U	UG/KG	-16.5	No	
PEN16	SVOA	2,4-Dimethylphenol	50.0000	U	42.0000	U	UG/KG	-17.4	No	
PEN16	SVOA	bis(2-Chloroethoxy)methane	57.0000	U	48.0000	U	UG/KG	-17.1	No	
PEN16	SVOA	2,4-Dichlorophenol	52.0000	U	44.0000	U	UG/KG	-16.7	No	
PEN16	SVOA	1,2,4-Trichlorobenzene	68.0000	U	58.0000	U	UG/KG	-15.9	No	
PEN16	SVOA	4-Chloroaniline	52.0000	U	44.0000	U	UG/KG	-16.7	No	
PEN16	SVOA	Hexachlorobutadiene	48.0000	U	41.0000	U	UG/KG	-15.7	No	
PEN16	SVOA	4-Chloro-3-methylphenol	71.0000	U	61.0000	U	UG/KG	-15.2	No	
PEN16	SVOA	Hexachlorocyclopentadiene	480.0000	U	410.0000	U	UG/KG	-15.7	No	
PEN16	SVOA	2,4,6-Trichlorophenol	57.0000	U	48.0000	U	UG/KG	-17.1	No	
PEN16	SVOA	2,4,5-Trichlorophenol	55.0000	U	47.0000	U	UG/KG	-15.7	No	
PEN16	SVOA	2-Chloronaphthalene	66.0000	U	56.0000	U	UG/KG	-16.4	No	
PEN16	SVOA	2-Nitroaniline	45.0000	U	38.0000	U	UG/KG	-16.9	No	
PEN16	SVOA	Dimethylphthalate	62.0000	U	53.0000	U	UG/KG	-15.7	No	
PEN16	SVOA	3-Nitroaniline	54.0000	U	45.0000	U	UG/KG	-18.2	No	
PEN16	SVOA	2,4-Dinitrophenol	610.0000	U	520.0000	U	UG/KG	-15.9	No	
PEN16	SVOA	4-Nitrophenol	45.0000	U	38.0000	U	UG/KG	-16.9	No	
PEN16	SVOA	Dibenzofuran	61.0000	U	52.0000	U	UG/KG	-15.9	No	
PEN16	SVOA	2,4-Dinitrotoluene	39.0000	U	33.0000	U	UG/KG	-16.7	No	
PEN16	SVOA	2,6-Dinitrotoluene	52.0000	U	44.0000	U	UG/KG	-16.7	No	
PEN16	SVOA	Diethylphthalate	62.0000	U	53.0000	U	UG/KG	-15.7	No	
PEN16	SVOA	4-Chlorophenylphenyl ether	46.0000	U	39.0000	U	UG/KG	-16.5	No	
PEN16	SVOA	4-Nitroaniline	46.0000	U	39.0000	U	UG/KG	-16.5	No	
PEN16	SVOA	2-Methyl-4,6-Dinitrophenol	55.0000	U	47.0000	U	UG/KG	-15.7	No	
PEN16	SVOA	N-Nitrosodiphenylamine	54.0000	U	45.0000	U	UG/KG	-18.2	No	
PEN16	SVOA	4-Bromophenyl-phenylether	54.0000	U	45.0000	U	UG/KG	-18.2	No	
PEN16	SVOA	Hexachlorobenzene	68.0000	U	58.0000	U	UG/KG	-15.9	No	
PEN16	SVOA	Pentachlorophenol	61.0000	U	52.0000	U	UG/KG	-15.9	No	
PEN16	SVOA	**Di-n-butylphthalate**	330.0000	I	59.0000	U	UG/KG	-139.3	Yes	I (+) / UJ (ND)
PEN16	SVOA	Butylbenzylphthalate	57.0000	U	48.0000	U	UG/KG	-17.1	No	
PEN16	SVOA	3,3'-Dichlorobenzidine	46.0000	U	39.0000	U	UG/KG	-16.5	No	
PEN16	SVOA	bis(2-Ethylhexyl)phthalate (BEHP)	190.0000	I	180.0000	I	UG/KG	-5.4	No	
PEN16	SVOA	Di-n-octylphthalate	57.0000	U	48.0000	U	UG/KG	-17.1	No	
PEN16	SVOA	Carbazole	54.0000	U	45.0000	U	UG/KG	-18.2	No	
PEN16	TOC	Total Organic Carbon (TOC)	3800.0000		5700.0000		MG/KG	40.0	No	
PEN16	TOT METAL	**Aluminum**	860.0000		1500.0000		MG/KG	54.2	Yes	J both results
PEN16	TOT METAL	Antimony	2.2000	I	2.0000	I	MG/KG	-9.5	No	
PEN16	TOT METAL	Arsenic	0.5600	U	0.4600	U	MG/KG	-19.6	No	
PEN16	TOT METAL	**Barium**	3.3000		6.1000		MG/KG	59.6	Yes	J both results

Field Duplicate Precision

SDG	Method	Parameter	Result	Vqual	Result	Vqual	Units	RPD	RPD >50?	Flags
			041M5B0301		041N5B0301					
PEN16	TOT METAL	Beryllium	0.0680	I	0.0790	I	MG/KG	15.0	No	
PEN16	TOT METAL	**Cadmium**	1.0000		5.1000		MG/KG	134.4	Yes	J both results
PEN16	TOT METAL	Calcium	340.0000		330.0000		MG/KG	-3.0	No	
PEN16	TOT METAL	**Chromium**	24.0000		63.0000		MG/KG	89.7	Yes	
PEN16	TOT METAL	**Cobalt**	0.4000	I	1.0000	I	MG/KG	85.7	Yes	None-already I-flagged
PEN16	TOT METAL	**Copper**	12.0000		29.0000		MG/KG	82.9	Yes	J both results
PEN16	TOT METAL	**Iron**	470.0000		1600.0000		MG/KG	109.2	Yes	J both results
PEN16	TOT METAL	**Lead**	38.0000		94.0000		MG/KG	84.8	Yes	J both results
PEN16	TOT METAL	Magnesium	83.0000	I	81.0000		MG/KG	-2.4	No	
PEN16	TOT METAL	Manganese	2.8000		3.9000		MG/KG	32.8	No	
PEN16	TOT METAL	**Nickel**	1.2000	I	3.7000	I	MG/KG	102.0	Yes	None-already I-flagged
PEN16	TOT METAL	Potassium	27.0000	I	38.0000	I	MG/KG	33.8	No	
PEN16	TOT METAL	Selenium	0.8900	U	0.7400	U	MG/KG	-18.4	No	
PEN16	TOT METAL	**Silver**	0.1800	U	0.5800	I	MG/KG	105.3	Yes	UJ (ND) / I(+)
PEN16	TOT METAL	Sodium	12.0000	I	15.0000	I	MG/KG	22.2	No	
PEN16	TOT METAL	Thallium	1.3000	U	1.1000	U	MG/KG	-16.7	No	
PEN16	TOT METAL	**Vanadium**	1.1000	I	2.5000		MG/KG	77.8	Yes	I (+) / J (+)
PEN16	TOT METAL	**Zinc**	45.0000		120.0000		MG/KG	90.9	Yes	J both results
PEN16	TOT METAL	Mercury	0.0860		0.0820		MG/KG	-4.8	No	
PEN16	VOA	Chloromethane	2.4000	U	2.2000	U	UG/KG	-8.7	No	
PEN16	VOA	Bromomethane	6.0000	U	5.4000	U	UG/KG	-10.5	No	
PEN16	VOA	Vinyl chloride	2.4000	U	2.2000	U	UG/KG	-8.7	No	
PEN16	VOA	Chloroethane	3.0000	U	2.7000	U	UG/KG	-10.5	No	
PEN16	VOA	Methylene chloride	4.2000	U	3.8000	U	UG/KG	-10.0	No	
PEN16	VOA	Acetone	21.0000	I	13.0000	U	UG/KG	-47.1	No	
PEN16	VOA	Carbon disulfide	3.5000	U	3.2000	U	UG/KG	-9.0	No	
PEN16	VOA	1,1-Dichloroethene	3.0000	U	2.7000	U	UG/KG	-10.5	No	
PEN16	VOA	1,1-Dichloroethane	1.8000	U	1.6000	U	UG/KG	-11.8	No	
PEN16	VOA	cis-1,2-Dichloroethene	1.9000	U	1.7000	U	UG/KG	-11.1	No	
PEN16	VOA	trans-1,2-Dichloroethene	2.1000	U	1.9000	U	UG/KG	-10.0	No	
PEN16	VOA	Chloroform	2.1000	U	1.9000	U	UG/KG	-10.0	No	
PEN16	VOA	1,2-Dichloroethane	2.6000	U	2.4000	U	UG/KG	-8.0	No	
PEN16	VOA	2-Butanone (MEK)	8.2000	U	7.4000	U	UG/KG	-10.3	No	
PEN16	VOA	1,1,1-Trichloroethane	1.4000	U	1.3000	U	UG/KG	-7.4	No	
PEN16	VOA	Carbon tetrachloride	1.6000	U	1.5000	U	UG/KG	-6.5	No	
PEN16	VOA	Bromodichloromethane	2.3000	U	2.0000	U	UG/KG	-14.0	No	
PEN16	VOA	1,1,2,2-Tetrachloroethane	3.5000	U	3.2000	U	UG/KG	-9.0	No	
PEN16	VOA	1,2-Dichloropropane	2.1000	U	1.9000	U	UG/KG	-10.0	No	
PEN16	VOA	trans-1,3-Dichloropropene	2.8000	U	2.5000	U	UG/KG	-11.3	No	
PEN16	VOA	Trichloroethene	1.9000	U	1.7000	U	UG/KG	-11.1	No	
PEN16	VOA	Dibromochloromethane	2.4000	U	2.2000	U	UG/KG	-8.7	No	
PEN16	VOA	1,1,2-Trichloroethane	3.2000	U	2.8000	U	UG/KG	-13.3	No	
PEN16	VOA	Benzene	1.9000	U	1.7000	U	UG/KG	-11.1	No	
PEN16	VOA	cis-1,3-Dichloropropene	2.1000	U	1.9000	U	UG/KG	-10.0	No	
PEN16	VOA	Bromoform	3.0000	U	2.7000	U	UG/KG	-10.5	No	
PEN16	VOA	2-Hexanone	8.9000	U	8.0000	U	UG/KG	-10.7	No	
PEN16	VOA	4-Methyl-2-Pentanone (MIBK)	8.8000	U	7.9000	U	UG/KG	-10.8	No	
PEN16	VOA	Tetrachloroethene	2.6000	U	2.4000	U	UG/KG	-8.0	No	
PEN16	VOA	Toluene	3.2000	U	2.8000	U	UG/KG	-13.3	No	
PEN16	VOA	Chlorobenzene	2.3000	U	2.0000	U	UG/KG	-14.0	No	
PEN16	VOA	Ethylbenzene	1.8000	U	1.6000	U	UG/KG	-11.8	No	
PEN16	VOA	Styrene	1.9000	U	1.7000	U	UG/KG	-11.1	No	
PEN16	VOA	Xylene (Total)	5.2000	U	4.7000	U	UG/KG	-10.1	No	

Blank Outliers

SDG	Method	Sample Id	Type	Samp Date	Date Extract	Date Anal	Parameter	Result	Qual	Units	AL	Units
PEN16	DISS METAL	BLK0EN1623	Lab		4/12/2004	4/13/2004	Aluminum	7.6000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	BLK0EN1623	Lab		4/12/2004	4/13/2004	Barium	0.3600	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Barium	0.3400	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041FE00001	Field	4/6/2004	4/12/2004	4/13/2004	Barium	0.5200	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	BLK0EN1623	Lab		4/12/2004	4/13/2004	Calcium	18.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Calcium	18.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041FE00001	Field	4/6/2004	4/12/2004	4/13/2004	Calcium	12.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	BLK0EN1623	Lab		4/12/2004	4/13/2004	Chromium	1.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Iron	50.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Magnesium	17.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Manganese	0.8600	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041FE00001	Field	4/6/2004	4/12/2004	4/13/2004	Sodium	310.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	BLK0EN1623	Lab		4/12/2004	4/13/2004	Zinc	4.7000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Zinc	4.6000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041FE00001	Field	4/6/2004	4/12/2004	4/13/2004	Zinc	2.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Aluminum	2.0000	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1623	Lab		4/12/2004	4/13/2004	Aluminum	12.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Aluminum	9.8000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	041FE00001	Field	4/6/2004	4/12/2004	4/13/2004	Aluminum	7.7000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Antimony	0.9000	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Barium	0.0460	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Beryllium	0.0230	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Cadmium	0.0830	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1623	Lab		4/12/2004	4/13/2004	Calcium	8.5000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Calcium	16.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	041FE00001	Field	4/6/2004	4/12/2004	4/13/2004	Calcium	7.1000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Iron	2.8000	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Lead	0.3400	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Magnesium	0.8800	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Manganese	0.7200	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	041FE00001	Field	4/6/2004	4/12/2004	4/13/2004	Manganese	0.2400	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Mercury	0.1200	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Potassium	2.5000	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Potassium	27.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Sodium	0.7700	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Vanadium	0.0970	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Zinc	0.5100	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Zinc	1.1000	I	UG/L	No action taken on metals, based on judgement	
PEN16	LOW PAH	041FE00001	**Field**	4/6/2004	4/13/2004	4/14/2004	**Naphthalene**	0.1100	I	UG/L	**18.15**	UG/KG
PEN16	LOW PAH	041FE00001	**Field**	4/6/2004	4/13/2004	4/14/2004	**Phenanthrene**	0.0520	I	UG/L	**8.58**	UG/KG
PEN16	PEST	BLK0EN1614	**Lab**		4/15/2004	4/29/2004	**Aldrin**	1.4000	I	UG/KG	**7**	UG/KG
PEN16	PEST	BLK0EN1623	**Lab**		4/12/2004	4/16/2004	**Aldrin**	0.0260	I	UG/L	**4.29**	UG/KG

Blank Outliers

SDG	Method	Sample Id	Type	Samp Date	Date Extract	Date Anal	Parameter	Result	Qual	Units	AL	Units
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Aluminum	39.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Aluminum	13.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Arsenic	3.7000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Barium	0.3000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Barium	0.7000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Beryllium	0.8200	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Beryllium	0.3000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Calcium	11.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Calcium	31.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Cobalt	1.4000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Iron	21.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Manganese	0.4500	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Mercury	0.1000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Potassium	12.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Silver	1.5000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Sodium	67.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Sodium	59.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Zinc	3.9000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Aluminum	2.0000	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Aluminum	13.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Aluminum	23.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Antimony	0.9000	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Barium	0.0460	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Barium	0.4200	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Beryllium	0.0230	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Beryllium	0.3100	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Beryllium	0.3100	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Cadmium	0.0830	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Calcium	43.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Calcium	15.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Iron	2.8000	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Iron	31.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Lead	0.3400	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Magnesium	0.8800	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Manganese	0.4500	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Potassium	2.5000	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Potassium	23.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Silver	1.5000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Sodium	0.7700	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Sodium	23.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Sodium	21.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Vanadium	0.0970	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Zinc	0.5100	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Zinc	0.7200	I	UG/L	No action taken on metals, based on judgement	
PEN17	VOA	BLK0EN1725	**Lab**		4/15/2004	4/15/2004	**2-Butanone (MEK)**	5.7000	I	UG/L	**57**	UG/KG or UG/L
PEN17	VOA	041EW00001	**Equip**	4/8/2004	4/15/2004	4/15/2004	**2-Butanone (MEK)**	6.1000	IV	UG/L	**61**	UG/KG or UG/L
PEN17	VOA	041TB00002	**Trip**	4/8/2004	4/15/2004	4/15/2004	**2-Butanone (MEK)**	7.3000	IV	UG/L	**73**	UG/KG or UG/L
PEN17	VOA	041TB00002	**Trip**	4/8/2004	4/15/2004	4/15/2004	**Acetone**	8.7000	I	UG/L	**87**	UG/KG or UG/L
PEN17	PEST	BLK0EN1716	**Lab**		4/15/2004	4/29/2004	**Aldrin**	0.0260	I	UG/KG	**0.13**	UG/KG

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 DISS METAL													
	SAMPLE ID ------->	041-F-E000-01			041-E-M000-01			BLK-0-EN16-23					
	ORIGINAL ID ----->	041FE00001			041EM00001			MBLANK23					
	LAB SAMPLE ID --->	S442931*7			S442931*8			S442931*23					
	SAMPLE DATE ----->	04/06/04			04/06/04								
	DATE EXTRACTED -->	04/12/04			04/12/04			04/12/04					
	DATE ANALYZED --->	04/13/04			04/13/04			04/13/04					
	MATRIX ---------->	Water			Water			Water					
	UNITS ---------->	UG/L		B	UG/L		B	UG/L		D			
CAS #	Parameter												
7429-90-5	Aluminum	7.2	U		7.2	U		7.6	I				
7440-36-0	Antimony	5.	U		5.	U		5.	U				
7440-38-2	Arsenic	4.6	U		4.6	U		4.6	U				
7440-39-3	Barium	0.52	I		0.34	I		0.36	I				
7440-41-7	Beryllium	0.1	U		0.1	U		0.1	U				
7440-43-9	Cadmium	0.6	U		0.6	U		0.6	U				
7440-70-2	Calcium	12.	I		18.	I		18.	I				
7440-47-3	Chromium	0.9	U		0.9	U		1.	I				
7440-48-4	Cobalt	1.	U		1.	U		1.	U				
7440-50-8	Copper	0.6	U		0.6	U		0.6	U				
7439-89-6	Iron	32.	U		50.	I		32.	U				
7439-92-1	Lead	2.8	U		2.8	U		2.8	U				
7439-95-4	Magnesium	6.6	U		17.	I		6.6	U				
7439-96-5	Manganese	0.2	U		0.86	I		0.2	U				
7440-02-0	Nickel	2.	U		2.	U		2.	U				
7440-09-7	Potassium	17.	U		17.	U		17.	U				
7782-49-2	Selenium	3.6	U		3.6	U		3.6	U				
7440-22-4	Silver	0.9	U		0.9	U		0.9	U				
7440-23-5	Sodium	310.	I		230.	U		230.	U				
7440-28-0	Thallium	8.4	U		8.4	U		8.4	U				
7440-62-2	Vanadium	1.4	U		1.4	U		1.4	U				
7440-66-6	Zinc	2.	I		4.6	I		4.7	I				
7439-97-6	Mercury	0.078	U		0.078	U		0.078	U				

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 LOW PAH	SAMPLE ID ------->	041-M-5B02-02		041-M-5B03-01		041-N-5B03-01		041-M-5B04-01		041-M-5B05-01		041-M-5B06-01	
	ORIGINAL ID ----->	041M5B0202		041M5B0301		041N5B0301		041M5B0401		041M5B0501		041M5B0601	
	LAB SAMPLE ID --->	S442931*1		S442931*2		S442931*3		S442931*4		S442931*5		S442931*6	
	SAMPLE DATE ----->	04/06/04		04/06/04		04/06/04		04/06/04		04/06/04		04/06/04	
	DATE EXTRACTED -->	04/15/04		04/15/04		04/15/04		04/15/04		04/15/04		04/15/04	
	DATE ANALYZED --->	04/16/04		04/16/04		04/16/04		04/17/04		04/16/04		04/16/04	
	MATRIX ---------->	Sedmnt		Sedmnt		Sedmnt		Sedmnt		Sedmnt		Sedmnt	
	UNITS ---------->	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A
CAS #	Parameter												
91-20-3	Naphthalene	16.	U	13.	U	11.	U	4.1	U	10.	U	16.	U
208-96-8	Acenaphthylene	19.	U	15.	U	13.	U	5.	U	13.	U	20.	U
83-32-9	Acenaphthene	20.	U	16.	U	14.	U	5.2	U	14.	U	20.	U
86-73-7	Fluorene	17.	U	14.	U	12.	U	4.5	U	12.	U	18.	U
85-01-8	Phenanthrene	FB 140.	~~I~~ U	FB 54.	~~I~~ U	FB 70.	~~I~~ U	FB 7.9	~~I~~ U	12.	U	18.	U
120-12-7	Anthracene	21.	U	17.	U	14.	U	5.6	U	15.	U	22.	U
206-44-0	Fluoranthene	290.		200.		170.		15.	I	39.	I	69.	I
129-00-0	Pyrene	210.		160.		140.		13.	I	37.	I	59.	I
218-01-9	Chrysene	160.		120.		110.		5.8	U	15.	U	56.	I
56-55-3	Benzo(a)anthracene	120.	I	98.	I	65.	I	4.4	U	12.	U	17.	U
205-99-2	Benzo(b)fluoranthene	21.	U	17.	U	14.	U	5.6	U	15.	U	22.	U
207-08-9	Benzo(k)fluoranthene	22.	U	17.	U	15.	U	5.7	U	15.	U	22.	U
50-32-8	Benzo(a)pyrene	20.	U	16.	U	14.	U	5.2	U	14.	U	20.	U
193-39-5	Indeno(1,2,3-cd)pyrene	14.	U	12.	U	9.8	U	3.8	U	10.	U	15.	U
53-70-3	Dibenz(a,h)anthracene	20.	U	16.	U	13.	U	5.1	U	14.	U	20.	U
191-24-2	Benzo(g,h,i)perylene	14.	U	11.	U	9.2	U	3.5	U	9.4	U	14.	U
91-57-6	2-Methylnaphthalene	12.	U	9.5	U	8.	U	3.1	U	8.2	U	12.	U
90-12-0	1-Methyl naphthalene	7.8	U	6.2	U	5.3	U	2.	U	5.4	U	8.	U

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 LOW PAH											
	SAMPLE ID ------->	041-F-E000-01		041-E-M000-01		BLK-0-EN16-14		BLK-0-EN16-23			
	ORIGINAL ID ----->	041FE00001		041EM00001		MBLANK14		MBLANK23			
	LAB SAMPLE ID --->	S442931*7		S442931*8		S442931*14		S442931*23			
	SAMPLE DATE ----->	04/06/04		04/06/04							
	DATE EXTRACTED -->	04/13/04		04/13/04		04/15/04		04/13/04			
	DATE ANALYZED --->	04/14/04		04/14/04		04/16/04		04/14/04			
	MATRIX ---------->	Water		Water		Soil		Water			
	UNITS ---------->	UG/L	B	UG/L	B	UG/KG	D	UG/L	D		
CAS #	Parameter										
91-20-3	Naphthalene	0.11	I	0.028	U	0.71	U	0.028	U		
208-96-8	Acenaphthylene	0.024	U	0.024	U	0.86	U	0.024	U		
83-32-9	Acenaphthene	0.025	U	0.025	U	0.9	U	0.025	U		
86-73-7	Fluorene	0.026	U	0.026	U	0.78	U	0.026	U		
85-01-8	Phenanthrene	0.052	I	0.025	U	0.8	U	0.025	U		
120-12-7	Anthracene	0.031	U	0.031	U	0.96	U	0.031	U		
206-44-0	Fluoranthene	0.061	U	0.061	U	0.86	U	0.061	U		
129-00-0	Pyrene	0.042	U	0.042	U	1.2	U	0.042	U		
218-01-9	Chrysene	0.088	U	0.088	U	1.	U	0.088	U		
56-55-3	Benzo(a)anthracene	0.07	U	0.07	U	0.76	U	0.07	U		
205-99-2	Benzo(b)fluoranthene	0.074	U	0.074	U	0.96	U	0.074	U		
207-08-9	Benzo(k)fluoranthene	0.058	U	0.058	U	0.98	U	0.058	U		
50-32-8	Benzo(a)pyrene	0.06	U	0.06	U	0.9	U	0.06	U		
193-39-5	Indeno(1,2,3-cd)pyrene	0.08	U	0.08	U	0.65	U	0.08	U		
53-70-3	Dibenz(a,h)anthracene	0.065	U	0.065	U	0.88	U	0.065	U		
191-24-2	Benzo(g,h,i)perylene	0.096	U	0.096	U	0.61	U	0.096	U		
91-57-6	2-Methylnaphthalene	0.022	U	0.022	U	0.53	U	0.022	U		
90-12-0	1-Methyl naphthalene	0.028	U	0.028	U	0.35	U	0.028	U		

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 PCB													
	SAMPLE ID ------->	041-M-5B02-02		041-M-5B02-02DL		041-M-5B03-01		041-N-5B03-01		041-M-5B03-01DL		041-N-5B03-01DL	
	ORIGINAL ID ----->	041M5B0202		041M5B0202		041M5B0301		041N5B0301		041M5B0301		041N5B0301	
	LAB SAMPLE ID --->	S442931*1		S442931*1*DL		S442931*2		S442931*3		S442931*2*DL		S442931*3*DL	
	SAMPLE DATE ----->	04/06/04		04/06/04		04/06/04		04/06/04		04/06/04		04/06/04	
	DATE EXTRACTED -->	04/15/04		04/15/04 Not used		04/15/04		04/15/04		04/15/04		04/15/04	
	DATE ANALYZED --->	05/03/04		05/03/04		05/03/04		05/03/04		05/03/04		05/03/04	
	MATRIX ---------->	Sedmnt		Sedmnt		Sedmnt		Sedmnt		Sedmnt		Sedmnt	
	UNITS ---------->	UG/KG	A	UG/KG	C	UG/KG	A	UG/KG	A	UG/KG Not	C	UG/KG used	C
CAS #	Parameter												
12674-11-2	Aroclor-1016	8.7	U	87.	U	7.	U	5.9	U	70.	U	59.	U
11104-28-2	Aroclor-1221	38.	U	380.	U	30.	U	26.	U	300.	U	260.	U
11141-16-5	Aroclor-1232	15.	U	150.	U	12.	U	10.	U	120.	U	100.	U
53469-21-9	Aroclor-1242	15.	U	150.	U	12.	U	10.	U	120.	U	100.	U
12672-29-6	Aroclor-1248	14.	U	140.	U	12.	U	9.8	U	120.	U	98.	U
11097-69-1	Aroclor-1254	15.	U	150.	U	12.	U	10.	U	120.	U	100.	U
11096-82-5	Aroclor-1260	150.		98.	U	60.		62.		78.	U	67.	U

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 PCB													
	SAMPLE ID ------->	041-M-5B04-01		041-M-5B04-01DL		041-M-5B05-01		041-M-5B05-01DL		041-M-5B06-01		041-M-5B06-01DL	
	ORIGINAL ID ----->	041M5B0401		041M5B0401		041M5B0501		041M5B0501		041M5B0601		041M5B0601	
	LAB SAMPLE ID --->	S442931*4		S442931*4*DL		S442931*5		S442931*5*DL		S442931*6		S442931*6*DL	
	SAMPLE DATE ----->	04/06/04		04/06/04		04/06/04		04/06/04		04/06/04		04/06/04	
	DATE EXTRACTED -->	04/15/04		04/15/04	Not Used	04/15/04		04/15/04	Not Used	04/15/04		04/15/04	Not Used
	DATE ANALYZED --->	05/03/04		05/03/04		05/03/04		05/03/04		05/03/04		05/03/04	
	MATRIX ---------->	Sedmnt		Sedmnt		Sedmnt		Sedmnt		Sedmnt		Sedmnt	
	UNITS ---------->	UG/KG	A	UG/KG	C	UG/KG	A	UG/KG	C	UG/KG	A	UG/KG	C
CAS #	Parameter												
12674-11-2	Aroclor-1016	5.6	U	56.	U	6.	U	60.	U	8.9	U	89.	U
11104-28-2	Aroclor-1221	25.	U	250.	U	26.	U	260.	U	39.	U	390.	U
11141-16-5	Aroclor-1232	9.7	U	97.	U	10.	U	100.	U	15.	U	150.	U
53469-21-9	Aroclor-1242	9.7	U	97.	U	10.	U	100.	U	15.	U	150.	U
12672-29-6	Aroclor-1248	9.4	U	94.	U	10.	U	100.	U	15.	U	150.	U
11097-69-1	Aroclor-1254	9.7	U	97.	U	10.	U	100.	U	15.	U	150.	U
11096-82-5	Aroclor-1260	6.4	U	64.	U	20.	I	68.	U	96.		100.	U

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 PCB	SAMPLE ID ------->	041-F-E000-01		041-E-M000-01		BLK-0-EN16-14		BLK-0-EN16-23			
	ORIGINAL ID ----->	041FE00001		041EM00001		MBLANK14		MBLANK23			
	LAB SAMPLE ID --->	S442931*7		S442931*8		S442931*14		S442931*23			
	SAMPLE DATE ----->	04/06/04		04/06/04							
	DATE EXTRACTED -->	04/12/04		04/12/04		04/15/04		04/12/04			
	DATE ANALYZED --->	04/16/04		04/16/04		04/29/04		04/16/04			
	MATRIX ---------->	Water		Water		Soil		Water			
	UNITS ---------->	UG/L	B	UG/L	B	UG/KG	D	UG/L	D		
CAS #	Parameter										
12674-11-2	Aroclor-1016	0.11	U	0.11	U	3.9	U	0.11	U		
11104-28-2	Aroclor-1221	0.5	U	0.5	U	17.	U	0.5	U		
11141-16-5	Aroclor-1232	0.18	U	0.18	U	6.7	U	0.18	U		
53469-21-9	Aroclor-1242	0.14	U	0.14	U	6.7	U	0.14	U		
12672-29-6	Aroclor-1248	0.11	U	0.11	U	6.5	U	0.11	U		
11097-69-1	Aroclor-1254	0.2	U	0.2	U	6.7	U	0.2	U		
11096-82-5	Aroclor-1260	0.11	U	0.11	U	4.4	U	0.11	U		

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16
PEST

SAMPLE ID ------->	041-M-5B02-02	041-M-5B02-02DL	041-M-5B03-01	041-N-5B03-01	041-M-5B03-01DL	041-N-5B03-01DL
ORIGINAL ID ----->	041M5B0202	041M5B0202	041M5B0301	041N5B0301	041M5B0301	041N5B0301
LAB SAMPLE ID --->	S442931*1	S442931*1*DL	S442931*2	S442931*3	S442931*2*DL	S442931*3*DL
SAMPLE DATE ----->	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04
DATE EXTRACTED -->	04/15/04	04/15/04	04/15/04	04/15/04	04/15/04	04/15/04
DATE ANALYZED --->	05/03/04	05/03/04	05/03/04	05/03/04	05/03/04	05/03/04
MATRIX ---------->	Sedmnt	Sedmnt	Sedmnt	Sedmnt	Sedmnt	Sedmnt
UNITS ---------->	UG/KG A	UG/KG C	UG/KG A	UG/KG A	UG/KG C	UG/KG C

Not used except circled

← Field Dups →

CAS #	Parameter	041-M-5B02-02	041-M-5B02-02DL	041-M-5B03-01	041-N-5B03-01	041-M-5B03-01DL	041-N-5B03-01DL
319-84-6	alpha-BHC	0.53 U*J4	5.3 U	0.43 U*J4	0.36 U*J4	4.3 U	3.6 U
319-85-7	beta-BHC	0.64 U	6.4 U	0.52 U	0.44 U	5.2 U	4.4 U
319-86-8	delta-BHC	0.27 U	2.7 U	0.21 U	0.18 U	2.1 U	1.8 U
58-89-9	gamma-BHC (Lindane)	0.33 U	3.3 U	0.27 U	0.23 U	2.7 U	2.3 U
76-44-8	Heptachlor	0.62 U	6.2 U	0.5 U	0.42 U	5. U	4.2 U
309-00-2	Aldrin	0.24 U	2.4 U	0.2 U	0.17 U	2. U	1.7 U
1024-57-3	Heptachlor epoxide	0.38 U	3.8 U	0.3 U	0.26 U	3. U	2.6 U
959-98-8	Endosulfan I	0.38 U	3.8 U	0.3 U	0.26 U	3. U	2.6 U
60-57-1	Dieldrin	Set ~~29.~~	25. I	14.	14.	21. I	8.2 UP
72-55-9	4,4'-DDE	18 ~~14.~~ I	18. I	23 ~~15.~~ I	12 ~~9.5~~ I	23. I	12. I
72-20-8	Endrin	0.96 U	9.6 U	0.77 U	0.65 U	7.7 U	6.5 U
7421-93-4	Endrin aldehyde	0.69 U	6.9 U	0.55 U	0.47 U	5.5 U	4.7 U
33213-65-9	Endosulfan II	0.49 U	4.9 U	0.39 U	0.33 U	3.9 U	3.3 U
72-54-8	4,4'-DDD	7.8 ~~6.5~~ I U	7.8 U	6.2 ~~4.6~~ I U	5.3 ~~3.1~~ I U	6.2 U	5.3 U
1031-07-8	Endosulfan sulfate	0.98 U	9.8 U	0.78 U	0.67 U	7.8 U	6.7 U
50-29-3	4,4'-DDT	6.9 ~~0.69~~ U U	6.9 U	5.5 ~~0.55~~ U U	4.7 ~~0.47~~ U U	5.5 U	4.7 U
53494-70-5	Endrin ketone	0.84 U	8.4 U	0.68 U	0.58 U	6.8 U	5.8 U
72-43-5	Methoxychlor	0.44 U	4.4 U	0.36 U	0.3 U	3.6 U	3. U
5103-71-9	alpha-Chlordane	0.24 U	2.4 U	0.2 U	0.17 U	2. U	1.7 U
5103-74-2	gamma-Chlordane	0.29 U	2.9 U	0.23 U	0.2 U	2.3 U	2. U
8001-35-2	Toxaphene	73. U	730. U	59. U	50. U	590. U	500. U

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16
PEST

SAMPLE ID ------->	041-M-5B04-01	041-M-5B04-01DL	041-M-5B05-01	041-M-5B05-01DL	041-M-5B06-01	041-M-5B06-01DL
ORIGINAL ID ----->	041M5B0401	041M5B0401	041M5B0501	041M5B0501	041M5B0601	041M5B0601
LAB SAMPLE ID --->	S442931*4	S442931*4*DL	S442931*5	S442931*5*DL	S442931*6	S442931*6*DL
SAMPLE DATE ----->	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04
DATE EXTRACTED -->	04/15/04	04/15/04	04/15/04	04/15/04	04/15/04	04/15/04
DATE ANALYZED --->	05/03/04	05/03/04	05/03/04	05/03/04	05/03/04	05/03/04
MATRIX ---------->	Sedmnt	Sedmnt	Sedmnt	Sedmnt	Sedmnt	Sedmnt
UNITS ---------->	UG/KG A	UG/KG C	UG/KG A	UG/KG C	UG/KG A	UG/KG C
		Not used except circled		Not used except circled		Not used except circled

CAS #	Parameter												
319-84-6	alpha-BHC	0.35	U*~~J4~~	3.5	U	0.37	U*~~J4~~	3.7	U	0.54	U*~~J4~~	5.4	U
319-85-7	beta-BHC	0.42	U	4.2	U	0.45	U	4.5	U	2.9	I	6.6	U
319-86-8	delta-BHC	0.17	U	1.7	U	0.18	U	1.8	U	0.27	U	2.7	U
58-89-9	gamma-BHC (Lindane)	0.22	U	2.2	U	0.23	U	2.3	U	0.34	U	3.4	U
76-44-8	Heptachlor	0.4	U	4.	U	0.43	U	4.3	U	0.64	U	6.4	U
309-00-2	Aldrin	(B) 5.6	~~J~~ U	(B) ~~7.~~	~~J~~ U	(B) 0.24	~~J~~ U	1.7	U	(B) 7.	~~J~~ U	(B) 3.8	~~J~~ U
1024-57-3	Heptachlor epoxide	0.25	U	2.5	U	0.26	U	2.6	U	0.39	U	3.9	U
959-98-8	Endosulfan I	0.25	U	2.5	U	0.26	U	2.6	U	0.39	U	3.9	U
60-57-1	Dieldrin	8.6		4.5	U	9.		8.5	I	100.		120.	
72-55-9	4,4'-DDE	1.8 ~~3.8~~	I U	7.8	U	8.3 ~~3.3~~	I U	8.3	U	24 ~~16.~~	I	24.	I
72-20-8	Endrin	0.62	U	6.2	U	0.66	U	6.6	U	0.98	U	9.8	U
7421-93-4	Endrin aldehyde	0.45	U	4.5	U	0.48	U	4.8	U	0.7	U	7.	U
33213-65-9	Endosulfan II	0.32	U	3.2	U	0.34	U	3.4	U	0.5	U	5.	U
72-54-8	4,4'-DDD	5.1 ~~0.51~~	U U	5.1	U	5.4 ~~0.54~~	U U	5.4	U	8 ~~2.3~~	I U	8.	U
1031-07-8	Endosulfan sulfate	0.64	U	6.4	U	0.68	U	6.8	U	1.	U	10.	U
50-29-3	4,4'-DDT	4.5 ~~0.45~~	U U	4.5	U	4.8 ~~0.48~~	U U	4.8	U	7 ~~0.7~~	U U	7.	U
53494-70-5	Endrin ketone	0.55	U	5.5	U	0.58	U	5.8	U	0.86	U	8.6	U
72-43-5	Methoxychlor	0.29	U	2.9	U	0.31	U	3.1	U	0.45	U	4.5	U
5103-71-9	alpha-Chlordane	0.16	U	1.6	U	0.17	U	1.7	U	0.25	U	2.5	U
5103-74-2	gamma-Chlordane	0.19	U	1.9	U	0.2	U	2.	U	0.3	U	3.	U
8001-35-2	Toxaphene	48.	U	480.	U	51.	U	510.	U	75.	U	750.	U

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 PEST	SAMPLE ID ------->	041-F-E000-01	041-E-M000-01	BLK-0-EN16-14	BLK-0-EN16-23		
	ORIGINAL ID ----->	041FE00001	041EM00001	MBLANK14	MBLANK23		
	LAB SAMPLE ID --->	S442931*7	S442931*8	S442931*14	S442931*23		
	SAMPLE DATE ----->	04/06/04	04/06/04				
	DATE EXTRACTED -->	04/12/04	04/12/04	04/15/04	04/12/04		
	DATE ANALYZED --->	04/16/04	04/16/04	04/29/04	04/16/04		
	MATRIX ---------->	Water	Water	Soil	Water		
	UNITS ---------->	UG/L B	UG/L B	UG/KG D	UG/L D		
CAS #	Parameter						
319-84-6	alpha-BHC	0.0035 U	0.0035 U	0.24 U	0.0035 U		
319-85-7	beta-BHC	0.0035 U	0.0035 U	0.29 U	0.0035 U		
319-86-8	delta-BHC	0.009 U	0.009 U	0.12 U	0.009 U		
58-89-9	gamma-BHC (Lindane)	0.003 U	0.003 U	0.15 U	0.003 U		
76-44-8	Heptachlor	0.014 U	0.014 U	0.28 U	0.014 U		
309-00-2	Aldrin	0.0086 U	0.0086 U	1.4 I	0.026 I		
1024-57-3	Heptachlor epoxide	0.0026 U	0.0026 U	0.17 U	0.0026 U		
959-98-8	Endosulfan I	0.0099 U	0.0099 U	0.17 U	0.0099 U		
60-57-1	Dieldrin	0.006 U	0.006 U	0.31 U	0.006 U		
72-55-9	4,4'-DDE	0.01 U	0.01 U	0.54 U	0.01 U		
72-20-8	Endrin	0.0097 U	0.0097 U	0.43 U	0.0097 U		
7421-93-4	Endrin aldehyde	0.014 U	0.014 U	0.31 U	0.014 U		
33213-65-9	Endosulfan II	0.0084 U	0.0084 U	0.22 U	0.0084 U		
72-54-8	4,4'-DDD	0.016 U	0.016 U	0.35 U	0.016 U		
1031-07-8	Endosulfan sulfate	0.0085 U	0.0085 U	0.44 U	0.0085 U		
50-29-3	4,4'-DDT	0.014 U	0.014 U	0.31 U	0.014 U		
53494-70-5	Endrin ketone	0.0072 U	0.0072 U	0.38 U	0.0072 U		
72-43-5	Methoxychlor	0.007 U	0.007 U	0.2 U	0.007 U		
5103-71-9	alpha-Chlordane	0.0084 U	0.0084 U	0.11 U	0.0084 U		
5103-74-2	gamma-Chlordane	0.007 U	0.007 U	0.13 U	0.007 U		
8001-35-2	Toxaphene	0.77 U	0.77 U	33. U	0.77 U		

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 SVOA	SAMPLE ID ------>	041-M-5B02-02		041-M-5B03-01		041-N-5B03-01		041-M-5B04-01		041-M-5B05-01		041-M-5B06-01	
	ORIGINAL ID ----->	041M5B0202		041M5B0301		041N5B0301		041M5B0401		041M5B0501		041M5B0601	
	LAB SAMPLE ID --->	S442931*1		S442931*2		S442931*3		S442931*4		S442931*5		S442931*6	
	SAMPLE DATE ----->	04/06/04		04/06/04		04/06/04		04/06/04		04/06/04		04/06/04	
	DATE EXTRACTED -->	04/15/04		04/15/04		04/15/04		04/15/04		04/15/04		04/15/04	
	DATE ANALYZED --->	04/19/04		04/20/04		04/20/04		04/20/04		04/20/04		04/20/04	
	MATRIX ---------->	Sedmnt		Sedmnt		Sedmnt		Sedmnt		Sedmnt		Sedmnt	
	UNITS ---------->	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A
CAS #	Parameter			← Field dups →									
108-95-2	Phenol	91.	U	73.	U	62.	U	59.	U	63.	U	93.	U
111-44-4	bis(2-Chloroethyl)ether	82.	U	66.	U	56.	U	54.	U	57.	U	84.	U
95-57-8	2-Chlorophenol	91.	U	73.	U	62.	U	59.	U	63.	U	93.	U
541-73-1	1,3-Dichlorobenzene	51.	U	41.	U	35.	U	33.	U	35.	U	52.	U
106-46-7	1,4-Dichlorobenzene	53.	U	43.	U	36.	U	35.	U	37.	U	54.	U
95-50-1	1,2-Dichlorobenzene	51.	U	41.	U	35.	U	33.	U	35.	U	52.	U
95-48-7	2-Methylphenol (o-Cresol)	100.	U	82.	U	70.	U	67.	U	71.	U	100.	U
108-60-1	2,2'-oxybis(1-Chloropropane)/bis(2-chlor	71.	U	57.	U	48.	U	46.	U	49.	U	73.	U
9999900-32-2	3-Methylphenol/4-Methylphenol	89.	U	73.	I	410.	I	58.	U	62.	U	200.	I
621-64-7	N-Nitroso-di-n-propylamine	67.	U	54.	U	45.	U	43.	U	46.	U	68.	U
67-72-1	Hexachloroethane	42.	U	34.	U	29.	U	28.	U	29.	U	43.	U
98-95-3	Nitrobenzene	69.	U	55.	U	47.	U	45.	U	48.	U	70.	U
78-59-1	Isophorone	58.	U	46.	U	39.	U	38.	U	40.	U	59.	U
88-75-5	2-Nitrophenol	58.	U	46.	U	39.	U	38.	U	40.	U	59.	U
105-67-9	2,4-Dimethylphenol	62.	U	50.	U	42.	U	40.	U	43.	U	64.	U
111-91-1	bis(2-Chloroethoxy)methane	71.	U	57.	U	48.	U	46.	U	49.	U	73.	U
120-83-2	2,4-Dichlorophenol	64.	U	52.	U	44.	U	42.	U	45.	U	66.	U
120-82-1	1,2,4-Trichlorobenzene	84.	U	68.	U	58.	U	55.	U	58.	U	86.	U
106-47-8	4-Chloroaniline	64.	U	52.	U	44.	U	42.	U	45.	U	66.	U
87-68-3	Hexachlorobutadiene	60.	U	48.	U	41.	U	39.	U	42.	U	61.	U
59-50-7	4-Chloro-3-methylphenol	89.	U	71.	U	61.	U	58.	U	62.	U	91.	U
77-47-4	Hexachlorocyclopentadiene	600.	U	480.	U	410.	U	390.	U	420.	U	610.	U
88-06-2	2,4,6-Trichlorophenol	71.	U	57.	U	48.	U	46.	U	49.	U	73.	U
95-95-4	2,4,5-Trichlorophenol	69.	U	55.	U	47.	U	45.	U	48.	U	70.	U
91-58-7	2-Chloronaphthalene	82.	U	66.	U	56.	U	54.	U	57.	U	84.	U
88-74-4	2-Nitroaniline	56.	U	45.	U	38.	U	36.	U	38.	U	57.	U
131-11-3	Dimethylphthalate	78.	U	62.	U	53.	U	51.	U	54.	U	80.	U
99-09-2	3-Nitroaniline	67.	U	54.	U	45.	U	43.	U	46.	U	68.	U
51-28-5	2,4-Dinitrophenol	760.	U	610.	U	520.	U	490.	U	520.	U	770.	U
100-02-7	4-Nitrophenol	56.	U	45.	U	38.	U	36.	U	38.	U	57.	U
132-64-9	Dibenzofuran	76.	U	61.	U	52.	U	49.	U	52.	U	77.	U
121-14-2	2,4-Dinitrotoluene	49.	U	39.	U	33.	U	32.	U	34.	U	50.	U
606-20-2	2,6-Dinitrotoluene	64.	U	52.	U	44.	U	42.	U	45.	U	66.	U
84-66-2	Diethylphthalate	78.	U	62.	U	53.	U	51.	U	54.	U	80.	U
7005-72-3	4-Chlorophenylphenyl ether	58.	U	46.	U	39.	U	38.	U	40.	U	59.	U
100-01-6	4-Nitroaniline	58.	U	46.	U	39.	U	38.	U	40.	U	59.	U
534-52-1	2-Methyl-4,6-Dinitrophenol	69.	U	55.	U	47.	U	45.	U	48.	U	70.	U

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 SVOA	SAMPLE ID ------->	041-M-5B02-02		041-M-5B03-01		041-N-5B03-01		041-M-5B04-01		041-M-5B05-01		041-M-5B06-01	
	ORIGINAL ID ----->	041M5B0202		041M5B0301		041N5B0301		041M5B0401		041M5B0501		041M5B0601	
	LAB SAMPLE ID --->	S442931*1		S442931*2		S442931*3		S442931*4		S442931*5		S442931*6	
	SAMPLE DATE ----->	04/06/04		04/06/04		04/06/04		04/06/04		04/06/04		04/06/04	
	DATE EXTRACTED -->	04/15/04		04/15/04		04/15/04		04/15/04		04/15/04		04/15/04	
	DATE ANALYZED --->	04/19/04		04/20/04		04/20/04		04/20/04		04/20/04		04/20/04	
	MATRIX ---------->	Sedmnt		Sedmnt		Sedmnt		Sedmnt		Sedmnt		Sedmnt	
	UNITS ---------->	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A
CAS #	Parameter			← Field dups →									
86-30-6	N-Nitrosodiphenylamine	67.	U	54.	U	45.	U	43.	U	46.	U	68.	U
101-55-3	4-Bromophenyl-phenylether	67.	U	54.	U	45.	U	43.	U	46.	U	68.	U
118-74-1	Hexachlorobenzene	84.	U	68.	U	58.	U	55.	U	58.	U	86.	U
87-86-5	Pentachlorophenol	76.	U	61.	U	52.	U	49.	U	52.	U	77.	U
84-74-2	Di-n-butylphthalate	87.	U	330.	I	59.	UJ	56.	U	60.	U	89.	U
85-68-7	Butylbenzylphthalate	71.	U	57.	U	48.	U	46.	U	49.	U	73.	U
91-94-1	3,3'-Dichlorobenzidine	58.	U	46.	U	39.	U	38.	U	40.	U	59.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	190.	I	190.	I	180.	I	64.	U	68.	U	150.	I
117-84-0	Di-n-octylphthalate	71.	U	57.	U	48.	U	46.	U	49.	U	73.	U
86-74-8	Carbazole	67.	U	54.	U	45.	U	43.	U	46.	U	68.	U

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 SVOA	SAMPLE ID ------>	041-F-E000-01		041-F-E000-01RE		041-E-M000-01		BLK-0-EN16-14		BLK-0-EN16-23		BLK-0-EN16-33	
	ORIGINAL ID ----->	041FE00001		041FE00001		041EM00001		MBLANK14		MBLANK23		MBLANK33	
	LAB SAMPLE ID --->	S442931*7		S442931*7*RE		S442931*8		S442931*14		S442931*23		S442931*33	
	SAMPLE DATE ----->	04/06/04		04/06/04		04/06/04							
	DATE EXTRACTED -->	04/09/04		04/27/04		04/09/04		04/15/04		04/09/04		04/27/04	
	DATE ANALYZED --->	04/22/04		04/30/04		04/22/04		04/19/04		04/15/04		04/30/04	
	MATRIX ---------->	Water		Water		Water		Soil		Water		Water	
	UNITS ---------->	UG/L	B	UG/L	C	UG/L	B	UG/KG	D	UG/L	D	UG/L	D
CAS #	Parameter												
108-95-2	Phenol	1.	U	1.	U	1.	U	41.	U	1.	U	1.	U
111-44-4	bis(2-Chloroethyl)ether	1.	U	1.	U	1.	U	37.	U	1.	U	1.	U
95-57-8	2-Chlorophenol	0.79	U	0.79	U	0.79	U	41.	U	0.79	U	0.79	U
541-73-1	1,3-Dichlorobenzene	1.	U	1.	U	1.	U	23.	U	1.	U	1.	U
106-46-7	1,4-Dichlorobenzene	1.	U	1.	U	1.	U	24.	U	1.	U	1.	U
95-50-1	1,2-Dichlorobenzene	1.	U	1.	U	1.	U	23.	U	1.	U	1.	U
95-48-7	2-Methylphenol (o-Cresol)	0.59	U	0.59	U	0.59	U	46.	U	0.59	U	0.59	U
108-60-1	2,2'-oxybis(1-Chloropropane)/bis(2-chlor	0.58	U	0.58	U	0.58	U	32.	U	0.58	U	0.58	U
9999900-32-2	3-Methylphenol/4-Methylphenol	1.	U	1.	U	1.	U	40.	U	1.	U	1.	U
621-64-7	N-Nitroso-di-n-propylamine	1.	U	1.	U	1.	U	30.	U	1.	U	1.	U
67-72-1	Hexachloroethane	0.7	U	0.7	U	0.7	U	19.	U	0.7	U	0.7	U
98-95-3	Nitrobenzene	1.	U	1.	U	1.	U	31.	U	1.	U	1.	U
78-59-1	Isophorone	1.	U	1.	U	1.	U	26.	U	1.	U	1.	U
88-75-5	2-Nitrophenol	1.1	U	1.1	U	1.1	U	26.	U	1.1	U	1.1	U
105-67-9	2,4-Dimethylphenol	1.1	U	1.1	U	1.1	U	28.	U	1.1	U	1.1	U
111-91-1	bis(2-Chloroethoxy)methane	1.	U	1.	U	1.	U	32.	U	1.	U	1.	U
120-83-2	2,4-Dichlorophenol	0.76	U	0.76	U	0.76	U	29.	U	0.76	U	0.76	U
120-82-1	1,2,4-Trichlorobenzene	0.51	U	0.51	U	0.51	U	38.	U	0.51	U	0.51	U
106-47-8	4-Chloroaniline	1.	U	1.	U	1.	U	29.	U	1.	U	1.	U
87-68-3	Hexachlorobutadiene	0.5	U	0.5	U	0.5	U	27.	U	0.5	U	0.5	U
59-50-7	4-Chloro-3-methylphenol	1.	U	1.	U	1.	U	40.	U	1.	U	1.	U
77-47-4	Hexachlorocyclopentadiene	1.1	U	1.1	U	1.1	U	270.	U	1.1	U	1.1	U
88-06-2	2,4,6-Trichlorophenol	1.1	U	1.1	U	1.1	U	32.	U	1.1	U	1.1	U
95-95-4	2,4,5-Trichlorophenol	1.1	U	1.1	U	1.1	U	31.	U	1.1	U	1.1	U
91-58-7	2-Chloronaphthalene	1.	U	1.	U	1.	U	37.	U	1.	U	1.	U
88-74-4	2-Nitroaniline	0.72	U	0.72	U	0.72	U	25.	U	0.72	U	0.72	U
131-11-3	Dimethylphthalate	0.57	U	0.57	U	0.57	U	35.	U	0.57	U	0.57	U
99-09-2	3-Nitroaniline	0.64	U	0.64	U	0.64	U	30.	U	0.64	U	0.64	U
51-28-5	2,4-Dinitrophenol	10.	U	10.	U	10.	U	340.	U	10.	U	10.	U
100-02-7	4-Nitrophenol	5.	U	5.	U	5.	U	25.	U	5.	U	5.	U
132-64-9	Dibenzofuran	1.	U	1.	U	1.	U	34.	U	1.	U	1.	U
121-14-2	2,4-Dinitrotoluene	1.1	U	1.1	U	1.1	U	22.	U	1.1	U	1.1	U
606-20-2	2,6-Dinitrotoluene	0.87	U	0.87	U	0.87	U	29.	U	0.87	U	0.87	U
84-66-2	Diethylphthalate	1.	U	1.	U	1.	U	35.	U	1.	U	1.	U
7005-72-3	4-Chlorophenylphenyl ether	0.7	U	0.7	U	0.7	U	26.	U	0.7	U	0.7	U
100-01-6	4-Nitroaniline	0.86	U	0.86	U	0.86	U	26.	U	0.86	U	0.86	U
534-52-1	2-Methyl-4,6-Dinitrophenol	10.	U	10.	U	10.	U	31.	U	10.	U	10.	U

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 SVOA	SAMPLE ID ------->	041-F-E000-01		041-F-E000-01RE		041-E-M000-01		BLK-0-EN16-14		BLK-0-EN16-23		BLK-0-EN16-33	
	ORIGINAL ID ----->	041FE00001		041FE00001		041EM00001		MBLANK14		MBLANK23		MBLANK33	
	LAB SAMPLE ID --->	S442931*7		S442931*7*RE		S442931*8		S442931*14		S442931*23		S442931*33	
	SAMPLE DATE ----->	04/06/04		04/06/04		04/06/04							
	DATE EXTRACTED -->	04/09/04		04/27/04		04/09/04		04/15/04		04/09/04		04/27/04	
	DATE ANALYZED --->	04/22/04		04/30/04		04/22/04		04/19/04		04/15/04		04/30/04	
	MATRIX ---------->	Water		Water		Water		Soil		Water		Water	
	UNITS ---------->	UG/L	B	UG/L	C	UG/L	B	UG/KG	D	UG/L	D	UG/L	D
CAS #	Parameter												
86-30-6	N-Nitrosodiphenylamine	1.	U	1.	U	1.	U	30.	U	1.	U	1.	U
101-55-3	4-Bromophenyl-phenylether	1.	U	1.	U	1.	U	30.	U	1.	U	1.	U
118-74-1	Hexachlorobenzene	0.61	U	0.61	U	0.61	U	38.	U	0.61	U	0.61	U
87-86-5	Pentachlorophenol	2.	U	2.	U	2.	U	34.	U	2.	U	2.	U
84-74-2	Di-n-butylphthalate	1.	U	1.	U	1.	U	39.	U	1.	U	1.	U
85-68-7	Butylbenzylphthalate	0.74	U	0.74	U	0.74	U	32.	U	0.74	U	0.74	U
91-94-1	3,3'-Dichlorobenzidine	1.	U	1.	U	1.	U	26.	U	1.	U	1.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	2.4	U	2.4	U	2.4	U	44.	U	2.4	U	2.4	U
117-84-0	Di-n-octylphthalate	1.2	U	1.2	U	1.2	U	32.	U	1.2	U	1.2	U
86-74-8	Carbazole	0.54	U	0.54	U	0.54	U	30.	U	0.54	U	0.54	U

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 TOC	SAMPLE ID ------->	041-M-5B02-02	041-M-5B03-01	041-N-5B03-01	041-M-5B04-01	041-M-5B05-01	041-M-5B06-01
	ORIGINAL ID ----->	041M5B0202	041M5B0301	041N5B0301	041M5B0401	041M5B0501	041M5B0601
	LAB SAMPLE ID --->	S442931*1	S442931*2	S442931*3	S442931*4	S442931*5	S442931*6
	SAMPLE DATE ----->	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04	04/06/04
	DATE EXTRACTED -->	04/19/04	04/19/04	04/19/04	04/19/04	04/19/04	04/19/04
	DATE ANALYZED --->	04/20/04	04/20/04	04/20/04	04/20/04	04/20/04	04/20/04
	MATRIX ---------->	Sedmnt	Sedmnt	Sedmnt	Sedmnt	Sedmnt	Sedmnt
	UNITS ---------->	MG/KG A	MG/KG A	MG/KG A	MG/KG A	MG/KG A	MG/KG A
CAS #	Parameter						
9999900-01-4	Total Organic Carbon (TOC)	15000.	3800.	5700.	3500.	14000.	4100.

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 TOC						
SAMPLE ID ------->	BLK-0-EN16-14					
ORIGINAL ID ----->	MBLANK14					
LAB SAMPLE ID --->	S442931*14					
SAMPLE DATE ----->						
DATE EXTRACTED -->	04/20/04					
DATE ANALYZED --->	04/20/04					
MATRIX ---------->	Soil					
UNITS ---------->	MG/KG D					
CAS # Parameter						
9999900-01-4 Total Organic Carbon (TOC)	390. U					

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 TOT METAL																			
	SAMPLE ID ------->	041-M-5B02-02		041-M-5B03-01		041-N-5B03-01		041-M-5B04-01		041-M-5B05-01		041-M-5B06-01	
	ORIGINAL ID ----->	041M5B0202		041M5B0301		041N5B0301		041M5B0401		041M5B0501		041M5B0601	
	LAB SAMPLE ID --->	S442931*1		S442931*2		S442931*3		S442931*4		S442931*5		S442931*6	
	SAMPLE DATE ----->	04/06/04		04/06/04		04/06/04		04/06/04		04/06/04		04/06/04	
	DATE EXTRACTED -->	04/12/04		04/12/04		04/12/04		04/12/04		04/12/04		04/12/04	
	DATE ANALYZED --->	04/15/04		04/15/04		04/13/04		04/15/04		04/15/04		04/15/04	
	MATRIX ---------->	Sedmnt		Sedmnt		Sedmnt		Sedmnt		Sedmnt		Sedmnt	
	UNITS ---------->	MG/KG	A	MG/KG	A	MG/KG	A	MG/KG	A	MG/KG	A	MG/KG	A
CAS #	Parameter			← Field dups →									
7429-90-5	Aluminum	3400.		860.	J	1500.	J	300.		420.		760.	
7440-36-0	Antimony	3.6	I	2.2	I	2.	I	1.8	I	1.1	I	2.5	I
7440-38-2	Arsenic	0.84	I	0.56	U	0.46	U	0.46	U	0.46	U	0.66	U
7440-39-3	Barium	18.		3.3	J	6.1	J	1.5		1.8		4.5	
7440-41-7	Beryllium	0.15	I	0.068	I	0.079	I	0.038	I	0.036	I	0.066	I
7440-43-9	Cadmium	31.		1.	J	5.1	J	0.95		1.1		5.1	
7440-70-2	Calcium	1100.		340.		330.		100.		140.		380.	
7440-47-3	Chromium	470.		24.	J	63.	J	14.		23.		55.	
7440-48-4	Cobalt	4.1		0.4	I	1.	I	0.3	I	0.39	I	1.1	I
7440-50-8	Copper	90.		12.	J	29.	J	5.3		7.8		16.	
7439-89-6	Iron	1800.		470.	J	1600.	J	210.		290.		800.	
7439-92-1	Lead	420.		38.	J	94.	J	19.		24.		48.	
7439-95-4	Magnesium	210.		83.	I	81.		26.	I	28.	I	58.	I
7439-96-5	Manganese	11.		2.8		3.9		1.1	I	4.7		21.	
7440-02-0	Nickel	20.		1.2	I	3.7	I	0.61	I	0.97	I	3.	I
7440-09-7	Potassium	74.	I	27.	I	38.	I	12.	I	17.	I	30.	I
7782-49-2	Selenium	1.	U	0.89	U	0.74	U	0.74	U	0.74	U	1.1	U
7440-22-4	Silver	6.4		0.18	UJ	0.58	I	0.15	U	0.15	U	0.38	I
7440-23-5	Sodium	38.	I	12.	I	15.	I	8.3	I	7.5	I	14.	I
7440-28-0	Thallium	1.4	U	1.3	U	1.1	U	1.1	U	1.1	U	1.5	U
7440-62-2	Vanadium	6.7		1.1	I	2.5	J	0.55	I	0.86	I	1.2	I
7440-66-6	Zinc	200.		45.	J	120.	J	28.		19.		60.	
7439-97-6	Mercury	0.22		0.086		0.082		0.0068	U	0.019	I	0.12	

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 TOT METAL													
	SAMPLE ID ------->	041-F-E000-01		041-E-M000-01		BLK-0-EN16-14		BLK-0-EN16-23					
	ORIGINAL ID ----->	041FE00001		041EM00001		MBLANK14		MBLANK23					
	LAB SAMPLE ID --->	S442931*7		S442931*8		S442931*14		S442931*23					
	SAMPLE DATE ----->	04/06/04		04/06/04									
	DATE EXTRACTED -->	04/12/04		04/12/04		04/12/04		04/12/04					
	DATE ANALYZED --->	04/13/04		04/13/04		04/15/04		04/13/04					
	MATRIX ---------->	Water		Water		Soil		Water					
	UNITS ---------->	UG/L	B	UG/L	B	MG/KG	D	UG/L	D				
CAS #	Parameter												
7429-90-5	Aluminum	7.7	I	9.8	I	2.	I	12.	I				
7440-36-0	Antimony	5.	U	5.	U	0.9	I	5.	U				
7440-38-2	Arsenic	4.6	U	4.6	U	0.33	U	4.6	U				
7440-39-3	Barium	0.2	U	0.2	U	0.046	I	0.2	U				
7440-41-7	Beryllium	0.1	U	0.1	U	0.023	I	0.1	U				
7440-43-9	Cadmium	0.6	U	0.6	U	0.083	I	0.6	U				
7440-70-2	Calcium	7.1	I	16.	I	0.74	U	8.5	I				
7440-47-3	Chromium	0.9	U	0.9	U	0.14	U	0.9	U				
7440-48-4	Cobalt	1.	U	1.	U	0.12	U	1.	U				
7440-50-8	Copper	0.6	U	0.6	U	0.06	U	0.6	U				
7439-89-6	Iron	32.	U	32.	U	2.8	I	32.	U				
7439-92-1	Lead	2.8	U	2.8	U	0.34	I	2.8	U				
7439-95-4	Magnesium	6.6	U	6.6	U	0.88	I	6.6	U				
7439-96-5	Manganese	0.24	I	0.72	I	0.04	U	0.2	U				
7440-02-0	Nickel	2.	U	2.	U	0.15	U	2.	U				
7440-09-7	Potassium	17.	U	27.	I	2.5	I	17.	U				
7782-49-2	Selenium	3.6	U	3.6	U	0.53	U	3.6	U				
7440-22-4	Silver	0.9	U	0.9	U	0.11	U	0.9	U				
7440-23-5	Sodium	230.	U	230.	U	0.77	I	230.	U				
7440-28-0	Thallium	8.4	U	8.4	U	0.76	U	8.4	U				
7440-62-2	Vanadium	1.4	U	1.4	U	0.097	I	1.4	U				
7440-66-6	Zinc	0.9	U	1.1	I	0.51	I	0.9	U				
7439-97-6	Mercury	0.078	U	0.12	I	0.02	U	0.078	U				

PEN16 VOA	SAMPLE ID ------->	041-M-5B02-02		041-M-5B03-01		041-N-5B03-01		041-M-5B04-01		041-M-5B05-01		041-M-5B06-01	
	ORIGINAL ID ----->	041M5B0202		041M5B0301		041N5B0301		041M5B0401		041M5B0501		041M5B0601	
	LAB SAMPLE ID --->	S442931*1		S442931*2		S442931*3		S442931*4		S442931*5		S442931*6	
	SAMPLE DATE ----->	04/06/04		04/06/04		04/06/04		04/06/04		04/06/04		04/06/04	
	DATE EXTRACTED -->	04/09/04		04/09/04		04/12/04		04/12/04		04/12/04		04/12/04	
	DATE ANALYZED --->	04/09/04		04/09/04		04/12/04		04/12/04		04/12/04		04/12/04	
	MATRIX ---------->	Sedmnt		Sedmnt		Sedmnt		Sedmnt		Sedmnt		Sedmnt	
	UNITS ---------->	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A	UG/KG	A
CAS #	Parameter												
74-87-3	Chloromethane	3.	U	2.4	U	2.2	U	2.1	U	2.3	U	3.5	U
74-83-9	Bromomethane	7.4	U	6.	U	5.4	U	5.1	U	5.6	U	8.6	U
75-01-4	Vinyl chloride	3.7	I	2.4	U	2.2	U	2.1	U	2.3	U	3.5	U
75-00-3	Chloroethane	3.7	U	3.	U	2.7	U	2.6	U	2.8	U	4.3	U
75-09-2	Methylene chloride	5.2	U	4.2	U	3.8	U	3.6	U	3.9	U	6.1	U
67-64-1	Acetone	28.	I	21.	I	13.	U	12.	U	13.	U	20.	U
75-15-0	Carbon disulfide	4.4	U	3.5	U	3.2	U	3.	U	3.3	U	5.	U
75-35-4	1,1-Dichloroethene	3.7	U	3.	U	2.7	U	2.6	U	2.8	U	4.3	U
75-34-3	1,1-Dichloroethane	2.2	U	1.8	U	1.6	U	1.5	U	1.6	U	2.5	U
156-59-2	cis-1,2-Dichloroethene	2.4	U	1.9	U	1.7	U	1.7	U	1.8	U	7.7	I
156-60-5	trans-1,2-Dichloroethene	2.6	U	2.1	U	1.9	U	1.8	U	2.	U	3.	U
67-66-3	Chloroform	2.6	U	2.1	U	1.9	U	1.8	U	2.	U	3.	U
107-06-2	1,2-Dichloroethane	3.3	U	2.6	U	2.4	U	2.3	U	2.4	U	3.8	U
78-93-3	2-Butanone (MEK)	10.	U	8.2	U	7.4	U	7.1	U	7.7	U	12.	U
71-55-6	1,1,1-Trichloroethane	1.8	U	1.4	U	1.3	U	1.2	U	1.3	U	2.	U
56-23-5	Carbon tetrachloride	2.	U	1.6	U	1.5	U	1.4	U	1.5	U	2.4	U
75-27-4	Bromodichloromethane	2.8	U	2.3	U	2.	U	2.	U	2.1	U	3.3	U
79-34-5	1,1,2,2-Tetrachloroethane	4.4	U	3.5	U	3.2	U	3.	U	3.3	U	5.	U
78-87-5	1,2-Dichloropropane	2.6	U	2.1	U	1.9	U	1.8	U	2.	U	3.	U
10061-02-6	trans-1,3-Dichloropropene	3.5	U	2.8	U	2.5	U	2.4	U	2.6	U	4.	U
79-01-6	Trichloroethene	2.4	U	1.9	U	1.7	U	1.7	U	1.8	U	2.8	U
124-48-1	Dibromochloromethane	3.	U	2.4	U	2.2	U	2.1	U	2.3	U	3.5	U
79-00-5	1,1,2-Trichloroethane	3.9	U	3.2	U	2.8	U	2.7	U	2.9	U	4.5	U
71-43-2	Benzene	2.4	U	1.9	U	1.7	U	1.7	U	1.8	U	2.8	U
10061-01-5	cis-1,3-Dichloropropene	2.6	U	2.1	U	1.9	U	1.8	U	2.	U	3.	U
75-25-2	Bromoform	3.7	U	3.	U	2.7	U	2.6	U	2.8	U	4.3	U
591-78-6	2-Hexanone	11.	U	8.9	U	8.	U	7.7	U	8.3	U	13.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	11.	U	8.8	U	7.9	U	7.5	U	8.2	U	13.	U
127-18-4	Tetrachloroethene	3.3	U	2.6	U	2.4	U	2.3	U	2.4	U	3.8	U
108-88-3	Toluene	3.9	U	3.2	U	2.8	U	3.5	I	2.9	U	4.5	U
108-90-7	Chlorobenzene	2.8	U	2.3	U	2.	U	2.	U	2.1	U	3.3	U
100-41-4	Ethylbenzene	2.2	U	1.8	U	1.6	U	1.5	U	1.6	U	2.5	U
100-42-5	Styrene	2.4	U	1.9	U	1.7	U	1.7	U	1.8	U	2.8	U
1330-20-7	Xylene (Total)	6.5	U	5.2	U	4.7	U	4.5	U	4.9	U	7.6	U

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 VOA	SAMPLE ID ------->	041-T-B000-01		041-F-E000-01		041-E-M000-01		BLK-0-EN16-14		BLK-0-EN16-23		BLK-0-EN16-30	
	ORIGINAL ID ----->	041TB00001		041FE00001		041EM00001		MBLANK14		MBLANK23		MBLANK30	
	LAB SAMPLE ID --->	S442931*9		S442931*7		S442931*8		S442931*14		S442931*23		S442931*30	
	SAMPLE DATE ----->	04/06/04		04/06/04		04/06/04							
	DATE EXTRACTED -->	04/17/04		04/16/04		04/19/04		04/09/04		04/16/04		04/12/04	
	DATE ANALYZED --->	04/17/04		04/16/04		04/19/04		04/09/04		04/16/04		04/12/04	
	MATRIX ---------->	Water		Water		Water		Soil		Water		Soil	
	UNITS ---------->	UG/L	B	UG/L	B	UG/L	B	UG/KG	D	UG/L	D	UG/KG	D
CAS #	Parameter												
74-87-3	Chloromethane	0.39	U	0.39	U	0.39	U	1.4	U	0.39	U	1.4	U
74-83-9	Bromomethane	0.62	U	0.62	U	0.62	U	3.4	U	0.62	U	3.4	U
75-01-4	Vinyl chloride	0.56	U	0.56	U	0.56	U	1.4	U	0.56	U	1.4	U
75-00-3	Chloroethane	0.78	U	0.78	U	0.78	U	1.7	U	0.78	U	1.7	U
75-09-2	Methylene chloride	0.64	U	0.64	U	0.64	U	2.4	U	0.64	U	2.4	U
67-64-1	Acetone	5.	U	5.	U	5.	U	8.	U	5.	U	8.	U
75-15-0	Carbon disulfide	0.66	U	0.66	U	0.66	U	2.	U	0.66	U	2.	U
75-35-4	1,1-Dichloroethene	0.36	U	0.36	U	0.36	U	1.7	U	0.36	U	1.7	U
75-34-3	1,1-Dichloroethane	0.36	U	0.36	U	0.36	U	1.	U	0.36	U	1.	U
156-59-2	cis-1,2-Dichloroethene	0.38	U	0.38	U	0.38	U	1.1	U	0.38	U	1.1	U
156-60-5	trans-1,2-Dichloroethene	0.4	U	0.4	U	0.4	U	1.2	U	0.4	U	1.2	U
67-66-3	Chloroform	0.37	U	0.37	U	0.37	U	1.2	U	0.37	U	1.2	U
107-06-2	1,2-Dichloroethane	0.26	U	0.26	U	0.26	U	1.5	U	0.26	U	1.5	U
78-93-3	2-Butanone (MEK)	1.3	U	1.3	U	1.3	U	4.7	U	1.3	U	4.7	U
71-55-6	1,1,1-Trichloroethane	0.32	U	0.32	U	0.32	U	0.81	U	0.32	U	0.81	U
56-23-5	Carbon tetrachloride	0.31	U	0.31	U	0.31	U	0.94	U	0.31	U	0.94	U
75-27-4	Bromodichloromethane	0.14	U	0.14	U	0.14	U	1.3	U	0.14	U	1.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.18	U	0.18	U	0.18	U	2.	U	0.18	U	2.	U
78-87-5	1,2-Dichloropropane	0.33	U	0.33	U	0.33	U	1.2	U	0.33	U	1.2	U
10061-02-6	trans-1,3-Dichloropropene	0.26	U	0.26	U	0.26	U	1.6	U	0.26	U	1.6	U
79-01-6	Trichloroethene	0.37	U	0.37	U	0.37	U	1.1	U	0.37	U	1.1	U
124-48-1	Dibromochloromethane	0.5	U	0.5	U	0.5	U	1.4	U	0.5	U	1.4	U
79-00-5	1,1,2-Trichloroethane	0.22	U	0.22	U	0.22	U	1.8	U	0.22	U	1.8	U
71-43-2	Benzene	0.36	U	0.36	U	0.36	U	1.1	U	0.36	U	1.1	U
10061-01-5	cis-1,3-Dichloropropene	0.23	U	0.23	U	0.23	U	1.2	U	0.23	U	1.2	U
75-25-2	Bromoform	0.33	U	0.33	U	0.33	U	1.7	U	0.33	U	1.7	U
591-78-6	2-Hexanone	0.93	U	0.93	U	0.93	U	5.1	U	0.93	U	5.1	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.65	U	0.65	U	0.65	U	5.	U	0.65	U	5.	U
127-18-4	Tetrachloroethene	0.35	U	0.35	U	0.35	U	1.5	U	0.35	U	1.5	U
108-88-3	Toluene	0.54	U	0.54	U	0.54	U	1.8	U	0.54	U	1.8	U
108-90-7	Chlorobenzene	0.34	U	0.34	U	0.34	U	1.3	U	0.34	U	1.3	U
100-41-4	Ethylbenzene	0.34	U	0.34	U	0.34	U	1.	U	0.34	U	1.	U
100-42-5	Styrene	0.25	U	0.25	U	0.25	U	1.1	U	0.25	U	1.1	U
1330-20-7	Xylene (Total)	1.3	U	1.3	U	1.3	U	3.	U	1.3	U	3.	U

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN16 VOA			
	SAMPLE ID ------->	BLK-0-EN16-33	
	ORIGINAL ID ----->	MBLANK33	
	LAB SAMPLE ID --->	S442931*33	
	SAMPLE DATE ----->		
	DATE EXTRACTED -->	04/19/04	
	DATE ANALYZED --->	04/19/04	
	MATRIX ---------->	Water	
	UNITS ---------->	UG/L	D
CAS #	Parameter		
74-87-3	Chloromethane	0.39	U
74-83-9	Bromomethane	0.62	U
75-01-4	Vinyl chloride	0.56	U
75-00-3	Chloroethane	0.78	U
75-09-2	Methylene chloride	0.64	U
67-64-1	Acetone	5.	U
75-15-0	Carbon disulfide	0.66	U
75-35-4	1,1-Dichloroethene	0.36	U
75-34-3	1,1-Dichloroethane	0.36	U
156-59-2	cis-1,2-Dichloroethene	0.38	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
67-66-3	Chloroform	0.37	U
107-06-2	1,2-Dichloroethane	0.26	U
78-93-3	2-Butanone (MEK)	1.3	U
71-55-6	1,1,1-Trichloroethane	0.32	U
56-23-5	Carbon tetrachloride	0.31	U
75-27-4	Bromodichloromethane	0.14	U
79-34-5	1,1,2,2-Tetrachloroethane	0.18	U
78-87-5	1,2-Dichloropropane	0.33	U
10061-02-6	trans-1,3-Dichloropropene	0.26	U
79-01-6	Trichloroethene	0.37	U
124-48-1	Dibromochloromethane	0.5	U
79-00-5	1,1,2-Trichloroethane	0.22	U
71-43-2	Benzene	0.36	U
10061-01-5	cis-1,3-Dichloropropene	0.23	U
75-25-2	Bromoform	0.33	U
591-78-6	2-Hexanone	0.93	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.65	U
127-18-4	Tetrachloroethene	0.35	U
108-88-3	Toluene	0.54	U
108-90-7	Chlorobenzene	0.34	U
100-41-4	Ethylbenzene	0.34	U
100-42-5	Styrene	0.25	U
1330-20-7	Xylene (Total)	1.3	U

Validation Worksheets - LEVEL II

Site: Pensacola Site 41 - Resampling Project No. 0036-001-00-130-00

SDG # PEN17 Matrix sediment + QC blanks Lab: STL Savannah

List Method(s)/Method number(s):

VOCs (8260B) Low Concentration PAHs (8270C) TOC (9060)

SVOCs minus PAHs (8270C) Pesticides/PCBs (8081A/8082) Total & Dissolved Metals (6010B/7470A/7471A)

CRITERIA MET? YES	NO		NONCOMPLIANCE NOTES
☑	☐	Hold Times Met	Attach list of samples which exceed hold times. Indicate total hold time and qualifiers.
System Monitoring Compounds Recovery			Attach list noncompliant %Rs or attach form. Indicate all noncompliances and qualifiers.
☑	☐	All recoveries within criteria	
Matrix Spike/Matrix Spike Duplicate ☑ Not Applicable			List noncompliant %Rs and RPDs or attach form. Indicate all noncompliances and qualifiers.
Sample used for MS/MSD _____			
☐	☐	Recoveries for MS within lab limits	
☐	☐	Recoveries for MSD within lab limits ☐NA	
☐	☐	RPDs within lab limits ☐NA	
Lab Control Standard ☐ Not Applicable			List noncompliant %Rs or attach form. Indicate all noncompliances and qualifiers.
☐	☑	Recoveries within limits	LCS 42931-19, Batch 0415N, Parm aldrin, LCS%R 127*, Limits 34-124, Action none-bias is high and all aldrin was undetected
Blanks: Method - Trip - Field			List all contaminants, concentrations and action level.
☐	☑	Method blank clean?	**See attached**
☐	☑	Field blank clean? ☐NA	**--aldrin: no action - all results were undetected.**
☐	☑	Equip. blank clean? ☐NA	**--acetone: no action - all results were undetected.**
☐	☑	Trip blank clean? ☐NA	**--MEK: 041W061002 flagged "U".**
☑	☐	***Comments Below Applies to Metals Blanks***	**--Metals were not flagged based on judgement**
Field Duplicates ☐NA			Identify field duplicate pair and attach list of all compounds with noncompliant RPDs. Indicate qualifiers.
Sample IDs: 041W720102 , 041R720102			**See attached**
☐	☑	Within RPD Criteria	
Sample Results ☐NA			Call (fax) lab for resubmittals. Attach all resubmittal correspondence to this review.
☑	☐	Reporting Limits adjusted for % moisture/dilutions	
☐	☐NA	Results > Calibration qualified E	
☑	☐	Dilutions/Reanalyses present (if necessary)	

COMMENTS: Lab, and Field QC blanks were assessed but no inorganics were flagged "U" because of blank contaminants. This was based on professional judgment and the fact that many elements are naturally occurring in potable water. Therefore, results represent worst-case.

Reviewer: Tina Cantwell Date 5 / 25 / 04

VALIDATION NOTES (Check all that apply)

☑ Sample(s) **Pesticide sample 041M19A101 was diluted because of DDT breakdown. Because DDT, DDD & DDE were undetected, no effect on results is expected. Therefore, the original pesticide results were used. The PCB samples were also diluted because lab analyzed it on the same run; however, the original (undiluted) results for PCBs were used because DDT breakdown does not affect PCB quantitation.**

were DILUTED due to:

[ ] Surrogates outside QC limit
[ ] Internal standard area counts outside QC limits
[ ] Internal standard retention times outside QC limits
[ ] Tuning criteria was not met
[X] Other (specify) **DDT breakdown in performance evaluation mixture.**

Sample(s) **Undiluted results for pesticides & PCBs which were reported from the diluted results.**

are the PREFERRED analysis and will be reported on the data table as a primary (A) sample

☐ Sample(s) _____

were REANALYZED due to:

[ ] Surrogates outside QC limit
[ ] Internal standard area counts outside QC limits
[ ] Internal standard retention times outside QC limits
[ ] Tuning criteria was not met
[ ] Other (specify) _____

Sample(s) _____

are the PREFERRED analysis and will be reported on the data table as a primary (A) sample

☐ Sample(s) _____

were DILUTED because one or more compounds exceeded the calibration range (flagged "E" by the lab). The values that exceeded the calibration range in the original sample were substituted by the diluted values. The "D" flag was left on the substituted values to alert the data user that the results were taken from a secondary dilution. The remaining values in the diluted sample should not be used for interpretation and will not appear on the data tables.

☐ In Sample(s) _____

One or more compounds exceeded the calibration range (flagged "E" by the lab) and the sample was diluted. However, the compound(s) were undetected upon dilution. The original result reported outside the calibration range was used and the estimated concentration flagged "J"

Holding Times

SDG	Method	Matrix	Lab ID	Sample ID	Ext	Sample Date	Date Extr	Date Anal	Days from Sample to Extraction	Holding Time to Extraction	Extr HT Met?	Days from Extraction to Analysis	Holding Time to Analysis	Analysis HT Met?
PEN17	LOW PAH	S	S443041*1	041M19A101		4/8/2004	4/15/2004	4/17/2004	7	14	Yes	2	40	Yes
PEN17	PCB	S	S443041*1	041M19A101		4/8/2004	4/15/2004	4/29/2004	7	14	Yes	14	40	Yes
PEN17	PCB	S	S443041*1*DL	041M19A101	DL	4/8/2004	4/15/2004	4/29/2004	7	14	Yes	14	40	Yes
PEN17	PEST	S	S443041*1	041M19A101		4/8/2004	4/15/2004	4/29/2004	7	14	Yes	14	40	Yes
PEN17	PEST	S	S443041*1*DL	041M19A101	DL	4/8/2004	4/15/2004	4/29/2004	7	14	Yes	14	40	Yes
PEN17	SVOA	S	S443041*1	041M19A101		4/8/2004	4/15/2004	4/22/2004	7	14	Yes	7	40	Yes
PEN17	TOC	S	S443041*1	041M19A101		4/8/2004	4/19/2004	4/20/2004	N/A	N/A	N/A	12	28	Yes
PEN17	TOT METAL	S	S443041*1	041M19A101		4/8/2004	4/12/2004	4/15/2004	N/A	N/A	N/A	7	28	Yes
PEN17	VOA	S	S443041*1	041M19A101		4/8/2004	4/19/2004	4/19/2004	N/A	N/A	N/A	11	14	Yes
PEN17	DISS METAL	W	S443041*10	041W720102		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	DISS METAL	W	S443041*11	041R720102		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	DISS METAL	W	S443041*2	041W061002		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	DISS METAL	W	S443041*3	041EW00001		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	DISS METAL	W	S443041*5	033W000102		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	DISS METAL	W	S443041*6	041W63A202		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	DISS METAL	W	S443041*7	041W170102		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	DISS METAL	W	S443041*8	041W150102		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	DISS METAL	W	S443041*9	041W19A102		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	TOT METAL	W	S443041*10	041W720102		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	TOT METAL	W	S443041*11	041R720102		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	TOT METAL	W	S443041*2	041W061002		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	TOT METAL	W	S443041*3	041EW00001		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	TOT METAL	W	S443041*5	033W000102		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	TOT METAL	W	S443041*6	041W63A202		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	TOT METAL	W	S443041*7	041W170102		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	TOT METAL	W	S443041*8	041W150102		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	TOT METAL	W	S443041*9	041W19A102		4/8/2004	4/13/2004	4/14/2004	N/A	N/A	N/A	6	28	Yes
PEN17	VOA	W	S443041*2	041W061002		4/8/2004	4/15/2004	4/15/2004	N/A	N/A	N/A	7	14	Yes
PEN17	VOA	W	S443041*3	041EW00001		4/8/2004	4/15/2004	4/15/2004	N/A	N/A	N/A	7	14	Yes
PEN17	VOA	W	S443041*4	041TB00002		4/8/2004	4/15/2004	4/15/2004	N/A	N/A	N/A	7	14	Yes

Blank Outliers

SDG	Method	Sample Id	Type	Samp Date	Date Extract	Date Anal	Parameter	Result	Qual	Units	AL	Units
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Aluminum	39.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Aluminum	13.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Arsenic	3.7000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Barium	0.3000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Barium	0.7000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Beryllium	0.8200	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Beryllium	0.3000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Calcium	11.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Calcium	31.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Cobalt	1.4000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Iron	21.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Manganese	0.4500	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Mercury	0.1000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Potassium	12.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Silver	1.5000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Sodium	67.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Sodium	59.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	DISS METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Zinc	3.9000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Aluminum	2.0000	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Aluminum	13.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Aluminum	23.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Antimony	0.9000	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Barium	0.0460	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Barium	0.4200	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Beryllium	0.0230	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Beryllium	0.3100	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Beryllium	0.3100	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Cadmium	0.0830	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Calcium	43.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Calcium	15.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Iron	2.8000	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Iron	31.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Lead	0.3400	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Magnesium	0.8800	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Manganese	0.4500	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Potassium	2.5000	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Potassium	23.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Silver	1.5000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Sodium	0.7700	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Sodium	23.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	041EW00001	Equip	4/8/2004	4/13/2004	4/14/2004	Sodium	21.0000	I	UG/L	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Vanadium	0.0970	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1716	Lab		4/12/2004	4/15/2004	Zinc	0.5100	I	MG/KG	No action taken on metals, based on judgement	
PEN17	TOT METAL	BLK0EN1725	Lab		4/13/2004	4/14/2004	Zinc	0.7200	I	UG/L	No action taken on metals, based on judgement	
PEN17	VOA	BLK0EN1725	**Lab**		4/15/2004	4/15/2004	**2-Butanone (MEK)**	5.7000	I	UG/L	**57**	UG/KG or UG/L
PEN17	VOA	041EW00001	**Equip**	4/8/2004	4/15/2004	4/15/2004	**2-Butanone (MEK)**	6.1000	IV	UG/L	**61**	UG/KG or UG/L
PEN17	VOA	041TB00002	**Trip**	4/8/2004	4/15/2004	4/15/2004	**2-Butanone (MEK)**	7.3000	IV	UG/L	**73**	UG/KG or UG/L
PEN17	VOA	041TB00002	**Trip**	4/8/2004	4/15/2004	4/15/2004	**Acetone**	8.7000	I	UG/L	**87**	UG/KG or UG/L
PEN17	PEST	BLK0EN1716	**Lab**		4/15/2004	4/29/2004	**Aldrin**	0.0260	I	UG/KG	**0.13**	UG/KG

Blank Outliers

SDG	Method	Sample Id	Type	Samp Date	Date Extract	Date Anal	Parameter	Result	Qual	Units	AL	Units
PEN16	DISS METAL	BLK0EN1623	Lab		4/12/2004	4/13/2004	Aluminum	7.6000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	BLK0EN1623	Lab		4/12/2004	4/13/2004	Barium	0.3600	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Barium	0.3400	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041FE00001	Field	4/6/2004	4/12/2004	4/13/2004	Barium	0.5200	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	BLK0EN1623	Lab		4/12/2004	4/13/2004	Calcium	18.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Calcium	18.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041FE00001	Field	4/6/2004	4/12/2004	4/13/2004	Calcium	12.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	BLK0EN1623	Lab		4/12/2004	4/13/2004	Chromium	1.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Iron	50.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Magnesium	17.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Manganese	0.8600	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041FE00001	Field	4/6/2004	4/12/2004	4/13/2004	Sodium	310.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	BLK0EN1623	Lab		4/12/2004	4/13/2004	Zinc	4.7000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Zinc	4.6000	I	UG/L	No action taken on metals, based on judgement	
PEN16	DISS METAL	041FE00001	Field	4/6/2004	4/12/2004	4/13/2004	Zinc	2.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Aluminum	2.0000	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1623	Lab		4/12/2004	4/13/2004	Aluminum	12.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Aluminum	9.8000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	041FE00001	Field	4/6/2004	4/12/2004	4/13/2004	Aluminum	7.7000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Antimony	0.9000	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Barium	0.0460	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Beryllium	0.0230	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Cadmium	0.0830	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1623	Lab		4/12/2004	4/13/2004	Calcium	8.5000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Calcium	16.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	041FE00001	Field	4/6/2004	4/12/2004	4/13/2004	Calcium	7.1000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Iron	2.8000	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Lead	0.3400	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Magnesium	0.8800	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Manganese	0.7200	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	041FE00001	Field	4/6/2004	4/12/2004	4/13/2004	Manganese	0.2400	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Mercury	0.1200	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Potassium	2.5000	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Potassium	27.0000	I	UG/L	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Sodium	0.7700	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Vanadium	0.0970	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	BLK0EN1614	Lab		4/12/2004	4/15/2004	Zinc	0.5100	I	MG/KG	No action taken on metals, based on judgement	
PEN16	TOT METAL	041EM00001	Equip	4/6/2004	4/12/2004	4/13/2004	Zinc	1.1000	I	UG/L	No action taken on metals, based on judgement	
PEN16	LOW PAH	041FE00001	**Field**	4/6/2004	4/13/2004	4/14/2004	**Naphthalene**	0.1100	I	UG/L	**18.15**	UG/KG
PEN16	LOW PAH	041FE00001	**Field**	4/6/2004	4/13/2004	4/14/2004	**Phenanthrene**	0.0520	I	UG/L	**8.58**	UG/KG
PEN16	PEST	BLK0EN1614	**Lab**		4/15/2004	4/29/2004	**Aldrin**	1.4000	I	UG/KG	**7**	UG/KG
PEN16	PEST	BLK0EN1623	**Lab**		4/12/2004	4/16/2004	**Aldrin**	0.0260	I	UG/L	**4.29**	UG/KG

Field Dup Precision

SDG	Method	Parameter	Result	Vqual	Result	Vqual	Units	RPD	RPD >50?	Flags
			041W720102		041R720102					
PEN17	DISS METAL	Aluminum	220.0000		210.0000		UG/L	-4.7	No	
PEN17	DISS METAL	Antimony	3.9000	U	3.9000	U	UG/L	0.0	No	
PEN17	DISS METAL	Arsenic	3.3000	U	3.3000	U	UG/L	0.0	No	
PEN17	DISS METAL	Barium	11.0000		11.0000		UG/L	0.0	No	
PEN17	DISS METAL	Beryllium	0.3100	I	0.3200	I	UG/L	3.2	No	
PEN17	DISS METAL	Cadmium	0.6000	U	0.6000	U	UG/L	0.0	No	
PEN17	DISS METAL	Calcium	11000.0000		11000.0000		UG/L	0.0	No	
PEN17	DISS METAL	Chromium	1.4000	U	1.4000	U	UG/L	0.0	No	
PEN17	DISS METAL	Cobalt	1.2000	U	1.2000	U	UG/L	0.0	No	
PEN17	DISS METAL	Copper	0.6000	U	0.6000	U	UG/L	0.0	No	
PEN17	DISS METAL	Iron	110.0000		110.0000		UG/L	0.0	No	
PEN17	DISS METAL	Lead	1.9000	U	1.9000	U	UG/L	0.0	No	
PEN17	DISS METAL	Magnesium	1500.0000		1400.0000		UG/L	-6.9	No	
PEN17	DISS METAL	Manganese	3.9000	I	4.8000	I	UG/L	20.7	No	
PEN17	DISS METAL	Nickel	1.5000	U	1.5000	U	UG/L	0.0	No	
PEN17	DISS METAL	Potassium	920.0000	I	910.0000	I	UG/L	-1.1	No	
PEN17	DISS METAL	Selenium	5.3000	U	5.3000	U	UG/L	0.0	No	
PEN17	DISS METAL	Silver	1.1000	U	1.1000	U	UG/L	0.0	No	
PEN17	DISS METAL	Sodium	5200.0000		5100.0000		UG/L	-1.9	No	
PEN17	DISS METAL	Thallium	7.6000	U	7.6000	U	UG/L	0.0	No	
PEN17	DISS METAL	Vanadium	0.9400	I	1.2000	I	UG/L	24.3	No	
PEN17	DISS METAL	Zinc	3.0000	I	1.9000	I	UG/L	-44.9	No	
PEN17	DISS METAL	Mercury	0.0780	U	0.0780	U	UG/L	0.0	No	
PEN17	TOT METAL	Aluminum	830.0000		740.0000		UG/L	-11.5	No	
PEN17	TOT METAL	Antimony	3.9000	U	3.9000	U	UG/L	0.0	No	
PEN17	TOT METAL	Arsenic	3.3000	U	3.3000	U	UG/L	0.0	No	
PEN17	TOT METAL	Barium	12.0000		12.0000		UG/L	0.0	No	
PEN17	TOT METAL	**Beryllium**	0.7800	I	0.4100	I	UG/L	-62.2	Yes	None-already I-flagged
PEN17	TOT METAL	Cadmium	0.6000	U	0.6000	U	UG/L	0.0	No	
PEN17	TOT METAL	Calcium	9700.0000		10000.0000		UG/L	3.0	No	
PEN17	TOT METAL	Chromium	1.4000	U	1.4000	U	UG/L	0.0	No	
PEN17	TOT METAL	Cobalt	1.2000	U	1.2000	U	UG/L	0.0	No	
PEN17	TOT METAL	Copper	0.6000	U	0.6000	U	UG/L	0.0	No	
PEN17	TOT METAL	Iron	1200.0000		1000.0000		UG/L	-18.2	No	
PEN17	TOT METAL	Lead	2.3000	I	2.5000	I	UG/L	8.3	No	
PEN17	TOT METAL	Magnesium	1400.0000		1400.0000		UG/L	0.0	No	
PEN17	TOT METAL	Manganese	7.7000	I	7.7000	I	UG/L	0.0	No	
PEN17	TOT METAL	Nickel	1.5000	U	1.5000	U	UG/L	0.0	No	
PEN17	TOT METAL	Potassium	990.0000	I	930.0000	I	UG/L	-6.3	No	
PEN17	TOT METAL	Selenium	5.3000	U	5.3000	U	UG/L	0.0	No	
PEN17	TOT METAL	Silver	1.1000	U	1.1000	U	UG/L	0.0	No	
PEN17	TOT METAL	Sodium	5400.0000		5100.0000		UG/L	-5.7	No	
PEN17	TOT METAL	Thallium	7.6000	U	7.6000	U	UG/L	0.0	No	
PEN17	TOT METAL	Vanadium	3.7000	I	2.9000	I	UG/L	-24.2	No	
PEN17	TOT METAL	**Zinc**	1.7000	I	0.6000	U	UG/L	-95.7	Yes	I (+) / UJ (ND)
PEN17	TOT METAL	Mercury	0.0780	U	0.0780	U	UG/L	0.0	No	

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN17 DISS METAL													
	SAMPLE ID ------->	033-W-0001-02		041-W-0610-02		041-W-1501-02		041-W-1701-02		041-W-19A1-02		041-W-63A2-02	
	ORIGINAL ID ----->	033W000102		041W061002		041W150102		041W170102		041W19A102		041W63A202	
	LAB SAMPLE ID --->	S443041*5		S443041*2		S443041*8		S443041*7		S443041*9		S443041*6	
	SAMPLE DATE ----->	04/08/04		04/08/04		04/08/04		04/08/04		04/08/04		04/08/04	
	DATE EXTRACTED -->	04/13/04		04/13/04		04/13/04		04/13/04		04/13/04		04/13/04	
	DATE ANALYZED --->	04/14/04		04/14/04		04/14/04		04/14/04		04/14/04		04/14/04	
	MATRIX ---------->	Water		Water		Water		Water		Water		Water	
	UNITS ---------->	UG/L	A	UG/L	A	UG/L	A	UG/L	A	UG/L	A	UG/L	A
CAS #	Parameter												
7429-90-5	Aluminum	32.	I	53.	I	35.	I	44.	I	57.	I	17.	I
7440-36-0	Antimony	3.9	U	3.9	U	3.9	U	3.9	U	3.9	U	3.9	U
7440-38-2	Arsenic	3.3	U	3.3	U	3.6	I	3.3	U	3.3	U	3.9	I
7440-39-3	Barium	12.		40.		40.		17.		5.4	I	58.	
7440-41-7	Beryllium	0.3	I	0.94	I	0.57	I	0.66	I	0.28	I	0.33	I
7440-43-9	Cadmium	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
7440-70-2	Calcium	44000.		24000.		170000.		230000.		6900.		74000.	
7440-47-3	Chromium	1.4	U	1.7	I	1.4	U	1.4	U	1.4	U	1.4	U
7440-48-4	Cobalt	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
7440-50-8	Copper	0.6	U	1.3	I	0.6	U	0.6	U	0.6	U	0.6	U
7439-89-6	Iron	24.	I	450.		18.	U	18.	U	190.		22.	I
7439-92-1	Lead	1.9	U	3.6	I	1.9	U	1.9	U	1.9	U	1.9	U
7439-95-4	Magnesium	6600.		3500.		440000.		700000.		1100.		5700.	
7439-96-5	Manganese	1.9	I	6.8	I	3.4	I	19.		2.2	I	0.4	U
7440-02-0	Nickel	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
7440-09-7	Potassium	3800.		2600.		160000.		250000.		690.	I	1300.	
7782-49-2	Selenium	5.3	U	5.3	U	5.3	U	5.3	U	5.3	U	5.3	U
7440-22-4	Silver	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
7440-23-5	Sodium	31000.		13000.		3400000.		5100000.		5400.		14000.	
7440-28-0	Thallium	7.6	U	7.6	U	8.9	I	8.7	I	7.6	U	7.6	U
7440-62-2	Vanadium	0.7	U	0.94	I	0.7	U	0.7	U	0.7	U	1.2	I
7440-66-6	Zinc	0.6	U	17.	I	5.6	I	2.7	I	1.9	I	3.8	I
7439-97-6	Mercury	0.11	I	0.078	U	0.093	I	0.081	I	0.078	U	0.078	U

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN17 DISS METAL	SAMPLE ID ------->	041-W-7201-02		041-R-7201-02		041-E-W000-01		BLK-0-EN17-25			
	ORIGINAL ID ----->	041W720102		041R720102		041EW00001		MBLANK25			
	LAB SAMPLE ID --->	S443041*10		S443041*11		S443041*3		S443041*25			
	SAMPLE DATE ----->	04/08/04		04/08/04		04/08/04					
	DATE EXTRACTED -->	04/13/04		04/13/04		04/13/04		04/13/04			
	DATE ANALYZED --->	04/14/04		04/14/04		04/14/04		04/14/04			
	MATRIX ---------->	Water		Water		Water		Water			
	UNITS ---------->	UG/L	A	UG/L	A	UG/L	B	UG/L	D		
CAS #	Parameter										
7429-90-5	Aluminum	220.		210.		13.	I	39.	I		
7440-36-0	Antimony	3.9	U	3.9	U	3.9	U	3.9	U		
7440-38-2	Arsenic	3.3	U	3.3	U	3.3	U	3.7	I		
7440-39-3	Barium	11.		11.		0.7	I	0.3	I		
7440-41-7	Beryllium	0.31	I	0.32	I	0.3	I	0.82	I		
7440-43-9	Cadmium	0.6	U	0.6	U	0.6	U	0.6	U		
7440-70-2	Calcium	11000.		11000.		31.	I	11.	I		
7440-47-3	Chromium	1.4	U	1.4	U	1.4	U	1.4	U		
7440-48-4	Cobalt	1.2	U	1.2	U	1.2	U	1.4	I		
7440-50-8	Copper	0.6	U	0.6	U	0.6	U	0.6	U		
7439-89-6	Iron	110.		110.		18.	U	21.	I		
7439-92-1	Lead	1.9	U	1.9	U	1.9	U	1.9	U		
7439-95-4	Magnesium	1500.		1400.		8.5	U	8.5	U		
7439-96-5	Manganese	3.9	I	4.8	I	0.4	U	0.45	I		
7440-02-0	Nickel	1.5	U	1.5	U	1.5	U	1.5	U		
7440-09-7	Potassium	920.	I	910.	I	12.	I	8.9	U		
7782-49-2	Selenium	5.3	U	5.3	U	5.3	U	5.3	U		
7440-22-4	Silver	1.1	U	1.1	U	1.1	U	1.5	I		
7440-23-5	Sodium	5200.		5100.		59.	I	67.	I		
7440-28-0	Thallium	7.6	U	7.6	U	7.6	U	7.6	U		
7440-62-2	Vanadium	0.94	I	1.2	I	0.7	U	0.7	U		
7440-66-6	Zinc	3.	I	1.9	I	0.6	U	3.9	I		
7439-97-6	Mercury	0.078	U	0.078	U	0.078	U	0.1	I		

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN17 LOW PAH								
	SAMPLE ID ------->	041-M-19A1-01		BLK-0-EN17-16				
	ORIGINAL ID ----->	041M19A101		MBLANK16				
	LAB SAMPLE ID --->	S443041*1		S443041*16				
	SAMPLE DATE ----->	04/08/04						
	DATE EXTRACTED -->	04/15/04		04/15/04				
	DATE ANALYZED --->	04/17/04		04/16/04				
	MATRIX ---------->	Sedmnt		Soil				
	UNITS ---------->	UG/KG	A	UG/KG	D			
CAS #	Parameter							
91-20-3	Naphthalene	3.7	U	0.71	U			
208-96-8	Acenaphthylene	4.5	U	0.86	U			
83-32-9	Acenaphthene	4.7	U	0.9	U			
86-73-7	Fluorene	4.1	U	0.78	U			
85-01-8	Phenanthrene	5.6	I	0.8	U			
120-12-7	Anthracene	5.	U	0.96	U			
206-44-0	Fluoranthene	4.5	U	0.86	U			
129-00-0	Pyrene	6.3	U	1.2	U			
218-01-9	Chrysene	5.3	U	1.	U			
56-55-3	Benzo(a)anthracene	4.	U	0.76	U			
205-99-2	Benzo(b)fluoranthene	5.	U	0.96	U			
207-08-9	Benzo(k)fluoranthene	5.2	U	0.98	U			
50-32-8	Benzo(a)pyrene	4.7	U	0.9	U			
193-39-5	Indeno(1,2,3-cd)pyrene	3.4	U	0.65	U			
53-70-3	Dibenz(a,h)anthracene	4.6	U	0.88	U			
191-24-2	Benzo(g,h,i)perylene	3.2	U	0.61	U			
91-57-6	2-Methylnaphthalene	2.8	U	0.53	U			
90-12-0	1-Methyl naphthalene	1.8	U	0.35	U			

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN17 PCB											
	SAMPLE ID ------->	041-M-19A1-01		041-M-19A1-01DL		BLK-0-EN17-16					
	ORIGINAL ID ----->	041M19A101		041M19A101		MBLANK16					
	LAB SAMPLE ID --->	S443041*1		S443041*1*DL		S443041*16					
	SAMPLE DATE ----->	04/08/04		04/08/04							
	DATE EXTRACTED -->	04/15/04		04/15/04		04/15/04					
	DATE ANALYZED --->	04/29/04		04/29/04		04/29/04					
	MATRIX ---------->	Sedmnt		Sedmnt		Soil					
	UNITS ---------->	UG/KG	A	UG/KG	C	UG/KG	D				
CAS #	Parameter										
12674-11-2	Aroclor-1016	5.1	U	26.	U	3.9	U				
11104-28-2	Aroclor-1221	22.	U	110.	U	17.	U				
11141-16-5	Aroclor-1232	8.8	U	44.	U	6.7	U				
53469-21-9	Aroclor-1242	8.8	U	44.	U	6.7	U				
12672-29-6	Aroclor-1248	8.6	U	43.	U	6.5	U				
11097-69-1	Aroclor-1254	8.8	U	44.	U	6.7	U				
11096-82-5	Aroclor-1260	5.8	U	29.	U	4.4	U				

NOT Used

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN17 PEST													
	SAMPLE ID ------->	041-M-19A1-01			041-M-19A1-01DL			BLK-0-EN17-16					
	ORIGINAL ID ----->	041M19A101			041M19A101			MBLANK16					
	LAB SAMPLE ID --->	S443041*1			S443041*1*DL			S443041*16					
	SAMPLE DATE ----->	04/08/04			04/08/04								
	DATE EXTRACTED -->	04/15/04			04/15/04			04/15/04					
	DATE ANALYZED --->	04/29/04			04/29/04 Not used			04/29/04					
	MATRIX ---------->	Sedmnt			Sedmnt			Soil					
	UNITS ---------->	UG/KG		A	UG/KG		C	UG/KG		D			
CAS #	Parameter												
319-84-6	alpha-BHC	0.32	U*J4		1.6	U		0.24	U				
319-85-7	beta-BHC	0.38	U		1.9	U		0.29	U				
319-86-8	delta-BHC	0.16	U		0.79	U		0.12	U				
58-89-9	gamma-BHC (Lindane)	0.2	U		0.99	U		0.15	U				
76-44-8	Heptachlor	0.37	U		1.8	U		0.28	U				
309-00-2	Aldrin	0.14	U		0.72	U		0.026	I				
1024-57-3	Heptachlor epoxide	0.22	U		1.1	U		0.17	U				
959-98-8	Endosulfan I	0.22	U		1.1	U		0.17	U				
60-57-1	Dieldrin	0.41	U		2.	U		0.31	U				
72-55-9	4,4'-DDE	0.71	U		3.6	U		0.54	U				
72-20-8	Endrin	0.56	U		2.8	U		0.43	U				
7421-93-4	Endrin aldehyde	0.41	U		2.	U		0.31	U				
33213-65-9	Endosulfan II	0.29	U		1.4	U		0.22	U				
72-54-8	4,4'-DDD	0.46	U		2.3	U		0.35	U				
1031-07-8	Endosulfan sulfate	0.58	U		2.9	U		0.44	U				
50-29-3	4,4'-DDT	0.41	U		2.	U		0.31	U				
53494-70-5	Endrin ketone	0.5	U		2.5	U		0.38	U				
72-43-5	Methoxychlor	0.26	U		1.3	U		0.2	U				
5103-71-9	alpha-Chlordane	0.14	U		0.72	U		0.11	U				
5103-74-2	gamma-Chlordane	0.17	U		0.86	U		0.13	U				
8001-35-2	Toxaphene	43.	U		220.	U		33.	U				

PEN17 SVOA									
	SAMPLE ID ------->	041-M-19A1-01		BLK-0-EN17-16					
	ORIGINAL ID ----->	041M19A101		MBLANK16					
	LAB SAMPLE ID --->	S443041*1		S443041*16					
	SAMPLE DATE ----->	04/08/04							
	DATE EXTRACTED -->	04/15/04		04/15/04					
	DATE ANALYZED --->	04/22/04		04/19/04					
	MATRIX ---------->	Sedmnt		Soil					
	UNITS ---------->	UG/KG	A	UG/KG	D				
CAS #	Parameter								
108-95-2	Phenol	54.	U	41.	U				
111-44-4	bis(2-Chloroethyl)ether	49.	U	37.	U				
95-57-8	2-Chlorophenol	54.	U	41.	U				
541-73-1	1,3-Dichlorobenzene	30.	U	23.	U				
106-46-7	1,4-Dichlorobenzene	32.	U	24.	U				
95-50-1	1,2-Dichlorobenzene	30.	U	23.	U				
95-48-7	2-Methylphenol (o-Cresol)	60.	U	46.	U				
108-60-1	2,2'-oxybis(1-Chloropropane)/bis(2-chlor	42.	U	32.	U				
9999900-32-2	3-Methylphenol/4-Methylphenol	53.	U	40.	U				
621-64-7	N-Nitroso-di-n-propylamine	39.	U	30.	U				
67-72-1	Hexachloroethane	25.	U	19.	U				
98-95-3	Nitrobenzene	41.	U	31.	U				
78-59-1	Isophorone	34.	U	26.	U				
88-75-5	2-Nitrophenol	34.	U	26.	U				
105-67-9	2,4-Dimethylphenol	37.	U	28.	U				
111-91-1	bis(2-Chloroethoxy)methane	42.	U	32.	U				
120-83-2	2,4-Dichlorophenol	38.	U	29.	U				
120-82-1	1,2,4-Trichlorobenzene	50.	U	38.	U				
106-47-8	4-Chloroaniline	38.	U	29.	U				
87-68-3	Hexachlorobutadiene	36.	U	27.	U				
59-50-7	4-Chloro-3-methylphenol	53.	U	40.	U				
77-47-4	Hexachlorocyclopentadiene	360.	U	270.	U				
88-06-2	2,4,6-Trichlorophenol	42.	U	32.	U				
95-95-4	2,4,5-Trichlorophenol	41.	U	31.	U				
91-58-7	2-Chloronaphthalene	49.	U	37.	U				
88-74-4	2-Nitroaniline	33.	U	25.	U				
131-11-3	Dimethylphthalate	46.	U	35.	U				
99-09-2	3-Nitroaniline	39.	U	30.	U				
51-28-5	2,4-Dinitrophenol	450.	U	340.	U				
100-02-7	4-Nitrophenol	33.	U	25.	U				
132-64-9	Dibenzofuran	45.	U	34.	U				
121-14-2	2,4-Dinitrotoluene	29.	U	22.	U				
606-20-2	2,6-Dinitrotoluene	38.	U	29.	U				
84-66-2	Diethylphthalate	46.	U	35.	U				
7005-72-3	4-Chlorophenylphenyl ether	34.	U	26.	U				
100-01-6	4-Nitroaniline	34.	U	26.	U				
534-52-1	2-Methyl-4,6-Dinitrophenol	41.	U	31.	U				

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN17 SVOA								
	SAMPLE ID ------->	041-M-19A1-01		BLK-0-EN17-16				
	ORIGINAL ID ----->	041M19A101		MBLANK16				
	LAB SAMPLE ID --->	S443041*1		S443041*16				
	SAMPLE DATE ----->	04/08/04						
	DATE EXTRACTED -->	04/15/04		04/15/04				
	DATE ANALYZED --->	04/22/04		04/19/04				
	MATRIX ---------->	Sedmnt		Soil				
	UNITS ---------->	UG/KG	A	UG/KG	D			
CAS #	Parameter							
86-30-6	N-Nitrosodiphenylamine	39.	U	30.	U			
101-55-3	4-Bromophenyl-phenylether	39.	U	30.	U			
118-74-1	Hexachlorobenzene	50.	U	38.	U			
87-86-5	Pentachlorophenol	68.	J	34.	U			
84-74-2	Di-n-butylphthalate	51.	U	39.	U			
85-68-7	Butylbenzylphthalate	42.	U	32.	U			
91-94-1	3,3'-Dichlorobenzidine	34.	U	26.	U			
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	58.	U	44.	U			
117-84-0	Di-n-octylphthalate	42.	U	32.	U			
86-74-8	Carbazole	39.	U	30.	U			

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN17 TOC							
	SAMPLE ID ------->	041-M-19A1-01	BLK-0-EN17-16				
	ORIGINAL ID ----->	041M19A101	MBLANK16				
	LAB SAMPLE ID --->	S443041*1	S443041*16				
	SAMPLE DATE ----->	04/08/04					
	DATE EXTRACTED -->	04/19/04	04/20/04				
	DATE ANALYZED --->	04/20/04	04/20/04				
	MATRIX ---------->	Sedmnt	Soil				
	UNITS ---------->	MG/KG A	MG/KG D				
CAS #	Parameter						
9999900-01-4	Total Organic Carbon (TOC)	1700.	390. U				

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN17 TOT METAL	SAMPLE ID ------->	033-W-0001-02		041-W-0610-02		041-W-1501-02		041-W-1701-02		041-M-19A1-01		041-W-19A1-02	
	ORIGINAL ID ----->	033W000102		041W061002		041W150102		041W170102		041M19A101		041W19A102	
	LAB SAMPLE ID --->	S443041*5		S443041*2		S443041*8		S443041*7		S443041*1		S443041*9	
	SAMPLE DATE ----->	04/08/04		04/08/04		04/08/04		04/08/04		04/08/04		04/08/04	
	DATE EXTRACTED -->	04/13/04		04/13/04		04/13/04		04/13/04		04/12/04		04/13/04	
	DATE ANALYZED --->	04/14/04		04/14/04		04/14/04		04/14/04		04/15/04		04/14/04	
	MATRIX ---------->	Water		Water		Water		Water		Sedmnt		Water	
	UNITS ---------->	UG/L	A	UG/L	A	UG/L	A	UG/L	A	MG/KG	A	UG/L	A
CAS #	Parameter												
7429-90-5	Aluminum	480.		1200.		500.		66.	I	910.		330.	
7440-36-0	Antimony	3.9	U	3.9	U	11.	I	3.9	U	1.1	I	3.9	U
7440-38-2	Arsenic	3.3	U	5.7	I	5.5	I	4.8	I	0.56	I	3.3	U
7440-39-3	Barium	15.		46.		43.		18.		0.99	I	8.5	I
7440-41-7	Beryllium	0.5	I	0.34	I	0.67	I	0.62	I	0.036	I	0.74	I
7440-43-9	Cadmium	0.82	I	2.5	I	0.6	U	0.6	U	0.067	U	0.6	U
7440-70-2	Calcium	46000.		30000.		180000.		240000.		50.	I	6400.	
7440-47-3	Chromium	1.4	U	21.		2.5	I	1.4	U	0.95	I	1.4	U
7440-48-4	Cobalt	1.2	U	1.2	U	1.2	U	1.2	U	0.13	U	1.2	U
7440-50-8	Copper	1.6	I	19.	I	0.6	U	0.6	U	0.47	I	0.6	U
7439-89-6	Iron	900.		3300.		2600.		110.		540.		1000.	
7439-92-1	Lead	1.9	U	40.		1.9	U	1.9	U	1.5		1.9	U
7439-95-4	Magnesium	6900.		3800.		480000.		740000.		27.	I	1100.	
7439-96-5	Manganese	290.		110.		210.		26.		1.6		18.	
7440-02-0	Nickel	2.7	I	2.5	I	1.5	U	1.5	U	0.26	I	1.5	U
7440-09-7	Potassium	4000.		2400.		200000.		280000.		21.	I	780.	I
7782-49-2	Selenium	8.9	I	6.9	I	5.3	U	5.9	I	0.59	U	5.3	U
7440-22-4	Silver	1.1	U	1.1	U	1.1	U	1.1	U	0.12	U	1.1	U
7440-23-5	Sodium	33000.		13000.		3600000.		5600000.		3.5	I	5800.	
7440-28-0	Thallium	7.6	U	7.6	U	17.		8.3	I	0.85	U	7.6	U
7440-62-2	Vanadium	3.3	I	3.4	I	2.3	I	0.7	U	1.5		3.	I
7440-66-6	Zinc	2.	I	78.		13.	I	0.6	U	1.3	I	1.6	I
7439-97-6	Mercury	0.078	U	0.078	U	0.078	U	0.078	U	0.0048	U	0.078	U

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN17 TOT METAL						
SAMPLE ID ------->	041-W-63A2-02	041-W-7201-02	041-R-7201-02	041-E-W000-01	BLK-0-EN17-16	BLK-0-EN17-25
ORIGINAL ID ----->	041W63A202	041W720102	041R720102	041EW00001	MBLANK16	MBLANK25
LAB SAMPLE ID --->	S443041*6	S443041*10	S443041*11	S443041*3	S443041*16	S443041*25
SAMPLE DATE ----->	04/08/04	04/08/04	04/08/04	04/08/04		
DATE EXTRACTED -->	04/13/04	04/13/04	04/13/04	04/13/04	04/12/04	04/13/04
DATE ANALYZED --->	04/14/04	04/14/04	04/14/04	04/14/04	04/15/04	04/14/04
MATRIX ---------->	Water	Water	Water	Water	Soil	Water
UNITS ---------->	UG/L A	UG/L A	UG/L A	UG/L B	MG/KG D	UG/L D
CAS # Parameter		← Field dups →				
7429-90-5 Aluminum	25. I	830.	740.	23. I	2. I	13. I
7440-36-0 Antimony	3.9 U	3.9 U	3.9 U	3.9 U	0.9 I	3.9 U
7440-38-2 Arsenic	3.3 U	3.3 U	3.3 U	3.3 U	0.33 U	3.3 U
7440-39-3 Barium	61.	12.	12.	0.42 I	0.046 I	0.2 U
7440-41-7 Beryllium	0.44 I	0.78 I	0.41 I	0.31 I	0.023 I	0.31 I
7440-43-9 Cadmium	0.6 U	0.6 U	0.6 U	0.6 U	0.083 I	0.6 U
7440-70-2 Calcium	76000.	9700.	10000.	15. I	0.74 U	43. I
7440-47-3 Chromium	1.4 U	1.4 U	1.4 U	1.4 U	0.14 U	1.4 U
7440-48-4 Cobalt	1.2 U	1.2 U	1.2 U	1.2 U	0.12 U	1.2 U
7440-50-8 Copper	0.98 I	0.6 U	0.6 U	0.6 U	0.06 U	0.6 U
7439-89-6 Iron	140.	1200.	1000.	31. I	2.8 I	18. U
7439-92-1 Lead	1.9 U	2.3 I	2.5 I	1.9 U	0.34 I	1.9 U
7439-95-4 Magnesium	5800.	1400.	1400.	8.5 U	0.88 I	8.5 U
7439-96-5 Manganese	15.	7.7 I	7.7 I	0.4 U	0.04 U	0.45 I
7440-02-0 Nickel	1.5 U	1.5 U	1.5 U	1.5 U	0.15 U	1.5 U
7440-09-7 Potassium	1400.	990. I	930. I	23. I	2.5 I	8.9 U
7782-49-2 Selenium	5.3 U	5.3 U	5.3 U	5.3 U	0.53 U	5.3 U
7440-22-4 Silver	1.1 U	1.1 U	1.1 U	1.1 U	0.11 U	1.5 I
7440-23-5 Sodium	14000.	5400.	5100.	21. I	0.77 I	23. I
7440-28-0 Thallium	7.6 U	7.6 U	7.6 U	7.6 U	0.76 U	7.6 U
7440-62-2 Vanadium	1.7 I	3.7 I	2.9 I	0.7 U	0.097 I	0.7 U
7440-66-6 Zinc	1.8 I	1.7 I	0.6 U J	0.6 U	0.51 I	0.72 I
7439-97-6 Mercury	0.078 U	0.078 U	0.078 U	0.078 U	0.0043 U	0.078 U

PENSACOLA, SITE 41
PENSACOLA, SITE 41 RESAMPLING

PEN17 VOA	SAMPLE ID ------->	041-W-0610-02		041-M-19A1-01		041-T-B000-02		041-E-W000-01		BLK-0-EN17-16		BLK-0-EN17-25	
	ORIGINAL ID ----->	041W061002		041M19A101		041TB00002		041EW00001		MBLANK16		MBLANK25	
	LAB SAMPLE ID --->	S443041*2		S443041*1		S443041*4		S443041*3		S443041*16		S443041*25	
	SAMPLE DATE ----->	04/08/04		04/08/04		04/08/04		04/08/04					
	DATE EXTRACTED -->	04/15/04		04/19/04		04/15/04		04/15/04		04/19/04		04/15/04	
	DATE ANALYZED --->	04/15/04		04/19/04		04/15/04		04/15/04		04/19/04		04/15/04	
	MATRIX ---------->	Water		Sedmnt		Water		Water		Soil		Water	
	UNITS ---------->	UG/L	A	UG/KG	A	UG/L	B	UG/L	B	UG/KG	D	UG/L	D
CAS #	Parameter												
74-87-3	Chloromethane	0.39	U	1.7	U	0.39	U	0.39	U	1.4	U	0.39	U
74-83-9	Bromomethane	0.62	U	4.2	U	0.62	U	0.62	U	3.4	U	0.62	U
75-01-4	Vinyl chloride	0.56	U	1.7	U	0.56	U	0.56	U	1.4	U	0.56	U
75-00-3	Chloroethane	0.78	U	2.1	U	0.78	U	0.78	U	1.7	U	0.78	U
75-09-2	Methylene chloride	0.64	U	3.	U	0.64	U	0.64	U	2.4	U	0.64	U
67-64-1	Acetone	5.	U	9.9	U	8.7	I	5.	U	8.	U	5.	U
75-15-0	Carbon disulfide	0.66	U	2.5	U	0.66	U	0.66	U	2.	U	0.66	U
75-35-4	1,1-Dichloroethene	0.98	I	2.1	U	0.36	U	0.36	U	1.7	U	0.36	U
75-34-3	1,1-Dichloroethane	0.8	I	1.2	U	0.36	U	0.36	U	1.	U	0.36	U
156-59-2	cis-1,2-Dichloroethene	5.1		1.4	U	0.38	U	0.38	U	1.1	U	0.38	U
156-60-5	trans-1,2-Dichloroethene	0.4	U	1.5	U	0.4	U	0.4	U	1.2	U	0.4	U
67-66-3	Chloroform	0.37	U	3.4	I	0.37	U	0.37	U	1.2	U	0.37	U
107-06-2	1,2-Dichloroethane	0.26	U	1.9	U	0.26	U	0.26	U	1.5	U	0.26	U
78-93-3	2-Butanone (MEK)	LB, EB, TB 5.6	~~IV~~ U	5.8	U	7.3	~~IV~~ U	6.1	IV	4.7	U	5.7	I
71-55-6	1,1,1-Trichloroethane	0.32	U	1.	U	0.32	U	0.32	U	0.81	U	0.32	U
56-23-5	Carbon tetrachloride	0.31	U	2.3	I	0.31	U	0.31	U	0.94	U	0.31	U
75-27-4	Bromodichloromethane	0.14	U	1.6	U	0.14	U	0.14	U	1.3	U	0.14	U
79-34-5	1,1,2,2-Tetrachloroethane	0.18	U	2.5	U	0.18	U	0.18	U	2.	U	0.18	U
78-87-5	1,2-Dichloropropane	0.33	U	1.5	U	0.33	U	0.33	U	1.2	U	0.33	U
10061-02-6	trans-1,3-Dichloropropene	0.26	U	2.	U	0.26	U	0.26	U	1.6	U	0.26	U
79-01-6	Trichloroethene	1.3		1.4	U	0.37	U	0.37	U	1.1	U	0.37	U
124-48-1	Dibromochloromethane	0.5	U	1.7	U	0.5	U	0.5	U	1.4	U	0.5	U
79-00-5	1,1,2-Trichloroethane	0.22	U	2.2	U	0.22	U	0.22	U	1.8	U	0.22	U
71-43-2	Benzene	0.36	U	1.4	U	0.36	U	0.36	U	1.1	U	0.36	U
10061-01-5	cis-1,3-Dichloropropene	0.23	U	1.5	U	0.23	U	0.23	U	1.2	U	0.23	U
75-25-2	Bromoform	0.33	U	2.1	U	0.33	U	0.33	U	1.7	U	0.33	U
591-78-6	2-Hexanone	0.93	U	6.3	U	0.93	U	0.93	U	5.1	U	0.93	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	0.65	U	6.2	U	0.65	U	0.65	U	5.	U	0.65	U
127-18-4	Tetrachloroethene	0.35	U	1.9	U	0.35	U	0.35	U	1.5	U	0.35	U
108-88-3	Toluene	0.54	U	2.2	U	0.54	U	0.54	U	1.8	U	0.54	U
108-90-7	Chlorobenzene	11.		1.6	U	0.34	U	0.34	U	1.3	U	0.34	U
100-41-4	Ethylbenzene	0.34	U	1.2	U	0.34	U	0.34	U	1.	U	0.34	U
100-42-5	Styrene	0.25	U	1.4	U	0.25	U	0.25	U	1.1	U	0.25	U
1330-20-7	Xylene (Total)	1.3	U	3.7	U	1.3	U	1.3	U	3.	U	1.3	U

SEVERN TRENT STL

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Analytical Report

For: Ms. Allison Harris
EnSafe, Inc.
5724 Summer Trees Drive
Memphis, TN 38134
CC:

Order Number: S442931
SDG Number: PEN16
Client Project ID: 0036-001-00-130-00
Project: NAS Pensacola Site 41 Resampling/PEN16
Report Date: 05/11/2004
Sampled By: Client
Sample Received Date: 04/07/2004
Requisition Number:
Purchase Order: PO 6071

Linda A Wolfe

Linda A. Wolfe, Project Manager
lwolfe@stl-inc.com

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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Sample Summary

Order: S442931
Date Received: 04/07/2004

Client: EnSafe, Inc.
Project: NAS Pensacola Site 41 Resampling/PEN16

Client Sample ID	Lab Sample ID	Matrix	Date Sampled
041M5B0202	S442931*1	Solid	04/06/2004 10:45
041M5B0202	S442931*1-DL	Solid	04/06/2004 10:45
041M5B0301	S442931*2	Solid	04/06/2004 10:45
041M5B0301	S442931*2-DL	Solid	04/06/2004 10:45
041N5B0301	S442931*3	Solid	04/06/2004 10:45
041N5B0301	S442931*3-DL	Solid	04/06/2004 10:45
041M5B0401	S442931*4	Solid	04/06/2004 11:00
041M5B0401	S442931*4-DL	Solid	04/06/2004 11:00
041M5B0501	S442931*5	Solid	04/06/2004 11:15
041M5B0501	S442931*5-DL	Solid	04/06/2004 11:15
041M5B0601	S442931*6	Solid	04/06/2004 11:30
041M5B0601	S442931*6-DL	Solid	04/06/2004 11:30
041FE00001	S442931*7	Liquid	04/06/2004 10:30
041FE00001	S442931*7-RE	Liquid	04/06/2004 10:30
041EM00001	S442931*8	Liquid	04/06/2004 12:00
041TB00001	S442931*9	Liquid	04/06/2004

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-1	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-1-DL	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2-DL	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-3	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16

		Lab Sample IDs				
Parameter	**Units**	**42931-1**	**42931-1-DL**	**42931-2**	**42931-2-DL**	**42931-3**
TAL Metals (6010)						
Aluminum	mg/kg dw	3400		860		1500
Antimony	mg/kg dw	3.6I		2.2I		2.0I
Arsenic	mg/kg dw	0.84I		0.56U		0.46U
Barium	mg/kg dw	18		3.3		6.1
Beryllium	mg/kg dw	0.15I		0.068I		0.079I
Cadmium	mg/kg dw	31		1.0		5.1
Calcium	mg/kg dw	1100		340		330
Chromium	mg/kg dw	470		24		63
Cobalt	mg/kg dw	4.1		0.40I		1.0I
Copper	mg/kg dw	90		12		29
Iron	mg/kg dw	1800		470		1600
Lead	mg/kg dw	420		38		94
Magnesium	mg/kg dw	210		83I		81
Manganese	mg/kg dw	11		2.8		3.9
Nickel	mg/kg dw	20		1.2I		3.7I
Potassium	mg/kg dw	74I		27I		38I
Selenium	mg/kg dw	1.0U		0.89U		0.74U
Silver	mg/kg dw	6.4		0.18U		0.58I
Sodium	mg/kg dw	38I		12I		15I
Thallium	mg/kg dw	1.4U		1.3U		1.1U
Vanadium	mg/kg dw	6.7		1.1I		2.5
Zinc	mg/kg dw	200		45		120
Percent Solids		45	45	56	56	66
Dilution Factor		1		1		1
Prep Date		04/12/04		04/12/04		04/12/04
Prep Time		07:00		07:00		07:00
Analysis Date		04/15/04		04/15/04		04/15/04
Analysis Time		13:36		13:51		13:56
Batch ID		0412C		0412C		0412C
Quantitation Factor		0.8474		0.9434		0.9259

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-1	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-1-DL	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2-DL	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-3	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16

Parameter	Units	Lab Sample IDs 42931-1	42931-1-DL	42931-2	42931-2-DL	42931-3
Mercury (7471)						
Mercury	mg/kg dw	0.22		0.086		0.082
Percent Solids		45	45	56	56	66
Dilution Factor		1		1		1
Prep Date		04/12/04		04/12/04		04/12/04
Prep Time		12:00		12:00		12:00
Analysis Date		04/13/04		04/13/04		04/13/04
Analysis Time		16:58		17:05		17:08
Batch ID		0412S		0412S		0412S
Quantitation Factor		0.9434		0.8547		0.8474
TCL Pesticides (8081)						
alpha-BHC	ug/kg dw	0.53U*J4	5.3U	0.43U*J4	4.3U	0.36U*J4
beta-BHC	ug/kg dw	0.64U	6.4U	0.52U	5.2U	0.44U
delta-BHC	ug/kg dw	0.27U	2.7U	0.21U	2.1U	0.18U
gamma-BHC (Lindane)	ug/kg dw	0.33U	3.3U	0.27U	2.7U	0.23U
Heptachlor	ug/kg dw	0.62U	6.2U	0.50U	5.0U	0.42U
Aldrin	ug/kg dw	0.24U	2.4U	0.20U	2.0U	0.17U
Heptachlor epoxide	ug/kg dw	0.38U	3.8U	0.30U	3.0U	0.26U
Endosulfan I	ug/kg dw	0.38U	3.8U	0.30U	3.0U	0.26U
Dieldrin	ug/kg dw	29	25I	14	21I	14
4,4'-DDE	ug/kg dw	14	18I	15	23I	9.5
Endrin	ug/kg dw	0.96U	9.6U	0.77U	7.7U	0.65U
Endrin aldehyde	ug/kg dw	0.69U	6.9U	0.55U	5.5U	0.47U
Endosulfan II	ug/kg dw	0.49U	4.9U	0.39U	3.9U	0.33U
4,4'-DDD	ug/kg dw	6.5I	7.8U	4.6I	6.2U	3.1I

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-1	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-1-DL	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2-DL	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-3	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16

Parameter	Units	Lab Sample IDs 42931-1	42931-1-DL	42931-2	42931-2-DL	42931-3
TCL Pesticides (8081)						
Endosulfan sulfate	ug/kg dw	0.98U	9.8U	0.78U	7.8U	0.67U
4,4'-DDT	ug/kg dw	0.69U	6.9U	0.55U	5.5U	0.47U
Endrin ketone	ug/kg dw	0.84U	8.4U	0.68U	6.8U	0.58U
Methoxychlor	ug/kg dw	0.44U	4.4U	0.36U	3.6U	0.30U
alpha-Chlordane	ug/kg dw	0.24U	2.4U	0.20U	2.0U	0.17U
gamma-Chlordane	ug/kg dw	0.29U	2.9U	0.23U	2.3U	0.20U
Toxaphene	ug/kg dw	73U	730U	59U	590U	50U
Surrogate - DCB *	%	54 %	0 %	83 %	0 %	48 %
Surrogate - 2,4,5,6-Tetrachloro-m-xylene (TCMX) *	%	54 %	0 %	83 %	0 %	60 %
Percent Solids		45	45	56	56	66
Dilution Factor		1	10	1	10	1
Prep Date		04/15/04	04/15/04	04/15/04	04/15/04	04/15/04
Prep Time		13:00	13:00	13:00	13:00	13:00
Analysis Date		05/03/04	05/03/04	05/03/04	05/03/04	05/03/04
Analysis Time		05:48	00:05	06:24	00:41	07:00
Batch ID		0415N	0415N	0415N	0415N	0415N
Quantitation Factor		1.000	10.00	1.000	10.00	1.000
PCB's (8082)						
Aroclor-1016	ug/kg dw	8.7U	87U	7.0U	70U	5.9U
Aroclor-1221	ug/kg dw	38U	380U	30U	300U	26U
Aroclor-1232	ug/kg dw	15U	150U	12U	120U	10U
Aroclor-1242	ug/kg dw	15U	150U	12U	120U	10U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-1	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-1-DL	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2-DL	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-3	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16

		Lab Sample IDs				
Parameter	**Units**	**42931-1**	**42931-1-DL**	**42931-2**	**42931-2-DL**	**42931-3**
PCB's (8082)						
Aroclor-1248	ug/kg dw	14U	140U	12U	120U	9.8U
Aroclor-1254	ug/kg dw	15U	150U	12U	120U	10U
Aroclor-1260	ug/kg dw	150	98U	60	78U	62
Surrogate - TCX *	%	54 %	0 %	83 %	0 %	60 %
Surrogate - DCB *	%	54 %	0 %	83 %	0 %	48 %
Percent Solids		45	45	56	56	66
Dilution Factor		1	10	1	10	1
Prep Date		04/15/04	04/15/04	04/15/04	04/15/04	04/15/04
Analysis Date		05/03/04	05/03/04	05/03/04	05/03/04	05/03/04
Analysis Time		05:48	00:05	06:24	00:41	07:00
Batch ID		0415N	0415N	0415N	0415N	0415N
Quantitation Factor		1.000	10.00	1.000	10.00	1.000
TCL Semivolatiles (8270)						
Phenol	ug/kg dw	91U		73U		62U
bis(2-Chloroethyl)ether	ug/kg dw	82U		66U		56U
2-Chlorophenol	ug/kg dw	91U		73U		62U
1,3-Dichlorobenzene	ug/kg dw	51U		41U		35U
1,4-Dichlorobenzene	ug/kg dw	53U		43U		36U
1,2-Dichlorobenzene	ug/kg dw	51U		41U		35U
2-Methylphenol (o-Cresol)	ug/kg dw	100U		82U		70U
2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether	ug/kg dw	71U		57U		48U
3-Methylphenol/4-Methylphenol (m&p-Cresol)	ug/kg dw	89U		73I		410I

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-1	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-1-DL	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2-DL	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-3	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16

Parameter	Units	Lab Sample IDs 42931-1	42931-1-DL	42931-2	42931-2-DL	42931-3
TCL Semivolatiles (8270)						
N-Nitroso-di-n-propylamine	ug/kg dw	67U		54U		45U
Hexachloroethane	ug/kg dw	42U		34U		29U
Nitrobenzene	ug/kg dw	69U		55U		47U
Isophorone	ug/kg dw	58U		46U		39U
2-Nitrophenol	ug/kg dw	58U		46U		39U
2,4-Dimethylphenol	ug/kg dw	62U		50U		42U
bis(2-Chloroethoxy)methane	ug/kg dw	71U		57U		48U
2,4-Dichlorophenol	ug/kg dw	64U		52U		44U
1,2,4-Trichlorobenzene	ug/kg dw	84U		68U		58U
4-Chloroaniline	ug/kg dw	64U		52U		44U
Hexachlorobutadiene	ug/kg dw	60U		48U		41U
4-Chloro-3-methylphenol	ug/kg dw	89U		71U		61U
Hexachlorocyclopentadiene	ug/kg dw	600U		480U		410U
2,4,6-Trichlorophenol	ug/kg dw	71U		57U		48U
2,4,5-Trichlorophenol	ug/kg dw	69U		55U		47U
2-Chloronaphthalene	ug/kg dw	82U		66U		56U
2-Nitroaniline	ug/kg dw	56U		45U		38U
Dimethylphthalate	ug/kg dw	78U		62U		53U
3-Nitroaniline	ug/kg dw	67U		54U		45U
2,4-Dinitrophenol	ug/kg dw	760U		610U		520U
4-Nitrophenol	ug/kg dw	56U		45U		38U
Dibenzofuran	ug/kg dw	76U		61U		52U
2,4-Dinitrotoluene	ug/kg dw	49U		39U		33U
2,6-Dinitrotoluene	ug/kg dw	64U		52U		44U
Diethylphthalate	ug/kg dw	78U		62U		53U
4-Chlorophenylphenyl ether	ug/kg dw	58U		46U		39U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-1	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-1-DL	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2-DL	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-3	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16

Parameter	Units	Lab Sample IDs 42931-1	42931-1-DL	42931-2	42931-2-DL	42931-3
TCL Semivolatiles (8270)						
4-Nitroaniline	ug/kg dw	58U		46U		39U
4,6-Dinitro-2-methylphenol	ug/kg dw	69U		55U		47U
N-Nitrosodiphenylamine	ug/kg dw	67U		54U		45U
4-Bromophenylphenyl ether	ug/kg dw	67U		54U		45U
Hexachlorobenzene	ug/kg dw	84U		68U		58U
Pentachlorophenol	ug/kg dw	76U		61U		52U
Di-n-butylphthalate	ug/kg dw	87U		330I		59U
Butylbenzylphthalate	ug/kg dw	71U		57U		48U
3,3'-Dichlorobenzidine	ug/kg dw	58U		46U		39U
bis(2-Ethylhexyl)phthalate	ug/kg dw	190I		190I		180I
Di-n-octylphthalate	ug/kg dw	71U		57U		48U
Carbazole	ug/kg dw	67U		54U		45U
Surrogate - Phenol-d5 *	%	50 %		47 %		41 %
Surrogate - 2-Fluorophenol *	%	47 %		45 %		38 %
Surrogate - 2,4,6-Tribromophenol *	%	58 %		57 %		54 %
Surrogate - Nitrobenzene - d5 *	%	43 %		43 %		36 %
Surrogate - 2-Fluorobiphenyl *	%	54 %		50 %		44 %
Surrogate - Terphenyl-d14 *	%	62 %		60 %		50 %
Percent Solids		45	45	56	56	66
Dilution Factor		1		1		1
Prep Date		04/15/04		04/15/04		04/15/04
Prep Time		12:55		12:55		12:55
Analysis Date		04/19/04		04/20/04		04/20/04
Analysis Time		23:33		00:02		00:31
Batch ID		0415C		0415C		0415C
Quantitation Factor		1.000		1.000		1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-1	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-1-DL	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2-DL	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-3	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16

Parameter	Units	Lab Sample IDs 42931-1	42931-1-DL	42931-2	42931-2-DL	42931-3
Low Level PAH (8270)						
Naphthalene	ug/kg dw	16U		13U		11U
Acenaphthylene	ug/kg dw	19U		15U		13U
Acenaphthene	ug/kg dw	20U		16U		14U
Fluorene	ug/kg dw	17U		14U		12U
Phenanthrene	ug/kg dw	140I		54I		70I
Anthracene	ug/kg dw	21U		17U		14U
Fluoranthene	ug/kg dw	290		200		170
Pyrene	ug/kg dw	210		160		140
Chrysene	ug/kg dw	160		120		110
Benzo(a)anthracene	ug/kg dw	120I		98I		65I
Benzo(b)fluoranthene	ug/kg dw	21U		17U		14U
Benzo(k)fluoranthene	ug/kg dw	22U		17U		15U
Benzo(a)pyrene	ug/kg dw	20U		16U		14U
Indeno(1,2,3-cd)pyrene	ug/kg dw	14U		12U		9.8U
Dibenzo(a,h)anthracene	ug/kg dw	20U		16U		13U
Benzo(g,h,i)perylene	ug/kg dw	14U		11U		9.2U
2-Methylnaphthalene	ug/kg dw	12U		9.5U		8.0U
1-Methylnaphthalene	ug/kg dw	7.8U		6.2U		5.3U
Surrogate - o-Terphenyl *	%	0 %		0 %		0 %
Percent Solids		45	45	56	56	66
Dilution Factor		10		10		10
Prep Date		04/15/04		04/15/04		04/15/04
Prep Time		15:00		15:00		15:00
Analysis Date		04/16/04		04/16/04		04/16/04
Analysis Time		12:07		12:36		13:04
Batch ID		0415B		0415B		0415B
Quantitation Factor		10.00		10.00		10.00

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-1	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-1-DL	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2-DL	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-3	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16

Parameter	Units	Lab Sample IDs 42931-1	42931-1-DL	42931-2	42931-2-DL	42931-3
Volatiles by GC/MS (8260)						
Chloromethane	ug/kg dw	3.0U		2.4U		2.2U
Bromomethane (Methyl bromide)	ug/kg dw	7.4U		6.0U		5.4U
Vinyl chloride	ug/kg dw	3.7I		2.4U		2.2U
Chloroethane	ug/kg dw	3.7U		3.0U		2.7U
Methylene chloride (Dichloromethane)	ug/kg dw	5.2U		4.2U		3.8U
Acetone	ug/kg dw	28I		21I		13U
Carbon disulfide	ug/kg dw	4.4U		3.5U		3.2U
1,1-Dichloroethene	ug/kg dw	3.7U		3.0U		2.7U
1,1-Dichloroethane	ug/kg dw	2.2U		1.8U		1.6U
cis-1,2-Dichloroethene	ug/kg dw	2.4U		1.9U		1.7U
trans-1,2-Dichloroethene	ug/kg dw	2.6U		2.1U		1.9U
Chloroform	ug/kg dw	2.6U		2.1U		1.9U
1,2-Dichloroethane	ug/kg dw	3.3U		2.6U		2.4U
2-Butanone (MEK)	ug/kg dw	10U		8.2U		7.4U
1,1,1-Trichloroethane	ug/kg dw	1.8U		1.4U		1.3U
Carbon tetrachloride	ug/kg dw	2.0U		1.6U		1.5U
Bromodichloromethane	ug/kg dw	2.8U		2.3U		2.0U
1,1,2,2-Tetrachloroethane	ug/kg dw	4.4U		3.5U		3.2U
1,2-Dichloropropane	ug/kg dw	2.6U		2.1U		1.9U
trans-1,3-Dichloropropene	ug/kg dw	3.5U		2.8U		2.5U
Trichloroethene	ug/kg dw	2.4U		1.9U		1.7U
Dibromochloromethane	ug/kg dw	3.0U		2.4U		2.2U
1,1,2-Trichloroethane	ug/kg dw	3.9U		3.2U		2.8U
Benzene	ug/kg dw	2.4U		1.9U		1.7U
cis-1,3-Dichloropropene	ug/kg dw	2.6U		2.1U		1.9U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-1	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-1-DL	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2-DL	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-3	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16

Parameter	Units	Lab Sample IDs 42931-1	42931-1-DL	42931-2	42931-2-DL	42931-3
Volatiles by GC/MS (8260)						
Bromoform	ug/kg dw	3.7U		3.0U		2.7U
2-Hexanone	ug/kg dw	11U		8.9U		8.0U
4-Methyl-2-pentanone (MIBK)	ug/kg dw	11U		8.8U		7.9U
Tetrachloroethene	ug/kg dw	3.3U		2.6U		2.4U
Toluene	ug/kg dw	3.9U		3.2U		2.8U
Chlorobenzene	ug/kg dw	2.8U		2.3U		2.0U
Ethylbenzene	ug/kg dw	2.2U		1.8U		1.6U
Styrene	ug/kg dw	2.4U		1.9U		1.7U
Xylenes, Total	ug/kg dw	6.5U		5.2U		4.7U
Surrogate - Toluene-d8 *	%	85 %		85 %		87 %
Surrogate - 4-Bromofluorobenzene *	%	83 %		90 %		95 %
Surrogate - Dibromofluoromethane *	%	100 %		90 %		101 %
Percent Solids		45	45	56	56	66
Dilution Factor		1		1		1
Prep Date		04/09/04		04/09/04		04/12/04
Prep Time		19:34		19:59		17:17
Analysis Date		04/09/04		04/09/04		04/12/04
Analysis Time		19:34		19:59		17:17
Batch ID		1L0409		1L0409		1L0412
Quantitation Factor		0.9804		0.9804		1.042

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-1	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-1-DL	041M5B0202	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-2-DL	041M5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-3	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16

Parameter	Units	Lab Sample IDs 42931-1	42931-1-DL	42931-2	42931-2-DL	42931-3
Total Organic Carbon (9060)						
Total Organic Carbon	mg/kg dw	15000		3800		5700
Percent Solids		45	45	56	56	66
Dilution Factor		1		1		1
Prep Date		04/19/04		04/19/04		04/19/04
Prep Time		16:00		16:00		18:55
Analysis Date		04/20/04		04/20/04		04/20/04
Analysis Time		16:18		18:45		18:55
Batch ID		0420X		0420X		0420X
Quantitation Factor		1.000		1.000		1.000
Grain Size * (D422)						
Grain Size *		Attached		Attached		Attached
Percent Solids		45	45	56	56	66

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-3-DL	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-4	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-4-DL	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-5	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16
42931-5-DL	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16

Parameter	Units	Lab Sample IDs 42931-3-DL	42931-4	42931-4-DL	42931-5	42931-5-DL
TAL Metals (6010)						
Aluminum	mg/kg dw		300		420	
Antimony	mg/kg dw		1.8I		1.1I	
Arsenic	mg/kg dw		0.46U		0.46U	
Barium	mg/kg dw		1.5		1.8	
Beryllium	mg/kg dw		0.038I		0.036I	
Cadmium	mg/kg dw		0.95		1.1	
Calcium	mg/kg dw		100		140	
Chromium	mg/kg dw		14		23	
Cobalt	mg/kg dw		0.30I		0.39I	
Copper	mg/kg dw		5.3		7.8	
Iron	mg/kg dw		210		290	
Lead	mg/kg dw		19		24	
Magnesium	mg/kg dw		26I		28I	
Manganese	mg/kg dw		1.1I		4.7	
Nickel	mg/kg dw		0.61I		0.97I	
Potassium	mg/kg dw		12I		17I	
Selenium	mg/kg dw		0.74U		0.74U	
Silver	mg/kg dw		0.15U		0.15U	
Sodium	mg/kg dw		8.3I		7.5I	
Thallium	mg/kg dw		1.1U		1.1U	
Vanadium	mg/kg dw		0.55I		0.86I	
Zinc	mg/kg dw		28		19	
Percent Solids		66	69	69	65	65
Dilution Factor			1		1	
Prep Date			04/12/04		04/12/04	
Prep Time			07:00		07:00	
Analysis Date			04/15/04		04/15/04	
Analysis Time			14:01		14:06	
Batch ID			0412C		0412C	
Quantitation Factor			0.9615		0.9091	

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-3-DL	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-4	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-4-DL	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-5	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16
42931-5-DL	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16

Parameter	Units	Lab Sample IDs 42931-3-DL	42931-4	42931-4-DL	42931-5	42931-5-DL
Mercury (7471)						
Mercury	mg/kg dw		0.0068U		0.019I	
Percent Solids		66	69	69	65	65
Dilution Factor			1		1	
Prep Date			04/12/04		04/12/04	
Prep Time			12:00		12:00	
Analysis Date			04/13/04		04/13/04	
Analysis Time			17:10		17:12	
Batch ID			0412S		0412S	
Quantitation Factor			0.9346		0.9009	
TCL Pesticides (8081)						
alpha-BHC	ug/kg dw	3.6U	0.35U*J4	3.5U	0.37U*J4	3.7U
beta-BHC	ug/kg dw	4.4U	0.42U	4.2U	0.45U	4.5U
delta-BHC	ug/kg dw	1.8U	0.17U	1.7U	0.18U	1.8U
gamma-BHC (Lindane)	ug/kg dw	2.3U	0.22U	2.2U	0.23U	2.3U
Heptachlor	ug/kg dw	4.2U	0.40U	4.0U	0.43U	4.3U
Aldrin	ug/kg dw	1.7U	5.6V	7.0IV	0.24IV	1.7U
Heptachlor epoxide	ug/kg dw	2.6U	0.25U	2.5U	0.26U	2.6U
Endosulfan I	ug/kg dw	2.6U	0.25U	2.5U	0.26U	2.6U
Dieldrin	ug/kg dw	8.2IP	8.6	4.5U	9.0	8.5I
4,4'-DDE	ug/kg dw	12I	3.8I	7.8U	3.3I	8.3U
Endrin	ug/kg dw	6.5U	0.62U	6.2U	0.66U	6.6U
Endrin aldehyde	ug/kg dw	4.7U	0.45U	4.5U	0.48U	4.8U
Endosulfan II	ug/kg dw	3.3U	0.32U	3.2U	0.34U	3.4U
4,4'-DDD	ug/kg dw	5.3U	0.51U	5.1U	0.54U	5.4U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-3-DL	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-4	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-4-DL	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-5	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16
42931-5-DL	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16

		Lab Sample IDs				
Parameter	**Units**	**42931-3-DL**	**42931-4**	**42931-4-DL**	**42931-5**	**42931-5-DL**
TCL Pesticides (8081)						
Endosulfan sulfate	ug/kg dw	6.7U	0.64U	6.4U	0.68U	6.8U
4,4'-DDT	ug/kg dw	4.7U	0.45U	4.5U	0.48U	4.8U
Endrin ketone	ug/kg dw	5.8U	0.55U	5.5U	0.58U	5.8U
Methoxychlor	ug/kg dw	3.0U	0.29U	2.9U	0.31U	3.1U
alpha-Chlordane	ug/kg dw	1.7U	0.16U	1.6U	0.17U	1.7U
gamma-Chlordane	ug/kg dw	2.0U	0.19U	1.9U	0.20U	2.0U
Toxaphene	ug/kg dw	500U	48U	480U	51U	510U
Surrogate - DCB *	%	0 %	62 %	0 %	73 %	0 %
Surrogate - 2,4,5,6-Tetrachloro-m-xylene (TCMX) *	%	0 %	67 %	0 %	62 %	0 %
Percent Solids		66	69	69	65	65
Dilution Factor		10	1	10	1	10
Prep Date		04/15/04	04/15/04	04/15/04	04/15/04	04/15/04
Prep Time		13:00	13:00	13:00	13:00	13:00
Analysis Date		05/03/04	05/03/04	05/03/04	05/03/04	05/03/04
Analysis Time		01:17	07:36	01:53	08:12	02:29
Batch ID		0415N	0415N	0415N	0415N	0415N
Quantitation Factor		10.00	1.000	10.00	1.000	10.00
PCB's (8082)						
Aroclor-1016	ug/kg dw	59U	5.6U	56U	6.0U	60U
Aroclor-1221	ug/kg dw	260U	25U	250U	26U	260U
Aroclor-1232	ug/kg dw	100U	9.7U	97U	10U	100U
Aroclor-1242	ug/kg dw	100U	9.7U	97U	10U	100U

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-3-DL	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-4	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-4-DL	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-5	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16
42931-5-DL	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16

Parameter	Units	Lab Sample IDs 42931-3-DL	42931-4	42931-4-DL	42931-5	42931-5-DL
PCB's (8082)						
Aroclor-1248	ug/kg dw	98U	9.4U	94U	10U	100U
Aroclor-1254	ug/kg dw	100U	9.7U	97U	10U	100U
Aroclor-1260	ug/kg dw	67U	6.4U	64U	20I	68U
Surrogate - TCX *	%	0 %	67 %	0 %	62 %	0 %
Surrogate - DCB *	%	0 %	62 %	0 %	73 %	0 %
Percent Solids		66	69	69	65	65
Dilution Factor		10	1	10	1	10
Prep Date		04/15/04	04/15/04	04/15/04	04/15/04	04/15/04
Analysis Date		05/03/04	05/03/04	05/03/04	05/03/04	05/03/04
Analysis Time		01:17	07:36	01:53	08:12	02:29
Batch ID		0415N	0415N	0415N	0415N	0415N
Quantitation Factor		10.00	1.000	10.00	1.000	10.00
TCL Semivolatiles (8270)						
Phenol	ug/kg dw		59U		63U	
bis(2-Chloroethyl)ether	ug/kg dw		54U		57U	
2-Chlorophenol	ug/kg dw		59U		63U	
1,3-Dichlorobenzene	ug/kg dw		33U		35U	
1,4-Dichlorobenzene	ug/kg dw		35U		37U	
1,2-Dichlorobenzene	ug/kg dw		33U		35U	
2-Methylphenol (o-Cresol)	ug/kg dw		67U		71U	
2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether	ug/kg dw		46U		49U	
3-Methylphenol/4-Methylphenol (m&p-Cresol)	ug/kg dw		58U		62U	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-3-DL	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-4	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-4-DL	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-5	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16
42931-5-DL	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16

Parameter	Units	Lab Sample IDs 42931-3-DL	42931-4	42931-4-DL	42931-5	42931-5-DL
TCL Semivolatiles (8270)						
N-Nitroso-di-n-propylamine	ug/kg dw		43U		46U	
Hexachloroethane	ug/kg dw		28U		29U	
Nitrobenzene	ug/kg dw		45U		48U	
Isophorone	ug/kg dw		38U		40U	
2-Nitrophenol	ug/kg dw		38U		40U	
2,4-Dimethylphenol	ug/kg dw		40U		43U	
bis(2-Chloroethoxy)methane	ug/kg dw		46U		49U	
2,4-Dichlorophenol	ug/kg dw		42U		45U	
1,2,4-Trichlorobenzene	ug/kg dw		55U		58U	
4-Chloroaniline	ug/kg dw		42U		45U	
Hexachlorobutadiene	ug/kg dw		39U		42U	
4-Chloro-3-methylphenol	ug/kg dw		58U		62U	
Hexachlorocyclopentadiene	ug/kg dw		390U		420U	
2,4,6-Trichlorophenol	ug/kg dw		46U		49U	
2,4,5-Trichlorophenol	ug/kg dw		45U		48U	
2-Chloronaphthalene	ug/kg dw		54U		57U	
2-Nitroaniline	ug/kg dw		36U		38U	
Dimethylphthalate	ug/kg dw		51U		54U	
3-Nitroaniline	ug/kg dw		43U		46U	
2,4-Dinitrophenol	ug/kg dw		490U		520U	
4-Nitrophenol	ug/kg dw		36U		38U	
Dibenzofuran	ug/kg dw		49U		52U	
2,4-Dinitrotoluene	ug/kg dw		32U		34U	
2,6-Dinitrotoluene	ug/kg dw		42U		45U	
Diethylphthalate	ug/kg dw		51U		54U	
4-Chlorophenylphenyl ether	ug/kg dw		38U		40U	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-3-DL	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-4	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-4-DL	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-5	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16
42931-5-DL	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16

Parameter	Units	Lab Sample IDs 42931-3-DL	42931-4	42931-4-DL	42931-5	42931-5-DL
TCL Semivolatiles (8270)						
4-Nitroaniline	ug/kg dw		38U		40U	
4,6-Dinitro-2-methylphenol	ug/kg dw		45U		48U	
N-Nitrosodiphenylamine	ug/kg dw		43U		46U	
4-Bromophenylphenyl ether	ug/kg dw		43U		46U	
Hexachlorobenzene	ug/kg dw		55U		58U	
Pentachlorophenol	ug/kg dw		49U		52U	
Di-n-butylphthalate	ug/kg dw		56U		60U	
Butylbenzylphthalate	ug/kg dw		46U		49U	
3,3'-Dichlorobenzidine	ug/kg dw		38U		40U	
bis(2-Ethylhexyl)phthalate	ug/kg dw		64U		68U	
Di-n-octylphthalate	ug/kg dw		46U		49U	
Carbazole	ug/kg dw		43U		46U	
Surrogate - Phenol-d5 *	%		52 %		57 %	
Surrogate - 2-Fluorophenol *	%		50 %		55 %	
Surrogate - 2,4,6-Tribromophenol *	%		64 %		72 %	
Surrogate - Nitrobenzene - d5 *	%		46 %		50 %	
Surrogate - 2-Fluorobiphenyl *	%		58 %		58 %	
Surrogate - Terphenyl-d14 *	%		71 %		73 %	
Percent Solids		66	69	69	65	65
Dilution Factor			1		1	
Prep Date			04/15/04		04/15/04	
Prep Time			12:55		12:55	
Analysis Date			04/20/04		04/20/04	
Analysis Time			01:00		01:29	
Batch ID			0415C		0415C	
Quantitation Factor			1.000		1.000	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-3-DL	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-4	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-4-DL	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-5	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16
42931-5-DL	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16

Parameter	Units	Lab Sample IDs 42931-3-DL	42931-4	42931-4-DL	42931-5	42931-5-DL
Low Level PAH (8270)						
Naphthalene	ug/kg dw		4.1U		10U	
Acenaphthylene	ug/kg dw		5.0U		13U	
Acenaphthene	ug/kg dw		5.2U		14U	
Fluorene	ug/kg dw		4.5U		12U	
Phenanthrene	ug/kg dw		7.9I		12U	
Anthracene	ug/kg dw		5.6U		15U	
Fluoranthene	ug/kg dw		15I		39I	
Pyrene	ug/kg dw		13I		37I	
Chrysene	ug/kg dw		5.8U		15U	
Benzo(a)anthracene	ug/kg dw		4.4U		12U	
Benzo(b)fluoranthene	ug/kg dw		5.6U		15U	
Benzo(k)fluoranthene	ug/kg dw		5.7U		15U	
Benzo(a)pyrene	ug/kg dw		5.2U		14U	
Indeno(1,2,3-cd)pyrene	ug/kg dw		3.8U		10U	
Dibenzo(a,h)anthracene	ug/kg dw		5.1U		14U	
Benzo(g,h,i)perylene	ug/kg dw		3.5U		9.4U	
2-Methylnaphthalene	ug/kg dw		3.1U		8.2U	
1-Methylnaphthalene	ug/kg dw		2.0U		5.4U	
Surrogate - o-Terphenyl *	%		78 %		0 %	
Percent Solids		66	69	69	65	65
Dilution Factor			4		10	
Prep Date			04/15/04		04/15/04	
Prep Time			15:00		15:00	
Analysis Date			04/17/04		04/16/04	
Analysis Time			15:55		14:01	
Batch ID			0415B		0415B	
Quantitation Factor			4.000		10.00	

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-3-DL	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-4	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-4-DL	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-5	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16
42931-5-DL	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16

Parameter	Units	Lab Sample IDs 42931-3-DL	42931-4	42931-4-DL	42931-5	42931-5-DL
Volatiles by GC/MS (8260)						
Chloromethane	ug/kg dw		2.1U		2.3U	
Bromomethane (Methyl bromide)	ug/kg dw		5.1U		5.6U	
Vinyl chloride	ug/kg dw		2.1U		2.3U	
Chloroethane	ug/kg dw		2.6U		2.8U	
Methylene chloride (Dichloromethane)	ug/kg dw		3.6U		3.9U	
Acetone	ug/kg dw		12U		13U	
Carbon disulfide	ug/kg dw		3.0U		3.3U	
1,1-Dichloroethene	ug/kg dw		2.6U		2.8U	
1,1-Dichloroethane	ug/kg dw		1.5U		1.6U	
cis-1,2-Dichloroethene	ug/kg dw		1.7U		1.8U	
trans-1,2-Dichloroethene	ug/kg dw		1.8U		2.0U	
Chloroform	ug/kg dw		1.8U		2.0U	
1,2-Dichloroethane	ug/kg dw		2.3U		2.4U	
2-Butanone (MEK)	ug/kg dw		7.1U		7.7U	
1,1,1-Trichloroethane	ug/kg dw		1.2U		1.3U	
Carbon tetrachloride	ug/kg dw		1.4U		1.5U	
Bromodichloromethane	ug/kg dw		2.0U		2.1U	
1,1,2,2-Tetrachloroethane	ug/kg dw		3.0U		3.3U	
1,2-Dichloropropane	ug/kg dw		1.8U		2.0U	
trans-1,3-Dichloropropene	ug/kg dw		2.4U		2.6U	
Trichloroethene	ug/kg dw		1.7U		1.8U	
Dibromochloromethane	ug/kg dw		2.1U		2.3U	
1,1,2-Trichloroethane	ug/kg dw		2.7U		2.9U	
Benzene	ug/kg dw		1.7U		1.8U	
cis-1,3-Dichloropropene	ug/kg dw		1.8U		2.0U	

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-3-DL	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-4	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-4-DL	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-5	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16
42931-5-DL	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16

Parameter	Units	Lab Sample IDs 42931-3-DL	42931-4	42931-4-DL	42931-5	42931-5-DL
Volatiles by GC/MS (8260)						
Bromoform	ug/kg dw		2.6U		2.8U	
2-Hexanone	ug/kg dw		7.7U		8.3U	
4-Methyl-2-pentanone (MIBK)	ug/kg dw		7.5U		8.2U	
Tetrachloroethene	ug/kg dw		2.3U		2.4U	
Toluene	ug/kg dw		3.5I		2.9U	
Chlorobenzene	ug/kg dw		2.0U		2.1U	
Ethylbenzene	ug/kg dw		1.5U		1.6U	
Styrene	ug/kg dw		1.7U		1.8U	
Xylenes, Total	ug/kg dw		4.5U		4.9U	
Surrogate - Toluene-d8 *	%		88 %		83 %	
Surrogate - 4-Bromofluorobenzene *	%		97 %		94 %	
Surrogate - Dibromofluoromethane *	%		101 %		101 %	
Percent Solids		66	69	69	65	65
Dilution Factor			1		1	
Prep Date			04/12/04		04/12/04	
Prep Time			18:07		20:12	
Analysis Date			04/12/04		04/12/04	
Analysis Time			18:07		20:12	
Batch ID			1L0412		1L0412	
Quantitation Factor			1.042		1.064	

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-3-DL	041N5B0301	Solid	04/07/04	04/06/04 10:45	PEN16
42931-4	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-4-DL	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16
42931-5	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16
42931-5-DL	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16

Parameter	Units	Lab Sample IDs 42931-3-DL	42931-4	42931-4-DL	42931-5	42931-5-DL
Total Organic Carbon (9060)						
Total Organic Carbon	mg/kg dw		3500		14000	
Percent Solids		66	69	69	65	65
Dilution Factor			1		1	
Prep Date			04/19/04		04/19/04	
Prep Time			16:00		16:00	
Analysis Date			04/20/04		04/20/04	
Analysis Time			18:23		16:49	
Batch ID			0420X		0420X	
Quantitation Factor			1.000		1.000	
Grain Size * (D422)						
Grain Size *			Attached		Attached	
Percent Solids		66	69	69	65	65

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-6	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16
42931-6-DL	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16

Parameter	Units	Lab Sample IDs 42931-6	42931-6-DL
TAL Metals (6010)			
Aluminum	mg/kg dw	760	
Antimony	mg/kg dw	2.5I	
Arsenic	mg/kg dw	0.66U	
Barium	mg/kg dw	4.5	
Beryllium	mg/kg dw	0.066I	
Cadmium	mg/kg dw	5.1	
Calcium	mg/kg dw	380	
Chromium	mg/kg dw	55	
Cobalt	mg/kg dw	1.1I	
Copper	mg/kg dw	16	
Iron	mg/kg dw	800	
Lead	mg/kg dw	48	
Magnesium	mg/kg dw	58I	
Manganese	mg/kg dw	21	
Nickel	mg/kg dw	3.0I	
Potassium	mg/kg dw	30I	
Selenium	mg/kg dw	1.1U	
Silver	mg/kg dw	0.38I	
Sodium	mg/kg dw	14I	
Thallium	mg/kg dw	1.5U	
Vanadium	mg/kg dw	1.2I	
Zinc	mg/kg dw	60	
Percent Solids		44	44
Dilution Factor		1	
Prep Date		04/12/04	
Prep Time		07:00	
Analysis Date		04/15/04	
Analysis Time		14:11	
Batch ID		0412C	
Quantitation Factor		0.8772	

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-6	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16
42931-6-DL	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16

Parameter	Units	Lab Sample IDs 42931-6	42931-6-DL
Mercury (7471)			
Mercury	mg/kg dw	0.12	
Percent Solids		44	44
Dilution Factor		1	
Prep Date		04/12/04	
Prep Time		12:00	
Analysis Date		04/13/04	
Analysis Time		17:14	
Batch ID		0412S	
Quantitation Factor		0.8772	
TCL Pesticides (8081)			
alpha-BHC	ug/kg dw	0.54U*J4	5.4U
beta-BHC	ug/kg dw	2.9I	6.6U
delta-BHC	ug/kg dw	0.27U	2.7U
gamma-BHC (Lindane)	ug/kg dw	0.34U	3.4U
Heptachlor	ug/kg dw	0.64U	6.4U
Aldrin	ug/kg dw	7.0V	3.8IV
Heptachlor epoxide	ug/kg dw	0.39U	3.9U
Endosulfan I	ug/kg dw	0.39U	3.9U
Dieldrin	ug/kg dw	100	120
4,4'-DDE	ug/kg dw	16	24I
Endrin	ug/kg dw	0.98U	9.8U
Endrin aldehyde	ug/kg dw	0.70U	7.0U
Endosulfan II	ug/kg dw	0.50U	5.0U
4,4'-DDD	ug/kg dw	2.3I	8.0U
Endosulfan sulfate	ug/kg dw	1.0U	10U
4,4'-DDT	ug/kg dw	0.70U	7.0U
Endrin ketone	ug/kg dw	0.86U	8.6U

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STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-6	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16
42931-6-DL	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16

Parameter	Units	Lab Sample IDs 42931-6	42931-6-DL
TCL Pesticides (8081)			
Methoxychlor	ug/kg dw	0.45U	4.5U
alpha-Chlordane	ug/kg dw	0.25U	2.5U
gamma-Chlordane	ug/kg dw	0.30U	3.0U
Toxaphene	ug/kg dw	75U	750U
Surrogate - DCB *	%	84 %	0 %
Surrogate - 2,4,5,6-Tetrachloro-m-xylene (TCMX) *	%	82 %	0 %
Percent Solids		44	44
Dilution Factor		1	10
Prep Date		04/15/04	04/15/04
Prep Time		13:00	13:00
Analysis Date		05/03/04	05/03/04
Analysis Time		08:48	03:06
Batch ID		0415N	0415N
Quantitation Factor		1.000	10.00
PCB's (8082)			
Aroclor-1016	ug/kg dw	8.9U	89U
Aroclor-1221	ug/kg dw	39U	390U
Aroclor-1232	ug/kg dw	15U	150U
Aroclor-1242	ug/kg dw	15U	150U
Aroclor-1248	ug/kg dw	15U	150U
Aroclor-1254	ug/kg dw	15U	150U
Aroclor-1260	ug/kg dw	96	100U
Surrogate - TCX *	%	82 %	0 %
Surrogate - DCB *	%	84 %	0 %
Percent Solids		44	44
Dilution Factor		1	10
Prep Date		04/15/04	04/15/04
Analysis Date		05/03/04	05/03/04
Analysis Time		08:48	03:06
Batch ID		0415N	0415N
Quantitation Factor		1.000	10.00

SEVERN TRENT STL

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-6	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16
42931-6-DL	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16

Parameter	Units	Lab Sample IDs 42931-6	42931-6-DL
TCL Semivolatiles (8270)			
Phenol	ug/kg dw	93U	
bis(2-Chloroethyl)ether	ug/kg dw	84U	
2-Chlorophenol	ug/kg dw	93U	
1,3-Dichlorobenzene	ug/kg dw	52U	
1,4-Dichlorobenzene	ug/kg dw	54U	
1,2-Dichlorobenzene	ug/kg dw	52U	
2-Methylphenol (o-Cresol)	ug/kg dw	100U	
2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether	ug/kg dw	73U	
3-Methylphenol/4-Methylphenol (m&p-Cresol)	ug/kg dw	200I	
N-Nitroso-di-n-propylamine	ug/kg dw	68U	
Hexachloroethane	ug/kg dw	43U	
Nitrobenzene	ug/kg dw	70U	
Isophorone	ug/kg dw	59U	
2-Nitrophenol	ug/kg dw	59U	
2,4-Dimethylphenol	ug/kg dw	64U	
bis(2-Chloroethoxy)methane	ug/kg dw	73U	
2,4-Dichlorophenol	ug/kg dw	66U	
1,2,4-Trichlorobenzene	ug/kg dw	86U	
4-Chloroaniline	ug/kg dw	66U	
Hexachlorobutadiene	ug/kg dw	61U	
4-Chloro-3-methylphenol	ug/kg dw	91U	
Hexachlorocyclopentadiene	ug/kg dw	610U	
2,4,6-Trichlorophenol	ug/kg dw	73U	
2,4,5-Trichlorophenol	ug/kg dw	70U	
2-Chloronaphthalene	ug/kg dw	84U	
2-Nitroaniline	ug/kg dw	57U	
Dimethylphthalate	ug/kg dw	80U	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-6	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16
42931-6-DL	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16

Parameter	Units	Lab Sample IDs 42931-6	42931-6-DL
TCL Semivolatiles (8270)			
3-Nitroaniline	ug/kg dw	68U	
2,4-Dinitrophenol	ug/kg dw	770U	
4-Nitrophenol	ug/kg dw	57U	
Dibenzofuran	ug/kg dw	77U	
2,4-Dinitrotoluene	ug/kg dw	50U	
2,6-Dinitrotoluene	ug/kg dw	66U	
Diethylphthalate	ug/kg dw	80U	
4-Chlorophenylphenyl ether	ug/kg dw	59U	
4-Nitroaniline	ug/kg dw	59U	
4,6-Dinitro-2-methylphenol	ug/kg dw	70U	
N-Nitrosodiphenylamine	ug/kg dw	68U	
4-Bromophenylphenyl ether	ug/kg dw	68U	
Hexachlorobenzene	ug/kg dw	86U	
Pentachlorophenol	ug/kg dw	77U	
Di-n-butylphthalate	ug/kg dw	89U	
Butylbenzylphthalate	ug/kg dw	73U	
3,3'-Dichlorobenzidine	ug/kg dw	59U	
bis(2-Ethylhexyl)phthalate	ug/kg dw	150I	
Di-n-octylphthalate	ug/kg dw	73U	
Carbazole	ug/kg dw	68U	
Surrogate - Phenol-d5 *	%	39 %	
Surrogate - 2-Fluorophenol *	%	37 %	
Surrogate - 2,4,6-Tribromophenol *	%	51 %	
Surrogate - Nitrobenzene - d5 *	%	34 %	
Surrogate - 2-Fluorobiphenyl *	%	37 %	
Surrogate - Terphenyl-d14 *	%	50 %	
Percent Solids		44	44
Dilution Factor		1	
Prep Date		04/15/04	
Prep Time		12:55	
Analysis Date		04/20/04	
Analysis Time		22:33	
Batch ID		0415C	
Quantitation Factor		1.000	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-6	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16
42931-6-DL	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16

Parameter	Units	Lab Sample IDs 42931-6	42931-6-DL
Low Level PAH (8270)			
Naphthalene	ug/kg dw	16U	
Acenaphthylene	ug/kg dw	20U	
Acenaphthene	ug/kg dw	20U	
Fluorene	ug/kg dw	18U	
Phenanthrene	ug/kg dw	18U	
Anthracene	ug/kg dw	22U	
Fluoranthene	ug/kg dw	69I	
Pyrene	ug/kg dw	59I	
Chrysene	ug/kg dw	56I	
Benzo(a)anthracene	ug/kg dw	17U	
Benzo(b)fluoranthene	ug/kg dw	22U	
Benzo(k)fluoranthene	ug/kg dw	22U	
Benzo(a)pyrene	ug/kg dw	20U	
Indeno(1,2,3-cd)pyrene	ug/kg dw	15U	
Dibenzo(a,h)anthracene	ug/kg dw	20U	
Benzo(g,h,i)perylene	ug/kg dw	14U	
2-Methylnaphthalene	ug/kg dw	12U	
1-Methylnaphthalene	ug/kg dw	8.0U	
Surrogate - o-Terphenyl *	%	0 %	
Percent Solids		44	44
Dilution Factor		10	
Prep Date		04/15/04	
Prep Time		15:00	
Analysis Date		04/16/04	
Analysis Time		14:30	
Batch ID		0415B	
Quantitation Factor		10.00	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-6	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16
42931-6-DL	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16

Parameter	Units	Lab Sample IDs 42931-6	42931-6-DL
Volatiles by GC/MS (8260)			
Chloromethane	ug/kg dw	3.5U	
Bromomethane (Methyl bromide)	ug/kg dw	8.6U	
Vinyl chloride	ug/kg dw	3.5U	
Chloroethane	ug/kg dw	4.3U	
Methylene chloride (Dichloromethane)	ug/kg dw	6.1U	
Acetone	ug/kg dw	20U	
Carbon disulfide	ug/kg dw	5.0U	
1,1-Dichloroethene	ug/kg dw	4.3U	
1,1-Dichloroethane	ug/kg dw	2.5U	
cis-1,2-Dichloroethene	ug/kg dw	7.7I	
trans-1,2-Dichloroethene	ug/kg dw	3.0U	
Chloroform	ug/kg dw	3.0U	
1,2-Dichloroethane	ug/kg dw	3.8U	
2-Butanone (MEK)	ug/kg dw	12U	
1,1,1-Trichloroethane	ug/kg dw	2.0U	
Carbon tetrachloride	ug/kg dw	2.4U	
Bromodichloromethane	ug/kg dw	3.3U	
1,1,2,2-Tetrachloroethane	ug/kg dw	5.0U	
1,2-Dichloropropane	ug/kg dw	3.0U	
trans-1,3-Dichloropropene	ug/kg dw	4.0U	
Trichloroethene	ug/kg dw	2.8U	
Dibromochloromethane	ug/kg dw	3.5U	
1,1,2-Trichloroethane	ug/kg dw	4.5U	
Benzene	ug/kg dw	2.8U	
cis-1,3-Dichloropropene	ug/kg dw	3.0U	
Bromoform	ug/kg dw	4.3U	
2-Hexanone	ug/kg dw	13U	
4-Methyl-2-pentanone (MIBK)	ug/kg dw	13U	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-6	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16
42931-6-DL	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16

Parameter	Units	Lab Sample IDs 42931-6	42931-6-DL
Volatiles by GC/MS (8260)			
Tetrachloroethene	ug/kg dw	3.8U	
Toluene	ug/kg dw	4.5U	
Chlorobenzene	ug/kg dw	3.3U	
Ethylbenzene	ug/kg dw	2.5U	
Styrene	ug/kg dw	2.8U	
Xylenes, Total	ug/kg dw	7.6U	
Surrogate - Toluene-d8 *	%	77 %	
Surrogate - 4-Bromofluorobenzene *	%	85 %	
Surrogate - Dibromofluoromethane *	%	92 %	
Percent Solids		44	44
Dilution Factor		1	
Prep Date		04/12/04	
Prep Time		20:37	
Analysis Date		04/12/04	
Analysis Time		20:37	
Batch ID		1L0412	
Quantitation Factor		1.111	
Total Organic Carbon (9060)			
Total Organic Carbon	mg/kg dw	4100	
Percent Solids		44	44
Dilution Factor		1	
Prep Date		04/19/04	
Prep Time		16:00	
Analysis Date		04/20/04	
Analysis Time		18:34	
Batch ID		0420X	
Quantitation Factor		1.000	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-6	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16
42931-6-DL	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16

Parameter	Units	Lab Sample IDs 42931-6	42931-6-DL
Grain Size * (D422)			
Grain Size *		Attached	
Percent Solids		44	44

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-7	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-7-RE	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-8	041EM00001	Liquid	04/07/04	04/06/04 12:00	PEN16

Parameter	Units	Lab Sample IDs 42931-7	42931-7-RE	42931-8
TAL Metals (6010)				
Aluminum	ug/l	7.7I		9.8I
Antimony	ug/l	5.0U		5.0U
Arsenic	ug/l	4.6U		4.6U
Barium	ug/l	0.20U		0.20U
Beryllium	ug/l	0.10U		0.10U
Cadmium	ug/l	0.60U		0.60U
Calcium	ug/l	7.1I		16I
Chromium	ug/l	0.90U		0.90U
Cobalt	ug/l	1.0U		1.0U
Copper	ug/l	0.60U		0.60U
Iron	ug/l	32U		32U
Lead	ug/l	2.8U		2.8U
Magnesium	ug/l	6.6U		6.6U
Manganese	ug/l	0.24I		0.72I
Nickel	ug/l	2.0U		2.0U
Potassium	ug/l	17U		27I
Selenium	ug/l	3.6U		3.6U
Silver	ug/l	0.90U		0.90U
Sodium	ug/l	230U		230U
Thallium	ug/l	8.4U		8.4U
Vanadium	ug/l	1.4U		1.4U
Zinc	ug/l	0.90U		1.1I
Dilution Factor		1		1
Prep Date		04/12/04		04/12/04
Prep Time		11:00		11:00
Analysis Date		04/13/04		04/13/04
Analysis Time		18:51		19:10
Batch ID		0412G		0412G
Quantitation Factor		1.000		1.000

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-7	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-7-RE	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-8	041EM00001	Liquid	04/07/04	04/06/04 12:00	PEN16

Parameter	Units	Lab Sample IDs 42931-7	42931-7-RE	42931-8
Mercury (7470)				
Mercury	ug/l	0.078U		0.12I
Dilution Factor		1		1
Prep Date		04/12/04		04/12/04
Prep Time		16:05		16:05
Analysis Date		04/14/04		04/14/04
Analysis Time		11:26		11:33
Batch ID		0412U		0412U
Quantitation Factor		1.000		1.000
TAL Metals (Dissolved) (6010)				
Aluminum (Dissolved)	ug/l	7.2U		7.2U
Antimony (Dissolved)	ug/l	5.0U		5.0U
Arsenic, (Dissolved)	ug/l	4.6U		4.6U
Barium, (Dissolved)	ug/l	0.52I		0.34I
Beryllium (Dissolved)	ug/l	0.10U		0.10U
Cadmium (Dissolved)	ug/l	0.60U		0.60U
Calcium (Dissolved)	ug/l	12I		18I
Chromium, (Dissolved)	ug/l	0.90U		0.90U
Cobalt (Dissolved)	ug/l	1.0U		1.0U
Copper, Dissolved	ug/l	0.60U		0.60U
Iron (Dissolved)	ug/l	32U		50I
Lead, (Dissolved)	ug/l	2.8U		2.8U
Magnesium (Dissolved)	ug/l	6.6U		17I
Manganese (Dissolved)	ug/l	0.20U		0.86I
Nickel, (Dissolved)	ug/l	2.0U		2.0U
Potassium (Dissolved)	ug/l	17U		17U
Selenium (Dissolved)	ug/l	3.6U		3.6U

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-7	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-7-RE	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-8	041EM00001	Liquid	04/07/04	04/06/04 12:00	PEN16

Parameter	Units	Lab Sample IDs 42931-7	42931-7-RE	42931-8
TAL Metals (Dissolved) (6010)				
Silver (Dissolved)	ug/l	0.90U		0.90U
Sodium (Dissolved)	ug/l	310I		230U
Thallium (Dissolved)	ug/l	8.4U		8.4U
Vanadium (Dissolved)	ug/l	1.4U		1.4U
Zinc, (Dissolved)	ug/l	2.0I		4.6I
Dilution Factor		1		1
Prep Date		04/12/04		04/12/04
Prep Time		11:00		11:00
Analysis Date		04/13/04		04/13/04
Analysis Time		18:27		19:05
Batch ID		0412G		0412G
Quantitation Factor		1.000		1.000
Mercury (Dissolved) (7470)				
Mercury (Dissolved)	ug/l	0.078U		0.078U
Dilution Factor		1		1
Prep Date		04/12/04		04/12/04
Prep Time		16:05		16:05
Analysis Date		04/14/04		04/14/04
Analysis Time		11:24		11:36
Batch ID		0412U		0412U
Quantitation Factor		1.000		1.000

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-7	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-7-RE	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-8	041EM00001	Liquid	04/07/04	04/06/04 12:00	PEN16

Parameter	Units	Lab Sample IDs 42931-7	42931-7-RE	42931-8
TCL Pesticides (8081)				
alpha-BHC	ug/l	0.0035U		0.0035U
beta-BHC	ug/l	0.0035U		0.0035U
delta-BHC	ug/l	0.0090U		0.0090U
gamma-BHC (Lindane)	ug/l	0.0030U		0.0030U
Heptachlor	ug/l	0.014U		0.014U
Aldrin	ug/l	0.0086U		0.0086U
Heptachlor epoxide	ug/l	0.0026U		0.0026U
Endosulfan I	ug/l	0.0099U		0.0099U
Dieldrin	ug/l	0.0060U		0.0060U
4,4'-DDE	ug/l	0.010U		0.010U
Endrin	ug/l	0.0097U		0.0097U
Endrin aldehyde	ug/l	0.014U		0.014U
Endosulfan II	ug/l	0.0084U		0.0084U
4,4'-DDD	ug/l	0.016U		0.016U
Endosulfan sulfate	ug/l	0.0085U		0.0085U
4,4'-DDT	ug/l	0.014U		0.014U
Endrin ketone	ug/l	0.0072U		0.0072U
Methoxychlor	ug/l	0.0070U		0.0070U
alpha-Chlordane	ug/l	0.0084U		0.0084U
gamma-Chlordane	ug/l	0.0070U		0.0070U
Toxaphene	ug/l	0.77U		0.77U
Surrogate - DCB *	%	104 %		114 %
Surrogate - 2,4,5,6-Tetrachloro-m-xylene (TCMX) *	%	69 %		58 %
Dilution Factor		1		1
Prep Date		04/12/04		04/12/04
Prep Time		17:00		17:00
Analysis Date		04/16/04		04/16/04
Analysis Time		20:03		20:22
Batch ID		0412P		0412P
Quantitation Factor		1.000		1.000

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-7	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-7-RE	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-8	041EM00001	Liquid	04/07/04	04/06/04 12:00	PEN16

Parameter	Units	Lab Sample IDs 42931-7	42931-7-RE	42931-8
PCB's (8082)				
Aroclor-1016	ug/l	0.11U		0.11U
Aroclor-1221	ug/l	0.50U		0.50U
Aroclor-1232	ug/l	0.18U		0.18U
Aroclor-1242	ug/l	0.14U		0.14U
Aroclor-1248	ug/l	0.11U		0.11U
Aroclor-1254	ug/l	0.20U		0.20U
Aroclor-1260	ug/l	0.11U		0.11U
Surrogate - TCX *	%	69 %		58 %
Surrogate - DCB *	%	104 %		114 %
Dilution Factor		1		1
Prep Date		04/12/04		04/12/04
Prep Time		17:00		17:00
Analysis Date		04/16/04		04/16/04
Analysis Time		20:03		20:22
Batch ID		0412P		0412P
Quantitation Factor		1.000		1.000
TCL Semivolatiles (8270)				
Phenol	ug/l	1.0U	1.0U	1.0U
bis(2-Chloroethyl)ether	ug/l	1.0U	1.0U	1.0U
2-Chlorophenol	ug/l	0.79U	0.79U	0.79U
1,3-Dichlorobenzene	ug/l	1.0U	1.0U	1.0U
1,4-Dichlorobenzene	ug/l	1.0U	1.0U	1.0U
1,2-Dichlorobenzene	ug/l	1.0U	1.0U	1.0U
2-Methylphenol (o-Cresol)	ug/l	0.59U	0.59U	0.59U
2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether	ug/l	0.58U	0.58U	0.58U

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-7	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-7-RE	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-8	041EM00001	Liquid	04/07/04	04/06/04 12:00	PEN16

Parameter	Units	Lab Sample IDs 42931-7	42931-7-RE	42931-8
TCL Semivolatiles (8270)				
3-Methylphenol/4-Methylphenol (m&p-Cresol)	ug/l	1.0U	1.0U	1.0U
N-Nitroso-di-n-propylamine	ug/l	1.0U	1.0U	1.0U
Hexachloroethane	ug/l	0.70U	0.70U	0.70U
Nitrobenzene	ug/l	1.0U	1.0U	1.0U
Isophorone	ug/l	1.0U	1.0U	1.0U
2-Nitrophenol	ug/l	1.1U	1.1U	1.1U
2,4-Dimethylphenol	ug/l	1.1U	1.1U	1.1U
bis(2-Chloroethoxy)methane	ug/l	1.0U	1.0U	1.0U
2,4-Dichlorophenol	ug/l	0.76U	0.76U	0.76U
1,2,4-Trichlorobenzene	ug/l	0.51U	0.51U	0.51U
4-Chloroaniline	ug/l	1.0U	1.0U	1.0U
Hexachlorobutadiene	ug/l	0.50U	0.50U	0.50U
4-Chloro-3-methylphenol	ug/l	1.0U	1.0U	1.0U
Hexachlorocyclopentadiene	ug/l	1.1U	1.1U	1.1U
2,4,6-Trichlorophenol	ug/l	1.1U	1.1U	1.1U
2,4,5-Trichlorophenol	ug/l	1.1U	1.1U	1.1U
2-Chloronaphthalene	ug/l	1.0U	1.0U	1.0U
2-Nitroaniline	ug/l	0.72U	0.72U	0.72U
Dimethylphthalate	ug/l	0.57U	0.57U	0.57U
3-Nitroaniline	ug/l	0.64U	0.64U	0.64U
2,4-Dinitrophenol	ug/l	10U	10U	10U
4-Nitrophenol	ug/l	5.0U	5.0U	5.0U
Dibenzofuran	ug/l	1.0U	1.0U	1.0U
2,4-Dinitrotoluene	ug/l	1.1U	1.1U	1.1U
2,6-Dinitrotoluene	ug/l	0.87U	0.87U	0.87U
Diethylphthalate	ug/l	1.0U	1.0U	1.0U
4-Chlorophenylphenyl ether	ug/l	0.70U	0.70U	0.70U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-7	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-7-RE	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-8	041EM00001	Liquid	04/07/04	04/06/04 12:00	PEN16

Parameter	Units	Lab Sample IDs 42931-7	42931-7-RE	42931-8
TCL Semivolatiles (8270)				
4-Nitroaniline	ug/l	0.86U	0.86U	0.86U
4,6-Dinitro-2-methylphenol	ug/l	10U	10U	10U
N-Nitrosodiphenylamine	ug/l	1.0U	1.0U	1.0U
4-Bromophenylphenyl ether	ug/l	1.0U	1.0U	1.0U
Hexachlorobenzene	ug/l	0.61U	0.61U	0.61U
Pentachlorophenol	ug/l	2.0U	2.0U	2.0U
Di-n-butylphthalate	ug/l	1.0U	1.0U	1.0U
Butylbenzylphthalate	ug/l	0.74U	0.74U	0.74U
3,3'-Dichlorobenzidine	ug/l	1.0U	1.0U	1.0U
bis(2-Ethylhexyl)phthalate	ug/l	2.4U	2.4U	2.4U
Di-n-octylphthalate	ug/l	1.2U	1.2U	1.2U
Carbazole	ug/l	0.54U	0.54U	0.54U
Surrogate - Phenol-d5 *	%	45 %J1	16 %J1	94 %
Surrogate - 2-Fluorophenol *	%	43 %	18 %J1	86 %
Surrogate - 2,4,6-Tribromophenol *	%	52 %	54 %	112 %
Surrogate - Nitrobenzene - d5 *	%	50 %J1	24 %J1	92 %
Surrogate - 2-Fluorobiphenyl *	%	52 %J1	38 %J1	96 %
Surrogate - Terphenyl-d14 *	%	52 %	86 %	102 %
Dilution Factor		1	1	1
Prep Date		04/09/04	04/27/04	04/09/04
Prep Time		09:00	07:40	09:00
Analysis Date		04/22/04	04/30/04	04/22/04
Analysis Time		20:17	15:40	20:46
Batch ID		0409A	0427C	0409A
Quantitation Factor		1.000	1.000	1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-7	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-7-RE	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-8	041EM00001	Liquid	04/07/04	04/06/04 12:00	PEN16

Parameter	Units	Lab Sample IDs 42931-7	42931-7-RE	42931-8
Low Level PAH (8270)				
Naphthalene	ug/l	0.11I		0.028U
Acenaphthylene	ug/l	0.024U		0.024U
Acenaphthene	ug/l	0.025U		0.025U
Fluorene	ug/l	0.026U		0.026U
Phenanthrene	ug/l	0.052I		0.025U
Anthracene	ug/l	0.031U		0.031U
Fluoranthene	ug/l	0.061U		0.061U
Pyrene	ug/l	0.042U		0.042U
Chrysene	ug/l	0.088U		0.088U
Benzo(a)anthracene	ug/l	0.070U		0.070U
Benzo(b)fluoranthene	ug/l	0.074U		0.074U
Benzo(k)fluoranthene	ug/l	0.058U		0.058U
Benzo(a)pyrene	ug/l	0.060U		0.060U
Indeno(1,2,3-cd)pyrene	ug/l	0.080U		0.080U
Dibenzo(a,h)anthracene	ug/l	0.065U		0.065U
Benzo(g,h,i)perylene	ug/l	0.096U		0.096U
2-Methylnaphthalene	ug/l	0.022U		0.022U
1-Methylnaphthalene	ug/l	0.028U		0.028U
Surrogate - o-Terphenyl *	%	95 %		105 %
Dilution Factor		1		1
Prep Date		04/13/04		04/13/04
Prep Time		15:30		15:30
Analysis Date		04/14/04		04/14/04
Analysis Time		13:15		13:43
Batch ID		0413C		0413C
Quantitation Factor		1.000		1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-7	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-7-RE	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-8	041EM00001	Liquid	04/07/04	04/06/04 12:00	PEN16

Parameter	Units	Lab Sample IDs 42931-7	42931-7-RE	42931-8
Volatiles by GC/MS (8260)				
Chloromethane	ug/l	0.39U		0.39U
Bromomethane (Methyl bromide)	ug/l	0.62U		0.62U
Vinyl chloride	ug/l	0.56U		0.56U
Chloroethane	ug/l	0.78U		0.78U
Methylene chloride (Dichloromethane)	ug/l	0.64U		0.64U
Acetone	ug/l	5.0U		5.0U
Carbon disulfide	ug/l	0.66U		0.66U
1,1-Dichloroethene	ug/l	0.36U		0.36U
1,1-Dichloroethane	ug/l	0.36U		0.36U
cis-1,2-Dichloroethene	ug/l	0.38U		0.38U
trans-1,2-Dichloroethene	ug/l	0.40U		0.40U
Chloroform	ug/l	0.37U		0.37U
1,2-Dichloroethane	ug/l	0.26U		0.26U
2-Butanone (MEK)	ug/l	1.3U		1.3U
1,1,1-Trichloroethane	ug/l	0.32U		0.32U
Carbon tetrachloride	ug/l	0.31U		0.31U
Bromodichloromethane	ug/l	0.14U		0.14U
1,1,2,2-Tetrachloroethane	ug/l	0.18U		0.18U
1,2-Dichloropropane	ug/l	0.33U		0.33U
trans-1,3-Dichloropropene	ug/l	0.26U		0.26U
Trichloroethene	ug/l	0.37U		0.37U
Dibromochloromethane	ug/l	0.50U		0.50U
1,1,2-Trichloroethane	ug/l	0.22U		0.22U
Benzene	ug/l	0.36U		0.36U
cis-1,3-Dichloropropene	ug/l	0.23U		0.23U
Bromoform	ug/l	0.33U		0.33U
2-Hexanone	ug/l	0.93U		0.93U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-7	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-7-RE	041FE00001	Liquid	04/07/04	04/06/04 10:30	PEN16
42931-8	041EM00001	Liquid	04/07/04	04/06/04 12:00	PEN16

Parameter	Units	Lab Sample IDs 42931-7	42931-7-RE	42931-8
Volatiles by GC/MS (8260)				
4-Methyl-2-pentanone (MIBK)	ug/l	0.65U		0.65U
Tetrachloroethene	ug/l	0.35U		0.35U
Toluene	ug/l	0.54U		0.54U
Chlorobenzene	ug/l	0.34U		0.34U
Ethylbenzene	ug/l	0.34U		0.34U
Styrene	ug/l	0.25U		0.25U
Xylenes, Total	ug/l	1.3U		1.3U
Surrogate - Toluene-d8 *	%	104 %		102 %
Surrogate - 4-Bromofluorobenzene *	%	104 %		104 %
Surrogate - Dibromofluoromethane *	%	108 %		106 %
Dilution Factor		1		1
Prep Date		04/16/04		04/19/04
Prep Time		23:46		16:09
Analysis Date		04/16/04		04/19/04
Analysis Time		23:46		16:09
Batch ID		1B0416		1B0419
Quantitation Factor		1.000		1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-9	041TB00001	Liquid	04/07/04	04/06/04	PEN16

Parameter	Units	Lab Sample IDs 42931-9
Volatiles by GC/MS (8260)		
Chloromethane	ug/l	0.39U
Bromomethane (Methyl bromide)	ug/l	0.62U
Vinyl chloride	ug/l	0.56U
Chloroethane	ug/l	0.78U
Methylene chloride (Dichloromethane)	ug/l	0.64U
Acetone	ug/l	5.0U
Carbon disulfide	ug/l	0.66U
1,1-Dichloroethene	ug/l	0.36U
1,1-Dichloroethane	ug/l	0.36U
cis-1,2-Dichloroethene	ug/l	0.38U
trans-1,2-Dichloroethene	ug/l	0.40U
Chloroform	ug/l	0.37U
1,2-Dichloroethane	ug/l	0.26U
2-Butanone (MEK)	ug/l	1.3U
1,1,1-Trichloroethane	ug/l	0.32U
Carbon tetrachloride	ug/l	0.31U
Bromodichloromethane	ug/l	0.14U
1,1,2,2-Tetrachloroethane	ug/l	0.18U
1,2-Dichloropropane	ug/l	0.33U
trans-1,3-Dichloropropene	ug/l	0.26U
Trichloroethene	ug/l	0.37U
Dibromochloromethane	ug/l	0.50U
1,1,2-Trichloroethane	ug/l	0.22U
Benzene	ug/l	0.36U
cis-1,3-Dichloropropene	ug/l	0.23U
Bromoform	ug/l	0.33U
2-Hexanone	ug/l	0.93U
4-Methyl-2-pentanone (MIBK)	ug/l	0.65U
Tetrachloroethene	ug/l	0.35U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-9	041TB00001	Liquid	04/07/04	04/06/04	PEN16

Parameter	Units	Lab Sample IDs 42931-9
Volatiles by GC/MS (8260)		
Toluene	ug/l	0.54U
Chlorobenzene	ug/l	0.34U
Ethylbenzene	ug/l	0.34U
Styrene	ug/l	0.25U
Xylenes, Total	ug/l	1.3U
Surrogate - Toluene-d8 *	%	104 %
Surrogate - 4-Bromofluorobenzene *	%	104 %
Surrogate - Dibromofluoromethane *	%	104 %
Dilution Factor		1
Prep Date		04/17/04
Prep Time		00:10
Analysis Date		04/17/04
Analysis Time		00:10
Batch ID		1B0416
Quantitation Factor		1.000

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-10	Method Detection Limit (MDL)	Solid	04/07/04		PEN16
42931-11	Reporting Limit (RL)	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-10	42931-11
TCL Pesticides (8081)			
alpha-BHC	ug/kg dw	0.24	1.7
beta-BHC	ug/kg dw	0.29	1.7
delta-BHC	ug/kg dw	0.12	1.7
gamma-BHC (Lindane)	ug/kg dw	0.15	1.7
Heptachlor	ug/kg dw	0.28	1.7
Aldrin	ug/kg dw	0.11	1.7
Heptachlor epoxide	ug/kg dw	0.17	1.7
Endosulfan I	ug/kg dw	0.17	1.7
Dieldrin	ug/kg dw	0.31	3.3
4,4'-DDE	ug/kg dw	0.54	3.3
Endrin	ug/kg dw	0.43	3.3
Endrin aldehyde	ug/kg dw	0.31	3.3
Endosulfan II	ug/kg dw	0.22	3.3
4,4'-DDD	ug/kg dw	0.35	3.3
Endosulfan sulfate	ug/kg dw	0.44	3.3
4,4'-DDT	ug/kg dw	0.31	3.3
Endrin ketone	ug/kg dw	0.38	3.3
Methoxychlor	ug/kg dw	0.20	17
alpha-Chlordane	ug/kg dw	0.11	1.7
gamma-Chlordane	ug/kg dw	0.13	1.7
Toxaphene	ug/kg dw	33	170
PCB's (8082)			
Aroclor-1016	ug/kg dw	3.9	33
Aroclor-1221	ug/kg dw	17	67
Aroclor-1232	ug/kg dw	6.7	33
Aroclor-1242	ug/kg dw	6.7	33
Aroclor-1248	ug/kg dw	6.5	33

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-10	Method Detection Limit (MDL)	Solid	04/07/04		PEN16
42931-11	Reporting Limit (RL)	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-10	42931-11
PCB's (8082)			
Aroclor-1254	ug/kg dw	6.7	33
Aroclor-1260	ug/kg dw	4.4	33
TCL Semivolatiles (8270)			
Phenol	ug/kg dw	41	330
bis(2-Chloroethyl)ether	ug/kg dw	37	330
2-Chlorophenol	ug/kg dw	41	330
1,3-Dichlorobenzene	ug/kg dw	23	330
1,4-Dichlorobenzene	ug/kg dw	24	330
1,2-Dichlorobenzene	ug/kg dw	23	330
2-Methylphenol (o-Cresol)	ug/kg dw	46	330
2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether	ug/kg dw	32	330
3-Methylphenol/4-Methylphenol (m&p-Cresol)	ug/kg dw	40	330
N-Nitroso-di-n-propylamine	ug/kg dw	30	330
Hexachloroethane	ug/kg dw	19	330
Nitrobenzene	ug/kg dw	31	330
Isophorone	ug/kg dw	26	330
2-Nitrophenol	ug/kg dw	26	330
2,4-Dimethylphenol	ug/kg dw	28	330
bis(2-Chloroethoxy)methane	ug/kg dw	32	330
2,4-Dichlorophenol	ug/kg dw	29	330
1,2,4-Trichlorobenzene	ug/kg dw	38	330
4-Chloroaniline	ug/kg dw	29	660
Hexachlorobutadiene	ug/kg dw	27	330
4-Chloro-3-methylphenol	ug/kg dw	40	330
Hexachlorocyclopentadiene	ug/kg dw	270	330

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-10	Method Detection Limit (MDL)	Solid	04/07/04		PEN16
42931-11	Reporting Limit (RL)	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-10	42931-11
TCL Semivolatiles (8270)			
2,4,6-Trichlorophenol	ug/kg dw	32	330
2,4,5-Trichlorophenol	ug/kg dw	31	330
2-Chloronaphthalene	ug/kg dw	37	330
2-Nitroaniline	ug/kg dw	25	1700
Dimethylphthalate	ug/kg dw	35	330
3-Nitroaniline	ug/kg dw	30	1700
2,4-Dinitrophenol	ug/kg dw	340	1700
4-Nitrophenol	ug/kg dw	25	1700
Dibenzofuran	ug/kg dw	34	330
2,4-Dinitrotoluene	ug/kg dw	22	330
2,6-Dinitrotoluene	ug/kg dw	29	330
Diethylphthalate	ug/kg dw	35	330
4-Chlorophenylphenyl ether	ug/kg dw	26	330
4-Nitroaniline	ug/kg dw	26	1700
4,6-Dinitro-2-methylphenol	ug/kg dw	31	1700
N-Nitrosodiphenylamine	ug/kg dw	30	330
4-Bromophenylphenyl ether	ug/kg dw	30	330
Hexachlorobenzene	ug/kg dw	38	330
Pentachlorophenol	ug/kg dw	34	1700
Di-n-butylphthalate	ug/kg dw	39	330
Butylbenzylphthalate	ug/kg dw	32	330
3,3'-Dichlorobenzidine	ug/kg dw	26	660
bis(2-Ethylhexyl)phthalate	ug/kg dw	44	330
Di-n-octylphthalate	ug/kg dw	32	330
Carbazole	ug/kg dw	30	330

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-10	Method Detection Limit (MDL)	Solid	04/07/04		PEN16
42931-11	Reporting Limit (RL)	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-10	42931-11
Low Level PAH (8270)			
Naphthalene	ug/kg dw	0.71	6.7
Acenaphthylene	ug/kg dw	0.86	6.7
Acenaphthene	ug/kg dw	0.90	6.7
Fluorene	ug/kg dw	0.78	6.7
Phenanthrene	ug/kg dw	0.80	6.7
Anthracene	ug/kg dw	0.96	6.7
Fluoranthene	ug/kg dw	0.86	6.7
Pyrene	ug/kg dw	1.2	6.7
Chrysene	ug/kg dw	1.0	6.7
Benzo(a)anthracene	ug/kg dw	0.76	6.7
Benzo(b)fluoranthene	ug/kg dw	0.96	6.7
Benzo(k)fluoranthene	ug/kg dw	0.98	6.7
Benzo(a)pyrene	ug/kg dw	0.90	6.7
Indeno(1,2,3-cd)pyrene	ug/kg dw	0.65	6.7
Dibenzo(a,h)anthracene	ug/kg dw	0.88	6.7
Benzo(g,h,i)perylene	ug/kg dw	0.61	6.7
2-Methylnaphthalene	ug/kg dw	0.53	6.7
1-Methylnaphthalene	ug/kg dw	0.35	6.7
Volatiles by GC/MS (8260)			
Chloromethane	ug/kg dw	1.4	5.0
Bromomethane (Methyl bromide)	ug/kg dw	3.4	5.0
Vinyl chloride	ug/kg dw	1.4	5.0
Chloroethane	ug/kg dw	1.7	5.0
Methylene chloride (Dichloromethane)	ug/kg dw	2.4	5.0
Acetone	ug/kg dw	8.0	50
Carbon disulfide	ug/kg dw	2.0	5.0

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-10	Method Detection Limit (MDL)	Solid	04/07/04		PEN16
42931-11	Reporting Limit (RL)	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-10	42931-11
Volatiles by GC/MS (8260)			
1,1-Dichloroethene	ug/kg dw	1.7	5.0
1,1-Dichloroethane	ug/kg dw	1.0	5.0
cis-1,2-Dichloroethene	ug/kg dw	1.1	5.0
trans-1,2-Dichloroethene	ug/kg dw	1.2	5.0
Chloroform	ug/kg dw	1.2	5.0
1,2-Dichloroethane	ug/kg dw	1.5	5.0
2-Butanone (MEK)	ug/kg dw	4.7	25
1,1,1-Trichloroethane	ug/kg dw	0.81	5.0
Carbon tetrachloride	ug/kg dw	0.94	5.0
Bromodichloromethane	ug/kg dw	1.3	5.0
1,1,2,2-Tetrachloroethane	ug/kg dw	2.0	5.0
1,2-Dichloropropane	ug/kg dw	1.2	5.0
trans-1,3-Dichloropropene	ug/kg dw	1.6	5.0
Trichloroethene	ug/kg dw	1.1	5.0
Dibromochloromethane	ug/kg dw	1.4	5.0
1,1,2-Trichloroethane	ug/kg dw	1.8	5.0
Benzene	ug/kg dw	1.1	5.0
cis-1,3-Dichloropropene	ug/kg dw	1.2	5.0
Bromoform	ug/kg dw	1.7	5.0
2-Hexanone	ug/kg dw	5.1	25
4-Methyl-2-pentanone (MIBK)	ug/kg dw	5.0	25
Tetrachloroethene	ug/kg dw	1.5	5.0
Toluene	ug/kg dw	1.8	5.0
Chlorobenzene	ug/kg dw	1.3	5.0
Ethylbenzene	ug/kg dw	1.0	5.0
Styrene	ug/kg dw	1.1	5.0
Xylenes, Total	ug/kg dw	3.0	10

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-10	Method Detection Limit (MDL)	Solid	04/07/04		PEN16
42931-11	Reporting Limit (RL)	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-10	42931-11
Total Organic Carbon (9060)			
Total Organic Carbon	mg/kg dw	390	1000

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-28	Method Detection Limit (MDL)	Solid	04/07/04		PEN16
42931-13	Reporting Limit (RL)	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-28	42931-13
TAL Metals (6010)			
Aluminum	mg/kg dw	0.93	20
Antimony	mg/kg dw	0.39	2.0
Arsenic	mg/kg dw	0.33	1.0
Barium	mg/kg dw	0.020	1.0
Beryllium	mg/kg dw	0.020	0.40
Cadmium	mg/kg dw	0.060	0.50
Calcium	mg/kg dw	0.74	50
Chromium	mg/kg dw	0.14	1.0
Cobalt	mg/kg dw	0.12	1.0
Copper	mg/kg dw	0.060	2.0
Iron	mg/kg dw	1.8	5.0
Lead	mg/kg dw	0.19	0.50
Magnesium	mg/kg dw	0.85	50
Manganese	mg/kg dw	0.040	1.0
Nickel	mg/kg dw	0.15	4.0
Potassium	mg/kg dw	0.89	100
Selenium	mg/kg dw	0.53	1.0
Silver	mg/kg dw	0.11	1.0
Sodium	mg/kg dw	0.11	50
Thallium	mg/kg dw	0.76	1.0
Vanadium	mg/kg dw	0.070	1.0
Zinc	mg/kg dw	0.060	2.0
Mercury (7471)			
Mercury	mg/kg dw	0.0043	0.020

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-14	Method Blank	Solid	04/07/04		PEN16
42931-30	Method Blank	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-14	42931-30
TAL Metals (6010)			
Aluminum	mg/kg dw	2.0I	
Antimony	mg/kg dw	0.90I	
Arsenic	mg/kg dw	0.33U	
Barium	mg/kg dw	0.046I	
Beryllium	mg/kg dw	0.023I	
Cadmium	mg/kg dw	0.083I	
Calcium	mg/kg dw	0.74U	
Chromium	mg/kg dw	0.14U	
Cobalt	mg/kg dw	0.12U	
Copper	mg/kg dw	0.060U	
Iron	mg/kg dw	2.8I	
Lead	mg/kg dw	0.34I	
Magnesium	mg/kg dw	0.88I	
Manganese	mg/kg dw	0.040U	
Nickel	mg/kg dw	0.15U	
Potassium	mg/kg dw	2.5I	
Selenium	mg/kg dw	0.53U	
Silver	mg/kg dw	0.11U	
Sodium	mg/kg dw	0.77I	
Thallium	mg/kg dw	0.76U	
Vanadium	mg/kg dw	0.097I	
Zinc	mg/kg dw	0.51I	
Dilution Factor		1	
Prep Date		04/12/04	
Prep Time		07:00	
Analysis Date		04/15/04	
Analysis Time		13:25	
Batch ID		0412C	
Quantitation Factor		1.000	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-14	Method Blank	Solid	04/07/04		PEN16
42931-30	Method Blank	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-14	42931-30
Mercury (7471)			
Mercury	mg/kg dw	0.020U	
Dilution Factor		1	
Prep Date		04/12/04	
Prep Time		12:00	
Analysis Date		04/13/04	
Analysis Time		16:02	
Batch ID		0412S	
Quantitation Factor		1.000	
TCL Pesticides (8081)			
alpha-BHC	ug/kg dw	0.24U	
beta-BHC	ug/kg dw	0.29U	
delta-BHC	ug/kg dw	0.12U	
gamma-BHC (Lindane)	ug/kg dw	0.15U	
Heptachlor	ug/kg dw	0.28U	
Aldrin	ug/kg dw	1.4I	
Heptachlor epoxide	ug/kg dw	0.17U	
Endosulfan I	ug/kg dw	0.17U	
Dieldrin	ug/kg dw	0.31U	
4,4'-DDE	ug/kg dw	0.54U	
Endrin	ug/kg dw	0.43U	
Endrin aldehyde	ug/kg dw	0.31U	
Endosulfan II	ug/kg dw	0.22U	
4,4'-DDD	ug/kg dw	0.35U	
Endosulfan sulfate	ug/kg dw	0.44U	
4,4'-DDT	ug/kg dw	0.31U	
Endrin ketone	ug/kg dw	0.38U	
Methoxychlor	ug/kg dw	0.20U	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-14	Method Blank	Solid	04/07/04		PEN16
42931-30	Method Blank	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-14	42931-30
TCL Pesticides (8081)			
alpha-Chlordane	ug/kg dw	0.11U	
gamma-Chlordane	ug/kg dw	0.13U	
Toxaphene	ug/kg dw	33U	
Surrogate - DCB *	%	94 %	
Surrogate - 2,4,5,6-Tetrachloro-m-xylene (TCMX) *	%	88 %	
Dilution Factor		1	
Prep Date		04/15/04	
Prep Time		13:00	
Analysis Date		04/29/04	
Analysis Time		12:45	
Batch ID		0415N	
Quantitation Factor		1.000	
PCB's (8082)			
Aroclor-1016	ug/kg dw	3.9U	
Aroclor-1221	ug/kg dw	17U	
Aroclor-1232	ug/kg dw	6.7U	
Aroclor-1242	ug/kg dw	6.7U	
Aroclor-1248	ug/kg dw	6.5U	
Aroclor-1254	ug/kg dw	6.7U	
Aroclor-1260	ug/kg dw	4.4U	
Surrogate - TCX *	%	88 %	
Surrogate - DCB *	%	94 %	
Dilution Factor		1	
Prep Date		04/15/04	
Analysis Date		04/29/04	
Analysis Time		12:45	
Batch ID		0415N	
Quantitation Factor		1.000	

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-14	Method Blank	Solid	04/07/04		PEN16
42931-30	Method Blank	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-14	42931-30
TCL Semivolatiles (8270)			
Phenol	ug/kg dw	41U	
bis(2-Chloroethyl)ether	ug/kg dw	37U	
2-Chlorophenol	ug/kg dw	41U	
1,3-Dichlorobenzene	ug/kg dw	23U	
1,4-Dichlorobenzene	ug/kg dw	24U	
1,2-Dichlorobenzene	ug/kg dw	23U	
2-Methylphenol (o-Cresol)	ug/kg dw	46U	
2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether	ug/kg dw	32U	
3-Methylphenol/4-Methylphenol (m&p-Cresol)	ug/kg dw	40U	
N-Nitroso-di-n-propylamine	ug/kg dw	30U	
Hexachloroethane	ug/kg dw	19U	
Nitrobenzene	ug/kg dw	31U	
Isophorone	ug/kg dw	26U	
2-Nitrophenol	ug/kg dw	26U	
2,4-Dimethylphenol	ug/kg dw	28U	
bis(2-Chloroethoxy)methane	ug/kg dw	32U	
2,4-Dichlorophenol	ug/kg dw	29U	
1,2,4-Trichlorobenzene	ug/kg dw	38U	
4-Chloroaniline	ug/kg dw	29U	
Hexachlorobutadiene	ug/kg dw	27U	
4-Chloro-3-methylphenol	ug/kg dw	40U	
Hexachlorocyclopentadiene	ug/kg dw	270U	
2,4,6-Trichlorophenol	ug/kg dw	32U	
2,4,5-Trichlorophenol	ug/kg dw	31U	
2-Chloronaphthalene	ug/kg dw	37U	
2-Nitroaniline	ug/kg dw	25U	
Dimethylphthalate	ug/kg dw	35U	

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-14	Method Blank	Solid	04/07/04		PEN16
42931-30	Method Blank	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-14	42931-30
TCL Semivolatiles (8270)			
3-Nitroaniline	ug/kg dw	30U	
2,4-Dinitrophenol	ug/kg dw	340U	
4-Nitrophenol	ug/kg dw	25U	
Dibenzofuran	ug/kg dw	34U	
2,4-Dinitrotoluene	ug/kg dw	22U	
2,6-Dinitrotoluene	ug/kg dw	29U	
Diethylphthalate	ug/kg dw	35U	
4-Chlorophenylphenyl ether	ug/kg dw	26U	
4-Nitroaniline	ug/kg dw	26U	
4,6-Dinitro-2-methylphenol	ug/kg dw	31U	
N-Nitrosodiphenylamine	ug/kg dw	30U	
4-Bromophenylphenyl ether	ug/kg dw	30U	
Hexachlorobenzene	ug/kg dw	38U	
Pentachlorophenol	ug/kg dw	34U	
Di-n-butylphthalate	ug/kg dw	39U	
Butylbenzylphthalate	ug/kg dw	32U	
3,3'-Dichlorobenzidine	ug/kg dw	26U	
bis(2-Ethylhexyl)phthalate	ug/kg dw	44U	
Di-n-octylphthalate	ug/kg dw	32U	
Carbazole	ug/kg dw	30U	
Surrogate - Phenol-d5 *	%	76 %	
Surrogate - 2-Fluorophenol *	%	76 %	
Surrogate - 2,4,6-Tribromophenol *	%	79 %	
Surrogate - Nitrobenzene - d5 *	%	70 %	
Surrogate - 2-Fluorobiphenyl *	%	76 %	
Surrogate - Terphenyl-d14 *	%	106 %	
Dilution Factor		1	
Prep Date		04/15/04	
Prep Time		12:55	
Analysis Date		04/19/04	
Analysis Time		10:12	
Batch ID		0415C	
Quantitation Factor		1.000	

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-14	Method Blank	Solid	04/07/04		PEN16
42931-30	Method Blank	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-14	42931-30
Low Level PAH (8270)			
Naphthalene	ug/kg dw	0.71U	
Acenaphthylene	ug/kg dw	0.86U	
Acenaphthene	ug/kg dw	0.90U	
Fluorene	ug/kg dw	0.78U	
Phenanthrene	ug/kg dw	0.80U	
Anthracene	ug/kg dw	0.96U	
Fluoranthene	ug/kg dw	0.86U	
Pyrene	ug/kg dw	1.2U	
Chrysene	ug/kg dw	1.0U	
Benzo(a)anthracene	ug/kg dw	0.76U	
Benzo(b)fluoranthene	ug/kg dw	0.96U	
Benzo(k)fluoranthene	ug/kg dw	0.98U	
Benzo(a)pyrene	ug/kg dw	0.90U	
Indeno(1,2,3-cd)pyrene	ug/kg dw	0.65U	
Dibenzo(a,h)anthracene	ug/kg dw	0.88U	
Benzo(g,h,i)perylene	ug/kg dw	0.61U	
2-Methylnaphthalene	ug/kg dw	0.53U	
1-Methylnaphthalene	ug/kg dw	0.35U	
Surrogate - o-Terphenyl *	%	97 %	
Dilution Factor		1	
Prep Date		04/15/04	
Prep Time		15:00	
Analysis Date		04/16/04	
Analysis Time		11:10	
Batch ID		0415B	
Quantitation Factor		1.000	

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-14	Method Blank	Solid	04/07/04		PEN16
42931-30	Method Blank	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-14	42931-30
Volatiles by GC/MS (8260)			
Chloromethane	ug/kg dw	1.4U	1.4U
Bromomethane (Methyl bromide)	ug/kg dw	3.4U	3.4U
Vinyl chloride	ug/kg dw	1.4U	1.4U
Chloroethane	ug/kg dw	1.7U	1.7U
Methylene chloride (Dichloromethane)	ug/kg dw	2.4U	2.4U
Acetone	ug/kg dw	8.0U	8.0U
Carbon disulfide	ug/kg dw	2.0U	2.0U
1,1-Dichloroethene	ug/kg dw	1.7U	1.7U
1,1-Dichloroethane	ug/kg dw	1.0U	1.0U
cis-1,2-Dichloroethene	ug/kg dw	1.1U	1.1U
trans-1,2-Dichloroethene	ug/kg dw	1.2U	1.2U
Chloroform	ug/kg dw	1.2U	1.2U
1,2-Dichloroethane	ug/kg dw	1.5U	1.5U
2-Butanone (MEK)	ug/kg dw	4.7U	4.7U
1,1,1-Trichloroethane	ug/kg dw	0.81U	0.81U
Carbon tetrachloride	ug/kg dw	0.94U	0.94U
Bromodichloromethane	ug/kg dw	1.3U	1.3U
1,1,2,2-Tetrachloroethane	ug/kg dw	2.0U	2.0U
1,2-Dichloropropane	ug/kg dw	1.2U	1.2U
trans-1,3-Dichloropropene	ug/kg dw	1.6U	1.6U
Trichloroethene	ug/kg dw	1.1U	1.1U
Dibromochloromethane	ug/kg dw	1.4U	1.4U
1,1,2-Trichloroethane	ug/kg dw	1.8U	1.8U
Benzene	ug/kg dw	1.1U	1.1U
cis-1,3-Dichloropropene	ug/kg dw	1.2U	1.2U
Bromoform	ug/kg dw	1.7U	1.7U
2-Hexanone	ug/kg dw	5.1U	5.1U
4-Methyl-2-pentanone (MIBK)	ug/kg dw	5.0U	5.0U

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-14	Method Blank	Solid	04/07/04		PEN16
42931-30	Method Blank	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-14	42931-30
Volatiles by GC/MS (8260)			
Tetrachloroethene	ug/kg dw	1.5U	1.5U
Toluene	ug/kg dw	1.8U	1.8U
Chlorobenzene	ug/kg dw	1.3U	1.3U
Ethylbenzene	ug/kg dw	1.0U	1.0U
Styrene	ug/kg dw	1.1U	1.1U
Xylenes, Total	ug/kg dw	3.0U	3.0U
Surrogate - Toluene-d8 *	%	94 %	90 %
Surrogate - 4-Bromofluorobenzene *	%	96 %	104 %
Surrogate - Dibromofluoromethane *	%	106 %	110 %
Dilution Factor		1	1
Prep Date		04/09/04	04/12/04
Prep Time		13:11	12:35
Analysis Date		04/09/04	04/12/04
Analysis Time		13:11	12:35
Batch ID		1L0409	1L0412
Quantitation Factor		1.000	1.000
Total Organic Carbon (9060)			
Total Organic Carbon	mg/kg dw	390U	
Dilution Factor		1	
Prep Date		04/20/04	
Prep Time		15:59	
Analysis Date		04/20/04	
Analysis Time		15:59	
Batch ID		0420X	
Quantitation Factor		1.000	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-15	Lab Control Standard Result	Solid	04/07/04		PEN16
42931-16	Spike Amount Added, LCS	Solid	04/07/04		PEN16
42931-17	Lab Control Standard % Recovery	Solid	04/07/04		PEN16
42931-31	Lab Control Standard Result	Solid	04/07/04		PEN16
42931-32	Lab Control Standard % Recovery	Solid	04/07/04		PEN16

		Lab Sample IDs				
Parameter	**Units**	**42931-15**	**42931-16**	**42931-17**	**42931-31**	**42931-32**
TAL Metals (6010)						
Aluminum	mg/kg dw	222	214	104 %		
Antimony	mg/kg dw	51.5	50.0	103 %		
Arsenic	mg/kg dw	199	200	100 %		
Barium	mg/kg dw	217	200	109 %		
Beryllium	mg/kg dw	5.27	5.00	105 %		
Cadmium	mg/kg dw	5.05	5.00	101 %		
Calcium	mg/kg dw	507	500	101 %		
Chromium	mg/kg dw	21.6	20.0	108 %		
Cobalt	mg/kg dw	51.9	50.0	104 %		
Copper	mg/kg dw	26.4	25.0	106 %		
Iron	mg/kg dw	111	109	102 %		
Lead	mg/kg dw	51.8	50.0	104 %		
Magnesium	mg/kg dw	490	500	98 %		
Manganese	mg/kg dw	54.6	50.0	109 %		
Nickel	mg/kg dw	52.7	50.0	105 %		
Potassium	mg/kg dw	528	510	104 %		
Selenium	mg/kg dw	189	200	95 %		
Silver	mg/kg dw	4.99	5.00	100 %		
Sodium	mg/kg dw	502	555	90 %		
Thallium	mg/kg dw	207	200	104 %		
Vanadium	mg/kg dw	52.0	50.0	104 %		
Zinc	mg/kg dw	51.5	50.0	103 %		
Dilution Factor		1		1		
Prep Date		04/12/04		04/12/04		
Prep Time		07:00		07:00		
Analysis Date		04/15/04		04/15/04		
Analysis Time		13:31		13:31		
Batch ID		0412C	0412C	0412C		
Quantitation Factor		1.000				

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-15	Lab Control Standard Result	Solid	04/07/04		PEN16
42931-16	Spike Amount Added, LCS	Solid	04/07/04		PEN16
42931-17	Lab Control Standard % Recovery	Solid	04/07/04		PEN16
42931-31	Lab Control Standard Result	Solid	04/07/04		PEN16
42931-32	Lab Control Standard % Recovery	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-15	42931-16	42931-17	42931-31	42931-32
Mercury (7471)						
Mercury	mg/kg dw	0.123	0.125	98 %		
Dilution Factor		1		1		
Prep Date		04/12/04		04/12/04		
Prep Time		12:00		12:00		
Analysis Date		04/13/04		04/13/04		
Analysis Time		16:04		16:04		
Batch ID		0412S	0412S	0412S		
Quantitation Factor		1.000				
TCL Pesticides (8081)						
alpha-BHC	ug/kg dw	3.2	3.3	97 %		
beta-BHC	ug/kg dw	3.6	3.3	109 %		
delta-BHC	ug/kg dw	2.4	3.3	73 %		
gamma-BHC (Lindane)	ug/kg dw	2.2	3.3	67 %		
Heptachlor	ug/kg dw	2.4	3.3	73 %		
Aldrin	ug/kg dw	5.6	3.3	127 %*J3		
Heptachlor epoxide	ug/kg dw	2.9	3.3	88 %		
Endosulfan I	ug/kg dw	3.5	3.3	106 %		
Dieldrin	ug/kg dw	8.3	6.7	124 %		
4,4'-DDE	ug/kg dw	5.8	6.7	86 %		
Endrin	ug/kg dw	7.9	6.7	118 %		
Endrin aldehyde	ug/kg dw	4.3	6.7	64 %		
Endosulfan II	ug/kg dw	6.5	6.7	97 %		
4,4'-DDD	ug/kg dw	7.4	6.7	110 %		
Endosulfan sulfate	ug/kg dw	7.4	6.7	110 %		

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-15	Lab Control Standard Result	Solid	04/07/04		PEN16
42931-16	Spike Amount Added, LCS	Solid	04/07/04		PEN16
42931-17	Lab Control Standard % Recovery	Solid	04/07/04		PEN16
42931-31	Lab Control Standard Result	Solid	04/07/04		PEN16
42931-32	Lab Control Standard % Recovery	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-15	42931-16	42931-17	42931-31	42931-32
TCL Pesticides (8081)						
4,4'-DDT	ug/kg dw	8.0	6.7	119 %		
Endrin ketone	ug/kg dw	8.4	6.7	125 %		
Methoxychlor	ug/kg dw	8.9	6.7	133 %		
alpha-Chlordane	ug/kg dw	3.3	3.3	100 %		
gamma-Chlordane	ug/kg dw	3.6	3.3	109 %		
Surrogate - DCB *	ug/kg dw	14		82 %		
Surrogate - 2,4,5,6-Tetrachloro-m-xylene (TCMX) *	ug/kg dw	13		76 %		
Dilution Factor		1		1		
Prep Date		04/15/04		04/15/04		
Prep Time		13:00		13:00		
Analysis Date		04/29/04		04/29/04		
Analysis Time		13:03		13:03		
Batch ID		0415N	0415N	0415N		
Quantitation Factor		1.000				
PCB's (8082)						
Aroclor-1016	ug/kg dw	310	330	94 %		
Aroclor-1260	ug/kg dw	340	330	103 %		
Surrogate - TCX *	ug/kg dw	14		82 %		
Surrogate - DCB *	ug/kg dw	15		88 %		
Dilution Factor		1		1		
Prep Date		04/15/04		04/15/04		
Analysis Date		04/29/04		04/29/04		
Analysis Time		13:21		13:21		
Batch ID		0415N	0415N	0415N		
Quantitation Factor		1.000				

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-15	Lab Control Standard Result	Solid	04/07/04		PEN16
42931-16	Spike Amount Added, LCS	Solid	04/07/04		PEN16
42931-17	Lab Control Standard % Recovery	Solid	04/07/04		PEN16
42931-31	Lab Control Standard Result	Solid	04/07/04		PEN16
42931-32	Lab Control Standard % Recovery	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-15	42931-16	42931-17	42931-31	42931-32
TCL Semivolatiles (8270)						
1,4-Dichlorobenzene	mg/l	0.35	0.50	70 %		
2,4-Dinitrotoluene	mg/l	0.50	0.50	100 %		
Pentachlorophenol	mg/l	0.46	0.50	92 %		
Surrogate - Phenol-d5 *	mg/l	0.42		84 %		
Surrogate - 2-Fluorophenol *	mg/l	0.39		78 %		
Surrogate - 2,4,6-Tribromophenol *	mg/l	0.51		102 %		
Surrogate - Nitrobenzene - d5 *	mg/l	0.19		76 %		
Surrogate - 2-Fluorobiphenyl *	mg/l	0.22		88 %		
Surrogate - Terphenyl-d14 *	mg/l	0.27		108 %		
Dilution Factor		1		1		
Prep Date		04/15/04		04/15/04		
Prep Time		12:55		12:55		
Analysis Date		04/19/04		04/19/04		
Analysis Time		11:08		11:08		
Batch ID		0415C	0415C	0415C		
Quantitation Factor		1.000				
Low Level PAH (8270)						
Naphthalene	ug/kg dw	42	67	63 %		
Acenaphthene	ug/kg dw	44	67	66 %		
Fluorene	ug/kg dw	46	67	69 %		
Pyrene	ug/kg dw	49	67	73 %		
Benzo(a)pyrene	ug/kg dw	50	67	75 %		

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-15	Lab Control Standard Result	Solid	04/07/04		PEN16
42931-16	Spike Amount Added, LCS	Solid	04/07/04		PEN16
42931-17	Lab Control Standard % Recovery	Solid	04/07/04		PEN16
42931-31	Lab Control Standard Result	Solid	04/07/04		PEN16
42931-32	Lab Control Standard % Recovery	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-15	42931-16	42931-17	42931-31	42931-32
Low Level PAH (8270)						
Surrogate - o-Terphenyl *	ug/kg dw	54		80 %		
Dilution Factor		1		1		
Prep Date		04/15/04		04/15/04		
Prep Time		15:00		15:00		
Analysis Date		04/16/04		04/16/04		
Analysis Time		11:39		11:39		
Batch ID		0415B	0415B	0415B		
Quantitation Factor		1.000				
Volatiles by GC/MS (8260)						
1,1-Dichloroethene	ug/kg dw	46	50	92 %	60	120 %
Trichloroethene	ug/kg dw	51	50	102 %	52	104 %
Benzene	ug/kg dw	50	50	100 %	51	102 %
Toluene	ug/kg dw	52	50	104 %	52	104 %
Chlorobenzene	ug/kg dw	53	50	106 %	54	108 %
Surrogate - Toluene-d8 *	ug/kg dw	51	50	102 %	52	104 %
Surrogate - 4-Bromofluorobenzene *	ug/kg dw	51	50	102 %	53	106 %
Surrogate - Dibromofluoromethane *	ug/kg dw	55	50	110 %	57	114 %
Dilution Factor		1		1	1	1
Prep Date		04/09/04		04/09/04	04/12/04	04/12/04
Prep Time		11:52		11:52	10:48	10:48
Analysis Date		04/09/04		04/09/04	04/12/04	04/12/04
Analysis Time		11:52		11:52	10:48	10:48
Batch ID		1L0409	1L0409	1L0409	1L0412	1L0412
Quantitation Factor		1.000			1.000	

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-15	Lab Control Standard Result	Solid	04/07/04		PEN16
42931-16	Spike Amount Added, LCS	Solid	04/07/04		PEN16
42931-17	Lab Control Standard % Recovery	Solid	04/07/04		PEN16
42931-31	Lab Control Standard Result	Solid	04/07/04		PEN16
42931-32	Lab Control Standard % Recovery	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-15	42931-16	42931-17	42931-31	42931-32
Total Organic Carbon (9060)						
Total Organic Carbon	mg/kg dw	400000	408000	98 %		
Dilution Factor		1		1		
Prep Date		04/20/04		04/20/04		
Prep Time		16:07		16:07		
Analysis Date		04/20/04		04/20/04		
Analysis Time		16:07		16:07		
Batch ID		0420X	0420X	0420X		
Quantitation Factor		1.000				

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-18	LCS Accuracy Control Limit (%R)	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-18
TAL Metals (6010)		
Aluminum	%	75-125 %
Antimony	%	75-125 %
Arsenic	%	75-125 %
Barium	%	75-125 %
Beryllium	%	75-125 %
Cadmium	%	75-125 %
Calcium	%	75-125 %
Chromium	%	75-125 %
Cobalt	%	75-125 %
Copper	%	75-125 %
Iron	%	75-125 %
Lead	%	75-125 %
Magnesium	%	75-125 %
Manganese	%	75-125 %
Nickel	%	75-125 %
Potassium	%	75-125 %
Selenium	%	75-125 %
Silver	%	75-125 %
Sodium	%	75-125 %
Thallium	%	75-125 %
Vanadium	%	75-125 %
Zinc	%	75-125 %
Mercury (7471)		
Mercury	%	80-120 %

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-18	LCS Accuracy Control Limit (%R)	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-18
TCL Pesticides (8081)		
alpha-BHC	%	22-125 %
beta-BHC	%	36-144 %
delta-BHC	%	32-140 %
gamma-BHC (Lindane)	%	35-132 %
Heptachlor	%	31-142 %
Aldrin	%	34-124 %
Heptachlor epoxide	%	29-133 %
Endosulfan I	%	31-133 %
Dieldrin	%	40-133 %
4,4'-DDE	%	33-139 %
Endrin	%	42-137 %
Endrin aldehyde	%	37-152 %
Endosulfan II	%	34-150 %
4,4'-DDD	%	37-149 %
Endosulfan sulfate	%	45-163 %
4,4'-DDT	%	46-156 %
Endrin ketone	%	44-165 %
Methoxychlor	%	37-185 %
alpha-Chlordane	%	40-139 %
gamma-Chlordane	%	39-143 %
Surrogate - DCB *	%	30-150 %
Surrogate - 2,4,5,6-Tetrachloro-m-xylene (TCMX) *	%	30-150 %

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-18	LCS Accuracy Control Limit (%R)	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-18
PCB's (8082)		
Aroclor-1016	%	24-132 %
Aroclor-1260	%	28-153 %
Surrogate - TCX *	%	30-150 %
Surrogate - DCB *	%	30-150 %
TCL Semivolatiles (8270)		
1,4-Dichlorobenzene	%	25-93 %
2,4-Dinitrotoluene	%	18-125 %
Pentachlorophenol	%	17-140 %
Surrogate - Phenol-d5 *	%	46-112 %
Surrogate - 2-Fluorophenol *	%	43-114 %
Surrogate - 2,4,6-Tribromophenol *	%	47-133 %
Surrogate - Nitrobenzene - d5 *	%	51-115 %
Surrogate - 2-Fluorobiphenyl *	%	55-116 %
Surrogate - Terphenyl-d14 *	%	11-120 %
Low Level PAH (8270)		
Naphthalene	%	29-106 %
Acenaphthene	%	28-110 %
Fluorene	%	27-116 %
Pyrene	%	28-130 %
Benzo(a)pyrene	%	28-128 %
Surrogate - o-Terphenyl *	%	14-129 %

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-18	LCS Accuracy Control Limit (%R)	Solid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-18
Volatiles by GC/MS (8260)		
1,1-Dichloroethene	%	46-142 %
Trichloroethene	%	64-126 %
Benzene	%	65-130 %
Toluene	%	63-133 %
Chlorobenzene	%	69-128 %
Surrogate - Toluene-d8 *	%	65-128 %
Surrogate - 4-Bromofluorobenzene *	%	68-121 %
Surrogate - Dibromofluoromethane *	%	66-127 %
Total Organic Carbon (9060)		
Total Organic Carbon	%	60-140 %

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-19	Method Detection Limit (MDL)	Liquid	04/07/04		PEN16
42931-20	Reporting Limit (RL)	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-19	42931-20
TCL Pesticides (8081)			
alpha-BHC	ug/l	0.0035	0.050
beta-BHC	ug/l	0.0035	0.050
delta-BHC	ug/l	0.0090	0.050
gamma-BHC (Lindane)	ug/l	0.0030	0.050
Heptachlor	ug/l	0.014	0.050
Aldrin	ug/l	0.0086	0.050
Heptachlor epoxide	ug/l	0.0026	0.050
Endosulfan I	ug/l	0.0099	0.050
Dieldrin	ug/l	0.0060	0.10
4,4'-DDE	ug/l	0.010	0.10
Endrin	ug/l	0.0097	0.10
Endrin aldehyde	ug/l	0.014	0.10
Endosulfan II	ug/l	0.0084	0.10
4,4'-DDD	ug/l	0.016	0.10
Endosulfan sulfate	ug/l	0.0085	0.10
4,4'-DDT	ug/l	0.014	0.10
Endrin ketone	ug/l	0.0072	0.10
Methoxychlor	ug/l	0.0070	0.50
alpha-Chlordane	ug/l	0.0084	0.050
gamma-Chlordane	ug/l	0.0070	0.050
Toxaphene	ug/l	0.77	5.0
PCB's (8082)			
Aroclor-1016	ug/l	0.11	1.0
Aroclor-1221	ug/l	0.50	2.0
Aroclor-1232	ug/l	0.18	1.0
Aroclor-1242	ug/l	0.14	1.0
Aroclor-1248	ug/l	0.11	1.0

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42931-19	Method Detection Limit (MDL)	Liquid	04/07/04		PEN16
42931-20	Reporting Limit (RL)	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-19	42931-20
PCB's (8082)			
Aroclor-1254	ug/l	0.20	1.0
Aroclor-1260	ug/l	0.11	1.0
TCL Semivolatiles (8270)			
Phenol	ug/l	1.0	10
bis(2-Chloroethyl)ether	ug/l	1.0	10
2-Chlorophenol	ug/l	0.79	10
1,3-Dichlorobenzene	ug/l	1.0	10
1,4-Dichlorobenzene	ug/l	1.0	10
1,2-Dichlorobenzene	ug/l	1.0	10
2-Methylphenol (o-Cresol)	ug/l	0.59	10
2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether	ug/l	0.58	10
3-Methylphenol/4-Methylphenol (m&p-Cresol)	ug/l	1.0	10
N-Nitroso-di-n-propylamine	ug/l	1.0	10
Hexachloroethane	ug/l	0.70	10
Nitrobenzene	ug/l	1.0	10
Isophorone	ug/l	1.0	10
2-Nitrophenol	ug/l	1.1	10
2,4-Dimethylphenol	ug/l	1.1	10
bis(2-Chloroethoxy)methane	ug/l	1.0	10
2,4-Dichlorophenol	ug/l	0.76	10
1,2,4-Trichlorobenzene	ug/l	0.51	10
4-Chloroaniline	ug/l	1.0	20
Hexachlorobutadiene	ug/l	0.50	10
4-Chloro-3-methylphenol	ug/l	1.0	10
Hexachlorocyclopentadiene	ug/l	1.1	10

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-19	Method Detection Limit (MDL)	Liquid	04/07/04		PEN16
42931-20	Reporting Limit (RL)	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-19	42931-20
TCL Semivolatiles (8270)			
2,4,6-Trichlorophenol	ug/l	1.1	10
2,4,5-Trichlorophenol	ug/l	1.1	10
2-Chloronaphthalene	ug/l	1.0	10
2-Nitroaniline	ug/l	0.72	50
Dimethylphthalate	ug/l	0.57	10
3-Nitroaniline	ug/l	0.64	50
2,4-Dinitrophenol	ug/l	10	50
4-Nitrophenol	ug/l	5.0	50
Dibenzofuran	ug/l	1.0	10
2,4-Dinitrotoluene	ug/l	1.1	10
2,6-Dinitrotoluene	ug/l	0.87	10
Diethylphthalate	ug/l	1.0	10
4-Chlorophenylphenyl ether	ug/l	0.70	10
4-Nitroaniline	ug/l	0.86	50
4,6-Dinitro-2-methylphenol	ug/l	10	50
N-Nitrosodiphenylamine	ug/l	1.0	10
4-Bromophenylphenyl ether	ug/l	1.0	10
Hexachlorobenzene	ug/l	0.61	10
Pentachlorophenol	ug/l	2.0	50
Di-n-butylphthalate	ug/l	1.0	10
Butylbenzylphthalate	ug/l	0.74	10
3,3'-Dichlorobenzidine	ug/l	1.0	20
bis(2-Ethylhexyl)phthalate	ug/l	2.4	10
Di-n-octylphthalate	ug/l	1.2	10
Carbazole	ug/l	0.54	10

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-19	Method Detection Limit (MDL)	Liquid	04/07/04		PEN16
42931-20	Reporting Limit (RL)	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-19	42931-20
Low Level PAH (8270)			
Naphthalene	ug/l	0.028	0.20
Acenaphthylene	ug/l	0.024	0.20
Acenaphthene	ug/l	0.025	0.20
Fluorene	ug/l	0.026	0.20
Phenanthrene	ug/l	0.025	0.20
Anthracene	ug/l	0.031	0.20
Fluoranthene	ug/l	0.061	0.20
Pyrene	ug/l	0.042	0.20
Chrysene	ug/l	0.088	0.20
Benzo(a)anthracene	ug/l	0.070	0.20
Benzo(b)fluoranthene	ug/l	0.074	0.20
Benzo(k)fluoranthene	ug/l	0.058	0.20
Benzo(a)pyrene	ug/l	0.060	0.20
Indeno(1,2,3-cd)pyrene	ug/l	0.080	0.20
Dibenzo(a,h)anthracene	ug/l	0.065	0.20
Benzo(g,h,i)perylene	ug/l	0.096	0.20
2-Methylnaphthalene	ug/l	0.022	0.20
1-Methylnaphthalene	ug/l	0.028	0.20
Volatiles by GC/MS (8260)			
Chloromethane	ug/l	0.39	1.0
Bromomethane (Methyl bromide)	ug/l	0.62	1.0
Vinyl chloride	ug/l	0.56	1.0
Chloroethane	ug/l	0.78	1.0
Methylene chloride (Dichloromethane)	ug/l	0.64	5.0
Acetone	ug/l	5.0	25
Carbon disulfide	ug/l	0.66	1.0

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42931-19	Method Detection Limit (MDL)	Liquid	04/07/04		PEN16
42931-20	Reporting Limit (RL)	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-19	42931-20
Volatiles by GC/MS (8260)			
1,1-Dichloroethene	ug/l	0.36	1.0
1,1-Dichloroethane	ug/l	0.36	1.0
cis-1,2-Dichloroethene	ug/l	0.38	1.0
trans-1,2-Dichloroethene	ug/l	0.40	1.0
Chloroform	ug/l	0.37	1.0
1,2-Dichloroethane	ug/l	0.26	1.0
2-Butanone (MEK)	ug/l	1.3	10
1,1,1-Trichloroethane	ug/l	0.32	1.0
Carbon tetrachloride	ug/l	0.31	1.0
Bromodichloromethane	ug/l	0.14	1.0
1,1,2,2-Tetrachloroethane	ug/l	0.18	1.0
1,2-Dichloropropane	ug/l	0.33	1.0
trans-1,3-Dichloropropene	ug/l	0.26	1.0
Trichloroethene	ug/l	0.37	1.0
Dibromochloromethane	ug/l	0.50	1.0
1,1,2-Trichloroethane	ug/l	0.22	1.0
Benzene	ug/l	0.36	1.0
cis-1,3-Dichloropropene	ug/l	0.23	1.0
Bromoform	ug/l	0.33	1.0
2-Hexanone	ug/l	0.93	10
4-Methyl-2-pentanone (MIBK)	ug/l	0.65	10
Tetrachloroethene	ug/l	0.35	1.0
Toluene	ug/l	0.54	1.0
Chlorobenzene	ug/l	0.34	1.0
Ethylbenzene	ug/l	0.34	1.0
Styrene	ug/l	0.25	1.0
Xylenes, Total	ug/l	1.3	2.0

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-29	Method Detection Limit (MDL)	Liquid	04/07/04		PEN16
42931-22	Reporting Limit (RL)	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-29	42931-22
TAL Metals (6010)			
Aluminum	ug/l	7.2	200
Antimony	ug/l	5.0	20
Arsenic	ug/l	4.6	10
Barium	ug/l	0.20	10
Beryllium	ug/l	0.10	4.0
Cadmium	ug/l	0.60	5.0
Calcium	ug/l	3.8	500
Chromium	ug/l	0.90	10
Cobalt	ug/l	1.0	10
Copper	ug/l	0.60	20
Iron	ug/l	32	50
Lead	ug/l	2.8	5.0
Magnesium	ug/l	6.6	500
Manganese	ug/l	0.20	10
Nickel	ug/l	2.0	40
Potassium	ug/l	17	1000
Selenium	ug/l	3.6	10
Silver	ug/l	0.90	10
Sodium	ug/l	230	500
Thallium	ug/l	8.4	10
Vanadium	ug/l	1.4	10
Zinc	ug/l	0.90	20
Mercury (7470)			
Mercury	ug/l	0.078	0.20

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-29	Method Detection Limit (MDL)	Liquid	04/07/04		PEN16
42931-22	Reporting Limit (RL)	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-29	42931-22
TAL Metals (Dissolved) (6010)			
Aluminum (Dissolved)	ug/l	7.2	200
Antimony (Dissolved)	ug/l	5.0	20
Arsenic, (Dissolved)	ug/l	4.6	10
Barium, (Dissolved)	ug/l	0.20	10
Beryllium (Dissolved)	ug/l	0.10	4.0
Cadmium (Dissolved)	ug/l	0.60	5.0
Calcium (Dissolved)	ug/l	3.8	500
Chromium, (Dissolved)	ug/l	0.90	10
Cobalt (Dissolved)	ug/l	1.0	10
Copper, Dissolved	ug/l	0.60	20
Iron (Dissolved)	ug/l	32	50
Lead, (Dissolved)	ug/l	2.8	5.0
Magnesium (Dissolved)	ug/l	6.6	500
Manganese (Dissolved)	ug/l	0.20	10
Nickel, (Dissolved)	ug/l	2.0	40
Potassium (Dissolved)	ug/l	17	1000
Selenium (Dissolved)	ug/l	3.6	10
Silver (Dissolved)	ug/l	0.90	10
Sodium (Dissolved)	ug/l	230	500
Thallium (Dissolved)	ug/l	8.4	10
Vanadium (Dissolved)	ug/l	1.4	10
Zinc, (Dissolved)	ug/l	0.90	20
Mercury (Dissolved) (7470)			
Mercury (Dissolved)	ug/l	0.078	0.20

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-23	Method Blank	Liquid	04/07/04		PEN16
42931-33	Method Blank	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-23	42931-33
TAL Metals (6010)			
Aluminum	ug/l	12I	
Antimony	ug/l	5.0U	
Arsenic	ug/l	4.6U	
Barium	ug/l	0.20U	
Beryllium	ug/l	0.10U	
Cadmium	ug/l	0.60U	
Calcium	ug/l	8.5I	
Chromium	ug/l	0.90U	
Cobalt	ug/l	1.0U	
Copper	ug/l	0.60U	
Iron	ug/l	32U	
Lead	ug/l	2.8U	
Magnesium	ug/l	6.6U	
Manganese	ug/l	0.20U	
Nickel	ug/l	2.0U	
Potassium	ug/l	17U	
Selenium	ug/l	3.6U	
Silver	ug/l	0.90U	
Sodium	ug/l	230U	
Thallium	ug/l	8.4U	
Vanadium	ug/l	1.4U	
Zinc	ug/l	0.90U	
Dilution Factor		1	
Prep Date		04/12/04	
Prep Time		11:00	
Analysis Date		04/13/04	
Analysis Time		16:58	
Batch ID		0412G	
Quantitation Factor		1.000	

SEVERN TRENT STL

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-23	Method Blank	Liquid	04/07/04		PEN16
42931-33	Method Blank	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-23	42931-33
Mercury (7470)			
Mercury	ug/l	0.078U	
Dilution Factor		1	
Prep Date		04/12/04	
Prep Time		16:05	
Analysis Date		04/14/04	
Analysis Time		11:17	
Batch ID		0412U	
Quantitation Factor		1.000	
TAL Metals (Dissolved) (6010)			
Aluminum (Dissolved)	ug/l	7.6I	
Antimony (Dissolved)	ug/l	5.0U	
Arsenic, (Dissolved)	ug/l	4.6U	
Barium, (Dissolved)	ug/l	0.36I	
Beryllium (Dissolved)	ug/l	0.10U	
Cadmium (Dissolved)	ug/l	0.60U	
Calcium (Dissolved)	ug/l	18I	
Chromium, (Dissolved)	ug/l	1.0I	
Cobalt (Dissolved)	ug/l	1.0U	
Copper, Dissolved	ug/l	0.60U	
Iron (Dissolved)	ug/l	32U	
Lead, (Dissolved)	ug/l	2.8U	
Magnesium (Dissolved)	ug/l	6.6U	
Manganese (Dissolved)	ug/l	0.20U	
Nickel, (Dissolved)	ug/l	2.0U	
Potassium (Dissolved)	ug/l	17U	
Selenium (Dissolved)	ug/l	3.6U	
Silver (Dissolved)	ug/l	0.90U	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-23	Method Blank	Liquid	04/07/04		PEN16
42931-33	Method Blank	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-23	42931-33
TAL Metals (Dissolved) (6010)			
Sodium (Dissolved)	ug/l	230U	
Thallium (Dissolved)	ug/l	8.4U	
Vanadium (Dissolved)	ug/l	1.4U	
Zinc, (Dissolved)	ug/l	4.7I	
Dilution Factor		1	
Prep Date		04/12/04	
Prep Time		11:00	
Analysis Date		04/13/04	
Analysis Time		17:03	
Batch ID		0412G	
Quantitation Factor		1.000	
Mercury (Dissolved) (7470)			
Mercury (Dissolved)	ug/l	0.078U	
Dilution Factor		1	
Prep Date		04/12/04	
Prep Time		16:05	
Analysis Date		04/14/04	
Analysis Time		11:38	
Batch ID		0412U	
Quantitation Factor		1.000	
TCL Pesticides (8081)			
alpha-BHC	ug/l	0.0035U	
beta-BHC	ug/l	0.0035U	
delta-BHC	ug/l	0.0090U	
gamma-BHC (Lindane)	ug/l	0.0030U	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-23	Method Blank	Liquid	04/07/04		PEN16
42931-33	Method Blank	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-23	42931-33
TCL Pesticides (8081)			
Heptachlor	ug/l	0.014U	
Aldrin	ug/l	0.026I	
Heptachlor epoxide	ug/l	0.0026U	
Endosulfan I	ug/l	0.0099U	
Dieldrin	ug/l	0.0060U	
4,4'-DDE	ug/l	0.010U	
Endrin	ug/l	0.0097U	
Endrin aldehyde	ug/l	0.014U	
Endosulfan II	ug/l	0.0084U	
4,4'-DDD	ug/l	0.016U	
Endosulfan sulfate	ug/l	0.0085U	
4,4'-DDT	ug/l	0.014U	
Endrin ketone	ug/l	0.0072U	
Methoxychlor	ug/l	0.0070U	
alpha-Chlordane	ug/l	0.0084U	
gamma-Chlordane	ug/l	0.0070U	
Toxaphene	ug/l	0.77U	
Surrogate - DCB *	%	142 %	
Surrogate - 2,4,5,6-Tetrachloro-m-xylene (TCMX) *	%	82 %	
Dilution Factor		1	
Prep Date		04/12/04	
Prep Time		17:00	
Analysis Date		04/16/04	
Analysis Time		10:26	
Batch ID		0412P	
Quantitation Factor		1.000	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-23	Method Blank	Liquid	04/07/04		PEN16
42931-33	Method Blank	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-23	42931-33
PCB's (8082)			
Aroclor-1016	ug/l	0.11U	
Aroclor-1221	ug/l	0.50U	
Aroclor-1232	ug/l	0.18U	
Aroclor-1242	ug/l	0.14U	
Aroclor-1248	ug/l	0.11U	
Aroclor-1254	ug/l	0.20U	
Aroclor-1260	ug/l	0.11U	
Surrogate - TCX *	%	82 %	
Surrogate - DCB *	%	142 %	
Dilution Factor		1	
Prep Date		04/12/04	
Prep Time		17:00	
Analysis Date		04/16/04	
Analysis Time		10:26	
Batch ID		0412P	
Quantitation Factor		1.000	
TCL Semivolatiles (8270)			
Phenol	ug/l	1.0U	1.0U
bis(2-Chloroethyl)ether	ug/l	1.0U	1.0U
2-Chlorophenol	ug/l	0.79U	0.79U
1,3-Dichlorobenzene	ug/l	1.0U	1.0U
1,4-Dichlorobenzene	ug/l	1.0U	1.0U
1,2-Dichlorobenzene	ug/l	1.0U	1.0U
2-Methylphenol (o-Cresol)	ug/l	0.59U	0.59U
2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether	ug/l	0.58U	0.58U
3-Methylphenol/4-Methylphenol (m&p-Cresol)	ug/l	1.0U	1.0U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-23	Method Blank	Liquid	04/07/04		PEN16
42931-33	Method Blank	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-23	42931-33
TCL Semivolatiles (8270)			
N-Nitroso-di-n-propylamine	ug/l	1.0U	1.0U
Hexachloroethane	ug/l	0.70U	0.70U
Nitrobenzene	ug/l	1.0U	1.0U
Isophorone	ug/l	1.0U	1.0U
2-Nitrophenol	ug/l	1.1U	1.1U
2,4-Dimethylphenol	ug/l	1.1U	1.1U
bis(2-Chloroethoxy)methane	ug/l	1.0U	1.0U
2,4-Dichlorophenol	ug/l	0.76U	0.76U
1,2,4-Trichlorobenzene	ug/l	0.51U	0.51U
4-Chloroaniline	ug/l	1.0U	1.0U
Hexachlorobutadiene	ug/l	0.50U	0.50U
4-Chloro-3-methylphenol	ug/l	1.0U	1.0U
Hexachlorocyclopentadiene	ug/l	1.1U	1.1U
2,4,6-Trichlorophenol	ug/l	1.1U	1.1U
2,4,5-Trichlorophenol	ug/l	1.1U	1.1U
2-Chloronaphthalene	ug/l	1.0U	1.0U
2-Nitroaniline	ug/l	0.72U	0.72U
Dimethylphthalate	ug/l	0.57U	0.57U
3-Nitroaniline	ug/l	0.64U	0.64U
2,4-Dinitrophenol	ug/l	10U	10U
4-Nitrophenol	ug/l	5.0U	5.0U
Dibenzofuran	ug/l	1.0U	1.0U
2,4-Dinitrotoluene	ug/l	1.1U	1.1U
2,6-Dinitrotoluene	ug/l	0.87U	0.87U
Diethylphthalate	ug/l	1.0U	1.0U
4-Chlorophenylphenyl ether	ug/l	0.70U	0.70U
4-Nitroaniline	ug/l	0.86U	0.86U
4,6-Dinitro-2-methylphenol	ug/l	10U	10U
N-Nitrosodiphenylamine	ug/l	1.0U	1.0U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-23	Method Blank	Liquid	04/07/04		PEN16
42931-33	Method Blank	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-23	42931-33
TCL Semivolatiles (8270)			
4-Bromophenylphenyl ether	ug/l	1.0U	1.0U
Hexachlorobenzene	ug/l	0.61U	0.61U
Pentachlorophenol	ug/l	2.0U	2.0U
Di-n-butylphthalate	ug/l	1.0U	1.0U
Butylbenzylphthalate	ug/l	0.74U	0.74U
3,3'-Dichlorobenzidine	ug/l	1.0U	1.0U
bis(2-Ethylhexyl)phthalate	ug/l	2.4U	2.4U
Di-n-octylphthalate	ug/l	1.2U	1.2U
Carbazole	ug/l	0.54U	0.54U
Surrogate - Phenol-d5 *	%	85 %	80 %
Surrogate - 2-Fluorophenol *	%	82 %	78 %
Surrogate - 2,4,6-Tribromophenol *	%	87 %	81 %
Surrogate - Nitrobenzene - d5 *	%	90 %	86 %
Surrogate - 2-Fluorobiphenyl *	%	92 %	78 %
Surrogate - Terphenyl-d14 *	%	106 %	92 %
Dilution Factor		1	1
Prep Date		04/09/04	04/27/04
Prep Time		09:00	07:40
Analysis Date		04/15/04	04/30/04
Analysis Time		18:43	09:46
Batch ID		0409A	0427C
Quantitation Factor		1.000	1.000

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-23	Method Blank	Liquid	04/07/04		PEN16
42931-33	Method Blank	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-23	42931-33
Low Level PAH (8270)			
Naphthalene	ug/l	0.028U	
Acenaphthylene	ug/l	0.024U	
Acenaphthene	ug/l	0.025U	
Fluorene	ug/l	0.026U	
Phenanthrene	ug/l	0.025U	
Anthracene	ug/l	0.031U	
Fluoranthene	ug/l	0.061U	
Pyrene	ug/l	0.042U	
Chrysene	ug/l	0.088U	
Benzo(a)anthracene	ug/l	0.070U	
Benzo(b)fluoranthene	ug/l	0.074U	
Benzo(k)fluoranthene	ug/l	0.058U	
Benzo(a)pyrene	ug/l	0.060U	
Indeno(1,2,3-cd)pyrene	ug/l	0.080U	
Dibenzo(a,h)anthracene	ug/l	0.065U	
Benzo(g,h,i)perylene	ug/l	0.096U	
2-Methylnaphthalene	ug/l	0.022U	
1-Methylnaphthalene	ug/l	0.028U	
Surrogate - o-Terphenyl *	%	105 %	
Dilution Factor		1	
Prep Date		04/13/04	
Prep Time		15:30	
Analysis Date		04/14/04	
Analysis Time		12:18	
Batch ID		0413C	
Quantitation Factor		1.000	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-23	Method Blank	Liquid	04/07/04		PEN16
42931-33	Method Blank	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-23	42931-33
Volatiles by GC/MS (8260)			
Chloromethane	ug/l	0.39U	0.39U
Bromomethane (Methyl bromide)	ug/l	0.62U	0.62U
Vinyl chloride	ug/l	0.56U	0.56U
Chloroethane	ug/l	0.78U	0.78U
Methylene chloride (Dichloromethane)	ug/l	0.64U	0.64U
Acetone	ug/l	5.0U	5.0U
Carbon disulfide	ug/l	0.66U	0.66U
1,1-Dichloroethene	ug/l	0.36U	0.36U
1,1-Dichloroethane	ug/l	0.36U	0.36U
cis-1,2-Dichloroethene	ug/l	0.38U	0.38U
trans-1,2-Dichloroethene	ug/l	0.40U	0.40U
Chloroform	ug/l	0.37U	0.37U
1,2-Dichloroethane	ug/l	0.26U	0.26U
2-Butanone (MEK)	ug/l	1.3U	1.3U
1,1,1-Trichloroethane	ug/l	0.32U	0.32U
Carbon tetrachloride	ug/l	0.31U	0.31U
Bromodichloromethane	ug/l	0.14U	0.14U
1,1,2,2-Tetrachloroethane	ug/l	0.18U	0.18U
1,2-Dichloropropane	ug/l	0.33U	0.33U
trans-1,3-Dichloropropene	ug/l	0.26U	0.26U
Trichloroethene	ug/l	0.37U	0.37U
Dibromochloromethane	ug/l	0.50U	0.50U
1,1,2-Trichloroethane	ug/l	0.22U	0.22U
Benzene	ug/l	0.36U	0.36U
cis-1,3-Dichloropropene	ug/l	0.23U	0.23U
Bromoform	ug/l	0.33U	0.33U
2-Hexanone	ug/l	0.93U	0.93U
4-Methyl-2-pentanone (MIBK)	ug/l	0.65U	0.65U

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-23	Method Blank	Liquid	04/07/04		PEN16
42931-33	Method Blank	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-23	42931-33
Volatiles by GC/MS (8260)			
Tetrachloroethene	ug/l	0.35U	0.35U
Toluene	ug/l	0.54U	0.54U
Chlorobenzene	ug/l	0.34U	0.34U
Ethylbenzene	ug/l	0.34U	0.34U
Styrene	ug/l	0.25U	0.25U
Xylenes, Total	ug/l	1.3U	1.3U
Surrogate - Toluene-d8 *	%	98 %	104 %
Surrogate - 4-Bromofluorobenzene *	%	102 %	100 %
Surrogate - Dibromofluoromethane *	%	108 %	106 %
Dilution Factor		1	1
Prep Date		04/16/04	04/19/04
Prep Time		19:16	15:40
Analysis Date		04/16/04	04/19/04
Analysis Time		19:16	15:40
Batch ID		1B0416	1B0419
Quantitation Factor		1.000	1.000

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-24	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-25	Spike Amount Added, LCS	Liquid	04/07/04		PEN16
42931-26	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16
42931-34	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-35	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16

		Lab Sample IDs				
Parameter	**Units**	**42931-24**	**42931-25**	**42931-26**	**42931-34**	**42931-35**
TAL Metals (6010)						
Aluminum	ug/l	2020	2000	101 %		
Antimony	ug/l	512	500	102 %		
Arsenic	ug/l	1990	2000	100 %		
Barium	ug/l	2110	2000	106 %		
Beryllium	ug/l	52.0	50.0	104 %		
Cadmium	ug/l	51.4	50.0	103 %		
Calcium	ug/l	5120	5000	102 %		
Chromium	ug/l	209	200	105 %		
Cobalt	ug/l	514	500	103 %		
Copper	ug/l	264	250	106 %		
Iron	ug/l	1010	1000	101 %		
Lead	ug/l	519	500	104 %		
Magnesium	ug/l	5140	5000	103 %		
Manganese	ug/l	536	500	107 %		
Nickel	ug/l	520	500	104 %		
Potassium	ug/l	5440	5000	109 %		
Selenium	ug/l	2050	2000	102 %		
Silver	ug/l	50.8	50.0	102 %		
Sodium	ug/l	5290	5000	106 %		
Thallium	ug/l	2090	2000	104 %		
Vanadium	ug/l	508	500	102 %		
Zinc	ug/l	515	500	103 %		
Dilution Factor		1		1		
Prep Date		04/12/04		04/12/04		
Prep Time		11:00		11:00		
Analysis Date		04/13/04		04/13/04		
Analysis Time		17:07		17:07		
Batch ID		0412G	0412G	0412G		
Quantitation Factor		1.000				

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-24	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-25	Spike Amount Added, LCS	Liquid	04/07/04		PEN16
42931-26	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16
42931-34	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-35	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-24	42931-25	42931-26	42931-34	42931-35
Mercury (7470)						
Mercury	ug/l	2.06	2.5	82 %		
Dilution Factor		1		1		
Prep Date		04/12/04		04/12/04		
Prep Time		16:05		16:05		
Analysis Date		04/14/04		04/14/04		
Analysis Time		11:19		11:19		
Batch ID		0412U	0412U	0412U		
Quantitation Factor		1.000				
TAL Metals (Dissolved) (6010)						
Aluminum (Dissolved)	ug/l	2020	2000	101 %		
Antimony (Dissolved)	ug/l	512	500	102 %		
Arsenic, (Dissolved)	ug/l	1990	2000	100 %		
Barium, (Dissolved)	ug/l	2110	2000	106 %		
Beryllium (Dissolved)	ug/l	52.0	50.0	104 %		
Cadmium (Dissolved)	ug/l	51.4	50.0	103 %		
Calcium (Dissolved)	ug/l	5120	5000	102 %		
Chromium, (Dissolved)	ug/l	209	200	105 %		
Cobalt (Dissolved)	ug/l	514	500	103 %		
Copper, Dissolved	ug/l	264	250	106 %		
Iron (Dissolved)	ug/l	1010	1000	101 %		
Lead, (Dissolved)	ug/l	519	500	104 %		
Magnesium (Dissolved)	ug/l	5140	5000	103 %		
Manganese (Dissolved)	ug/l	536	500	107 %		
Nickel, (Dissolved)	ug/l	520	500	104 %		

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-24	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-25	Spike Amount Added, LCS	Liquid	04/07/04		PEN16
42931-26	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16
42931-34	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-35	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16

		Lab Sample IDs				
Parameter	**Units**	**42931-24**	**42931-25**	**42931-26**	**42931-34**	**42931-35**
TAL Metals (Dissolved) (6010)						
Potassium (Dissolved)	ug/l	5440	5000	109 %		
Selenium (Dissolved)	ug/l	2050	2000	102 %		
Silver (Dissolved)	ug/l	50.8	50.0	102 %		
Sodium (Dissolved)	ug/l	5290	5000	106 %		
Thallium (Dissolved)	ug/l	2090	2000	104 %		
Vanadium (Dissolved)	ug/l	508	500	102 %		
Zinc, (Dissolved)	ug/l	515	500	103 %		
Dilution Factor		1		1		
Prep Date		04/12/04		04/12/04		
Prep Time		11:00		11:00		
Analysis Date		04/13/04		04/13/04		
Analysis Time		17:07		17:07		
Batch ID		0412G	0412G	0412G		
Quantitation Factor		1.000				
Mercury (Dissolved) (7470)						
Mercury (Dissolved)	ug/l	2.06	2.5	82 %		
Dilution Factor		1		1		
Prep Date		04/12/04		04/12/04		
Prep Time		16:05		16:05		
Analysis Date		04/14/04		04/14/04		
Analysis Time		11:19		11:19		
Batch ID		0412U	0412U	0412U		
Quantitation Factor		1.000				

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Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-24	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-25	Spike Amount Added, LCS	Liquid	04/07/04		PEN16
42931-26	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16
42931-34	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-35	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16

		Lab Sample IDs				
Parameter	**Units**	**42931-24**	**42931-25**	**42931-26**	**42931-34**	**42931-35**
TCL Pesticides (8081)						
alpha-BHC	ug/l	0.094	0.10	94 %		
beta-BHC	ug/l	0.094	0.10	94 %		
delta-BHC	ug/l	0.092	0.10	92 %		
gamma-BHC (Lindane)	ug/l	0.12	0.10	120 %*J3		
Heptachlor	ug/l	0.093	0.10	93 %		
Aldrin	ug/l	0.096	0.10	70 %		
Heptachlor epoxide	ug/l	0.099	0.10	99 %		
Endosulfan I	ug/l	0.12	0.10	120 %*J3		
Dieldrin	ug/l	0.19	0.20	95 %		
4,4'-DDE	ug/l	0.20	0.20	100 %		
Endrin	ug/l	0.22	0.20	110 %		
Endrin aldehyde	ug/l	0.24	0.20	120 %		
Endosulfan II	ug/l	0.25	0.20	125 %*J3		
4,4'-DDD	ug/l	0.28	0.20	140 %*J3		
Endosulfan sulfate	ug/l	0.22	0.20	110 %		
4,4'-DDT	ug/l	0.22	0.20	110 %		
Endrin ketone	ug/l	0.26	0.20	130 %		
Methoxychlor	ug/l	0.20	0.20	100 %		
alpha-Chlordane	ug/l	0.12	0.10	120 %*J3		
gamma-Chlordane	ug/l	0.12	0.10	120 %*J3		
Surrogate - DCB *	ug/l	0.43	0.50	86 %		
Surrogate - 2,4,5,6-Tetrachloro-m-xylene (TCMX) *	ug/l	0.40	0.50	80 %		
Dilution Factor		1		1		
Prep Date		04/12/04		04/12/04		
Prep Time		17:00		17:00		
Analysis Date		04/20/04		04/20/04		
Analysis Time		11:45		11:45		
Batch ID		0412P	0412P	0412P		
Quantitation Factor		1.000				

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-24	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-25	Spike Amount Added, LCS	Liquid	04/07/04		PEN16
42931-26	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16
42931-34	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-35	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16

		Lab Sample IDs				
Parameter	**Units**	**42931-24**	**42931-25**	**42931-26**	**42931-34**	**42931-35**
PCB's (8082)						
Aroclor-1016	ug/l	8.5	10	85 %		
Aroclor-1260	ug/l	10	10	100 %		
Surrogate - TCX *	ug/l	0.28	0.50	56 %		
Surrogate - DCB *	ug/l	0.54	0.50	108 %		
Dilution Factor		1		1		
Prep Date		04/12/04		04/12/04		
Prep Time		17:00		17:00		
Analysis Date		04/16/04		04/16/04		
Analysis Time		11:24		11:24		
Batch ID		0412P	0412P	0412P		
Quantitation Factor		1.000				
TCL Semivolatiles (8270)						
Phenol	ug/l	66	100	66 %	80	80 %
2-Chlorophenol	ug/l	73	100	73 %	81	81 %
1,4-Dichlorobenzene	ug/l	56	100	56 %	74	74 %
N-Nitroso-di-n-propylamine	ug/l	65	100	65 %	90	90 %
1,2,4-Trichlorobenzene	ug/l	68	100	68 %	78	78 %
4-Chloro-3-methylphenol	ug/l	81	100	81 %	87	87 %
4-Nitrophenol	ug/l	64	100	64 %	87	87 %
2,4-Dinitrotoluene	ug/l	85	100	85 %	98	98 %
Pentachlorophenol	ug/l	87	100	87 %	86	86 %
Surrogate - Phenol-d5 *	ug/l	77	100	77 %	84	84 %
Surrogate - 2-Fluorophenol *	ug/l	76	100	76 %	80	80 %
Surrogate - 2,4,6-Tribromophenol *	ug/l	99	100	99 %	100	100 %

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-24	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-25	Spike Amount Added, LCS	Liquid	04/07/04		PEN16
42931-26	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16
42931-34	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-35	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16

		Lab Sample IDs				
Parameter	**Units**	**42931-24**	**42931-25**	**42931-26**	**42931-34**	**42931-35**
TCL Semivolatiles (8270)						
Surrogate - Nitrobenzene - d5 *	ug/l	39	50	78 %	44	88 %
Surrogate - 2-Fluorobiphenyl *	ug/l	43	50	86 %	46	92 %
Surrogate - Terphenyl-d14 *	ug/l	51	50	102 %	47	94 %
bis(2-Chloroethyl)ether	ug/l				78	78 %
1,3-Dichlorobenzene	ug/l				77	77 %
1,2-Dichlorobenzene	ug/l				77	77 %
2-Methylphenol (o-Cresol)	ug/l				89	89 %
2,2'-Oxybis(1-Chloropropane) (bis-2-chloroisopropyl ether	ug/l				85	85 %
3-Methylphenol/4-Methylphenol (m&p-Cresol)	ug/l				84	84 %
Hexachloroethane	ug/l				69	69 %
Nitrobenzene	ug/l				87	87 %
Isophorone	ug/l				91	91 %
2-Nitrophenol	ug/l				89	89 %
2,4-Dimethylphenol	ug/l				88	88 %
bis(2-Chloroethoxy)methane	ug/l				88	88 %
2,4-Dichlorophenol	ug/l				86	86 %
4-Chloroaniline	ug/l				63	63 %
Hexachlorobutadiene	ug/l				80	80 %
Hexachlorocyclopentadiene	ug/l				53	53 %
2,4,6-Trichlorophenol	ug/l				93	93 %
2,4,5-Trichlorophenol	ug/l				95	95 %
2-Chloronaphthalene	ug/l				87	87 %
2-Nitroaniline	ug/l				98	98 %

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-24	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-25	Spike Amount Added, LCS	Liquid	04/07/04		PEN16
42931-26	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16
42931-34	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-35	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-24	42931-25	42931-26	42931-34	42931-35
TCL Semivolatiles (8270)						
Dimethylphthalate	ug/l				90	90 %
3-Nitroaniline	ug/l				84	84 %
2,4-Dinitrophenol	ug/l				89	89 %
Dibenzofuran	ug/l				89	89 %
2,6-Dinitrotoluene	ug/l				98	98 %
Diethylphthalate	ug/l				88	88 %
4-Chlorophenylphenyl ether	ug/l				85	85 %
4-Nitroaniline	ug/l				93	93 %
4,6-Dinitro-2-methylphenol	ug/l				92	92 %
N-Nitrosodiphenylamine	ug/l				89	89 %
4-Bromophenylphenyl ether	ug/l				82	82 %
Hexachlorobenzene	ug/l				92	92 %
Di-n-butylphthalate	ug/l				88	88 %
Butylbenzylphthalate	ug/l				90	90 %
3,3'-Dichlorobenzidine	ug/l				67	67 %
bis(2-Ethylhexyl)phthalate	ug/l				87	87 %
Di-n-octylphthalate	ug/l				94	94 %
Carbazole	ug/l				95	95 %
Dilution Factor		1		1	1	1
Prep Date		04/09/04		04/09/04	04/27/04	04/27/04
Prep Time		09:00		09:00	07:40	07:40
Analysis Date		04/14/04		04/14/04	04/30/04	04/30/04
Analysis Time		23:35		23:35	12:34	12:34
Batch ID		0409A	0409A	0409A	0427C	0427C
Quantitation Factor		1.000			1.000	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-24	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-25	Spike Amount Added, LCS	Liquid	04/07/04		PEN16
42931-26	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16
42931-34	Lab Control Standard Result	Liquid	04/07/04		PEN16
42931-35	Lab Control Standard % Recovery	Liquid	04/07/04		PEN16

		Lab Sample IDs				
Parameter	**Units**	**42931-24**	**42931-25**	**42931-26**	**42931-34**	**42931-35**
Low Level PAH (8270)						
Naphthalene	ug/l	1.5	2.0	75 %		
Acenaphthene	ug/l	1.5	2.0	75 %		
Fluorene	ug/l	1.6	2.0	80 %		
Pyrene	ug/l	1.7	2.0	85 %		
Benzo(a)pyrene	ug/l	1.2	2.0	60 %		
Surrogate - o-Terphenyl *	ug/l	1.9	2.0	95 %		
Dilution Factor		1		1		
Prep Date		04/13/04		04/13/04		
Prep Time		15:30		15:30		
Analysis Date		04/14/04		04/14/04		
Analysis Time		14:12		14:12		
Batch ID		0413C	0413C	0413C		
Quantitation Factor		1.000				
Volatiles by GC/MS (8260)						
1,1-Dichloroethene	ug/l	23	25	116 %	29	116 %
Trichloroethene	ug/l	25	25	112 %	28	112 %
Benzene	ug/l	24	25	108 %	27	108 %
Toluene	ug/l	25	25	108 %	27	108 %
Chlorobenzene	ug/l	27	25	112 %	28	112 %
Surrogate - Toluene-d8 *	ug/l	24	25	100 %	25	100 %
Surrogate - 4-Bromofluorobenzene *	ug/l	27	25	112 %	28	112 %
Surrogate - Dibromofluoromethane *	ug/l	25	25	104 %	26	104 %
Dilution Factor		1		1	1	1
Prep Date		04/16/04		04/19/04	04/19/04	04/19/04
Prep Time		17:59		16:33	16:33	16:33
Analysis Date		04/16/04		04/19/04	04/19/04	04/19/04
Analysis Time		17:59		16:33	16:33	16:33
Batch ID		1B0416		1B0419	1B0419	1B0419
Quantitation Factor		1.000			1.000	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-27	LCS Accuracy Control Limit (%R)	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-27
TAL Metals (6010)		
Aluminum	%	75-125 %
Antimony	%	75-125 %
Arsenic	%	75-125 %
Barium	%	75-125 %
Beryllium	%	75-125 %
Cadmium	%	75-125 %
Calcium	%	75-125 %
Chromium	%	75-125 %
Cobalt	%	75-125 %
Copper	%	75-125 %
Iron	%	75-125 %
Lead	%	75-125 %
Magnesium	%	75-125 %
Manganese	%	75-125 %
Nickel	%	75-125 %
Potassium	%	75-125 %
Selenium	%	75-125 %
Silver	%	75-125 %
Sodium	%	75-125 %
Thallium	%	75-125 %
Vanadium	%	75-125 %
Zinc	%	75-125 %
Mercury (7470)		
Mercury	%	80-120 %

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-27	LCS Accuracy Control Limit (%R)	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-27
TAL Metals (Dissolved) (6010)		
Aluminum (Dissolved)	%	75-125 %
Antimony (Dissolved)	%	75-125 %
Arsenic, (Dissolved)	%	75-125 %
Barium, (Dissolved)	%	75-125 %
Beryllium (Dissolved)	%	75-125 %
Cadmium (Dissolved)	%	75-125 %
Calcium (Dissolved)	%	75-125 %
Chromium, (Dissolved)	%	75-125 %
Cobalt (Dissolved)	%	75-125 %
Copper, Dissolved	%	75-125 %
Iron (Dissolved)	%	75-125 %
Lead, (Dissolved)	%	75-125 %
Magnesium (Dissolved)	%	75-125 %
Manganese (Dissolved)	%	75-125 %
Nickel, (Dissolved)	%	75-125 %
Potassium (Dissolved)	%	75-125 %
Selenium (Dissolved)	%	75-125 %
Silver (Dissolved)	%	75-125 %
Sodium (Dissolved)	%	75-125 %
Thallium (Dissolved)	%	75-125 %
Vanadium (Dissolved)	%	75-125 %
Zinc, (Dissolved)	%	75-125 %
Mercury (Dissolved) (7470)		
Mercury (Dissolved)	%	80-120 %

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-27	LCS Accuracy Control Limit (%R)	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-27
TCL Pesticides (8081)		
alpha-BHC	%	15-116 %
beta-BHC	%	34-141 %
delta-BHC	%	33-124 %
gamma-BHC (Lindane)	%	26-119 %
Heptachlor	%	21-114 %
Aldrin	%	20-99 %
Heptachlor epoxide	%	43-118 %
Endosulfan I	%	40-114 %
Dieldrin	%	46-124 %
4,4'-DDE	%	39-114 %
Endrin	%	37-128 %
Endrin aldehyde	%	55-142 %
Endosulfan II	%	58-116 %
4,4'-DDD	%	55-124 %
Endosulfan sulfate	%	67-139 %
4,4'-DDT	%	41-145 %
Endrin ketone	%	61-140 %
Methoxychlor	%	30-163 %
alpha-Chlordane	%	45-118 %
gamma-Chlordane	%	47-115 %
Surrogate - DCB *	%	30-150 %
Surrogate - 2,4,5,6-Tetrachloro-m-xylene (TCMX) *	%	30-150 %

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-27	LCS Accuracy Control Limit (%R)	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-27
PCB's (8082)		
Aroclor-1016	%	32-109 %
Aroclor-1260	%	39-132 %
Surrogate - TCX *	%	30-150 %
Surrogate - DCB *	%	30-150 %
TCL Semivolatiles (8270)		
Phenol	%	40-109 %
2-Chlorophenol	%	43-110 %
1,4-Dichlorobenzene	%	36-91 %
N-Nitroso-di-n-propylamine	%	42-117 %
1,2,4-Trichlorobenzene	%	41-97 %
4-Chloro-3-methylphenol	%	53-117 %
4-Nitrophenol	%	38-131 %
2,4-Dinitrotoluene	%	44-129 %
Pentachlorophenol	%	49-126 %
Surrogate - Phenol-d5 *	%	46-112 %
Surrogate - 2-Fluorophenol *	%	43-114 %
Surrogate - 2,4,6-Tribromophenol *	%	47-133 %
Surrogate - Nitrobenzene - d5 *	%	51-115 %
Surrogate - 2-Fluorobiphenyl *	%	55-116 %
Surrogate - Terphenyl-d14 *	%	11-120 %

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931-27	LCS Accuracy Control Limit (%R)	Liquid	04/07/04		PEN16

Parameter	Units	Lab Sample IDs 42931-27
Low Level PAH (8270)		
Naphthalene	%	39-125 %
Acenaphthene	%	41-132 %
Fluorene	%	40-140 %
Pyrene	%	39-158 %
Benzo(a)pyrene	%	31-142 %
Surrogate - o-Terphenyl *	%	34-167 %
Volatiles by GC/MS (8260)		
1,1-Dichloroethene	%	53-144 %
Trichloroethene	%	70-123 %
Benzene	%	69-128 %
Toluene	%	71-129 %
Chlorobenzene	%	72-126 %
Surrogate - Toluene-d8 *	%	77-122 %
Surrogate - 4-Bromofluorobenzene *	%	74-126 %
Surrogate - Dibromofluoromethane *	%	70-130 %

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Order Number: S442931

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.

SW-846, Test Methods for Evaluating Solid Waste, Third Edition, September 1986, and Updates I, II, IIA, IIB, and III.

Attached - Grain-size analysis was performed by STL Burlington. Data is provided as a seperate attachment.

J4 = Due to matrix interference from samples, DDT breakdown occured therefore the continuing calibration failed. Samples were diluted and reanalyzed and both sets of results are reported. The continuing calibration passed criteria for diluted samples.

I = Reported value between the method detection limit andreporting limit and is estimated.
U = Indicates that the compound was analyzed for but not detected.
J3 = Spike recovery was outside control limits.
J1 = Surrogate recovery was outside control limits.

SEVERN TRENT STL

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April 20, 2004

Ms. Linda Wolfe
Severn Trent Laboratories
5102 LaRoche Avenue
Savannah, GA 31404

Re: Laboratory Project No.: 24005
Case: 24005; ETR 99517

Dear Ms. Wolfe:

Enclosed are the analytical results for samples received by STL Burlington on April 9, 2004. This report is sequentially numbered starting with page 0001 and ending with page 0008.

Laboratory ID numbers were designated as follows:

Lab ID	Client Sample ID	Sample Date	Sample Matrix
	Received: 04/09/04 ETR No: 99517		
566600	041M5B0202	04/06/04	Solid
566601	041M5B0301	04/06/04	Solid
566602	041N5B0301	04/06/04	Solid
566603	041M5B0401	04/06/04	Solid
566604	041M5B0501	04/06/04	Solid
566605	041M5B0601	04/06/04	Solid

ASTM Method D422 – Particle Size:
Please note that no exceptions to the method prescribed quality control criteria were observed during the analyses of the samples in this delivery group.

Client specified matrix spike/matrix spike duplicate samples were not analyzed or requested with the above samples. However, routine method quality control analyses were performed.

Leaders in Environmental Testing

Severn Trent Laboratories, Inc.

The analytical results presented in this data report were generated under a quality system that adheres to the requirements specified in the NELAC standard. This report shall not be reproduced, except in full, without the written approval of the laboratory. The release of the data in this report is authorized by the Laboratory Director or his designee, as verified by the following signature.

If there are any questions regarding this test report, please contact Ron Pentkowski at (802) 655-1203.

Sincerely,

Michael F. Wheeler, Ph.D.
Laboratory Director

Enclosure

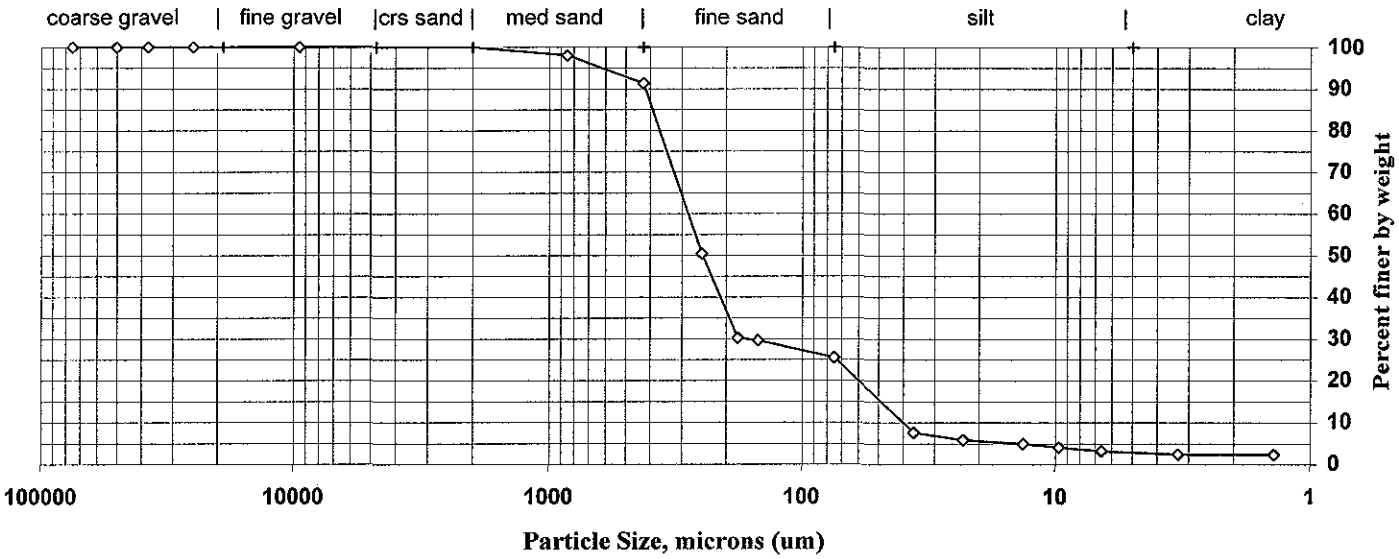
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLGAS	**Project No.:**	24005	**ETR(s) #:**	99517
Client Code:	STLGAS	**Job No.:**	N/A	**SDG(s):**	N/A
Date Received:	9-Apr-04	**Start Date:**	9-Apr-04	**End Date:**	15-Apr-04

Lab ID: 566600 **Sample ID:** M5B0202

Percent Solids:	53.4%		**Maximum Particle Size:**	Med sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	N/A
Non-soil mass:	4.4%		**Hardness (> #10):**	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	98.0	2.0
#40	425	91.3	6.7
#60	250	50.4	40.9
#80	180	30.3	20.2
#100	150	29.6	0.6
#200	75	25.6	4.1
Hydrometer	36.2	7.6	17.9
|	23.1	5.9	1.8
|	13.4	5.0	0.9
|	9.7	4.1	0.9
|	6.6	3.2	0.9
|	3.3	2.4	0.8
V	1.4	2.3	0.1

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	74.4
Coarse Sand	0.0
Medium Sand	8.7
Fine Sand	65.8
Silt	22.3
Clay	3.2

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

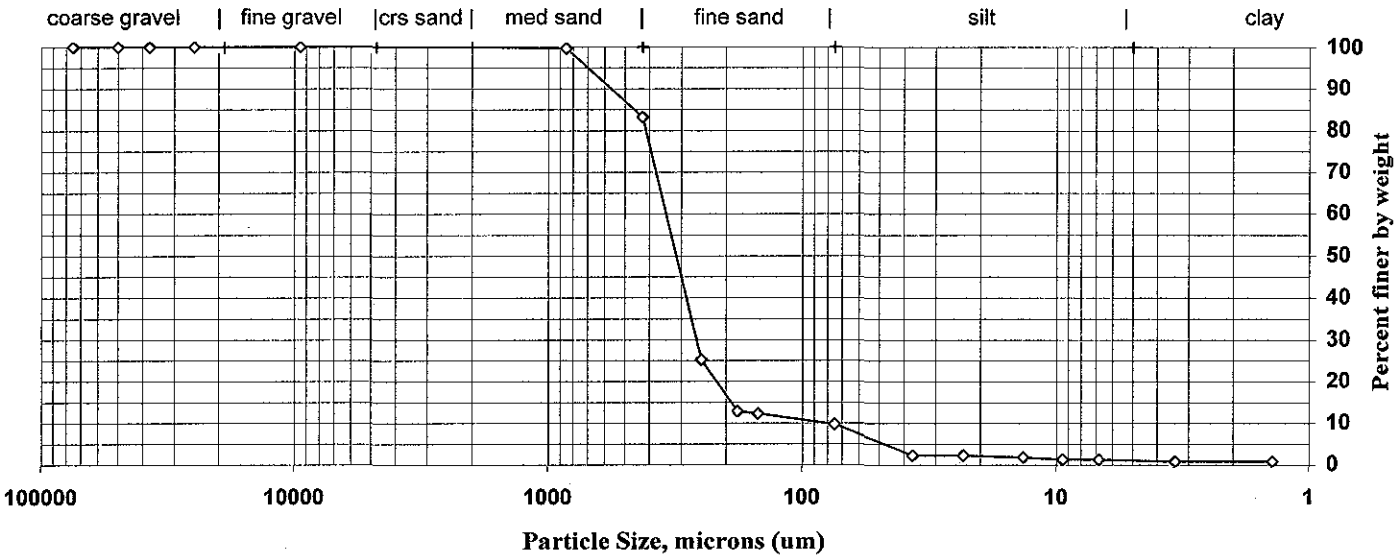
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLGAS	**Project No.:**	24005	**ETR(s) #:**	99517
Client Code:	STLGAS	**Job No.:**	N/A	**SDG(s):**	N/A
Date Received:	9-Apr-04	**Start Date:**	9-Apr-04	**End Date:**	15-Apr-04

Lab ID: 566601 **Sample ID:** M5B0301

Percent Solids:	75.7%		**Maximum Particle Size:**	Med sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	N/A
Non-soil mass:	1.7%		**Hardness (> #10):**	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.7	0.3
#40	425	83.2	16.5
#60	250	25.3	57.9
#80	180	12.9	12.4
#100	150	12.3	0.6
#200	75	9.8	2.5
Hydrometer	36.9	2.3	7.5
|	23.3	2.3	0.0
|	13.5	1.8	0.5
|	9.5	1.3	0.5
|	6.8	1.3	0.0
|	3.4	0.9	0.5
V	1.4	0.8	0.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	90.2
Coarse Sand	0.0
Medium Sand	16.8
Fine Sand	73.4
Silt	8.5
Clay	1.3

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

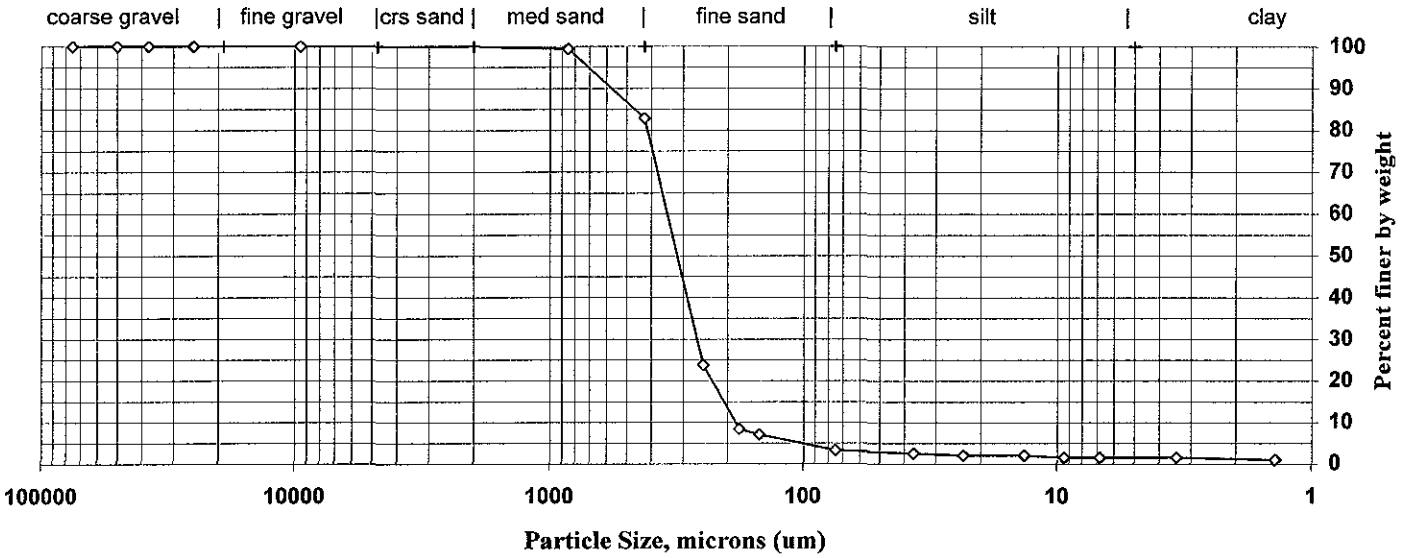
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLGAS	**Project No.:**	24005	**ETR(s) #:**	99517
Client Code:	STLGAS	**Job No.:**	N/A	**SDG(s):**	N/A
Date Received:	9-Apr-04	**Start Date:**	9-Apr-04	**End Date:**	15-Apr-04

Lab ID: 566602 **Sample ID:** N5B0301

Percent Solids:	73.7%		**Maximum Particle Size:**	9.5 mm
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	angular
Non-soil mass:	0.9%		**Hardness (> #10):**	brittle



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.4	0.6
#40	425	82.9	16.5
#60	250	23.8	59.1
#80	180	8.4	15.4
#100	150	7.0	1.4
#200	75	3.3	3.7
Hydrometer	36.7	2.6	0.7
|	23.3	2.1	0.5
|	13.4	2.1	0.0
|	9.4	1.5	0.5
|	6.8	1.5	0.0
|	3.4	1.5	0.0
V	1.4	1.0	0.5

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	96.6
Coarse Sand	0.0
Medium Sand	17.0
Fine Sand	79.6
Silt	1.8
Clay	1.5

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

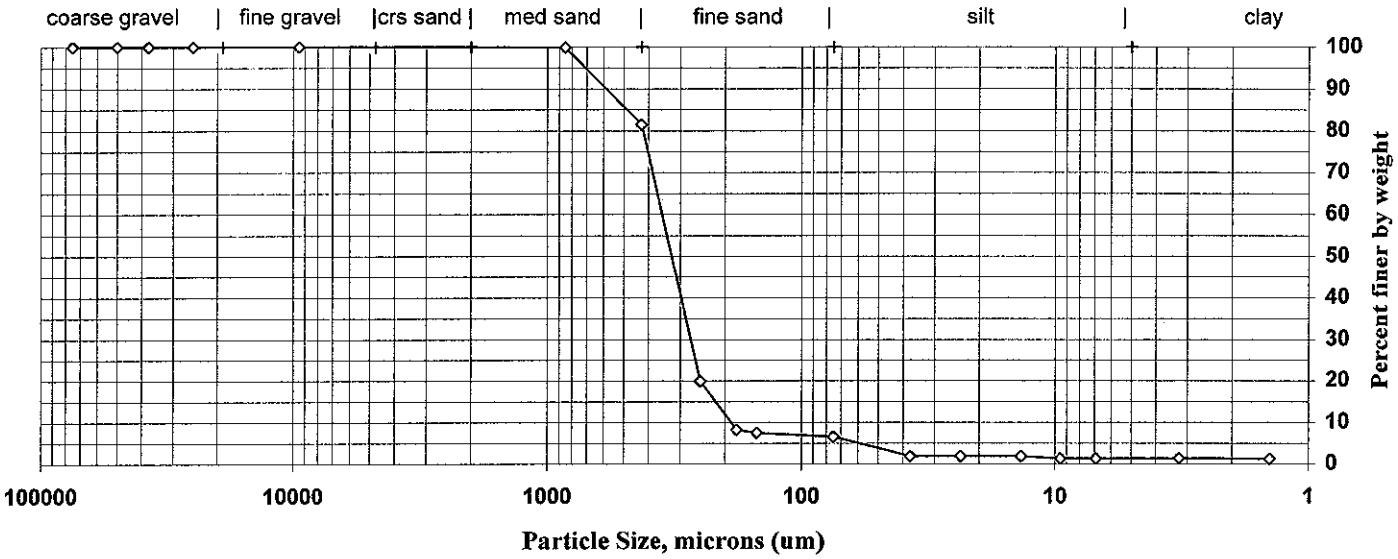
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLGAS	**Project No.:**	24005	**ETR(s) #:**	99517
Client Code:	STLGAS	**Job No.:**	N/A	**SDG(s):**	N/A
Date Received:	9-Apr-04	**Start Date:**	9-Apr-04	**End Date:**	15-Apr-04

Lab ID: 566603 **Sample ID:** M5B0401

Percent Solids:	77.4%		**Maximum Particle Size:**	Med sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	N/A
Non-soil mass:	0.0%		**Hardness (> #10):**	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.8	0.2
#40	425	81.5	18.4
#60	250	20.0	61.5
#80	180	8.2	11.7
#100	150	7.5	0.7
#200	75	6.5	1.0
Hydrometer	37.3	1.8	4.7
|	23.6	1.8	0.0
|	13.6	1.8	0.0
|	9.5	1.3	0.5
|	6.9	1.3	0.0
|	3.2	1.3	0.0
V	1.4	1.3	0.1

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	93.5
Coarse Sand	0.0
Medium Sand	18.5
Fine Sand	74.9
Silt	5.2
Clay	1.3

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

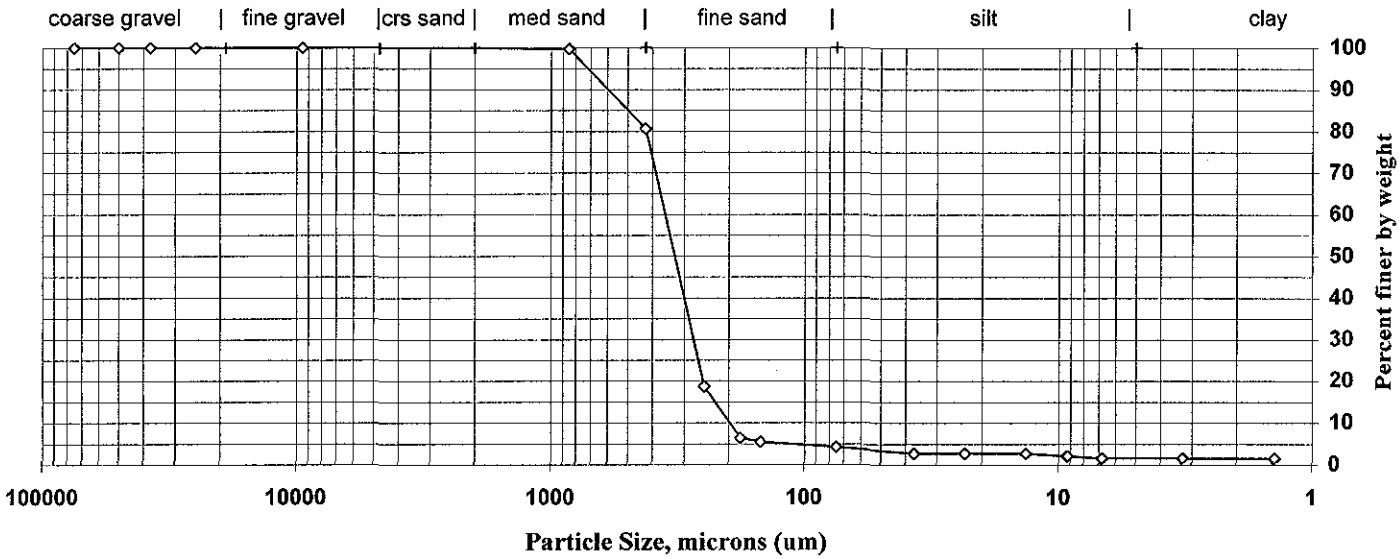
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLGAS	**Project No.:**	24005	**ETR(s) #:**	99517
Client Code:	STLGAS	**Job No.:**	N/A	**SDG(s):**	N/A
Date Received:	9-Apr-04	**Start Date:**	9-Apr-04	**End Date:**	15-Apr-04

Lab ID: 566604 **Sample ID:** M5B0501

Percent Solids:	78.7%		**Maximum Particle Size:**	Med sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	N/A
Non-soil mass:	0.1%		**Hardness (> #10):**	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.7	0.3
#40	425	80.6	19.1
#60	250	18.7	61.9
#80	180	6.4	12.4
#100	150	5.5	0.9
#200	75	4.3	1.3
Hydrometer	36.9	2.8	1.5
|	23.3	2.8	0.0
|	13.5	2.8	0.0
|	9.3	2.2	0.6
|	6.8	1.6	0.6
|	3.3	1.6	0.0
V	1.4	1.5	0.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	95.7
Coarse Sand	0.0
Medium Sand	19.4
Fine Sand	76.4
Silt	2.7
Clay	1.6

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

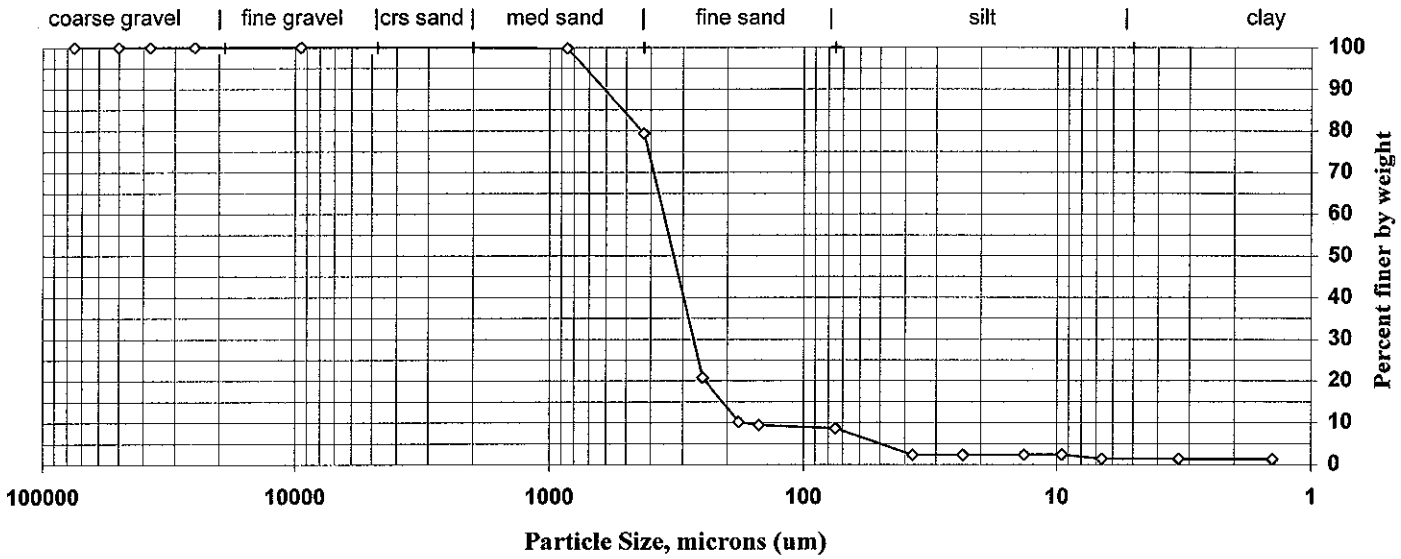
Particle Size of Soils by ASTM D422

Sample preparation method: **D2217**

Client:	STLGAS	**Project No.:**	24005	**ETR(s) #:**	99517
Client Code:	STLGAS	**Job No.:**	N/A	**SDG(s):**	N/A
Date Received:	9-Apr-04	**Start Date:**	9-Apr-04	**End Date:**	15-Apr-04

Lab ID: 566605 **Sample ID:** M5B0601

Percent Solids:	79.1%		**Maximum Particle Size:**	Med sand
Specific Gravity:	2.65	(assumed)	**Shape (> #10):**	N/A
Non-soil mass:	0.0%		**Hardness (> #10):**	N/A



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.7	0.3
#40	425	79.4	20.4
#60	250	20.8	58.6
#80	180	10.1	10.6
#100	150	9.4	0.7
#200	75	8.6	0.8
Hydrometer	37.1	2.3	6.3
|	23.5	2.3	0.0
|	13.5	2.4	0.0
|	9.5	2.4	0.0
|	6.6	1.4	1.0
|	3.3	1.4	0.0
V	1.4	1.3	0.0

Soil Classification	Percent of Total Sample
Gravel	0.0
Sand	91.4
Coarse Sand	0.0
Medium Sand	20.6
Fine Sand	70.7
Silt	7.3
Clay	1.4

Dispersion Device: Mechanical mixer with a metal paddle.
Dispersion Period: 1 minute

ATTN: Ron Pentowski

Serial Number 032029

SEVERN TRENT SERVICES

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

STL Savannah

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

STL-Burlington
208 South Park Dr, Suite 1
Colchester, VT 05446
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)	MATRIX TYPE	REQUIRED ANALYSIS	PAGE	OF
Ensafe Pensacola		FL				

STL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Linda Wolfe	5442931	

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
	912-354-7858	

CLIENT NAME	CLIENT E-MAIL
STL-Savannah	lwolfe@stl-inc.com

CLIENT ADDRESS: See Above

COMPANY CONTRACTING THIS WORK (if applicable)

STANDARD REPORT DELIVERY (X)
DATE DUE Level II 14 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ( )
DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	Grainsize									REMARKS
4/6/04	1045	041M SB0202			X			2									Send Results +
	1045	041M SB0301			X			2									Invoice to
	1045	041M SB0301			X			2									Linda Wolfe
	1100	041M SB0401			X			2									STL-Savannah
	1115	041M SB0501			X			2									
	1130	041M SB0601			X			2									

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS						[signature]	040704	17[illegible]

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
EMPTY CONTAINERS						[signature]	4/9/04	0920

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT YES ( ) NO ( )	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS

ORIGINAL – RETURN TO LABORATORY WITH SAMPLE(S)

0008

SAMPLE RECEIPT INFORMATION FORM

Completed By: ____**Abbie Page**_____ **Date:** ___**4/9/2004**____

Client: _____**Ensafe**_____

STL Savannah Log # _____S442931_____

Courier: __X__ FedEx ____ UPS ____ Client ____ Other

Date Received: _____04/08/04_____

Cooler Temperature upon receipt: __3.6/3.6/3.9__Degrees C.___
(If >6C or frozen, notify client and document below.)

Cooler/Custody Seals: __X___ Intact _____ Broken _____ NA
(If broken, notify client and document below)

ANOMALY	CLIENT NOTIFIED: CONTACT / DATE / TIME	COMMENTS / DESCRIPTION
Sample container breakage		NA
Sample ID discrepancy between COC & container		NA
Sample listed on COC is not received		NA
Sample received is not listed on COC	Phil Hardy 04/08/04	Analyze trip blank id 041TB00001.
Incomplete COC		NA
Insufficient sample volume		NA
Improper container or preservation		NA
Other (Describe)*		NA

*Attach additional pages, if necessary.

PM: Review: _____

SEVERN TRENT STL

FAN089:10.21.03:2

Serial Number 37881

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)	PAGE	OF
0036-001-00-B0-00		FL		

STL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Linda Wolfe		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Allison Harris		

CLIENT NAME	CLIENT E-MAIL
EnSafe	

CLIENT ADDRESS

COMPANY CONTRACTING THIS WORK (if applicable)

STANDARD REPORT DELIVERY ◯

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	TAL metals	TCL Pest/PCB	TCL SVOC	Low Level PAH	TCL VOC	TOC	Grain Size	TAL Metals Filtered			REMARKS
4/6/04	1045	041MSB0202	G		S			1		1		1	1	2				
"	"	041MSB0301	G		S			1		1		1	1	2				
"	"	041MSB0301	G		S			1		1		1	1	2				
"	1100	041MSB0401	G		S			1		1		1	1	2				
"	1115	041MSB0501	G		S			1		1		1	1	2				
"	1130	041MSB0601	G		S			1		1		1	1	2				
"	1030	041FE0001 per Phil Hardy ID should have extra		X				1	2	2	2	4			1			Field Blank
"	1200	041EM00001		X				1	2	2	2	4			1			Rinsate Blank

Rec. Trip Blank Not on COC.
per Phil Hardy analyze - ID should be 041TB00001 L Wolfe 4-7-04

TEMP. 3.6/3.6 3.9

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	6 April 04	1800						
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	040701	0909	YES ◯ NO ◯		S442931	

STL8240-680 (12/02)

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Report

For: Ms. Allison Harris
EnSafe, Inc.
5724 Summer Trees Drive
Memphis, TN 38134
CC:

Order Number: S442931A
SDG Number: PEN16A
Client Project ID: 0036-001-00-130-00
Project: NAS Pensacola Site 41 Resampling/PEN16A
Report Date: 04/30/2004
Sampled By: Client
Sample Received Date: 04/07/2004
Requisition Number:
Purchase Order: PO 6071

Linda A Wolfe

Linda A. Wolfe, Project Manager
lwolfe@stl-inc.com

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Sample Summary

Order: S442931A
Date Received: 04/07/2004

Client: EnSafe, Inc.
Project: NAS Pensacola Site 41 Resampling/PEN16A

Client Sample ID	Lab Sample ID	Matrix	Date Sampled
041M5B0202	S442931A*1	Solid	04/06/2004 10:15
041M5B0301	S442931A*2	Solid	04/06/2004 10:15
041N5B0301	S442931A*3	Solid	04/06/2004 10:15
041M5B0401	S442931A*4	Solid	04/06/2004 11:00
041M5B0501	S442931A*5	Solid	04/06/2004 11:15
041M5B0601	S442931A*6	Solid	04/06/2004 11:30

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-1	041M5B0202	Solid	04/07/04	04/06/04 10:15	PEN16A
42931A-2	041M5B0301	Solid	04/07/04	04/06/04 10:15	PEN16A
42931A-3	041N5B0301	Solid	04/07/04	04/06/04 10:15	PEN16A
42931A-4	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16A
42931A-5	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16A

Parameter	Units	Lab Sample IDs 42931A-1	42931A-2	42931A-3	42931A-4	42931A-5
Volatiles in TCLP Extract (8260)						
Benzene (TCLP)	mg/l	0.0019U	0.0019U	0.0019U	0.0019U	0.0019U
Carbon tetrachloride (TCLP)	mg/l	0.0096U	0.0096U	0.0096U	0.0096U	0.0096U
Chlorobenzene (TCLP)	mg/l	0.0020U	0.0020U	0.0020U	0.0020U	0.0020U
Chloroform (TCLP)	mg/l	0.0024U	0.0024U	0.0024U	0.0024U	0.0024U
1,2-Dichloroethane (TCLP)	mg/l	0.0036U	0.0036U	0.0036U	0.0036U	0.0036U
1,1-Dichloroethylene (TCLP)	mg/l	0.0062U	0.0062U	0.0062U	0.0062U	0.0062U
Methyl ethyl ketone (TCLP)	mg/l	0.025IV	0.031IV	0.028IV	0.020IV	0.024IV
Tetrachloroethylene (TCLP)	mg/l	0.0026U	0.0026U	0.0026U	0.0026U	0.0026U
Trichloroethylene (TCLP)	mg/l	0.0086U	0.0086U	0.0086U	0.0086U	0.0086U
Vinyl chloride (TCLP)	mg/l	0.0026U	0.0026U	0.0026U	0.0026U	0.0026U
Surrogate - Toluene-d8 *	%	110 %	110 %	110 %	110 %	110 %
Surrogate - 4-Bromofluorobenzene *	%	95 %	94 %	98 %	96 %	98 %
Surrogate - Dibromofluoromethane *	%	100 %	100 %	100 %	98 %	100 %
Dilution Factor		1	1	1	1	1
Prep Date		04/19/04	04/19/04	04/19/04	04/19/04	04/19/04
Prep Time		16:35	16:35	16:35	16:35	16:35
Analysis Date		04/26/04	04/26/04	04/26/04	04/26/04	04/26/04
Analysis Time		13:54	14:21	14:48	15:16	15:43
Batch ID		100426C2	100426C2	100426C2	100426C2	100426C2
Quantitation Factor		1.000	1.000	1.000	1.000	1.000

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-1	041M5B0202	Solid	04/07/04	04/06/04 10:15	PEN16A
42931A-2	041M5B0301	Solid	04/07/04	04/06/04 10:15	PEN16A
42931A-3	041N5B0301	Solid	04/07/04	04/06/04 10:15	PEN16A
42931A-4	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16A
42931A-5	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16A

Parameter	Units	Lab Sample IDs 42931A-1	42931A-2	42931A-3	42931A-4	42931A-5
Semivolatiles in TCLP Extract (8270)						
Cresol (ortho) (TCLP)	mg/l	0.0080U	0.0080U	0.0080U	0.0080U	0.0080U
Cresol m & p (TCLP)	mg/l	0.0080U	0.0080U	0.0080U	0.0080U	0.0080U
Cresol o,m,p (TCLP)	mg/l	0.0080U	0.0080U	0.0080U	0.0080U	0.0080U
1,4-Dichlorobenzene (TCLP)	mg/l	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U
2,4-Dinitrotoluene (TCLP)	mg/l	0.0055U	0.0055U	0.0055U	0.0055U	0.0055U
Hexachlorobenzene (TCLP)	mg/l	0.0031U	0.0031U	0.0031U	0.0031U	0.0031U
Hexachlorobutadiene (TCLP)	mg/l	0.0025U	0.0025U	0.0025U	0.0025U	0.0025U
Hexachloroethane (TCLP)	mg/l	0.0035U	0.0035U	0.0035U	0.0035U	0.0035U
Nitrobenzene (TCLP)	mg/l	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U
Pentachlorophenol (TCLP)	mg/l	0.010U	0.010U	0.010U	0.010U	0.010U
2,4,5-Trichlorophenol (TCLP)	mg/l	0.0055U	0.0055U	0.0055U	0.0055U	0.0055U
2,4,6-Trichlorophenol (TCLP)	mg/l	0.0055U	0.0055U	0.0055U	0.0055U	0.0055U
Pyridine (TCLP)	mg/l	0.013U	0.013U	0.013U	0.013U	0.013U
Surrogate-2FP *	%	88 %	84 %	88 %	92 %	86 %
Surrogate-PHL *	%	80 %	72 %	84 %	86 %	82 %
Surrogate-NBZ *	%	72 %	72 %	80 %	72 %	76 %
Surrogate-2FBP *	%	80 %	80 %	80 %	80 %	80 %
Surrogate-TBP *	%	82 %	76 %	92 %	86 %	84 %
Surrogate-TPH *	%	108 %	108 %	104 %	108 %	104 %
TCLP (1311) Sec. 7.2						
Extraction Date	mg/l	04.12.04	04.12.04	04.12.04	04.12.04	04.12.04
Dilution Factor		1	1	1	1	1
Prep Date		04/13/04	04/13/04	04/13/04	04/13/04	04/13/04
Prep Time		15:30	15:30	15:30	15:30	15:30
Analysis Date		04/22/04	04/22/04	04/26/04	04/23/04	04/23/04
Analysis Time		19:36	20:02	20:35	11:15	11:42
Batch ID		0413A	0413A	0413A	0413A	0413A
Quantitation Factor		1.000	1.000	1.000	1.000	1.000

SEVERN TRENT STL

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-1	041M5B0202	Solid	04/07/04	04/06/04 10:15	PEN16A
42931A-2	041M5B0301	Solid	04/07/04	04/06/04 10:15	PEN16A
42931A-3	041N5B0301	Solid	04/07/04	04/06/04 10:15	PEN16A
42931A-4	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16A
42931A-5	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16A

Parameter	Units	Lab Sample IDs 42931A-1	42931A-2	42931A-3	42931A-4	42931A-5
Pesticides in TCLP Extract (8081)						
Chlordane (TCLP)	mg/l	0.025U	0.025U	0.025U	0.025U	0.025U
Endrin (TCLP)	mg/l	0.0050U	0.0050U	0.0050U	0.0050U	0.0050U
Heptachlor (TCLP)	mg/l	0.0025U	0.0025U	0.0025U	0.0025U	0.0025U
Lindane (g-BHC) (TCLP)	mg/l	0.0025U	0.0025U	0.0025U	0.0025U	0.0025U
Methoxychlor (TCLP)	mg/l	0.025U	0.025U	0.025U	0.025U	0.025U
Toxaphene (TCLP)	mg/l	0.25U	0.25U	0.25U	0.25U	0.25U
Heptachlor epoxide (TCLP)	mg/l	0.0025U	0.0025U	0.0025U	0.0025U	0.0025U
Surrogate-TCX *	%	60 %	52 %	44 %	52 %	39 %
TCLP (1311) Sec. 7.2						
Extraction Date	mg/l	04.12.04	04.12.04	04.12.04	04.12.04	04.12.04
Dilution Factor		1	1	1	1	1
Prep Date		04/13/04	04/13/04	04/13/04	04/13/04	04/13/04
Prep Time		15:30	15:30	15:30	15:30	15:30
Analysis Date		04/15/04	04/15/04	04/15/04	04/16/04	04/16/04
Analysis Time		23:06	23:24	23:42	00:00	00:18
Batch ID		04130	04130	04130	04130	04130
Quantitation Factor		1.000	1.000	1.000	1.000	1.000
Herbicides in TCLP Extract (8151)						
2,4-D (TCLP)	mg/l	0.0065U	0.0065U	0.0065U	0.0065U	0.0065U
2,4,5-TP (Silvex) (TCLP)	mg/l	0.0027U	0.0027U	0.0027U	0.0027U	0.0027U
Surrogate-2,4-Dichlorophenyl acetic acid (DCAA) *	%	90 %	100 %	100 %	90 %	105 %
TCLP (1311) Sec. 7.2						
Extraction Date	mg/l	04.12.04	04.12.04	04.12.04	04.12.04	04.12.04
Dilution Factor		1	1	1	1	1
Prep Date		04/15/04	04/15/04	04/15/04	04/15/04	04/15/04
Prep Time		09:00	09:00	09:00	09:00	09:00
Analysis Date		04/20/04	04/20/04	04/20/04	04/20/04	04/20/04
Analysis Time		06:58	07:20	07:42	08:04	08:26
Batch ID		0415P	0415P	0415P	0415P	0415P
Quantitation Factor		1.000	1.000	1.000	1.000	1.000

SEVERN TRENT STL

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-1	041M5B0202	Solid	04/07/04	04/06/04 10:15	PEN16A
42931A-2	041M5B0301	Solid	04/07/04	04/06/04 10:15	PEN16A
42931A-3	041N5B0301	Solid	04/07/04	04/06/04 10:15	PEN16A
42931A-4	041M5B0401	Solid	04/07/04	04/06/04 11:00	PEN16A
42931A-5	041M5B0501	Solid	04/07/04	04/06/04 11:15	PEN16A

Parameter	Units	Lab Sample IDs 42931A-1	42931A-2	42931A-3	42931A-4	42931A-5
Metals in TCLP Extract (6010)						
Arsenic (TCLP)	mg/l	0.053I	0.043I	0.033U	0.033U	0.033U
Barium (TCLP)	mg/l	0.068I	0.068I	0.091I	0.029I	0.070I
Cadmium (TCLP)	mg/l	0.070I	0.018I	0.026I	0.012I	0.044I
Chromium (TCLP)	mg/l	0.014U	0.021I	0.014U	0.014U	0.018I
Lead (TCLP)	mg/l	0.27	0.21	0.21	0.10I	0.22
Selenium (TCLP)	mg/l	0.053U	0.053U	0.053U	0.053U	0.053U
Silver (TCLP)	mg/l	0.011U	0.011U	0.011U	0.011U	0.011U
TCLP (1311) Sec. 7.2						
Extraction Date	mg/l	04.12.04	04.12.04	04.12.04	04.12.04	04.12.04
Dilution Factor		1	1	1	1	1
Prep Date		04/13/04	04/13/04	04/13/04	04/13/04	04/13/04
Prep Time		11:20	11:20	11:20	11:20	11:20
Analysis Date		04/14/04	04/14/04	04/14/04	04/14/04	04/14/04
Analysis Time		03:41	03:56	04:01	04:06	04:11
Batch ID		0413P	0413P	0413P	0413P	0413P
Quantitation Factor		1.000	1.000	1.000	1.000	1.000
Mercury in TCLP Extract (7470)						
Mercury (TCLP)	mg/l	0.012I	0.0078U	0.0084I	0.0078U	0.012I
TCLP (1311) Sec. 7.2						
Extraction Date	mg/l	04.12.04	04.12.04	04.12.04	04.12.04	04.12.04
Dilution Factor		1	1	1	1	1
Prep Date		04/14/04	04/14/04	04/14/04	04/14/04	04/14/04
Prep Time		09:30	09:30	09:30	09:30	09:30
Analysis Date		04/15/04	04/15/04	04/15/04	04/15/04	04/15/04
Analysis Time		10:44	10:51	10:53	10:55	12:05
Batch ID		0414R	0414R	0414R	0414R	0414R
Quantitation Factor		1.000	1.000	1.000	1.000	1.000

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-6	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16A

Parameter	Units	Lab Sample IDs 42931A-6
Volatiles in TCLP Extract (8260)		
Benzene (TCLP)	mg/l	0.0019U
Carbon tetrachloride (TCLP)	mg/l	0.0096U
Chlorobenzene (TCLP)	mg/l	0.0020U
Chloroform (TCLP)	mg/l	0.0024U
1,2-Dichloroethane (TCLP)	mg/l	0.0036U
1,1-Dichloroethylene (TCLP)	mg/l	0.0062U
Methyl ethyl ketone (TCLP)	mg/l	0.022IV
Tetrachloroethylene (TCLP)	mg/l	0.0026U
Trichloroethylene (TCLP)	mg/l	0.0086U
Vinyl chloride (TCLP)	mg/l	0.0026U
Surrogate - Toluene-d8 *	%	110 %
Surrogate - 4-Bromofluorobenzene *	%	96 %
Surrogate - Dibromofluoromethane *	%	100 %
Dilution Factor		1
Prep Date		04/19/04
Prep Time		16:35
Analysis Date		04/26/04
Analysis Time		16:10
Batch ID		100426C2
Quantitation Factor		1.000
Semivolatiles in TCLP Extract (8270)		
Cresol (ortho) (TCLP)	mg/l	0.0080U
Cresol m & p (TCLP)	mg/l	0.0080U
Cresol o,m,p (TCLP)	mg/l	0.0080U
1,4-Dichlorobenzene (TCLP)	mg/l	0.0050U
2,4-Dinitrotoluene (TCLP)	mg/l	0.074

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-6	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16A

Parameter	Units	Lab Sample IDs 42931A-6
Semivolatiles in TCLP Extract (8270)		
Hexachlorobenzene (TCLP)	mg/l	0.0031U
Hexachlorobutadiene (TCLP)	mg/l	0.0025U
Hexachloroethane (TCLP)	mg/l	0.0035U
Nitrobenzene (TCLP)	mg/l	0.0050U
Pentachlorophenol (TCLP)	mg/l	0.010U
2,4,5-Trichlorophenol (TCLP)	mg/l	0.0055U
2,4,6-Trichlorophenol (TCLP)	mg/l	0.0055U
Pyridine (TCLP)	mg/l	0.013U
Surrogate-2FP *	%	88 %
Surrogate-PHL *	%	88 %
Surrogate-NBZ *	%	80 %
Surrogate-2FBP *	%	84 %
Surrogate-TBP *	%	88 %
Surrogate-TPH *	%	112 %
TCLP (1311) Sec. 7.2		
Extraction Date	mg/l	04.12.04
Dilution Factor		1
Prep Date		04/13/04
Prep Time		15:30
Analysis Date		04/23/04
Analysis Time		12:08
Batch ID		0413A
Quantitation Factor		1.000
Pesticides in TCLP Extract (8081)		
Chlordane (TCLP)	mg/l	0.025U
Endrin (TCLP)	mg/l	0.0050U
Heptachlor (TCLP)	mg/l	0.0025U
Lindane (g-BHC) (TCLP)	mg/l	0.0025U

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-6	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16A

Parameter	Units	Lab Sample IDs 42931A-6
Pesticides in TCLP Extract (8081)		
Methoxychlor (TCLP)	mg/l	0.025U
Toxaphene (TCLP)	mg/l	0.25U
Heptachlor epoxide (TCLP)	mg/l	0.0025U
Surrogate-TCX *	%	44 %
TCLP (1311) Sec. 7.2		
Extraction Date	mg/l	04.12.04
Dilution Factor		1
Prep Date		04/13/04
Prep Time		15:30
Analysis Date		04/16/04
Analysis Time		00:36
Batch ID		04130
Quantitation Factor		1.000
Herbicides in TCLP Extract (8151)		
2,4-D (TCLP)	mg/l	0.0065U
2,4,5-TP (Silvex) (TCLP)	mg/l	0.0027U
Surrogate-2,4-Dichlorophenyl acetic acid (DCAA) *	%	105 %
TCLP (1311) Sec. 7.2		
Extraction Date	mg/l	04.12.04
Dilution Factor		1
Prep Date		04/15/04
Prep Time		09:00
Analysis Date		04/20/04
Analysis Time		08:48
Batch ID		0415P
Quantitation Factor		1.000

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-6	041M5B0601	Solid	04/07/04	04/06/04 11:30	PEN16A

Parameter	Units	Lab Sample IDs 42931A-6
Metals in TCLP Extract (6010)		
Arsenic (TCLP)	mg/l	0.035I
Barium (TCLP)	mg/l	0.077I
Cadmium (TCLP)	mg/l	0.071I
Chromium (TCLP)	mg/l	0.033I
Lead (TCLP)	mg/l	0.24
Selenium (TCLP)	mg/l	0.053U
Silver (TCLP)	mg/l	0.011U
TCLP (1311) Sec. 7.2		
Extraction Date	mg/l	04.12.04
Dilution Factor		1
Prep Date		04/13/04
Prep Time		11:20
Analysis Date		04/14/04
Analysis Time		04:16
Batch ID		0413P
Quantitation Factor		1.000
Mercury in TCLP Extract (7470)		
Mercury (TCLP)	mg/l	0.0078U
TCLP (1311) Sec. 7.2		
Extraction Date	mg/l	04.12.04
Dilution Factor		1
Prep Date		04/14/04
Prep Time		09:30
Analysis Date		04/15/04
Analysis Time		12:05
Batch ID		0414R
Quantitation Factor		1.000

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-7	Method Detection Limit (MDL)	Solid	04/07/04		PEN16A
42931A-8	Reporting Limit (RL)	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-7	42931A-8
Volatiles in TCLP Extract (8260)			
Benzene (TCLP)	mg/l	0.0019	0.020
Carbon tetrachloride (TCLP)	mg/l	0.0096	0.020
Chlorobenzene (TCLP)	mg/l	0.0020	0.020
Chloroform (TCLP)	mg/l	0.0024	0.020
1,2-Dichloroethane (TCLP)	mg/l	0.0036	0.020
1,1-Dichloroethylene (TCLP)	mg/l	0.0062	0.020
Methyl ethyl ketone (TCLP)	mg/l	0.010	0.10
Tetrachloroethylene (TCLP)	mg/l	0.0026	0.020
Trichloroethylene (TCLP)	mg/l	0.0086	0.020
Vinyl chloride (TCLP)	mg/l	0.0026	0.040
Semivolatiles in TCLP Extract (8270)			
Cresol (ortho) (TCLP)	mg/l	0.0080	0.050
Cresol m & p (TCLP)	mg/l	0.0080	0.050
Cresol o,m,p (TCLP)	mg/l	0.0080	0.050
1,4-Dichlorobenzene (TCLP)	mg/l	0.0050	0.050
2,4-Dinitrotoluene (TCLP)	mg/l	0.0055	0.050
Hexachlorobenzene (TCLP)	mg/l	0.0031	0.050
Hexachlorobutadiene (TCLP)	mg/l	0.0025	0.050
Hexachloroethane (TCLP)	mg/l	0.0035	0.050
Nitrobenzene (TCLP)	mg/l	0.0050	0.050
Pentachlorophenol (TCLP)	mg/l	0.010	0.25
2,4,5-Trichlorophenol (TCLP)	mg/l	0.0055	0.050
2,4,6-Trichlorophenol (TCLP)	mg/l	0.0055	0.050
Pyridine (TCLP)	mg/l	0.013	0.25

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-7	Method Detection Limit (MDL)	Solid	04/07/04		PEN16A
42931A-8	Reporting Limit (RL)	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-7	42931A-8
Pesticides in TCLP Extract (8081)			
Chlordane (TCLP)	mg/l	0.0045	0.025
Endrin (TCLP)	mg/l	0.0050	0.020
Heptachlor (TCLP)	mg/l	0.0007	0.0025
Lindane (g-BHC) (TCLP)	mg/l	0.0015	0.0025
Methoxychlor (TCLP)	mg/l	0.0035	0.025
Toxaphene (TCLP)	mg/l	0.038	0.25
Heptachlor epoxide (TCLP)	mg/l	0.00013	0.0025
Herbicides in TCLP Extract (8151)			
2,4-D (TCLP)	mg/l	0.0065	0.025
2,4,5-TP (Silvex) (TCLP)	mg/l	0.0027	0.025

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-17	Method Detection Limit (MDL)	Solid	04/07/04		PEN16A
42931A-10	Reporting Limit (RL)	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-17	42931A-10
Metals in TCLP Extract (6010)			
Arsenic (TCLP)	mg/l	0.033	0.20
Barium (TCLP)	mg/l	0.0020	1.0
Cadmium (TCLP)	mg/l	0.0060	0.10
Chromium (TCLP)	mg/l	0.014	0.20
Lead (TCLP)	mg/l	0.019	0.20
Selenium (TCLP)	mg/l	0.053	0.50
Silver (TCLP)	mg/l	0.011	0.10
Mercury in TCLP Extract (7470)			
Mercury (TCLP)	mg/l	0.0078	0.020

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-11	TCLP Extraction Fluid Blank	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-11
Volatiles in TCLP Extract (8260)		
Benzene (TCLP)	mg/l	0.0019U
Carbon tetrachloride (TCLP)	mg/l	0.0096U
Chlorobenzene (TCLP)	mg/l	0.0020U
Chloroform (TCLP)	mg/l	0.0024U
1,2-Dichloroethane (TCLP)	mg/l	0.0036U
1,1-Dichloroethylene (TCLP)	mg/l	0.0062U
Methyl ethyl ketone (TCLP)	mg/l	0.025IV
Tetrachloroethylene (TCLP)	mg/l	0.0026U
Trichloroethylene (TCLP)	mg/l	0.0086U
Vinyl chloride (TCLP)	mg/l	0.0026U
Surrogate - Toluene-d8 *	%	110 %
Surrogate - 4-Bromofluorobenzene *	%	97 %
Surrogate - Dibromofluoromethane *	%	100 %
Dilution Factor		1
Prep Date		04/19/04
Prep Time		16:35
Analysis Date		04/26/04
Analysis Time		13:27
Batch ID		100426C2
Quantitation Factor		1.000
Semivolatiles in TCLP Extract (8270)		
Cresol (ortho) (TCLP)	mg/l	0.0080U
Cresol m & p (TCLP)	mg/l	0.0080U
Cresol o,m,p (TCLP)	mg/l	0.0080U
1,4-Dichlorobenzene (TCLP)	mg/l	0.0050U
2,4-Dinitrotoluene (TCLP)	mg/l	0.0055U

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-11	TCLP Extraction Fluid Blank	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-11
Semivolatiles in TCLP Extract (8270)		
Hexachlorobenzene (TCLP)	mg/l	0.0031U
Hexachlorobutadiene (TCLP)	mg/l	0.0025U
Hexachloroethane (TCLP)	mg/l	0.0035U
Nitrobenzene (TCLP)	mg/l	0.0050U
Pentachlorophenol (TCLP)	mg/l	0.010U
2,4,5-Trichlorophenol (TCLP)	mg/l	0.0055U
2,4,6-Trichlorophenol (TCLP)	mg/l	0.0055U
Pyridine (TCLP)	mg/l	0.013U
Surrogate-2FP *	%	70 %
Surrogate-PHL *	%	66 %
Surrogate-NBZ *	%	52 %
Surrogate-2FBP *	%	64 %
Surrogate-TBP *	%	62 %
Surrogate-TPH *	%	92 %
TCLP (1311) Sec. 7.2		
Extraction Date	mg/l	04.12.04
Dilution Factor		1
Prep Date		04/13/04
Prep Time		15:30
Analysis Date		04/22/04
Analysis Time		17:51
Batch ID		0413A
Quantitation Factor		1.000
Pesticides in TCLP Extract (8081)		
Chlordane (TCLP)	mg/l	0.025U
Endrin (TCLP)	mg/l	0.0050U
Heptachlor (TCLP)	mg/l	0.0025U
Lindane (g-BHC) (TCLP)	mg/l	0.0025U

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-11	TCLP Extraction Fluid Blank	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-11
Pesticides in TCLP Extract (8081)		
Methoxychlor (TCLP)	mg/l	0.025U
Toxaphene (TCLP)	mg/l	0.25U
Heptachlor epoxide (TCLP)	mg/l	0.0025U
Surrogate-TCX *	%	52 %
TCLP (1311) Sec. 7.2		
Extraction Date	mg/l	04.12.04
Dilution Factor		1
Prep Date		04/13/04
Prep Time		15:30
Analysis Date		04/15/04
Analysis Time		21:17
Batch ID		04130
Quantitation Factor		1.000
Herbicides in TCLP Extract (8151)		
2,4-D (TCLP)	mg/l	0.0065U
2,4,5-TP (Silvex) (TCLP)	mg/l	0.0027U
Surrogate-2,4-Dichlorophenyl acetic acid (DCAA) *	%	85 %
TCLP (1311) Sec. 7.2		
Extraction Date	mg/l	04.12.04
Dilution Factor		1
Prep Date		04/15/04
Prep Time		09:00
Analysis Date		04/20/04
Analysis Time		06:15
Batch ID		0415P
Quantitation Factor		1.000

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-11	TCLP Extraction Fluid Blank	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-11
Metals in TCLP Extract (6010)		
Arsenic (TCLP)	mg/l	0.033U
Barium (TCLP)	mg/l	0.0024I
Cadmium (TCLP)	mg/l	0.0060U
Chromium (TCLP)	mg/l	0.014U
Lead (TCLP)	mg/l	0.025I
Selenium (TCLP)	mg/l	0.053U
Silver (TCLP)	mg/l	0.011U
TCLP (1311) Sec. 7.2		
Extraction Date	mg/l	04.12.04
Dilution Factor		1
Prep Date		04/13/04
Prep Time		11:20
Analysis Date		04/14/04
Analysis Time		03:02
Batch ID		0413P
Quantitation Factor		1.000
Mercury in TCLP Extract (7470)		
Mercury (TCLP)	mg/l	0.0078U
TCLP (1311) Sec. 7.2		
Extraction Date	mg/l	04.12.04
Dilution Factor		1
Prep Date		04/14/04
Prep Time		09:30
Analysis Date		04/15/04
Analysis Time		09:48
Batch ID		0414R
Quantitation Factor		1.000

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-12	Method Blank	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-12
Volatiles in TCLP Extract (8260)		
Benzene (TCLP)	mg/l	0.0019U
Carbon tetrachloride (TCLP)	mg/l	0.0096U
Chlorobenzene (TCLP)	mg/l	0.0020U
Chloroform (TCLP)	mg/l	0.0024U
1,2-Dichloroethane (TCLP)	mg/l	0.0036U
1,1-Dichloroethylene (TCLP)	mg/l	0.0062U
Methyl ethyl ketone (TCLP)	mg/l	0.020J
Tetrachloroethylene (TCLP)	mg/l	0.0026U
Trichloroethylene (TCLP)	mg/l	0.0086U
Vinyl chloride (TCLP)	mg/l	0.0026U
Surrogate - Toluene-d8 *	%	110 %
Surrogate - 4-Bromofluorobenzene *	%	94 %
Surrogate - Dibromofluoromethane *	%	100 %
Dilution Factor		1
Prep Date		04/26/04
Prep Time		13:00
Analysis Date		04/26/04
Analysis Time		13:00
Batch ID		100426C2
Quantitation Factor		1.000
Semivolatiles in TCLP Extract (8270)		
Cresol (ortho) (TCLP)	ug/l	0.0080U
Cresol m & p (TCLP)	ug/l	0.0080U
Cresol o,m,p (TCLP)	ug/l	0.0080U
1,4-Dichlorobenzene (TCLP)	ug/l	0.0050U
2,4-Dinitrotoluene (TCLP)	ug/l	0.0055U

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-12	Method Blank	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-12
Semivolatiles in TCLP Extract (8270)		
Hexachlorobenzene (TCLP)	ug/l	0.0031U
Hexachlorobutadiene (TCLP)	ug/l	0.0025U
Hexachloroethane (TCLP)	ug/l	0.0035U
Nitrobenzene (TCLP)	ug/l	0.0050U
Pentachlorophenol (TCLP)	ug/l	0.010U
2,4,5-Trichlorophenol (TCLP)	ug/l	0.0055U
2,4,6-Trichlorophenol (TCLP)	ug/l	0.0055U
Pyridine (TCLP)	ug/l	0.013U
Surrogate-2FP *	%	91 %
Surrogate-PHL *	%	80 %
Surrogate-NBZ *	%	68 %
Surrogate-2FBP *	%	78 %
Surrogate-TBP *	%	77 %
Surrogate-TPH *	%	100 %
TCLP (1311) Sec. 7.2		
Extraction Date	ug/l	Error
Dilution Factor		1
Prep Date		04/13/04
Prep Time		15:30
Analysis Date		04/21/04
Analysis Time		16:17
Batch ID		0413A
Quantitation Factor		1.000
Pesticides in TCLP Extract (8081)		
Chlordane (TCLP)	mg/l	0.025U
Endrin (TCLP)	mg/l	0.0050U
Heptachlor (TCLP)	mg/l	0.0025U
Lindane (g-BHC) (TCLP)	mg/l	0.0025U

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-12	Method Blank	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-12
Pesticides in TCLP Extract (8081)		
Methoxychlor (TCLP)	mg/l	0.025U
Toxaphene (TCLP)	mg/l	0.25U
Heptachlor epoxide (TCLP)	mg/l	0.0025U
Surrogate-TCX *	%	52 %
Dilution Factor		1
Prep Date		04/13/04
Prep Time		15:30
Analysis Date		04/15/04
Analysis Time		20:59
Batch ID		04130
Quantitation Factor		1.000
Herbicides in TCLP Extract (8151)		
2,4-D (TCLP)	mg/l	0.0065U
2,4,5-TP (Silvex) (TCLP)	mg/l	0.0027U
Surrogate-2,4-Dichlorophenyl acetic acid (DCAA) *	%	105 %
Dilution Factor		1
Prep Date		04/15/04
Prep Time		09:00
Analysis Date		04/20/04
Analysis Time		05:09
Batch ID		0415P
Quantitation Factor		1.000

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-12	Method Blank	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-12
Metals in TCLP Extract (6010)		
Arsenic (TCLP)	mg/l	0.033U
Barium (TCLP)	mg/l	0.0024I
Cadmium (TCLP)	mg/l	0.0060U
Chromium (TCLP)	mg/l	0.014U
Lead (TCLP)	mg/l	0.025I
Selenium (TCLP)	mg/l	0.053U
Silver (TCLP)	mg/l	0.011U
TCLP (1311) Sec. 7.2		
Extraction Date	mg/l	04.12.04
Dilution Factor		1
Prep Date		04/13/04
Prep Time		11:20
Analysis Date		04/14/04
Analysis Time		03:02
Batch ID		0413P
Quantitation Factor		1.000
Mercury in TCLP Extract (7470)		
Mercury (TCLP)	mg/l	0.0078U
TCLP (1311) Sec. 7.2		
Extraction Date	mg/l	04.12.04
Dilution Factor		1
Prep Date		04/14/04
Prep Time		09:30
Analysis Date		04/15/04
Analysis Time		09:39
Batch ID		0414R
Quantitation Factor		1.000

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-13	Lab Control Standard Result	Solid	04/07/04		PEN16A
42931A-14	Spike Amount Added, LCS	Solid	04/07/04		PEN16A
42931A-15	Lab Control Standard % Recovery	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-13	42931A-14	42931A-15
Volatiles in TCLP Extract (8260)				
Benzene (TCLP)	mg/l	0.62	0.50	124 %
Carbon tetrachloride (TCLP)	mg/l	0.54	0.50	108 %
Chlorobenzene (TCLP)	mg/l	0.52	0.50	104 %
Chloroform (TCLP)	mg/l	0.57	0.50	114 %
1,2-Dichloroethane (TCLP)	mg/l	0.63	0.50	126 %
1,1-Dichloroethylene (TCLP)	mg/l	0.52	0.50	104 %
Methyl ethyl ketone (TCLP)	mg/l	0.45	0.50	90 %
Tetrachloroethylene (TCLP)	mg/l	0.45	0.50	90 %
Trichloroethylene (TCLP)	mg/l	0.52	0.50	104 %
Vinyl chloride (TCLP)	mg/l	0.64	0.50	128 %
Surrogate - Toluene-d8 *	mg/l	1.1	1.0	110 %
Surrogate - 4-Bromofluorobenzene *	mg/l	0.97	1.0	97 %
Surrogate - Dibromofluoromethane *	mg/l	1.0	1.0	100 %
Dilution Factor		1		1
Prep Date		04/26/04		04/26/04
Prep Time		12:06		12:06
Analysis Date		04/26/04		04/26/04
Analysis Time		12:06		12:06
Batch ID		100426C2	100426C2	100426C2
Quantitation Factor		1.000		

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-13	Lab Control Standard Result	Solid	04/07/04		PEN16A
42931A-14	Spike Amount Added, LCS	Solid	04/07/04		PEN16A
42931A-15	Lab Control Standard % Recovery	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-13	42931A-14	42931A-15
Semivolatiles in TCLP Extract (8270)				
Cresol (ortho) (TCLP)	mg/l	0.46	0.50	92 %
Cresol m & p (TCLP)	mg/l	0.41	0.50	82 %
1,4-Dichlorobenzene (TCLP)	mg/l	0.31	0.50	62 %
2,4-Dinitrotoluene (TCLP)	mg/l	0.43	0.50	86 %
Hexachlorobenzene (TCLP)	mg/l	0.45	0.50	90 %
Hexachlorobutadiene (TCLP)	mg/l	0.34	0.50	68 %
Hexachloroethane (TCLP)	mg/l	0.34	0.50	68 %
Nitrobenzene (TCLP)	mg/l	0.42	0.50	84 %
Pentachlorophenol (TCLP)	mg/l	0.44	0.50	88 %
2,4,5-Trichlorophenol (TCLP)	mg/l	0.51	0.50	102 %
2,4,6-Trichlorophenol (TCLP)	mg/l	0.47	0.50	94 %
Pyridine (TCLP)	mg/l	0.34	0.50	68 %
Surrogate-2FP *	mg/l	0.41	0.50	82 %
Surrogate-PHL *	mg/l	0.40	0.50	80 %
Surrogate-NBZ *	mg/l	0.21		84 %
Surrogate-2FBP *	mg/l	0.22	0.25	88 %
Surrogate-TBP *	mg/l	0.45	0.50	90 %
Surrogate-TPH *	mg/l	0.28	0.25	112 %
Surrogate-NBZ *	%		0.25	
Dilution Factor		1		1
Prep Date		04/13/04		04/13/04
Prep Time		15:30		15:30
Analysis Date		04/22/04		04/22/04
Analysis Time		18:44		18:44
Batch ID		0413A	0413A	0413A
Quantitation Factor		1.000		

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-13	Lab Control Standard Result	Solid	04/07/04		PEN16A
42931A-14	Spike Amount Added, LCS	Solid	04/07/04		PEN16A
42931A-15	Lab Control Standard % Recovery	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-13	42931A-14	42931A-15
Pesticides in TCLP Extract (8081)				
Endrin (TCLP)	mg/l	0.010	0.010	100 %
Heptachlor (TCLP)	mg/l	0.0051	0.010	51 %
Lindane (g-BHC) (TCLP)	mg/l	0.0094	0.010	94 %
Methoxychlor (TCLP)	mg/l	0.013	0.010	130 %
Heptachlor epoxide (TCLP)	mg/l	0.012	0.010	120 %
Surrogate-TCX *	mg/l	0.015	0.025	60 %
Dilution Factor		1		1
Prep Date		04/13/04		04/13/04
Prep Time		15:30		15:30
Analysis Date		04/15/04		04/15/04
Analysis Time		21:53		21:53
Batch ID		04130	04130	04130
Quantitation Factor		1.000		
Herbicides in TCLP Extract (8151)				
2,4-D (TCLP)	mg/l	0.080	0.10	80 %
2,4,5-TP (Silvex) (TCLP)	mg/l	0.090	0.10	90 %
Surrogate-2,4-Dichlorophenyl acetic acid (DCAA) *	mg/l	0.20	0.20	100 %
Dilution Factor		1		1
Prep Date		04/15/04		04/15/04
Prep Time		09:00		09:00
Analysis Date		04/20/04		04/20/04
Analysis Time		05:31		05:31
Batch ID		0415P	0415P	0415P
Quantitation Factor		1.000		

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-13	Lab Control Standard Result	Solid	04/07/04		PEN16A
42931A-14	Spike Amount Added, LCS	Solid	04/07/04		PEN16A
42931A-15	Lab Control Standard % Recovery	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-13	42931A-14	42931A-15
Metals in TCLP Extract (6010)				
Arsenic (TCLP)	mg/l	20.1	20.0	100 %
Barium (TCLP)	mg/l	20.7	20.0	103 %
Cadmium (TCLP)	mg/l	0.518	0.500	104 %
Chromium (TCLP)	mg/l	2.10	2.00	105 %
Lead (TCLP)	mg/l	5.17	5.00	103 %
Selenium (TCLP)	mg/l	19.6	20.0	98 %
Silver (TCLP)	mg/l	0.491	0.500	98 %
TCLP (1311) Sec. 7.2				
Extraction Date	mg/l	04.12.04	04.12.04	04.12.04
Dilution Factor		1		1
Prep Date		04/13/04		04/13/04
Prep Time		11:20		11:20
Analysis Date		04/14/04		04/14/04
Analysis Time		03:11		03:11
Batch ID		0413P	0413P	0413P
Quantitation Factor		1.000		
Mercury in TCLP Extract (7470)				
Mercury (TCLP)	mg/l	0.00232	0.00250	93 %
TCLP (1311) Sec. 7.2				
Extraction Date	mg/l	04.12.04		04.12.04
Dilution Factor		1		1
Prep Date		04/14/04		04/14/04
Prep Time		09:30		09:30
Analysis Date		04/15/04		04/15/04
Analysis Time		09:53		09:53
Batch ID		0414R	0414R	0414R
Quantitation Factor		1.000		

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-16	LCS Accuracy Control Limit (%R)	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-16
Volatiles in TCLP Extract (8260)		
Benzene (TCLP)	%	69-128 %
Carbon tetrachloride (TCLP)	%	67-136 %
Chlorobenzene (TCLP)	%	72-126 %
Chloroform (TCLP)	%	72-124 %
1,2-Dichloroethane (TCLP)	%	61-143 %
1,1-Dichloroethylene (TCLP)	%	57-132 %
Methyl ethyl ketone (TCLP)	%	38-153 %
Tetrachloroethylene (TCLP)	%	71-129 %
Trichloroethylene (TCLP)	%	70-123 %
Vinyl chloride (TCLP)	%	50-142 %
Surrogate - Toluene-d8 *	%	74-122 %
Surrogate - 4-Bromofluorobenzene *	%	70-119 %
Surrogate - Dibromofluoromethane *	%	68-129 %
Semivolatiles in TCLP Extract (8270)		
Cresol (ortho) (TCLP)	%	40-116 %
Cresol m & p (TCLP)	%	40-116 %
1,4-Dichlorobenzene (TCLP)	%	36-91 %
2,4-Dinitrotoluene (TCLP)	%	44-129 %
Hexachlorobenzene (TCLP)	%	39-125 %
Hexachlorobutadiene (TCLP)	%	35-106 %
Hexachloroethane (TCLP)	%	27-93 %
Nitrobenzene (TCLP)	%	49-107 %
Pentachlorophenol (TCLP)	%	49-126 %
2,4,5-Trichlorophenol (TCLP)	%	51-118 %
2,4,6-Trichlorophenol (TCLP)	%	50-117 %
Pyridine (TCLP)	%	10-178 %

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-16	LCS Accuracy Control Limit (%R)	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-16
Semivolatiles in TCLP Extract (8270)		
Surrogate-2FP *	%	43-114 %
Surrogate-PHL *	%	46-112 %
Surrogate-NBZ *	%	51-115 %
Surrogate-2FBP *	%	55-116 %
Surrogate-TBP *	%	47-133 %
Surrogate-TPH *	%	11-120 %
Pesticides in TCLP Extract (8081)		
Endrin (TCLP)	%	37-128 %
Heptachlor (TCLP)	%	21-114 %
Lindane (g-BHC) (TCLP)	%	26-119 %
Methoxychlor (TCLP)	%	30-163 %
Heptachlor epoxide (TCLP)	%	43-118 %
Surrogate-TCX *	%	30-150 %
Herbicides in TCLP Extract (8151)		
2,4-D (TCLP)	%	33-156 %
2,4,5-TP (Silvex) (TCLP)	%	48-135 %
Surrogate-2,4-Dichlorophenyl acetic acid (DCAA) *	%	35-134 %
Metals in TCLP Extract (6010)		
Arsenic (TCLP)	%	75-125 %
Barium (TCLP)	%	75-125 %
Cadmium (TCLP)	%	75-125 %
Chromium (TCLP)	%	75-125 %
Lead (TCLP)	%	75-125 %

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
42931A-16	LCS Accuracy Control Limit (%R)	Solid	04/07/04		PEN16A

Parameter	Units	Lab Sample IDs 42931A-16
Metals in TCLP Extract (6010)		
Selenium (TCLP)	%	75-125 %
Silver (TCLP)	%	75-125 %
Mercury in TCLP Extract (7470)		
Mercury (TCLP)	%	80-120 %

SEVERN TRENT STL

STL Savannah 5102 LaRoche Avenue - Savannah GA 31404 Telephone:(912) 354-7858 Fax:(912) 351-3673

Order Number: S442931A

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.

SW-846, Test Methods for Evaluating Solid Waste, Third Edition, September 1986, and Updates I, II, IIA, IIB, and III.

U = Indicates that the compound was analyzed for but not detected.

I = The flag "J" indicates the presence of a compound that meets theidentification criteria, but the result is less than the sample RL and greater than the MDL.

V (Organic) = This flag is used when the analyte is found in the associated method blank as well as in the sample.

Serial Number 37881

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN TRENT **STL**

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.stl-inc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)	PAGE	OF
0036-001-00-B0-00		FL		
STL (LAB) PROJECT MANAGER: Linda Wolfe	P.O. NUMBER	CONTRACT NO.		
CLIENT (SITE) PM: Allison Harris	CLIENT PHONE	CLIENT FAX		
CLIENT NAME: EnSafe	CLIENT E-MAIL			
CLIENT ADDRESS				
COMPANY CONTRACTING THIS WORK (if applicable)				

STANDARD REPORT DELIVERY ○
DATE DUE _____
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT,...)	TAL metals	TCL Pest/PCB	TCL SVOC	Low Level PAH	TCL VOC	TOC	Gamma Spec	TAL Metals Filtered			REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
4/6/04	1045	041MSB0202	G		S			1		1		1	1	2				
"	"	041MSB0301	G		S			1		1		1	1	2				added TCLP analyses per Phil Hardy see attached email 4-9-04
"	"	041MSB0301	G		S			1		1		1	1	2				
"	1100	041MSB0401	G		S			1		1		1	1	2				
"	1115	041MSB0501	G		S			1		1		1	1	2				
"	1130	041MSB0601 Phil Hardy	G		S			1		1		1	1	2				
"	1030	041FE0001 per Phil ID should have extra p		X				1	2	2	2	4			1			Field Blank
"	1200	041EM00001		X				1	2	2	2	4			1			Rinsate Blank

REC. Trip Blank NOT on COC.
per Phil Hardy analyze - ID should be 041TB00001 L Wolfe 4-7-04

TEMP. 3.6/3.6 3.9

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	6 April 04	1800						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	STL SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	040708	0909	YES ○ NO ○		S442931	

STL8240-680 (12/02)

Wolfe, Linda

From: Phil Hardy [PHARDY@ensafe.com]
Sent: Friday, April 09, 2004 3:38 PM
To: Wolfe, Linda
Cc: Allison Harris; Barbara Albrecht
Subject: TCLP Samples

Linda, per our phone conversation this afternoon, please run full-TCLP analyses on the six sediment samples you received from EnSafe Inc. on April 7, 2004 for the Pensacola sampling conducted this week. The sample IDs for those samples are: 041M5B0202, 041M5B0301, 041N5B0301, 041M5B0401, 041M5B0501, 041M5B0601.

We know this wasn't scoped in our P.O., which our contracts department can adjust for you.

Please call if you have any questions.

Phil Hardy, CHMM
EnSafe Inc.
201 North Palafox St, #200
Pensacola, FL 32502
Phone: (850) 434-2230
Fax: (850) 434-2288

Janet P.

SAMPLE RECEIPT INFORMATION FORM

Completed By: ____Abbie Page_____ **Date:** ___4/9/2004____

Client: _____Ensafe_____

STL Savannah Log # _____S442931_____

Courier: __X__ FedEx ____ UPS ____ Client ____ Other

Date Received: _____04/08/04_____

Cooler Temperature upon receipt: __3.6/3.6/3.9__Degrees C.___
(If >6C or frozen, notify client and document below.)

Cooler/Custody Seals: __X___ Intact _____ Broken _____ NA
(If broken, notify client and document below)

ANOMALY	CLIENT NOTIFIED: CONTACT / DATE / TIME	COMMENTS / DESCRIPTION
Sample container breakage		NA
Sample ID discrepancy between COC & container		NA
Sample listed on COC is not received		NA
Sample received is not listed on COC	Phil Hardy 04/08/04	Analyze trip blank id 041TB00001.
Incomplete COC		NA
Insufficient sample volume		NA
Improper container or preservation		NA
Other (Describe)*		NA

*Attach additional pages, if necessary.

PM: Review: _____

SEVERN TRENT STL

FAN089:10.21.03:2

FINAL REMEDIAL INVESTIGATION REPORT
SITE 41 — OPERABLE UNIT 16 — NAS PENSACOLA WETLANDS

NAVAL AIR STATION
PENSACOLA, FLORIDA

SOUTHNAVFACENGCOM
CONTRACT NUMBER: N62467-89-D-0318

CTO-036

VOLUME XI OF XI
APPENDICES J— N

Prepared for:

Comprehensive Long-Term
Environmental Action Navy
Naval Air Station
Pensacola, Florida

Prepared by:

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August 17, 2005
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Appendix J

DDT Background Data

Data from *Magnitude and Extent of Sediment Toxicity in Four Bays of the Florida Panhandle: Pensacola, Choctawhatchee, St. Andrew, and Apalachicola.* (Long *et al.*, 1997).

Appendix B1. Chemistry and toxicity data from Pensacola Bay, 1993.

Station No.	Location	2,4-DDD ppb	4,4-DDD ppb	2,4'-DDE ppb	2,4-DDT ppb	4,4-DDT ppb	TOTAL DDT ppb	Endrin ppb	C/100	endrin ug/goc	Dieldrin ppb	C/100	Dieldrin ug/goc
1	Bayou Grande	1	5	1	0.1	0.5	7.6	1	0.06		2.84	0.06	0.05
2	Bayou Grande	1	0.5	1	0.1	0.5	3.1	1	0		0.1	0	
3	Bayou Grande	1	2.58	2.1	0.1	2.02	7.8	1	0.05		5.76	0.05	0.13
4	Bayou Chico	5.92	12.36	1	0.1	0.5	19.88	1	0.03		1.72	0.03	0.06
5	Bayou Chico	19.24	36.98	1	4.26	10.8	72.28	20.3	0.06	0.39	24.98	0.06	0.4
6	Bayou Chico	2.76	12.64	1	0.1	2.86	19.36	1	0.05		1.54	0.05	0.03
7	Bayou Chico	1	43.82	1	0.1	26.78	72.7	37.2	0.09	0.62	0.1	0.09	
8	Bayou Chico	29	35.12	1	0.1	28.08	93.3	11.28	0.06	0.2	9.54	0.06	0.16
9	Bayou Chico	1	8.6	1	0.1	8.84	19.54	1	0.06		1.36	0.06	0.02
10	Bayou Texar	8.16	37.24	1	1.72	37.06	85.18	1	0.06		10.26	0.06	0.17
11	Bayou Texar	1	8.52	1	0.1	4.94	15.56	1	0.04		2.44	0.04	0.06
12	Bayou Texar	1	0.5	1	0.1	0.5	3.1	1	0.04		0.1	0.04	
13	Bayou Texar	1	25.72	1	2.1	20.3	50.12	4.02	0.04	0.12	8.8	0.04	0.24
14	Warrington	1	0.5	1	0.1	2.32	4.92	1	0.03		0.1	0.03	
15	Bayou Chico	1	0.5	1	0.1	0.5	3.1	1	0.03		1.76	0.03	0.05
16	Bayou Channel	1	0.5	1	0.1	0.5	3.1	1	0		0.1	0	
17	Inner Harbor Channel	1	0.5	1	1.76	0.5	4.76	1	0		0.1	0	
18	Inner Harbor	16.76	53.84	1	0.1	0.5	72.2	1	0.06		7.26	0.06	0.12
19	Inner Harbor	1	0.5	1	0.1	0.5	3.1	1	0.03		0.1	0.03	
20	Inner Harbor	1	0.5	1	0.1	0.5	3.1	1	0.02		0.1	0.02	
21	Pensacola Bay	1	0.5	1	0.1	0.5	3.1	1	0.03		0.1	0.03	
22	Pensacola Bay	1	0.5	1	0.1	0.5	3.1	1	0.03		1.92	0.03	0.06
23	Inner Harbor	1	0.5	1	0.1	0.5	3.1	1	0.03		2.78	0.03	0.09
24	Lower Bay	1	0.5	1	0.1	0.5	3.1	1	0.03		0.1	0.03	
25	Lower Bay								0.03			0.03	
26	East Bay								0.03			0.03	
27	East Bay								0.04			0.04	
28	East Bay								0.04			0.04	
29	Blackwater Bay								0.05			0.05	
30	Blackwater Bay								0.07			0.07	
31	Blackwater Bay								0.03			0.03	
32	Escambia Bay								0.03			0.03	
33	Escambia Bay								0.01			0.01	
34	Escambia Bay								0.03			0.03	
35	Escambia Bay								0.04			0.04	
36	Escambia Bay								0.01			0.01	
37	Escambia River Mouth								0			0	
38	Escambia								0.03			0.03	
39	Floridatown								0.01			0.01	
40	Central Bay								0.03			0.03	
MDL		1 ppb	0.5 ppb	1 ppb	0.1 ppb	0.5 ppb	1	1			0.1		

DDT and its Metabolites from the Sites 40 and 41 Remedial Investigations at the Naval Air Station Pensacola

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
40	040MZ31701	4,4'-DDD	0.24	J	µg/kg
40	040MZ20901	4,4'-DDD	0.26	J	µg/kg
40	040MZ21001	4,4'-DDD	0.26	J	µg/kg
40	040MZ40301	4,4'-DDD	0.26	J	µg/kg
40	040MZ24501	4,4'-DDD	0.32	J	µg/kg
40	040MZ30401	4,4'-DDD	0.34	J	µg/kg
40	040MZ20801	4,4'-DDD	0.37	J	µg/kg
40	040MZ40801	4,4'-DDD	0.37	J	µg/kg
40	040MZ23601	4,4'-DDD	0.43	J	µg/kg
40	040MZ32301	4,4'-DDD	0.5	J	µg/kg
40	040MZ21201	4,4'-DDD	0.5	J	µg/kg
40	040MZ21601	4,4'-DDD	0.93	J	µg/kg
40	040MZ24701	4,4'-DDD	1	J	µg/kg
40	040MZ40101	4,4'-DDD	1.3	J	µg/kg
40	040M2B0801	4,4'-DDD	1.4	J	µg/kg
40	040MZ13501	4,4'-DDD	1.6		µg/kg
40	040MZ21501	4,4'-DDD	1.7	J	µg/kg
40	040MZ24401	4,4'-DDD	1.8	J	µg/kg
40	040MZ21401	4,4'-DDD	2.3	J	µg/kg
40	040MZ21701	4,4'-DDD	2.4		µg/kg
40	040M2B0601	4,4'-DDD	4.9	J	µg/kg
40	040MZ22201	4,4'-DDD	5	J	µg/kg
40	040MZ21801	4,4'-DDD	5.2	J	µg/kg
40	040MZ22101	4,4'-DDD	7.6	DJ	µg/kg
40	040MZ22301	4,4'-DDD	12		µg/kg
40	040MZ22401	4,4'-DDD	15		µg/kg
40	040MZ21901	4,4'-DDD	16	J	µg/kg
40	040MZ12301	4,4'-DDD	0.19	U	µg/kg
40	040MZ32101	4,4'-DDD	0.21	UJ	µg/kg
40	040MZ25001	4,4'-DDD	0.21	U	µg/kg
40	040MZ25201	4,4'-DDD	0.21	U	µg/kg
40	040MZ25301	4,4'-DDD	0.21	U	µg/kg
40	040MZ25401	4,4'-DDD	0.21	U	µg/kg
40	040MZ25601	4,4'-DDD	0.21	U	µg/kg
40	040MZ30101	4,4'-DDD	0.21	U	µg/kg
40	040MZ30301	4,4'-DDD	0.21	U	µg/kg
40	040MZ30501	4,4'-DDD	0.21	U	µg/kg
40	040MZ30601	4,4'-DDD	0.21	U	µg/kg
40	040MZ30901	4,4'-DDD	0.21	UJ	µg/kg
40	040MZ31201	4,4'-DDD	0.21	U	µg/kg
40	040MZ21301	4,4'-DDD	0.21	UJ	µg/kg
40	040MZ40601	4,4'-DDD	0.21	U	µg/kg
40	040MZ40901	4,4'-DDD	0.21	U	µg/kg
40	040MZ41001	4,4'-DDD	0.21	U	µg/kg
40	040MZ41801	4,4'-DDD	0.21	U	µg/kg
40	040MZ41901	4,4'-DDD	0.21	UJ	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
40	040MZ42001	4,4'-DDD	0.21	U	µg/kg
40	040MZ42201	4,4'-DDD	0.21	U	µg/kg
40	040MZ42301	4,4'-DDD	0.21	U	µg/kg
40	040MZ24301	4,4'-DDD	0.21	U	µg/kg
40	040MZ31101	4,4'-DDD	0.21	U	µg/kg
40	040MZ12701	4,4'-DDD	0.21	U	µg/kg
40	040MZ11801	4,4'-DDD	0.21	U	µg/kg
40	040MZ12101	4,4'-DDD	0.21	U	µg/kg
40	040MZ22701	4,4'-DDD	0.21	U	µg/kg
40	040MZ12501	4,4'-DDD	0.21	U	µg/kg
40	040MZ24001	4,4'-DDD	0.21	U	µg/kg
40	040MZ12801	4,4'-DDD	0.21	U	µg/kg
40	040MZ13101	4,4'-DDD	0.21	U	µg/kg
40	040MZ13201	4,4'-DDD	0.21	U	µg/kg
40	040MZ13301	4,4'-DDD	0.21	U	µg/kg
40	040MZ13801	4,4'-DDD	0.21	U	µg/kg
40	040MZ23201	4,4'-DDD	0.21	U	µg/kg
40	040MZ12401	4,4'-DDD	0.21	U	µg/kg
40	040MZ20101	4,4'-DDD	0.21	UJ	µg/kg
40	040MZ23701	4,4'-DDD	0.21	U	µg/kg
40	040MZ23001	4,4'-DDD	0.21	U	µg/kg
40	040MZ22901	4,4'-DDD	0.21	U	µg/kg
40	040MZ22001	4,4'-DDD	0.21	UJ	µg/kg
40	040MZ42401	4,4'-DDD	0.21	U	µg/kg
40	040MZ20401	4,4'-DDD	0.21	UJ	µg/kg
40	040MZ20201	4,4'-DDD	0.21	UJ	µg/kg
40	040MZ23901	4,4'-DDD	0.21	U	µg/kg
40	040MZ31401	4,4'-DDD	0.22	U	µg/kg
40	040MZ42101	4,4'-DDD	0.22	U	µg/kg
40	040MZ32401	4,4'-DDD	0.22	UJ	µg/kg
40	040MZ31501	4,4'-DDD	0.22	U	µg/kg
40	040MZ31601	4,4'-DDD	0.22	U	µg/kg
40	040MZ31801	4,4'-DDD	0.22	U	µg/kg
40	040MZ32201	4,4'-DDD	0.22	UJ	µg/kg
40	040MZ41101	4,4'-DDD	0.22	U	µg/kg
40	040MZ41201	4,4'-DDD	0.22	U	µg/kg
40	040MZ41401	4,4'-DDD	0.22	U	µg/kg
40	040MZ41501	4,4'-DDD	0.22	U	µg/kg
40	040MZ41701	4,4'-DDD	0.22	U	µg/kg
40	040MZ31301	4,4'-DDD	0.22	UJ	µg/kg
40	040MZ41601	4,4'-DDD	0.22	U	µg/kg
40	040MZ25701	4,4'-DDD	0.22	U	µg/kg
40	040MZ25501	4,4'-DDD	0.22	U	µg/kg
40	040MZ25101	4,4'-DDD	0.22	U	µg/kg
40	040MZ24901	4,4'-DDD	0.22	U	µg/kg
40	040MZ24801	4,4'-DDD	0.22	U	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
40	040MZ24101	4,4'-DDD	0.22	U	µg/kg
40	040MZ23801	4,4'-DDD	0.22	U	µg/kg
40	040MZ23401	4,4'-DDD	0.22	U	µg/kg
40	040MZ20701	4,4'-DDD	0.22	U	µg/kg
40	040MZ20301	4,4'-DDD	0.22	UJ	µg/kg
40	040MZ12601	4,4'-DDD	0.22	U	µg/kg
40	040MZ11701	4,4'-DDD	0.22	U	µg/kg
40	040MZ31001	4,4'-DDD	0.22	U	µg/kg
40	040MZ21101	4,4'-DDD	0.23	U	µg/kg
40	040MZ23501	4,4'-DDD	0.23	U	µg/kg
40	040MZ30801	4,4'-DDD	0.23	U	µg/kg
40	040MZ41301	4,4'-DDD	0.24	U	µg/kg
40	040MZ32001	4,4'-DDD	0.25	UJ	µg/kg
40	040MZ22501	4,4'-DDD	0.28	U	µg/kg
40	040MZ30701	4,4'-DDD	0.42	U	µg/kg
40	040MZ23101	4,4'-DDD	0.6	U	µg/kg
40	040MZ11601	4,4'-DDD	0.62	U	µg/kg
40	040MZ30201	4,4'-DDD	0.67	U	µg/kg
40	040MZ40401	4,4'-DDD	0.73	UJ	µg/kg
40	040MZ13001	4,4'-DDD	0.76	U	µg/kg
40	040MZ23301	4,4'-DDD	0.76	U	µg/kg
40	040MZ22801	4,4'-DDD	0.81	U	µg/kg
40	040MZ24601	4,4'-DDD	0.81	U	µg/kg
40	040MZ11401	4,4'-DDD	0.84	U	µg/kg
40	040MZ11901	4,4'-DDD	0.88	U	µg/kg
40	040MZ13701	4,4'-DDD	0.98	U	µg/kg
40	040MZ20601	4,4'-DDD	0.98	U	µg/kg
40	040MZ12901	4,4'-DDD	0.99	U	µg/kg
40	040MZ22601	4,4'-DDD	1	U	µg/kg
40	040MZ12201	4,4'-DDD	1.1	U	µg/kg
40	040MZ40501	4,4'-DDD	1.1	U	µg/kg
40	040MZ13601	4,4'-DDD	1.2	U	µg/kg
40	040MZ31901	4,4'-DDD	1.2	U	µg/kg
40	040MZ10301	4,4'-DDD	2	U	µg/kg
40	040MZ10201	4,4'-DDD	2.1	U	µg/kg
40	040MZ11001	4,4'-DDD	2.1	U	µg/kg
40	040MZ11101	4,4'-DDD	2.1	U	µg/kg
40	040MZ13401	4,4'-DDD	2.1	U	µg/kg
40	040MZ10801	4,4'-DDD	2.2	U	µg/kg
40	040MZ10101	4,4'-DDD	2.4	U	µg/kg
40	040MZ11301	4,4'-DDD	2.7	U	µg/kg
40	040MZ10401	4,4'-DDD	3	U	µg/kg
40	040M2B0901	4,4'-DDD	4	U	µg/kg
40	040M2B0101	4,4'-DDD	4.2	U	µg/kg
40	040M2B0701	4,4'-DDD	4.2	U	µg/kg
40	040M2B0401	4,4'-DDD	4.4	U	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
40	040M2B1001	4,4'-DDD	4.9	U	µg/kg
40	040MZ10501	4,4'-DDD	5.6	U	µg/kg
40	040MZ10701	4,4'-DDD	6.5	U	µg/kg
40	040MZ10901	4,4'-DDD	6.8	U	µg/kg
40	040MZ10601	4,4'-DDD	7.3	U	µg/kg
40	040M2B0501	4,4'-DDD	8	U	µg/kg
40	040MZ11201	4,4'-DDD	8.9	U	µg/kg
40	040MZ20501	4,4'-DDD	9.8	U	µg/kg
40	040M2B0201	4,4'-DDD	12	U	µg/kg
40	040M2B0301	4,4'-DDD	18	U	µg/kg
40	040MZ30601	4,4'-DDE	0.21	J	µg/kg
40	040MZ25101	4,4'-DDE	0.22	J	µg/kg
40	040MZ41101	4,4'-DDE	0.23	J	µg/kg
40	040MZ31401	4,4'-DDE	0.28	J	µg/kg
40	040MZ23601	4,4'-DDE	0.3	J	µg/kg
40	040MZ24501	4,4'-DDE	0.3	J	µg/kg
40	040MZ32401	4,4'-DDE	0.43	J	µg/kg
40	040MZ21101	4,4'-DDE	0.48	J	µg/kg
40	040MZ32001	4,4'-DDE	0.49	J	µg/kg
40	040MZ22001	4,4'-DDE	0.59		µg/kg
40	040M2B0501	4,4'-DDE	0.63	J	µg/kg
40	040MZ30701	4,4'-DDE	0.66	J	µg/kg
40	040MZ21601	4,4'-DDE	0.68	J	µg/kg
40	040MZ21201	4,4'-DDE	0.8		µg/kg
40	040MZ22501	4,4'-DDE	0.8	J	µg/kg
40	040MZ40401	4,4'-DDE	0.89	J	µg/kg
40	040MZ10401	4,4'-DDE	0.99	DJ	µg/kg
40	040MZ30801	4,4'-DDE	1.1	J	µg/kg
40	040MZ40501	4,4'-DDE	1.2	J	µg/kg
40	040MZ12901	4,4'-DDE	1.2	J	µg/kg
40	040MZ32301	4,4'-DDE	1.4	J	µg/kg
40	040MZ11401	4,4'-DDE	1.5	J	µg/kg
40	040MZ11601	4,4'-DDE	1.5	J	µg/kg
40	040MZ40101	4,4'-DDE	1.6	J	µg/kg
40	040MZ11901	4,4'-DDE	1.6	J	µg/kg
40	040MZ23101	4,4'-DDE	1.8	J	µg/kg
40	040MZ21701	4,4'-DDE	1.8		µg/kg
40	040MZ24701	4,4'-DDE	1.9	J	µg/kg
40	040MZ13001	4,4'-DDE	2	J	µg/kg
40	040MZ31701	4,4'-DDE	2	J	µg/kg
40	040MZ20601	4,4'-DDE	2	J	µg/kg
40	040MZ11501	4,4'-DDE	2.1	J	µg/kg
40	040M2B0801	4,4'-DDE	2.2	J	µg/kg
40	040MZ24401	4,4'-DDE	2.2	J	µg/kg
40	040MZ11201	4,4'-DDE	2.3	DJ	µg/kg
40	040MZ22801	4,4'-DDE	2.4	J	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
40	040MZ20501	4,4'-DDE	2.6	DJ	µg/kg
40	040MZ12201	4,4'-DDE	2.7	J	µg/kg
40	040MZ22601	4,4'-DDE	2.9	J	µg/kg
40	040MZ10501	4,4'-DDE	3.1	DJ	µg/kg
40	040MZ23301	4,4'-DDE	3.3	J	µg/kg
40	040MZ10601	4,4'-DDE	3.4	DJ	µg/kg
40	040MZ30401	4,4'-DDE	3.8	J	µg/kg
40	040MZ22201	4,4'-DDE	3.9		µg/kg
40	040MZ10701	4,4'-DDE	4	DJ	µg/kg
40	040MZ22101	4,4'-DDE	4.2	J	µg/kg
40	040MZ31901	4,4'-DDE	4.4		µg/kg
40	040MZ10901	4,4'-DDE	4.4	DJ	µg/kg
40	040MZ21501	4,4'-DDE	4.4		µg/kg
40	040MZ21801	4,4'-DDE	4.6	J	µg/kg
40	040M2B0601	4,4'-DDE	4.9	J	µg/kg
40	040MZ21401	4,4'-DDE	5.8		µg/kg
40	040MZ21901	4,4'-DDE	9.4	J	µg/kg
40	040MZ22301	4,4'-DDE	9.7		µg/kg
40	040MZ22401	4,4'-DDE	13		µg/kg
40	040MZ12301	4,4'-DDE	0.19	U	µg/kg
40	040MZ13301	4,4'-DDE	0.21	U	µg/kg
40	040MZ30101	4,4'-DDE	0.21	U	µg/kg
40	040MZ13101	4,4'-DDE	0.21	U	µg/kg
40	040MZ12801	4,4'-DDE	0.21	U	µg/kg
40	040MZ12701	4,4'-DDE	0.21	U	µg/kg
40	040MZ12501	4,4'-DDE	0.21	U	µg/kg
40	040MZ12101	4,4'-DDE	0.21	U	µg/kg
40	040MZ13501	4,4'-DDE	0.21	U	µg/kg
40	040MZ25601	4,4'-DDE	0.21	U	µg/kg
40	040MZ23701	4,4'-DDE	0.21	U	µg/kg
40	040MZ31201	4,4'-DDE	0.21	U	µg/kg
40	040MZ22701	4,4'-DDE	0.21	U	µg/kg
40	040MZ25401	4,4'-DDE	0.21	U	µg/kg
40	040MZ25301	4,4'-DDE	0.21	U	µg/kg
40	040MZ25201	4,4'-DDE	0.21	U	µg/kg
40	040MZ25001	4,4'-DDE	0.21	U	µg/kg
40	040MZ24301	4,4'-DDE	0.21	U	µg/kg
40	040MZ24001	4,4'-DDE	0.21	U	µg/kg
40	040MZ23901	4,4'-DDE	0.21	U	µg/kg
40	040MZ23201	4,4'-DDE	0.21	U	µg/kg
40	040MZ13201	4,4'-DDE	0.21	U	µg/kg
40	040MZ22901	4,4'-DDE	0.21	U	µg/kg
40	040MZ12401	4,4'-DDE	0.21	U	µg/kg
40	040MZ21301	4,4'-DDE	0.21	U	µg/kg
40	040MZ21001	4,4'-DDE	0.21	U	µg/kg
40	040MZ20901	4,4'-DDE	0.21	U	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
40	040MZ20801	4,4'-DDE	0.21	U	µg/kg
40	040MZ20401	4,4'-DDE	0.21	U	µg/kg
40	040MZ20201	4,4'-DDE	0.21	U	µg/kg
40	040MZ20101	4,4'-DDE	0.21	U	µg/kg
40	040MZ13801	4,4'-DDE	0.21	U	µg/kg
40	040MZ23001	4,4'-DDE	0.21	U	µg/kg
40	040MZ30901	4,4'-DDE	0.21	UJ	µg/kg
40	040MZ40601	4,4'-DDE	0.21	U	µg/kg
40	040MZ42301	4,4'-DDE	0.21	U	µg/kg
40	040MZ42001	4,4'-DDE	0.21	U	µg/kg
40	040MZ30301	4,4'-DDE	0.21	U	µg/kg
40	040MZ42401	4,4'-DDE	0.21	U	µg/kg
40	040MZ32101	4,4'-DDE	0.21	UJ	µg/kg
40	040MZ40301	4,4'-DDE	0.21	U	µg/kg
40	040MZ41901	4,4'-DDE	0.21	UJ	µg/kg
40	040MZ42201	4,4'-DDE	0.21	U	µg/kg
40	040MZ11801	4,4'-DDE	0.21	U	µg/kg
40	040MZ41801	4,4'-DDE	0.21	U	µg/kg
40	040MZ40901	4,4'-DDE	0.21	U	µg/kg
40	040MZ41001	4,4'-DDE	0.21	U	µg/kg
40	040MZ30501	4,4'-DDE	0.21	U	µg/kg
40	040MZ31101	4,4'-DDE	0.21	U	µg/kg
40	040MZ24901	4,4'-DDE	0.22	U	µg/kg
40	040MZ25501	4,4'-DDE	0.22	U	µg/kg
40	040MZ24101	4,4'-DDE	0.22	U	µg/kg
40	040MZ25701	4,4'-DDE	0.22	U	µg/kg
40	040MZ23801	4,4'-DDE	0.22	U	µg/kg
40	040MZ31001	4,4'-DDE	0.22	U	µg/kg
40	040MZ11701	4,4'-DDE	0.22	U	µg/kg
40	040MZ41201	4,4'-DDE	0.22	U	µg/kg
40	040MZ32201	4,4'-DDE	0.22	UJ	µg/kg
40	040MZ31801	4,4'-DDE	0.22	U	µg/kg
40	040MZ12601	4,4'-DDE	0.22	U	µg/kg
40	040MZ41401	4,4'-DDE	0.22	U	µg/kg
40	040MZ31301	4,4'-DDE	0.22	UJ	µg/kg
40	040MZ42101	4,4'-DDE	0.22	U	µg/kg
40	040MZ20301	4,4'-DDE	0.22	U	µg/kg
40	040MZ24801	4,4'-DDE	0.22	U	µg/kg
40	040MZ41501	4,4'-DDE	0.22	U	µg/kg
40	040MZ20701	4,4'-DDE	0.22	U	µg/kg
40	040MZ41601	4,4'-DDE	0.22	U	µg/kg
40	040MZ23401	4,4'-DDE	0.22	U	µg/kg
40	040MZ31501	4,4'-DDE	0.22	U	µg/kg
40	040MZ41701	4,4'-DDE	0.22	U	µg/kg
40	040MZ31601	4,4'-DDE	0.22	U	µg/kg
40	040MZ23501	4,4'-DDE	0.23	U	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
40	040MZ41301	4,4'-DDE	0.24	U	µg/kg
40	040MZ40801	4,4'-DDE	0.26	UJ	µg/kg
40	040M2B0701	4,4'-DDE	0.46	U	µg/kg
40	040MZ30201	4,4'-DDE	0.67	U	µg/kg
40	040MZ24601	4,4'-DDE	0.81	U	µg/kg
40	040MZ13701	4,4'-DDE	0.98	U	µg/kg
40	040MZ13601	4,4'-DDE	1.2	U	µg/kg
40	040MZ10301	4,4'-DDE	2	U	µg/kg
40	040MZ10201	4,4'-DDE	2.1	U	µg/kg
40	040MZ11001	4,4'-DDE	2.1	U	µg/kg
40	040MZ11101	4,4'-DDE	2.1	U	µg/kg
40	040MZ13401	4,4'-DDE	2.1	U	µg/kg
40	040MZ10801	4,4'-DDE	2.2	U	µg/kg
40	040MZ10101	4,4'-DDE	2.4	U	µg/kg
40	040MZ11301	4,4'-DDE	2.7	U	µg/kg
40	040M2B0901	4,4'-DDE	4	U	µg/kg
40	040M2B0101	4,4'-DDE	4.2	U	µg/kg
40	040M2B0401	4,4'-DDE	4.4	U	µg/kg
40	040M2B1001	4,4'-DDE	4.9	U	µg/kg
40	040M2B0201	4,4'-DDE	12	U	µg/kg
40	040M2B0301	4,4'-DDE	18	U	µg/kg
40	040MZ21201	4,4'-DDT	0.21	J	µg/kg
40	040MZ20801	4,4'-DDT	0.21	J	µg/kg
40	040MZ22001	4,4'-DDT	0.23	J	µg/kg
40	040MZ30901	4,4'-DDT	0.23	J	µg/kg
40	040MZ31001	4,4'-DDT	0.23	J	µg/kg
40	040MZ31601	4,4'-DDT	0.26	J	µg/kg
40	040MZ20901	4,4'-DDT	0.27	J	µg/kg
40	040MZ31301	4,4'-DDT	0.29	J	µg/kg
40	040MZ40801	4,4'-DDT	0.31	J	µg/kg
40	040MZ40301	4,4'-DDT	0.32	J	µg/kg
40	040MZ41501	4,4'-DDT	0.36		µg/kg
40	040MZ30801	4,4'-DDT	0.36	J	µg/kg
40	040MZ30701	4,4'-DDT	0.47	J	µg/kg
40	040MZ21601	4,4'-DDT	0.48	J	µg/kg
40	040MZ22501	4,4'-DDT	0.49	J	µg/kg
40	040MZ32101	4,4'-DDT	0.58	J	µg/kg
40	040MZ23101	4,4'-DDT	0.63	J	µg/kg
40	040MZ23301	4,4'-DDT	0.75	J	µg/kg
40	040MZ24601	4,4'-DDT	0.84	J	µg/kg
40	040MZ21701	4,4'-DDT	0.89	J	µg/kg
40	040M2B0201	4,4'-DDT	0.92	J	µg/kg
40	040MZ22701	4,4'-DDT	0.98		µg/kg
40	040MZ22601	4,4'-DDT	1	J	µg/kg
40	040MZ30401	4,4'-DDT	1.1	J	µg/kg
40	040MZ40101	4,4'-DDT	1.3	J	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
40	040MZ31701	4,4'-DDT	1.6	J	µg/kg
40	040MZ30101	4,4'-DDT	1.9	J	µg/kg
40	040MZ21801	4,4'-DDT	2.2	J	µg/kg
40	040MZ22301	4,4'-DDT	3	J	µg/kg
40	040MZ21901	4,4'-DDT	6.3	J	µg/kg
40	040M2B0601	4,4'-DDT	7.7	J	µg/kg
40	040MZ22101	4,4'-DDT	12	DJ	µg/kg
40	040M2B0501	4,4'-DDT	18		µg/kg
40	040MZ22401	4,4'-DDT	22	J	µg/kg
40	040MZ24501	4,4'-DDT	0.18	U	µg/kg
40	040MZ12301	4,4'-DDT	0.19	UJ	µg/kg
40	040MZ25601	4,4'-DDT	0.21	U	µg/kg
40	040MZ23701	4,4'-DDT	0.21	U	µg/kg
40	040MZ31101	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ20201	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ30601	4,4'-DDT	0.21	U	µg/kg
40	040MZ30501	4,4'-DDT	0.21	U	µg/kg
40	040MZ20401	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ30301	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ21001	4,4'-DDT	0.21	U	µg/kg
40	040MZ31201	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ22901	4,4'-DDT	0.21	U	µg/kg
40	040MZ40601	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ23001	4,4'-DDT	0.21	U	µg/kg
40	040MZ25401	4,4'-DDT	0.21	U	µg/kg
40	040MZ23201	4,4'-DDT	0.21	U	µg/kg
40	040MZ25301	4,4'-DDT	0.21	U	µg/kg
40	040MZ25201	4,4'-DDT	0.21	U	µg/kg
40	040MZ23901	4,4'-DDT	0.21	U	µg/kg
40	040MZ25001	4,4'-DDT	0.21	U	µg/kg
40	040MZ24001	4,4'-DDT	0.21	U	µg/kg
40	040MZ21301	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ41901	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ11801	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ12101	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ42401	4,4'-DDT	0.21	U	µg/kg
40	040MZ12401	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ42301	4,4'-DDT	0.21	U	µg/kg
40	040MZ12501	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ42201	4,4'-DDT	0.21	U	µg/kg
40	040MZ12701	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ20101	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ12801	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ24301	4,4'-DDT	0.21	U	µg/kg
40	040MZ13101	4,4'-DDT	0.21	U	µg/kg
40	040MZ41801	4,4'-DDT	0.21	U	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
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Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
40	040MZ13201	4,4'-DDT	0.21	U	µg/kg
40	040MZ13301	4,4'-DDT	0.21	U	µg/kg
40	040MZ41001	4,4'-DDT	0.21	U	µg/kg
40	040MZ13501	4,4'-DDT	0.21	U	µg/kg
40	040MZ40901	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ13801	4,4'-DDT	0.21	U	µg/kg
40	040MZ42001	4,4'-DDT	0.21	UJ	µg/kg
40	040MZ31501	4,4'-DDT	0.22	U	µg/kg
40	040MZ24101	4,4'-DDT	0.22	U	µg/kg
40	040MZ23401	4,4'-DDT	0.22	U	µg/kg
40	040MZ20301	4,4'-DDT	0.22	UJ	µg/kg
40	040MZ42101	4,4'-DDT	0.22	U	µg/kg
40	040MZ32401	4,4'-DDT	0.22	UJ	µg/kg
40	040MZ20701	4,4'-DDT	0.22	U	µg/kg
40	040MZ23801	4,4'-DDT	0.22	U	µg/kg
40	040MZ31801	4,4'-DDT	0.22	U	µg/kg
40	040MZ41101	4,4'-DDT	0.22	U	µg/kg
40	040MZ31401	4,4'-DDT	0.22	U	µg/kg
40	040MZ25701	4,4'-DDT	0.22	U	µg/kg
40	040MZ25501	4,4'-DDT	0.22	U	µg/kg
40	040MZ25101	4,4'-DDT	0.22	U	µg/kg
40	040MZ24901	4,4'-DDT	0.22	U	µg/kg
40	040MZ24801	4,4'-DDT	0.22	U	µg/kg
40	040MZ32201	4,4'-DDT	0.22	UJ	µg/kg
40	040MZ41401	4,4'-DDT	0.22	UJ	µg/kg
40	040MZ41201	4,4'-DDT	0.22	U	µg/kg
40	040MZ12601	4,4'-DDT	0.22	UJ	µg/kg
40	040MZ41601	4,4'-DDT	0.22	U	µg/kg
40	040MZ11701	4,4'-DDT	0.22	UJ	µg/kg
40	040MZ41701	4,4'-DDT	0.22	UJ	µg/kg
40	040MZ21101	4,4'-DDT	0.23	U	µg/kg
40	040MZ23501	4,4'-DDT	0.23	U	µg/kg
40	040MZ41301	4,4'-DDT	0.24	UJ	µg/kg
40	040MZ23601	4,4'-DDT	0.25	U	µg/kg
40	040MZ32001	4,4'-DDT	0.25	UJ	µg/kg
40	040MZ22201	4,4'-DDT	0.26	UJ	µg/kg
40	040MZ32301	4,4'-DDT	0.46	U	µg/kg
40	040MZ21501	4,4'-DDT	0.47	UJ	µg/kg
40	040MZ11601	4,4'-DDT	0.62	UJ	µg/kg
40	040MZ21401	4,4'-DDT	0.66	UJ	µg/kg
40	040MZ30201	4,4'-DDT	0.67	UJ	µg/kg
40	040MZ40401	4,4'-DDT	0.73	UJ	µg/kg
40	040MZ13001	4,4'-DDT	0.76	U	µg/kg
40	040MZ22801	4,4'-DDT	0.81	U	µg/kg
40	040MZ11401	4,4'-DDT	0.84	UJ	µg/kg
40	040MZ11901	4,4'-DDT	0.88	UJ	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
40	040MZ24701	4,4'-DDT	0.94	U	µg/kg
40	040MZ13701	4,4'-DDT	0.98	U	µg/kg
40	040MZ20601	4,4'-DDT	0.98	U	µg/kg
40	040MZ12901	4,4'-DDT	0.99	UJ	µg/kg
40	040MZ12201	4,4'-DDT	1.1	UJ	µg/kg
40	040MZ24401	4,4'-DDT	1.1	UJ	µg/kg
40	040MZ40501	4,4'-DDT	1.1	UJ	µg/kg
40	040MZ13601	4,4'-DDT	1.2	U	µg/kg
40	040MZ31901	4,4'-DDT	1.2	U	µg/kg
40	040MZ10301	4,4'-DDT	2	U	µg/kg
40	040MZ13401	4,4'-DDT	2.1	U	µg/kg
40	040MZ11001	4,4'-DDT	2.1	U	µg/kg
40	040MZ11101	4,4'-DDT	2.1	U	µg/kg
40	040MZ10201	4,4'-DDT	2.1	U	µg/kg
40	040MZ10801	4,4'-DDT	2.2	U	µg/kg
40	040MZ10101	4,4'-DDT	2.4	U	µg/kg
40	040MZ11301	4,4'-DDT	2.7	U	µg/kg
40	040MZ10401	4,4'-DDT	3	U	µg/kg
40	040M2B0901	4,4'-DDT	4	U	µg/kg
40	040M2B0701	4,4'-DDT	4.2	U	µg/kg
40	040M2B0101	4,4'-DDT	4.2	U	µg/kg
40	040M2B0401	4,4'-DDT	4.4	U	µg/kg
40	040M2B1001	4,4'-DDT	4.9	U	µg/kg
40	040MZ10501	4,4'-DDT	5.6	U	µg/kg
40	040M2B0801	4,4'-DDT	6.1	U	µg/kg
40	040MZ10701	4,4'-DDT	6.5	U	µg/kg
40	040MZ10901	4,4'-DDT	6.8	U	µg/kg
40	040MZ10601	4,4'-DDT	7.3	U	µg/kg
40	040MZ11201	4,4'-DDT	8.9	U	µg/kg
40	040MZ20501	4,4'-DDT	9.8	U	µg/kg
40	040M2B0301	4,4'-DDT	18	U	µg/kg
41	041M641501	4,4'-DDD	0.2	J	µg/kg
41	041M720201	4,4'-DDD	0.2	J	µg/kg
41	041M061101	4,4'-DDD	0.21	J	µg/kg
41	041M061001	4,4'-DDD	0.22	J	µg/kg
41	041M170101	4,4'-DDD	0.23	J	µg/kg
41	041M63B401	4,4'-DDD	0.23	J	µg/kg
41	041M5A0701	4,4'-DDD	0.23	J	µg/kg
41	041M060901	4,4'-DDD	0.25	J	µg/kg
41	041M641201	4,4'-DDD	0.26	J	µg/kg
41	041M160101	4,4'-DDD	0.27	J	µg/kg
41	041M640901	4,4'-DDD	0.31	J	µg/kg
41	041M63A401	4,4'-DDD	0.32	J	µg/kg
41	041M63B201	4,4'-DDD	0.34	J	µg/kg
41	001M001601	4,4'-DDD	0.41	J	µg/kg
41	041M52D101	4,4'-DDD	0.45	J	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
41	041M52E201	4,4'-DDD	0.51	J	µg/kg
41	041M5A0101	4,4'-DDD	0.64	J	µg/kg
41	003M000301	4,4'-DDD	0.66	J	µg/kg
41	041M641101	4,4'-DDD	0.68	J	µg/kg
41	041M19B101	4,4'-DDD	0.71		µg/kg
41	041M5A0301	4,4'-DDD	0.84	J	µg/kg
41	041MW20201	4,4'-DDD	0.86		µg/kg
41	041M641901	4,4'-DDD	1.1	J	µg/kg
41	041M150401	4,4'-DDD	1.3	J	µg/kg
41	041M030301	4,4'-DDD	1.3	J	µg/kg
41	041M63A201	4,4'-DDD	1.3	J	µg/kg
41	041M5A0601	4,4'-DDD	1.3	J	µg/kg
41	041M5A0201	4,4'-DDD	1.5	J	µg/kg
41	041M160201	4,4'-DDD	1.5	J	µg/kg
41	041M030401	4,4'-DDD	1.6	J	µg/kg
41	041M060501	4,4'-DDD	2.2		µg/kg
41	041M641001	4,4'-DDD	2.2	J	µg/kg
41	041M640801	4,4'-DDD	2.2		µg/kg
41	041M5B0201	4,4'-DDD	2.2	J	µg/kg
41	041M5A0401	4,4'-DDD	2.3	J	µg/kg
41	041M060401	4,4'-DDD	2.3	J	µg/kg
41	003M000101	4,4'-DDD	2.5	J	µg/kg
41	041M060201	4,4'-DDD	3.1	J	µg/kg
41	001M000101	4,4'-DDD	3.1	J	µg/kg
41	041M570101	4,4'-DDD	3.3	J	µg/kg
41	041M030501	4,4'-DDD	3.5	J	µg/kg
41	041M160301	4,4'-DDD	4.8	J	µg/kg
41	041M010301	4,4'-DDD	5	DJ	µg/kg
41	041M63A301	4,4'-DDD	5.6	DJ	µg/kg
41	041MW20101	4,4'-DDD	5.8	D	µg/kg
41	041M52E101	4,4'-DDD	6.1	DJ	µg/kg
41	001M000302	4,4'-DDD	6.2		µg/kg
41	041M060801	4,4'-DDD	6.4	D	µg/kg
41	041M030701	4,4'-DDD	6.8	J	µg/kg
41	041M160301	4,4'-DDD	6.9	J	µg/kg
41	041M030601	4,4'-DDD	7.7	D	µg/kg
41	041M010201	4,4'-DDD	7.9	J	µg/kg
41	041M060601	4,4'-DDD	8.3	D	µg/kg
41	041M750101	4,4'-DDD	8.3		µg/kg
41	041M640101	4,4'-DDD	12	DJ	µg/kg
41	041M640701	4,4'-DDD	12	D	µg/kg
41	041M030101	4,4'-DDD	14	DJ	µg/kg
41	041M030201	4,4'-DDD	14	J	µg/kg
41	041M04D201	4,4'-DDD	15	DJ	µg/kg
41	041M18A301	4,4'-DDD	16		µg/kg
41	041M640401	4,4'-DDD	16		µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
41	001M000301	4,4'-DDD	19		µg/kg
41	041M060701	4,4'-DDD	22	J	µg/kg
41	041M060101	4,4'-DDD	23	J	µg/kg
41	041M010401	4,4'-DDD	25	DJ	µg/kg
41	033M004001	4,4'-DDD	25	J	µg/kg
41	041M640501	4,4'-DDD	29	J	µg/kg
41	041M640601	4,4'-DDD	30		µg/kg
41	041M640501	4,4'-DDD	30		µg/kg
41	041M030201	4,4'-DDD	31	D	µg/kg
41	041M04D101	4,4'-DDD	33	DJ	µg/kg
41	041M18B101	4,4'-DDD	36		µg/kg
41	033M002001	4,4'-DDD	36		µg/kg
41	033M001001	4,4'-DDD	37	J	µg/kg
41	010M000101	4,4'-DDD	37	J	µg/kg
41	041M060301	4,4'-DDD	40	DJ	µg/kg
41	041M640301	4,4'-DDD	44	J	µg/kg
41	041M18A201	4,4'-DDD	49	DJ	µg/kg
41	041M030701	4,4'-DDD	49		µg/kg
41	041M56A101	4,4'-DDD	53	D	µg/kg
41	041M640601	4,4'-DDD	53		µg/kg
41	041M490201	4,4'-DDD	59	DJ	µg/kg
41	041M150201	4,4'-DDD	62	DJ	µg/kg
41	041M150101	4,4'-DDD	85	DJ	µg/kg
41	041M640401	4,4'-DDD	89		µg/kg
41	041M490101	4,4'-DDD	94	DJ	µg/kg
41	041M5A0401	4,4'-DDD	100	D	µg/kg
41	041M640602	4,4'-DDD	100	J	µg/kg
41	041M04D401	4,4'-DDD	110	D	µg/kg
41	033M003001	4,4'-DDD	120	J	µg/kg
41	041M640201	4,4'-DDD	140	D	µg/kg
41	001M001801	4,4'-DDD	150		µg/kg
41	041M150301	4,4'-DDD	200	DJ	µg/kg
41	041M18B101	4,4'-DDD	280	D	µg/kg
41	001M000303	4,4'-DDD	400	J	µg/kg
41	041M18A101	4,4'-DDD	930	D	µg/kg
41	041M480101	4,4'-DDD	2600	DJ	µg/kg
41	041M170301	4,4'-DDD	0.19	U	µg/kg
41	041M63A101	4,4'-DDD	0.2	U	µg/kg
41	041M642101	4,4'-DDD	0.21	U	µg/kg
41	041M642001	4,4'-DDD	0.21	U	µg/kg
41	041M5B0101	4,4'-DDD	0.21	U	µg/kg
41	041M120101	4,4'-DDD	0.21	U	µg/kg
41	041M10A301	4,4'-DDD	0.21	U	µg/kg
41	041M10A201	4,4'-DDD	0.21	U	µg/kg
41	041M19A201	4,4'-DDD	0.21	U	µg/kg
41	041M10A101	4,4'-DDD	0.21	U	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
41	041M63A501	4,4'-DDD	0.21	U	µg/kg
41	041M170201	4,4'-DDD	0.21	U	µg/kg
41	041M04D501	4,4'-DDD	0.21	U	µg/kg
41	041M63B301	4,4'-DDD	0.21	U	µg/kg
41	041M04D301	4,4'-DDD	0.21	U	µg/kg
41	041M642301	4,4'-DDD	0.22	U	µg/kg
41	041M641801	4,4'-DDD	0.22	U	µg/kg
41	041M580101	4,4'-DDD	0.23	U	µg/kg
41	041M5A0601	4,4'-DDD	0.23	U	µg/kg
41	041M720101	4,4'-DDD	0.23	U	µg/kg
41	041M010101	4,4'-DDD	0.23	UJ	µg/kg
41	041M642401	4,4'-DDD	0.23	UJ	µg/kg
41	041M642201	4,4'-DDD	0.24	U	µg/kg
41	041M52E301	4,4'-DDD	0.24	U	µg/kg
41	041M490301	4,4'-DDD	0.24	U	µg/kg
41	041M130101	4,4'-DDD	0.26	UJ	µg/kg
41	041M641701	4,4'-DDD	0.31	U	µg/kg
41	041M120201	4,4'-DDD	0.32	U	µg/kg
41	041M19A101	4,4'-DDD	0.46	U	µg/kg
41	041M5A0501	4,4'-DDD	0.81	UJ	µg/kg
41	041MW20301	4,4'-DDD	0.91	U	µg/kg
41	041M641301	4,4'-DDD	0.92	UJ	µg/kg
41	041M641601	4,4'-DDD	0.97	U	µg/kg
41	041M641401	4,4'-DDD	1	U	µg/kg
41	041M52A101	4,4'-DDD	1.4	U	µg/kg
41	041M19A101	4,4'-DDD	1.4	U	µg/kg
41	041M640702	4,4'-DDD	4	U	µg/kg
41	003M000201	4,4'-DDD	4.1	U	µg/kg
41	041M642402	4,4'-DDD	4.1	UJ	µg/kg
41	041M5B0401	4,4'-DDD	5.1	U	µg/kg
41	041M5B0501	4,4'-DDD	5.4	U	µg/kg
41	041M5B0301	4,4'-DDD	6.2	U	µg/kg
41	041M5B0202	4,4'-DDD	7.8	U	µg/kg
41	041M5B0601	4,4'-DDD	8	U	µg/kg
41	041M640302	4,4'-DDD	14	U	µg/kg
41	041M640502	4,4'-DDD	23	U	µg/kg
41	041M640202	4,4'-DDD	30	U	µg/kg
41	041M5A0501	4,4'-DDD	100	U	µg/kg
41	041M641102	4,4'-DDD	130	UJ	µg/kg
41	041M061001	4,4'-DDE	0.23		µg/kg
41	041M720101	4,4'-DDE	0.24		µg/kg
41	041M10A201	4,4'-DDE	0.25	J	µg/kg
41	041M63B201	4,4'-DDE	0.27	J	µg/kg
41	041M061101	4,4'-DDE	0.29		µg/kg
41	041M170101	4,4'-DDE	0.3		µg/kg
41	041M160101	4,4'-DDE	0.3	J	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
41	041M04D501	4,4'-DDE	0.32		µg/kg
41	041M5B0101	4,4'-DDE	0.32	J	µg/kg
41	041M640901	4,4'-DDE	0.35		µg/kg
41	041M63B101	4,4'-DDE	0.36	J	µg/kg
41	041M63B401	4,4'-DDE	0.37	J	µg/kg
41	041MW20201	4,4'-DDE	0.38	J	µg/kg
41	041M641501	4,4'-DDE	0.43	J	µg/kg
41	041M010301	4,4'-DDE	0.48	J	µg/kg
41	041M19A201	4,4'-DDE	0.55		µg/kg
41	003M000301	4,4'-DDE	0.56	J	µg/kg
41	041M640701	4,4'-DDE	0.61		µg/kg
41	041M04D301	4,4'-DDE	0.72	J	µg/kg
41	041M030301	4,4'-DDE	0.84	J	µg/kg
41	041M5A0101	4,4'-DDE	0.87	J	µg/kg
41	041M030401	4,4'-DDE	0.9		µg/kg
41	041M63A201	4,4'-DDE	0.95		µg/kg
41	041M120201	4,4'-DDE	0.97		µg/kg
41	041M5A0601	4,4'-DDE	1.2		µg/kg
41	041M19B101	4,4'-DDE	1.2		µg/kg
41	041M641901	4,4'-DDE	1.3	J	µg/kg
41	041M641301	4,4'-DDE	1.4	J	µg/kg
41	041M5A0201	4,4'-DDE	1.4	J	µg/kg
41	041M5A0401	4,4'-DDE	1.7	J	µg/kg
41	041M130101	4,4'-DDE	1.9	J	µg/kg
41	041M641101	4,4'-DDE	2	J	µg/kg
41	041M10A301	4,4'-DDE	2.3		µg/kg
41	041MW20101	4,4'-DDE	2.4	J	µg/kg
41	041M640801	4,4'-DDE	2.4		µg/kg
41	001M000302	4,4'-DDE	2.5	J	µg/kg
41	041M641001	4,4'-DDE	2.5	J	µg/kg
41	041M030601	4,4'-DDE	2.5	J	µg/kg
41	041M060201	4,4'-DDE	2.8	J	µg/kg
41	041M060501	4,4'-DDE	2.8	J	µg/kg
41	041M160201	4,4'-DDE	3.1	J	µg/kg
41	001M000301	4,4'-DDE	3.4	J	µg/kg
41	041M5A0601	4,4'-DDE	3.6	J	µg/kg
41	041M640101	4,4'-DDE	3.7	J	µg/kg
41	041M5B0201	4,4'-DDE	3.9		µg/kg
41	041M060401	4,4'-DDE	4.3		µg/kg
41	041M010401	4,4'-DDE	4.5	DJ	µg/kg
41	041M160301	4,4'-DDE	4.8	J	µg/kg
41	041M56A101	4,4'-DDE	5.3	DJ	µg/kg
41	041M750101	4,4'-DDE	5.7		µg/kg
41	001M000101	4,4'-DDE	5.8	J	µg/kg
41	041M18B101	4,4'-DDE	6.1	J	µg/kg
41	041M52E101	4,4'-DDE	7	D	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
41	041M570101	4,4'-DDE	7.2	J	µg/kg
41	041M060601	4,4'-DDE	8	D	µg/kg
41	041M060801	4,4'-DDE	8.4	D	µg/kg
41	041M640302	4,4'-DDE	8.4	J	µg/kg
41	041M010201	4,4'-DDE	8.6	J	µg/kg
41	041M490201	4,4'-DDE	9.2		µg/kg
41	041M150401	4,4'-DDE	10	J	µg/kg
41	041M030701	4,4'-DDE	11		µg/kg
41	041M18A301	4,4'-DDE	14	J	µg/kg
41	041M640601	4,4'-DDE	16	J	µg/kg
41	041M490101	4,4'-DDE	18		µg/kg
41	041M640401	4,4'-DDE	18		µg/kg
41	041M5B0202	4,4'-DDE	18	I	µg/kg
41	033M004001	4,4'-DDE	18	J	µg/kg
41	033M001001	4,4'-DDE	21	J	µg/kg
41	041M030101	4,4'-DDE	21	DJ	µg/kg
41	041M5B0301	4,4'-DDE	23	I	µg/kg
41	041M5B0601	4,4'-DDE	24	I	µg/kg
41	041M160301	4,4'-DDE	26	J	µg/kg
41	041M640501	4,4'-DDE	27	DJ	µg/kg
41	010M000101	4,4'-DDE	29	J	µg/kg
41	041M04D201	4,4'-DDE	29	DJ	µg/kg
41	041M640602	4,4'-DDE	30	J	µg/kg
41	041M640502	4,4'-DDE	32	J	µg/kg
41	041M060301	4,4'-DDE	33	DJ	µg/kg
41	041M640501	4,4'-DDE	33		µg/kg
41	041M060701	4,4'-DDE	34	J	µg/kg
41	041M640202	4,4'-DDE	43	J	µg/kg
41	041M640601	4,4'-DDE	44		µg/kg
41	041M04D101	4,4'-DDE	46	DJ	µg/kg
41	033M002001	4,4'-DDE	54	J	µg/kg
41	041M5A0401	4,4'-DDE	57	D	µg/kg
41	041M18A201	4,4'-DDE	57	DJ	µg/kg
41	041M04D401	4,4'-DDE	65	DJ	µg/kg
41	041M150301	4,4'-DDE	69	DJ	µg/kg
41	041M640201	4,4'-DDE	72	DJ	µg/kg
41	041M640301	4,4'-DDE	78		µg/kg
41	041M640401	4,4'-DDE	89		µg/kg
41	033M003001	4,4'-DDE	96	J	µg/kg
41	041M060101	4,4'-DDE	110	D	µg/kg
41	041M150201	4,4'-DDE	110	DJ	µg/kg
41	001M000303	4,4'-DDE	120	J	µg/kg
41	041M5A0501	4,4'-DDE	120	D	µg/kg
41	001M001801	4,4'-DDE	150		µg/kg
41	041M18A101	4,4'-DDE	270	D	µg/kg
41	041M150101	4,4'-DDE	340	DJ	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
41	041M480101	4,4'-DDE	620	DJ	µg/kg
41	041M170301	4,4'-DDE	0.19	U	µg/kg
41	041M5A0701	4,4'-DDE	0.2	U	µg/kg
41	041M63A101	4,4'-DDE	0.2	U	µg/kg
41	041M63A501	4,4'-DDE	0.21	U	µg/kg
41	041M63B301	4,4'-DDE	0.21	U	µg/kg
41	041M120101	4,4'-DDE	0.21	U	µg/kg
41	041M641201	4,4'-DDE	0.21	U	µg/kg
41	041M170201	4,4'-DDE	0.21	U	µg/kg
41	041M642101	4,4'-DDE	0.21	U	µg/kg
41	041M642001	4,4'-DDE	0.21	U	µg/kg
41	041M10A101	4,4'-DDE	0.21	U	µg/kg
41	041M720201	4,4'-DDE	0.21	U	µg/kg
41	041M642301	4,4'-DDE	0.22	U	µg/kg
41	041M641801	4,4'-DDE	0.22	U	µg/kg
41	041M060901	4,4'-DDE	0.22	U	µg/kg
41	041M580101	4,4'-DDE	0.23	U	µg/kg
41	041M010101	4,4'-DDE	0.23	UJ	µg/kg
41	041M642401	4,4'-DDE	0.23	UJ	µg/kg
41	041M642201	4,4'-DDE	0.24	U	µg/kg
41	041M52E301	4,4'-DDE	0.24	U	µg/kg
41	041M490301	4,4'-DDE	0.24	U	µg/kg
41	041M63A401	4,4'-DDE	0.26	UJ	µg/kg
41	041M641701	4,4'-DDE	0.31	U	µg/kg
41	041M63A301	4,4'-DDE	0.38	U	µg/kg
41	041M52D101	4,4'-DDE	0.43	U	µg/kg
41	041M52E201	4,4'-DDE	0.45	U	µg/kg
41	041M5A0301	4,4'-DDE	0.61	UJ	µg/kg
41	041M19A101	4,4'-DDE	0.71	U	µg/kg
41	041M030701	4,4'-DDE	0.88	U	µg/kg
41	041MW20301	4,4'-DDE	0.91	U	µg/kg
41	041M641601	4,4'-DDE	0.97	U	µg/kg
41	041M641401	4,4'-DDE	1	U	µg/kg
41	041M030501	4,4'-DDE	1.1	U	µg/kg
41	041M52A101	4,4'-DDE	1.4	U	µg/kg
41	041M19A101	4,4'-DDE	1.4	U	µg/kg
41	041M030201	4,4'-DDE	1.5	U	µg/kg
41	041M640702	4,4'-DDE	4	U	µg/kg
41	003M000201	4,4'-DDE	4.1	U	µg/kg
41	041M642402	4,4'-DDE	4.1	UJ	µg/kg
41	001M001601	4,4'-DDE	6.1	U	µg/kg
41	041M5B0401	4,4'-DDE	7.8	U	µg/kg
41	041M5B0501	4,4'-DDE	8.3	U	µg/kg
41	003M000101	4,4'-DDE	15	U	µg/kg
41	041M030201	4,4'-DDE	16	U	µg/kg
41	041M18B101	4,4'-DDE	50	U	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
41	041M5A0501	4,4'-DDE	100	U	µg/kg
41	041M641102	4,4'-DDE	130	UJ	µg/kg
41	041M061001	4,4'-DDT	0.22		µg/kg
41	041M10A301	4,4'-DDT	0.25	J	µg/kg
41	041M720101	4,4'-DDT	0.26	J	µg/kg
41	041MW20201	4,4'-DDT	0.28	J	µg/kg
41	041M63A201	4,4'-DDT	0.29	J	µg/kg
41	041M030401	4,4'-DDT	0.32	J	µg/kg
41	041M19B101	4,4'-DDT	0.34	J	µg/kg
41	041M060201	4,4'-DDT	0.35	J	µg/kg
41	003M000101	4,4'-DDT	0.36	J	µg/kg
41	041M030301	4,4'-DDT	0.48	J	µg/kg
41	041M10A201	4,4'-DDT	0.53	J	µg/kg
41	041M641501	4,4'-DDT	0.6	J	µg/kg
41	041M640801	4,4'-DDT	0.66	J	µg/kg
41	041M060901	4,4'-DDT	0.74		µg/kg
41	041M640501	4,4'-DDT	0.74	J	µg/kg
41	041M63A401	4,4'-DDT	0.78	J	µg/kg
41	041M5A0101	4,4'-DDT	0.78	J	µg/kg
41	041M030701	4,4'-DDT	0.94	J	µg/kg
41	041M010201	4,4'-DDT	1.1	J	µg/kg
41	041M63A301	4,4'-DDT	1.1	J	µg/kg
41	041M570101	4,4'-DDT	1.2	J	µg/kg
41	041M490101	4,4'-DDT	1.2	J	µg/kg
41	001M000101	4,4'-DDT	1.2	J	µg/kg
41	041M5A0401	4,4'-DDT	1.3	J	µg/kg
41	001M000302	4,4'-DDT	1.3	J	µg/kg
41	041M52E101	4,4'-DDT	1.3		µg/kg
41	041M640601	4,4'-DDT	1.4	J	µg/kg
41	041M010301	4,4'-DDT	1.4	J	µg/kg
41	041M030201	4,4'-DDT	1.4	J	µg/kg
41	041M130101	4,4'-DDT	1.4	J	µg/kg
41	041M04D301	4,4'-DDT	1.5	J	µg/kg
41	041M030601	4,4'-DDT	1.9	J	µg/kg
41	041M18A301	4,4'-DDT	1.9	J	µg/kg
41	041M060401	4,4'-DDT	2	J	µg/kg
41	041M750101	4,4'-DDT	2	J	µg/kg
41	041M04D201	4,4'-DDT	2.2	J	µg/kg
41	041M060501	4,4'-DDT	2.2		µg/kg
41	041M160301	4,4'-DDT	2.8	J	µg/kg
41	041M56A101	4,4'-DDT	2.8		µg/kg
41	041M04D101	4,4'-DDT	2.9	J	µg/kg
41	041M490201	4,4'-DDT	3	J	µg/kg
41	041M5A0601	4,4'-DDT	3.2	J	µg/kg
41	041MW20101	4,4'-DDT	3.5	J	µg/kg
41	041M030201	4,4'-DDT	3.7	J	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
41	041M04D401	4,4'-DDT	3.9	J	µg/kg
41	041M150201	4,4'-DDT	4.3	J	µg/kg
41	041M060801	4,4'-DDT	4.5	J	µg/kg
41	041M060601	4,4'-DDT	4.8	J	µg/kg
41	041M5A0501	4,4'-DDT	5	J	µg/kg
41	033M001001	4,4'-DDT	6.2	J	µg/kg
41	041M5A0401	4,4'-DDT	7.2		µg/kg
41	041M030101	4,4'-DDT	7.5	DJ	µg/kg
41	033M004001	4,4'-DDT	7.8		µg/kg
41	033M002001	4,4'-DDT	8.8	J	µg/kg
41	041M030701	4,4'-DDT	9.3		µg/kg
41	041M150101	4,4'-DDT	9.9	J	µg/kg
41	001M000301	4,4'-DDT	9.9		µg/kg
41	041M010401	4,4'-DDT	10	DJ	µg/kg
41	010M000101	4,4'-DDT	11	J	µg/kg
41	041M060701	4,4'-DDT	11	J	µg/kg
41	041M640301	4,4'-DDT	14	J	µg/kg
41	041M640101	4,4'-DDT	14	DJ	µg/kg
41	041M150301	4,4'-DDT	16	J	µg/kg
41	041M160301	4,4'-DDT	16		µg/kg
41	041M640401	4,4'-DDT	18	J	µg/kg
41	041M640601	4,4'-DDT	19		µg/kg
41	033M003001	4,4'-DDT	48	J	µg/kg
41	041M060301	4,4'-DDT	52	D	µg/kg
41	041M18B101	4,4'-DDT	110	D	µg/kg
41	001M000303	4,4'-DDT	220		µg/kg
41	041M480101	4,4'-DDT	240	J	µg/kg
41	041M060101	4,4'-DDT	260	DJ	µg/kg
41	041M18A201	4,4'-DDT	310	D	µg/kg
41	041M18A101	4,4'-DDT	1200	D	µg/kg
41	041M18B101	4,4'-DDT	1800	D	µg/kg
41	041M170301	4,4'-DDT	0.19	U	µg/kg
41	041M63A101	4,4'-DDT	0.2	U	µg/kg
41	041M061101	4,4'-DDT	0.2	U	µg/kg
41	041M5A0701	4,4'-DDT	0.2	U	µg/kg
41	041M04D501	4,4'-DDT	0.21	U	µg/kg
41	041M720201	4,4'-DDT	0.21	UJ	µg/kg
41	041M120101	4,4'-DDT	0.21	UJ	µg/kg
41	041M170201	4,4'-DDT	0.21	U	µg/kg
41	041M641201	4,4'-DDT	0.21	U	µg/kg
41	041M160101	4,4'-DDT	0.21	U	µg/kg
41	041M642101	4,4'-DDT	0.21	U	µg/kg
41	041M63B301	4,4'-DDT	0.21	U	µg/kg
41	041M5B0101	4,4'-DDT	0.21	U	µg/kg
41	041M640901	4,4'-DDT	0.21	U	µg/kg
41	041M10A101	4,4'-DDT	0.21	UJ	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
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Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
41	041M19A201	4,4'-DDT	0.21	U	µg/kg
41	041M63A501	4,4'-DDT	0.21	U	µg/kg
41	041M642001	4,4'-DDT	0.21	U	µg/kg
41	041M63B401	4,4'-DDT	0.22	U	µg/kg
41	041M642301	4,4'-DDT	0.22	U	µg/kg
41	041M641801	4,4'-DDT	0.22	U	µg/kg
41	041M63B201	4,4'-DDT	0.23	U	µg/kg
41	041M580101	4,4'-DDT	0.23	U	µg/kg
41	041M010101	4,4'-DDT	0.23	UJ	µg/kg
41	041M642401	4,4'-DDT	0.23	UJ	µg/kg
41	041M5A0601	4,4'-DDT	0.23	U	µg/kg
41	041M640701	4,4'-DDT	0.23	U	µg/kg
41	041M170101	4,4'-DDT	0.23	U	µg/kg
41	041M490301	4,4'-DDT	0.24	U	µg/kg
41	041M52E301	4,4'-DDT	0.24	U	µg/kg
41	041M642201	4,4'-DDT	0.24	U	µg/kg
41	041M641701	4,4'-DDT	0.31	U	µg/kg
41	041M5A0201	4,4'-DDT	0.32	UJ	µg/kg
41	041M120201	4,4'-DDT	0.32	UJ	µg/kg
41	041M160201	4,4'-DDT	0.33	U	µg/kg
41	041M19A101	4,4'-DDT	0.41	U	µg/kg
41	041M52D101	4,4'-DDT	0.43	U	µg/kg
41	041M52E201	4,4'-DDT	0.45	U	µg/kg
41	041M641101	4,4'-DDT	0.59	U	µg/kg
41	041M150401	4,4'-DDT	0.59	U	µg/kg
41	041M5A0301	4,4'-DDT	0.61	UJ	µg/kg
41	041M5B0201	4,4'-DDT	0.73	U	µg/kg
41	041MW20301	4,4'-DDT	0.91	U	µg/kg
41	041M641301	4,4'-DDT	0.92	UJ	µg/kg
41	041M641601	4,4'-DDT	0.97	U	µg/kg
41	041M641001	4,4'-DDT	0.97	U	µg/kg
41	041M641401	4,4'-DDT	1	U	µg/kg
41	041M030501	4,4'-DDT	1.1	U	µg/kg
41	041M641901	4,4'-DDT	1.1	U	µg/kg
41	041M19A101	4,4'-DDT	1.4	U	µg/kg
41	041M52A101	4,4'-DDT	1.4	U	µg/kg
41	041M640401	4,4'-DDT	1.9	U	µg/kg
41	041M640201	4,4'-DDT	3.3	U	µg/kg
41	041M640702	4,4'-DDT	4	U	µg/kg
41	041M642402	4,4'-DDT	4.1	UJ	µg/kg
41	003M000201	4,4'-DDT	4.1	U	µg/kg
41	041M5B0401	4,4'-DDT	4.5	U	µg/kg
41	003M000301	4,4'-DDT	4.7	U	µg/kg
41	041M5B0501	4,4'-DDT	4.8	U	µg/kg
41	041M5B0301	4,4'-DDT	5.5	U	µg/kg
41	001M001601	4,4'-DDT	6.1	U	µg/kg

Table 1
DDT and its Metabolites in Sites 40 and 41 Sediments
NAS Pensacola

Site	SAMPLE_ID	PARAM	Results	VQUAL	Units
41	041M5B0202	4,4'-DDT	6.9	U	µg/kg
41	041M5B0601	4,4'-DDT	7	U	µg/kg
41	041M640501	4,4'-DDT	7.7	U	µg/kg
41	001M001801	4,4'-DDT	37	U	µg/kg
41	041M640302	4,4'-DDT	43	UJ	µg/kg
41	041M640602	4,4'-DDT	48	U	µg/kg
41	041M640502	4,4'-DDT	60	U	µg/kg
41	041M640202	4,4'-DDT	68	U	µg/kg
41	041M5A0501	4,4'-DDT	100	U	µg/kg
41	041M641102	4,4'-DDT	130	UJ	µg/kg

Notes:

U - Undetected; the anlayte was not detected
J - Estimated Value; one or more QC parameters were outside control limits
NJ - Presumptive Identification; the analyte is presumptively identified at an estimated concentration
UJ - Undetected and estimated; the analyte was not detected and the quantitation is estimated
D - Diluted Result; the result was obtained from a diluted sample
µg/kg - Micrograms per kilogram or parts per billion (ppb)

Summary Tables for the Blue-coded and Reference Wetlands from the Site 41 Remedial Investigation Report

Appendix K

DiToro SQG Calculations

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 1 Phase: 2 Wetland: 1A Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
001M00010	1,1,1-Trichloroethane	6/29/1994	71556	6.50E+00	0.0363	2.36E+01	10	U	1.17E-05
001M00010	1,1,2,2-Tetrachloroethane	6/29/1994	79345	8.13E+00	0.0363	2.95E+01	10	U	9.33E-06
001M00010	1,1,2-Trichloroethane	6/29/1994	79005	6.24E+00	0.0363	2.27E+01	10	U	1.22E-05
001M00010	1,1-Dichloroethane	6/29/1994	75343		0.0363		10	U	
001M00010	1,1-Dichloroethene	6/29/1994	75354	4.65E+00	0.0363	1.69E+01	10	U	1.63E-05
001M00010	1,2-Dichloroethane	6/29/1994	107062	4.43E+00	0.0363	1.61E+01	10	U	1.71E-05
001M00010	1,2-Dichloroethene (total)	6/29/1994	540590	4.61E+00	0.0363	1.67E+01	10	U	1.65E-05
001M00010	1,2-Dichloropropane	6/29/1994	78875	5.26E+00	0.0363	1.91E+01	10	U	1.44E-05
001M00010	2-Butanone (MEK)	6/29/1994	78933	2.93E+00	0.0363	1.06E+01	10	U	2.59E-05
001M00010	2-Hexanone	6/29/1994	591786	4.43E+00	0.0363	1.61E+01	10	U	1.71E-05
001M00010	4-Methyl-2-Pentanone (MIBK)	6/29/1994	108101	4.38E+00	0.0363	1.59E+01	10	U	1.73E-05
001M00010	Acetone	6/29/1994	67641	1.34E+01	0.0363	4.86E+01	7	U	3.97E-06
001M00010	Benzene	6/29/1994	71432	6.46E+00	0.0363	2.35E+01	10	U	1.17E-05
001M00010	Bromodichloromethane	6/29/1994	75274		0.0363		10	U	
001M00010	Bromoform	6/29/1994	75252	1.22E+01	0.0363	4.42E+01	10	U	6.23E-06
001M00010	Bromomethane	6/29/1994	74839	4.03E+00	0.0363	1.46E+01	10	U	1.88E-05
001M00010	Carbon disulfide	6/29/1994	75150		0.0363		10	U	
001M00010	Carbon tetrachloride	6/29/1994	56235	7.73E+00	0.0363	2.81E+01	10	U	9.81E-06
001M00010	Chlorobenzene	6/29/1994	108907	5.59E+00	0.0363	2.03E+01	10	U	1.36E-05
001M00010	Chloroethane	6/29/1994	75003		0.0363		10	U	
001M00010	Chloroform	6/29/1994	67663	5.59E+00	0.0363	2.03E+01	10	U	1.36E-05
001M00010	Chloromethane	6/29/1994	74873	2.12E+00	0.0363	7.70E+00	10	U	3.58E-05
001M00010	cis-1,3-Dichloropropene	6/29/1994	10061015		0.0363		10	U	
001M00010	Dibromochloromethane	6/29/1994	124481		0.0363		10	U	
001M00010	Ethylbenzene	6/29/1994	100414	9.64E+00	0.0363	3.50E+01	10	U	7.88E-06
001M00010	Methylene chloride	6/29/1994	75092	3.73E+00	0.0363	1.35E+01	60	U	1.22E-04
001M00010	Styrene	6/29/1994	100425	9.18E+00	0.0363	3.33E+01	10	U	8.27E-06
001M00010	Tetrachloroethene	6/29/1994	127184	8.83E+00	0.0363	3.20E+01	10	U	8.60E-06
001M00010	Toluene	6/29/1994	108883	8.05E+00	0.0363	2.92E+01	10	U	9.43E-06
001M00010	trans-1,3-Dichloropropene	6/29/1994	10061026		0.0363		10	U	
001M00010	Trichloroethene	6/29/1994	79016	6.65E+00	0.0363	2.41E+01	10	U	1.14E-05
001M00010	Vinyl chloride	6/29/1994	75014		0.0363		10	U	
001M00010	Xylene (Total)	6/29/1994	1330207	9.70E+00	0.0363	3.52E+01	10	U	7.83E-06
041M01010	1,1,1-Trichloroethane	1/17/1996	71556	6.50E+00	0.0363	2.36E+01	7	U	8.17E-06
041M01010	1,1,2,2-Tetrachloroethane	1/17/1996	79345	8.13E+00	0.0363	2.95E+01	7	UJ	6.53E-06
041M01010	1,1,2-Trichloroethane	1/17/1996	79005	6.24E+00	0.0363	2.27E+01	7	U	8.51E-06
041M01010	1,1-Dichloroethane	1/17/1996	75343		0.0363		7	U	
041M01010	1,1-Dichloroethene	1/17/1996	75354	4.65E+00	0.0363	1.69E+01	7	U	1.14E-05
041M01010	1,2-Dichloroethane	1/17/1996	107062	4.43E+00	0.0363	1.61E+01	7	U	1.20E-05
041M01010	1,2-Dichloroethene (total)	1/17/1996	540590	4.61E+00	0.0363	1.67E+01	7	U	1.15E-05

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 1 Phase: 2 Wetland: 1A Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M01010	1,2-Dichloropropane	1/17/1996	78875	5.26E+00	0.0363	1.91E+01	7	U	1.01E-05
041M01010	2-Butanone (MEK)	1/17/1996	78933	2.93E+00	0.0363	1.06E+01	7	U	1.81E-05
041M01010	2-Hexanone	1/17/1996	591786	4.43E+00	0.0363	1.61E+01	7	UJ	1.20E-05
041M01010	4-Methyl-2-Pentanone (MIBK)	1/17/1996	108101	4.38E+00	0.0363	1.59E+01	7	U	1.21E-05
041M01010	Acetone	1/17/1996	67641	1.34E+01	0.0363	4.86E+01	14	U	7.94E-06
041M01010	Benzene	1/17/1996	71432	6.46E+00	0.0363	2.35E+01	7	U	8.22E-06
041M01010	Bromodichloromethane	1/17/1996	75274		0.0363		7	U	
041M01010	Bromoform	1/17/1996	75252	1.22E+01	0.0363	4.42E+01	7	U	4.36E-06
041M01010	Bromomethane	1/17/1996	74839	4.03E+00	0.0363	1.46E+01	7	U	1.32E-05
041M01010	Carbon disulfide	1/17/1996	75150		0.0363		7	U	
041M01010	Carbon tetrachloride	1/17/1996	56235	7.73E+00	0.0363	2.81E+01	7	U	6.87E-06
041M01010	Chlorobenzene	1/17/1996	108907	5.59E+00	0.0363	2.03E+01	7	UJ	9.51E-06
041M01010	Chloroethane	1/17/1996	75003		0.0363		7	U	
041M01010	Chloroform	1/17/1996	67663	5.59E+00	0.0363	2.03E+01	7	U	9.51E-06
041M01010	Chloromethane	1/17/1996	74873	2.12E+00	0.0363	7.70E+00	7	U	2.50E-05
041M01010	cis-1,3-Dichloropropene	1/17/1996	10061015		0.0363		7	U	
041M01010	Dibromochloromethane	1/17/1996	124481		0.0363		7	U	
041M01010	Ethylbenzene	1/17/1996	100414	9.64E+00	0.0363	3.50E+01	7	UJ	5.51E-06
041M01010	Methylene chloride	1/17/1996	75092	3.73E+00	0.0363	1.35E+01	7	U	1.42E-05
041M01010	Styrene	1/17/1996	100425	9.18E+00	0.0363	3.33E+01	7	UJ	5.79E-06
041M01010	Tetrachloroethene	1/17/1996	127184	8.83E+00	0.0363	3.20E+01	7	UJ	6.02E-06
041M01010	Toluene	1/17/1996	108883	8.05E+00	0.0363	2.92E+01	7	UJ	6.60E-06
041M01010	trans-1,3-Dichloropropene	1/17/1996	10061026		0.0363		7	U	
041M01010	Trichloroethene	1/17/1996	79016	6.65E+00	0.0363	2.41E+01	7	U	7.99E-06
041M01010	Vinyl chloride	1/17/1996	75014		0.0363		2	U	
041M01010	Xylene (Total)	1/17/1996	1330207	9.70E+00	0.0363	3.52E+01	7	UJ	5.48E-06
041M01020	1,1,1-Trichloroethane	1/17/1996	71556	6.50E+00	0.145	9.43E+01	10.5	UJ	7.68E-07
041M01020	1,1,2,2-Tetrachloroethane	1/17/1996	79345	8.13E+00	0.145	1.18E+02	10.5	UJ	6.14E-07
041M01020	1,1,2-Trichloroethane	1/17/1996	79005	6.24E+00	0.145	9.05E+01	10.5	UJ	8.00E-07
041M01020	1,1-Dichloroethane	1/17/1996	75343		0.145		10.5	U	
041M01020	1,1-Dichloroethene	1/17/1996	75354	4.65E+00	0.145	6.74E+01	10.5	U	1.07E-06
041M01020	1,2-Dichloroethane	1/17/1996	107062	4.43E+00	0.145	6.42E+01	10.5	U	1.13E-06
041M01020	1,2-Dichloroethene (total)	1/17/1996	540590	4.61E+00	0.145	6.69E+01	10.5	U	1.08E-06
041M01020	1,2-Dichloropropane	1/17/1996	78875	5.26E+00	0.145	7.63E+01	10.5	UJ	9.49E-07
041M01020	2-Butanone (MEK)	1/17/1996	78933	2.93E+00	0.145	4.25E+01	110		1.79E-05
041M01020	2-Hexanone	1/17/1996	591786	4.43E+00	0.145	6.42E+01	10.5	UJ	1.13E-06
041M01020	4-Methyl-2-Pentanone (MIBK)	1/17/1996	108101	4.38E+00	0.145	6.36E+01	10.5	UJ	1.14E-06
041M01020	Acetone	1/17/1996	67641	1.34E+01	0.145	1.94E+02	250		8.88E-06
041M01020	Benzene	1/17/1996	71432	6.46E+00	0.145	9.37E+01	10.5	UJ	7.73E-07
041M01020	Bromodichloromethane	1/17/1996	75274		0.145		10.5	UJ	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 1 Phase: 2 Wetland: 1A Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M01020	Bromoform	1/17/1996	75252	1.22E+01	0.145	1.77E+02	10.5	UJ	4.10E-07
041M01020	Bromomethane	1/17/1996	74839	4.03E+00	0.145	5.84E+01	10.5	U	1.24E-06
041M01020	Carbon disulfide	1/17/1996	75150		0.145		10.5	U	
041M01020	Carbon tetrachloride	1/17/1996	56235	7.73E+00	0.145	1.12E+02	10.5	UJ	6.46E-07
041M01020	Chlorobenzene	1/17/1996	108907	5.59E+00	0.145	8.10E+01	10.5	UJ	8.94E-07
041M01020	Chloroethane	1/17/1996	75003		0.145		10.5	U	
041M01020	Chloroform	1/17/1996	67663	5.59E+00	0.145	8.10E+01	10.5	U	8.94E-07
041M01020	Chloromethane	1/17/1996	74873	2.12E+00	0.145	3.08E+01	10.5	U	2.35E-06
041M01020	cis-1,3-Dichloropropene	1/17/1996	10061015		0.145		10.5	UJ	
041M01020	Dibromochloromethane	1/17/1996	124481		0.145		10.5	UJ	
041M01020	Ethylbenzene	1/17/1996	100414	9.64E+00	0.145	1.40E+02	10.5	UJ	5.18E-07
041M01020	Methylene chloride	1/17/1996	75092	3.73E+00	0.145	5.41E+01	10.5	U	1.34E-06
041M01020	Styrene	1/17/1996	100425	9.18E+00	0.145	1.33E+02	10.5	UJ	5.44E-07
041M01020	Tetrachloroethene	1/17/1996	127184	8.83E+00	0.145	1.28E+02	10.5	UJ	5.66E-07
041M01020	Toluene	1/17/1996	108883	8.05E+00	0.145	1.17E+02	10.5	UJ	6.21E-07
041M01020	trans-1,3-Dichloropropene	1/17/1996	10061026		0.145		10.5	UJ	
041M01020	Trichloroethene	1/17/1996	79016	6.65E+00	0.145	9.65E+01	10.5	UJ	7.51E-07
041M01020	Vinyl chloride	1/17/1996	75014		0.145		3	U	
041M01020	Xylene (Total)	1/17/1996	1330207	9.70E+00	0.145	1.41E+02	10.5	UJ	5.15E-07

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 2 Phase: 2 Wetland: 1B Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M01030	1,1,1-Trichloroethane	1/18/1996	71556	6.50E+00	0.00532	3.46E+00	6.5	U	3.53E-04
041M01030	1,1,2,2-Tetrachloroethane	1/18/1996	79345	8.13E+00	0.00532	4.33E+00	6.5	UJ	2.82E-04
041M01030	1,1,2-Trichloroethane	1/18/1996	79005	6.24E+00	0.00532	3.32E+00	6.5	U	3.68E-04
041M01030	1,1-Dichloroethane	1/18/1996	75343		0.00532		6.5	U	
041M01030	1,1-Dichloroethene	1/18/1996	75354	4.65E+00	0.00532	2.47E+00	6.5	U	4.94E-04
041M01030	1,2-Dichloroethane	1/18/1996	107062	4.43E+00	0.00532	2.36E+00	6.5	U	5.19E-04
041M01030	1,2-Dichloroethene (total)	1/18/1996	540590	4.61E+00	0.00532	2.45E+00	6.5	U	4.98E-04
041M01030	1,2-Dichloropropane	1/18/1996	78875	5.26E+00	0.00532	2.80E+00	6.5	U	4.36E-04
041M01030	2-Butanone (MEK)	1/18/1996	78933	2.93E+00	0.00532	1.56E+00	6.5	U	7.84E-04
041M01030	2-Hexanone	1/18/1996	591786	4.43E+00	0.00532	2.36E+00	6.5	UJ	5.18E-04
041M01030	4-Methyl-2-Pentanone (MIBK)	1/18/1996	108101	4.38E+00	0.00532	2.33E+00	6.5	U	5.24E-04
041M01030	Acetone	1/18/1996	67641	1.34E+01	0.00532	7.12E+00	36	U	9.50E-04
041M01030	Benzene	1/18/1996	71432	6.46E+00	0.00532	3.44E+00	6.5	U	3.55E-04
041M01030	Bromodichloromethane	1/18/1996	75274		0.00532		6.5	U	
041M01030	Bromoform	1/18/1996	75252	1.22E+01	0.00532	6.48E+00	6.5	U	1.88E-04
041M01030	Bromomethane	1/18/1996	74839	4.03E+00	0.00532	2.14E+00	6.5	U	5.70E-04
041M01030	Carbon disulfide	1/18/1996	75150		0.00532		6.5	U	
041M01030	Carbon tetrachloride	1/18/1996	56235	7.73E+00	0.00532	4.11E+00	6.5	U	2.97E-04
041M01030	Chlorobenzene	1/18/1996	108907	5.59E+00	0.00532	2.97E+00	6.5	UJ	4.11E-04
041M01030	Chloroethane	1/18/1996	75003		0.00532		6.5	U	
041M01030	Chloroform	1/18/1996	67663	5.59E+00	0.00532	2.97E+00	6.5	U	4.11E-04
041M01030	Chloromethane	1/18/1996	74873	2.12E+00	0.00532	1.13E+00	6.5	U	1.08E-03
041M01030	cis-1,3-Dichloropropene	1/18/1996	10061015		0.00532		6.5	U	
041M01030	Dibromochloromethane	1/18/1996	124481		0.00532		6.5	U	
041M01030	Ethylbenzene	1/18/1996	100414	9.64E+00	0.00532	5.13E+00	6.5	UJ	2.38E-04
041M01030	Methylene chloride	1/18/1996	75092	3.73E+00	0.00532	1.98E+00	6.5	U	6.16E-04
041M01030	Styrene	1/18/1996	100425	9.18E+00	0.00532	4.88E+00	6.5	UJ	2.50E-04
041M01030	Tetrachloroethene	1/18/1996	127184	8.83E+00	0.00532	4.70E+00	6.5	UJ	2.60E-04
041M01030	Toluene	1/18/1996	108883	8.05E+00	0.00532	4.28E+00	6.5	UJ	2.85E-04
041M01030	trans-1,3-Dichloropropene	1/18/1996	10061026		0.00532		6.5	U	
041M01030	Trichloroethene	1/18/1996	79016	6.65E+00	0.00532	3.54E+00	6.5	U	3.45E-04
041M01030	Vinyl chloride	1/18/1996	75014		0.00532		2	U	
041M01030	Xylene (Total)	1/18/1996	1330207	9.70E+00	0.00532	5.16E+00	6.5	UJ	2.37E-04
041M01040	1,1,1-Trichloroethane	1/17/1996	71556	6.50E+00	0.0306	1.99E+01	7	U	1.15E-05
041M01040	1,1,2,2-Tetrachloroethane	1/17/1996	79345	8.13E+00	0.0306	2.49E+01	7	U	9.19E-06
041M01040	1,1,2-Trichloroethane	1/17/1996	79005	6.24E+00	0.0306	1.91E+01	7	U	1.20E-05
041M01040	1,1-Dichloroethane	1/17/1996	75343		0.0306		7	U	
041M01040	1,1-Dichloroethene	1/17/1996	75354	4.65E+00	0.0306	1.42E+01	7	U	1.61E-05
041M01040	1,2-Dichloroethane	1/17/1996	107062	4.43E+00	0.0306	1.36E+01	7	U	1.69E-05
041M01040	1,2-Dichloroethene (total)	1/17/1996	540590	4.61E+00	0.0306	1.41E+01	7	U	1.62E-05

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 2 Phase: 2 Wetland: 1B Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M01040	1,2-Dichloropropane	1/17/1996	78875	5.26E+00	0.0306	1.61E+01	7	U	1.42E-05
041M01040	2-Butanone (MEK)	1/17/1996	78933	2.93E+00	0.0306	8.96E+00	7	U	2.55E-05
041M01040	2-Hexanone	1/17/1996	591786	4.43E+00	0.0306	1.36E+01	7	U	1.69E-05
041M01040	4-Methyl-2-Pentanone (MIBK)	1/17/1996	108101	4.38E+00	0.0306	1.34E+01	7	U	1.71E-05
041M01040	Acetone	1/17/1996	67641	1.34E+01	0.0306	4.10E+01	26.5	U	2.11E-05
041M01040	Benzene	1/17/1996	71432	6.46E+00	0.0306	1.98E+01	7	U	1.16E-05
041M01040	Bromodichloromethane	1/17/1996	75274		0.0306		7	U	
041M01040	Bromoform	1/17/1996	75252	1.22E+01	0.0306	3.73E+01	7	U	6.14E-06
041M01040	Bromomethane	1/17/1996	74839	4.03E+00	0.0306	1.23E+01	7	U	1.86E-05
041M01040	Carbon disulfide	1/17/1996	75150		0.0306		7	U	
041M01040	Carbon tetrachloride	1/17/1996	56235	7.73E+00	0.0306	2.37E+01	7	U	9.67E-06
041M01040	Chlorobenzene	1/17/1996	108907	5.59E+00	0.0306	1.71E+01	7	U	1.34E-05
041M01040	Chloroethane	1/17/1996	75003		0.0306		7	U	
041M01040	Chloroform	1/17/1996	67663	5.59E+00	0.0306	1.71E+01	7	U	1.34E-05
041M01040	Chloromethane	1/17/1996	74873	2.12E+00	0.0306	6.49E+00	7	U	3.52E-05
041M01040	cis-1,3-Dichloropropene	1/17/1996	10061015		0.0306		7	U	
041M01040	Dibromochloromethane	1/17/1996	124481		0.0306		7	U	
041M01040	Ethylbenzene	1/17/1996	100414	9.64E+00	0.0306	2.95E+01	7	U	7.76E-06
041M01040	Methylene chloride	1/17/1996	75092	3.73E+00	0.0306	1.14E+01	7	U	2.01E-05
041M01040	Styrene	1/17/1996	100425	9.18E+00	0.0306	2.81E+01	7	U	8.15E-06
041M01040	Tetrachloroethene	1/17/1996	127184	8.83E+00	0.0306	2.70E+01	7	U	8.47E-06
041M01040	Toluene	1/17/1996	108883	8.05E+00	0.0306	2.46E+01	7	U	9.29E-06
041M01040	trans-1,3-Dichloropropene	1/17/1996	10061026		0.0306		7	U	
041M01040	Trichloroethene	1/17/1996	79016	6.65E+00	0.0306	2.04E+01	7	U	1.12E-05
041M01040	Vinyl chloride	1/17/1996	75014		0.0306		2	U	
041M01040	Xylene (Total)	1/17/1996	1330207	9.70E+00	0.0306	2.97E+01	7	U	7.71E-06

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 3 Phase: 2 Wetland: 3 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
001M00030	1,1,1-Trichloroethane	6/28/1994	71556	6.50E+00	0.00478	3.11E+00	7	U	4.71E-04
001M00030	1,1,2,2-Tetrachloroethane	6/28/1994	79345	8.13E+00	0.00478	3.89E+00	7	U	3.77E-04
001M00030	1,1,2-Trichloroethane	6/28/1994	79005	6.24E+00	0.00478	2.98E+00	7	U	4.91E-04
001M00030	1,1-Dichloroethane	6/28/1994	75343		0.00478		7	U	
001M00030	1,1-Dichloroethene	6/28/1994	75354	4.65E+00	0.00478	2.22E+00	7	U	6.59E-04
001M00030	1,2-Dichloroethane	6/28/1994	107062	4.43E+00	0.00478	2.12E+00	7	U	6.92E-04
001M00030	1,2-Dichloroethene (total)	6/28/1994	540590	4.61E+00	0.00478	2.20E+00	7	U	6.64E-04
001M00030	1,2-Dichloropropane	6/28/1994	78875	5.26E+00	0.00478	2.52E+00	7	U	5.82E-04
001M00030	2-Butanone (MEK)	6/28/1994	78933	2.93E+00	0.00478	1.40E+00	7	U	1.05E-03
001M00030	2-Hexanone	6/28/1994	591786	4.43E+00	0.00478	2.12E+00	7	U	6.92E-04
001M00030	4-Methyl-2-Pentanone (MIBK)	6/28/1994	108101	4.38E+00	0.00478	2.10E+00	7	U	6.99E-04
001M00030	Acetone	6/28/1994	67641	1.34E+01	0.00478	6.40E+00	7	U	2.29E-04
001M00030	Benzene	6/28/1994	71432	6.46E+00	0.00478	3.09E+00	7	U	4.74E-04
001M00030	Bromodichloromethane	6/28/1994	75274		0.00478		7	U	
001M00030	Bromoform	6/28/1994	75252	1.22E+01	0.00478	5.82E+00	7	U	2.51E-04
001M00030	Bromomethane	6/28/1994	74839	4.03E+00	0.00478	1.93E+00	7	U	7.60E-04
001M00030	Carbon disulfide	6/28/1994	75150		0.00478		7	U	
001M00030	Carbon tetrachloride	6/28/1994	56235	7.73E+00	0.00478	3.70E+00	7	U	3.96E-04
001M00030	Chlorobenzene	6/28/1994	108907	5.59E+00	0.00478	2.67E+00	7	U	5.49E-04
001M00030	Chloroethane	6/28/1994	75003		0.00478		7	U	
001M00030	Chloroform	6/28/1994	67663	5.59E+00	0.00478	2.67E+00	7	U	5.48E-04
001M00030	Chloromethane	6/28/1994	74873	2.12E+00	0.00478	1.01E+00	7	U	1.44E-03
001M00030	cis-1,3-Dichloropropene	6/28/1994	10061015		0.00478		7	U	
001M00030	Dibromochloromethane	6/28/1994	124481		0.00478		7	U	
001M00030	Ethylbenzene	6/28/1994	100414	9.64E+00	0.00478	4.61E+00	7	U	3.18E-04
001M00030	Methylene chloride	6/28/1994	75092	3.73E+00	0.00478	1.78E+00	4	U	4.70E-04
001M00030	Styrene	6/28/1994	100425	9.18E+00	0.00478	4.39E+00	7	U	3.34E-04
001M00030	Tetrachloroethene	6/28/1994	127184	8.83E+00	0.00478	4.22E+00	7	U	3.47E-04
001M00030	Toluene	6/28/1994	108883	8.05E+00	0.00478	3.85E+00	7	U	3.81E-04
001M00030	trans-1,3-Dichloropropene	6/28/1994	10061026		0.00478		7	U	
001M00030	Trichloroethene	6/28/1994	79016	6.65E+00	0.00478	3.18E+00	7	U	4.61E-04
001M00030	Vinyl chloride	6/28/1994	75014		0.00478		7	U	
001M00030	Xylene (Total)	6/28/1994	1330207	9.70E+00	0.00478	4.63E+00	7	U	3.16E-04
001M00030	1,1,1-Trichloroethane	6/28/1994	71556	6.50E+00	0.00478	3.11E+00	7	U	4.71E-04
001M00030	1,1,2,2-Tetrachloroethane	6/28/1994	79345	8.13E+00	0.00478	3.89E+00	7	U	3.77E-04
001M00030	1,1,2-Trichloroethane	6/28/1994	79005	6.24E+00	0.00478	2.98E+00	7	U	4.91E-04
001M00030	1,1-Dichloroethane	6/28/1994	75343		0.00478		7	U	
001M00030	1,1-Dichloroethene	6/28/1994	75354	4.65E+00	0.00478	2.22E+00	7	U	6.59E-04
001M00030	1,2-Dichloroethane	6/28/1994	107062	4.43E+00	0.00478	2.12E+00	7	U	6.92E-04
001M00030	1,2-Dichloroethene (total)	6/28/1994	540590	4.61E+00	0.00478	2.20E+00	7	U	6.64E-04

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 3 Phase: 2 Wetland: 3 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
001M00030	1,2-Dichloropropane	6/28/1994	78875	5.26E+00	0.00478	2.52E+00	7	U	5.82E-04
001M00030	2-Butanone (MEK)	6/28/1994	78933	2.93E+00	0.00478	1.40E+00	7	U	1.05E-03
001M00030	2-Hexanone	6/28/1994	591786	4.43E+00	0.00478	2.12E+00	7	U	6.92E-04
001M00030	4-Methyl-2-Pentanone (MIBK)	6/28/1994	108101	4.38E+00	0.00478	2.10E+00	7	U	6.99E-04
001M00030	Acetone	6/28/1994	67641	1.34E+01	0.00478	6.40E+00	26.5	U	8.66E-04
001M00030	Benzene	6/28/1994	71432	6.46E+00	0.00478	3.09E+00	7	U	4.74E-04
001M00030	Bromodichloromethane	6/28/1994	75274		0.00478		7	U	
001M00030	Bromoform	6/28/1994	75252	1.22E+01	0.00478	5.82E+00	7	U	2.51E-04
001M00030	Bromomethane	6/28/1994	74839	4.03E+00	0.00478	1.93E+00	7	U	7.60E-04
001M00030	Carbon disulfide	6/28/1994	75150		0.00478		7	U	
001M00030	Carbon tetrachloride	6/28/1994	56235	7.73E+00	0.00478	3.70E+00	7	U	3.96E-04
001M00030	Chlorobenzene	6/28/1994	108907	5.59E+00	0.00478	2.67E+00	7	U	5.49E-04
001M00030	Chloroethane	6/28/1994	75003		0.00478		7	U	
001M00030	Chloroform	6/28/1994	67663	5.59E+00	0.00478	2.67E+00	7	U	5.48E-04
001M00030	Chloromethane	6/28/1994	74873	2.12E+00	0.00478	1.01E+00	7	U	1.44E-03
001M00030	cis-1,3-Dichloropropene	6/28/1994	10061015		0.00478		7	U	
001M00030	Dibromochloromethane	6/28/1994	124481		0.00478		7	U	
001M00030	Ethylbenzene	6/28/1994	100414	9.64E+00	0.00478	4.61E+00	7	U	3.18E-04
001M00030	Methylene chloride	6/28/1994	75092	3.73E+00	0.00478	1.78E+00	13	U	1.53E-03
001M00030	Styrene	6/28/1994	100425	9.18E+00	0.00478	4.39E+00	7	U	3.34E-04
001M00030	Tetrachloroethene	6/28/1994	127184	8.83E+00	0.00478	4.22E+00	7	U	3.47E-04
001M00030	Toluene	6/28/1994	108883	8.05E+00	0.00478	3.85E+00	7	U	3.81E-04
001M00030	trans-1,3-Dichloropropene	6/28/1994	10061026		0.00478		7	U	
001M00030	Trichloroethene	6/28/1994	79016	6.65E+00	0.00478	3.18E+00	7	U	4.61E-04
001M00030	Vinyl chloride	6/28/1994	75014		0.00478		7	U	
001M00030	Xylene (Total)	6/28/1994	1330207	9.70E+00	0.00478	4.63E+00	7	U	3.16E-04
001M00030	1,1,1-Trichloroethane	6/28/1994	71556	6.50E+00	0.00478	3.11E+00	6.5	U	4.37E-04
001M00030	1,1,2,2-Tetrachloroethane	6/28/1994	79345	8.13E+00	0.00478	3.89E+00	6.5	U	3.50E-04
001M00030	1,1,2-Trichloroethane	6/28/1994	79005	6.24E+00	0.00478	2.98E+00	6.5	U	4.56E-04
001M00030	1,1-Dichloroethane	6/28/1994	75343		0.00478		6.5	U	
001M00030	1,1-Dichloroethene	6/28/1994	75354	4.65E+00	0.00478	2.22E+00	6.5	U	6.12E-04
001M00030	1,2-Dichloroethane	6/28/1994	107062	4.43E+00	0.00478	2.12E+00	6.5	U	6.42E-04
001M00030	1,2-Dichloroethene (total)	6/28/1994	540590	4.61E+00	0.00478	2.20E+00	6.5	U	6.17E-04
001M00030	1,2-Dichloropropane	6/28/1994	78875	5.26E+00	0.00478	2.52E+00	6.5	U	5.40E-04
001M00030	2-Butanone (MEK)	6/28/1994	78933	2.93E+00	0.00478	1.40E+00	6.5	U	9.71E-04
001M00030	2-Hexanone	6/28/1994	591786	4.43E+00	0.00478	2.12E+00	6.5	U	6.42E-04
001M00030	4-Methyl-2-Pentanone (MIBK)	6/28/1994	108101	4.38E+00	0.00478	2.10E+00	6.5	U	6.49E-04
001M00030	Acetone	6/28/1994	67641	1.34E+01	0.00478	6.40E+00	14	U	4.58E-04
001M00030	Benzene	6/28/1994	71432	6.46E+00	0.00478	3.09E+00	6.5	U	4.40E-04
001M00030	Bromodichloromethane	6/28/1994	75274		0.00478		6.5	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 3 Phase: 2 Wetland: 3 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
001M00030	Bromoform	6/28/1994	75252	1.22E+01	0.00478	5.82E+00	6.5	U	2.33E-04
001M00030	Bromomethane	6/28/1994	74839	4.03E+00	0.00478	1.93E+00	6.5	U	7.06E-04
001M00030	Carbon disulfide	6/28/1994	75150		0.00478		6.5	U	
001M00030	Carbon tetrachloride	6/28/1994	56235	7.73E+00	0.00478	3.70E+00	6.5	U	3.68E-04
001M00030	Chlorobenzene	6/28/1994	108907	5.59E+00	0.00478	2.67E+00	6.5	U	5.09E-04
001M00030	Chloroethane	6/28/1994	75003		0.00478		6.5	U	
001M00030	Chloroform	6/28/1994	67663	5.59E+00	0.00478	2.67E+00	6.5	U	5.09E-04
001M00030	Chloromethane	6/28/1994	74873	2.12E+00	0.00478	1.01E+00	6.5	U	1.34E-03
001M00030	cis-1,3-Dichloropropene	6/28/1994	10061015		0.00478		6.5	U	
001M00030	Dibromochloromethane	6/28/1994	124481		0.00478		6.5	U	
001M00030	Ethylbenzene	6/28/1994	100414	9.64E+00	0.00478	4.61E+00	6.5	U	2.95E-04
001M00030	Methylene chloride	6/28/1994	75092	3.73E+00	0.00478	1.78E+00	4.5	U	5.28E-04
001M00030	Styrene	6/28/1994	100425	9.18E+00	0.00478	4.39E+00	6.5	U	3.10E-04
001M00030	Tetrachloroethene	6/28/1994	127184	8.83E+00	0.00478	4.22E+00	6.5	U	3.22E-04
001M00030	Toluene	6/28/1994	108883	8.05E+00	0.00478	3.85E+00	6.5	U	3.54E-04
001M00030	trans-1,3-Dichloropropene	6/28/1994	10061026		0.00478		6.5	U	
001M00030	Trichloroethene	6/28/1994	79016	6.65E+00	0.00478	3.18E+00	6.5	U	4.28E-04
001M00030	Vinyl chloride	6/28/1994	75014		0.00478		6.5	U	
001M00030	Xylene (Total)	6/28/1994	1330207	9.70E+00	0.00478	4.63E+00	6.5	U	2.93E-04
041M03010	1,1,1-Trichloroethane	12/1/1995	71556	6.50E+00	0.00815	5.30E+00	7	U	1.62E-04
041M03010	1,1,2,2-Tetrachloroethane	12/1/1995	79345	8.13E+00	0.00815	6.63E+00	7	U	1.30E-04
041M03010	1,1,2-Trichloroethane	12/1/1995	79005	6.24E+00	0.00815	5.09E+00	7	U	1.69E-04
041M03010	1,1-Dichloroethane	12/1/1995	75343		0.00815		7	U	
041M03010	1,1-Dichloroethene	12/1/1995	75354	4.65E+00	0.00815	3.79E+00	7	U	2.27E-04
041M03010	1,2-Dichloroethane	12/1/1995	107062	4.43E+00	0.00815	3.61E+00	7	U	2.38E-04
041M03010	1,2-Dichloroethene (total)	12/1/1995	540590	4.61E+00	0.00815	3.76E+00	7	U	2.28E-04
041M03010	1,2-Dichloropropane	12/1/1995	78875	5.26E+00	0.00815	4.29E+00	7	U	2.00E-04
041M03010	2-Butanone (MEK)	12/1/1995	78933	2.93E+00	0.00815	2.39E+00	7	U	3.60E-04
041M03010	2-Hexanone	12/1/1995	591786	4.43E+00	0.00815	3.61E+00	7	U	2.38E-04
041M03010	4-Methyl-2-Pentanone (MIBK)	12/1/1995	108101	4.38E+00	0.00815	3.57E+00	7	U	2.40E-04
041M03010	Acetone	12/1/1995	67641	1.34E+01	0.00815	1.09E+01	13.5	U	1.52E-04
041M03010	Benzene	12/1/1995	71432	6.46E+00	0.00815	5.27E+00	7	U	1.63E-04
041M03010	Bromodichloromethane	12/1/1995	75274		0.00815		7	U	
041M03010	Bromoform	12/1/1995	75252	1.22E+01	0.00815	9.93E+00	7	U	8.65E-05
041M03010	Bromomethane	12/1/1995	74839	4.03E+00	0.00815	3.28E+00	7	U	2.62E-04
041M03010	Carbon disulfide	12/1/1995	75150		0.00815		7	U	
041M03010	Carbon tetrachloride	12/1/1995	56235	7.73E+00	0.00815	6.30E+00	7	U	1.36E-04
041M03010	Chlorobenzene	12/1/1995	108907	5.59E+00	0.00815	4.55E+00	2	J	5.39E-05
041M03010	Chloroethane	12/1/1995	75003		0.00815		7	U	
041M03010	Chloroform	12/1/1995	67663	5.59E+00	0.00815	4.55E+00	7	U	1.89E-04

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 3 Phase: 2 Wetland: 3 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M03010	Chloromethane	12/1/1995	74873	2.12E+00	0.00815	1.73E+00	7	U	4.97E-04
041M03010	cis-1,3-Dichloropropene	12/1/1995	10061015		0.00815		7	U	
041M03010	Dibromochloromethane	12/1/1995	124481		0.00815		7	U	
041M03010	Ethylbenzene	12/1/1995	100414	9.64E+00	0.00815	7.85E+00	7	U	1.09E-04
041M03010	Methylene chloride	12/1/1995	75092	3.73E+00	0.00815	3.04E+00	7	U	2.83E-04
041M03010	Styrene	12/1/1995	100425	9.18E+00	0.00815	7.48E+00	7	U	1.15E-04
041M03010	Tetrachloroethene	12/1/1995	127184	8.83E+00	0.00815	7.19E+00	7	U	1.19E-04
041M03010	Toluene	12/1/1995	108883	8.05E+00	0.00815	6.56E+00	7	U	1.31E-04
041M03010	trans-1,3-Dichloropropene	12/1/1995	10061026		0.00815		7	U	
041M03010	Trichloroethene	12/1/1995	79016	6.65E+00	0.00815	5.42E+00	7	U	1.58E-04
041M03010	Vinyl chloride	12/1/1995	75014		0.00815		2	U	
041M03010	Xylene (Total)	12/1/1995	1330207	9.70E+00	0.00815	7.90E+00	7	U	1.09E-04
041M03020	1,1,1-Trichloroethane	12/1/1995	71556	6.50E+00	0.241	1.57E+02	21	U	5.56E-07
041M03020	1,1,2,2-Tetrachloroethane	12/1/1995	79345	8.13E+00	0.241	1.96E+02	21	UJ	4.44E-07
041M03020	1,1,2-Trichloroethane	12/1/1995	79005	6.24E+00	0.241	1.50E+02	21	U	5.79E-07
041M03020	1,1-Dichloroethane	12/1/1995	75343		0.241		21	U	
041M03020	1,1-Dichloroethene	12/1/1995	75354	4.65E+00	0.241	1.12E+02	21	U	7.78E-07
041M03020	1,2-Dichloroethane	12/1/1995	107062	4.43E+00	0.241	1.07E+02	21	U	8.16E-07
041M03020	1,2-Dichloroethene (total)	12/1/1995	540590	4.61E+00	0.241	1.11E+02	21	U	7.84E-07
041M03020	1,2-Dichloropropane	12/1/1995	78875	5.26E+00	0.241	1.27E+02	21	U	6.87E-07
041M03020	2-Butanone (MEK)	12/1/1995	78933	2.93E+00	0.241	7.06E+01	21	U	1.23E-06
041M03020	2-Hexanone	12/1/1995	591786	4.43E+00	0.241	1.07E+02	21	UJ	8.16E-07
041M03020	4-Methyl-2-Pentanone (MIBK)	12/1/1995	108101	4.38E+00	0.241	1.06E+02	21	UJ	8.25E-07
041M03020	Acetone	12/1/1995	67641	1.34E+01	0.241	3.23E+02	65	U	8.36E-07
041M03020	Benzene	12/1/1995	71432	6.46E+00	0.241	1.56E+02	34	J	9.06E-07
041M03020	Bromodichloromethane	12/1/1995	75274		0.241		21	U	
041M03020	Bromoform	12/1/1995	75252	1.22E+01	0.241	2.94E+02	21	U	2.97E-07
041M03020	Bromomethane	12/1/1995	74839	4.03E+00	0.241	9.71E+01	21	U	8.98E-07
041M03020	Carbon disulfide	12/1/1995	75150		0.241		21	U	
041M03020	Carbon tetrachloride	12/1/1995	56235	7.73E+00	0.241	1.86E+02	21	U	4.68E-07
041M03020	Chlorobenzene	12/1/1995	108907	5.59E+00	0.241	1.35E+02	410	J	1.26E-05
041M03020	Chloroethane	12/1/1995	75003		0.241		21	U	
041M03020	Chloroform	12/1/1995	67663	5.59E+00	0.241	1.35E+02	21	U	6.47E-07
041M03020	Chloromethane	12/1/1995	74873	2.12E+00	0.241	5.11E+01	21	U	1.70E-06
041M03020	cis-1,3-Dichloropropene	12/1/1995	10061015		0.241		21	U	
041M03020	Dibromochloromethane	12/1/1995	124481		0.241		21	U	
041M03020	Ethylbenzene	12/1/1995	100414	9.64E+00	0.241	2.32E+02	21	UJ	3.75E-07
041M03020	Methylene chloride	12/1/1995	75092	3.73E+00	0.241	8.99E+01	21	U	9.70E-07
041M03020	Styrene	12/1/1995	100425	9.18E+00	0.241	2.21E+02	21	UJ	3.94E-07
041M03020	Tetrachloroethene	12/1/1995	127184	8.83E+00	0.241	2.13E+02	21	UJ	4.10E-07

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 3 Phase: 2 Wetland: 3 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M03020	Toluene	12/1/1995	108883	8.05E+00	0.241	1.94E+02	21	UJ	4.49E-07
041M03020	trans-1,3-Dichloropropene	12/1/1995	10061026		0.241		21	U	
041M03020	Trichloroethene	12/1/1995	79016	6.65E+00	0.241	1.60E+02	21	U	5.44E-07
041M03020	Vinyl chloride	12/1/1995	75014		0.241		6.5	U	
041M03020	Xylene (Total)	12/1/1995	1330207	9.70E+00	0.241	2.34E+02	21	UJ	3.73E-07
041M03030	1,1,1-Trichloroethane	12/4/1995	71556	6.50E+00	0.0518	3.37E+01	50	U	2.86E-05
041M03030	1,1,2,2-Tetrachloroethane	12/4/1995	79345	8.13E+00	0.0518	4.21E+01	50	U	2.29E-05
041M03030	1,1,2-Trichloroethane	12/4/1995	79005	6.24E+00	0.0518	3.23E+01	50	U	2.98E-05
041M03030	1,1-Dichloroethane	12/4/1995	75343		0.0518		50	U	
041M03030	1,1-Dichloroethene	12/4/1995	75354	4.65E+00	0.0518	2.41E+01	50	U	4.01E-05
041M03030	1,2-Dichloroethane	12/4/1995	107062	4.43E+00	0.0518	2.29E+01	50	U	4.21E-05
041M03030	1,2-Dichloroethene (total)	12/4/1995	540590	4.61E+00	0.0518	2.39E+01	50	U	4.04E-05
041M03030	1,2-Dichloropropane	12/4/1995	78875	5.26E+00	0.0518	2.73E+01	50	U	3.54E-05
041M03030	2-Butanone (MEK)	12/4/1995	78933	2.93E+00	0.0518	1.52E+01	50	U	6.36E-05
041M03030	2-Hexanone	12/4/1995	591786	4.43E+00	0.0518	2.29E+01	50	U	4.21E-05
041M03030	4-Methyl-2-Pentanone (MIBK)	12/4/1995	108101	4.38E+00	0.0518	2.27E+01	50	U	4.25E-05
041M03030	Acetone	12/4/1995	67641	1.34E+01	0.0518	6.93E+01	120	U	3.34E-05
041M03030	Benzene	12/4/1995	71432	6.46E+00	0.0518	3.35E+01	18	J	1.04E-05
041M03030	Bromodichloromethane	12/4/1995	75274		0.0518		50	U	
041M03030	Bromoform	12/4/1995	75252	1.22E+01	0.0518	6.31E+01	50	U	1.53E-05
041M03030	Bromomethane	12/4/1995	74839	4.03E+00	0.0518	2.09E+01	50	U	4.63E-05
041M03030	Carbon disulfide	12/4/1995	75150		0.0518		50	U	
041M03030	Carbon tetrachloride	12/4/1995	56235	7.73E+00	0.0518	4.01E+01	50	U	2.41E-05
041M03030	Chlorobenzene	12/4/1995	108907	5.59E+00	0.0518	2.89E+01	620		4.14E-04
041M03030	Chloroethane	12/4/1995	75003		0.0518		50	U	
041M03030	Chloroform	12/4/1995	67663	5.59E+00	0.0518	2.89E+01	50	U	3.34E-05
041M03030	Chloromethane	12/4/1995	74873	2.12E+00	0.0518	1.10E+01	50	U	8.78E-05
041M03030	cis-1,3-Dichloropropene	12/4/1995	10061015		0.0518		50	U	
041M03030	Dibromochloromethane	12/4/1995	124481		0.0518		50	U	
041M03030	Ethylbenzene	12/4/1995	100414	9.64E+00	0.0518	4.99E+01	50	U	1.93E-05
041M03030	Methylene chloride	12/4/1995	75092	3.73E+00	0.0518	1.93E+01	50	U	5.00E-05
041M03030	Styrene	12/4/1995	100425	9.18E+00	0.0518	4.75E+01	50	U	2.03E-05
041M03030	Tetrachloroethene	12/4/1995	127184	8.83E+00	0.0518	4.57E+01	50	U	2.11E-05
041M03030	Toluene	12/4/1995	108883	8.05E+00	0.0518	4.17E+01	50	U	2.32E-05
041M03030	trans-1,3-Dichloropropene	12/4/1995	10061026		0.0518		50	U	
041M03030	Trichloroethene	12/4/1995	79016	6.65E+00	0.0518	3.45E+01	50	U	2.80E-05
041M03030	Vinyl chloride	12/4/1995	75014		0.0518		15	U	
041M03030	Xylene (Total)	12/4/1995	1330207	9.70E+00	0.0518	5.02E+01	50	U	1.92E-05
041M03040	1,1,1-Trichloroethane	12/4/1995	71556	6.50E+00	0.00478	3.11E+00	10	U	6.73E-04
041M03040	1,1,2,2-Tetrachloroethane	12/4/1995	79345	8.13E+00	0.00478	3.89E+00	10	U	5.38E-04

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 3 Phase: 2 Wetland: 3 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M03040	1,1,2-Trichloroethane	12/4/1995	79005	6.24E+00	0.00478	2.98E+00	10	U	7.01E-04
041M03040	1,1-Dichloroethane	12/4/1995	75343		0.00478		10	U	
041M03040	1,1-Dichloroethene	12/4/1995	75354	4.65E+00	0.00478	2.22E+00	10	U	9.41E-04
041M03040	1,2-Dichloroethane	12/4/1995	107062	4.43E+00	0.00478	2.12E+00	10	U	9.88E-04
041M03040	1,2-Dichloroethene (total)	12/4/1995	540590	4.61E+00	0.00478	2.20E+00	10	U	9.49E-04
041M03040	1,2-Dichloropropane	12/4/1995	78875	5.26E+00	0.00478	2.52E+00	10	U	8.31E-04
041M03040	2-Butanone (MEK)	12/4/1995	78933	2.93E+00	0.00478	1.40E+00	10	U	1.49E-03
041M03040	2-Hexanone	12/4/1995	591786	4.43E+00	0.00478	2.12E+00	10	U	9.88E-04
041M03040	4-Methyl-2-Pentanone (MIBK)	12/4/1995	108101	4.38E+00	0.00478	2.10E+00	10	U	9.99E-04
041M03040	Acetone	12/4/1995	67641	1.34E+01	0.00478	6.40E+00	19.5	U	6.38E-04
041M03040	Benzene	12/4/1995	71432	6.46E+00	0.00478	3.09E+00	10	U	6.77E-04
041M03040	Bromodichloromethane	12/4/1995	75274		0.00478		10	U	
041M03040	Bromoform	12/4/1995	75252	1.22E+01	0.00478	5.82E+00	10	U	3.59E-04
041M03040	Bromomethane	12/4/1995	74839	4.03E+00	0.00478	1.93E+00	10	U	1.09E-03
041M03040	Carbon disulfide	12/4/1995	75150		0.00478		10	U	
041M03040	Carbon tetrachloride	12/4/1995	56235	7.73E+00	0.00478	3.70E+00	10	U	5.66E-04
041M03040	Chlorobenzene	12/4/1995	108907	5.59E+00	0.00478	2.67E+00	29		2.27E-03
041M03040	Chloroethane	12/4/1995	75003		0.00478		10	U	
041M03040	Chloroform	12/4/1995	67663	5.59E+00	0.00478	2.67E+00	10	U	7.83E-04
041M03040	Chloromethane	12/4/1995	74873	2.12E+00	0.00478	1.01E+00	10	U	2.06E-03
041M03040	cis-1,3-Dichloropropene	12/4/1995	10061015		0.00478		10	U	
041M03040	Dibromochloromethane	12/4/1995	124481		0.00478		10	U	
041M03040	Ethylbenzene	12/4/1995	100414	9.64E+00	0.00478	4.61E+00	10	U	4.54E-04
041M03040	Methylene chloride	12/4/1995	75092	3.73E+00	0.00478	1.78E+00	10	U	1.17E-03
041M03040	Styrene	12/4/1995	100425	9.18E+00	0.00478	4.39E+00	10	U	4.77E-04
041M03040	Tetrachloroethene	12/4/1995	127184	8.83E+00	0.00478	4.22E+00	10	U	4.96E-04
041M03040	Toluene	12/4/1995	108883	8.05E+00	0.00478	3.85E+00	10	U	5.44E-04
041M03040	trans-1,3-Dichloropropene	12/4/1995	10061026		0.00478		10	U	
041M03040	Trichloroethene	12/4/1995	79016	6.65E+00	0.00478	3.18E+00	10	U	6.58E-04
041M03040	Vinyl chloride	12/4/1995	75014		0.00478		3	U	
041M03040	Xylene (Total)	12/4/1995	1330207	9.70E+00	0.00478	4.63E+00	10	U	4.51E-04
041M03050	1,1,1-Trichloroethane	12/4/1995	71556	6.50E+00	0.0108	7.03E+00	100	U	1.32E-03
041M03050	1,1,2,2-Tetrachloroethane	12/4/1995	79345	8.13E+00	0.0108	8.79E+00	100	U	1.05E-03
041M03050	1,1,2-Trichloroethane	12/4/1995	79005	6.24E+00	0.0108	6.74E+00	100	U	1.37E-03
041M03050	1,1-Dichloroethane	12/4/1995	75343		0.0108		100	U	
041M03050	1,1-Dichloroethene	12/4/1995	75354	4.65E+00	0.0108	5.02E+00	100	U	1.84E-03
041M03050	1,2-Dichloroethane	12/4/1995	107062	4.43E+00	0.0108	4.78E+00	100	U	1.94E-03
041M03050	1,2-Dichloroethene (total)	12/4/1995	540590	4.61E+00	0.0108	4.98E+00	100	U	1.86E-03
041M03050	1,2-Dichloropropane	12/4/1995	78875	5.26E+00	0.0108	5.69E+00	100	U	1.63E-03
041M03050	2-Butanone (MEK)	12/4/1995	78933	2.93E+00	0.0108	3.16E+00	100	U	2.93E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 3 Phase: 2 Wetland: 3 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M03050	2-Hexanone	12/4/1995	591786	4.43E+00	0.0108	4.78E+00	100	U	1.94E-03
041M03050	4-Methyl-2-Pentanone (MIBK)	12/4/1995	108101	4.38E+00	0.0108	4.73E+00	100	U	1.96E-03
041M03050	Acetone	12/4/1995	67641	1.34E+01	0.0108	1.45E+01	800	U	5.12E-03
041M03050	Benzene	12/4/1995	71432	6.46E+00	0.0108	6.98E+00	100	U	1.33E-03
041M03050	Bromodichloromethane	12/4/1995	75274		0.0108		100	U	
041M03050	Bromoform	12/4/1995	75252	1.22E+01	0.0108	1.32E+01	100	U	7.04E-04
041M03050	Bromomethane	12/4/1995	74839	4.03E+00	0.0108	4.35E+00	100	U	2.13E-03
041M03050	Carbon disulfide	12/4/1995	75150		0.0108		100	U	
041M03050	Carbon tetrachloride	12/4/1995	56235	7.73E+00	0.0108	8.35E+00	100	U	1.11E-03
041M03050	Chlorobenzene	12/4/1995	108907	5.59E+00	0.0108	6.03E+00	100	U	1.53E-03
041M03050	Chloroethane	12/4/1995	75003		0.0108		100	U	
041M03050	Chloroform	12/4/1995	67663	5.59E+00	0.0108	6.03E+00	100	U	1.53E-03
041M03050	Chloromethane	12/4/1995	74873	2.12E+00	0.0108	2.29E+00	100	U	4.04E-03
041M03050	cis-1,3-Dichloropropene	12/4/1995	10061015		0.0108		100	U	
041M03050	Dibromochloromethane	12/4/1995	124481		0.0108		100	U	
041M03050	Ethylbenzene	12/4/1995	100414	9.64E+00	0.0108	1.04E+01	100	U	8.90E-04
041M03050	Methylene chloride	12/4/1995	75092	3.73E+00	0.0108	4.03E+00	100	U	2.30E-03
041M03050	Styrene	12/4/1995	100425	9.18E+00	0.0108	9.91E+00	100	U	9.34E-04
041M03050	Tetrachloroethene	12/4/1995	127184	8.83E+00	0.0108	9.53E+00	100	U	9.71E-04
041M03050	Toluene	12/4/1995	108883	8.05E+00	0.0108	8.69E+00	100	U	1.07E-03
041M03050	trans-1,3-Dichloropropene	12/4/1995	10061026		0.0108		100	U	
041M03050	Trichloroethene	12/4/1995	79016	6.65E+00	0.0108	7.18E+00	100	U	1.29E-03
041M03050	Vinyl chloride	12/4/1995	75014		0.0108		30	U	
041M03050	Xylene (Total)	12/4/1995	1330207	9.70E+00	0.0108	1.05E+01	100	U	8.84E-04
041M03060	1,1,1-Trichloroethane	12/4/1995	71556	6.50E+00	0.00672	4.37E+00	7	U	2.38E-04
041M03060	1,1,2,2-Tetrachloroethane	12/4/1995	79345	8.13E+00	0.00672	5.47E+00	7	U	1.91E-04
041M03060	1,1,2-Trichloroethane	12/4/1995	79005	6.24E+00	0.00672	4.20E+00	7	U	2.48E-04
041M03060	1,1-Dichloroethane	12/4/1995	75343		0.00672		7	U	
041M03060	1,1-Dichloroethene	12/4/1995	75354	4.65E+00	0.00672	3.12E+00	7	U	3.33E-04
041M03060	1,2-Dichloroethane	12/4/1995	107062	4.43E+00	0.00672	2.98E+00	7	U	3.50E-04
041M03060	1,2-Dichloroethene (total)	12/4/1995	540590	4.61E+00	0.00672	3.10E+00	7	U	3.36E-04
041M03060	1,2-Dichloropropane	12/4/1995	78875	5.26E+00	0.00672	3.54E+00	7	U	2.94E-04
041M03060	2-Butanone (MEK)	12/4/1995	78933	2.93E+00	0.00672	1.97E+00	7	U	5.29E-04
041M03060	2-Hexanone	12/4/1995	591786	4.43E+00	0.00672	2.98E+00	7	U	3.50E-04
041M03060	4-Methyl-2-Pentanone (MIBK)	12/4/1995	108101	4.38E+00	0.00672	2.95E+00	7	U	3.54E-04
041M03060	Acetone	12/4/1995	67641	1.34E+01	0.00672	9.00E+00	60	U	9.93E-04
041M03060	Benzene	12/4/1995	71432	6.46E+00	0.00672	4.34E+00	7	U	2.40E-04
041M03060	Bromodichloromethane	12/4/1995	75274		0.00672		7	U	
041M03060	Bromoform	12/4/1995	75252	1.22E+01	0.00672	8.19E+00	7	U	1.27E-04
041M03060	Bromomethane	12/4/1995	74839	4.03E+00	0.00672	2.71E+00	7	U	3.85E-04

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 3 Phase: 2 Wetland: 3 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M03060	Carbon disulfide	12/4/1995	75150		0.00672		7	U	
041M03060	Carbon tetrachloride	12/4/1995	56235	7.73E+00	0.00672	5.20E+00	7	U	2.00E-04
041M03060	Chlorobenzene	12/4/1995	108907	5.59E+00	0.00672	3.75E+00	4	J	1.59E-04
041M03060	Chloroethane	12/4/1995	75003		0.00672		7	U	
041M03060	Chloroform	12/4/1995	67663	5.59E+00	0.00672	3.75E+00	7	U	2.77E-04
041M03060	Chloromethane	12/4/1995	74873	2.12E+00	0.00672	1.43E+00	7	U	7.31E-04
041M03060	cis-1,3-Dichloropropene	12/4/1995	10061015		0.00672		7	U	
041M03060	Dibromochloromethane	12/4/1995	124481		0.00672		7	U	
041M03060	Ethylbenzene	12/4/1995	100414	9.64E+00	0.00672	6.48E+00	7	U	1.61E-04
041M03060	Methylene chloride	12/4/1995	75092	3.73E+00	0.00672	2.51E+00	17	U	1.01E-03
041M03060	Styrene	12/4/1995	100425	9.18E+00	0.00672	6.17E+00	7	U	1.69E-04
041M03060	Tetrachloroethene	12/4/1995	127184	8.83E+00	0.00672	5.93E+00	7	U	1.76E-04
041M03060	Toluene	12/4/1995	108883	8.05E+00	0.00672	5.41E+00	7	U	1.93E-04
041M03060	trans-1,3-Dichloropropene	12/4/1995	10061026		0.00672		7	U	
041M03060	Trichloroethene	12/4/1995	79016	6.65E+00	0.00672	4.47E+00	7	U	2.33E-04
041M03060	Vinyl chloride	12/4/1995	75014		0.00672		2	U	
041M03060	Xylene (Total)	12/4/1995	1330207	9.70E+00	0.00672	6.52E+00	7	U	1.60E-04
041M03070	1,1,1-Trichloroethane	12/4/1995	71556	6.50E+00	0.0739	4.81E+01	28	U	7.88E-06
041M03070	1,1,2,2-Tetrachloroethane	12/4/1995	79345	8.13E+00	0.0739	6.01E+01	28	U	6.30E-06
041M03070	1,1,2-Trichloroethane	12/4/1995	79005	6.24E+00	0.0739	4.61E+01	28	U	8.21E-06
041M03070	1,1-Dichloroethane	12/4/1995	75343		0.0739		28	U	
041M03070	1,1-Dichloroethene	12/4/1995	75354	4.65E+00	0.0739	3.44E+01	28	U	1.10E-05
041M03070	1,2-Dichloroethane	12/4/1995	107062	4.43E+00	0.0739	3.27E+01	28	U	1.16E-05
041M03070	1,2-Dichloroethene (total)	12/4/1995	540590	4.61E+00	0.0739	3.41E+01	28	U	1.11E-05
041M03070	1,2-Dichloropropane	12/4/1995	78875	5.26E+00	0.0739	3.89E+01	28	U	9.74E-06
041M03070	2-Butanone (MEK)	12/4/1995	78933	2.93E+00	0.0739	2.16E+01	180		1.13E-04
041M03070	2-Hexanone	12/4/1995	591786	4.43E+00	0.0739	3.27E+01	28	U	1.16E-05
041M03070	4-Methyl-2-Pentanone (MIBK)	12/4/1995	108101	4.38E+00	0.0739	3.24E+01	28	U	1.17E-05
041M03070	Acetone	12/4/1995	67641	1.34E+01	0.0739	9.89E+01	1100	J	1.50E-04
041M03070	Benzene	12/4/1995	71432	6.46E+00	0.0739	4.78E+01	28	U	7.93E-06
041M03070	Bromodichloromethane	12/4/1995	75274		0.0739		28	U	
041M03070	Bromoform	12/4/1995	75252	1.22E+01	0.0739	9.00E+01	28	U	4.21E-06
041M03070	Bromomethane	12/4/1995	74839	4.03E+00	0.0739	2.98E+01	28	U	1.27E-05
041M03070	Carbon disulfide	12/4/1995	75150		0.0739		28	U	
041M03070	Carbon tetrachloride	12/4/1995	56235	7.73E+00	0.0739	5.72E+01	28	U	6.63E-06
041M03070	Chlorobenzene	12/4/1995	108907	5.59E+00	0.0739	4.13E+01	29	J	9.51E-06
041M03070	Chloroethane	12/4/1995	75003		0.0739		28	U	
041M03070	Chloroform	12/4/1995	67663	5.59E+00	0.0739	4.13E+01	28	U	9.18E-06
041M03070	Chloromethane	12/4/1995	74873	2.12E+00	0.0739	1.57E+01	28	U	2.42E-05
041M03070	cis-1,3-Dichloropropene	12/4/1995	10061015		0.0739		28	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 3 Phase: 2 Wetland: 3 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M03070	Dibromochloromethane	12/4/1995	124481		0.0739		28	U	
041M03070	Ethylbenzene	12/4/1995	100414	9.64E+00	0.0739	7.12E+01	28	U	5.32E-06
041M03070	Methylene chloride	12/4/1995	75092	3.73E+00	0.0739	2.76E+01	30.5	U	1.50E-05
041M03070	Styrene	12/4/1995	100425	9.18E+00	0.0739	6.78E+01	28	U	5.59E-06
041M03070	Tetrachloroethene	12/4/1995	127184	8.83E+00	0.0739	6.52E+01	28	U	5.81E-06
041M03070	Toluene	12/4/1995	108883	8.05E+00	0.0739	5.95E+01	2	J	4.55E-07
041M03070	trans-1,3-Dichloropropene	12/4/1995	10061026		0.0739		28	U	
041M03070	Trichloroethene	12/4/1995	79016	6.65E+00	0.0739	4.92E+01	28	U	7.71E-06
041M03070	Vinyl chloride	12/4/1995	75014		0.0739		8.5	U	
041M03070	Xylene (Total)	12/4/1995	1330207	9.70E+00	0.0739	7.17E+01	28	U	5.29E-06

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 4 Phase: 2 Wetland: 4D Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M04D10	1,1,1-Trichloroethane	12/5/1995	71556	6.50E+00	0.033	2.15E+01	18	U	2.54E-05
041M04D10	1,1,2,2-Tetrachloroethane	12/5/1995	79345	8.13E+00	0.033	2.68E+01	18	U	2.03E-05
041M04D10	1,1,2-Trichloroethane	12/5/1995	79005	6.24E+00	0.033	2.06E+01	18	U	2.65E-05
041M04D10	1,1-Dichloroethane	12/5/1995	75343		0.033		18	U	
041M04D10	1,1-Dichloroethene	12/5/1995	75354	4.65E+00	0.033	1.53E+01	18	U	3.56E-05
041M04D10	1,2-Dichloroethane	12/5/1995	107062	4.43E+00	0.033	1.46E+01	18	U	3.73E-05
041M04D10	1,2-Dichloroethene (total)	12/5/1995	540590	4.61E+00	0.033	1.52E+01	18	U	3.58E-05
041M04D10	1,2-Dichloropropane	12/5/1995	78875	5.26E+00	0.033	1.74E+01	18	U	3.14E-05
041M04D10	2-Butanone (MEK)	12/5/1995	78933	2.93E+00	0.033	9.66E+00	18	U	5.64E-05
041M04D10	2-Hexanone	12/5/1995	591786	4.43E+00	0.033	1.46E+01	18	U	3.73E-05
041M04D10	4-Methyl-2-Pentanone (MIBK)	12/5/1995	108101	4.38E+00	0.033	1.45E+01	18	U	3.77E-05
041M04D10	Acetone	12/5/1995	67641	1.34E+01	0.033	4.42E+01	125	U	8.58E-05
041M04D10	Benzene	12/5/1995	71432	6.46E+00	0.033	2.13E+01	18	U	2.56E-05
041M04D10	Bromodichloromethane	12/5/1995	75274		0.033		18	U	
041M04D10	Bromoform	12/5/1995	75252	1.22E+01	0.033	4.02E+01	18	U	1.36E-05
041M04D10	Bromomethane	12/5/1995	74839	4.03E+00	0.033	1.33E+01	18	U	4.10E-05
041M04D10	Carbon disulfide	12/5/1995	75150		0.033		27	J	
041M04D10	Carbon tetrachloride	12/5/1995	56235	7.73E+00	0.033	2.55E+01	18	U	2.14E-05
041M04D10	Chlorobenzene	12/5/1995	108907	5.59E+00	0.033	1.84E+01	18	U	2.96E-05
041M04D10	Chloroethane	12/5/1995	75003		0.033		18	U	
041M04D10	Chloroform	12/5/1995	67663	5.59E+00	0.033	1.84E+01	18	U	2.96E-05
041M04D10	Chloromethane	12/5/1995	74873	2.12E+00	0.033	7.00E+00	18	U	7.79E-05
041M04D10	cis-1,3-Dichloropropene	12/5/1995	10061015		0.033		18	U	
041M04D10	Dibromochloromethane	12/5/1995	124481		0.033		18	U	
041M04D10	Ethylbenzene	12/5/1995	100414	9.64E+00	0.033	3.18E+01	18	U	1.72E-05
041M04D10	Methylene chloride	12/5/1995	75092	3.73E+00	0.033	1.23E+01	19	U	4.68E-05
041M04D10	Styrene	12/5/1995	100425	9.18E+00	0.033	3.03E+01	18	U	1.80E-05
041M04D10	Tetrachloroethene	12/5/1995	127184	8.83E+00	0.033	2.91E+01	18	U	1.87E-05
041M04D10	Toluene	12/5/1995	108883	8.05E+00	0.033	2.66E+01	18	U	2.05E-05
041M04D10	trans-1,3-Dichloropropene	12/5/1995	10061026		0.033		18	U	
041M04D10	Trichloroethene	12/5/1995	79016	6.65E+00	0.033	2.20E+01	18	U	2.48E-05
041M04D10	Vinyl chloride	12/5/1995	75014		0.033		5.5	U	
041M04D10	Xylene (Total)	12/5/1995	1330207	9.70E+00	0.033	3.20E+01	18	U	1.70E-05
041M04D20	1,1,1-Trichloroethane	12/5/1995	71556	6.50E+00	0.0451	2.93E+01	18	U	1.36E-05
041M04D20	1,1,2,2-Tetrachloroethane	12/5/1995	79345	8.13E+00	0.0451	3.67E+01	18	U	1.09E-05
041M04D20	1,1,2-Trichloroethane	12/5/1995	79005	6.24E+00	0.0451	2.82E+01	18	U	1.42E-05
041M04D20	1,1-Dichloroethane	12/5/1995	75343		0.0451		18	U	
041M04D20	1,1-Dichloroethene	12/5/1995	75354	4.65E+00	0.0451	2.10E+01	18	U	1.90E-05
041M04D20	1,2-Dichloroethane	12/5/1995	107062	4.43E+00	0.0451	2.00E+01	18	U	2.00E-05
041M04D20	1,2-Dichloroethene (total)	12/5/1995	540590	4.61E+00	0.0451	2.08E+01	18	U	1.92E-05

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 4 Phase: 2 Wetland: 4D Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M04D20	1,2-Dichloropropane	12/5/1995	78875	5.26E+00	0.0451	2.37E+01	18	U	1.68E-05
041M04D20	2-Butanone (MEK)	12/5/1995	78933	2.93E+00	0.0451	1.32E+01	18	U	3.02E-05
041M04D20	2-Hexanone	12/5/1995	591786	4.43E+00	0.0451	2.00E+01	18	U	2.00E-05
041M04D20	4-Methyl-2-Pentanone (MIBK)	12/5/1995	108101	4.38E+00	0.0451	1.98E+01	18	U	2.02E-05
041M04D20	Acetone	12/5/1995	67641	1.34E+01	0.0451	6.04E+01	250		9.18E-05
041M04D20	Benzene	12/5/1995	71432	6.46E+00	0.0451	2.91E+01	18	U	1.37E-05
041M04D20	Bromodichloromethane	12/5/1995	75274		0.0451		18	U	
041M04D20	Bromoform	12/5/1995	75252	1.22E+01	0.0451	5.50E+01	18	U	7.26E-06
041M04D20	Bromomethane	12/5/1995	74839	4.03E+00	0.0451	1.82E+01	18	U	2.20E-05
041M04D20	Carbon disulfide	12/5/1995	75150		0.0451		4	J	
041M04D20	Carbon tetrachloride	12/5/1995	56235	7.73E+00	0.0451	3.49E+01	18	U	1.14E-05
041M04D20	Chlorobenzene	12/5/1995	108907	5.59E+00	0.0451	2.52E+01	18	U	1.58E-05
041M04D20	Chloroethane	12/5/1995	75003		0.0451		18	U	
041M04D20	Chloroform	12/5/1995	67663	5.59E+00	0.0451	2.52E+01	18	U	1.58E-05
041M04D20	Chloromethane	12/5/1995	74873	2.12E+00	0.0451	9.57E+00	18	U	4.17E-05
041M04D20	cis-1,3-Dichloropropene	12/5/1995	10061015		0.0451		18	U	
041M04D20	Dibromochloromethane	12/5/1995	124481		0.0451		18	U	
041M04D20	Ethylbenzene	12/5/1995	100414	9.64E+00	0.0451	4.35E+01	18	U	9.18E-06
041M04D20	Methylene chloride	12/5/1995	75092	3.73E+00	0.0451	1.68E+01	23.5	U	3.10E-05
041M04D20	Styrene	12/5/1995	100425	9.18E+00	0.0451	4.14E+01	18	U	9.64E-06
041M04D20	Tetrachloroethene	12/5/1995	127184	8.83E+00	0.0451	3.98E+01	18	U	1.00E-05
041M04D20	Toluene	12/5/1995	108883	8.05E+00	0.0451	3.63E+01	18	U	1.10E-05
041M04D20	trans-1,3-Dichloropropene	12/5/1995	10061026		0.0451		18	U	
041M04D20	Trichloroethene	12/5/1995	79016	6.65E+00	0.0451	3.00E+01	18	U	1.33E-05
041M04D20	Vinyl chloride	12/5/1995	75014		0.0451		5.5	U	
041M04D20	Xylene (Total)	12/5/1995	1330207	9.70E+00	0.0451	4.37E+01	18	U	9.13E-06
041M04D30	1,1,1-Trichloroethane	12/5/1995	71556	6.50E+00	0.00204	1.33E+00	7	U	2.59E-03
041M04D30	1,1,2,2-Tetrachloroethane	12/5/1995	79345	8.13E+00	0.00204	1.66E+00	7	U	2.07E-03
041M04D30	1,1,2-Trichloroethane	12/5/1995	79005	6.24E+00	0.00204	1.27E+00	7	U	2.69E-03
041M04D30	1,1-Dichloroethane	12/5/1995	75343		0.00204		7	U	
041M04D30	1,1-Dichloroethene	12/5/1995	75354	4.65E+00	0.00204	9.48E-01	7	U	3.62E-03
041M04D30	1,2-Dichloroethane	12/5/1995	107062	4.43E+00	0.00204	9.04E-01	7	U	3.80E-03
041M04D30	1,2-Dichloroethene (total)	12/5/1995	540590	4.61E+00	0.00204	9.41E-01	7	U	3.65E-03
041M04D30	1,2-Dichloropropane	12/5/1995	78875	5.26E+00	0.00204	1.07E+00	7	U	3.20E-03
041M04D30	2-Butanone (MEK)	12/5/1995	78933	2.93E+00	0.00204	5.97E-01	7	U	5.74E-03
041M04D30	2-Hexanone	12/5/1995	591786	4.43E+00	0.00204	9.04E-01	7	U	3.80E-03
041M04D30	4-Methyl-2-Pentanone (MIBK)	12/5/1995	108101	4.38E+00	0.00204	8.94E-01	7	U	3.84E-03
041M04D30	Acetone	12/5/1995	67641	1.34E+01	0.00204	2.73E+00	33		5.92E-03
041M04D30	Benzene	12/5/1995	71432	6.46E+00	0.00204	1.32E+00	7	U	2.60E-03
041M04D30	Bromodichloromethane	12/5/1995	75274		0.00204		7	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 4 Phase: 2 Wetland: 4D Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M04D30	Bromoform	12/5/1995	75252	1.22E+01	0.00204	2.49E+00	7	U	1.38E-03
041M04D30	Bromomethane	12/5/1995	74839	4.03E+00	0.00204	8.22E-01	7	U	4.18E-03
041M04D30	Carbon disulfide	12/5/1995	75150		0.00204		7	U	
041M04D30	Carbon tetrachloride	12/5/1995	56235	7.73E+00	0.00204	1.58E+00	7	U	2.17E-03
041M04D30	Chlorobenzene	12/5/1995	108907	5.59E+00	0.00204	1.14E+00	7	U	3.01E-03
041M04D30	Chloroethane	12/5/1995	75003		0.00204		7	U	
041M04D30	Chloroform	12/5/1995	67663	5.59E+00	0.00204	1.14E+00	7	U	3.01E-03
041M04D30	Chloromethane	12/5/1995	74873	2.12E+00	0.00204	4.33E-01	7	U	7.93E-03
041M04D30	cis-1,3-Dichloropropene	12/5/1995	10061015		0.00204		7	U	
041M04D30	Dibromochloromethane	12/5/1995	124481		0.00204		7	U	
041M04D30	Ethylbenzene	12/5/1995	100414	9.64E+00	0.00204	1.97E+00	7	U	1.75E-03
041M04D30	Methylene chloride	12/5/1995	75092	3.73E+00	0.00204	7.61E-01	7	U	4.51E-03
041M04D30	Styrene	12/5/1995	100425	9.18E+00	0.00204	1.87E+00	7	U	1.83E-03
041M04D30	Tetrachloroethene	12/5/1995	127184	8.83E+00	0.00204	1.80E+00	7	U	1.91E-03
041M04D30	Toluene	12/5/1995	108883	8.05E+00	0.00204	1.64E+00	7	U	2.09E-03
041M04D30	trans-1,3-Dichloropropene	12/5/1995	10061026		0.00204		7	U	
041M04D30	Trichloroethene	12/5/1995	79016	6.65E+00	0.00204	1.36E+00	7	U	2.53E-03
041M04D30	Vinyl chloride	12/5/1995	75014		0.00204		2	U	
041M04D30	Xylene (Total)	12/5/1995	1330207	9.70E+00	0.00204	1.98E+00	7	U	1.73E-03
041M04D40	1,1,1-Trichloroethane	12/5/1995	71556	6.50E+00	0.07	4.55E+01	18.5	U	5.80E-06
041M04D40	1,1,2,2-Tetrachloroethane	12/5/1995	79345	8.13E+00	0.07	5.69E+01	18.5	U	4.64E-06
041M04D40	1,1,2-Trichloroethane	12/5/1995	79005	6.24E+00	0.07	4.37E+01	18.5	U	6.05E-06
041M04D40	1,1-Dichloroethane	12/5/1995	75343		0.07		18.5	U	
041M04D40	1,1-Dichloroethene	12/5/1995	75354	4.65E+00	0.07	3.25E+01	18.5	U	8.12E-06
041M04D40	1,2-Dichloroethane	12/5/1995	107062	4.43E+00	0.07	3.10E+01	18.5	U	8.52E-06
041M04D40	1,2-Dichloroethene (total)	12/5/1995	540590	4.61E+00	0.07	3.23E+01	18.5	U	8.19E-06
041M04D40	1,2-Dichloropropane	12/5/1995	78875	5.26E+00	0.07	3.69E+01	18.5	U	7.17E-06
041M04D40	2-Butanone (MEK)	12/5/1995	78933	2.93E+00	0.07	2.05E+01	18.5	U	1.29E-05
041M04D40	2-Hexanone	12/5/1995	591786	4.43E+00	0.07	3.10E+01	18.5	U	8.52E-06
041M04D40	4-Methyl-2-Pentanone (MIBK)	12/5/1995	108101	4.38E+00	0.07	3.07E+01	18.5	U	8.61E-06
041M04D40	Acetone	12/5/1995	67641	1.34E+01	0.07	9.37E+01	280		4.27E-05
041M04D40	Benzene	12/5/1995	71432	6.46E+00	0.07	4.52E+01	18.5	U	5.84E-06
041M04D40	Bromodichloromethane	12/5/1995	75274		0.07		18.5	U	
041M04D40	Bromoform	12/5/1995	75252	1.22E+01	0.07	8.53E+01	18.5	U	3.10E-06
041M04D40	Bromomethane	12/5/1995	74839	4.03E+00	0.07	2.82E+01	18.5	U	9.37E-06
041M04D40	Carbon disulfide	12/5/1995	75150		0.07		18	J	
041M04D40	Carbon tetrachloride	12/5/1995	56235	7.73E+00	0.07	5.41E+01	18.5	U	4.88E-06
041M04D40	Chlorobenzene	12/5/1995	108907	5.59E+00	0.07	3.91E+01	18.5	U	6.76E-06
041M04D40	Chloroethane	12/5/1995	75003		0.07		18.5	U	
041M04D40	Chloroform	12/5/1995	67663	5.59E+00	0.07	3.91E+01	18.5	U	6.76E-06

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 4 Phase: 2 Wetland: 4D Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M04D40	Chloromethane	12/5/1995	74873	2.12E+00	0.07	1.48E+01	18.5	U	1.78E-05
041M04D40	cis-1,3-Dichloropropene	12/5/1995	10061015		0.07		18.5	U	
041M04D40	Dibromochloromethane	12/5/1995	124481		0.07		18.5	U	
041M04D40	Ethylbenzene	12/5/1995	100414	9.64E+00	0.07	6.75E+01	18.5	U	3.92E-06
041M04D40	Methylene chloride	12/5/1995	75092	3.73E+00	0.07	2.61E+01	19	U	1.04E-05
041M04D40	Styrene	12/5/1995	100425	9.18E+00	0.07	6.42E+01	18.5	U	4.11E-06
041M04D40	Tetrachloroethene	12/5/1995	127184	8.83E+00	0.07	6.18E+01	18.5	U	4.28E-06
041M04D40	Toluene	12/5/1995	108883	8.05E+00	0.07	5.63E+01	18.5	U	4.69E-06
041M04D40	trans-1,3-Dichloropropene	12/5/1995	10061026		0.07		18.5	U	
041M04D40	Trichloroethene	12/5/1995	79016	6.65E+00	0.07	4.66E+01	18.5	U	5.68E-06
041M04D40	Vinyl chloride	12/5/1995	75014		0.07		5.5	U	
041M04D40	Xylene (Total)	12/5/1995	1330207	9.70E+00	0.07	6.79E+01	18.5	U	3.89E-06
041M04D50	1,1,1-Trichloroethane	12/5/1995	71556	6.50E+00	0.00154	1.00E+00	6	U	3.89E-03
041M04D50	1,1,2,2-Tetrachloroethane	12/5/1995	79345	8.13E+00	0.00154	1.25E+00	6	U	3.11E-03
041M04D50	1,1,2-Trichloroethane	12/5/1995	79005	6.24E+00	0.00154	9.61E-01	6	U	4.05E-03
041M04D50	1,1-Dichloroethane	12/5/1995	75343		0.00154		6	U	
041M04D50	1,1-Dichloroethene	12/5/1995	75354	4.65E+00	0.00154	7.16E-01	6	U	5.44E-03
041M04D50	1,2-Dichloroethane	12/5/1995	107062	4.43E+00	0.00154	6.82E-01	6	U	5.71E-03
041M04D50	1,2-Dichloroethene (total)	12/5/1995	540590	4.61E+00	0.00154	7.10E-01	6	U	5.48E-03
041M04D50	1,2-Dichloropropane	12/5/1995	78875	5.26E+00	0.00154	8.11E-01	6	U	4.81E-03
041M04D50	2-Butanone (MEK)	12/5/1995	78933	2.93E+00	0.00154	4.51E-01	6	U	8.64E-03
041M04D50	2-Hexanone	12/5/1995	591786	4.43E+00	0.00154	6.82E-01	6	U	5.71E-03
041M04D50	4-Methyl-2-Pentanone (MIBK)	12/5/1995	108101	4.38E+00	0.00154	6.75E-01	6	U	5.77E-03
041M04D50	Acetone	12/5/1995	67641	1.34E+01	0.00154	2.06E+00	60		1.89E-02
041M04D50	Benzene	12/5/1995	71432	6.46E+00	0.00154	9.95E-01	6	U	3.92E-03
041M04D50	Bromodichloromethane	12/5/1995	75274		0.00154		6	U	
041M04D50	Bromoform	12/5/1995	75252	1.22E+01	0.00154	1.88E+00	6	U	2.08E-03
041M04D50	Bromomethane	12/5/1995	74839	4.03E+00	0.00154	6.20E-01	6	U	6.28E-03
041M04D50	Carbon disulfide	12/5/1995	75150		0.00154		6	U	
041M04D50	Carbon tetrachloride	12/5/1995	56235	7.73E+00	0.00154	1.19E+00	6	U	3.27E-03
041M04D50	Chlorobenzene	12/5/1995	108907	5.59E+00	0.00154	8.60E-01	6	U	4.53E-03
041M04D50	Chloroethane	12/5/1995	75003		0.00154		6	U	
041M04D50	Chloroform	12/5/1995	67663	5.59E+00	0.00154	8.60E-01	6	U	4.53E-03
041M04D50	Chloromethane	12/5/1995	74873	2.12E+00	0.00154	3.27E-01	6	U	1.19E-02
041M04D50	cis-1,3-Dichloropropene	12/5/1995	10061015		0.00154		6	U	
041M04D50	Dibromochloromethane	12/5/1995	124481		0.00154		6	U	
041M04D50	Ethylbenzene	12/5/1995	100414	9.64E+00	0.00154	1.48E+00	6	U	2.63E-03
041M04D50	Methylene chloride	12/5/1995	75092	3.73E+00	0.00154	5.74E-01	6	U	6.79E-03
041M04D50	Styrene	12/5/1995	100425	9.18E+00	0.00154	1.41E+00	6	U	2.76E-03
041M04D50	Tetrachloroethene	12/5/1995	127184	8.83E+00	0.00154	1.36E+00	6	U	2.87E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 4 **Phase: 2** **Wetland: 4D** **Fresh/Salt: S**

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M04D50	Toluene	12/5/1995	108883	8.05E+00	0.00154	1.24E+00	6	U	3.14E-03
041M04D50	trans-1,3-Dichloropropene	12/5/1995	10061026		0.00154		6	U	
041M04D50	Trichloroethene	12/5/1995	79016	6.65E+00	0.00154	1.02E+00	6	U	3.80E-03
041M04D50	Vinyl chloride	12/5/1995	75014		0.00154		1.5	U	
041M04D50	Xylene (Total)	12/5/1995	1330207	9.70E+00	0.00154	1.49E+00	6	U	2.61E-03

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 5 Phase: 2 Wetland: 5A Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M5A010	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.254	1.65E+02	21.5	U	5.12E-07
041M5A010	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.254	2.07E+02	21.5	U	4.10E-07
041M5A010	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.254	1.59E+02	21.5	U	5.34E-07
041M5A010	1,1-Dichloroethane	11/16/1995	75343		0.254		21.5	U	
041M5A010	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.254	1.18E+02	21.5	U	7.17E-07
041M5A010	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.254	1.12E+02	21.5	U	7.52E-07
041M5A010	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.254	1.17E+02	21.5	U	7.22E-07
041M5A010	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.254	1.34E+02	21.5	U	6.33E-07
041M5A010	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.254	7.44E+01	21.5	U	1.14E-06
041M5A010	2-Hexanone	11/16/1995	591786	4.43E+00	0.254	1.13E+02	21.5	U	7.52E-07
041M5A010	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.254	1.11E+02	21.5	U	7.60E-07
041M5A010	Acetone	11/16/1995	67641	1.34E+01	0.254	3.40E+02	1600	D	1.85E-05
041M5A010	Benzene	11/16/1995	71432	6.46E+00	0.254	1.64E+02	21.5	U	5.16E-07
041M5A010	Bromodichloromethane	11/16/1995	75274		0.254		21.5	U	
041M5A010	Bromoform	11/16/1995	75252	1.22E+01	0.254	3.09E+02	21.5	U	2.74E-07
041M5A010	Bromomethane	11/16/1995	74839	4.03E+00	0.254	1.02E+02	21.5	U	8.27E-07
041M5A010	Carbon disulfide	11/16/1995	75150		0.254		21.5	U	
041M5A010	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.254	1.96E+02	21.5	U	4.31E-07
041M5A010	Chlorobenzene	11/16/1995	108907	5.59E+00	0.254	1.42E+02	21.5	U	5.97E-07
041M5A010	Chloroethane	11/16/1995	75003		0.254		21.5	U	
041M5A010	Chloroform	11/16/1995	67663	5.59E+00	0.254	1.42E+02	21.5	U	5.97E-07
041M5A010	Chloromethane	11/16/1995	74873	2.12E+00	0.254	5.39E+01	21.5	U	1.57E-06
041M5A010	cis-1,3-Dichloropropene	11/16/1995	10061015		0.254		21.5	U	
041M5A010	Dibromochloromethane	11/16/1995	124481		0.254		21.5	U	
041M5A010	Ethylbenzene	11/16/1995	100414	9.64E+00	0.254	2.45E+02	21.5	U	3.46E-07
041M5A010	Methylene chloride	11/16/1995	75092	3.73E+00	0.254	9.47E+01	250	J	1.04E-05
041M5A010	Styrene	11/16/1995	100425	9.18E+00	0.254	2.33E+02	21.5	U	3.63E-07
041M5A010	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.254	2.24E+02	21.5	U	3.78E-07
041M5A010	Toluene	11/16/1995	108883	8.05E+00	0.254	2.04E+02	110		2.12E-06
041M5A010	trans-1,3-Dichloropropene	11/16/1995	10061026		0.254		21.5	U	
041M5A010	Trichloroethene	11/16/1995	79016	6.65E+00	0.254	1.69E+02	21.5	U	5.01E-07
041M5A010	Vinyl chloride	11/16/1995	75014		0.254		6.5	U	
041M5A010	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.254	2.46E+02	21.5	U	3.44E-07
041M5A020	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.0375	2.44E+01	10.5	U	1.15E-05
041M5A020	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.0375	3.05E+01	10.5	U	9.18E-06
041M5A020	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.0375	2.34E+01	10.5	U	1.20E-05
041M5A020	1,1-Dichloroethane	11/16/1995	75343		0.0375		10.5	U	
041M5A020	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.0375	1.74E+01	10.5	U	1.61E-05
041M5A020	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.0375	1.66E+01	10.5	U	1.69E-05
041M5A020	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.0375	1.73E+01	10.5	U	1.62E-05

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 5 Phase: 2 Wetland: 5A Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M5A020	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.0375	1.97E+01	10.5	U	1.42E-05
041M5A020	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.0375	1.10E+01	10.5	U	2.55E-05
041M5A020	2-Hexanone	11/16/1995	591786	4.43E+00	0.0375	1.66E+01	10.5	U	1.69E-05
041M5A020	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.0375	1.64E+01	10.5	U	1.70E-05
041M5A020	Acetone	11/16/1995	67641	1.34E+01	0.0375	5.02E+01	5200	J	2.76E-03
041M5A020	Benzene	11/16/1995	71432	6.46E+00	0.0375	2.42E+01	10.5	U	1.16E-05
041M5A020	Bromodichloromethane	11/16/1995	75274		0.0375		10.5	U	
041M5A020	Bromoform	11/16/1995	75252	1.22E+01	0.0375	4.57E+01	10.5	U	6.13E-06
041M5A020	Bromomethane	11/16/1995	74839	4.03E+00	0.0375	1.51E+01	10.5	U	1.85E-05
041M5A020	Carbon disulfide	11/16/1995	75150		0.0375		10.5	U	
041M5A020	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.0375	2.90E+01	10.5	U	9.65E-06
041M5A020	Chlorobenzene	11/16/1995	108907	5.59E+00	0.0375	2.09E+01	10.5	U	1.34E-05
041M5A020	Chloroethane	11/16/1995	75003		0.0375		10.5	U	
041M5A020	Chloroform	11/16/1995	67663	5.59E+00	0.0375	2.09E+01	10.5	U	1.34E-05
041M5A020	Chloromethane	11/16/1995	74873	2.12E+00	0.0375	7.95E+00	10.5	U	3.52E-05
041M5A020	cis-1,3-Dichloropropene	11/16/1995	10061015		0.0375		10.5	U	
041M5A020	Dibromochloromethane	11/16/1995	124481		0.0375		10.5	U	
041M5A020	Ethylbenzene	11/16/1995	100414	9.64E+00	0.0375	3.61E+01	10.5	U	7.75E-06
041M5A020	Methylene chloride	11/16/1995	75092	3.73E+00	0.0375	1.40E+01	10.5	U	2.00E-05
041M5A020	Styrene	11/16/1995	100425	9.18E+00	0.0375	3.44E+01	10.5	U	8.14E-06
041M5A020	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.0375	3.31E+01	10.5	U	8.46E-06
041M5A020	Toluene	11/16/1995	108883	8.05E+00	0.0375	3.02E+01	10.5	U	9.28E-06
041M5A020	trans-1,3-Dichloropropene	11/16/1995	10061026		0.0375		10.5	U	
041M5A020	Trichloroethene	11/16/1995	79016	6.65E+00	0.0375	2.49E+01	10.5	U	1.12E-05
041M5A020	Vinyl chloride	11/16/1995	75014		0.0375		3	U	
041M5A020	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.0375	3.64E+01	10.5	U	7.70E-06
041M5A030	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.0997	6.49E+01	13	U	2.01E-06
041M5A030	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.0997	8.11E+01	13	U	1.61E-06
041M5A030	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.0997	6.22E+01	13	U	2.09E-06
041M5A030	1,1-Dichloroethane	11/16/1995	75343		0.0997		13	U	
041M5A030	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.0997	4.64E+01	13	U	2.81E-06
041M5A030	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.0997	4.42E+01	13	U	2.95E-06
041M5A030	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.0997	4.60E+01	13	U	2.84E-06
041M5A030	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.0997	5.25E+01	13	U	2.48E-06
041M5A030	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.0997	2.92E+01	13	U	4.47E-06
041M5A030	2-Hexanone	11/16/1995	591786	4.43E+00	0.0997	4.42E+01	13	U	2.95E-06
041M5A030	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.0997	4.37E+01	13	U	2.98E-06
041M5A030	Acetone	11/16/1995	67641	1.34E+01	0.0997	1.33E+02	4400	J	3.31E-04
041M5A030	Benzene	11/16/1995	71432	6.46E+00	0.0997	6.44E+01	13	U	2.02E-06
041M5A030	Bromodichloromethane	11/16/1995	75274		0.0997		13	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 5 Phase: 2 Wetland: 5A Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M5A030	Bromoform	11/16/1995	75252	1.22E+01	0.0997	1.21E+02	13	U	1.07E-06
041M5A030	Bromomethane	11/16/1995	74839	4.03E+00	0.0997	4.02E+01	13	U	3.25E-06
041M5A030	Carbon disulfide	11/16/1995	75150		0.0997		13	U	
041M5A030	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.0997	7.71E+01	13	U	1.69E-06
041M5A030	Chlorobenzene	11/16/1995	108907	5.59E+00	0.0997	5.57E+01	13	U	2.34E-06
041M5A030	Chloroethane	11/16/1995	75003		0.0997		13	U	
041M5A030	Chloroform	11/16/1995	67663	5.59E+00	0.0997	5.57E+01	13	U	2.34E-06
041M5A030	Chloromethane	11/16/1995	74873	2.12E+00	0.0997	2.11E+01	13	U	6.17E-06
041M5A030	cis-1,3-Dichloropropene	11/16/1995	10061015		0.0997		13	U	
041M5A030	Dibromochloromethane	11/16/1995	124481		0.0997		13	U	
041M5A030	Ethylbenzene	11/16/1995	100414	9.64E+00	0.0997	9.61E+01	13	U	1.36E-06
041M5A030	Methylene chloride	11/16/1995	75092	3.73E+00	0.0997	3.72E+01	13	U	3.51E-06
041M5A030	Styrene	11/16/1995	100425	9.18E+00	0.0997	9.15E+01	13	U	1.43E-06
041M5A030	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.0997	8.80E+01	13	U	1.48E-06
041M5A030	Toluene	11/16/1995	108883	8.05E+00	0.0997	8.02E+01	5	J	6.25E-07
041M5A030	trans-1,3-Dichloropropene	11/16/1995	10061026		0.0997		13	U	
041M5A030	Trichloroethene	11/16/1995	79016	6.65E+00	0.0997	6.63E+01	13	U	1.97E-06
041M5A030	Vinyl chloride	11/16/1995	75014		0.0997		4	U	
041M5A030	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.0997	9.67E+01	13	U	1.35E-06
041M5A040	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.409	2.66E+02	41.5	U	3.81E-07
041M5A040	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.409	3.33E+02	41.5	U	3.05E-07
041M5A040	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.409	2.55E+02	41.5	U	3.97E-07
041M5A040	1,1-Dichloroethane	11/16/1995	75343		0.409		41.5	U	
041M5A040	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.409	1.90E+02	41.5	U	5.34E-07
041M5A040	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.409	1.81E+02	41.5	U	5.60E-07
041M5A040	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.409	1.89E+02	41.5	U	5.38E-07
041M5A040	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.409	2.15E+02	41.5	U	4.71E-07
041M5A040	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.409	1.20E+02	41.5	U	8.47E-07
041M5A040	2-Hexanone	11/16/1995	591786	4.43E+00	0.409	1.81E+02	41.5	U	5.60E-07
041M5A040	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.409	1.79E+02	41.5	U	5.66E-07
041M5A040	Acetone	11/16/1995	67641	1.34E+01	0.409	5.47E+02	450		2.01E-06
041M5A040	Benzene	11/16/1995	71432	6.46E+00	0.409	2.64E+02	41.5	U	3.84E-07
041M5A040	Bromodichloromethane	11/16/1995	75274		0.409		41.5	U	
041M5A040	Bromoform	11/16/1995	75252	1.22E+01	0.409	4.98E+02	41.5	U	2.04E-07
041M5A040	Bromomethane	11/16/1995	74839	4.03E+00	0.409	1.65E+02	41.5	U	6.16E-07
041M5A040	Carbon disulfide	11/16/1995	75150		0.409		41.5	U	
041M5A040	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.409	3.16E+02	41.5	U	3.21E-07
041M5A040	Chlorobenzene	11/16/1995	108907	5.59E+00	0.409	2.28E+02	41.5	U	4.44E-07
041M5A040	Chloroethane	11/16/1995	75003		0.409		41.5	U	
041M5A040	Chloroform	11/16/1995	67663	5.59E+00	0.409	2.28E+02	41.5	U	4.44E-07

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 5 Phase: 2 Wetland: 5A Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M5A040	Chloromethane	11/16/1995	74873	2.12E+00	0.409	8.68E+01	41.5	U	1.17E-06
041M5A040	cis-1,3-Dichloropropene	11/16/1995	10061015		0.409		41.5	U	
041M5A040	Dibromochloromethane	11/16/1995	124481		0.409		41.5	U	
041M5A040	Ethylbenzene	11/16/1995	100414	9.64E+00	0.409	3.94E+02	41.5	U	2.57E-07
041M5A040	Methylene chloride	11/16/1995	75092	3.73E+00	0.409	1.52E+02	41.5	U	6.65E-07
041M5A040	Styrene	11/16/1995	100425	9.18E+00	0.409	3.75E+02	41.5	U	2.70E-07
041M5A040	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.409	3.61E+02	41.5	U	2.81E-07
041M5A040	Toluene	11/16/1995	108883	8.05E+00	0.409	3.29E+02	280		2.08E-06
041M5A040	trans-1,3-Dichloropropene	11/16/1995	10061026		0.409		41.5	U	
041M5A040	Trichloroethene	11/16/1995	79016	6.65E+00	0.409	2.72E+02	41.5	U	3.73E-07
041M5A040	Vinyl chloride	11/16/1995	75014		0.409		12.5	U	
041M5A040	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.409	3.97E+02	41.5	U	2.56E-07
041M5A050	1,1,1-Trichloroethane	11/27/1995	71556	6.50E+00	0.153	9.95E+01	26.5	U	1.74E-06
041M5A050	1,1,2,2-Tetrachloroethane	11/27/1995	79345	8.13E+00	0.153	1.24E+02	26.5	U	1.39E-06
041M5A050	1,1,2-Trichloroethane	11/27/1995	79005	6.24E+00	0.153	9.55E+01	26.5	U	1.81E-06
041M5A050	1,1-Dichloroethane	11/27/1995	75343		0.153		26.5	U	
041M5A050	1,1-Dichloroethene	11/27/1995	75354	4.65E+00	0.153	7.11E+01	26.5	U	2.44E-06
041M5A050	1,2-Dichloroethane	11/27/1995	107062	4.43E+00	0.153	6.78E+01	26.5	U	2.56E-06
041M5A050	1,2-Dichloroethene (total)	11/27/1995	540590	4.61E+00	0.153	7.06E+01	26.5	U	2.45E-06
041M5A050	1,2-Dichloropropane	11/27/1995	78875	5.26E+00	0.153	8.05E+01	26.5	U	2.15E-06
041M5A050	2-Butanone (MEK)	11/27/1995	78933	2.93E+00	0.153	4.48E+01	26.5	U	3.87E-06
041M5A050	2-Hexanone	11/27/1995	591786	4.43E+00	0.153	6.78E+01	26.5	U	2.56E-06
041M5A050	4-Methyl-2-Pentanone (MIBK)	11/27/1995	108101	4.38E+00	0.153	6.71E+01	26.5	U	2.58E-06
041M5A050	Acetone	11/27/1995	67641	1.34E+01	0.153	2.05E+02	65	U	2.07E-06
041M5A050	Benzene	11/27/1995	71432	6.46E+00	0.153	9.89E+01	26.5	U	1.75E-06
041M5A050	Bromodichloromethane	11/27/1995	75274		0.153		26.5	U	
041M5A050	Bromoform	11/27/1995	75252	1.22E+01	0.153	1.86E+02	26.5	U	9.29E-07
041M5A050	Bromomethane	11/27/1995	74839	4.03E+00	0.153	6.16E+01	26.5	U	2.81E-06
041M5A050	Carbon disulfide	11/27/1995	75150		0.153		26.5	U	
041M5A050	Carbon tetrachloride	11/27/1995	56235	7.73E+00	0.153	1.18E+02	26.5	U	1.46E-06
041M5A050	Chlorobenzene	11/27/1995	108907	5.59E+00	0.153	8.55E+01	26.5	U	2.03E-06
041M5A050	Chloroethane	11/27/1995	75003		0.153		26.5	U	
041M5A050	Chloroform	11/27/1995	67663	5.59E+00	0.153	8.55E+01	26.5	U	2.03E-06
041M5A050	Chloromethane	11/27/1995	74873	2.12E+00	0.153	3.25E+01	26.5	U	5.34E-06
041M5A050	cis-1,3-Dichloropropene	11/27/1995	10061015		0.153		26.5	U	
041M5A050	Dibromochloromethane	11/27/1995	124481		0.153		26.5	U	
041M5A050	Ethylbenzene	11/27/1995	100414	9.64E+00	0.153	1.47E+02	26.5	U	1.17E-06
041M5A050	Methylene chloride	11/27/1995	75092	3.73E+00	0.153	5.70E+01	31	U	3.55E-06
041M5A050	Styrene	11/27/1995	100425	9.18E+00	0.153	1.40E+02	26.5	U	1.23E-06
041M5A050	Tetrachloroethene	11/27/1995	127184	8.83E+00	0.153	1.35E+02	26.5	U	1.28E-06

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 5 Phase: 2 Wetland: 5A Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M5A050	Toluene	11/27/1995	108883	8.05E+00	0.153	1.23E+02	26.5	U	1.41E-06
041M5A050	trans-1,3-Dichloropropene	11/27/1995	10061026		0.153		26.5	U	
041M5A050	Trichloroethene	11/27/1995	79016	6.65E+00	0.153	1.02E+02	26.5	U	1.70E-06
041M5A050	Vinyl chloride	11/27/1995	75014		0.153		26.5	U	
041M5A050	Xylene (Total)	11/27/1995	1330207	9.70E+00	0.153	1.48E+02	26.5	U	1.17E-06
041M5A060	1,1,1-Trichloroethane	11/17/1995	71556	6.50E+00	0.00642	4.18E+00	6.5	U	2.42E-04
041M5A060	1,1,2,2-Tetrachloroethane	11/17/1995	79345	8.13E+00	0.00642	5.22E+00	6.5	U	1.94E-04
041M5A060	1,1,2-Trichloroethane	11/17/1995	79005	6.24E+00	0.00642	4.01E+00	6.5	U	2.53E-04
041M5A060	1,1-Dichloroethane	11/17/1995	75343		0.00642		6.5	U	
041M5A060	1,1-Dichloroethene	11/17/1995	75354	4.65E+00	0.00642	2.98E+00	6.5	U	3.39E-04
041M5A060	1,2-Dichloroethane	11/17/1995	107062	4.43E+00	0.00642	2.84E+00	6.5	U	3.56E-04
041M5A060	1,2-Dichloroethene (total)	11/17/1995	540590	4.61E+00	0.00642	2.96E+00	6.5	U	3.42E-04
041M5A060	1,2-Dichloropropane	11/17/1995	78875	5.26E+00	0.00642	3.38E+00	6.5	U	3.00E-04
041M5A060	2-Butanone (MEK)	11/17/1995	78933	2.93E+00	0.00642	1.88E+00	6.5	U	5.39E-04
041M5A060	2-Hexanone	11/17/1995	591786	4.43E+00	0.00642	2.84E+00	6.5	U	3.56E-04
041M5A060	4-Methyl-2-Pentanone (MIBK)	11/17/1995	108101	4.38E+00	0.00642	2.81E+00	6.5	U	3.60E-04
041M5A060	Acetone	11/17/1995	67641	1.34E+01	0.00642	8.59E+00	140	J	2.54E-03
041M5A060	Benzene	11/17/1995	71432	6.46E+00	0.00642	4.15E+00	6.5	U	2.44E-04
041M5A060	Bromodichloromethane	11/17/1995	75274		0.00642		6.5	U	
041M5A060	Bromoform	11/17/1995	75252	1.22E+01	0.00642	7.82E+00	6.5	U	1.29E-04
041M5A060	Bromomethane	11/17/1995	74839	4.03E+00	0.00642	2.59E+00	6.5	U	3.91E-04
041M5A060	Carbon disulfide	11/17/1995	75150		0.00642		6.5	U	
041M5A060	Carbon tetrachloride	11/17/1995	56235	7.73E+00	0.00642	4.97E+00	6.5	U	2.04E-04
041M5A060	Chlorobenzene	11/17/1995	108907	5.59E+00	0.00642	3.59E+00	6.5	U	2.82E-04
041M5A060	Chloroethane	11/17/1995	75003		0.00642		6.5	U	
041M5A060	Chloroform	11/17/1995	67663	5.59E+00	0.00642	3.59E+00	6.5	U	2.82E-04
041M5A060	Chloromethane	11/17/1995	74873	2.12E+00	0.00642	1.36E+00	6.5	U	7.43E-04
041M5A060	cis-1,3-Dichloropropene	11/17/1995	10061015		0.00642		6.5	U	
041M5A060	Dibromochloromethane	11/17/1995	124481		0.00642		6.5	U	
041M5A060	Ethylbenzene	11/17/1995	100414	9.64E+00	0.00642	6.19E+00	6.5	U	1.64E-04
041M5A060	Methylene chloride	11/17/1995	75092	3.73E+00	0.00642	2.39E+00	6.5	U	4.23E-04
041M5A060	Styrene	11/17/1995	100425	9.18E+00	0.00642	5.89E+00	6.5	U	1.72E-04
041M5A060	Tetrachloroethene	11/17/1995	127184	8.83E+00	0.00642	5.67E+00	6.5	U	1.79E-04
041M5A060	Toluene	11/17/1995	108883	8.05E+00	0.00642	5.17E+00	6.5	U	1.96E-04
041M5A060	trans-1,3-Dichloropropene	11/17/1995	10061026		0.00642		6.5	U	
041M5A060	Trichloroethene	11/17/1995	79016	6.65E+00	0.00642	4.27E+00	6.5	U	2.37E-04
041M5A060	Vinyl chloride	11/17/1995	75014		0.00642		2	U	
041M5A060	Xylene (Total)	11/17/1995	1330207	9.70E+00	0.00642	6.22E+00	6.5	U	1.63E-04
041M5A070	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.0021	1.37E+00	6.5	U	2.27E-03
041M5A070	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.0021	1.71E+00	6.5	U	1.81E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 5 Phase: 2 Wetland: 5A Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M5A070	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.0021	1.31E+00	6.5	U	2.36E-03
041M5A070	1,1-Dichloroethane	11/16/1995	75343		0.0021		6.5	U	
041M5A070	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.0021	9.76E-01	6.5	U	3.17E-03
041M5A070	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.0021	9.30E-01	6.5	U	3.33E-03
041M5A070	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.0021	9.69E-01	6.5	U	3.20E-03
041M5A070	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.0021	1.11E+00	6.5	U	2.80E-03
041M5A070	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.0021	6.15E-01	6.5	U	5.03E-03
041M5A070	2-Hexanone	11/16/1995	591786	4.43E+00	0.0021	9.30E-01	6.5	U	3.33E-03
041M5A070	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.0021	9.20E-01	6.5	U	3.36E-03
041M5A070	Acetone	11/16/1995	67641	1.34E+01	0.0021	2.81E+00	6.5	U	1.10E-03
041M5A070	Benzene	11/16/1995	71432	6.46E+00	0.0021	1.36E+00	6.5	U	2.28E-03
041M5A070	Bromodichloromethane	11/16/1995	75274		0.0021		6.5	U	
041M5A070	Bromoform	11/16/1995	75252	1.22E+01	0.0021	2.56E+00	6.5	U	1.21E-03
041M5A070	Bromomethane	11/16/1995	74839	4.03E+00	0.0021	8.46E-01	6.5	U	3.66E-03
041M5A070	Carbon disulfide	11/16/1995	75150		0.0021		6.5	U	
041M5A070	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.0021	1.62E+00	6.5	U	1.91E-03
041M5A070	Chlorobenzene	11/16/1995	108907	5.59E+00	0.0021	1.17E+00	6.5	U	2.64E-03
041M5A070	Chloroethane	11/16/1995	75003		0.0021		6.5	U	
041M5A070	Chloroform	11/16/1995	67663	5.59E+00	0.0021	1.17E+00	6.5	U	2.64E-03
041M5A070	Chloromethane	11/16/1995	74873	2.12E+00	0.0021	4.45E-01	6.5	U	6.95E-03
041M5A070	cis-1,3-Dichloropropene	11/16/1995	10061015		0.0021		6.5	U	
041M5A070	Dibromochloromethane	11/16/1995	124481		0.0021		6.5	U	
041M5A070	Ethylbenzene	11/16/1995	100414	9.64E+00	0.0021	2.02E+00	6.5	U	1.53E-03
041M5A070	Methylene chloride	11/16/1995	75092	3.73E+00	0.0021	7.83E-01	6.5	U	3.95E-03
041M5A070	Styrene	11/16/1995	100425	9.18E+00	0.0021	1.93E+00	6.5	U	1.61E-03
041M5A070	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.0021	1.85E+00	6.5	U	1.67E-03
041M5A070	Toluene	11/16/1995	108883	8.05E+00	0.0021	1.69E+00	6.5	U	1.83E-03
041M5A070	trans-1,3-Dichloropropene	11/16/1995	10061026		0.0021		6.5	U	
041M5A070	Trichloroethene	11/16/1995	79016	6.65E+00	0.0021	1.40E+00	6.5	U	2.22E-03
041M5A070	Vinyl chloride	11/16/1995	75014		0.0021		2	U	
041M5A070	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.0021	2.04E+00	6.5	U	1.52E-03

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 6 Phase: 2 Wetland: 5B Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M5B010	1,1,1-Trichloroethane	11/17/1995	71556	6.50E+00	0.00179	1.16E+00	6	U	2.88E-03
041M5B010	1,1,2,2-Tetrachloroethane	11/17/1995	79345	8.13E+00	0.00179	1.46E+00	6	U	2.30E-03
041M5B010	1,1,2-Trichloroethane	11/17/1995	79005	6.24E+00	0.00179	1.12E+00	6	U	3.00E-03
041M5B010	1,1-Dichloroethane	11/17/1995	75343		0.00179		6	U	
041M5B010	1,1-Dichloroethene	11/17/1995	75354	4.65E+00	0.00179	8.32E-01	6	U	4.03E-03
041M5B010	1,2-Dichloroethane	11/17/1995	107062	4.43E+00	0.00179	7.93E-01	6	U	4.23E-03
041M5B010	1,2-Dichloroethene (total)	11/17/1995	540590	4.61E+00	0.00179	8.26E-01	6	U	4.06E-03
041M5B010	1,2-Dichloropropane	11/17/1995	78875	5.26E+00	0.00179	9.42E-01	6	U	3.56E-03
041M5B010	2-Butanone (MEK)	11/17/1995	78933	2.93E+00	0.00179	5.24E-01	6	U	6.39E-03
041M5B010	2-Hexanone	11/17/1995	591786	4.43E+00	0.00179	7.93E-01	6	U	4.23E-03
041M5B010	4-Methyl-2-Pentanone (MIBK)	11/17/1995	108101	4.38E+00	0.00179	7.85E-01	6	U	4.27E-03
041M5B010	Acetone	11/17/1995	67641	1.34E+01	0.00179	2.40E+00	180		4.20E-02
041M5B010	Benzene	11/17/1995	71432	6.46E+00	0.00179	1.16E+00	6	U	2.90E-03
041M5B010	Bromodichloromethane	11/17/1995	75274		0.00179		6	U	
041M5B010	Bromoform	11/17/1995	75252	1.22E+01	0.00179	2.18E+00	6	U	1.54E-03
041M5B010	Bromomethane	11/17/1995	74839	4.03E+00	0.00179	7.21E-01	6	U	4.65E-03
041M5B010	Carbon disulfide	11/17/1995	75150		0.00179		6	U	
041M5B010	Carbon tetrachloride	11/17/1995	56235	7.73E+00	0.00179	1.38E+00	6	U	2.42E-03
041M5B010	Chlorobenzene	11/17/1995	108907	5.59E+00	0.00179	1.00E+00	6	U	3.35E-03
041M5B010	Chloroethane	11/17/1995	75003		0.00179		6	U	
041M5B010	Chloroform	11/17/1995	67663	5.59E+00	0.00179	1.00E+00	6	U	3.35E-03
041M5B010	Chloromethane	11/17/1995	74873	2.12E+00	0.00179	3.80E-01	6	U	8.83E-03
041M5B010	cis-1,3-Dichloropropene	11/17/1995	10061015		0.00179		6	U	
041M5B010	Dibromochloromethane	11/17/1995	124481		0.00179		6	U	
041M5B010	Ethylbenzene	11/17/1995	100414	9.64E+00	0.00179	1.72E+00	6	U	1.94E-03
041M5B010	Methylene chloride	11/17/1995	75092	3.73E+00	0.00179	6.67E-01	6	U	5.02E-03
041M5B010	Styrene	11/17/1995	100425	9.18E+00	0.00179	1.64E+00	6	U	2.04E-03
041M5B010	Tetrachloroethene	11/17/1995	127184	8.83E+00	0.00179	1.58E+00	6	U	2.12E-03
041M5B010	Toluene	11/17/1995	108883	8.05E+00	0.00179	1.44E+00	6	U	2.33E-03
041M5B010	trans-1,3-Dichloropropene	11/17/1995	10061026		0.00179		6	U	
041M5B010	Trichloroethene	11/17/1995	79016	6.65E+00	0.00179	1.19E+00	6	U	2.81E-03
041M5B010	Vinyl chloride	11/17/1995	75014		0.00179		2	U	
041M5B010	Xylene (Total)	11/17/1995	1330207	9.70E+00	0.00179	1.74E+00	6	U	1.93E-03
041M5B020	1,1,1-Trichloroethane	11/17/1995	71556	6.50E+00	0.0745	4.85E+01	15.5	U	4.29E-06
041M5B020	1,1,2,2-Tetrachloroethane	11/17/1995	79345	8.13E+00	0.0745	6.06E+01	15.5	U	3.43E-06
041M5B020	1,1,2-Trichloroethane	11/17/1995	79005	6.24E+00	0.0745	4.65E+01	15.5	U	4.47E-06
041M5B020	1,1-Dichloroethane	11/17/1995	75343		0.0745		15.5	U	
041M5B020	1,1-Dichloroethene	11/17/1995	75354	4.65E+00	0.0745	3.46E+01	15.5	U	6.01E-06
041M5B020	1,2-Dichloroethane	11/17/1995	107062	4.43E+00	0.0745	3.30E+01	15.5	U	6.31E-06
041M5B020	1,2-Dichloroethene (total)	11/17/1995	540590	4.61E+00	0.0745	3.44E+01	11	J	4.30E-06

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 6 Phase: 2 Wetland: 5B Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M5B020	1,2-Dichloropropane	11/17/1995	78875	5.26E+00	0.0745	3.92E+01	15.5	U	5.30E-06
041M5B020	2-Butanone (MEK)	11/17/1995	78933	2.93E+00	0.0745	2.18E+01	15.5	U	9.54E-06
041M5B020	2-Hexanone	11/17/1995	591786	4.43E+00	0.0745	3.30E+01	15.5	U	6.30E-06
041M5B020	4-Methyl-2-Pentanone (MIBK)	11/17/1995	108101	4.38E+00	0.0745	3.27E+01	15.5	U	6.37E-06
041M5B020	Acetone	11/17/1995	67641	1.34E+01	0.0745	9.97E+01	66		8.88E-06
041M5B020	Benzene	11/17/1995	71432	6.46E+00	0.0745	4.81E+01	15.5	U	4.32E-06
041M5B020	Bromodichloromethane	11/17/1995	75274		0.0745		15.5	U	
041M5B020	Bromoform	11/17/1995	75252	1.22E+01	0.0745	9.08E+01	15.5	U	2.29E-06
041M5B020	Bromomethane	11/17/1995	74839	4.03E+00	0.0745	3.00E+01	15.5	U	6.93E-06
041M5B020	Carbon disulfide	11/17/1995	75150		0.0745		15.5	U	
041M5B020	Carbon tetrachloride	11/17/1995	56235	7.73E+00	0.0745	5.76E+01	15.5	U	3.61E-06
041M5B020	Chlorobenzene	11/17/1995	108907	5.59E+00	0.0745	4.16E+01	7	J	2.26E-06
041M5B020	Chloroethane	11/17/1995	75003		0.0745		15.5	U	
041M5B020	Chloroform	11/17/1995	67663	5.59E+00	0.0745	4.16E+01	15.5	U	5.00E-06
041M5B020	Chloromethane	11/17/1995	74873	2.12E+00	0.0745	1.58E+01	15.5	U	1.32E-05
041M5B020	cis-1,3-Dichloropropene	11/17/1995	10061015		0.0745		15.5	U	
041M5B020	Dibromochloromethane	11/17/1995	124481		0.0745		15.5	U	
041M5B020	Ethylbenzene	11/17/1995	100414	9.64E+00	0.0745	7.18E+01	15.5	U	2.90E-06
041M5B020	Methylene chloride	11/17/1995	75092	3.73E+00	0.0745	2.78E+01	15.5	U	7.49E-06
041M5B020	Styrene	11/17/1995	100425	9.18E+00	0.0745	6.84E+01	15.5	U	3.04E-06
041M5B020	Tetrachloroethene	11/17/1995	127184	8.83E+00	0.0745	6.58E+01	15.5	U	3.16E-06
041M5B020	Toluene	11/17/1995	108883	8.05E+00	0.0745	6.00E+01	13	J	2.91E-06
041M5B020	trans-1,3-Dichloropropene	11/17/1995	10061026		0.0745		15.5	U	
041M5B020	Trichloroethene	11/17/1995	79016	6.65E+00	0.0745	4.96E+01	15.5	U	4.20E-06
041M5B020	Vinyl chloride	11/17/1995	75014		0.0745		42		
041M5B020	Xylene (Total)	11/17/1995	1330207	9.70E+00	0.0745	7.22E+01	15.5	U	2.88E-06

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 7 Phase: 2 Wetland: 6 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
010M00010	1,1,1-Trichloroethane	2/4/1994	71556	6.50E+00	0.00121	7.87E-01	6.5	U	6.83E-03
010M00010	1,1,2,2-Tetrachloroethane	2/4/1994	79345	8.13E+00	0.00121	9.84E-01	6.5	U	5.46E-03
010M00010	1,1,2-Trichloroethane	2/4/1994	79005	6.24E+00	0.00121	7.55E-01	6.5	U	7.11E-03
010M00010	1,1-Dichloroethane	2/4/1994	75343		0.00121		6.5	U	
010M00010	1,1-Dichloroethene	2/4/1994	75354	4.65E+00	0.00121	5.63E-01	6.5	U	9.55E-03
010M00010	1,2-Dichloroethane	2/4/1994	107062	4.43E+00	0.00121	5.36E-01	6.5	U	1.00E-02
010M00010	1,2-Dichloroethene (total)	2/4/1994	540590	4.61E+00	0.00121	5.58E-01	6.5	U	9.62E-03
010M00010	1,2-Dichloropropane	2/4/1994	78875	5.26E+00	0.00121	6.37E-01	6.5	U	8.43E-03
010M00010	2-Butanone (MEK)	2/4/1994	78933	2.93E+00	0.00121	3.54E-01	6.5	U	1.52E-02
010M00010	2-Hexanone	2/4/1994	591786	4.43E+00	0.00121	5.36E-01	6.5	U	1.00E-02
010M00010	4-Methyl-2-Pentanone (MIBK)	2/4/1994	108101	4.38E+00	0.00121	5.30E-01	6.5	U	1.01E-02
010M00010	Acetone	2/4/1994	67641	1.34E+01	0.00121	1.62E+00	75	U	3.83E-02
010M00010	Benzene	2/4/1994	71432	6.46E+00	0.00121	7.82E-01	6.5	U	6.87E-03
010M00010	Bromodichloromethane	2/4/1994	75274		0.00121		6.5	U	
010M00010	Bromoform	2/4/1994	75252	1.22E+01	0.00121	1.47E+00	6.5	U	3.64E-03
010M00010	Bromomethane	2/4/1994	74839	4.03E+00	0.00121	4.87E-01	6.5	U	1.10E-02
010M00010	Carbon disulfide	2/4/1994	75150		0.00121		6.5	U	
010M00010	Carbon tetrachloride	2/4/1994	56235	7.73E+00	0.00121	9.36E-01	6.5	U	5.74E-03
010M00010	Chlorobenzene	2/4/1994	108907	5.59E+00	0.00121	6.76E-01	6.5	U	7.95E-03
010M00010	Chloroethane	2/4/1994	75003		0.00121		6.5	U	
010M00010	Chloroform	2/4/1994	67663	5.59E+00	0.00121	6.76E-01	6.5	U	7.95E-03
010M00010	Chloromethane	2/4/1994	74873	2.12E+00	0.00121	2.57E-01	6.5	U	2.09E-02
010M00010	cis-1,3-Dichloropropene	2/4/1994	10061015		0.00121		6.5	U	
010M00010	Dibromochloromethane	2/4/1994	124481		0.00121		6.5	U	
010M00010	Ethylbenzene	2/4/1994	100414	9.64E+00	0.00121	1.17E+00	6.5	U	4.61E-03
010M00010	Methylene chloride	2/4/1994	75092	3.73E+00	0.00121	4.51E-01	6.5	U	1.19E-02
010M00010	Styrene	2/4/1994	100425	9.18E+00	0.00121	1.11E+00	6.5	U	4.84E-03
010M00010	Tetrachloroethene	2/4/1994	127184	8.83E+00	0.00121	1.07E+00	6.5	U	5.03E-03
010M00010	Toluene	2/4/1994	108883	8.05E+00	0.00121	9.74E-01	6.5	U	5.52E-03
010M00010	trans-1,3-Dichloropropene	2/4/1994	10061026		0.00121		6.5	U	
010M00010	Trichloroethene	2/4/1994	79016	6.65E+00	0.00121	8.05E-01	6.5	U	6.67E-03
010M00010	Vinyl chloride	2/4/1994	75014		0.00121		6.5	U	
010M00010	Xylene (Total)	2/4/1994	1330207	9.70E+00	0.00121	1.17E+00	6.5	U	4.58E-03
041M06010	1,1,1-Trichloroethane	11/15/1995	71556	6.50E+00	0.00362	2.35E+00	6	U	7.04E-04
041M06010	1,1,2,2-Tetrachloroethane	11/15/1995	79345	8.13E+00	0.00362	2.94E+00	6	U	5.63E-04
041M06010	1,1,2-Trichloroethane	11/15/1995	79005	6.24E+00	0.00362	2.26E+00	6	U	7.33E-04
041M06010	1,1-Dichloroethane	11/15/1995	75343		0.00362		6	U	
041M06010	1,1-Dichloroethene	11/15/1995	75354	4.65E+00	0.00362	1.68E+00	6	U	9.85E-04
041M06010	1,2-Dichloroethane	11/15/1995	107062	4.43E+00	0.00362	1.60E+00	6	U	1.03E-03
041M06010	1,2-Dichloroethene (total)	11/15/1995	540590	4.61E+00	0.00362	1.67E+00	6	U	9.93E-04

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 7 Phase: 2 Wetland: 6 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M06010	1,2-Dichloropropane	11/15/1995	78875	5.26E+00	0.00362	1.91E+00	6	U	8.70E-04
041M06010	2-Butanone (MEK)	11/15/1995	78933	2.93E+00	0.00362	1.06E+00	6	U	1.56E-03
041M06010	2-Hexanone	11/15/1995	591786	4.43E+00	0.00362	1.60E+00	6	U	1.03E-03
041M06010	4-Methyl-2-Pentanone (MIBK)	11/15/1995	108101	4.38E+00	0.00362	1.59E+00	6	U	1.04E-03
041M06010	Acetone	11/15/1995	67641	1.34E+01	0.00362	4.85E+00	6	U	3.42E-04
041M06010	Benzene	11/15/1995	71432	6.46E+00	0.00362	2.34E+00	6	U	7.09E-04
041M06010	Bromodichloromethane	11/15/1995	75274		0.00362		6	U	
041M06010	Bromoform	11/15/1995	75252	1.22E+01	0.00362	4.41E+00	6	U	3.76E-04
041M06010	Bromomethane	11/15/1995	74839	4.03E+00	0.00362	1.46E+00	6	U	1.14E-03
041M06010	Carbon disulfide	11/15/1995	75150		0.00362		6	U	
041M06010	Carbon tetrachloride	11/15/1995	56235	7.73E+00	0.00362	2.80E+00	6	U	5.92E-04
041M06010	Chlorobenzene	11/15/1995	108907	5.59E+00	0.00362	2.02E+00	6	U	8.20E-04
041M06010	Chloroethane	11/15/1995	75003		0.00362		6	U	
041M06010	Chloroform	11/15/1995	67663	5.59E+00	0.00362	2.02E+00	6	U	8.20E-04
041M06010	Chloromethane	11/15/1995	74873	2.12E+00	0.00362	7.68E-01	6	U	2.16E-03
041M06010	cis-1,3-Dichloropropene	11/15/1995	10061015		0.00362		6	U	
041M06010	Dibromochloromethane	11/15/1995	124481		0.00362		6	U	
041M06010	Ethylbenzene	11/15/1995	100414	9.64E+00	0.00362	3.49E+00	6	U	4.75E-04
041M06010	Methylene chloride	11/15/1995	75092	3.73E+00	0.00362	1.35E+00	10.5	U	2.15E-03
041M06010	Styrene	11/15/1995	100425	9.18E+00	0.00362	3.32E+00	6	U	4.99E-04
041M06010	Tetrachloroethene	11/15/1995	127184	8.83E+00	0.00362	3.19E+00	6	U	5.19E-04
041M06010	Toluene	11/15/1995	108883	8.05E+00	0.00362	2.91E+00	6	U	5.69E-04
041M06010	trans-1,3-Dichloropropene	11/15/1995	10061026		0.00362		6	U	
041M06010	Trichloroethene	11/15/1995	79016	6.65E+00	0.00362	2.41E+00	6	U	6.88E-04
041M06010	Vinyl chloride	11/15/1995	75014		0.00362		2	U	
041M06010	Xylene (Total)	11/15/1995	1330207	9.70E+00	0.00362	3.51E+00	6	U	4.72E-04
041M06020	1,1,1-Trichloroethane	11/15/1995	71556	6.50E+00	0.00378	2.46E+00	6	U	6.46E-04
041M06020	1,1,2,2-Tetrachloroethane	11/15/1995	79345	8.13E+00	0.00378	3.07E+00	6	U	5.16E-04
041M06020	1,1,2-Trichloroethane	11/15/1995	79005	6.24E+00	0.00378	2.36E+00	6	U	6.73E-04
041M06020	1,1-Dichloroethane	11/15/1995	75343		0.00378		6	U	
041M06020	1,1-Dichloroethene	11/15/1995	75354	4.65E+00	0.00378	1.76E+00	6	U	9.03E-04
041M06020	1,2-Dichloroethane	11/15/1995	107062	4.43E+00	0.00378	1.67E+00	6	U	9.48E-04
041M06020	1,2-Dichloroethene (total)	11/15/1995	540590	4.61E+00	0.00378	1.74E+00	6	U	9.10E-04
041M06020	1,2-Dichloropropane	11/15/1995	78875	5.26E+00	0.00378	1.99E+00	6	U	7.98E-04
041M06020	2-Butanone (MEK)	11/15/1995	78933	2.93E+00	0.00378	1.11E+00	6	U	1.43E-03
041M06020	2-Hexanone	11/15/1995	591786	4.43E+00	0.00378	1.67E+00	6	U	9.48E-04
041M06020	4-Methyl-2-Pentanone (MIBK)	11/15/1995	108101	4.38E+00	0.00378	1.66E+00	6	U	9.58E-04
041M06020	Acetone	11/15/1995	67641	1.34E+01	0.00378	5.06E+00	210		1.10E-02
041M06020	Benzene	11/15/1995	71432	6.46E+00	0.00378	2.44E+00	6	U	6.50E-04
041M06020	Bromodichloromethane	11/15/1995	75274		0.00378		6	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 7 Phase: 2 Wetland: 6 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M06020	Bromoform	11/15/1995	75252	1.22E+01	0.00378	4.61E+00	6	U	3.45E-04
041M06020	Bromomethane	11/15/1995	74839	4.03E+00	0.00378	1.52E+00	6	U	1.04E-03
041M06020	Carbon disulfide	11/15/1995	75150		0.00378		6	U	
041M06020	Carbon tetrachloride	11/15/1995	56235	7.73E+00	0.00378	2.92E+00	6	U	5.43E-04
041M06020	Chlorobenzene	11/15/1995	108907	5.59E+00	0.00378	2.11E+00	6	U	7.52E-04
041M06020	Chloroethane	11/15/1995	75003		0.00378		6	U	
041M06020	Chloroform	11/15/1995	67663	5.59E+00	0.00378	2.11E+00	6	U	7.52E-04
041M06020	Chloromethane	11/15/1995	74873	2.12E+00	0.00378	8.02E-01	6	U	1.98E-03
041M06020	cis-1,3-Dichloropropene	11/15/1995	10061015		0.00378		6	U	
041M06020	Dibromochloromethane	11/15/1995	124481		0.00378		6	U	
041M06020	Ethylbenzene	11/15/1995	100414	9.64E+00	0.00378	3.64E+00	6	U	4.36E-04
041M06020	Methylene chloride	11/15/1995	75092	3.73E+00	0.00378	1.41E+00	6	U	1.13E-03
041M06020	Styrene	11/15/1995	100425	9.18E+00	0.00378	3.47E+00	6	U	4.58E-04
041M06020	Tetrachloroethene	11/15/1995	127184	8.83E+00	0.00378	3.34E+00	6	U	4.76E-04
041M06020	Toluene	11/15/1995	108883	8.05E+00	0.00378	3.04E+00	6	U	5.22E-04
041M06020	trans-1,3-Dichloropropene	11/15/1995	10061026		0.00378		6	U	
041M06020	Trichloroethene	11/15/1995	79016	6.65E+00	0.00378	2.51E+00	6	U	6.31E-04
041M06020	Vinyl chloride	11/15/1995	75014		0.00378		2	U	
041M06020	Xylene (Total)	11/15/1995	1330207	9.70E+00	0.00378	3.66E+00	6	U	4.33E-04
041M06030	1,1,1-Trichloroethane	11/15/1995	71556	6.50E+00	0.011	7.16E+00	7	U	8.89E-05
041M06030	1,1,2,2-Tetrachloroethane	11/15/1995	79345	8.13E+00	0.011	8.95E+00	7	U	7.11E-05
041M06030	1,1,2-Trichloroethane	11/15/1995	79005	6.24E+00	0.011	6.87E+00	7	U	9.27E-05
041M06030	1,1-Dichloroethane	11/15/1995	75343		0.011		7	U	
041M06030	1,1-Dichloroethene	11/15/1995	75354	4.65E+00	0.011	5.11E+00	7	U	1.24E-04
041M06030	1,2-Dichloroethane	11/15/1995	107062	4.43E+00	0.011	4.87E+00	7	U	1.31E-04
041M06030	1,2-Dichloroethene (total)	11/15/1995	540590	4.61E+00	0.011	5.07E+00	7	U	1.25E-04
041M06030	1,2-Dichloropropane	11/15/1995	78875	5.26E+00	0.011	5.79E+00	7	U	1.10E-04
041M06030	2-Butanone (MEK)	11/15/1995	78933	2.93E+00	0.011	3.22E+00	7	U	1.98E-04
041M06030	2-Hexanone	11/15/1995	591786	4.43E+00	0.011	4.87E+00	7	U	1.31E-04
041M06030	4-Methyl-2-Pentanone (MIBK)	11/15/1995	108101	4.38E+00	0.011	4.82E+00	7	U	1.32E-04
041M06030	Acetone	11/15/1995	67641	1.34E+01	0.011	1.47E+01	100		6.17E-04
041M06030	Benzene	11/15/1995	71432	6.46E+00	0.011	7.11E+00	7	U	8.95E-05
041M06030	Bromodichloromethane	11/15/1995	75274		0.011		7	U	
041M06030	Bromoform	11/15/1995	75252	1.22E+01	0.011	1.34E+01	7	U	4.75E-05
041M06030	Bromomethane	11/15/1995	74839	4.03E+00	0.011	4.43E+00	7	U	1.44E-04
041M06030	Carbon disulfide	11/15/1995	75150		0.011		7	U	
041M06030	Carbon tetrachloride	11/15/1995	56235	7.73E+00	0.011	8.51E+00	7	U	7.48E-05
041M06030	Chlorobenzene	11/15/1995	108907	5.59E+00	0.011	6.14E+00	7	U	1.04E-04
041M06030	Chloroethane	11/15/1995	75003		0.011		7	U	
041M06030	Chloroform	11/15/1995	67663	5.59E+00	0.011	6.15E+00	7	U	1.04E-04

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 7 Phase: 2 Wetland: 6 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M06030	Chloromethane	11/15/1995	74873	2.12E+00	0.011	2.33E+00	7	U	2.73E-04
041M06030	cis-1,3-Dichloropropene	11/15/1995	10061015		0.011		7	U	
041M06030	Dibromochloromethane	11/15/1995	124481		0.011		7	U	
041M06030	Ethylbenzene	11/15/1995	100414	9.64E+00	0.011	1.06E+01	7	U	6.00E-05
041M06030	Methylene chloride	11/15/1995	75092	3.73E+00	0.011	4.10E+00	9	U	1.99E-04
041M06030	Styrene	11/15/1995	100425	9.18E+00	0.011	1.01E+01	7	U	6.30E-05
041M06030	Tetrachloroethene	11/15/1995	127184	8.83E+00	0.011	9.71E+00	7	U	6.55E-05
041M06030	Toluene	11/15/1995	108883	8.05E+00	0.011	8.85E+00	14	J	1.44E-04
041M06030	trans-1,3-Dichloropropene	11/15/1995	10061026		0.011		7	U	
041M06030	Trichloroethene	11/15/1995	79016	6.65E+00	0.011	7.32E+00	7	U	8.70E-05
041M06030	Vinyl chloride	11/15/1995	75014		0.011		2	U	
041M06030	Xylene (Total)	11/15/1995	1330207	9.70E+00	0.011	1.07E+01	7	U	5.97E-05
041M06040	1,1,1-Trichloroethane	11/15/1995	71556	6.50E+00	0.00121	7.87E-01	6	U	6.30E-03
041M06040	1,1,2,2-Tetrachloroethane	11/15/1995	79345	8.13E+00	0.00121	9.84E-01	6	U	5.04E-03
041M06040	1,1,2-Trichloroethane	11/15/1995	79005	6.24E+00	0.00121	7.55E-01	6	U	6.56E-03
041M06040	1,1-Dichloroethane	11/15/1995	75343		0.00121		6	U	
041M06040	1,1-Dichloroethene	11/15/1995	75354	4.65E+00	0.00121	5.63E-01	6	U	8.81E-03
041M06040	1,2-Dichloroethane	11/15/1995	107062	4.43E+00	0.00121	5.36E-01	6	U	9.25E-03
041M06040	1,2-Dichloroethene (total)	11/15/1995	540590	4.61E+00	0.00121	5.58E-01	6	U	8.88E-03
041M06040	1,2-Dichloropropane	11/15/1995	78875	5.26E+00	0.00121	6.37E-01	6	U	7.78E-03
041M06040	2-Butanone (MEK)	11/15/1995	78933	2.93E+00	0.00121	3.54E-01	6	U	1.40E-02
041M06040	2-Hexanone	11/15/1995	591786	4.43E+00	0.00121	5.36E-01	6	U	9.25E-03
041M06040	4-Methyl-2-Pentanone (MIBK)	11/15/1995	108101	4.38E+00	0.00121	5.30E-01	6	U	9.35E-03
041M06040	Acetone	11/15/1995	67641	1.34E+01	0.00121	1.62E+00	6	U	3.06E-03
041M06040	Benzene	11/15/1995	71432	6.46E+00	0.00121	7.82E-01	6	U	6.34E-03
041M06040	Bromodichloromethane	11/15/1995	75274		0.00121		6	U	
041M06040	Bromoform	11/15/1995	75252	1.22E+01	0.00121	1.47E+00	6	U	3.36E-03
041M06040	Bromomethane	11/15/1995	74839	4.03E+00	0.00121	4.87E-01	6	U	1.02E-02
041M06040	Carbon disulfide	11/15/1995	75150		0.00121		6	U	
041M06040	Carbon tetrachloride	11/15/1995	56235	7.73E+00	0.00121	9.36E-01	6	U	5.30E-03
041M06040	Chlorobenzene	11/15/1995	108907	5.59E+00	0.00121	6.76E-01	6	U	7.34E-03
041M06040	Chloroethane	11/15/1995	75003		0.00121		6	U	
041M06040	Chloroform	11/15/1995	67663	5.59E+00	0.00121	6.76E-01	6	U	7.34E-03
041M06040	Chloromethane	11/15/1995	74873	2.12E+00	0.00121	2.57E-01	6	U	1.93E-02
041M06040	cis-1,3-Dichloropropene	11/15/1995	10061015		0.00121		6	U	
041M06040	Dibromochloromethane	11/15/1995	124481		0.00121		6	U	
041M06040	Ethylbenzene	11/15/1995	100414	9.64E+00	0.00121	1.17E+00	6	U	4.25E-03
041M06040	Methylene chloride	11/15/1995	75092	3.73E+00	0.00121	4.51E-01	22.5	U	4.12E-02
041M06040	Styrene	11/15/1995	100425	9.18E+00	0.00121	1.11E+00	6	U	4.47E-03
041M06040	Tetrachloroethene	11/15/1995	127184	8.83E+00	0.00121	1.07E+00	6	U	4.64E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 7 Phase: 2 Wetland: 6 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M06040	Toluene	11/15/1995	108883	8.05E+00	0.00121	9.74E-01	6	U	5.09E-03
041M06040	trans-1,3-Dichloropropene	11/15/1995	10061026		0.00121		6	U	
041M06040	Trichloroethene	11/15/1995	79016	6.65E+00	0.00121	8.05E-01	6	U	6.16E-03
041M06040	Vinyl chloride	11/15/1995	75014		0.00121		2	U	
041M06040	Xylene (Total)	11/15/1995	1330207	9.70E+00	0.00121	1.17E+00	6	U	4.23E-03
041M06050	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.00204	1.33E+00	6	U	2.22E-03
041M06050	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.00204	1.66E+00	6	U	1.77E-03
041M06050	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.00204	1.27E+00	6	U	2.31E-03
041M06050	1,1-Dichloroethane	11/16/1995	75343		0.00204		6	U	
041M06050	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.00204	9.48E-01	6	U	3.10E-03
041M06050	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.00204	9.04E-01	6	U	3.26E-03
041M06050	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.00204	9.41E-01	6	U	3.13E-03
041M06050	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.00204	1.07E+00	6	U	2.74E-03
041M06050	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.00204	5.97E-01	6	U	4.92E-03
041M06050	2-Hexanone	11/16/1995	591786	4.43E+00	0.00204	9.04E-01	6	U	3.25E-03
041M06050	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.00204	8.94E-01	6	U	3.29E-03
041M06050	Acetone	11/16/1995	67641	1.34E+01	0.00204	2.73E+00	13		2.33E-03
041M06050	Benzene	11/16/1995	71432	6.46E+00	0.00204	1.32E+00	6	U	2.23E-03
041M06050	Bromodichloromethane	11/16/1995	75274		0.00204		6	U	
041M06050	Bromoform	11/16/1995	75252	1.22E+01	0.00204	2.49E+00	6	U	1.18E-03
041M06050	Bromomethane	11/16/1995	74839	4.03E+00	0.00204	8.22E-01	6	U	3.58E-03
041M06050	Carbon disulfide	11/16/1995	75150		0.00204		6	U	
041M06050	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.00204	1.58E+00	6	U	1.86E-03
041M06050	Chlorobenzene	11/16/1995	108907	5.59E+00	0.00204	1.14E+00	6	U	2.58E-03
041M06050	Chloroethane	11/16/1995	75003		0.00204		6	U	
041M06050	Chloroform	11/16/1995	67663	5.59E+00	0.00204	1.14E+00	6	U	2.58E-03
041M06050	Chloromethane	11/16/1995	74873	2.12E+00	0.00204	4.33E-01	6	U	6.80E-03
041M06050	cis-1,3-Dichloropropene	11/16/1995	10061015		0.00204		6	U	
041M06050	Dibromochloromethane	11/16/1995	124481		0.00204		6	U	
041M06050	Ethylbenzene	11/16/1995	100414	9.64E+00	0.00204	1.97E+00	6	U	1.50E-03
041M06050	Methylene chloride	11/16/1995	75092	3.73E+00	0.00204	7.61E-01	6	U	3.87E-03
041M06050	Styrene	11/16/1995	100425	9.18E+00	0.00204	1.87E+00	6	U	1.57E-03
041M06050	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.00204	1.80E+00	6	U	1.63E-03
041M06050	Toluene	11/16/1995	108883	8.05E+00	0.00204	1.64E+00	6	U	1.79E-03
041M06050	trans-1,3-Dichloropropene	11/16/1995	10061026		0.00204		6	U	
041M06050	Trichloroethene	11/16/1995	79016	6.65E+00	0.00204	1.36E+00	6	U	2.17E-03
041M06050	Vinyl chloride	11/16/1995	75014		0.00204		2	U	
041M06050	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.00204	1.98E+00	6	U	1.49E-03
041M06060	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.013	8.46E+00	7.5	U	6.82E-05
041M06060	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.013	1.06E+01	7.5	U	5.46E-05

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 7 Phase: 2 Wetland: 6 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M06060	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.013	8.12E+00	7.5	U	7.11E-05
041M06060	1,1-Dichloroethane	11/16/1995	75343		0.013		7.5	U	
041M06060	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.013	6.04E+00	7.5	U	9.55E-05
041M06060	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.013	5.76E+00	7.5	U	1.00E-04
041M06060	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.013	6.00E+00	7.5	U	9.62E-05
041M06060	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.013	6.84E+00	7.5	U	8.43E-05
041M06060	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.013	3.81E+00	7.5	U	1.52E-04
041M06060	2-Hexanone	11/16/1995	591786	4.43E+00	0.013	5.76E+00	7.5	U	1.00E-04
041M06060	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.013	5.70E+00	7.5	U	1.01E-04
041M06060	Acetone	11/16/1995	67641	1.34E+01	0.013	1.74E+01	54		2.39E-04
041M06060	Benzene	11/16/1995	71432	6.46E+00	0.013	8.40E+00	7.5	U	6.87E-05
041M06060	Bromodichloromethane	11/16/1995	75274		0.013		7.5	U	
041M06060	Bromoform	11/16/1995	75252	1.22E+01	0.013	1.58E+01	7.5	U	3.64E-05
041M06060	Bromomethane	11/16/1995	74839	4.03E+00	0.013	5.24E+00	7.5	U	1.10E-04
041M06060	Carbon disulfide	11/16/1995	75150		0.013		7.5	U	
041M06060	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.013	1.01E+01	7.5	U	5.74E-05
041M06060	Chlorobenzene	11/16/1995	108907	5.59E+00	0.013	7.26E+00	7.5	U	7.95E-05
041M06060	Chloroethane	11/16/1995	75003		0.013		7.5	U	
041M06060	Chloroform	11/16/1995	67663	5.59E+00	0.013	7.26E+00	7.5	U	7.94E-05
041M06060	Chloromethane	11/16/1995	74873	2.12E+00	0.013	2.76E+00	7.5	U	2.09E-04
041M06060	cis-1,3-Dichloropropene	11/16/1995	10061015		0.013		7.5	U	
041M06060	Dibromochloromethane	11/16/1995	124481		0.013		7.5	U	
041M06060	Ethylbenzene	11/16/1995	100414	9.64E+00	0.013	1.25E+01	7.5	U	4.61E-05
041M06060	Methylene chloride	11/16/1995	75092	3.73E+00	0.013	4.85E+00	7.5	U	1.19E-04
041M06060	Styrene	11/16/1995	100425	9.18E+00	0.013	1.19E+01	7.5	U	4.84E-05
041M06060	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.013	1.15E+01	7.5	U	5.03E-05
041M06060	Toluene	11/16/1995	108883	8.05E+00	0.013	1.05E+01	7.5	U	5.51E-05
041M06060	trans-1,3-Dichloropropene	11/16/1995	10061026		0.013		7.5	U	
041M06060	Trichloroethene	11/16/1995	79016	6.65E+00	0.013	8.65E+00	7.5	U	6.67E-05
041M06060	Vinyl chloride	11/16/1995	75014		0.013		2.5	U	
041M06060	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.013	1.26E+01	7.5	U	4.58E-05
041M06070	1,1,1-Trichloroethane	11/14/1995	71556	6.50E+00	0.0403	2.62E+01	20	U	1.89E-05
041M06070	1,1,2,2-Tetrachloroethane	11/14/1995	79345	8.13E+00	0.0403	3.28E+01	20	U	1.51E-05
041M06070	1,1,2-Trichloroethane	11/14/1995	79005	6.24E+00	0.0403	2.52E+01	20	U	1.97E-05
041M06070	1,1-Dichloroethane	11/14/1995	75343		0.0403		20	U	
041M06070	1,1-Dichloroethene	11/14/1995	75354	4.65E+00	0.0403	1.87E+01	20	U	2.65E-05
041M06070	1,2-Dichloroethane	11/14/1995	107062	4.43E+00	0.0403	1.78E+01	20	U	2.78E-05
041M06070	1,2-Dichloroethene (total)	11/14/1995	540590	4.61E+00	0.0403	1.86E+01	20	U	2.67E-05
041M06070	1,2-Dichloropropane	11/14/1995	78875	5.26E+00	0.0403	2.12E+01	20	U	2.34E-05
041M06070	2-Butanone (MEK)	11/14/1995	78933	2.93E+00	0.0403	1.18E+01	20	U	4.21E-05

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 7 Phase: 2 Wetland: 6 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M06070	2-Hexanone	11/14/1995	591786	4.43E+00	0.0403	1.79E+01	20	U	2.78E-05
041M06070	4-Methyl-2-Pentanone (MIBK)	11/14/1995	108101	4.38E+00	0.0403	1.77E+01	20	U	2.81E-05
041M06070	Acetone	11/14/1995	67641	1.34E+01	0.0403	5.39E+01	95	U	4.37E-05
041M06070	Benzene	11/14/1995	71432	6.46E+00	0.0403	2.60E+01	20	U	1.91E-05
041M06070	Bromodichloromethane	11/14/1995	75274		0.0403		20	U	
041M06070	Bromoform	11/14/1995	75252	1.22E+01	0.0403	4.91E+01	20	U	1.01E-05
041M06070	Bromomethane	11/14/1995	74839	4.03E+00	0.0403	1.62E+01	20	U	3.06E-05
041M06070	Carbon disulfide	11/14/1995	75150		0.0403		20	U	
041M06070	Carbon tetrachloride	11/14/1995	56235	7.73E+00	0.0403	3.12E+01	20	U	1.59E-05
041M06070	Chlorobenzene	11/14/1995	108907	5.59E+00	0.0403	2.25E+01	20	U	2.20E-05
041M06070	Chloroethane	11/14/1995	75003		0.0403		20	U	
041M06070	Chloroform	11/14/1995	67663	5.59E+00	0.0403	2.25E+01	20	U	2.20E-05
041M06070	Chloromethane	11/14/1995	74873	2.12E+00	0.0403	8.55E+00	20	U	5.81E-05
041M06070	cis-1,3-Dichloropropene	11/14/1995	10061015		0.0403		20	U	
041M06070	Dibromochloromethane	11/14/1995	124481		0.0403		20	U	
041M06070	Ethylbenzene	11/14/1995	100414	9.64E+00	0.0403	3.88E+01	20	U	1.28E-05
041M06070	Methylene chloride	11/14/1995	75092	3.73E+00	0.0403	1.50E+01	39	U	6.44E-05
041M06070	Styrene	11/14/1995	100425	9.18E+00	0.0403	3.70E+01	20	U	1.34E-05
041M06070	Tetrachloroethene	11/14/1995	127184	8.83E+00	0.0403	3.56E+01	20	U	1.40E-05
041M06070	Toluene	11/14/1995	108883	8.05E+00	0.0403	3.24E+01	6	J	4.59E-06
041M06070	trans-1,3-Dichloropropene	11/14/1995	10061026		0.0403		20	U	
041M06070	Trichloroethene	11/14/1995	79016	6.65E+00	0.0403	2.68E+01	5	J	4.63E-06
041M06070	Vinyl chloride	11/14/1995	75014		0.0403		6	U	
041M06070	Xylene (Total)	11/14/1995	1330207	9.70E+00	0.0403	3.91E+01	20	U	1.27E-05
041M06080	1,1,1-Trichloroethane	11/14/1995	71556	6.50E+00	0.00148	9.63E-01	6	U	4.21E-03
041M06080	1,1,2,2-Tetrachloroethane	11/14/1995	79345	8.13E+00	0.00148	1.20E+00	6	U	3.37E-03
041M06080	1,1,2-Trichloroethane	11/14/1995	79005	6.24E+00	0.00148	9.24E-01	6	U	4.39E-03
041M06080	1,1-Dichloroethane	11/14/1995	75343		0.00148		6	U	
041M06080	1,1-Dichloroethene	11/14/1995	75354	4.65E+00	0.00148	6.88E-01	6	U	5.89E-03
041M06080	1,2-Dichloroethane	11/14/1995	107062	4.43E+00	0.00148	6.55E-01	6	U	6.18E-03
041M06080	1,2-Dichloroethene (total)	11/14/1995	540590	4.61E+00	0.00148	6.83E-01	6	U	5.94E-03
041M06080	1,2-Dichloropropane	11/14/1995	78875	5.26E+00	0.00148	7.79E-01	6	U	5.20E-03
041M06080	2-Butanone (MEK)	11/14/1995	78933	2.93E+00	0.00148	4.33E-01	6	U	9.35E-03
041M06080	2-Hexanone	11/14/1995	591786	4.43E+00	0.00148	6.56E-01	6	U	6.18E-03
041M06080	4-Methyl-2-Pentanone (MIBK)	11/14/1995	108101	4.38E+00	0.00148	6.49E-01	6	U	6.25E-03
041M06080	Acetone	11/14/1995	67641	1.34E+01	0.00148	1.98E+00	95	U	4.80E-02
041M06080	Benzene	11/14/1995	71432	6.46E+00	0.00148	9.56E-01	6	U	4.24E-03
041M06080	Bromodichloromethane	11/14/1995	75274		0.00148		6	U	
041M06080	Bromoform	11/14/1995	75252	1.22E+01	0.00148	1.80E+00	6	U	2.25E-03
041M06080	Bromomethane	11/14/1995	74839	4.03E+00	0.00148	5.96E-01	6	U	6.80E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 7 Phase: 2 Wetland: 6 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M06080	Carbon disulfide	11/14/1995	75150		0.00148		6	U	
041M06080	Carbon tetrachloride	11/14/1995	56235	7.73E+00	0.00148	1.14E+00	6	U	3.54E-03
041M06080	Chlorobenzene	11/14/1995	108907	5.59E+00	0.00148	8.27E-01	6	U	4.90E-03
041M06080	Chloroethane	11/14/1995	75003		0.00148		6	U	
041M06080	Chloroform	11/14/1995	67663	5.59E+00	0.00148	8.27E-01	6	U	4.90E-03
041M06080	Chloromethane	11/14/1995	74873	2.12E+00	0.00148	3.14E-01	6	U	1.29E-02
041M06080	cis-1,3-Dichloropropene	11/14/1995	10061015		0.00148		6	U	
041M06080	Dibromochloromethane	11/14/1995	124481		0.00148		6	U	
041M06080	Ethylbenzene	11/14/1995	100414	9.64E+00	0.00148	1.43E+00	6	U	2.84E-03
041M06080	Methylene chloride	11/14/1995	75092	3.73E+00	0.00148	5.52E-01	6	U	7.35E-03
041M06080	Styrene	11/14/1995	100425	9.18E+00	0.00148	1.36E+00	6	U	2.99E-03
041M06080	Tetrachloroethene	11/14/1995	127184	8.83E+00	0.00148	1.31E+00	6	U	3.10E-03
041M06080	Toluene	11/14/1995	108883	8.05E+00	0.00148	1.19E+00	6	U	3.40E-03
041M06080	trans-1,3-Dichloropropene	11/14/1995	10061026		0.00148		6	U	
041M06080	Trichloroethene	11/14/1995	79016	6.65E+00	0.00148	9.85E-01	6	U	4.12E-03
041M06080	Vinyl chloride	11/14/1995	75014		0.00148		2	U	
041M06080	Xylene (Total)	11/14/1995	1330207	9.70E+00	0.00148	1.43E+00	6	U	2.83E-03
041M06090	1,1,1-Trichloroethane	11/14/1995	71556	6.50E+00	0.00265	1.72E+00	4	J	8.76E-04
041M06090	1,1,2,2-Tetrachloroethane	11/14/1995	79345	8.13E+00	0.00265	2.16E+00	6	U	1.05E-03
041M06090	1,1,2-Trichloroethane	11/14/1995	79005	6.24E+00	0.00265	1.65E+00	6	U	1.37E-03
041M06090	1,1-Dichloroethane	11/14/1995	75343		0.00265		9	J	
041M06090	1,1-Dichloroethene	11/14/1995	75354	4.65E+00	0.00265	1.23E+00	8	J	2.45E-03
041M06090	1,2-Dichloroethane	11/14/1995	107062	4.43E+00	0.00265	1.17E+00	6	U	1.93E-03
041M06090	1,2-Dichloroethene (total)	11/14/1995	540590	4.61E+00	0.00265	1.22E+00	6	U	1.85E-03
041M06090	1,2-Dichloropropane	11/14/1995	78875	5.26E+00	0.00265	1.40E+00	6	U	1.62E-03
041M06090	2-Butanone (MEK)	11/14/1995	78933	2.93E+00	0.00265	7.76E-01	6	U	2.92E-03
041M06090	2-Hexanone	11/14/1995	591786	4.43E+00	0.00265	1.17E+00	6	U	1.93E-03
041M06090	4-Methyl-2-Pentanone (MIBK)	11/14/1995	108101	4.38E+00	0.00265	1.16E+00	6	U	1.95E-03
041M06090	Benzene	11/14/1995	71432	6.46E+00	0.00265	1.71E+00	6	U	1.32E-03
041M06090	Bromodichloromethane	11/14/1995	75274		0.00265		6	U	
041M06090	Bromoform	11/14/1995	75252	1.22E+01	0.00265	3.23E+00	6	U	7.01E-04
041M06090	Bromomethane	11/14/1995	74839	4.03E+00	0.00265	1.07E+00	6	U	2.12E-03
041M06090	Carbon disulfide	11/14/1995	75150		0.00265		6	U	
041M06090	Carbon tetrachloride	11/14/1995	56235	7.73E+00	0.00265	2.05E+00	6	U	1.10E-03
041M06090	Chlorobenzene	11/14/1995	108907	5.59E+00	0.00265	1.48E+00	2	J	5.10E-04
041M06090	Chloroethane	11/14/1995	75003		0.00265		2	J	
041M06090	Chloroform	11/14/1995	67663	5.59E+00	0.00265	1.48E+00	6	U	1.53E-03
041M06090	Chloromethane	11/14/1995	74873	2.12E+00	0.00265	5.62E-01	6	U	4.03E-03
041M06090	cis-1,3-Dichloropropene	11/14/1995	10061015		0.00265		6	U	
041M06090	Dibromochloromethane	11/14/1995	124481		0.00265		6	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 7 Phase: 2 Wetland: 6 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M06090	Ethylbenzene	11/14/1995	100414	9.64E+00	0.00265	2.55E+00	6	U	8.87E-04
041M06090	Methylene chloride	11/14/1995	75092	3.73E+00	0.00265	9.88E-01	8	U	3.06E-03
041M06090	Styrene	11/14/1995	100425	9.18E+00	0.00265	2.43E+00	6	U	9.31E-04
041M06090	Tetrachloroethene	11/14/1995	127184	8.83E+00	0.00265	2.34E+00	2	J	3.23E-04
041M06090	Toluene	11/14/1995	108883	8.05E+00	0.00265	2.13E+00	4	J	7.08E-04
041M06090	trans-1,3-Dichloropropene	11/14/1995	10061026		0.00265		6	U	
041M06090	Trichloroethene	11/14/1995	79016	6.65E+00	0.00265	1.76E+00	2	J	4.28E-04
041M06090	Vinyl chloride	11/14/1995	75014		0.00265		2	U	
041M06090	Xylene (Total)	11/14/1995	1330207	9.70E+00	0.00265	2.57E+00	6	U	8.81E-04
041M06100	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.00159	1.03E+00	6	U	3.65E-03
041M06100	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.00159	1.29E+00	6	U	2.92E-03
041M06100	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.00159	9.93E-01	6	U	3.80E-03
041M06100	1,1-Dichloroethane	11/16/1995	75343		0.00159		6	U	
041M06100	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.00159	7.39E-01	6	U	5.10E-03
041M06100	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.00159	7.04E-01	6	U	5.36E-03
041M06100	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.00159	7.33E-01	6	U	5.15E-03
041M06100	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.00159	8.37E-01	6	U	4.51E-03
041M06100	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.00159	4.66E-01	6	U	8.10E-03
041M06100	2-Hexanone	11/16/1995	591786	4.43E+00	0.00159	7.04E-01	6	U	5.36E-03
041M06100	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.00159	6.97E-01	6	U	5.41E-03
041M06100	Acetone	11/16/1995	67641	1.34E+01	0.00159	2.13E+00	40		1.18E-02
041M06100	Benzene	11/16/1995	71432	6.46E+00	0.00159	1.03E+00	6	U	3.67E-03
041M06100	Bromodichloromethane	11/16/1995	75274		0.00159		6	U	
041M06100	Bromoform	11/16/1995	75252	1.22E+01	0.00159	1.94E+00	6	U	1.95E-03
041M06100	Bromomethane	11/16/1995	74839	4.03E+00	0.00159	6.41E-01	6	U	5.89E-03
041M06100	Carbon disulfide	11/16/1995	75150		0.00159		6	U	
041M06100	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.00159	1.23E+00	6	U	3.07E-03
041M06100	Chlorobenzene	11/16/1995	108907	5.59E+00	0.00159	8.88E-01	6	U	4.25E-03
041M06100	Chloroethane	11/16/1995	75003		0.00159		6	U	
041M06100	Chloroform	11/16/1995	67663	5.59E+00	0.00159	8.88E-01	6	U	4.25E-03
041M06100	Chloromethane	11/16/1995	74873	2.12E+00	0.00159	3.37E-01	6	U	1.12E-02
041M06100	cis-1,3-Dichloropropene	11/16/1995	10061015		0.00159		6	U	
041M06100	Dibromochloromethane	11/16/1995	124481		0.00159		6	U	
041M06100	Ethylbenzene	11/16/1995	100414	9.64E+00	0.00159	1.53E+00	6	U	2.46E-03
041M06100	Methylene chloride	11/16/1995	75092	3.73E+00	0.00159	5.93E-01	7	U	7.43E-03
041M06100	Styrene	11/16/1995	100425	9.18E+00	0.00159	1.46E+00	6	U	2.59E-03
041M06100	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.00159	1.40E+00	6	U	2.69E-03
041M06100	Toluene	11/16/1995	108883	8.05E+00	0.00159	1.28E+00	6	U	2.95E-03
041M06100	trans-1,3-Dichloropropene	11/16/1995	10061026		0.00159		6	U	
041M06100	Trichloroethene	11/16/1995	79016	6.65E+00	0.00159	1.06E+00	6	U	3.57E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 7 Phase: 2 Wetland: 6 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M06100	Vinyl chloride	11/16/1995	75014		0.00159		2	U	
041M06100	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.00159	1.54E+00	6	U	2.45E-03
041M06110	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.00137	8.91E-01	6	U	4.91E-03
041M06110	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.00137	1.11E+00	6	U	3.93E-03
041M06110	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.00137	8.55E-01	6	U	5.12E-03
041M06110	1,1-Dichloroethane	11/16/1995	75343		0.00137		6	U	
041M06110	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.00137	6.37E-01	6	U	6.88E-03
041M06110	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.00137	6.07E-01	6	U	7.22E-03
041M06110	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.00137	6.32E-01	6	U	6.93E-03
041M06110	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.00137	7.21E-01	6	U	6.07E-03
041M06110	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.00137	4.01E-01	6	U	1.09E-02
041M06110	2-Hexanone	11/16/1995	591786	4.43E+00	0.00137	6.07E-01	6	U	7.22E-03
041M06110	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.00137	6.01E-01	6	U	7.29E-03
041M06110	Acetone	11/16/1995	67641	1.34E+01	0.00137	1.83E+00	790	D	3.14E-01
041M06110	Benzene	11/16/1995	71432	6.46E+00	0.00137	8.85E-01	6	U	4.95E-03
041M06110	Bromodichloromethane	11/16/1995	75274		0.00137		6	U	
041M06110	Bromoform	11/16/1995	75252	1.22E+01	0.00137	1.67E+00	6	U	2.62E-03
041M06110	Bromomethane	11/16/1995	74839	4.03E+00	0.00137	5.52E-01	6	U	7.94E-03
041M06110	Carbon disulfide	11/16/1995	75150		0.00137		6	U	
041M06110	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.00137	1.06E+00	6	U	4.13E-03
041M06110	Chlorobenzene	11/16/1995	108907	5.59E+00	0.00137	7.65E-01	6	U	5.72E-03
041M06110	Chloroethane	11/16/1995	75003		0.00137		6	U	
041M06110	Chloroform	11/16/1995	67663	5.59E+00	0.00137	7.65E-01	6	U	5.72E-03
041M06110	Chloromethane	11/16/1995	74873	2.12E+00	0.00137	2.91E-01	6	U	1.51E-02
041M06110	cis-1,3-Dichloropropene	11/16/1995	10061015		0.00137		6	U	
041M06110	Dibromochloromethane	11/16/1995	124481		0.00137		6	U	
041M06110	Ethylbenzene	11/16/1995	100414	9.64E+00	0.00137	1.32E+00	6	U	3.32E-03
041M06110	Methylene chloride	11/16/1995	75092	3.73E+00	0.00137	5.11E-01	16	U	2.29E-02
041M06110	Styrene	11/16/1995	100425	9.18E+00	0.00137	1.26E+00	6	U	3.48E-03
041M06110	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.00137	1.21E+00	4	J	2.41E-03
041M06110	Toluene	11/16/1995	108883	8.05E+00	0.00137	1.10E+00	6	U	3.97E-03
041M06110	trans-1,3-Dichloropropene	11/16/1995	10061026		0.00137		6	U	
041M06110	Trichloroethene	11/16/1995	79016	6.65E+00	0.00137	9.11E-01	3	J	2.40E-03
041M06110	Vinyl chloride	11/16/1995	75014		0.00137		2	U	
041M06110	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.00137	1.33E+00	6	U	3.30E-03

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 8 Phase: 2 Wetland: 10 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
033M00100	1,1,1-Trichloroethane	1/19/1993	71556	6.50E+00	0.00203	1.32E+00	6.5	U	2.42E-03
033M00100	1,1,2,2-Tetrachloroethane	1/19/1993	79345	8.13E+00	0.00203	1.65E+00	6.5	U	1.94E-03
033M00100	1,1,2-Trichloroethane	1/19/1993	79005	6.24E+00	0.00203	1.27E+00	6.5	U	2.53E-03
033M00100	1,1-Dichloroethane	1/19/1993	75343		0.00203		6.5	U	
033M00100	1,1-Dichloroethene	1/19/1993	75354	4.65E+00	0.00203	9.44E-01	6.5	U	3.39E-03
033M00100	1,2-Dichloroethane	1/19/1993	107062	4.43E+00	0.00203	8.99E-01	6.5	U	3.56E-03
033M00100	1,2-Dichloroethene (total)	1/19/1993	540590	4.61E+00	0.00203	9.36E-01	6.5	U	3.42E-03
033M00100	1,2-Dichloropropane	1/19/1993	78875	5.26E+00	0.00203	1.07E+00	6.5	U	3.00E-03
033M00100	2-Butanone (MEK)	1/19/1993	78933	2.93E+00	0.00203	5.94E-01	6.5	U	5.39E-03
033M00100	2-Hexanone	1/19/1993	591786	4.43E+00	0.00203	8.99E-01	6.5	U	3.56E-03
033M00100	4-Methyl-2-Pentanone (MIBK)	1/19/1993	108101	4.38E+00	0.00203	8.90E-01	6.5	U	3.60E-03
033M00100	Acetone	1/19/1993	67641	1.34E+01	0.00203	2.72E+00	17	U	3.08E-03
033M00100	Benzene	1/19/1993	71432	6.46E+00	0.00203	1.31E+00	6.5	U	2.44E-03
033M00100	Bromodichloromethane	1/19/1993	75274		0.00203		6.5	U	
033M00100	Bromoform	1/19/1993	75252	1.22E+01	0.00203	2.47E+00	6.5	U	1.29E-03
033M00100	Bromomethane	1/19/1993	74839	4.03E+00	0.00203	8.18E-01	6.5	U	3.92E-03
033M00100	Carbon disulfide	1/19/1993	75150		0.00203		6.5	U	
033M00100	Carbon tetrachloride	1/19/1993	56235	7.73E+00	0.00203	1.57E+00	6.5	U	2.04E-03
033M00100	Chlorobenzene	1/19/1993	108907	5.59E+00	0.00203	1.13E+00	6.5	U	2.82E-03
033M00100	Chloroethane	1/19/1993	75003		0.00203		6.5	U	
033M00100	Chloroform	1/19/1993	67663	5.59E+00	0.00203	1.13E+00	1	U	4.34E-04
033M00100	Chloromethane	1/19/1993	74873	2.12E+00	0.00203	4.31E-01	6.5	U	7.44E-03
033M00100	cis-1,3-Dichloropropene	1/19/1993	10061015		0.00203		6.5	U	
033M00100	Dibromochloromethane	1/19/1993	124481		0.00203		6.5	U	
033M00100	Ethylbenzene	1/19/1993	100414	9.64E+00	0.00203	1.96E+00	6.5	U	1.64E-03
033M00100	Methylene chloride	1/19/1993	75092	3.73E+00	0.00203	7.57E-01	5	U	3.25E-03
033M00100	Styrene	1/19/1993	100425	9.18E+00	0.00203	1.86E+00	6.5	U	1.72E-03
033M00100	Tetrachloroethene	1/19/1993	127184	8.83E+00	0.00203	1.79E+00	6.5	U	1.79E-03
033M00100	Toluene	1/19/1993	108883	8.05E+00	0.00203	1.63E+00	6.5	U	1.96E-03
033M00100	trans-1,3-Dichloropropene	1/19/1993	10061026		0.00203		6.5	U	
033M00100	Trichloroethene	1/19/1993	79016	6.65E+00	0.00203	1.35E+00	6.5	U	2.37E-03
033M00100	Vinyl chloride	1/19/1993	75014		0.00203		6.5	U	
033M00100	Xylene (Total)	1/19/1993	1330207	9.70E+00	0.00203	1.97E+00	6.5	U	1.63E-03
033M00200	1,1,1-Trichloroethane	1/19/1993	71556	6.50E+00	0.00203	1.32E+00	6.5	U	2.42E-03
033M00200	1,1,2,2-Tetrachloroethane	1/19/1993	79345	8.13E+00	0.00203	1.65E+00	6.5	U	1.94E-03
033M00200	1,1,2-Trichloroethane	1/19/1993	79005	6.24E+00	0.00203	1.27E+00	6.5	U	2.53E-03
033M00200	1,1-Dichloroethane	1/19/1993	75343		0.00203		6.5	U	
033M00200	1,1-Dichloroethene	1/19/1993	75354	4.65E+00	0.00203	9.44E-01	6.5	U	3.39E-03
033M00200	1,2-Dichloroethane	1/19/1993	107062	4.43E+00	0.00203	8.99E-01	6.5	U	3.56E-03
033M00200	1,2-Dichloroethene (total)	1/19/1993	540590	4.61E+00	0.00203	9.36E-01	6.5	U	3.42E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 8 Phase: 2 Wetland: 10 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
033M00200	1,2-Dichloropropane	1/19/1993	78875	5.26E+00	0.00203	1.07E+00	6.5	U	3.00E-03
033M00200	2-Butanone (MEK)	1/19/1993	78933	2.93E+00	0.00203	5.94E-01	6.5	U	5.39E-03
033M00200	2-Hexanone	1/19/1993	591786	4.43E+00	0.00203	8.99E-01	6.5	U	3.56E-03
033M00200	4-Methyl-2-Pentanone (MIBK)	1/19/1993	108101	4.38E+00	0.00203	8.90E-01	6.5	U	3.60E-03
033M00200	Acetone	1/19/1993	67641	1.34E+01	0.00203	2.72E+00	23.5	U	4.26E-03
033M00200	Benzene	1/19/1993	71432	6.46E+00	0.00203	1.31E+00	6.5	U	2.44E-03
033M00200	Bromodichloromethane	1/19/1993	75274		0.00203		6.5	U	
033M00200	Bromoform	1/19/1993	75252	1.22E+01	0.00203	2.47E+00	6.5	U	1.29E-03
033M00200	Bromomethane	1/19/1993	74839	4.03E+00	0.00203	8.18E-01	6.5	U	3.92E-03
033M00200	Carbon disulfide	1/19/1993	75150		0.00203		6.5	U	
033M00200	Carbon tetrachloride	1/19/1993	56235	7.73E+00	0.00203	1.57E+00	6.5	U	2.04E-03
033M00200	Chlorobenzene	1/19/1993	108907	5.59E+00	0.00203	1.13E+00	6.5	U	2.82E-03
033M00200	Chloroethane	1/19/1993	75003		0.00203		6.5	U	
033M00200	Chloroform	1/19/1993	67663	5.59E+00	0.00203	1.13E+00	6.5	U	2.82E-03
033M00200	Chloromethane	1/19/1993	74873	2.12E+00	0.00203	4.31E-01	6.5	U	7.44E-03
033M00200	cis-1,3-Dichloropropene	1/19/1993	10061015		0.00203		6.5	U	
033M00200	Dibromochloromethane	1/19/1993	124481		0.00203		6.5	U	
033M00200	Ethylbenzene	1/19/1993	100414	9.64E+00	0.00203	1.96E+00	6.5	U	1.64E-03
033M00200	Methylene chloride	1/19/1993	75092	3.73E+00	0.00203	7.57E-01	6.5	U	4.23E-03
033M00200	Styrene	1/19/1993	100425	9.18E+00	0.00203	1.86E+00	6.5	U	1.72E-03
033M00200	Tetrachloroethene	1/19/1993	127184	8.83E+00	0.00203	1.79E+00	6.5	U	1.79E-03
033M00200	Toluene	1/19/1993	108883	8.05E+00	0.00203	1.63E+00	6.5	U	1.96E-03
033M00200	trans-1,3-Dichloropropene	1/19/1993	10061026		0.00203		6.5	U	
033M00200	Trichloroethene	1/19/1993	79016	6.65E+00	0.00203	1.35E+00	6.5	U	2.37E-03
033M00200	Vinyl chloride	1/19/1993	75014		0.00203		6.5	U	
033M00200	Xylene (Total)	1/19/1993	1330207	9.70E+00	0.00203	1.97E+00	6.5	U	1.63E-03
033M00300	1,1,1-Trichloroethane	1/19/1993	71556	6.50E+00	0.00203	1.32E+00	6.5	U	2.42E-03
033M00300	1,1,2,2-Tetrachloroethane	1/19/1993	79345	8.13E+00	0.00203	1.65E+00	6.5	U	1.94E-03
033M00300	1,1,2-Trichloroethane	1/19/1993	79005	6.24E+00	0.00203	1.27E+00	6.5	U	2.53E-03
033M00300	1,1-Dichloroethane	1/19/1993	75343		0.00203		6.5	U	
033M00300	1,1-Dichloroethene	1/19/1993	75354	4.65E+00	0.00203	9.44E-01	6.5	U	3.39E-03
033M00300	1,2-Dichloroethane	1/19/1993	107062	4.43E+00	0.00203	8.99E-01	6.5	U	3.56E-03
033M00300	1,2-Dichloroethene (total)	1/19/1993	540590	4.61E+00	0.00203	9.36E-01	6.5	U	3.42E-03
033M00300	1,2-Dichloropropane	1/19/1993	78875	5.26E+00	0.00203	1.07E+00	6.5	U	3.00E-03
033M00300	2-Butanone (MEK)	1/19/1993	78933	2.93E+00	0.00203	5.94E-01	6.5	U	5.39E-03
033M00300	2-Hexanone	1/19/1993	591786	4.43E+00	0.00203	8.99E-01	6.5	U	3.56E-03
033M00300	4-Methyl-2-Pentanone (MIBK)	1/19/1993	108101	4.38E+00	0.00203	8.90E-01	6.5	U	3.60E-03
033M00300	Acetone	1/19/1993	67641	1.34E+01	0.00203	2.72E+00	24	U	4.35E-03
033M00300	Benzene	1/19/1993	71432	6.46E+00	0.00203	1.31E+00	6.5	U	2.44E-03
033M00300	Bromodichloromethane	1/19/1993	75274		0.00203		6.5	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 8 Phase: 2 Wetland: 10 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
033M00300	Bromoform	1/19/1993	75252	1.22E+01	0.00203	2.47E+00	6.5	U	1.29E-03
033M00300	Bromomethane	1/19/1993	74839	4.03E+00	0.00203	8.18E-01	6.5	U	3.92E-03
033M00300	Carbon disulfide	1/19/1993	75150		0.00203		6.5	U	
033M00300	Carbon tetrachloride	1/19/1993	56235	7.73E+00	0.00203	1.57E+00	6.5	U	2.04E-03
033M00300	Chlorobenzene	1/19/1993	108907	5.59E+00	0.00203	1.13E+00	6.5	U	2.82E-03
033M00300	Chloroethane	1/19/1993	75003		0.00203		6.5	U	
033M00300	Chloroform	1/19/1993	67663	5.59E+00	0.00203	1.13E+00	6.5	U	2.82E-03
033M00300	Chloromethane	1/19/1993	74873	2.12E+00	0.00203	4.31E-01	6.5	U	7.44E-03
033M00300	cis-1,3-Dichloropropene	1/19/1993	10061015		0.00203		6.5	U	
033M00300	Dibromochloromethane	1/19/1993	124481		0.00203		6.5	U	
033M00300	Ethylbenzene	1/19/1993	100414	9.64E+00	0.00203	1.96E+00	6.5	U	1.64E-03
033M00300	Methylene chloride	1/19/1993	75092	3.73E+00	0.00203	7.57E-01	7.5	U	4.88E-03
033M00300	Styrene	1/19/1993	100425	9.18E+00	0.00203	1.86E+00	6.5	U	1.72E-03
033M00300	Tetrachloroethene	1/19/1993	127184	8.83E+00	0.00203	1.79E+00	6.5	U	1.79E-03
033M00300	Toluene	1/19/1993	108883	8.05E+00	0.00203	1.63E+00	6.5	U	1.96E-03
033M00300	trans-1,3-Dichloropropene	1/19/1993	10061026		0.00203		6.5	U	
033M00300	Trichloroethene	1/19/1993	79016	6.65E+00	0.00203	1.35E+00	6.5	U	2.37E-03
033M00300	Vinyl chloride	1/19/1993	75014		0.00203		6.5	U	
033M00300	Xylene (Total)	1/19/1993	1330207	9.70E+00	0.00203	1.97E+00	6.5	U	1.63E-03
033M00400	1,1,1-Trichloroethane	1/19/1993	71556	6.50E+00	0.00203	1.32E+00	6.5	U	2.42E-03
033M00400	1,1,2,2-Tetrachloroethane	1/19/1993	79345	8.13E+00	0.00203	1.65E+00	6.5	U	1.94E-03
033M00400	1,1,2-Trichloroethane	1/19/1993	79005	6.24E+00	0.00203	1.27E+00	6.5	U	2.53E-03
033M00400	1,1-Dichloroethane	1/19/1993	75343		0.00203		6.5	U	
033M00400	1,1-Dichloroethene	1/19/1993	75354	4.65E+00	0.00203	9.44E-01	6.5	U	3.39E-03
033M00400	1,2-Dichloroethane	1/19/1993	107062	4.43E+00	0.00203	8.99E-01	6.5	U	3.56E-03
033M00400	1,2-Dichloroethene (total)	1/19/1993	540590	4.61E+00	0.00203	9.36E-01	6.5	U	3.42E-03
033M00400	1,2-Dichloropropane	1/19/1993	78875	5.26E+00	0.00203	1.07E+00	6.5	U	3.00E-03
033M00400	2-Butanone (MEK)	1/19/1993	78933	2.93E+00	0.00203	5.94E-01	6.5	U	5.39E-03
033M00400	2-Hexanone	1/19/1993	591786	4.43E+00	0.00203	8.99E-01	6.5	U	3.56E-03
033M00400	4-Methyl-2-Pentanone (MIBK)	1/19/1993	108101	4.38E+00	0.00203	8.90E-01	6.5	U	3.60E-03
033M00400	Acetone	1/19/1993	67641	1.34E+01	0.00203	2.72E+00	22.5	U	4.08E-03
033M00400	Benzene	1/19/1993	71432	6.46E+00	0.00203	1.31E+00	6.5	U	2.44E-03
033M00400	Bromodichloromethane	1/19/1993	75274		0.00203		6.5	U	
033M00400	Bromoform	1/19/1993	75252	1.22E+01	0.00203	2.47E+00	6.5	U	1.29E-03
033M00400	Bromomethane	1/19/1993	74839	4.03E+00	0.00203	8.18E-01	6.5	U	3.92E-03
033M00400	Carbon disulfide	1/19/1993	75150		0.00203		6.5	U	
033M00400	Carbon tetrachloride	1/19/1993	56235	7.73E+00	0.00203	1.57E+00	6.5	U	2.04E-03
033M00400	Chlorobenzene	1/19/1993	108907	5.59E+00	0.00203	1.13E+00	6.5	U	2.82E-03
033M00400	Chloroethane	1/19/1993	75003		0.00203		6.5	U	
033M00400	Chloroform	1/19/1993	67663	5.59E+00	0.00203	1.13E+00	6.5	U	2.82E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 8 Phase: 2 Wetland: 10 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
033M00400	Chloromethane	1/19/1993	74873	2.12E+00	0.00203	4.31E-01	6.5	U	7.44E-03
033M00400	cis-1,3-Dichloropropene	1/19/1993	10061015		0.00203		6.5	U	
033M00400	Dibromochloromethane	1/19/1993	124481		0.00203		6.5	U	
033M00400	Ethylbenzene	1/19/1993	100414	9.64E+00	0.00203	1.96E+00	6.5	U	1.64E-03
033M00400	Methylene chloride	1/19/1993	75092	3.73E+00	0.00203	7.57E-01	5.5	U	3.58E-03
033M00400	Styrene	1/19/1993	100425	9.18E+00	0.00203	1.86E+00	6.5	U	1.72E-03
033M00400	Tetrachloroethene	1/19/1993	127184	8.83E+00	0.00203	1.79E+00	6.5	U	1.79E-03
033M00400	Toluene	1/19/1993	108883	8.05E+00	0.00203	1.63E+00	6.5	U	1.96E-03
033M00400	trans-1,3-Dichloropropene	1/19/1993	10061026		0.00203		6.5	U	
033M00400	Trichloroethene	1/19/1993	79016	6.65E+00	0.00203	1.35E+00	6.5	U	2.37E-03
033M00400	Vinyl chloride	1/19/1993	75014		0.00203		6.5	U	
033M00400	Xylene (Total)	1/19/1993	1330207	9.70E+00	0.00203	1.97E+00	6.5	U	1.63E-03
041M10A10	1,1,1-Trichloroethane	11/28/1995	71556	6.50E+00	0.00369	2.40E+00	6.5	U	7.34E-04
041M10A10	1,1,2,2-Tetrachloroethane	11/28/1995	79345	8.13E+00	0.00369	3.00E+00	6.5	U	5.87E-04
041M10A10	1,1,2-Trichloroethane	11/28/1995	79005	6.24E+00	0.00369	2.30E+00	6.5	U	7.65E-04
041M10A10	1,1-Dichloroethane	11/28/1995	75343		0.00369		6.5	U	
041M10A10	1,1-Dichloroethene	11/28/1995	75354	4.65E+00	0.00369	1.72E+00	6.5	U	1.03E-03
041M10A10	1,2-Dichloroethane	11/28/1995	107062	4.43E+00	0.00369	1.63E+00	6.5	U	1.08E-03
041M10A10	1,2-Dichloroethene (total)	11/28/1995	540590	4.61E+00	0.00369	1.70E+00	6.5	U	1.03E-03
041M10A10	1,2-Dichloropropane	11/28/1995	78875	5.26E+00	0.00369	1.94E+00	6.5	U	9.07E-04
041M10A10	2-Butanone (MEK)	11/28/1995	78933	2.93E+00	0.00369	1.08E+00	6.5	U	1.63E-03
041M10A10	2-Hexanone	11/28/1995	591786	4.43E+00	0.00369	1.63E+00	6.5	U	1.08E-03
041M10A10	4-Methyl-2-Pentanone (MIBK)	11/28/1995	108101	4.38E+00	0.00369	1.62E+00	6.5	U	1.09E-03
041M10A10	Acetone	11/28/1995	67641	1.34E+01	0.00369	4.94E+00	12.5	U	6.86E-04
041M10A10	Benzene	11/28/1995	71432	6.46E+00	0.00369	2.38E+00	6.5	U	7.39E-04
041M10A10	Bromodichloromethane	11/28/1995	75274		0.00369		6.5	U	
041M10A10	Bromoform	11/28/1995	75252	1.22E+01	0.00369	4.50E+00	6.5	U	3.92E-04
041M10A10	Bromomethane	11/28/1995	74839	4.03E+00	0.00369	1.49E+00	6.5	U	1.18E-03
041M10A10	Carbon disulfide	11/28/1995	75150		0.00369		6.5	U	
041M10A10	Carbon tetrachloride	11/28/1995	56235	7.73E+00	0.00369	2.85E+00	6.5	U	6.17E-04
041M10A10	Chlorobenzene	11/28/1995	108907	5.59E+00	0.00369	2.06E+00	6.5	U	8.55E-04
041M10A10	Chloroethane	11/28/1995	75003		0.00369		6.5	U	
041M10A10	Chloroform	11/28/1995	67663	5.59E+00	0.00369	2.06E+00	6.5	U	8.54E-04
041M10A10	Chloromethane	11/28/1995	74873	2.12E+00	0.00369	7.83E-01	6.5	U	2.25E-03
041M10A10	cis-1,3-Dichloropropene	11/28/1995	10061015		0.00369		6.5	U	
041M10A10	Dibromochloromethane	11/28/1995	124481		0.00369		6.5	U	
041M10A10	Ethylbenzene	11/28/1995	100414	9.64E+00	0.00369	3.56E+00	6.5	U	4.95E-04
041M10A10	Methylene chloride	11/28/1995	75092	3.73E+00	0.00369	1.38E+00	8.5	U	1.67E-03
041M10A10	Styrene	11/28/1995	100425	9.18E+00	0.00369	3.39E+00	6.5	U	5.20E-04
041M10A10	Tetrachloroethene	11/28/1995	127184	8.83E+00	0.00369	3.26E+00	6.5	U	5.41E-04

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 8 Phase: 2 Wetland: 10 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M10A10	Toluene	11/28/1995	108883	8.05E+00	0.00369	2.97E+00	6.5	U	5.93E-04
041M10A10	trans-1,3-Dichloropropene	11/28/1995	10061026		0.00369		6.5	U	
041M10A10	Trichloroethene	11/28/1995	79016	6.65E+00	0.00369	2.45E+00	6.5	U	7.18E-04
041M10A10	Vinyl chloride	11/28/1995	75014		0.00369		2	U	
041M10A10	Xylene (Total)	11/28/1995	1330207	9.70E+00	0.00369	3.58E+00	6.5	U	4.92E-04
041M10A20	1,1,1-Trichloroethane	11/28/1995	71556	6.50E+00	0.00203	1.32E+00	6	U	2.24E-03
041M10A20	1,1,2,2-Tetrachloroethane	11/28/1995	79345	8.13E+00	0.00203	1.65E+00	6	U	1.79E-03
041M10A20	1,1,2-Trichloroethane	11/28/1995	79005	6.24E+00	0.00203	1.27E+00	6	U	2.33E-03
041M10A20	1,1-Dichloroethane	11/28/1995	75343		0.00203		6	U	
041M10A20	1,1-Dichloroethene	11/28/1995	75354	4.65E+00	0.00203	9.44E-01	6	U	3.13E-03
041M10A20	1,2-Dichloroethane	11/28/1995	107062	4.43E+00	0.00203	8.99E-01	6	U	3.29E-03
041M10A20	1,2-Dichloroethene (total)	11/28/1995	540590	4.61E+00	0.00203	9.36E-01	6	U	3.16E-03
041M10A20	1,2-Dichloropropane	11/28/1995	78875	5.26E+00	0.00203	1.07E+00	6	U	2.77E-03
041M10A20	2-Butanone (MEK)	11/28/1995	78933	2.93E+00	0.00203	5.94E-01	6	U	4.97E-03
041M10A20	2-Hexanone	11/28/1995	591786	4.43E+00	0.00203	8.99E-01	6	U	3.29E-03
041M10A20	4-Methyl-2-Pentanone (MIBK)	11/28/1995	108101	4.38E+00	0.00203	8.90E-01	6	U	3.32E-03
041M10A20	Acetone	11/28/1995	67641	1.34E+01	0.00203	2.72E+00	6	U	1.09E-03
041M10A20	Benzene	11/28/1995	71432	6.46E+00	0.00203	1.31E+00	6	U	2.25E-03
041M10A20	Bromodichloromethane	11/28/1995	75274		0.00203		6	U	
041M10A20	Bromoform	11/28/1995	75252	1.22E+01	0.00203	2.47E+00	6	U	1.19E-03
041M10A20	Bromomethane	11/28/1995	74839	4.03E+00	0.00203	8.18E-01	6	U	3.61E-03
041M10A20	Carbon disulfide	11/28/1995	75150		0.00203		6	U	
041M10A20	Carbon tetrachloride	11/28/1995	56235	7.73E+00	0.00203	1.57E+00	6	U	1.88E-03
041M10A20	Chlorobenzene	11/28/1995	108907	5.59E+00	0.00203	1.13E+00	6	U	2.61E-03
041M10A20	Chloroethane	11/28/1995	75003		0.00203		6	U	
041M10A20	Chloroform	11/28/1995	67663	5.59E+00	0.00203	1.13E+00	6	U	2.61E-03
041M10A20	Chloromethane	11/28/1995	74873	2.12E+00	0.00203	4.31E-01	6	U	6.86E-03
041M10A20	cis-1,3-Dichloropropene	11/28/1995	10061015		0.00203		6	U	
041M10A20	Dibromochloromethane	11/28/1995	124481		0.00203		6	U	
041M10A20	Ethylbenzene	11/28/1995	100414	9.64E+00	0.00203	1.96E+00	6	U	1.51E-03
041M10A20	Methylene chloride	11/28/1995	75092	3.73E+00	0.00203	7.57E-01	8	U	5.21E-03
041M10A20	Styrene	11/28/1995	100425	9.18E+00	0.00203	1.86E+00	6	U	1.59E-03
041M10A20	Tetrachloroethene	11/28/1995	127184	8.83E+00	0.00203	1.79E+00	6	U	1.65E-03
041M10A20	Toluene	11/28/1995	108883	8.05E+00	0.00203	1.63E+00	6	U	1.81E-03
041M10A20	trans-1,3-Dichloropropene	11/28/1995	10061026		0.00203		6	U	
041M10A20	Trichloroethene	11/28/1995	79016	6.65E+00	0.00203	1.35E+00	6	U	2.19E-03
041M10A20	Vinyl chloride	11/28/1995	75014		0.00203		2	U	
041M10A20	Xylene (Total)	11/28/1995	1330207	9.70E+00	0.00203	1.97E+00	6	U	1.50E-03
041M10A30	1,1,1-Trichloroethane	11/27/1995	71556	6.50E+00	0.00564	3.67E+00	6.5	U	3.14E-04
041M10A30	1,1,2,2-Tetrachloroethane	11/27/1995	79345	8.13E+00	0.00564	4.59E+00	6.5	U	2.51E-04

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 8 Phase: 2 Wetland: 10 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M10A30	1,1,2-Trichloroethane	11/27/1995	79005	6.24E+00	0.00564	3.52E+00	6.5	U	3.27E-04
041M10A30	1,1-Dichloroethane	11/27/1995	75343		0.00564		6.5	U	
041M10A30	1,1-Dichloroethene	11/27/1995	75354	4.65E+00	0.00564	2.62E+00	6.5	U	4.40E-04
041M10A30	1,2-Dichloroethane	11/27/1995	107062	4.43E+00	0.00564	2.50E+00	6.5	U	4.61E-04
041M10A30	1,2-Dichloroethene (total)	11/27/1995	540590	4.61E+00	0.00564	2.60E+00	6.5	U	4.43E-04
041M10A30	1,2-Dichloropropane	11/27/1995	78875	5.26E+00	0.00564	2.97E+00	6.5	U	3.88E-04
041M10A30	2-Butanone (MEK)	11/27/1995	78933	2.93E+00	0.00564	1.65E+00	6.5	U	6.98E-04
041M10A30	2-Hexanone	11/27/1995	591786	4.43E+00	0.00564	2.50E+00	6.5	U	4.61E-04
041M10A30	4-Methyl-2-Pentanone (MIBK)	11/27/1995	108101	4.38E+00	0.00564	2.47E+00	6.5	U	4.66E-04
041M10A30	Acetone	11/27/1995	67641	1.34E+01	0.00564	7.55E+00	9.5	U	2.23E-04
041M10A30	Benzene	11/27/1995	71432	6.46E+00	0.00564	3.64E+00	6.5	U	3.16E-04
041M10A30	Bromodichloromethane	11/27/1995	75274		0.00564		6.5	U	
041M10A30	Bromoform	11/27/1995	75252	1.22E+01	0.00564	6.87E+00	6.5	U	1.68E-04
041M10A30	Bromomethane	11/27/1995	74839	4.03E+00	0.00564	2.27E+00	6.5	U	5.07E-04
041M10A30	Carbon disulfide	11/27/1995	75150		0.00564		6.5	U	
041M10A30	Carbon tetrachloride	11/27/1995	56235	7.73E+00	0.00564	4.36E+00	6.5	U	2.64E-04
041M10A30	Chlorobenzene	11/27/1995	108907	5.59E+00	0.00564	3.15E+00	6.5	U	3.66E-04
041M10A30	Chloroethane	11/27/1995	75003		0.00564		6.5	U	
041M10A30	Chloroform	11/27/1995	67663	5.59E+00	0.00564	3.15E+00	6.5	U	3.66E-04
041M10A30	Chloromethane	11/27/1995	74873	2.12E+00	0.00564	1.20E+00	6.5	U	9.63E-04
041M10A30	cis-1,3-Dichloropropene	11/27/1995	10061015		0.00564		6.5	U	
041M10A30	Dibromochloromethane	11/27/1995	124481		0.00564		6.5	U	
041M10A30	Ethylbenzene	11/27/1995	100414	9.64E+00	0.00564	5.44E+00	6.5	U	2.12E-04
041M10A30	Methylene chloride	11/27/1995	75092	3.73E+00	0.00564	2.10E+00	10.5	U	8.85E-04
041M10A30	Styrene	11/27/1995	100425	9.18E+00	0.00564	5.18E+00	6.5	U	2.23E-04
041M10A30	Tetrachloroethene	11/27/1995	127184	8.83E+00	0.00564	4.98E+00	6.5	U	2.32E-04
041M10A30	Toluene	11/27/1995	108883	8.05E+00	0.00564	4.54E+00	6.5	U	2.54E-04
041M10A30	trans-1,3-Dichloropropene	11/27/1995	10061026		0.00564		6.5	U	
041M10A30	Trichloroethene	11/27/1995	79016	6.65E+00	0.00564	3.75E+00	6.5	U	3.07E-04
041M10A30	Vinyl chloride	11/27/1995	75014		0.00564		6.5	U	
041M10A30	Xylene (Total)	11/27/1995	1330207	9.70E+00	0.00564	5.47E+00	6.5	U	2.11E-04

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 9 Phase: 2 Wetland: 12 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M12010	1,1,1-Trichloroethane	11/28/1995	71556	6.50E+00	0.00724	4.71E+00	950	U	2.79E-02
041M12010	1,1,2,2-Tetrachloroethane	11/28/1995	79345	8.13E+00	0.00724	5.89E+00	950	U	2.23E-02
041M12010	1,1,2-Trichloroethane	11/28/1995	79005	6.24E+00	0.00724	4.52E+00	950	U	2.90E-02
041M12010	1,1-Dichloroethane	11/28/1995	75343		0.00724		950	U	
041M12010	1,1-Dichloroethene	11/28/1995	75354	4.65E+00	0.00724	3.37E+00	950	U	3.90E-02
041M12010	1,2-Dichloroethane	11/28/1995	107062	4.43E+00	0.00724	3.21E+00	950	U	4.09E-02
041M12010	1,2-Dichloroethene (total)	11/28/1995	540590	4.61E+00	0.00724	3.34E+00	950	U	3.93E-02
041M12010	1,2-Dichloropropane	11/28/1995	78875	5.26E+00	0.00724	3.81E+00	950	U	3.44E-02
041M12010	2-Butanone (MEK)	11/28/1995	78933	2.93E+00	0.00724	2.12E+00	950	U	6.19E-02
041M12010	2-Hexanone	11/28/1995	591786	4.43E+00	0.00724	3.21E+00	950	U	4.09E-02
041M12010	4-Methyl-2-Pentanone (MIBK)	11/28/1995	108101	4.38E+00	0.00724	3.17E+00	950	U	4.13E-02
041M12010	Acetone	11/28/1995	67641	1.34E+01	0.00724	9.69E+00	950	U	1.35E-02
041M12010	Benzene	11/28/1995	71432	6.46E+00	0.00724	4.68E+00	950	U	2.80E-02
041M12010	Bromodichloromethane	11/28/1995	75274		0.00724		950	U	
041M12010	Bromoform	11/28/1995	75252	1.22E+01	0.00724	8.82E+00	950	U	1.49E-02
041M12010	Bromomethane	11/28/1995	74839	4.03E+00	0.00724	2.92E+00	950	U	4.50E-02
041M12010	Carbon disulfide	11/28/1995	75150		0.00724		950	U	
041M12010	Carbon tetrachloride	11/28/1995	56235	7.73E+00	0.00724	5.60E+00	950	U	2.34E-02
041M12010	Chlorobenzene	11/28/1995	108907	5.59E+00	0.00724	4.04E+00	950	U	3.24E-02
041M12010	Chloroethane	11/28/1995	75003		0.00724		950	U	
041M12010	Chloroform	11/28/1995	67663	5.59E+00	0.00724	4.04E+00	950	U	3.24E-02
041M12010	Chloromethane	11/28/1995	74873	2.12E+00	0.00724	1.54E+00	950	U	8.54E-02
041M12010	cis-1,3-Dichloropropene	11/28/1995	10061015		0.00724		950	U	
041M12010	Dibromochloromethane	11/28/1995	124481		0.00724		950	U	
041M12010	Ethylbenzene	11/28/1995	100414	9.64E+00	0.00724	6.98E+00	950	U	1.88E-02
041M12010	Methylene chloride	11/28/1995	75092	3.73E+00	0.00724	2.70E+00	950	U	4.86E-02
041M12010	Styrene	11/28/1995	100425	9.18E+00	0.00724	6.64E+00	950	U	1.98E-02
041M12010	Tetrachloroethene	11/28/1995	127184	8.83E+00	0.00724	6.39E+00	950	U	2.05E-02
041M12010	Toluene	11/28/1995	108883	8.05E+00	0.00724	5.83E+00	950	U	2.25E-02
041M12010	trans-1,3-Dichloropropene	11/28/1995	10061026		0.00724		950	U	
041M12010	Trichloroethene	11/28/1995	79016	6.65E+00	0.00724	4.82E+00	950	U	2.72E-02
041M12010	Vinyl chloride	11/28/1995	75014		0.00724		285	U	
041M12010	Xylene (Total)	11/28/1995	1330207	9.70E+00	0.00724	7.02E+00	950	U	1.87E-02
041M12020	1,1,1-Trichloroethane	11/29/1995	71556	6.50E+00	0.041	2.67E+01	1300	U	1.19E-03
041M12020	1,1,2,2-Tetrachloroethane	11/29/1995	79345	8.13E+00	0.041	3.34E+01	1300	U	9.51E-04
041M12020	1,1,2-Trichloroethane	11/29/1995	79005	6.24E+00	0.041	2.56E+01	1300	U	1.24E-03
041M12020	1,1-Dichloroethane	11/29/1995	75343		0.041		1300	U	
041M12020	1,1-Dichloroethene	11/29/1995	75354	4.65E+00	0.041	1.91E+01	1300	U	1.66E-03
041M12020	1,2-Dichloroethane	11/29/1995	107062	4.43E+00	0.041	1.82E+01	1300	U	1.75E-03
041M12020	1,2-Dichloroethene (total)	11/29/1995	540590	4.61E+00	0.041	1.89E+01	1300	U	1.68E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 9 Phase: 2 Wetland: 12 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M12020	1,2-Dichloropropane	11/29/1995	78875	5.26E+00	0.041	2.16E+01	1300	U	1.47E-03
041M12020	2-Butanone (MEK)	11/29/1995	78933	2.93E+00	0.041	1.20E+01	1300	U	2.64E-03
041M12020	2-Hexanone	11/29/1995	591786	4.43E+00	0.041	1.82E+01	1300	U	1.75E-03
041M12020	4-Methyl-2-Pentanone (MIBK)	11/29/1995	108101	4.38E+00	0.041	1.80E+01	1300	U	1.76E-03
041M12020	Acetone	11/29/1995	67641	1.34E+01	0.041	5.49E+01	1300	UJ	5.78E-04
041M12020	Benzene	11/29/1995	71432	6.46E+00	0.041	2.65E+01	1300	U	1.20E-03
041M12020	Bromodichloromethane	11/29/1995	75274		0.041		1300	U	
041M12020	Bromoform	11/29/1995	75252	1.22E+01	0.041	5.00E+01	1300	U	6.35E-04
041M12020	Bromomethane	11/29/1995	74839	4.03E+00	0.041	1.65E+01	1300	U	1.92E-03
041M12020	Carbon disulfide	11/29/1995	75150		0.041		1300	U	
041M12020	Carbon tetrachloride	11/29/1995	56235	7.73E+00	0.041	3.17E+01	1300	U	1.00E-03
041M12020	Chlorobenzene	11/29/1995	108907	5.59E+00	0.041	2.29E+01	1300	U	1.38E-03
041M12020	Chloroethane	11/29/1995	75003		0.041		1300	U	
041M12020	Chloroform	11/29/1995	67663	5.59E+00	0.041	2.29E+01	1300	U	1.38E-03
041M12020	Chloromethane	11/29/1995	74873	2.12E+00	0.041	8.70E+00	1300	U	3.65E-03
041M12020	cis-1,3-Dichloropropene	11/29/1995	10061015		0.041		1300	U	
041M12020	Dibromochloromethane	11/29/1995	124481		0.041		1300	U	
041M12020	Ethylbenzene	11/29/1995	100414	9.64E+00	0.041	3.95E+01	1300	U	8.03E-04
041M12020	Methylene chloride	11/29/1995	75092	3.73E+00	0.041	1.53E+01	1300	J	2.07E-03
041M12020	Styrene	11/29/1995	100425	9.18E+00	0.041	3.76E+01	1300	U	8.43E-04
041M12020	Tetrachloroethene	11/29/1995	127184	8.83E+00	0.041	3.62E+01	1300	U	8.76E-04
041M12020	Toluene	11/29/1995	108883	8.05E+00	0.041	3.30E+01	1300	U	9.61E-04
041M12020	trans-1,3-Dichloropropene	11/29/1995	10061026		0.041		1300	U	
041M12020	Trichloroethene	11/29/1995	79016	6.65E+00	0.041	2.73E+01	1300	U	1.16E-03
041M12020	Vinyl chloride	11/29/1995	75014		0.041		385	U	
041M12020	Xylene (Total)	11/29/1995	1330207	9.70E+00	0.041	3.98E+01	1300	U	7.98E-04

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 10 Phase: 2 Wetland: 13 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M13010	1,1,1-Trichloroethane	11/27/1995	71556	6.50E+00	0.0138	8.98E+00	7	U	5.65E-05
041M13010	1,1,2,2-Tetrachloroethane	11/27/1995	79345	8.13E+00	0.0138	1.12E+01	7	U	4.52E-05
041M13010	1,1,2-Trichloroethane	11/27/1995	79005	6.24E+00	0.0138	8.61E+00	7	U	5.89E-05
041M13010	1,1-Dichloroethane	11/27/1995	75343		0.0138		7	U	
041M13010	1,1-Dichloroethene	11/27/1995	75354	4.65E+00	0.0138	6.42E+00	7	U	7.91E-05
041M13010	1,2-Dichloroethane	11/27/1995	107062	4.43E+00	0.0138	6.11E+00	7	U	8.30E-05
041M13010	1,2-Dichloroethene (total)	11/27/1995	540590	4.61E+00	0.0138	6.37E+00	7	U	7.97E-05
041M13010	1,2-Dichloropropane	11/27/1995	78875	5.26E+00	0.0138	7.27E+00	7	U	6.98E-05
041M13010	2-Butanone (MEK)	11/27/1995	78933	2.93E+00	0.0138	4.04E+00	7	U	1.26E-04
041M13010	2-Hexanone	11/27/1995	591786	4.43E+00	0.0138	6.11E+00	7	U	8.30E-05
041M13010	4-Methyl-2-Pentanone (MIBK)	11/27/1995	108101	4.38E+00	0.0138	6.05E+00	7	U	8.39E-05
041M13010	Acetone	11/27/1995	67641	1.34E+01	0.0138	1.85E+01	11.5	U	4.51E-05
041M13010	Benzene	11/27/1995	71432	6.46E+00	0.0138	8.92E+00	7	U	5.69E-05
041M13010	Bromodichloromethane	11/27/1995	75274		0.0138		7	U	
041M13010	Bromoform	11/27/1995	75252	1.22E+01	0.0138	1.68E+01	7	U	3.02E-05
041M13010	Bromomethane	11/27/1995	74839	4.03E+00	0.0138	5.56E+00	7	U	9.12E-05
041M13010	Carbon disulfide	11/27/1995	75150		0.0138		7	U	
041M13010	Carbon tetrachloride	11/27/1995	56235	7.73E+00	0.0138	1.07E+01	7	U	4.75E-05
041M13010	Chlorobenzene	11/27/1995	108907	5.59E+00	0.0138	7.71E+00	7	U	6.58E-05
041M13010	Chloroethane	11/27/1995	75003		0.0138		7	U	
041M13010	Chloroform	11/27/1995	67663	5.59E+00	0.0138	7.71E+00	7	U	6.58E-05
041M13010	Chloromethane	11/27/1995	74873	2.12E+00	0.0138	2.93E+00	7	U	1.73E-04
041M13010	cis-1,3-Dichloropropene	11/27/1995	10061015		0.0138		7	U	
041M13010	Dibromochloromethane	11/27/1995	124481		0.0138		7	U	
041M13010	Ethylbenzene	11/27/1995	100414	9.64E+00	0.0138	1.33E+01	7	U	3.81E-05
041M13010	Methylene chloride	11/27/1995	75092	3.73E+00	0.0138	5.15E+00	8	U	1.13E-04
041M13010	Styrene	11/27/1995	100425	9.18E+00	0.0138	1.27E+01	7	U	4.01E-05
041M13010	Tetrachloroethene	11/27/1995	127184	8.83E+00	0.0138	1.22E+01	7	U	4.16E-05
041M13010	Toluene	11/27/1995	108883	8.05E+00	0.0138	1.11E+01	7	U	4.57E-05
041M13010	trans-1,3-Dichloropropene	11/27/1995	10061026		0.0138		7	U	
041M13010	Trichloroethene	11/27/1995	79016	6.65E+00	0.0138	9.18E+00	7	U	5.53E-05
041M13010	Vinyl chloride	11/27/1995	75014		0.0138		7	U	
041M13010	Xylene (Total)	11/27/1995	1330207	9.70E+00	0.0138	1.34E+01	7	U	3.79E-05

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 11 Phase: 2 Wetland: 15 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M15020	1,1,1-Trichloroethane	12/6/1995	71556	6.50E+00	0.149	9.69E+01	38.5	U	2.67E-06
041M15020	1,1,2,2-Tetrachloroethane	12/6/1995	79345	8.13E+00	0.149	1.21E+02	38.5	U	2.13E-06
041M15020	1,1,2-Trichloroethane	12/6/1995	79005	6.24E+00	0.149	9.30E+01	38.5	U	2.78E-06
041M15020	1,1-Dichloroethane	12/6/1995	75343		0.149		38.5	U	
041M15020	1,1-Dichloroethene	12/6/1995	75354	4.65E+00	0.149	6.93E+01	38.5	U	3.73E-06
041M15020	1,2-Dichloroethane	12/6/1995	107062	4.43E+00	0.149	6.60E+01	38.5	U	3.92E-06
041M15020	1,2-Dichloroethene (total)	12/6/1995	540590	4.61E+00	0.149	6.87E+01	38.5	U	3.76E-06
041M15020	1,2-Dichloropropane	12/6/1995	78875	5.26E+00	0.149	7.84E+01	38.5	U	3.29E-06
041M15020	2-Butanone (MEK)	12/6/1995	78933	2.93E+00	0.149	4.36E+01	38.5	U	5.92E-06
041M15020	2-Hexanone	12/6/1995	591786	4.43E+00	0.149	6.60E+01	38.5	U	3.92E-06
041M15020	4-Methyl-2-Pentanone (MIBK)	12/6/1995	108101	4.38E+00	0.149	6.53E+01	38.5	U	3.96E-06
041M15020	Acetone	12/6/1995	67641	1.34E+01	0.149	1.99E+02	130		4.37E-06
041M15020	Benzene	12/6/1995	71432	6.46E+00	0.149	9.63E+01	38.5	U	2.68E-06
041M15020	Bromodichloromethane	12/6/1995	75274		0.149		38.5	U	
041M15020	Bromoform	12/6/1995	75252	1.22E+01	0.149	1.82E+02	38.5	U	1.42E-06
041M15020	Bromomethane	12/6/1995	74839	4.03E+00	0.149	6.00E+01	38.5	U	4.30E-06
041M15020	Carbon disulfide	12/6/1995	75150		0.149		38.5	U	
041M15020	Carbon tetrachloride	12/6/1995	56235	7.73E+00	0.149	1.15E+02	38.5	U	2.24E-06
041M15020	Chlorobenzene	12/6/1995	108907	5.59E+00	0.149	8.32E+01	38.5	U	3.10E-06
041M15020	Chloroethane	12/6/1995	75003		0.149		38.5	U	
041M15020	Chloroform	12/6/1995	67663	5.59E+00	0.149	8.32E+01	38.5	U	3.10E-06
041M15020	Chloromethane	12/6/1995	74873	2.12E+00	0.149	3.16E+01	38.5	U	8.18E-06
041M15020	cis-1,3-Dichloropropene	12/6/1995	10061015		0.149		38.5	U	
041M15020	Dibromochloromethane	12/6/1995	124481		0.149		38.5	U	
041M15020	Ethylbenzene	12/6/1995	100414	9.64E+00	0.149	1.44E+02	38.5	U	1.80E-06
041M15020	Methylene chloride	12/6/1995	75092	3.73E+00	0.149	5.56E+01	34	J	4.11E-06
041M15020	Styrene	12/6/1995	100425	9.18E+00	0.149	1.37E+02	38.5	U	1.89E-06
041M15020	Tetrachloroethene	12/6/1995	127184	8.83E+00	0.149	1.32E+02	38.5	U	1.96E-06
041M15020	Toluene	12/6/1995	108883	8.05E+00	0.149	1.20E+02	38.5	U	2.15E-06
041M15020	trans-1,3-Dichloropropene	12/6/1995	10061026		0.149		38.5	U	
041M15020	Trichloroethene	12/6/1995	79016	6.65E+00	0.149	9.91E+01	38.5	U	2.61E-06
041M15020	Vinyl chloride	12/6/1995	75014		0.149		11.5	U	
041M15020	Xylene (Total)	12/6/1995	1330207	9.70E+00	0.149	1.44E+02	38.5	U	1.79E-06
041M15030	1,1,1-Trichloroethane	12/6/1995	71556	6.50E+00	0.112	7.29E+01	35.5	U	4.35E-06
041M15030	1,1,2,2-Tetrachloroethane	12/6/1995	79345	8.13E+00	0.112	9.11E+01	35.5	U	3.48E-06
041M15030	1,1,2-Trichloroethane	12/6/1995	79005	6.24E+00	0.112	6.99E+01	35.5	U	4.53E-06
041M15030	1,1-Dichloroethane	12/6/1995	75343		0.112		35.5	U	
041M15030	1,1-Dichloroethene	12/6/1995	75354	4.65E+00	0.112	5.21E+01	35.5	U	6.09E-06
041M15030	1,2-Dichloroethane	12/6/1995	107062	4.43E+00	0.112	4.96E+01	35.5	U	6.39E-06
041M15030	1,2-Dichloroethene (total)	12/6/1995	540590	4.61E+00	0.112	5.17E+01	35.5	U	6.14E-06

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 11 Phase: 2 Wetland: 15 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M15030	1,2-Dichloropropane	12/6/1995	78875	5.26E+00	0.112	5.90E+01	35.5	U	5.38E-06
041M15030	2-Butanone (MEK)	12/6/1995	78933	2.93E+00	0.112	3.28E+01	350		9.53E-05
041M15030	2-Hexanone	12/6/1995	591786	4.43E+00	0.112	4.96E+01	35.5	U	6.39E-06
041M15030	4-Methyl-2-Pentanone (MIBK)	12/6/1995	108101	4.38E+00	0.112	4.91E+01	35.5	U	6.46E-06
041M15030	Acetone	12/6/1995	67641	1.34E+01	0.112	1.50E+02	1400		8.34E-05
041M15030	Benzene	12/6/1995	71432	6.46E+00	0.112	7.24E+01	35.5	U	4.38E-06
041M15030	Bromodichloromethane	12/6/1995	75274		0.112		35.5	U	
041M15030	Bromoform	12/6/1995	75252	1.22E+01	0.112	1.36E+02	35.5	U	2.32E-06
041M15030	Bromomethane	12/6/1995	74839	4.03E+00	0.112	4.51E+01	35.5	U	7.02E-06
041M15030	Carbon disulfide	12/6/1995	75150		0.112		35.5	U	
041M15030	Carbon tetrachloride	12/6/1995	56235	7.73E+00	0.112	8.66E+01	35.5	U	3.66E-06
041M15030	Chlorobenzene	12/6/1995	108907	5.59E+00	0.112	6.26E+01	35.5	U	5.07E-06
041M15030	Chloroethane	12/6/1995	75003		0.112		35.5	U	
041M15030	Chloroform	12/6/1995	67663	5.59E+00	0.112	6.26E+01	35.5	U	5.07E-06
041M15030	Chloromethane	12/6/1995	74873	2.12E+00	0.112	2.38E+01	35.5	U	1.33E-05
041M15030	cis-1,3-Dichloropropene	12/6/1995	10061015		0.112		35.5	U	
041M15030	Dibromochloromethane	12/6/1995	124481		0.112		35.5	U	
041M15030	Ethylbenzene	12/6/1995	100414	9.64E+00	0.112	1.08E+02	35.5	U	2.94E-06
041M15030	Methylene chloride	12/6/1995	75092	3.73E+00	0.112	4.18E+01	55	U	1.18E-05
041M15030	Styrene	12/6/1995	100425	9.18E+00	0.112	1.03E+02	35.5	U	3.08E-06
041M15030	Tetrachloroethene	12/6/1995	127184	8.83E+00	0.112	9.88E+01	35.5	U	3.21E-06
041M15030	Toluene	12/6/1995	108883	8.05E+00	0.112	9.01E+01	35.5	U	3.52E-06
041M15030	trans-1,3-Dichloropropene	12/6/1995	10061026		0.112		35.5	U	
041M15030	Trichloroethene	12/6/1995	79016	6.65E+00	0.112	7.45E+01	35.5	U	4.25E-06
041M15030	Vinyl chloride	12/6/1995	75014		0.112		10.5	U	
041M15030	Xylene (Total)	12/6/1995	1330207	9.70E+00	0.112	1.09E+02	35.5	U	2.92E-06
041M15040	1,1,1-Trichloroethane	12/6/1995	71556	6.50E+00	0.395	2.57E+02	21.5	U	2.12E-07
041M15040	1,1,2,2-Tetrachloroethane	12/6/1995	79345	8.13E+00	0.395	3.21E+02	21.5	U	1.69E-07
041M15040	1,1,2-Trichloroethane	12/6/1995	79005	6.24E+00	0.395	2.47E+02	21.5	U	2.21E-07
041M15040	1,1-Dichloroethane	12/6/1995	75343		0.395		21.5	U	
041M15040	1,1-Dichloroethene	12/6/1995	75354	4.65E+00	0.395	1.84E+02	21.5	U	2.96E-07
041M15040	1,2-Dichloroethane	12/6/1995	107062	4.43E+00	0.395	1.75E+02	21.5	U	3.11E-07
041M15040	1,2-Dichloroethene (total)	12/6/1995	540590	4.61E+00	0.395	1.82E+02	21.5	U	2.99E-07
041M15040	1,2-Dichloropropane	12/6/1995	78875	5.26E+00	0.395	2.08E+02	21.5	U	2.62E-07
041M15040	2-Butanone (MEK)	12/6/1995	78933	2.93E+00	0.395	1.16E+02	21.5	U	4.71E-07
041M15040	2-Hexanone	12/6/1995	591786	4.43E+00	0.395	1.75E+02	21.5	U	3.11E-07
041M15040	4-Methyl-2-Pentanone (MIBK)	12/6/1995	108101	4.38E+00	0.395	1.73E+02	21.5	U	3.14E-07
041M15040	Acetone	12/6/1995	67641	1.34E+01	0.395	5.29E+02	21.5	U	1.03E-07
041M15040	Benzene	12/6/1995	71432	6.46E+00	0.395	2.55E+02	21.5	U	2.13E-07
041M15040	Bromodichloromethane	12/6/1995	75274		0.395		21.5	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 11 Phase: 2 Wetland: 15 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M15040	Bromoform	12/6/1995	75252	1.22E+01	0.395	4.81E+02	21.5	U	1.13E-07
041M15040	Bromomethane	12/6/1995	74839	4.03E+00	0.395	1.59E+02	21.5	U	3.42E-07
041M15040	Carbon disulfide	12/6/1995	75150		0.395		21.5	U	
041M15040	Carbon tetrachloride	12/6/1995	56235	7.73E+00	0.395	3.05E+02	21.5	U	1.78E-07
041M15040	Chlorobenzene	12/6/1995	108907	5.59E+00	0.395	2.21E+02	21.5	U	2.47E-07
041M15040	Chloroethane	12/6/1995	75003		0.395		21.5	U	
041M15040	Chloroform	12/6/1995	67663	5.59E+00	0.395	2.21E+02	21.5	U	2.47E-07
041M15040	Chloromethane	12/6/1995	74873	2.12E+00	0.395	8.38E+01	21.5	U	6.50E-07
041M15040	cis-1,3-Dichloropropene	12/6/1995	10061015		0.395		21.5	U	
041M15040	Dibromochloromethane	12/6/1995	124481		0.395		21.5	U	
041M15040	Ethylbenzene	12/6/1995	100414	9.64E+00	0.395	3.81E+02	21.5	U	1.43E-07
041M15040	Methylene chloride	12/6/1995	75092	3.73E+00	0.395	1.47E+02	21.5	U	3.70E-07
041M15040	Styrene	12/6/1995	100425	9.18E+00	0.395	3.62E+02	21.5	U	1.50E-07
041M15040	Tetrachloroethene	12/6/1995	127184	8.83E+00	0.395	3.49E+02	21.5	U	1.56E-07
041M15040	Toluene	12/6/1995	108883	8.05E+00	0.395	3.18E+02	21.5	U	1.71E-07
041M15040	trans-1,3-Dichloropropene	12/6/1995	10061026		0.395		21.5	U	
041M15040	Trichloroethene	12/6/1995	79016	6.65E+00	0.395	2.63E+02	21.5	U	2.07E-07
041M15040	Vinyl chloride	12/6/1995	75014		0.395		6.5	U	
041M15040	Xylene (Total)	12/6/1995	1330207	9.70E+00	0.395	3.83E+02	21.5	U	1.42E-07

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 12 Phase: 2 Wetland: 16 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
001M00160	1,1,1-Trichloroethane	6/29/1994	71556	6.50E+00	0.00144	9.37E-01	9.5	U	7.04E-03
001M00160	1,1,2,2-Tetrachloroethane	6/29/1994	79345	8.13E+00	0.00144	1.17E+00	9.5	U	5.63E-03
001M00160	1,1,2-Trichloroethane	6/29/1994	79005	6.24E+00	0.00144	8.99E-01	9.5	U	7.34E-03
001M00160	1,1-Dichloroethane	6/29/1994	75343		0.00144		9.5	U	
001M00160	1,1-Dichloroethene	6/29/1994	75354	4.65E+00	0.00144	6.69E-01	9.5	U	9.85E-03
001M00160	1,2-Dichloroethane	6/29/1994	107062	4.43E+00	0.00144	6.38E-01	9.5	U	1.03E-02
001M00160	1,2-Dichloroethene (total)	6/29/1994	540590	4.61E+00	0.00144	6.64E-01	9.5	U	9.93E-03
001M00160	1,2-Dichloropropane	6/29/1994	78875	5.26E+00	0.00144	7.58E-01	9.5	U	8.70E-03
001M00160	2-Butanone (MEK)	6/29/1994	78933	2.93E+00	0.00144	4.22E-01	9.5	U	1.56E-02
001M00160	2-Hexanone	6/29/1994	591786	4.43E+00	0.00144	6.38E-01	9.5	U	1.03E-02
001M00160	4-Methyl-2-Pentanone (MIBK)	6/29/1994	108101	4.38E+00	0.00144	6.31E-01	9.5	U	1.05E-02
001M00160	Acetone	6/29/1994	67641	1.34E+01	0.00144	1.93E+00	25	U	9.01E-03
001M00160	Benzene	6/29/1994	71432	6.46E+00	0.00144	9.30E-01	9.5	U	7.09E-03
001M00160	Bromodichloromethane	6/29/1994	75274		0.00144		9.5	U	
001M00160	Bromoform	6/29/1994	75252	1.22E+01	0.00144	1.75E+00	9.5	U	3.76E-03
001M00160	Bromomethane	6/29/1994	74839	4.03E+00	0.00144	5.80E-01	9.5	U	1.14E-02
001M00160	Carbon disulfide	6/29/1994	75150		0.00144		9.5	U	
001M00160	Carbon tetrachloride	6/29/1994	56235	7.73E+00	0.00144	1.11E+00	9.5	U	5.92E-03
001M00160	Chlorobenzene	6/29/1994	108907	5.59E+00	0.00144	8.04E-01	9.5	U	8.20E-03
001M00160	Chloroethane	6/29/1994	75003		0.00144		9.5	U	
001M00160	Chloroform	6/29/1994	67663	5.59E+00	0.00144	8.04E-01	9.5	U	8.20E-03
001M00160	Chloromethane	6/29/1994	74873	2.12E+00	0.00144	3.05E-01	9.5	U	2.16E-02
001M00160	cis-1,3-Dichloropropene	6/29/1994	10061015		0.00144		9.5	U	
001M00160	Dibromochloromethane	6/29/1994	124481		0.00144		9.5	U	
001M00160	Ethylbenzene	6/29/1994	100414	9.64E+00	0.00144	1.39E+00	9.5	U	4.75E-03
001M00160	Methylene chloride	6/29/1994	75092	3.73E+00	0.00144	5.37E-01	10	U	1.29E-02
001M00160	Styrene	6/29/1994	100425	9.18E+00	0.00144	1.32E+00	9.5	U	4.99E-03
001M00160	Tetrachloroethene	6/29/1994	127184	8.83E+00	0.00144	1.27E+00	9.5	U	5.19E-03
001M00160	Toluene	6/29/1994	108883	8.05E+00	0.00144	1.16E+00	9.5	U	5.69E-03
001M00160	trans-1,3-Dichloropropene	6/29/1994	10061026		0.00144		9.5	U	
001M00160	Trichloroethene	6/29/1994	79016	6.65E+00	0.00144	9.58E-01	9.5	U	6.89E-03
001M00160	Vinyl chloride	6/29/1994	75014		0.00144		9.5	U	
001M00160	Xylene (Total)	6/29/1994	1330207	9.70E+00	0.00144	1.40E+00	9.5	U	4.73E-03
041M16010	1,1,1-Trichloroethane	12/7/1995	71556	6.50E+00	0.00144	9.37E-01	6	U	4.45E-03
041M16010	1,1,2,2-Tetrachloroethane	12/7/1995	79345	8.13E+00	0.00144	1.17E+00	6	U	3.56E-03
041M16010	1,1,2-Trichloroethane	12/7/1995	79005	6.24E+00	0.00144	8.99E-01	6	U	4.64E-03
041M16010	1,1-Dichloroethane	12/7/1995	75343		0.00144		6	U	
041M16010	1,1-Dichloroethene	12/7/1995	75354	4.65E+00	0.00144	6.69E-01	6	U	6.22E-03
041M16010	1,2-Dichloroethane	12/7/1995	107062	4.43E+00	0.00144	6.38E-01	6	U	6.53E-03
041M16010	1,2-Dichloroethene (total)	12/7/1995	540590	4.61E+00	0.00144	6.64E-01	6	U	6.27E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 12 **Phase: 2** **Wetland: 16** **Fresh/Salt: S**

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M16010	1,2-Dichloropropane	12/7/1995	78875	5.26E+00	0.00144	7.58E-01	6	U	5.50E-03
041M16010	2-Butanone (MEK)	12/7/1995	78933	2.93E+00	0.00144	4.22E-01	6	U	9.88E-03
041M16010	2-Hexanone	12/7/1995	591786	4.43E+00	0.00144	6.38E-01	6	U	6.53E-03
041M16010	4-Methyl-2-Pentanone (MIBK)	12/7/1995	108101	4.38E+00	0.00144	6.31E-01	6	U	6.60E-03
041M16010	Acetone	12/7/1995	67641	1.34E+01	0.00144	1.93E+00	6	UJ	2.16E-03
041M16010	Benzene	12/7/1995	71432	6.46E+00	0.00144	9.30E-01	6	U	4.48E-03
041M16010	Bromodichloromethane	12/7/1995	75274		0.00144		6	U	
041M16010	Bromoform	12/7/1995	75252	1.22E+01	0.00144	1.75E+00	6	U	2.37E-03
041M16010	Bromomethane	12/7/1995	74839	4.03E+00	0.00144	5.80E-01	6	U	7.18E-03
041M16010	Carbon disulfide	12/7/1995	75150		0.00144		6	U	
041M16010	Carbon tetrachloride	12/7/1995	56235	7.73E+00	0.00144	1.11E+00	6	U	3.74E-03
041M16010	Chlorobenzene	12/7/1995	108907	5.59E+00	0.00144	8.04E-01	6	U	5.18E-03
041M16010	Chloroethane	12/7/1995	75003		0.00144		6	U	
041M16010	Chloroform	12/7/1995	67663	5.59E+00	0.00144	8.04E-01	6	U	5.18E-03
041M16010	Chloromethane	12/7/1995	74873	2.12E+00	0.00144	3.05E-01	6	U	1.36E-02
041M16010	cis-1,3-Dichloropropene	12/7/1995	10061015		0.00144		6	U	
041M16010	Dibromochloromethane	12/7/1995	124481		0.00144		6	U	
041M16010	Ethylbenzene	12/7/1995	100414	9.64E+00	0.00144	1.39E+00	6	U	3.00E-03
041M16010	Methylene chloride	12/7/1995	75092	3.73E+00	0.00144	5.37E-01	6	U	7.76E-03
041M16010	Styrene	12/7/1995	100425	9.18E+00	0.00144	1.32E+00	6	U	3.15E-03
041M16010	Tetrachloroethene	12/7/1995	127184	8.83E+00	0.00144	1.27E+00	6	U	3.28E-03
041M16010	Toluene	12/7/1995	108883	8.05E+00	0.00144	1.16E+00	6	U	3.60E-03
041M16010	trans-1,3-Dichloropropene	12/7/1995	10061026		0.00144		6	U	
041M16010	Trichloroethene	12/7/1995	79016	6.65E+00	0.00144	9.58E-01	6	U	4.35E-03
041M16010	Vinyl chloride	12/7/1995	75014		0.00144		2	U	
041M16010	Xylene (Total)	12/7/1995	1330207	9.70E+00	0.00144	1.40E+00	6	U	2.98E-03
041M16020	1,1,1-Trichloroethane	12/7/1995	71556	6.50E+00	0.0126	8.20E+00	8.5	U	8.23E-05
041M16020	1,1,2,2-Tetrachloroethane	12/7/1995	79345	8.13E+00	0.0126	1.02E+01	8.5	U	6.58E-05
041M16020	1,1,2-Trichloroethane	12/7/1995	79005	6.24E+00	0.0126	7.87E+00	8.5	U	8.58E-05
041M16020	1,1-Dichloroethane	12/7/1995	75343		0.0126		8.5	U	
041M16020	1,1-Dichloroethene	12/7/1995	75354	4.65E+00	0.0126	5.86E+00	8.5	U	1.15E-04
041M16020	1,2-Dichloroethane	12/7/1995	107062	4.43E+00	0.0126	5.58E+00	8.5	U	1.21E-04
041M16020	1,2-Dichloroethene (total)	12/7/1995	540590	4.61E+00	0.0126	5.81E+00	8.5	U	1.16E-04
041M16020	1,2-Dichloropropane	12/7/1995	78875	5.26E+00	0.0126	6.63E+00	8.5	U	1.02E-04
041M16020	2-Butanone (MEK)	12/7/1995	78933	2.93E+00	0.0126	3.69E+00	8.5	U	1.83E-04
041M16020	2-Hexanone	12/7/1995	591786	4.43E+00	0.0126	5.58E+00	8.5	U	1.21E-04
041M16020	4-Methyl-2-Pentanone (MIBK)	12/7/1995	108101	4.38E+00	0.0126	5.52E+00	8.5	U	1.22E-04
041M16020	Acetone	12/7/1995	67641	1.34E+01	0.0126	1.69E+01	65	U	3.06E-04
041M16020	Benzene	12/7/1995	71432	6.46E+00	0.0126	8.14E+00	8.5	U	8.29E-05
041M16020	Bromodichloromethane	12/7/1995	75274		0.0126		8.5	U	

Appendix K:
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Table: 12 Phase: 2 Wetland: 16 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M16020	Bromoform	12/7/1995	75252	1.22E+01	0.0126	1.54E+01	8.5	U	4.39E-05
041M16020	Bromomethane	12/7/1995	74839	4.03E+00	0.0126	5.08E+00	8.5	U	1.33E-04
041M16020	Carbon disulfide	12/7/1995	75150		0.0126		8.5	U	
041M16020	Carbon tetrachloride	12/7/1995	56235	7.73E+00	0.0126	9.74E+00	8.5	U	6.92E-05
041M16020	Chlorobenzene	12/7/1995	108907	5.59E+00	0.0126	7.04E+00	8.5	U	9.59E-05
041M16020	Chloroethane	12/7/1995	75003		0.0126		8.5	U	
041M16020	Chloroform	12/7/1995	67663	5.59E+00	0.0126	7.04E+00	8.5	U	9.58E-05
041M16020	Chloromethane	12/7/1995	74873	2.12E+00	0.0126	2.67E+00	8.5	U	2.52E-04
041M16020	cis-1,3-Dichloropropene	12/7/1995	10061015		0.0126		8.5	U	
041M16020	Dibromochloromethane	12/7/1995	124481		0.0126		8.5	U	
041M16020	Ethylbenzene	12/7/1995	100414	9.64E+00	0.0126	1.21E+01	8.5	U	5.56E-05
041M16020	Methylene chloride	12/7/1995	75092	3.73E+00	0.0126	4.70E+00	27.5	U	4.65E-04
041M16020	Styrene	12/7/1995	100425	9.18E+00	0.0126	1.16E+01	8.5	U	5.83E-05
041M16020	Tetrachloroethene	12/7/1995	127184	8.83E+00	0.0126	1.11E+01	8.5	U	6.07E-05
041M16020	Toluene	12/7/1995	108883	8.05E+00	0.0126	1.01E+01	8.5	U	6.65E-05
041M16020	trans-1,3-Dichloropropene	12/7/1995	10061026		0.0126		8.5	U	
041M16020	Trichloroethene	12/7/1995	79016	6.65E+00	0.0126	8.38E+00	8.5	U	8.05E-05
041M16020	Vinyl chloride	12/7/1995	75014		0.0126		2.5	U	
041M16020	Xylene (Total)	12/7/1995	1330207	9.70E+00	0.0126	1.22E+01	8.5	U	5.52E-05
041M16030	1,1,1-Trichloroethane	12/7/1995	71556	6.50E+00	0.0553	3.60E+01	22.5	U	1.13E-05
041M16030	1,1,2,2-Tetrachloroethane	12/7/1995	79345	8.13E+00	0.0553	4.50E+01	22.5	U	9.04E-06
041M16030	1,1,2-Trichloroethane	12/7/1995	79005	6.24E+00	0.0553	3.45E+01	22.5	U	1.18E-05
041M16030	1,1-Dichloroethane	12/7/1995	75343		0.0553		22.5	U	
041M16030	1,1-Dichloroethene	12/7/1995	75354	4.65E+00	0.0553	2.57E+01	22.5	U	1.58E-05
041M16030	1,2-Dichloroethane	12/7/1995	107062	4.43E+00	0.0553	2.45E+01	22.5	U	1.66E-05
041M16030	1,2-Dichloroethene (total)	12/7/1995	540590	4.61E+00	0.0553	2.55E+01	22.5	U	1.60E-05
041M16030	1,2-Dichloropropane	12/7/1995	78875	5.26E+00	0.0553	2.91E+01	22.5	U	1.40E-05
041M16030	2-Butanone (MEK)	12/7/1995	78933	2.93E+00	0.0553	1.62E+01	22.5	U	2.51E-05
041M16030	2-Hexanone	12/7/1995	591786	4.43E+00	0.0553	2.45E+01	22.5	U	1.66E-05
041M16030	4-Methyl-2-Pentanone (MIBK)	12/7/1995	108101	4.38E+00	0.0553	2.42E+01	22.5	U	1.68E-05
041M16030	Acetone	12/7/1995	67641	1.34E+01	0.0553	7.40E+01	165	U	4.03E-05
041M16030	Benzene	12/7/1995	71432	6.46E+00	0.0553	3.57E+01	22.5	U	1.14E-05
041M16030	Bromodichloromethane	12/7/1995	75274		0.0553		22.5	U	
041M16030	Bromoform	12/7/1995	75252	1.22E+01	0.0553	6.74E+01	22.5	U	6.04E-06
041M16030	Bromomethane	12/7/1995	74839	4.03E+00	0.0553	2.23E+01	22.5	U	1.83E-05
041M16030	Carbon disulfide	12/7/1995	75150		0.0553		22.5	U	
041M16030	Carbon tetrachloride	12/7/1995	56235	7.73E+00	0.0553	4.28E+01	22.5	U	9.51E-06
041M16030	Chlorobenzene	12/7/1995	108907	5.59E+00	0.0553	3.09E+01	22.5	U	1.32E-05
041M16030	Chloroethane	12/7/1995	75003		0.0553		22.5	U	
041M16030	Chloroform	12/7/1995	67663	5.59E+00	0.0553	3.09E+01	22.5	U	1.32E-05

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 12 Phase: 2 Wetland: 16 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M16030	Chloromethane	12/7/1995	74873	2.12E+00	0.0553	1.17E+01	22.5	U	3.47E-05
041M16030	cis-1,3-Dichloropropene	12/7/1995	10061015		0.0553		22.5	U	
041M16030	Dibromochloromethane	12/7/1995	124481		0.0553		22.5	U	
041M16030	Ethylbenzene	12/7/1995	100414	9.64E+00	0.0553	5.33E+01	22.5	U	7.64E-06
041M16030	Methylene chloride	12/7/1995	75092	3.73E+00	0.0553	2.06E+01	110		9.65E-05
041M16030	Styrene	12/7/1995	100425	9.18E+00	0.0553	5.07E+01	22.5	U	8.02E-06
041M16030	Tetrachloroethene	12/7/1995	127184	8.83E+00	0.0553	4.88E+01	22.5	U	8.34E-06
041M16030	Toluene	12/7/1995	108883	8.05E+00	0.0553	4.45E+01	22.5	U	9.14E-06
041M16030	trans-1,3-Dichloropropene	12/7/1995	10061026		0.0553		22.5	U	
041M16030	Trichloroethene	12/7/1995	79016	6.65E+00	0.0553	3.68E+01	22.5	U	1.11E-05
041M16030	Vinyl chloride	12/7/1995	75014		0.0553		7	U	
041M16030	Xylene (Total)	12/7/1995	1330207	9.70E+00	0.0553	5.36E+01	22.5	U	7.59E-06

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 13 Phase: 2 Wetland: 17 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M17010	1,1,1-Trichloroethane	1/15/1996	71556	6.50E+00	0.00413	2.69E+00	6.5	U	5.86E-04
041M17010	1,1,2,2-Tetrachloroethane	1/15/1996	79345	8.13E+00	0.00413	3.36E+00	6.5	U	4.68E-04
041M17010	1,1,2-Trichloroethane	1/15/1996	79005	6.24E+00	0.00413	2.58E+00	6.5	U	6.10E-04
041M17010	1,1-Dichloroethane	1/15/1996	75343		0.00413		6.5	U	
041M17010	1,1-Dichloroethene	1/15/1996	75354	4.65E+00	0.00413	1.92E+00	6.5	U	8.20E-04
041M17010	1,2-Dichloroethane	1/15/1996	107062	4.43E+00	0.00413	1.83E+00	6.5	U	8.60E-04
041M17010	1,2-Dichloroethene (total)	1/15/1996	540590	4.61E+00	0.00413	1.90E+00	6.5	U	8.26E-04
041M17010	1,2-Dichloropropane	1/15/1996	78875	5.26E+00	0.00413	2.17E+00	6.5	U	7.24E-04
041M17010	2-Butanone (MEK)	1/15/1996	78933	2.93E+00	0.00413	1.21E+00	6.5	U	1.30E-03
041M17010	2-Hexanone	1/15/1996	591786	4.43E+00	0.00413	1.83E+00	6.5	U	8.60E-04
041M17010	4-Methyl-2-Pentanone (MIBK)	1/15/1996	108101	4.38E+00	0.00413	1.81E+00	6.5	U	8.69E-04
041M17010	Acetone	1/15/1996	67641	1.34E+01	0.00413	5.53E+00	6.5	U	2.85E-04
041M17010	Benzene	1/15/1996	71432	6.46E+00	0.00413	2.67E+00	6.5	U	5.90E-04
041M17010	Bromodichloromethane	1/15/1996	75274		0.00413		6.5	U	
041M17010	Bromoform	1/15/1996	75252	1.22E+01	0.00413	5.03E+00	6.5	U	3.13E-04
041M17010	Bromomethane	1/15/1996	74839	4.03E+00	0.00413	1.66E+00	6.5	U	9.46E-04
041M17010	Carbon disulfide	1/15/1996	75150		0.00413		6.5	U	
041M17010	Carbon tetrachloride	1/15/1996	56235	7.73E+00	0.00413	3.19E+00	6.5	U	4.93E-04
041M17010	Chlorobenzene	1/15/1996	108907	5.59E+00	0.00413	2.31E+00	2	J	2.10E-04
041M17010	Chloroethane	1/15/1996	75003		0.00413		6.5	U	
041M17010	Chloroform	1/15/1996	67663	5.59E+00	0.00413	2.31E+00	6.5	U	6.82E-04
041M17010	Chloromethane	1/15/1996	74873	2.12E+00	0.00413	8.76E-01	6.5	U	1.80E-03
041M17010	cis-1,3-Dichloropropene	1/15/1996	10061015		0.00413		6.5	U	
041M17010	Dibromochloromethane	1/15/1996	124481		0.00413		6.5	U	
041M17010	Ethylbenzene	1/15/1996	100414	9.64E+00	0.00413	3.98E+00	6.5	U	3.95E-04
041M17010	Methylene chloride	1/15/1996	75092	3.73E+00	0.00413	1.54E+00	6.5	U	1.02E-03
041M17010	Styrene	1/15/1996	100425	9.18E+00	0.00413	3.79E+00	6.5	U	4.15E-04
041M17010	Tetrachloroethene	1/15/1996	127184	8.83E+00	0.00413	3.64E+00	6.5	U	4.32E-04
041M17010	Toluene	1/15/1996	108883	8.05E+00	0.00413	3.32E+00	6.5	U	4.74E-04
041M17010	trans-1,3-Dichloropropene	1/15/1996	10061026		0.00413		6.5	U	
041M17010	Trichloroethene	1/15/1996	79016	6.65E+00	0.00413	2.75E+00	6.5	U	5.73E-04
041M17010	Vinyl chloride	1/15/1996	75014		0.00413		2	U	
041M17010	Xylene (Total)	1/15/1996	1330207	9.70E+00	0.00413	4.00E+00	6.5	U	3.93E-04
041M17020	1,1,1-Trichloroethane	1/15/1996	71556	6.50E+00	0.00167	1.09E+00	6	U	3.31E-03
041M17020	1,1,2,2-Tetrachloroethane	1/15/1996	79345	8.13E+00	0.00167	1.36E+00	6	U	2.64E-03
041M17020	1,1,2-Trichloroethane	1/15/1996	79005	6.24E+00	0.00167	1.04E+00	6	U	3.45E-03
041M17020	1,1-Dichloroethane	1/15/1996	75343		0.00167		6	U	
041M17020	1,1-Dichloroethene	1/15/1996	75354	4.65E+00	0.00167	7.76E-01	6	U	4.63E-03
041M17020	1,2-Dichloroethane	1/15/1996	107062	4.43E+00	0.00167	7.40E-01	6	U	4.86E-03
041M17020	1,2-Dichloroethene (total)	1/15/1996	540590	4.61E+00	0.00167	7.70E-01	6	U	4.66E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 13 Phase: 2 Wetland: 17 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M17020	1,2-Dichloropropane	1/15/1996	78875	5.26E+00	0.00167	8.79E-01	6	U	4.09E-03
041M17020	2-Butanone (MEK)	1/15/1996	78933	2.93E+00	0.00167	4.89E-01	6	U	7.35E-03
041M17020	2-Hexanone	1/15/1996	591786	4.43E+00	0.00167	7.40E-01	6	U	4.86E-03
041M17020	4-Methyl-2-Pentanone (MIBK)	1/15/1996	108101	4.38E+00	0.00167	7.32E-01	6	U	4.91E-03
041M17020	Acetone	1/15/1996	67641	1.34E+01	0.00167	2.24E+00	6	U	1.61E-03
041M17020	Benzene	1/15/1996	71432	6.46E+00	0.00167	1.08E+00	6	U	3.33E-03
041M17020	Bromodichloromethane	1/15/1996	75274		0.00167		6	U	
041M17020	Bromoform	1/15/1996	75252	1.22E+01	0.00167	2.03E+00	6	U	1.77E-03
041M17020	Bromomethane	1/15/1996	74839	4.03E+00	0.00167	6.73E-01	6	U	5.34E-03
041M17020	Carbon disulfide	1/15/1996	75150		0.00167		6	U	
041M17020	Carbon tetrachloride	1/15/1996	56235	7.73E+00	0.00167	1.29E+00	6	U	2.78E-03
041M17020	Chlorobenzene	1/15/1996	108907	5.59E+00	0.00167	9.33E-01	6	U	3.85E-03
041M17020	Chloroethane	1/15/1996	75003		0.00167		6	U	
041M17020	Chloroform	1/15/1996	67663	5.59E+00	0.00167	9.33E-01	6	U	3.85E-03
041M17020	Chloromethane	1/15/1996	74873	2.12E+00	0.00167	3.54E-01	6	U	1.01E-02
041M17020	cis-1,3-Dichloropropene	1/15/1996	10061015		0.00167		6	U	
041M17020	Dibromochloromethane	1/15/1996	124481		0.00167		6	U	
041M17020	Ethylbenzene	1/15/1996	100414	9.64E+00	0.00167	1.61E+00	6	U	2.23E-03
041M17020	Methylene chloride	1/15/1996	75092	3.73E+00	0.00167	6.23E-01	6	U	5.77E-03
041M17020	Styrene	1/15/1996	100425	9.18E+00	0.00167	1.53E+00	6	U	2.34E-03
041M17020	Tetrachloroethene	1/15/1996	127184	8.83E+00	0.00167	1.47E+00	6	U	2.44E-03
041M17020	Toluene	1/15/1996	108883	8.05E+00	0.00167	1.34E+00	6	U	2.67E-03
041M17020	trans-1,3-Dichloropropene	1/15/1996	10061026		0.00167		6	U	
041M17020	Trichloroethene	1/15/1996	79016	6.65E+00	0.00167	1.11E+00	6	U	3.23E-03
041M17020	Vinyl chloride	1/15/1996	75014		0.00167		2	U	
041M17020	Xylene (Total)	1/15/1996	1330207	9.70E+00	0.00167	1.62E+00	6	U	2.22E-03
041M17030	1,1,1-Trichloroethane	1/15/1996	71556	6.50E+00	0.00223	1.45E+00	6.5	U	2.01E-03
041M17030	1,1,2,2-Tetrachloroethane	1/15/1996	79345	8.13E+00	0.00223	1.81E+00	6.5	U	1.61E-03
041M17030	1,1,2-Trichloroethane	1/15/1996	79005	6.24E+00	0.00223	1.39E+00	6.5	U	2.09E-03
041M17030	1,1-Dichloroethane	1/15/1996	75343		0.00223		6.5	U	
041M17030	1,1-Dichloroethene	1/15/1996	75354	4.65E+00	0.00223	1.04E+00	6.5	U	2.81E-03
041M17030	1,2-Dichloroethane	1/15/1996	107062	4.43E+00	0.00223	9.88E-01	6.5	U	2.95E-03
041M17030	1,2-Dichloroethene (total)	1/15/1996	540590	4.61E+00	0.00223	1.03E+00	6.5	U	2.83E-03
041M17030	1,2-Dichloropropane	1/15/1996	78875	5.26E+00	0.00223	1.17E+00	6.5	U	2.48E-03
041M17030	2-Butanone (MEK)	1/15/1996	78933	2.93E+00	0.00223	6.53E-01	6.5	U	4.46E-03
041M17030	2-Hexanone	1/15/1996	591786	4.43E+00	0.00223	9.88E-01	6.5	U	2.95E-03
041M17030	4-Methyl-2-Pentanone (MIBK)	1/15/1996	108101	4.38E+00	0.00223	9.77E-01	6.5	U	2.98E-03
041M17030	Acetone	1/15/1996	67641	1.34E+01	0.00223	2.98E+00	7	U	1.05E-03
041M17030	Benzene	1/15/1996	71432	6.46E+00	0.00223	1.44E+00	6.5	U	2.02E-03
041M17030	Bromodichloromethane	1/15/1996	75274		0.00223		6.5	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 13 Phase: 2 Wetland: 17 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M17030	Bromoform	1/15/1996	75252	1.22E+01	0.00223	2.72E+00	6.5	U	1.07E-03
041M17030	Bromomethane	1/15/1996	74839	4.03E+00	0.00223	8.98E-01	6.5	U	3.24E-03
041M17030	Carbon disulfide	1/15/1996	75150		0.00223		6.5	U	
041M17030	Carbon tetrachloride	1/15/1996	56235	7.73E+00	0.00223	1.72E+00	6.5	U	1.69E-03
041M17030	Chlorobenzene	1/15/1996	108907	5.59E+00	0.00223	1.25E+00	6.5	U	2.34E-03
041M17030	Chloroethane	1/15/1996	75003		0.00223		6.5	U	
041M17030	Chloroform	1/15/1996	67663	5.59E+00	0.00223	1.25E+00	6.5	U	2.34E-03
041M17030	Chloromethane	1/15/1996	74873	2.12E+00	0.00223	4.73E-01	6.5	U	6.16E-03
041M17030	cis-1,3-Dichloropropene	1/15/1996	10061015		0.00223		6.5	U	
041M17030	Dibromochloromethane	1/15/1996	124481		0.00223		6.5	U	
041M17030	Ethylbenzene	1/15/1996	100414	9.64E+00	0.00223	2.15E+00	6.5	U	1.36E-03
041M17030	Methylene chloride	1/15/1996	75092	3.73E+00	0.00223	8.31E-01	6.5	U	3.51E-03
041M17030	Styrene	1/15/1996	100425	9.18E+00	0.00223	2.05E+00	6.5	U	1.42E-03
041M17030	Tetrachloroethene	1/15/1996	127184	8.83E+00	0.00223	1.97E+00	6.5	U	1.48E-03
041M17030	Toluene	1/15/1996	108883	8.05E+00	0.00223	1.79E+00	6.5	U	1.62E-03
041M17030	trans-1,3-Dichloropropene	1/15/1996	10061026		0.00223		6.5	U	
041M17030	Trichloroethene	1/15/1996	79016	6.65E+00	0.00223	1.48E+00	6.5	U	1.96E-03
041M17030	Vinyl chloride	1/15/1996	75014		0.00223		2	U	
041M17030	Xylene (Total)	1/15/1996	1330207	9.70E+00	0.00223	2.16E+00	6.5	U	1.35E-03

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 14 Phase: 2 Wetland: 18A Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
001M00180	1,1,1-Trichloroethane	6/29/1994	71556	6.50E+00	0.119	7.74E+01	55	U	5.97E-06
001M00180	1,1,2,2-Tetrachloroethane	6/29/1994	79345	8.13E+00	0.119	9.68E+01	55	U	4.77E-06
001M00180	1,1,2-Trichloroethane	6/29/1994	79005	6.24E+00	0.119	7.43E+01	55	U	6.22E-06
001M00180	1,1-Dichloroethane	6/29/1994	75343		0.119		55	U	
001M00180	1,1-Dichloroethene	6/29/1994	75354	4.65E+00	0.119	5.53E+01	55	U	8.35E-06
001M00180	1,2-Dichloroethane	6/29/1994	107062	4.43E+00	0.119	5.27E+01	55	U	8.77E-06
001M00180	1,2-Dichloroethene (total)	6/29/1994	540590	4.61E+00	0.119	5.49E+01	55	U	8.42E-06
001M00180	1,2-Dichloropropane	6/29/1994	78875	5.26E+00	0.119	6.26E+01	55	U	7.38E-06
001M00180	2-Butanone (MEK)	6/29/1994	78933	2.93E+00	0.119	3.48E+01	55	U	1.33E-05
001M00180	2-Hexanone	6/29/1994	591786	4.43E+00	0.119	5.27E+01	55	U	8.77E-06
001M00180	4-Methyl-2-Pentanone (MIBK)	6/29/1994	108101	4.38E+00	0.119	5.22E+01	55	U	8.86E-06
001M00180	Acetone	6/29/1994	67641	1.34E+01	0.119	1.59E+02	50	U	2.64E-06
001M00180	Benzene	6/29/1994	71432	6.46E+00	0.119	7.69E+01	55	U	6.01E-06
001M00180	Bromodichloromethane	6/29/1994	75274		0.119		55	U	
001M00180	Bromoform	6/29/1994	75252	1.22E+01	0.119	1.45E+02	55	U	3.19E-06
001M00180	Bromomethane	6/29/1994	74839	4.03E+00	0.119	4.79E+01	55	U	9.64E-06
001M00180	Carbon disulfide	6/29/1994	75150		0.119		55	U	
001M00180	Carbon tetrachloride	6/29/1994	56235	7.73E+00	0.119	9.20E+01	55	U	5.02E-06
001M00180	Chlorobenzene	6/29/1994	108907	5.59E+00	0.119	6.65E+01	55	U	6.95E-06
001M00180	Chloroethane	6/29/1994	75003		0.119		55	U	
001M00180	Chloroform	6/29/1994	67663	5.59E+00	0.119	6.65E+01	55	U	6.95E-06
001M00180	Chloromethane	6/29/1994	74873	2.12E+00	0.119	2.52E+01	55	U	1.83E-05
001M00180	cis-1,3-Dichloropropene	6/29/1994	10061015		0.119		55	U	
001M00180	Dibromochloromethane	6/29/1994	124481		0.119		55	U	
001M00180	Ethylbenzene	6/29/1994	100414	9.64E+00	0.119	1.15E+02	55	U	4.03E-06
001M00180	Methylene chloride	6/29/1994	75092	3.73E+00	0.119	4.44E+01	50	U	9.47E-06
001M00180	Styrene	6/29/1994	100425	9.18E+00	0.119	1.09E+02	55	U	4.23E-06
001M00180	Tetrachloroethene	6/29/1994	127184	8.83E+00	0.119	1.05E+02	55	U	4.40E-06
001M00180	Toluene	6/29/1994	108883	8.05E+00	0.119	9.58E+01	55	U	4.83E-06
001M00180	trans-1,3-Dichloropropene	6/29/1994	10061026		0.119		55	U	
001M00180	Trichloroethene	6/29/1994	79016	6.65E+00	0.119	7.92E+01	55	U	5.84E-06
001M00180	Vinyl chloride	6/29/1994	75014		0.119		55	U	
001M00180	Xylene (Total)	6/29/1994	1330207	9.70E+00	0.119	1.15E+02	55	U	4.01E-06
041M18A20	1,1,1-Trichloroethane	12/15/1995	71556	6.50E+00	0.119	7.74E+01	70	U	7.60E-06
041M18A20	1,1,2,2-Tetrachloroethane	12/15/1995	79345	8.13E+00	0.119	9.68E+01	70	U	6.08E-06
041M18A20	1,1,2-Trichloroethane	12/15/1995	79005	6.24E+00	0.119	7.43E+01	70	U	7.92E-06
041M18A20	1,1-Dichloroethane	12/15/1995	75343		0.119		70	U	
041M18A20	1,1-Dichloroethene	12/15/1995	75354	4.65E+00	0.119	5.53E+01	70	U	1.06E-05
041M18A20	1,2-Dichloroethane	12/15/1995	107062	4.43E+00	0.119	5.27E+01	70	U	1.12E-05
041M18A20	1,2-Dichloroethene (total)	12/15/1995	540590	4.61E+00	0.119	5.49E+01	70	U	1.07E-05

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 14 Phase: 2 Wetland: 18A Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M18A20	1,2-Dichloropropane	12/15/1995	78875	5.26E+00	0.119	6.26E+01	70	U	9.39E-06
041M18A20	2-Butanone (MEK)	12/15/1995	78933	2.93E+00	0.119	3.48E+01	70	U	1.69E-05
041M18A20	2-Hexanone	12/15/1995	591786	4.43E+00	0.119	5.27E+01	70	U	1.12E-05
041M18A20	4-Methyl-2-Pentanone (MIBK)	12/15/1995	108101	4.38E+00	0.119	5.22E+01	70	U	1.13E-05
041M18A20	Acetone	12/15/1995	67641	1.34E+01	0.119	1.59E+02	750		3.96E-05
041M18A20	Benzene	12/15/1995	71432	6.46E+00	0.119	7.69E+01	34	J	3.72E-06
041M18A20	Bromodichloromethane	12/15/1995	75274		0.119		70	U	
041M18A20	Bromoform	12/15/1995	75252	1.22E+01	0.119	1.45E+02	70	U	4.06E-06
041M18A20	Bromomethane	12/15/1995	74839	4.03E+00	0.119	4.79E+01	70	U	1.23E-05
041M18A20	Carbon disulfide	12/15/1995	75150		0.119		70	U	
041M18A20	Carbon tetrachloride	12/15/1995	56235	7.73E+00	0.119	9.20E+01	70	U	6.39E-06
041M18A20	Chlorobenzene	12/15/1995	108907	5.59E+00	0.119	6.65E+01	430		5.44E-05
041M18A20	Chloroethane	12/15/1995	75003		0.119		70	U	
041M18A20	Chloroform	12/15/1995	67663	5.59E+00	0.119	6.65E+01	70	U	8.85E-06
041M18A20	Chloromethane	12/15/1995	74873	2.12E+00	0.119	2.52E+01	70	U	2.33E-05
041M18A20	cis-1,3-Dichloropropene	12/15/1995	10061015		0.119		70	U	
041M18A20	Dibromochloromethane	12/15/1995	124481		0.119		70	U	
041M18A20	Ethylbenzene	12/15/1995	100414	9.64E+00	0.119	1.15E+02	70	U	5.13E-06
041M18A20	Methylene chloride	12/15/1995	75092	3.73E+00	0.119	4.44E+01	750		1.42E-04
041M18A20	Styrene	12/15/1995	100425	9.18E+00	0.119	1.09E+02	70	U	5.39E-06
041M18A20	Tetrachloroethene	12/15/1995	127184	8.83E+00	0.119	1.05E+02	70	U	5.60E-06
041M18A20	Toluene	12/15/1995	108883	8.05E+00	0.119	9.58E+01	85	J	7.46E-06
041M18A20	trans-1,3-Dichloropropene	12/15/1995	10061026		0.119		70	U	
041M18A20	Trichloroethene	12/15/1995	79016	6.65E+00	0.119	7.92E+01	70	U	7.43E-06
041M18A20	Vinyl chloride	12/15/1995	75014		0.119		21.5	U	
041M18A20	Xylene (Total)	12/15/1995	1330207	9.70E+00	0.119	1.15E+02	70	U	5.10E-06
041M18A30	1,1,1-Trichloroethane	12/14/1995	71556	6.50E+00	0.343	2.23E+02	50	U	6.53E-07
041M18A30	1,1,2,2-Tetrachloroethane	12/14/1995	79345	8.13E+00	0.343	2.79E+02	50	UJ	5.22E-07
041M18A30	1,1,2-Trichloroethane	12/14/1995	79005	6.24E+00	0.343	2.14E+02	50	U	6.81E-07
041M18A30	1,1-Dichloroethane	12/14/1995	75343		0.343		50	U	
041M18A30	1,1-Dichloroethene	12/14/1995	75354	4.65E+00	0.343	1.59E+02	50	U	9.14E-07
041M18A30	1,2-Dichloroethane	12/14/1995	107062	4.43E+00	0.343	1.52E+02	50	U	9.60E-07
041M18A30	1,2-Dichloroethene (total)	12/14/1995	540590	4.61E+00	0.343	1.58E+02	50	U	9.21E-07
041M18A30	1,2-Dichloropropane	12/14/1995	78875	5.26E+00	0.343	1.81E+02	50	U	8.07E-07
041M18A30	2-Butanone (MEK)	12/14/1995	78933	2.93E+00	0.343	1.00E+02	120	J	3.48E-06
041M18A30	2-Hexanone	12/14/1995	591786	4.43E+00	0.343	1.52E+02	50	UJ	9.59E-07
041M18A30	4-Methyl-2-Pentanone (MIBK)	12/14/1995	108101	4.38E+00	0.343	1.50E+02	50	UJ	9.70E-07
041M18A30	Acetone	12/14/1995	67641	1.34E+01	0.343	4.59E+02	480	J	3.05E-06
041M18A30	Benzene	12/14/1995	71432	6.46E+00	0.343	2.22E+02	50	J	6.58E-07
041M18A30	Bromodichloromethane	12/14/1995	75274		0.343		50	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 14 Phase: 2 Wetland: 18A Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M18A30	Bromoform	12/14/1995	75252	1.22E+01	0.343	4.18E+02	50	U	3.49E-07
041M18A30	Bromomethane	12/14/1995	74839	4.03E+00	0.343	1.38E+02	50	U	1.05E-06
041M18A30	Carbon disulfide	12/14/1995	75150		0.343		50	U	
041M18A30	Carbon tetrachloride	12/14/1995	56235	7.73E+00	0.343	2.65E+02	50	U	5.50E-07
041M18A30	Chlorobenzene	12/14/1995	108907	5.59E+00	0.343	1.92E+02	46	J	7.00E-07
041M18A30	Chloroethane	12/14/1995	75003		0.343		50	U	
041M18A30	Chloroform	12/14/1995	67663	5.59E+00	0.343	1.92E+02	50	U	7.61E-07
041M18A30	Chloromethane	12/14/1995	74873	2.12E+00	0.343	7.28E+01	50	U	2.00E-06
041M18A30	cis-1,3-Dichloropropene	12/14/1995	10061015		0.343		50	U	
041M18A30	Dibromochloromethane	12/14/1995	124481		0.343		50	U	
041M18A30	Ethylbenzene	12/14/1995	100414	9.64E+00	0.343	3.31E+02	50	UJ	4.41E-07
041M18A30	Methylene chloride	12/14/1995	75092	3.73E+00	0.343	1.28E+02	50	U	1.14E-06
041M18A30	Styrene	12/14/1995	100425	9.18E+00	0.343	3.15E+02	50	UJ	4.63E-07
041M18A30	Tetrachloroethene	12/14/1995	127184	8.83E+00	0.343	3.03E+02	50	UJ	4.82E-07
041M18A30	Toluene	12/14/1995	108883	8.05E+00	0.343	2.76E+02	220	J	2.32E-06
041M18A30	trans-1,3-Dichloropropene	12/14/1995	10061026		0.343		50	U	
041M18A30	Trichloroethene	12/14/1995	79016	6.65E+00	0.343	2.28E+02	50	U	6.39E-07
041M18A30	Vinyl chloride	12/14/1995	75014		0.343		15	U	
041M18A30	Xylene (Total)	12/14/1995	1330207	9.70E+00	0.343	3.33E+02	50	UJ	4.38E-07

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 15 Phase: 2 Wetland: 18B Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M18B10	1,1,1-Trichloroethane	12/14/1995	71556	6.50E+00	0.118	7.68E+01	21.5	U	2.37E-06
041M18B10	1,1,2,2-Tetrachloroethane	12/14/1995	79345	8.13E+00	0.118	9.60E+01	21.5	U	1.90E-06
041M18B10	1,1,2-Trichloroethane	12/14/1995	79005	6.24E+00	0.118	7.37E+01	21.5	U	2.47E-06
041M18B10	1,1-Dichloroethane	12/14/1995	75343		0.118		21.5	U	
041M18B10	1,1-Dichloroethene	12/14/1995	75354	4.65E+00	0.118	5.49E+01	21.5	U	3.32E-06
041M18B10	1,2-Dichloroethane	12/14/1995	107062	4.43E+00	0.118	5.23E+01	21.5	U	3.49E-06
041M18B10	1,2-Dichloroethene (total)	12/14/1995	540590	4.61E+00	0.118	5.44E+01	21.5	U	3.35E-06
041M18B10	1,2-Dichloropropane	12/14/1995	78875	5.26E+00	0.118	6.21E+01	21.5	U	2.93E-06
041M18B10	2-Butanone (MEK)	12/14/1995	78933	2.93E+00	0.118	3.46E+01	98	J	2.40E-05
041M18B10	2-Hexanone	12/14/1995	591786	4.43E+00	0.118	5.23E+01	21.5	U	3.49E-06
041M18B10	4-Methyl-2-Pentanone (MIBK)	12/14/1995	108101	4.38E+00	0.118	5.17E+01	21.5	U	3.52E-06
041M18B10	Acetone	12/14/1995	67641	1.34E+01	0.118	1.58E+02	440	J	2.36E-05
041M18B10	Benzene	12/14/1995	71432	6.46E+00	0.118	7.62E+01	21.5	U	2.39E-06
041M18B10	Bromodichloromethane	12/14/1995	75274		0.118		21.5	U	
041M18B10	Bromoform	12/14/1995	75252	1.22E+01	0.118	1.44E+02	21.5	U	1.27E-06
041M18B10	Bromomethane	12/14/1995	74839	4.03E+00	0.118	4.75E+01	21.5	U	3.83E-06
041M18B10	Carbon disulfide	12/14/1995	75150		0.118		21.5	U	
041M18B10	Carbon tetrachloride	12/14/1995	56235	7.73E+00	0.118	9.13E+01	21.5	U	2.00E-06
041M18B10	Chlorobenzene	12/14/1995	108907	5.59E+00	0.118	6.59E+01	21.5	U	2.76E-06
041M18B10	Chloroethane	12/14/1995	75003		0.118		21.5	U	
041M18B10	Chloroform	12/14/1995	67663	5.59E+00	0.118	6.59E+01	21.5	U	2.76E-06
041M18B10	Chloromethane	12/14/1995	74873	2.12E+00	0.118	2.50E+01	21.5	U	7.28E-06
041M18B10	cis-1,3-Dichloropropene	12/14/1995	10061015		0.118		21.5	U	
041M18B10	Dibromochloromethane	12/14/1995	124481		0.118		21.5	U	
041M18B10	Ethylbenzene	12/14/1995	100414	9.64E+00	0.118	1.14E+02	21.5	U	1.60E-06
041M18B10	Methylene chloride	12/14/1995	75092	3.73E+00	0.118	4.40E+01	21.5	U	4.14E-06
041M18B10	Styrene	12/14/1995	100425	9.18E+00	0.118	1.08E+02	21.5	U	1.68E-06
041M18B10	Tetrachloroethene	12/14/1995	127184	8.83E+00	0.118	1.04E+02	21.5	U	1.75E-06
041M18B10	Toluene	12/14/1995	108883	8.05E+00	0.118	9.50E+01	21.5	U	1.92E-06
041M18B10	trans-1,3-Dichloropropene	12/14/1995	10061026		0.118		21.5	U	
041M18B10	Trichloroethene	12/14/1995	79016	6.65E+00	0.118	7.85E+01	21.5	U	2.32E-06
041M18B10	Vinyl chloride	12/14/1995	75014		0.118		6.5	U	
041M18B10	Xylene (Total)	12/14/1995	1330207	9.70E+00	0.118	1.14E+02	21.5	U	1.59E-06

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 16 Phase: 2 Wetland: 19A Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M19A10	1,1,1-Trichloroethane	1/16/1996	71556	6.50E+00	0.00423	2.75E+00	38.5	U	3.31E-03
041M19A10	1,1,2,2-Tetrachloroethane	1/16/1996	79345	8.13E+00	0.00423	3.44E+00	38.5	U	2.65E-03
041M19A10	1,1,2-Trichloroethane	1/16/1996	79005	6.24E+00	0.00423	2.64E+00	38.5	U	3.45E-03
041M19A10	1,1-Dichloroethane	1/16/1996	75343		0.00423		38.5	U	
041M19A10	1,1-Dichloroethene	1/16/1996	75354	4.65E+00	0.00423	1.97E+00	38.5	U	4.63E-03
041M19A10	1,2-Dichloroethane	1/16/1996	107062	4.43E+00	0.00423	1.87E+00	38.5	U	4.86E-03
041M19A10	1,2-Dichloroethene (total)	1/16/1996	540590	4.61E+00	0.00423	1.95E+00	38.5	U	4.66E-03
041M19A10	1,2-Dichloropropane	1/16/1996	78875	5.26E+00	0.00423	2.23E+00	38.5	U	4.09E-03
041M19A10	2-Butanone (MEK)	1/16/1996	78933	2.93E+00	0.00423	1.24E+00	38.5	U	7.35E-03
041M19A10	2-Hexanone	1/16/1996	591786	4.43E+00	0.00423	1.87E+00	38.5	U	4.86E-03
041M19A10	4-Methyl-2-Pentanone (MIBK)	1/16/1996	108101	4.38E+00	0.00423	1.85E+00	38.5	U	4.91E-03
041M19A10	Acetone	1/16/1996	67641	1.34E+01	0.00423	5.66E+00	125	U	5.22E-03
041M19A10	Benzene	1/16/1996	71432	6.46E+00	0.00423	2.73E+00	38.5	U	3.33E-03
041M19A10	Bromodichloromethane	1/16/1996	75274		0.00423		38.5	U	
041M19A10	Bromoform	1/16/1996	75252	1.22E+01	0.00423	5.15E+00	38.5	U	1.77E-03
041M19A10	Bromomethane	1/16/1996	74839	4.03E+00	0.00423	1.70E+00	38.5	U	5.34E-03
041M19A10	Carbon disulfide	1/16/1996	75150		0.00423		38.5	U	
041M19A10	Carbon tetrachloride	1/16/1996	56235	7.73E+00	0.00423	3.27E+00	38.5	U	2.78E-03
041M19A10	Chlorobenzene	1/16/1996	108907	5.59E+00	0.00423	2.36E+00	38.5	U	3.85E-03
041M19A10	Chloroethane	1/16/1996	75003		0.00423		38.5	U	
041M19A10	Chloroform	1/16/1996	67663	5.59E+00	0.00423	2.36E+00	38.5	U	3.85E-03
041M19A10	Chloromethane	1/16/1996	74873	2.12E+00	0.00423	8.97E-01	38.5	U	1.01E-02
041M19A10	cis-1,3-Dichloropropene	1/16/1996	10061015		0.00423		38.5	U	
041M19A10	Dibromochloromethane	1/16/1996	124481		0.00423		38.5	U	
041M19A10	Ethylbenzene	1/16/1996	100414	9.64E+00	0.00423	4.08E+00	38.5	U	2.23E-03
041M19A10	Methylene chloride	1/16/1996	75092	3.73E+00	0.00423	1.58E+00	38.5	U	5.77E-03
041M19A10	Styrene	1/16/1996	100425	9.18E+00	0.00423	3.88E+00	38.5	U	2.34E-03
041M19A10	Tetrachloroethene	1/16/1996	127184	8.83E+00	0.00423	3.73E+00	38.5	U	2.44E-03
041M19A10	Toluene	1/16/1996	108883	8.05E+00	0.00423	3.40E+00	38.5	U	2.67E-03
041M19A10	trans-1,3-Dichloropropene	1/16/1996	10061026		0.00423		38.5	U	
041M19A10	Trichloroethene	1/16/1996	79016	6.65E+00	0.00423	2.81E+00	38.5	U	3.23E-03
041M19A10	Vinyl chloride	1/16/1996	75014		0.00423		11.5	U	
041M19A10	Xylene (Total)	1/16/1996	1330207	9.70E+00	0.00423	4.10E+00	38.5	U	2.22E-03
041M19A20	1,1,1-Trichloroethane	1/16/1996	71556	6.50E+00	0.000674	4.38E-01	6	U	2.03E-02
041M19A20	1,1,2,2-Tetrachloroethane	1/16/1996	79345	8.13E+00	0.000674	5.48E-01	6	U	1.62E-02
041M19A20	1,1,2-Trichloroethane	1/16/1996	79005	6.24E+00	0.000674	4.21E-01	6	U	2.12E-02
041M19A20	1,1-Dichloroethane	1/16/1996	75343		0.000674		6	U	
041M19A20	1,1-Dichloroethene	1/16/1996	75354	4.65E+00	0.000674	3.13E-01	6	U	2.84E-02
041M19A20	1,2-Dichloroethane	1/16/1996	107062	4.43E+00	0.000674	2.99E-01	6	U	2.98E-02
041M19A20	1,2-Dichloroethene (total)	1/16/1996	540590	4.61E+00	0.000674	3.11E-01	6	U	2.86E-02

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 16 **Phase: 2** **Wetland: 19A** **Fresh/Salt: F**

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M19A20	1,2-Dichloropropane	1/16/1996	78875	5.26E+00	0.000674	3.55E-01	6	U	2.51E-02
041M19A20	2-Butanone (MEK)	1/16/1996	78933	2.93E+00	0.000674	1.97E-01	6	U	4.51E-02
041M19A20	2-Hexanone	1/16/1996	591786	4.43E+00	0.000674	2.99E-01	6	U	2.98E-02
041M19A20	4-Methyl-2-Pentanone (MIBK)	1/16/1996	108101	4.38E+00	0.000674	2.95E-01	6	U	3.01E-02
041M19A20	Acetone	1/16/1996	67641	1.34E+01	0.000674	9.02E-01	6	U	9.87E-03
041M19A20	Benzene	1/16/1996	71432	6.46E+00	0.000674	4.36E-01	6	U	2.04E-02
041M19A20	Bromodichloromethane	1/16/1996	75274		0.000674		6	U	
041M19A20	Bromoform	1/16/1996	75252	1.22E+01	0.000674	8.21E-01	6	U	1.08E-02
041M19A20	Bromomethane	1/16/1996	74839	4.03E+00	0.000674	2.72E-01	6	U	3.28E-02
041M19A20	Carbon disulfide	1/16/1996	75150		0.000674		6	U	
041M19A20	Carbon tetrachloride	1/16/1996	56235	7.73E+00	0.000674	5.21E-01	6	U	1.71E-02
041M19A20	Chlorobenzene	1/16/1996	108907	5.59E+00	0.000674	3.76E-01	6	U	2.36E-02
041M19A20	Chloroethane	1/16/1996	75003		0.000674		6	U	
041M19A20	Chloroform	1/16/1996	67663	5.59E+00	0.000674	3.77E-01	6	U	2.36E-02
041M19A20	Chloromethane	1/16/1996	74873	2.12E+00	0.000674	1.43E-01	2	J	2.08E-02
041M19A20	cis-1,3-Dichloropropene	1/16/1996	10061015		0.000674		6	U	
041M19A20	Dibromochloromethane	1/16/1996	124481		0.000674		6	U	
041M19A20	Ethylbenzene	1/16/1996	100414	9.64E+00	0.000674	6.50E-01	6	U	1.37E-02
041M19A20	Methylene chloride	1/16/1996	75092	3.73E+00	0.000674	2.51E-01	6	U	3.54E-02
041M19A20	Styrene	1/16/1996	100425	9.18E+00	0.000674	6.18E-01	6	U	1.44E-02
041M19A20	Tetrachloroethene	1/16/1996	127184	8.83E+00	0.000674	5.95E-01	6	U	1.50E-02
041M19A20	Toluene	1/16/1996	108883	8.05E+00	0.000674	5.42E-01	6	U	1.64E-02
041M19A20	trans-1,3-Dichloropropene	1/16/1996	10061026		0.000674		6	U	
041M19A20	Trichloroethene	1/16/1996	79016	6.65E+00	0.000674	4.48E-01	6	U	1.99E-02
041M19A20	Vinyl chloride	1/16/1996	75014		0.000674		2	U	
041M19A20	Xylene (Total)	1/16/1996	1330207	9.70E+00	0.000674	6.53E-01	6	U	1.36E-02

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 17 Phase: 2 Wetland: 19B Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M19B10	1,1,1-Trichloroethane	1/16/1996	71556	6.50E+00	0.0021	1.37E+00	6.5	U	2.27E-03
041M19B10	1,1,2,2-Tetrachloroethane	1/16/1996	79345	8.13E+00	0.0021	1.71E+00	6.5	U	1.81E-03
041M19B10	1,1,2-Trichloroethane	1/16/1996	79005	6.24E+00	0.0021	1.31E+00	6.5	U	2.36E-03
041M19B10	1,1-Dichloroethane	1/16/1996	75343		0.0021		6.5	U	
041M19B10	1,1-Dichloroethene	1/16/1996	75354	4.65E+00	0.0021	9.76E-01	6.5	U	3.17E-03
041M19B10	1,2-Dichloroethane	1/16/1996	107062	4.43E+00	0.0021	9.30E-01	6.5	U	3.33E-03
041M19B10	1,2-Dichloroethene (total)	1/16/1996	540590	4.61E+00	0.0021	9.69E-01	6.5	U	3.20E-03
041M19B10	1,2-Dichloropropane	1/16/1996	78875	5.26E+00	0.0021	1.11E+00	6.5	U	2.80E-03
041M19B10	2-Butanone (MEK)	1/16/1996	78933	2.93E+00	0.0021	6.15E-01	6.5	U	5.03E-03
041M19B10	2-Hexanone	1/16/1996	591786	4.43E+00	0.0021	9.30E-01	6.5	U	3.33E-03
041M19B10	4-Methyl-2-Pentanone (MIBK)	1/16/1996	108101	4.38E+00	0.0021	9.20E-01	6.5	U	3.36E-03
041M19B10	Acetone	1/16/1996	67641	1.34E+01	0.0021	2.81E+00	11.5	U	1.95E-03
041M19B10	Benzene	1/16/1996	71432	6.46E+00	0.0021	1.36E+00	6.5	U	2.28E-03
041M19B10	Bromodichloromethane	1/16/1996	75274		0.0021		6.5	U	
041M19B10	Bromoform	1/16/1996	75252	1.22E+01	0.0021	2.56E+00	6.5	U	1.21E-03
041M19B10	Bromomethane	1/16/1996	74839	4.03E+00	0.0021	8.46E-01	6.5	U	3.66E-03
041M19B10	Carbon disulfide	1/16/1996	75150		0.0021		6.5	U	
041M19B10	Carbon tetrachloride	1/16/1996	56235	7.73E+00	0.0021	1.62E+00	6.5	U	1.91E-03
041M19B10	Chlorobenzene	1/16/1996	108907	5.59E+00	0.0021	1.17E+00	6.5	U	2.64E-03
041M19B10	Chloroethane	1/16/1996	75003		0.0021		6.5	U	
041M19B10	Chloroform	1/16/1996	67663	5.59E+00	0.0021	1.17E+00	6.5	U	2.64E-03
041M19B10	Chloromethane	1/16/1996	74873	2.12E+00	0.0021	4.45E-01	6.5	U	6.95E-03
041M19B10	cis-1,3-Dichloropropene	1/16/1996	10061015		0.0021		6.5	U	
041M19B10	Dibromochloromethane	1/16/1996	124481		0.0021		6.5	U	
041M19B10	Ethylbenzene	1/16/1996	100414	9.64E+00	0.0021	2.02E+00	6.5	U	1.53E-03
041M19B10	Methylene chloride	1/16/1996	75092	3.73E+00	0.0021	7.83E-01	6.5	U	3.95E-03
041M19B10	Styrene	1/16/1996	100425	9.18E+00	0.0021	1.93E+00	6.5	U	1.61E-03
041M19B10	Tetrachloroethene	1/16/1996	127184	8.83E+00	0.0021	1.85E+00	6.5	U	1.67E-03
041M19B10	Toluene	1/16/1996	108883	8.05E+00	0.0021	1.69E+00	6.5	U	1.83E-03
041M19B10	trans-1,3-Dichloropropene	1/16/1996	10061026		0.0021		6.5	U	
041M19B10	Trichloroethene	1/16/1996	79016	6.65E+00	0.0021	1.40E+00	6.5	U	2.22E-03
041M19B10	Vinyl chloride	1/16/1996	75014		0.0021		2	U	
041M19B10	Xylene (Total)	1/16/1996	1330207	9.70E+00	0.0021	2.04E+00	6.5	U	1.52E-03

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 18 **Phase: 2** **Wetland: 48** **Fresh/Salt: F**

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M48010	1,1,1-Trichloroethane	1/22/1996	71556	6.50E+00	0.0443	2.88E+01	7	U	5.48E-06
041M48010	1,1,2,2-Tetrachloroethane	1/22/1996	79345	8.13E+00	0.0443	3.60E+01	7	U	4.38E-06
041M48010	1,1,2-Trichloroethane	1/22/1996	79005	6.24E+00	0.0443	2.77E+01	7	U	5.71E-06
041M48010	1,1-Dichloroethane	1/22/1996	75343		0.0443		7	U	
041M48010	1,1-Dichloroethene	1/22/1996	75354	4.65E+00	0.0443	2.06E+01	7	U	7.67E-06
041M48010	1,2-Dichloroethane	1/22/1996	107062	4.43E+00	0.0443	1.96E+01	7	U	8.05E-06
041M48010	1,2-Dichloroethene (total)	1/22/1996	540590	4.61E+00	0.0443	2.04E+01	7	U	7.73E-06
041M48010	1,2-Dichloropropane	1/22/1996	78875	5.26E+00	0.0443	2.33E+01	7	U	6.78E-06
041M48010	2-Butanone (MEK)	1/22/1996	78933	2.93E+00	0.0443	1.30E+01	7	U	1.22E-05
041M48010	2-Hexanone	1/22/1996	591786	4.43E+00	0.0443	1.96E+01	7	U	8.05E-06
041M48010	4-Methyl-2-Pentanone (MIBK)	1/22/1996	108101	4.38E+00	0.0443	1.94E+01	7	U	8.14E-06
041M48010	Acetone	1/22/1996	67641	1.34E+01	0.0443	5.93E+01	11	U	4.19E-06
041M48010	Benzene	1/22/1996	71432	6.46E+00	0.0443	2.86E+01	7	U	5.52E-06
041M48010	Bromodichloromethane	1/22/1996	75274		0.0443		7	U	
041M48010	Bromoform	1/22/1996	75252	1.22E+01	0.0443	5.40E+01	7	U	2.93E-06
041M48010	Bromomethane	1/22/1996	74839	4.03E+00	0.0443	1.78E+01	7	U	8.85E-06
041M48010	Carbon disulfide	1/22/1996	75150		0.0443		7	U	
041M48010	Carbon tetrachloride	1/22/1996	56235	7.73E+00	0.0443	3.43E+01	7	U	4.61E-06
041M48010	Chlorobenzene	1/22/1996	108907	5.59E+00	0.0443	2.47E+01	7	U	6.39E-06
041M48010	Chloroethane	1/22/1996	75003		0.0443		7	U	
041M48010	Chloroform	1/22/1996	67663	5.59E+00	0.0443	2.47E+01	7	U	6.38E-06
041M48010	Chloromethane	1/22/1996	74873	2.12E+00	0.0443	9.40E+00	7	U	1.68E-05
041M48010	cis-1,3-Dichloropropene	1/22/1996	10061015		0.0443		7	U	
041M48010	Dibromochloromethane	1/22/1996	124481		0.0443		7	U	
041M48010	Ethylbenzene	1/22/1996	100414	9.64E+00	0.0443	4.27E+01	7	U	3.70E-06
041M48010	Methylene chloride	1/22/1996	75092	3.73E+00	0.0443	1.65E+01	7	U	9.57E-06
041M48010	Styrene	1/22/1996	100425	9.18E+00	0.0443	4.07E+01	7	U	3.89E-06
041M48010	Tetrachloroethene	1/22/1996	127184	8.83E+00	0.0443	3.91E+01	7	U	4.04E-06
041M48010	Toluene	1/22/1996	108883	8.05E+00	0.0443	3.56E+01	7	U	4.43E-06
041M48010	trans-1,3-Dichloropropene	1/22/1996	10061026		0.0443		7	U	
041M48010	Trichloroethene	1/22/1996	79016	6.65E+00	0.0443	2.95E+01	7	U	5.36E-06
041M48010	Vinyl chloride	1/22/1996	75014		0.0443		2	U	
041M48010	Xylene (Total)	1/22/1996	1330207	9.70E+00	0.0443	4.30E+01	7	U	3.68E-06

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 19 Phase: 2 Wetland: 49 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M49010	1,1,1-Trichloroethane	1/16/1996	71556	6.50E+00	0.00811	5.28E+00	32.5	U	7.60E-04
041M49010	1,1,2,2-Tetrachloroethane	1/16/1996	79345	8.13E+00	0.00811	6.60E+00	32.5	U	6.07E-04
041M49010	1,1,2-Trichloroethane	1/16/1996	79005	6.24E+00	0.00811	5.06E+00	32.5	U	7.92E-04
041M49010	1,1-Dichloroethane	1/16/1996	75343		0.00811		32.5	U	
041M49010	1,1-Dichloroethene	1/16/1996	75354	4.65E+00	0.00811	3.77E+00	32.5	U	1.06E-03
041M49010	1,2-Dichloroethane	1/16/1996	107062	4.43E+00	0.00811	3.59E+00	32.5	U	1.12E-03
041M49010	1,2-Dichloroethene (total)	1/16/1996	540590	4.61E+00	0.00811	3.74E+00	32.5	U	1.07E-03
041M49010	1,2-Dichloropropane	1/16/1996	78875	5.26E+00	0.00811	4.27E+00	32.5	U	9.39E-04
041M49010	2-Butanone (MEK)	1/16/1996	78933	2.93E+00	0.00811	2.38E+00	32.5	U	1.69E-03
041M49010	2-Hexanone	1/16/1996	591786	4.43E+00	0.00811	3.59E+00	32.5	U	1.12E-03
041M49010	4-Methyl-2-Pentanone (MIBK)	1/16/1996	108101	4.38E+00	0.00811	3.55E+00	32.5	U	1.13E-03
041M49010	Acetone	1/16/1996	67641	1.34E+01	0.00811	1.09E+01	32.5	U	3.69E-04
041M49010	Benzene	1/16/1996	71432	6.46E+00	0.00811	5.24E+00	32.5	U	7.65E-04
041M49010	Bromodichloromethane	1/16/1996	75274		0.00811		32.5	U	
041M49010	Bromoform	1/16/1996	75252	1.22E+01	0.00811	9.88E+00	32.5	U	4.06E-04
041M49010	Bromomethane	1/16/1996	74839	4.03E+00	0.00811	3.27E+00	32.5	U	1.23E-03
041M49010	Carbon disulfide	1/16/1996	75150		0.00811		32.5	U	
041M49010	Carbon tetrachloride	1/16/1996	56235	7.73E+00	0.00811	6.27E+00	32.5	U	6.39E-04
041M49010	Chlorobenzene	1/16/1996	108907	5.59E+00	0.00811	4.53E+00	32.5	U	8.85E-04
041M49010	Chloroethane	1/16/1996	75003		0.00811		32.5	U	
041M49010	Chloroform	1/16/1996	67663	5.59E+00	0.00811	4.53E+00	32.5	U	8.84E-04
041M49010	Chloromethane	1/16/1996	74873	2.12E+00	0.00811	1.72E+00	32.5	U	2.33E-03
041M49010	cis-1,3-Dichloropropene	1/16/1996	10061015		0.00811		32.5	U	
041M49010	Dibromochloromethane	1/16/1996	124481		0.00811		32.5	U	
041M49010	Ethylbenzene	1/16/1996	100414	9.64E+00	0.00811	7.82E+00	32.5	U	5.13E-04
041M49010	Methylene chloride	1/16/1996	75092	3.73E+00	0.00811	3.02E+00	32.5	U	1.33E-03
041M49010	Styrene	1/16/1996	100425	9.18E+00	0.00811	7.44E+00	32.5	U	5.38E-04
041M49010	Tetrachloroethene	1/16/1996	127184	8.83E+00	0.00811	7.16E+00	32.5	U	5.60E-04
041M49010	Toluene	1/16/1996	108883	8.05E+00	0.00811	6.53E+00	32.5	U	6.14E-04
041M49010	trans-1,3-Dichloropropene	1/16/1996	10061026		0.00811		32.5	U	
041M49010	Trichloroethene	1/16/1996	79016	6.65E+00	0.00811	5.40E+00	32.5	U	7.43E-04
041M49010	Vinyl chloride	1/16/1996	75014		0.00811		9.5	U	
041M49010	Xylene (Total)	1/16/1996	1330207	9.70E+00	0.00811	7.86E+00	32.5	U	5.10E-04
041M49020	1,1,1-Trichloroethane	1/16/1996	71556	6.50E+00	0.0126	8.20E+00	6.5	U	6.29E-05
041M49020	1,1,2,2-Tetrachloroethane	1/16/1996	79345	8.13E+00	0.0126	1.02E+01	6.5	U	5.03E-05
041M49020	1,1,2-Trichloroethane	1/16/1996	79005	6.24E+00	0.0126	7.87E+00	6.5	U	6.56E-05
041M49020	1,1-Dichloroethane	1/16/1996	75343		0.0126		6.5	U	
041M49020	1,1-Dichloroethene	1/16/1996	75354	4.65E+00	0.0126	5.86E+00	6.5	U	8.81E-05
041M49020	1,2-Dichloroethane	1/16/1996	107062	4.43E+00	0.0126	5.58E+00	6.5	U	9.24E-05
041M49020	1,2-Dichloroethene (total)	1/16/1996	540590	4.61E+00	0.0126	5.81E+00	6.5	U	8.88E-05

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 19 Phase: 2 Wetland: 49 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M49020	1,2-Dichloropropane	1/16/1996	78875	5.26E+00	0.0126	6.63E+00	6.5	U	7.78E-05
041M49020	2-Butanone (MEK)	1/16/1996	78933	2.93E+00	0.0126	3.69E+00	6.5	U	1.40E-04
041M49020	2-Hexanone	1/16/1996	591786	4.43E+00	0.0126	5.58E+00	6.5	U	9.24E-05
041M49020	4-Methyl-2-Pentanone (MIBK)	1/16/1996	108101	4.38E+00	0.0126	5.52E+00	6.5	U	9.34E-05
041M49020	Acetone	1/16/1996	67641	1.34E+01	0.0126	1.69E+01	7	U	3.29E-05
041M49020	Benzene	1/16/1996	71432	6.46E+00	0.0126	8.14E+00	6.5	U	6.34E-05
041M49020	Bromodichloromethane	1/16/1996	75274		0.0126		6.5	U	
041M49020	Bromoform	1/16/1996	75252	1.22E+01	0.0126	1.54E+01	6.5	U	3.36E-05
041M49020	Bromomethane	1/16/1996	74839	4.03E+00	0.0126	5.08E+00	6.5	U	1.02E-04
041M49020	Carbon disulfide	1/16/1996	75150		0.0126		6.5	U	
041M49020	Carbon tetrachloride	1/16/1996	56235	7.73E+00	0.0126	9.74E+00	6.5	U	5.29E-05
041M49020	Chlorobenzene	1/16/1996	108907	5.59E+00	0.0126	7.04E+00	6.5	U	7.33E-05
041M49020	Chloroethane	1/16/1996	75003		0.0126		6.5	U	
041M49020	Chloroform	1/16/1996	67663	5.59E+00	0.0126	7.04E+00	6.5	U	7.33E-05
041M49020	Chloromethane	1/16/1996	74873	2.12E+00	0.0126	2.67E+00	6.5	U	1.93E-04
041M49020	cis-1,3-Dichloropropene	1/16/1996	10061015		0.0126		6.5	U	
041M49020	Dibromochloromethane	1/16/1996	124481		0.0126		6.5	U	
041M49020	Ethylbenzene	1/16/1996	100414	9.64E+00	0.0126	1.21E+01	6.5	U	4.25E-05
041M49020	Methylene chloride	1/16/1996	75092	3.73E+00	0.0126	4.70E+00	6.5	U	1.10E-04
041M49020	Styrene	1/16/1996	100425	9.18E+00	0.0126	1.16E+01	6.5	U	4.46E-05
041M49020	Tetrachloroethene	1/16/1996	127184	8.83E+00	0.0126	1.11E+01	6.5	U	4.64E-05
041M49020	Toluene	1/16/1996	108883	8.05E+00	0.0126	1.01E+01	6.5	U	5.09E-05
041M49020	trans-1,3-Dichloropropene	1/16/1996	10061026		0.0126		6.5	U	
041M49020	Trichloroethene	1/16/1996	79016	6.65E+00	0.0126	8.38E+00	6.5	U	6.15E-05
041M49020	Vinyl chloride	1/16/1996	75014		0.0126		2	U	
041M49020	Xylene (Total)	1/16/1996	1330207	9.70E+00	0.0126	1.22E+01	6.5	U	4.22E-05
041M49030	1,1,1-Trichloroethane	1/16/1996	71556	6.50E+00	0.0148	9.63E+00	7.5	U	5.26E-05
041M49030	1,1,2,2-Tetrachloroethane	1/16/1996	79345	8.13E+00	0.0148	1.20E+01	7.5	U	4.21E-05
041M49030	1,1,2-Trichloroethane	1/16/1996	79005	6.24E+00	0.0148	9.24E+00	7.5	U	5.48E-05
041M49030	1,1-Dichloroethane	1/16/1996	75343		0.0148		7.5	U	
041M49030	1,1-Dichloroethene	1/16/1996	75354	4.65E+00	0.0148	6.88E+00	7.5	U	7.37E-05
041M49030	1,2-Dichloroethane	1/16/1996	107062	4.43E+00	0.0148	6.55E+00	7.5	U	7.73E-05
041M49030	1,2-Dichloroethene (total)	1/16/1996	540590	4.61E+00	0.0148	6.83E+00	7.5	U	7.42E-05
041M49030	1,2-Dichloropropane	1/16/1996	78875	5.26E+00	0.0148	7.79E+00	7.5	U	6.50E-05
041M49030	2-Butanone (MEK)	1/16/1996	78933	2.93E+00	0.0148	4.33E+00	7.5	U	1.17E-04
041M49030	2-Hexanone	1/16/1996	591786	4.43E+00	0.0148	6.56E+00	7.5	U	7.73E-05
041M49030	4-Methyl-2-Pentanone (MIBK)	1/16/1996	108101	4.38E+00	0.0148	6.49E+00	7.5	U	7.81E-05
041M49030	Acetone	1/16/1996	67641	1.34E+01	0.0148	1.98E+01	11.5	U	3.92E-05
041M49030	Benzene	1/16/1996	71432	6.46E+00	0.0148	9.56E+00	7.5	U	5.30E-05
041M49030	Bromodichloromethane	1/16/1996	75274		0.0148		7.5	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 19 **Phase: 2** **Wetland: 49** **Fresh/Salt: F**

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M49030	Bromoform	1/16/1996	75252	1.22E+01	0.0148	1.80E+01	7.5	U	2.81E-05
041M49030	Bromomethane	1/16/1996	74839	4.03E+00	0.0148	5.96E+00	7.5	U	8.50E-05
041M49030	Carbon disulfide	1/16/1996	75150		0.0148		7.5	U	
041M49030	Carbon tetrachloride	1/16/1996	56235	7.73E+00	0.0148	1.14E+01	7.5	U	4.43E-05
041M49030	Chlorobenzene	1/16/1996	108907	5.59E+00	0.0148	8.27E+00	7.5	U	6.13E-05
041M49030	Chloroethane	1/16/1996	75003		0.0148		7.5	U	
041M49030	Chloroform	1/16/1996	67663	5.59E+00	0.0148	8.27E+00	7.5	U	6.13E-05
041M49030	Chloromethane	1/16/1996	74873	2.12E+00	0.0148	3.14E+00	2	J	4.30E-05
041M49030	cis-1,3-Dichloropropene	1/16/1996	10061015		0.0148		7.5	U	
041M49030	Dibromochloromethane	1/16/1996	124481		0.0148		7.5	U	
041M49030	Ethylbenzene	1/16/1996	100414	9.64E+00	0.0148	1.43E+01	7.5	U	3.55E-05
041M49030	Methylene chloride	1/16/1996	75092	3.73E+00	0.0148	5.52E+00	7.5	U	9.18E-05
041M49030	Styrene	1/16/1996	100425	9.18E+00	0.0148	1.36E+01	7.5	U	3.73E-05
041M49030	Tetrachloroethene	1/16/1996	127184	8.83E+00	0.0148	1.31E+01	7.5	U	3.88E-05
041M49030	Toluene	1/16/1996	108883	8.05E+00	0.0148	1.19E+01	7.5	U	4.25E-05
041M49030	trans-1,3-Dichloropropene	1/16/1996	10061026		0.0148		7.5	U	
041M49030	Trichloroethene	1/16/1996	79016	6.65E+00	0.0148	9.85E+00	7.5	U	5.15E-05
041M49030	Vinyl chloride	1/16/1996	75014		0.0148		2	U	
041M49030	Xylene (Total)	1/16/1996	1330207	9.70E+00	0.0148	1.43E+01	7.5	U	3.53E-05

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 20 Phase: 2 Wetland: 52 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M52A10	1,1,1-Trichloroethane	1/23/1996	71556	6.50E+00	0.468	3.04E+02	35.5	U	2.49E-07
041M52A10	1,1,2,2-Tetrachloroethane	1/23/1996	79345	8.13E+00	0.468	3.81E+02	35.5	UJ	1.99E-07
041M52A10	1,1,2-Trichloroethane	1/23/1996	79005	6.24E+00	0.468	2.92E+02	35.5	U	2.60E-07
041M52A10	1,1-Dichloroethane	1/23/1996	75343		0.468		35.5	U	
041M52A10	1,1-Dichloroethene	1/23/1996	75354	4.65E+00	0.468	2.18E+02	35.5	U	3.49E-07
041M52A10	1,2-Dichloroethane	1/23/1996	107062	4.43E+00	0.468	2.07E+02	35.5	U	3.66E-07
041M52A10	1,2-Dichloroethene (total)	1/23/1996	540590	4.61E+00	0.468	2.16E+02	35.5	U	3.51E-07
041M52A10	1,2-Dichloropropane	1/23/1996	78875	5.26E+00	0.468	2.46E+02	35.5	U	3.08E-07
041M52A10	2-Butanone (MEK)	1/23/1996	78933	2.93E+00	0.468	1.37E+02	35.5	U	5.53E-07
041M52A10	2-Hexanone	1/23/1996	591786	4.43E+00	0.468	2.07E+02	35.5	UJ	3.66E-07
041M52A10	4-Methyl-2-Pentanone (MIBK)	1/23/1996	108101	4.38E+00	0.468	2.05E+02	35.5	U	3.70E-07
041M52A10	Acetone	1/23/1996	67641	1.34E+01	0.468	6.26E+02	1300		4.43E-06
041M52A10	Benzene	1/23/1996	71432	6.46E+00	0.468	3.02E+02	35.5	U	2.51E-07
041M52A10	Bromodichloromethane	1/23/1996	75274		0.468		35.5	U	
041M52A10	Bromoform	1/23/1996	75252	1.22E+01	0.468	5.70E+02	35.5	U	1.33E-07
041M52A10	Bromomethane	1/23/1996	74839	4.03E+00	0.468	1.89E+02	35.5	U	4.02E-07
041M52A10	Carbon disulfide	1/23/1996	75150		0.468		35.5	U	
041M52A10	Carbon tetrachloride	1/23/1996	56235	7.73E+00	0.468	3.62E+02	35.5	U	2.10E-07
041M52A10	Chlorobenzene	1/23/1996	108907	5.59E+00	0.468	2.61E+02	35.5	UJ	2.90E-07
041M52A10	Chloroethane	1/23/1996	75003		0.468		35.5	U	
041M52A10	Chloroform	1/23/1996	67663	5.59E+00	0.468	2.61E+02	35.5	U	2.90E-07
041M52A10	Chloromethane	1/23/1996	74873	2.12E+00	0.468	9.93E+01	35.5	U	7.64E-07
041M52A10	cis-1,3-Dichloropropene	1/23/1996	10061015		0.468		35.5	U	
041M52A10	Dibromochloromethane	1/23/1996	124481		0.468		35.5	U	
041M52A10	Ethylbenzene	1/23/1996	100414	9.64E+00	0.468	4.51E+02	35.5	UJ	1.68E-07
041M52A10	Methylene chloride	1/23/1996	75092	3.73E+00	0.468	1.74E+02	35.5	U	4.35E-07
041M52A10	Styrene	1/23/1996	100425	9.18E+00	0.468	4.29E+02	35.5	UJ	1.77E-07
041M52A10	Tetrachloroethene	1/23/1996	127184	8.83E+00	0.468	4.13E+02	35.5	UJ	1.84E-07
041M52A10	Toluene	1/23/1996	108883	8.05E+00	0.468	3.77E+02	35.5	UJ	2.01E-07
041M52A10	trans-1,3-Dichloropropene	1/23/1996	10061026		0.468		35.5	U	
041M52A10	Trichloroethene	1/23/1996	79016	6.65E+00	0.468	3.11E+02	35.5	U	2.44E-07
041M52A10	Vinyl chloride	1/23/1996	75014		0.468		10.5	U	
041M52A10	Xylene (Total)	1/23/1996	1330207	9.70E+00	0.468	4.54E+02	35.5	UJ	1.67E-07
041M52D10	1,1,1-Trichloroethane	1/23/1996	71556	6.50E+00	0.0525	3.42E+01	8	U	4.46E-06
041M52D10	1,1,2,2-Tetrachloroethane	1/23/1996	79345	8.13E+00	0.0525	4.27E+01	8	U	3.57E-06
041M52D10	1,1,2-Trichloroethane	1/23/1996	79005	6.24E+00	0.0525	3.28E+01	8	U	4.65E-06
041M52D10	1,1-Dichloroethane	1/23/1996	75343		0.0525		8	U	
041M52D10	1,1-Dichloroethene	1/23/1996	75354	4.65E+00	0.0525	2.44E+01	8	U	6.24E-06
041M52D10	1,2-Dichloroethane	1/23/1996	107062	4.43E+00	0.0525	2.33E+01	8	U	6.55E-06
041M52D10	1,2-Dichloroethene (total)	1/23/1996	540590	4.61E+00	0.0525	2.42E+01	8	U	6.29E-06

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 20 **Phase: 2** **Wetland: 52** **Fresh/Salt: F**

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M52D10	1,2-Dichloropropane	1/23/1996	78875	5.26E+00	0.0525	2.76E+01	8	U	5.51E-06
041M52D10	2-Butanone (MEK)	1/23/1996	78933	2.93E+00	0.0525	1.54E+01	8	U	9.91E-06
041M52D10	2-Hexanone	1/23/1996	591786	4.43E+00	0.0525	2.33E+01	8	U	6.55E-06
041M52D10	4-Methyl-2-Pentanone (MIBK)	1/23/1996	108101	4.38E+00	0.0525	2.30E+01	8	U	6.62E-06
041M52D10	Acetone	1/23/1996	67641	1.34E+01	0.0525	7.03E+01	14.5	U	3.93E-06
041M52D10	Benzene	1/23/1996	71432	6.46E+00	0.0525	3.39E+01	8	U	4.49E-06
041M52D10	Bromodichloromethane	1/23/1996	75274		0.0525		8	U	
041M52D10	Bromoform	1/23/1996	75252	1.22E+01	0.0525	6.40E+01	8	U	2.38E-06
041M52D10	Bromomethane	1/23/1996	74839	4.03E+00	0.0525	2.11E+01	8	U	7.20E-06
041M52D10	Carbon disulfide	1/23/1996	75150		0.0525		8	U	
041M52D10	Carbon tetrachloride	1/23/1996	56235	7.73E+00	0.0525	4.06E+01	8	U	3.75E-06
041M52D10	Chlorobenzene	1/23/1996	108907	5.59E+00	0.0525	2.93E+01	8	U	5.20E-06
041M52D10	Chloroethane	1/23/1996	75003		0.0525		8	U	
041M52D10	Chloroform	1/23/1996	67663	5.59E+00	0.0525	2.93E+01	8	U	5.20E-06
041M52D10	Chloromethane	1/23/1996	74873	2.12E+00	0.0525	1.11E+01	8	U	1.37E-05
041M52D10	cis-1,3-Dichloropropene	1/23/1996	10061015		0.0525		8	U	
041M52D10	Dibromochloromethane	1/23/1996	124481		0.0525		8	U	
041M52D10	Ethylbenzene	1/23/1996	100414	9.64E+00	0.0525	5.06E+01	8	U	3.01E-06
041M52D10	Methylene chloride	1/23/1996	75092	3.73E+00	0.0525	1.96E+01	8	U	7.78E-06
041M52D10	Styrene	1/23/1996	100425	9.18E+00	0.0525	4.82E+01	8	U	3.16E-06
041M52D10	Tetrachloroethene	1/23/1996	127184	8.83E+00	0.0525	4.63E+01	8	U	3.29E-06
041M52D10	Toluene	1/23/1996	108883	8.05E+00	0.0525	4.22E+01	8	U	3.61E-06
041M52D10	trans-1,3-Dichloropropene	1/23/1996	10061026		0.0525		8	U	
041M52D10	Trichloroethene	1/23/1996	79016	6.65E+00	0.0525	3.49E+01	8	U	4.36E-06
041M52D10	Vinyl chloride	1/23/1996	75014		0.0525		2.5	U	
041M52D10	Xylene (Total)	1/23/1996	1330207	9.70E+00	0.0525	5.09E+01	8	U	2.99E-06
041M52E10	1,1,1-Trichloroethane	1/23/1996	71556	6.50E+00	0.0228	1.48E+01	8.5	U	2.51E-05
041M52E10	1,1,2,2-Tetrachloroethane	1/23/1996	79345	8.13E+00	0.0228	1.85E+01	8.5	U	2.01E-05
041M52E10	1,1,2-Trichloroethane	1/23/1996	79005	6.24E+00	0.0228	1.42E+01	8.5	U	2.62E-05
041M52E10	1,1-Dichloroethane	1/23/1996	75343		0.0228		8.5	U	
041M52E10	1,1-Dichloroethene	1/23/1996	75354	4.65E+00	0.0228	1.06E+01	8.5	U	3.52E-05
041M52E10	1,2-Dichloroethane	1/23/1996	107062	4.43E+00	0.0228	1.01E+01	8.5	U	3.69E-05
041M52E10	1,2-Dichloroethene (total)	1/23/1996	540590	4.61E+00	0.0228	1.05E+01	8.5	U	3.54E-05
041M52E10	1,2-Dichloropropane	1/23/1996	78875	5.26E+00	0.0228	1.20E+01	8.5	U	3.11E-05
041M52E10	2-Butanone (MEK)	1/23/1996	78933	2.93E+00	0.0228	6.68E+00	8.5	U	5.58E-05
041M52E10	2-Hexanone	1/23/1996	591786	4.43E+00	0.0228	1.01E+01	8.5	U	3.69E-05
041M52E10	4-Methyl-2-Pentanone (MIBK)	1/23/1996	108101	4.38E+00	0.0228	9.99E+00	8.5	U	3.73E-05
041M52E10	Acetone	1/23/1996	67641	1.34E+01	0.0228	3.05E+01	26	U	3.74E-05
041M52E10	Benzene	1/23/1996	71432	6.46E+00	0.0228	1.47E+01	8.5	U	2.53E-05
041M52E10	Bromodichloromethane	1/23/1996	75274		0.0228		8.5	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 20 Phase: 2 Wetland: 52 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M52E10	Bromoform	1/23/1996	75252	1.22E+01	0.0228	2.78E+01	8.5	U	1.34E-05
041M52E10	Bromomethane	1/23/1996	74839	4.03E+00	0.0228	9.19E+00	8.5	U	4.06E-05
041M52E10	Carbon disulfide	1/23/1996	75150		0.0228		8.5	U	
041M52E10	Carbon tetrachloride	1/23/1996	56235	7.73E+00	0.0228	1.76E+01	8.5	U	2.11E-05
041M52E10	Chlorobenzene	1/23/1996	108907	5.59E+00	0.0228	1.27E+01	8.5	U	2.93E-05
041M52E10	Chloroethane	1/23/1996	75003		0.0228		8.5	U	
041M52E10	Chloroform	1/23/1996	67663	5.59E+00	0.0228	1.27E+01	8.5	U	2.93E-05
041M52E10	Chloromethane	1/23/1996	74873	2.12E+00	0.0228	4.84E+00	8.5	U	7.71E-05
041M52E10	cis-1,3-Dichloropropene	1/23/1996	10061015		0.0228		8.5	U	
041M52E10	Dibromochloromethane	1/23/1996	124481		0.0228		8.5	U	
041M52E10	Ethylbenzene	1/23/1996	100414	9.64E+00	0.0228	2.20E+01	8.5	U	1.70E-05
041M52E10	Methylene chloride	1/23/1996	75092	3.73E+00	0.0228	8.50E+00	8.5	U	4.39E-05
041M52E10	Styrene	1/23/1996	100425	9.18E+00	0.0228	2.09E+01	8.5	U	1.78E-05
041M52E10	Tetrachloroethene	1/23/1996	127184	8.83E+00	0.0228	2.01E+01	8.5	U	1.85E-05
041M52E10	Toluene	1/23/1996	108883	8.05E+00	0.0228	1.83E+01	8.5	U	2.03E-05
041M52E10	trans-1,3-Dichloropropene	1/23/1996	10061026		0.0228		8.5	U	
041M52E10	Trichloroethene	1/23/1996	79016	6.65E+00	0.0228	1.52E+01	8.5	U	2.46E-05
041M52E10	Vinyl chloride	1/23/1996	75014		0.0228		2.5	U	
041M52E10	Xylene (Total)	1/23/1996	1330207	9.70E+00	0.0228	2.21E+01	8.5	U	1.69E-05
041M52E20	1,1,1-Trichloroethane	1/23/1996	71556	6.50E+00	0.221	1.44E+02	22.5	U	7.08E-07
041M52E20	1,1,2,2-Tetrachloroethane	1/23/1996	79345	8.13E+00	0.221	1.80E+02	22.5	UJ	5.66E-07
041M52E20	1,1,2-Trichloroethane	1/23/1996	79005	6.24E+00	0.221	1.38E+02	22.5	U	7.38E-07
041M52E20	1,1-Dichloroethane	1/23/1996	75343		0.221		22.5	U	
041M52E20	1,1-Dichloroethene	1/23/1996	75354	4.65E+00	0.221	1.03E+02	22.5	U	9.91E-07
041M52E20	1,2-Dichloroethane	1/23/1996	107062	4.43E+00	0.221	9.79E+01	22.5	U	1.04E-06
041M52E20	1,2-Dichloroethene (total)	1/23/1996	540590	4.61E+00	0.221	1.02E+02	22.5	U	9.99E-07
041M52E20	1,2-Dichloropropane	1/23/1996	78875	5.26E+00	0.221	1.16E+02	22.5	U	8.75E-07
041M52E20	2-Butanone (MEK)	1/23/1996	78933	2.93E+00	0.221	6.47E+01	22.5	U	1.57E-06
041M52E20	2-Hexanone	1/23/1996	591786	4.43E+00	0.221	9.79E+01	22.5	UJ	1.04E-06
041M52E20	4-Methyl-2-Pentanone (MIBK)	1/23/1996	108101	4.38E+00	0.221	9.69E+01	22.5	U	1.05E-06
041M52E20	Acetone	1/23/1996	67641	1.34E+01	0.221	2.96E+02	100	U	1.53E-06
041M52E20	Benzene	1/23/1996	71432	6.46E+00	0.221	1.43E+02	22.5	U	7.13E-07
041M52E20	Bromodichloromethane	1/23/1996	75274		0.221		22.5	U	
041M52E20	Bromoform	1/23/1996	75252	1.22E+01	0.221	2.69E+02	22.5	U	3.78E-07
041M52E20	Bromomethane	1/23/1996	74839	4.03E+00	0.221	8.90E+01	22.5	U	1.14E-06
041M52E20	Carbon disulfide	1/23/1996	75150		0.221		22.5	U	
041M52E20	Carbon tetrachloride	1/23/1996	56235	7.73E+00	0.221	1.71E+02	22.5	U	5.96E-07
041M52E20	Chlorobenzene	1/23/1996	108907	5.59E+00	0.221	1.23E+02	22.5	UJ	8.25E-07
041M52E20	Chloroethane	1/23/1996	75003		0.221		22.5	U	
041M52E20	Chloroform	1/23/1996	67663	5.59E+00	0.221	1.23E+02	22.5	U	8.25E-07

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 20 Phase: 2 Wetland: 52 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M52E20	Chloromethane	1/23/1996	74873	2.12E+00	0.221	4.69E+01	22.5	U	2.17E-06
041M52E20	cis-1,3-Dichloropropene	1/23/1996	10061015		0.221		22.5	U	
041M52E20	Dibromochloromethane	1/23/1996	124481		0.221		22.5	U	
041M52E20	Ethylbenzene	1/23/1996	100414	9.64E+00	0.221	2.13E+02	22.5	UJ	4.78E-07
041M52E20	Methylene chloride	1/23/1996	75092	3.73E+00	0.221	8.24E+01	22.5	U	1.24E-06
041M52E20	Styrene	1/23/1996	100425	9.18E+00	0.221	2.03E+02	22.5	UJ	5.02E-07
041M52E20	Tetrachloroethene	1/23/1996	127184	8.83E+00	0.221	1.95E+02	22.5	UJ	5.22E-07
041M52E20	Toluene	1/23/1996	108883	8.05E+00	0.221	1.78E+02	21	J	5.34E-07
041M52E20	trans-1,3-Dichloropropene	1/23/1996	10061026		0.221		22.5	U	
041M52E20	Trichloroethene	1/23/1996	79016	6.65E+00	0.221	1.47E+02	22.5	U	6.92E-07
041M52E20	Vinyl chloride	1/23/1996	75014		0.221		7	U	
041M52E20	Xylene (Total)	1/23/1996	1330207	9.70E+00	0.221	2.14E+02	22.5	UJ	4.75E-07
041M52E30	1,1,1-Trichloroethane	1/24/1996	71556	6.50E+00	0.0068	4.42E+00	7	U	2.33E-04
041M52E30	1,1,2,2-Tetrachloroethane	1/24/1996	79345	8.13E+00	0.0068	5.53E+00	7	U	1.86E-04
041M52E30	1,1,2-Trichloroethane	1/24/1996	79005	6.24E+00	0.0068	4.25E+00	7	U	2.42E-04
041M52E30	1,1-Dichloroethane	1/24/1996	75343		0.0068		7	U	
041M52E30	1,1-Dichloroethene	1/24/1996	75354	4.65E+00	0.0068	3.16E+00	7	U	3.26E-04
041M52E30	1,2-Dichloroethane	1/24/1996	107062	4.43E+00	0.0068	3.01E+00	7	U	3.42E-04
041M52E30	1,2-Dichloroethene (total)	1/24/1996	540590	4.61E+00	0.0068	3.14E+00	7	U	3.28E-04
041M52E30	1,2-Dichloropropane	1/24/1996	78875	5.26E+00	0.0068	3.58E+00	7	U	2.88E-04
041M52E30	2-Butanone (MEK)	1/24/1996	78933	2.93E+00	0.0068	1.99E+00	7	U	5.17E-04
041M52E30	2-Hexanone	1/24/1996	591786	4.43E+00	0.0068	3.01E+00	7	U	3.42E-04
041M52E30	4-Methyl-2-Pentanone (MIBK)	1/24/1996	108101	4.38E+00	0.0068	2.98E+00	7	U	3.45E-04
041M52E30	Acetone	1/24/1996	67641	1.34E+01	0.0068	9.10E+00	15.5	U	2.50E-04
041M52E30	Benzene	1/24/1996	71432	6.46E+00	0.0068	4.39E+00	7	U	2.34E-04
041M52E30	Bromodichloromethane	1/24/1996	75274		0.0068		7	U	
041M52E30	Bromoform	1/24/1996	75252	1.22E+01	0.0068	8.29E+00	7	U	1.24E-04
041M52E30	Bromomethane	1/24/1996	74839	4.03E+00	0.0068	2.74E+00	7	U	3.76E-04
041M52E30	Carbon disulfide	1/24/1996	75150		0.0068		7	U	
041M52E30	Carbon tetrachloride	1/24/1996	56235	7.73E+00	0.0068	5.26E+00	7	U	1.96E-04
041M52E30	Chlorobenzene	1/24/1996	108907	5.59E+00	0.0068	3.80E+00	7	U	2.71E-04
041M52E30	Chloroethane	1/24/1996	75003		0.0068		7	U	
041M52E30	Chloroform	1/24/1996	67663	5.59E+00	0.0068	3.80E+00	7	U	2.71E-04
041M52E30	Chloromethane	1/24/1996	74873	2.12E+00	0.0068	1.44E+00	7	U	7.14E-04
041M52E30	cis-1,3-Dichloropropene	1/24/1996	10061015		0.0068		7	U	
041M52E30	Dibromochloromethane	1/24/1996	124481		0.0068		7	U	
041M52E30	Ethylbenzene	1/24/1996	100414	9.64E+00	0.0068	6.55E+00	7	U	1.57E-04
041M52E30	Methylene chloride	1/24/1996	75092	3.73E+00	0.0068	2.54E+00	7	U	4.06E-04
041M52E30	Styrene	1/24/1996	100425	9.18E+00	0.0068	6.24E+00	7	U	1.65E-04
041M52E30	Tetrachloroethene	1/24/1996	127184	8.83E+00	0.0068	6.00E+00	7	U	1.72E-04

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 20 Phase: 2 Wetland: 52 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M52E30	Toluene	1/24/1996	108883	8.05E+00	0.0068	5.47E+00	7	U	1.88E-04
041M52E30	trans-1,3-Dichloropropene	1/24/1996	10061026		0.0068		7	U	
041M52E30	Trichloroethene	1/24/1996	79016	6.65E+00	0.0068	4.52E+00	7	U	2.28E-04
041M52E30	Vinyl chloride	1/24/1996	75014		0.0068		2	U	
041M52E30	Xylene (Total)	1/24/1996	1330207	9.70E+00	0.0068	6.59E+00	7	U	1.56E-04

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 21 Phase: 2 Wetland: 56 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M56A10	1,1,1-Trichloroethane	1/24/1996	71556	6.50E+00	0.0126	8.20E+00	12.5	U	1.21E-04
041M56A10	1,1,2,2-Tetrachloroethane	1/24/1996	79345	8.13E+00	0.0126	1.02E+01	12.5	U	9.68E-05
041M56A10	1,1,2-Trichloroethane	1/24/1996	79005	6.24E+00	0.0126	7.87E+00	12.5	U	1.26E-04
041M56A10	1,1-Dichloroethane	1/24/1996	75343		0.0126		12.5	U	
041M56A10	1,1-Dichloroethene	1/24/1996	75354	4.65E+00	0.0126	5.86E+00	12.5	U	1.69E-04
041M56A10	1,2-Dichloroethane	1/24/1996	107062	4.43E+00	0.0126	5.58E+00	12.5	U	1.78E-04
041M56A10	1,2-Dichloroethene (total)	1/24/1996	540590	4.61E+00	0.0126	5.81E+00	12.5	U	1.71E-04
041M56A10	1,2-Dichloropropane	1/24/1996	78875	5.26E+00	0.0126	6.63E+00	12.5	U	1.50E-04
041M56A10	2-Butanone (MEK)	1/24/1996	78933	2.93E+00	0.0126	3.69E+00	12.5	U	2.69E-04
041M56A10	2-Hexanone	1/24/1996	591786	4.43E+00	0.0126	5.58E+00	12.5	U	1.78E-04
041M56A10	4-Methyl-2-Pentanone (MIBK)	1/24/1996	108101	4.38E+00	0.0126	5.52E+00	12.5	U	1.80E-04
041M56A10	Acetone	1/24/1996	67641	1.34E+01	0.0126	1.69E+01	43.5	U	2.05E-04
041M56A10	Benzene	1/24/1996	71432	6.46E+00	0.0126	8.14E+00	12.5	U	1.22E-04
041M56A10	Bromodichloromethane	1/24/1996	75274		0.0126		12.5	U	
041M56A10	Bromoform	1/24/1996	75252	1.22E+01	0.0126	1.54E+01	12.5	U	6.46E-05
041M56A10	Bromomethane	1/24/1996	74839	4.03E+00	0.0126	5.08E+00	12.5	U	1.95E-04
041M56A10	Carbon disulfide	1/24/1996	75150		0.0126		12.5	U	
041M56A10	Carbon tetrachloride	1/24/1996	56235	7.73E+00	0.0126	9.74E+00	12.5	U	1.02E-04
041M56A10	Chlorobenzene	1/24/1996	108907	5.59E+00	0.0126	7.04E+00	12.5	U	1.41E-04
041M56A10	Chloroethane	1/24/1996	75003		0.0126		12.5	U	
041M56A10	Chloroform	1/24/1996	67663	5.59E+00	0.0126	7.04E+00	12.5	U	1.41E-04
041M56A10	Chloromethane	1/24/1996	74873	2.12E+00	0.0126	2.67E+00	12.5	U	3.71E-04
041M56A10	cis-1,3-Dichloropropene	1/24/1996	10061015		0.0126		12.5	U	
041M56A10	Dibromochloromethane	1/24/1996	124481		0.0126		12.5	U	
041M56A10	Ethylbenzene	1/24/1996	100414	9.64E+00	0.0126	1.21E+01	12.5	U	8.17E-05
041M56A10	Methylene chloride	1/24/1996	75092	3.73E+00	0.0126	4.70E+00	12.5	U	2.11E-04
041M56A10	Styrene	1/24/1996	100425	9.18E+00	0.0126	1.16E+01	12.5	U	8.58E-05
041M56A10	Tetrachloroethene	1/24/1996	127184	8.83E+00	0.0126	1.11E+01	12.5	U	8.92E-05
041M56A10	Toluene	1/24/1996	108883	8.05E+00	0.0126	1.01E+01	12.5	U	9.78E-05
041M56A10	trans-1,3-Dichloropropene	1/24/1996	10061026		0.0126		12.5	U	
041M56A10	Trichloroethene	1/24/1996	79016	6.65E+00	0.0126	8.38E+00	12.5	U	1.18E-04
041M56A10	Vinyl chloride	1/24/1996	75014		0.0126		4	U	
041M56A10	Xylene (Total)	1/24/1996	1330207	9.70E+00	0.0126	1.22E+01	12.5	U	8.12E-05

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 22 Phase: 2 Wetland: 57 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M57010	1,1,1-Trichloroethane	11/29/1995	71556	6.50E+00	0.026	1.69E+01	10.5	U	2.39E-05
041M57010	1,1,2,2-Tetrachloroethane	11/29/1995	79345	8.13E+00	0.026	2.12E+01	10.5	U	1.91E-05
041M57010	1,1,2-Trichloroethane	11/29/1995	79005	6.24E+00	0.026	1.62E+01	10.5	U	2.49E-05
041M57010	1,1-Dichloroethane	11/29/1995	75343		0.026		10.5	U	
041M57010	1,1-Dichloroethene	11/29/1995	75354	4.65E+00	0.026	1.21E+01	10.5	U	3.34E-05
041M57010	1,2-Dichloroethane	11/29/1995	107062	4.43E+00	0.026	1.15E+01	10.5	U	3.51E-05
041M57010	1,2-Dichloroethene (total)	11/29/1995	540590	4.61E+00	0.026	1.20E+01	10.5	U	3.37E-05
041M57010	1,2-Dichloropropane	11/29/1995	78875	5.26E+00	0.026	1.37E+01	10.5	U	2.95E-05
041M57010	2-Butanone (MEK)	11/29/1995	78933	2.93E+00	0.026	7.61E+00	10.5	U	5.30E-05
041M57010	2-Hexanone	11/29/1995	591786	4.43E+00	0.026	1.15E+01	10.5	U	3.51E-05
041M57010	4-Methyl-2-Pentanone (MIBK)	11/29/1995	108101	4.38E+00	0.026	1.14E+01	10.5	U	3.54E-05
041M57010	Acetone	11/29/1995	67641	1.34E+01	0.026	3.48E+01	49		5.42E-05
041M57010	Benzene	11/29/1995	71432	6.46E+00	0.026	1.68E+01	10.5	U	2.40E-05
041M57010	Bromodichloromethane	11/29/1995	75274		0.026		10.5	U	
041M57010	Bromoform	11/29/1995	75252	1.22E+01	0.026	3.17E+01	10.5	U	1.27E-05
041M57010	Bromomethane	11/29/1995	74839	4.03E+00	0.026	1.05E+01	10.5	U	3.86E-05
041M57010	Carbon disulfide	11/29/1995	75150		0.026		10.5	U	
041M57010	Carbon tetrachloride	11/29/1995	56235	7.73E+00	0.026	2.01E+01	10.5	U	2.01E-05
041M57010	Chlorobenzene	11/29/1995	108907	5.59E+00	0.026	1.45E+01	10.5	U	2.78E-05
041M57010	Chloroethane	11/29/1995	75003		0.026		10.5	U	
041M57010	Chloroform	11/29/1995	67663	5.59E+00	0.026	1.45E+01	10.5	U	2.78E-05
041M57010	Chloromethane	11/29/1995	74873	2.12E+00	0.026	5.51E+00	10.5	U	7.32E-05
041M57010	cis-1,3-Dichloropropene	11/29/1995	10061015		0.026		10.5	U	
041M57010	Dibromochloromethane	11/29/1995	124481		0.026		10.5	U	
041M57010	Ethylbenzene	11/29/1995	100414	9.64E+00	0.026	2.51E+01	10.5	U	1.61E-05
041M57010	Methylene chloride	11/29/1995	75092	3.73E+00	0.026	9.69E+00	10.5	U	4.17E-05
041M57010	Styrene	11/29/1995	100425	9.18E+00	0.026	2.39E+01	10.5	U	1.69E-05
041M57010	Tetrachloroethene	11/29/1995	127184	8.83E+00	0.026	2.29E+01	10.5	U	1.76E-05
041M57010	Toluene	11/29/1995	108883	8.05E+00	0.026	2.09E+01	10.5	U	1.93E-05
041M57010	trans-1,3-Dichloropropene	11/29/1995	10061026		0.026		10.5	U	
041M57010	Trichloroethene	11/29/1995	79016	6.65E+00	0.026	1.73E+01	10.5	U	2.33E-05
041M57010	Vinyl chloride	11/29/1995	75014		0.026		3	U	
041M57010	Xylene (Total)	11/29/1995	1330207	9.70E+00	0.026	2.52E+01	10.5	U	1.60E-05

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 23 Phase: 2 Wetland: 58 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M58010	1,1,1-Trichloroethane	1/24/1996	71556	6.50E+00	0.00491	3.19E+00	28	U	1.79E-03
041M58010	1,1,2,2-Tetrachloroethane	1/24/1996	79345	8.13E+00	0.00491	3.99E+00	28	U	1.43E-03
041M58010	1,1,2-Trichloroethane	1/24/1996	79005	6.24E+00	0.00491	3.07E+00	28	U	1.86E-03
041M58010	1,1-Dichloroethane	1/24/1996	75343		0.00491		28	U	
041M58010	1,1-Dichloroethene	1/24/1996	75354	4.65E+00	0.00491	2.28E+00	28	U	2.50E-03
041M58010	1,2-Dichloroethane	1/24/1996	107062	4.43E+00	0.00491	2.17E+00	28	U	2.62E-03
041M58010	1,2-Dichloroethene (total)	1/24/1996	540590	4.61E+00	0.00491	2.26E+00	28	U	2.52E-03
041M58010	1,2-Dichloropropane	1/24/1996	78875	5.26E+00	0.00491	2.58E+00	28	U	2.21E-03
041M58010	2-Butanone (MEK)	1/24/1996	78933	2.93E+00	0.00491	1.44E+00	28	U	3.97E-03
041M58010	2-Hexanone	1/24/1996	591786	4.43E+00	0.00491	2.17E+00	28	U	2.62E-03
041M58010	4-Methyl-2-Pentanone (MIBK)	1/24/1996	108101	4.38E+00	0.00491	2.15E+00	28	U	2.65E-03
041M58010	Acetone	1/24/1996	67641	1.34E+01	0.00491	6.57E+00	520		1.61E-02
041M58010	Benzene	1/24/1996	71432	6.46E+00	0.00491	3.17E+00	28	U	1.80E-03
041M58010	Bromodichloromethane	1/24/1996	75274		0.00491		28	U	
041M58010	Bromoform	1/24/1996	75252	1.22E+01	0.00491	5.98E+00	28	U	9.53E-04
041M58010	Bromomethane	1/24/1996	74839	4.03E+00	0.00491	1.98E+00	28	U	2.88E-03
041M58010	Carbon disulfide	1/24/1996	75150		0.00491		28	U	
041M58010	Carbon tetrachloride	1/24/1996	56235	7.73E+00	0.00491	3.80E+00	28	U	1.50E-03
041M58010	Chlorobenzene	1/24/1996	108907	5.59E+00	0.00491	2.74E+00	28	U	2.08E-03
041M58010	Chloroethane	1/24/1996	75003		0.00491		28	U	
041M58010	Chloroform	1/24/1996	67663	5.59E+00	0.00491	2.74E+00	28	U	2.08E-03
041M58010	Chloromethane	1/24/1996	74873	2.12E+00	0.00491	1.04E+00	28	U	5.48E-03
041M58010	cis-1,3-Dichloropropene	1/24/1996	10061015		0.00491		28	U	
041M58010	Dibromochloromethane	1/24/1996	124481		0.00491		28	U	
041M58010	Ethylbenzene	1/24/1996	100414	9.64E+00	0.00491	4.73E+00	28	U	1.21E-03
041M58010	Methylene chloride	1/24/1996	75092	3.73E+00	0.00491	1.83E+00	28	U	3.11E-03
041M58010	Styrene	1/24/1996	100425	9.18E+00	0.00491	4.51E+00	28	U	1.27E-03
041M58010	Tetrachloroethene	1/24/1996	127184	8.83E+00	0.00491	4.33E+00	28	U	1.32E-03
041M58010	Toluene	1/24/1996	108883	8.05E+00	0.00491	3.95E+00	28	U	1.44E-03
041M58010	trans-1,3-Dichloropropene	1/24/1996	10061026		0.00491		28	U	
041M58010	Trichloroethene	1/24/1996	79016	6.65E+00	0.00491	3.27E+00	28	U	1.75E-03
041M58010	Vinyl chloride	1/24/1996	75014		0.00491		8.5	U	
041M58010	Xylene (Total)	1/24/1996	1330207	9.70E+00	0.00491	4.76E+00	28	U	1.20E-03

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 24 Phase: 2 Wetland: 63A Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M63A10	1,1,1-Trichloroethane	1/18/1996	71556	6.50E+00	0.000873	5.68E-01	6	U	1.21E-02
041M63A10	1,1,2,2-Tetrachloroethane	1/18/1996	79345	8.13E+00	0.000873	7.10E-01	6	U	9.68E-03
041M63A10	1,1,2-Trichloroethane	1/18/1996	79005	6.24E+00	0.000873	5.45E-01	6	U	1.26E-02
041M63A10	1,1-Dichloroethane	1/18/1996	75343		0.000873		6	U	
041M63A10	1,1-Dichloroethene	1/18/1996	75354	4.65E+00	0.000873	4.06E-01	6	U	1.69E-02
041M63A10	1,2-Dichloroethane	1/18/1996	107062	4.43E+00	0.000873	3.87E-01	6	U	1.78E-02
041M63A10	1,2-Dichloroethene (total)	1/18/1996	540590	4.61E+00	0.000873	4.03E-01	6	U	1.71E-02
041M63A10	1,2-Dichloropropane	1/18/1996	78875	5.26E+00	0.000873	4.60E-01	6	U	1.50E-02
041M63A10	2-Butanone (MEK)	1/18/1996	78933	2.93E+00	0.000873	2.56E-01	6	U	2.69E-02
041M63A10	2-Hexanone	1/18/1996	591786	4.43E+00	0.000873	3.87E-01	6	U	1.78E-02
041M63A10	4-Methyl-2-Pentanone (MIBK)	1/18/1996	108101	4.38E+00	0.000873	3.83E-01	6	U	1.80E-02
041M63A10	Acetone	1/18/1996	67641	1.34E+01	0.000873	1.17E+00	6	UJ	5.88E-03
041M63A10	Benzene	1/18/1996	71432	6.46E+00	0.000873	5.64E-01	6	U	1.22E-02
041M63A10	Bromodichloromethane	1/18/1996	75274		0.000873		6	U	
041M63A10	Bromoform	1/18/1996	75252	1.22E+01	0.000873	1.06E+00	6	U	6.46E-03
041M63A10	Bromomethane	1/18/1996	74839	4.03E+00	0.000873	3.52E-01	6	U	1.95E-02
041M63A10	Carbon disulfide	1/18/1996	75150		0.000873		6	U	
041M63A10	Carbon tetrachloride	1/18/1996	56235	7.73E+00	0.000873	6.75E-01	6	U	1.02E-02
041M63A10	Chlorobenzene	1/18/1996	108907	5.59E+00	0.000873	4.88E-01	6	U	1.41E-02
041M63A10	Chloroethane	1/18/1996	75003		0.000873		6	U	
041M63A10	Chloroform	1/18/1996	67663	5.59E+00	0.000873	4.88E-01	6	U	1.41E-02
041M63A10	Chloromethane	1/18/1996	74873	2.12E+00	0.000873	1.85E-01	6	U	3.71E-02
041M63A10	cis-1,3-Dichloropropene	1/18/1996	10061015		0.000873		6	U	
041M63A10	Dibromochloromethane	1/18/1996	124481		0.000873		6	U	
041M63A10	Ethylbenzene	1/18/1996	100414	9.64E+00	0.000873	8.41E-01	6	U	8.17E-03
041M63A10	Methylene chloride	1/18/1996	75092	3.73E+00	0.000873	3.26E-01	6	U	2.11E-02
041M63A10	Styrene	1/18/1996	100425	9.18E+00	0.000873	8.01E-01	6	U	8.58E-03
041M63A10	Tetrachloroethene	1/18/1996	127184	8.83E+00	0.000873	7.70E-01	6	U	8.92E-03
041M63A10	Toluene	1/18/1996	108883	8.05E+00	0.000873	7.03E-01	6	U	9.78E-03
041M63A10	trans-1,3-Dichloropropene	1/18/1996	10061026		0.000873		6	U	
041M63A10	Trichloroethene	1/18/1996	79016	6.65E+00	0.000873	5.81E-01	6	U	1.18E-02
041M63A10	Vinyl chloride	1/18/1996	75014		0.000873		2	U	
041M63A10	Xylene (Total)	1/18/1996	1330207	9.70E+00	0.000873	8.46E-01	6	U	8.12E-03
041M63A20	1,1,1-Trichloroethane	1/18/1996	71556	6.50E+00	0.00169	1.10E+00	6	U	3.23E-03
041M63A20	1,1,2,2-Tetrachloroethane	1/18/1996	79345	8.13E+00	0.00169	1.37E+00	6	U	2.58E-03
041M63A20	1,1,2-Trichloroethane	1/18/1996	79005	6.24E+00	0.00169	1.06E+00	6	U	3.37E-03
041M63A20	1,1-Dichloroethane	1/18/1996	75343		0.00169		6	U	
041M63A20	1,1-Dichloroethene	1/18/1996	75354	4.65E+00	0.00169	7.86E-01	6	U	4.52E-03
041M63A20	1,2-Dichloroethane	1/18/1996	107062	4.43E+00	0.00169	7.48E-01	6	U	4.74E-03
041M63A20	1,2-Dichloroethene (total)	1/18/1996	540590	4.61E+00	0.00169	7.80E-01	6	U	4.55E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 24 Phase: 2 Wetland: 63A Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M63A20	1,2-Dichloropropane	1/18/1996	78875	5.26E+00	0.00169	8.90E-01	6	U	3.99E-03
041M63A20	2-Butanone (MEK)	1/18/1996	78933	2.93E+00	0.00169	4.95E-01	6	U	7.17E-03
041M63A20	2-Hexanone	1/18/1996	591786	4.43E+00	0.00169	7.49E-01	6	U	4.74E-03
041M63A20	4-Methyl-2-Pentanone (MIBK)	1/18/1996	108101	4.38E+00	0.00169	7.41E-01	6	U	4.79E-03
041M63A20	Acetone	1/18/1996	67641	1.34E+01	0.00169	2.26E+00	6	U	1.57E-03
041M63A20	Benzene	1/18/1996	71432	6.46E+00	0.00169	1.09E+00	6	U	3.25E-03
041M63A20	Bromodichloromethane	1/18/1996	75274		0.00169		6	U	
041M63A20	Bromoform	1/18/1996	75252	1.22E+01	0.00169	2.06E+00	6	U	1.72E-03
041M63A20	Bromomethane	1/18/1996	74839	4.03E+00	0.00169	6.81E-01	6	U	5.21E-03
041M63A20	Carbon disulfide	1/18/1996	75150		0.00169		6	U	
041M63A20	Carbon tetrachloride	1/18/1996	56235	7.73E+00	0.00169	1.31E+00	6	U	2.72E-03
041M63A20	Chlorobenzene	1/18/1996	108907	5.59E+00	0.00169	9.44E-01	6	U	3.76E-03
041M63A20	Chloroethane	1/18/1996	75003		0.00169		6	U	
041M63A20	Chloroform	1/18/1996	67663	5.59E+00	0.00169	9.44E-01	6	U	3.76E-03
041M63A20	Chloromethane	1/18/1996	74873	2.12E+00	0.00169	3.58E-01	6	U	9.90E-03
041M63A20	cis-1,3-Dichloropropene	1/18/1996	10061015		0.00169		6	U	
041M63A20	Dibromochloromethane	1/18/1996	124481		0.00169		6	U	
041M63A20	Ethylbenzene	1/18/1996	100414	9.64E+00	0.00169	1.63E+00	6	U	2.18E-03
041M63A20	Methylene chloride	1/18/1996	75092	3.73E+00	0.00169	6.30E-01	6	U	5.63E-03
041M63A20	Styrene	1/18/1996	100425	9.18E+00	0.00169	1.55E+00	6	U	2.29E-03
041M63A20	Tetrachloroethene	1/18/1996	127184	8.83E+00	0.00169	1.49E+00	6	U	2.38E-03
041M63A20	Toluene	1/18/1996	108883	8.05E+00	0.00169	1.36E+00	6	U	2.61E-03
041M63A20	trans-1,3-Dichloropropene	1/18/1996	10061026		0.00169		6	U	
041M63A20	Trichloroethene	1/18/1996	79016	6.65E+00	0.00169	1.12E+00	6	U	3.16E-03
041M63A20	Vinyl chloride	1/18/1996	75014		0.00169		2	U	
041M63A20	Xylene (Total)	1/18/1996	1330207	9.70E+00	0.00169	1.64E+00	6	U	2.17E-03
041M63A30	1,1,1-Trichloroethane	1/18/1996	71556	6.50E+00	0.0423	2.75E+01	9.5	U	8.16E-06
041M63A30	1,1,2,2-Tetrachloroethane	1/18/1996	79345	8.13E+00	0.0423	3.44E+01	9.5	UJ	6.53E-06
041M63A30	1,1,2-Trichloroethane	1/18/1996	79005	6.24E+00	0.0423	2.64E+01	9.5	U	8.50E-06
041M63A30	1,1-Dichloroethane	1/18/1996	75343		0.0423		9.5	U	
041M63A30	1,1-Dichloroethene	1/18/1996	75354	4.65E+00	0.0423	1.97E+01	9.5	U	1.14E-05
041M63A30	1,2-Dichloroethane	1/18/1996	107062	4.43E+00	0.0423	1.87E+01	9.5	U	1.20E-05
041M63A30	1,2-Dichloroethene (total)	1/18/1996	540590	4.61E+00	0.0423	1.95E+01	9.5	U	1.15E-05
041M63A30	1,2-Dichloropropane	1/18/1996	78875	5.26E+00	0.0423	2.23E+01	9.5	U	1.01E-05
041M63A30	2-Butanone (MEK)	1/18/1996	78933	2.93E+00	0.0423	1.24E+01	9.5	U	1.81E-05
041M63A30	2-Hexanone	1/18/1996	591786	4.43E+00	0.0423	1.87E+01	9.5	UJ	1.20E-05
041M63A30	4-Methyl-2-Pentanone (MIBK)	1/18/1996	108101	4.38E+00	0.0423	1.85E+01	9.5	U	1.21E-05
041M63A30	Acetone	1/18/1996	67641	1.34E+01	0.0423	5.66E+01	9.5	U	3.97E-06
041M63A30	Benzene	1/18/1996	71432	6.46E+00	0.0423	2.73E+01	9.5	U	8.22E-06
041M63A30	Bromodichloromethane	1/18/1996	75274		0.0423		9.5	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 24 Phase: 2 Wetland: 63A Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M63A30	Bromoform	1/18/1996	75252	1.22E+01	0.0423	5.15E+01	9.5	U	4.36E-06
041M63A30	Bromomethane	1/18/1996	74839	4.03E+00	0.0423	1.70E+01	9.5	U	1.32E-05
041M63A30	Carbon disulfide	1/18/1996	75150		0.0423		9.5	U	
041M63A30	Carbon tetrachloride	1/18/1996	56235	7.73E+00	0.0423	3.27E+01	9.5	U	6.87E-06
041M63A30	Chlorobenzene	1/18/1996	108907	5.59E+00	0.0423	2.36E+01	9.5	UJ	9.51E-06
041M63A30	Chloroethane	1/18/1996	75003		0.0423		9.5	U	
041M63A30	Chloroform	1/18/1996	67663	5.59E+00	0.0423	2.36E+01	9.5	U	9.50E-06
041M63A30	Chloromethane	1/18/1996	74873	2.12E+00	0.0423	8.97E+00	9.5	U	2.50E-05
041M63A30	cis-1,3-Dichloropropene	1/18/1996	10061015		0.0423		9.5	U	
041M63A30	Dibromochloromethane	1/18/1996	124481		0.0423		9.5	U	
041M63A30	Ethylbenzene	1/18/1996	100414	9.64E+00	0.0423	4.08E+01	9.5	UJ	5.51E-06
041M63A30	Methylene chloride	1/18/1996	75092	3.73E+00	0.0423	1.58E+01	9.5	U	1.42E-05
041M63A30	Styrene	1/18/1996	100425	9.18E+00	0.0423	3.88E+01	9.5	UJ	5.79E-06
041M63A30	Tetrachloroethene	1/18/1996	127184	8.83E+00	0.0423	3.73E+01	9.5	UJ	6.02E-06
041M63A30	Toluene	1/18/1996	108883	8.05E+00	0.0423	3.40E+01	9.5	UJ	6.60E-06
041M63A30	trans-1,3-Dichloropropene	1/18/1996	10061026		0.0423		9.5	U	
041M63A30	Trichloroethene	1/18/1996	79016	6.65E+00	0.0423	2.81E+01	9.5	U	7.98E-06
041M63A30	Vinyl chloride	1/18/1996	75014		0.0423		3	U	
041M63A30	Xylene (Total)	1/18/1996	1330207	9.70E+00	0.0423	4.10E+01	9.5	UJ	5.48E-06
041M63A40	1,1,1-Trichloroethane	1/18/1996	71556	6.50E+00	0.00963	6.26E+00	9	U	1.49E-04
041M63A40	1,1,2,2-Tetrachloroethane	1/18/1996	79345	8.13E+00	0.00963	7.83E+00	9	U	1.19E-04
041M63A40	1,1,2-Trichloroethane	1/18/1996	79005	6.24E+00	0.00963	6.01E+00	9	U	1.55E-04
041M63A40	1,1-Dichloroethane	1/18/1996	75343		0.00963		9	U	
041M63A40	1,1-Dichloroethene	1/18/1996	75354	4.65E+00	0.00963	4.48E+00	9	U	2.09E-04
041M63A40	1,2-Dichloroethane	1/18/1996	107062	4.43E+00	0.00963	4.27E+00	9	U	2.19E-04
041M63A40	1,2-Dichloroethene (total)	1/18/1996	540590	4.61E+00	0.00963	4.44E+00	9	U	2.10E-04
041M63A40	1,2-Dichloropropane	1/18/1996	78875	5.26E+00	0.00963	5.07E+00	9	U	1.84E-04
041M63A40	2-Butanone (MEK)	1/18/1996	78933	2.93E+00	0.00963	2.82E+00	9	U	3.31E-04
041M63A40	2-Hexanone	1/18/1996	591786	4.43E+00	0.00963	4.27E+00	9	U	2.19E-04
041M63A40	4-Methyl-2-Pentanone (MIBK)	1/18/1996	108101	4.38E+00	0.00963	4.22E+00	9	U	2.21E-04
041M63A40	Acetone	1/18/1996	67641	1.34E+01	0.00963	1.29E+01	9	UJ	7.25E-05
041M63A40	Benzene	1/18/1996	71432	6.46E+00	0.00963	6.22E+00	9	U	1.50E-04
041M63A40	Bromodichloromethane	1/18/1996	75274		0.00963		9	U	
041M63A40	Bromoform	1/18/1996	75252	1.22E+01	0.00963	1.17E+01	9	U	7.97E-05
041M63A40	Bromomethane	1/18/1996	74839	4.03E+00	0.00963	3.88E+00	9	U	2.41E-04
041M63A40	Carbon disulfide	1/18/1996	75150		0.00963		9	U	
041M63A40	Carbon tetrachloride	1/18/1996	56235	7.73E+00	0.00963	7.45E+00	9	U	1.25E-04
041M63A40	Chlorobenzene	1/18/1996	108907	5.59E+00	0.00963	5.38E+00	9	U	1.74E-04
041M63A40	Chloroethane	1/18/1996	75003		0.00963		9	U	
041M63A40	Chloroform	1/18/1996	67663	5.59E+00	0.00963	5.38E+00	9	U	1.74E-04

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 24 Phase: 2 Wetland: 63A Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M63A40	Chloromethane	1/18/1996	74873	2.12E+00	0.00963	2.04E+00	9	U	4.58E-04
041M63A40	cis-1,3-Dichloropropene	1/18/1996	10061015		0.00963		9	U	
041M63A40	Dibromochloromethane	1/18/1996	124481		0.00963		9	U	
041M63A40	Ethylbenzene	1/18/1996	100414	9.64E+00	0.00963	9.28E+00	9	U	1.01E-04
041M63A40	Methylene chloride	1/18/1996	75092	3.73E+00	0.00963	3.59E+00	9	U	2.60E-04
041M63A40	Styrene	1/18/1996	100425	9.18E+00	0.00963	8.84E+00	9	U	1.06E-04
041M63A40	Tetrachloroethene	1/18/1996	127184	8.83E+00	0.00963	8.50E+00	9	U	1.10E-04
041M63A40	Toluene	1/18/1996	108883	8.05E+00	0.00963	7.75E+00	9	U	1.21E-04
041M63A40	trans-1,3-Dichloropropene	1/18/1996	10061026		0.00963		9	U	
041M63A40	Trichloroethene	1/18/1996	79016	6.65E+00	0.00963	6.41E+00	9	U	1.46E-04
041M63A40	Vinyl chloride	1/18/1996	75014		0.00963		2.5	U	
041M63A40	Xylene (Total)	1/18/1996	1330207	9.70E+00	0.00963	9.34E+00	9	U	1.00E-04
041M63A50	1,1,1-Trichloroethane	1/18/1996	71556	6.50E+00	0.00165	1.07E+00	6.5	U	3.67E-03
041M63A50	1,1,2,2-Tetrachloroethane	1/18/1996	79345	8.13E+00	0.00165	1.34E+00	6.5	U	2.93E-03
041M63A50	1,1,2-Trichloroethane	1/18/1996	79005	6.24E+00	0.00165	1.03E+00	6.5	U	3.82E-03
041M63A50	1,1-Dichloroethane	1/18/1996	75343		0.00165		6.5	U	
041M63A50	1,1-Dichloroethene	1/18/1996	75354	4.65E+00	0.00165	7.67E-01	6.5	U	5.14E-03
041M63A50	1,2-Dichloroethane	1/18/1996	107062	4.43E+00	0.00165	7.31E-01	6.5	U	5.39E-03
041M63A50	1,2-Dichloroethene (total)	1/18/1996	540590	4.61E+00	0.00165	7.61E-01	6.5	U	5.18E-03
041M63A50	1,2-Dichloropropane	1/18/1996	78875	5.26E+00	0.00165	8.69E-01	6.5	U	4.54E-03
041M63A50	2-Butanone (MEK)	1/18/1996	78933	2.93E+00	0.00165	4.83E-01	6.5	U	8.15E-03
041M63A50	2-Hexanone	1/18/1996	591786	4.43E+00	0.00165	7.31E-01	6.5	U	5.39E-03
041M63A50	4-Methyl-2-Pentanone (MIBK)	1/18/1996	108101	4.38E+00	0.00165	7.23E-01	6.5	U	5.45E-03
041M63A50	Acetone	1/18/1996	67641	1.34E+01	0.00165	2.21E+00	6.5	UJ	1.78E-03
041M63A50	Benzene	1/18/1996	71432	6.46E+00	0.00165	1.07E+00	6.5	U	3.69E-03
041M63A50	Bromodichloromethane	1/18/1996	75274		0.00165		6.5	U	
041M63A50	Bromoform	1/18/1996	75252	1.22E+01	0.00165	2.01E+00	6.5	U	1.96E-03
041M63A50	Bromomethane	1/18/1996	74839	4.03E+00	0.00165	6.65E-01	6.5	U	5.93E-03
041M63A50	Carbon disulfide	1/18/1996	75150		0.00165		6.5	U	
041M63A50	Carbon tetrachloride	1/18/1996	56235	7.73E+00	0.00165	1.28E+00	6.5	U	3.09E-03
041M63A50	Chlorobenzene	1/18/1996	108907	5.59E+00	0.00165	9.22E-01	6.5	U	4.27E-03
041M63A50	Chloroethane	1/18/1996	75003		0.00165		6.5	U	
041M63A50	Chloroform	1/18/1996	67663	5.59E+00	0.00165	9.22E-01	6.5	U	4.27E-03
041M63A50	Chloromethane	1/18/1996	74873	2.12E+00	0.00165	3.50E-01	6.5	U	1.13E-02
041M63A50	cis-1,3-Dichloropropene	1/18/1996	10061015		0.00165		6.5	U	
041M63A50	Dibromochloromethane	1/18/1996	124481		0.00165		6.5	U	
041M63A50	Ethylbenzene	1/18/1996	100414	9.64E+00	0.00165	1.59E+00	6.5	U	2.48E-03
041M63A50	Methylene chloride	1/18/1996	75092	3.73E+00	0.00165	6.15E-01	6.5	U	6.40E-03
041M63A50	Styrene	1/18/1996	100425	9.18E+00	0.00165	1.51E+00	6.5	U	2.60E-03
041M63A50	Tetrachloroethene	1/18/1996	127184	8.83E+00	0.00165	1.46E+00	6.5	U	2.71E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 24 Phase: 2 Wetland: 63A Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M63A50	Toluene	1/18/1996	108883	8.05E+00	0.00165	1.33E+00	6.5	U	2.97E-03
041M63A50	trans-1,3-Dichloropropene	1/18/1996	10061026		0.00165		6.5	U	
041M63A50	Trichloroethene	1/18/1996	79016	6.65E+00	0.00165	1.10E+00	6.5	U	3.59E-03
041M63A50	Vinyl chloride	1/18/1996	75014		0.00165		2	U	
041M63A50	Xylene (Total)	1/18/1996	1330207	9.70E+00	0.00165	1.60E+00	6.5	U	2.46E-03

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 25 Phase: 2 Wetland: 63B Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M63B10	1,1,1-Trichloroethane	1/18/1996	71556	6.50E+00	0.0252	1.64E+01	12	U	2.90E-05
041M63B10	1,1,2,2-Tetrachloroethane	1/18/1996	79345	8.13E+00	0.0252	2.05E+01	12	U	2.32E-05
041M63B10	1,1,2-Trichloroethane	1/18/1996	79005	6.24E+00	0.0252	1.57E+01	12	U	3.03E-05
041M63B10	1,1-Dichloroethane	1/18/1996	75343		0.0252		12	U	
041M63B10	1,1-Dichloroethene	1/18/1996	75354	4.65E+00	0.0252	1.17E+01	12	U	4.06E-05
041M63B10	1,2-Dichloroethane	1/18/1996	107062	4.43E+00	0.0252	1.12E+01	12	U	4.27E-05
041M63B10	1,2-Dichloroethene (total)	1/18/1996	540590	4.61E+00	0.0252	1.16E+01	12	U	4.10E-05
041M63B10	1,2-Dichloropropane	1/18/1996	78875	5.26E+00	0.0252	1.33E+01	12	U	3.59E-05
041M63B10	2-Butanone (MEK)	1/18/1996	78933	2.93E+00	0.0252	7.38E+00	12	U	6.45E-05
041M63B10	2-Hexanone	1/18/1996	591786	4.43E+00	0.0252	1.12E+01	12	U	4.27E-05
041M63B10	4-Methyl-2-Pentanone (MIBK)	1/18/1996	108101	4.38E+00	0.0252	1.10E+01	12	U	4.31E-05
041M63B10	Acetone	1/18/1996	67641	1.34E+01	0.0252	3.37E+01	12	U	1.41E-05
041M63B10	Benzene	1/18/1996	71432	6.46E+00	0.0252	1.63E+01	12	U	2.92E-05
041M63B10	Bromodichloromethane	1/18/1996	75274		0.0252		12	U	
041M63B10	Bromoform	1/18/1996	75252	1.22E+01	0.0252	3.07E+01	12	U	1.55E-05
041M63B10	Bromomethane	1/18/1996	74839	4.03E+00	0.0252	1.02E+01	12	U	4.69E-05
041M63B10	Carbon disulfide	1/18/1996	75150		0.0252		12	U	
041M63B10	Carbon tetrachloride	1/18/1996	56235	7.73E+00	0.0252	1.95E+01	12	U	2.44E-05
041M63B10	Chlorobenzene	1/18/1996	108907	5.59E+00	0.0252	1.41E+01	12	U	3.38E-05
041M63B10	Chloroethane	1/18/1996	75003		0.0252		12	U	
041M63B10	Chloroform	1/18/1996	67663	5.59E+00	0.0252	1.41E+01	12	U	3.38E-05
041M63B10	Chloromethane	1/18/1996	74873	2.12E+00	0.0252	5.35E+00	12	U	8.91E-05
041M63B10	cis-1,3-Dichloropropene	1/18/1996	10061015		0.0252		12	U	
041M63B10	Dibromochloromethane	1/18/1996	124481		0.0252		12	U	
041M63B10	Ethylbenzene	1/18/1996	100414	9.64E+00	0.0252	2.43E+01	12	U	1.96E-05
041M63B10	Methylene chloride	1/18/1996	75092	3.73E+00	0.0252	9.40E+00	12	U	5.07E-05
041M63B10	Styrene	1/18/1996	100425	9.18E+00	0.0252	2.31E+01	12	U	2.06E-05
041M63B10	Tetrachloroethene	1/18/1996	127184	8.83E+00	0.0252	2.22E+01	12	U	2.14E-05
041M63B10	Toluene	1/18/1996	108883	8.05E+00	0.0252	2.03E+01	12	U	2.35E-05
041M63B10	trans-1,3-Dichloropropene	1/18/1996	10061026		0.0252		12	U	
041M63B10	Trichloroethene	1/18/1996	79016	6.65E+00	0.0252	1.68E+01	12	U	2.84E-05
041M63B10	Vinyl chloride	1/18/1996	75014		0.0252		3.5	U	
041M63B10	Xylene (Total)	1/18/1996	1330207	9.70E+00	0.0252	2.44E+01	12	U	1.95E-05
041M63B20	1,1,1-Trichloroethane	1/18/1996	71556	6.50E+00	0.0024	1.56E+00	7.5	U	2.00E-03
041M63B20	1,1,2,2-Tetrachloroethane	1/18/1996	79345	8.13E+00	0.0024	1.95E+00	7.5	U	1.60E-03
041M63B20	1,1,2-Trichloroethane	1/18/1996	79005	6.24E+00	0.0024	1.50E+00	7.5	U	2.09E-03
041M63B20	1,1-Dichloroethane	1/18/1996	75343		0.0024		7.5	U	
041M63B20	1,1-Dichloroethene	1/18/1996	75354	4.65E+00	0.0024	1.12E+00	7.5	U	2.80E-03
041M63B20	1,2-Dichloroethane	1/18/1996	107062	4.43E+00	0.0024	1.06E+00	7.5	U	2.94E-03
041M63B20	1,2-Dichloroethene (total)	1/18/1996	540590	4.61E+00	0.0024	1.11E+00	7.5	U	2.82E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 25 Phase: 2 Wetland: 63B Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M63B20	1,2-Dichloropropane	1/18/1996	78875	5.26E+00	0.0024	1.26E+00	7.5	U	2.47E-03
041M63B20	2-Butanone (MEK)	1/18/1996	78933	2.93E+00	0.0024	7.03E-01	7.5	U	4.45E-03
041M63B20	2-Hexanone	1/18/1996	591786	4.43E+00	0.0024	1.06E+00	7.5	U	2.94E-03
041M63B20	4-Methyl-2-Pentanone (MIBK)	1/18/1996	108101	4.38E+00	0.0024	1.05E+00	7.5	U	2.97E-03
041M63B20	Acetone	1/18/1996	67641	1.34E+01	0.0024	3.21E+00	29.5	U	3.83E-03
041M63B20	Benzene	1/18/1996	71432	6.46E+00	0.0024	1.55E+00	7.5	U	2.02E-03
041M63B20	Bromodichloromethane	1/18/1996	75274		0.0024		7.5	U	
041M63B20	Bromoform	1/18/1996	75252	1.22E+01	0.0024	2.92E+00	7.5	U	1.07E-03
041M63B20	Bromomethane	1/18/1996	74839	4.03E+00	0.0024	9.67E-01	7.5	U	3.23E-03
041M63B20	Carbon disulfide	1/18/1996	75150		0.0024		7.5	U	
041M63B20	Carbon tetrachloride	1/18/1996	56235	7.73E+00	0.0024	1.86E+00	7.5	U	1.68E-03
041M63B20	Chlorobenzene	1/18/1996	108907	5.59E+00	0.0024	1.34E+00	7.5	U	2.33E-03
041M63B20	Chloroethane	1/18/1996	75003		0.0024		7.5	U	
041M63B20	Chloroform	1/18/1996	67663	5.59E+00	0.0024	1.34E+00	7.5	U	2.33E-03
041M63B20	Chloromethane	1/18/1996	74873	2.12E+00	0.0024	5.09E-01	7.5	U	6.14E-03
041M63B20	cis-1,3-Dichloropropene	1/18/1996	10061015		0.0024		7.5	U	
041M63B20	Dibromochloromethane	1/18/1996	124481		0.0024		7.5	U	
041M63B20	Ethylbenzene	1/18/1996	100414	9.64E+00	0.0024	2.31E+00	7.5	U	1.35E-03
041M63B20	Methylene chloride	1/18/1996	75092	3.73E+00	0.0024	8.95E-01	7.5	U	3.49E-03
041M63B20	Styrene	1/18/1996	100425	9.18E+00	0.0024	2.20E+00	7.5	U	1.42E-03
041M63B20	Tetrachloroethene	1/18/1996	127184	8.83E+00	0.0024	2.12E+00	7.5	U	1.48E-03
041M63B20	Toluene	1/18/1996	108883	8.05E+00	0.0024	1.93E+00	7.5	U	1.62E-03
041M63B20	trans-1,3-Dichloropropene	1/18/1996	10061026		0.0024		7.5	U	
041M63B20	Trichloroethene	1/18/1996	79016	6.65E+00	0.0024	1.60E+00	7.5	U	1.96E-03
041M63B20	Vinyl chloride	1/18/1996	75014		0.0024		2	U	
041M63B20	Xylene (Total)	1/18/1996	1330207	9.70E+00	0.0024	2.33E+00	7.5	U	1.34E-03
041M63B30	1,1,1-Trichloroethane	1/18/1996	71556	6.50E+00	0.00143	9.30E-01	6.5	U	4.89E-03
041M63B30	1,1,2,2-Tetrachloroethane	1/18/1996	79345	8.13E+00	0.00143	1.16E+00	6.5	U	3.91E-03
041M63B30	1,1,2-Trichloroethane	1/18/1996	79005	6.24E+00	0.00143	8.93E-01	6.5	U	5.09E-03
041M63B30	1,1-Dichloroethane	1/18/1996	75343		0.00143		6.5	U	
041M63B30	1,1-Dichloroethene	1/18/1996	75354	4.65E+00	0.00143	6.65E-01	6.5	U	6.84E-03
041M63B30	1,2-Dichloroethane	1/18/1996	107062	4.43E+00	0.00143	6.33E-01	6.5	U	7.18E-03
041M63B30	1,2-Dichloroethene (total)	1/18/1996	540590	4.61E+00	0.00143	6.60E-01	6.5	U	6.89E-03
041M63B30	1,2-Dichloropropane	1/18/1996	78875	5.26E+00	0.00143	7.53E-01	6.5	U	6.04E-03
041M63B30	2-Butanone (MEK)	1/18/1996	78933	2.93E+00	0.00143	4.19E-01	6.5	U	1.09E-02
041M63B30	2-Hexanone	1/18/1996	591786	4.43E+00	0.00143	6.33E-01	6.5	U	7.18E-03
041M63B30	4-Methyl-2-Pentanone (MIBK)	1/18/1996	108101	4.38E+00	0.00143	6.27E-01	6.5	U	7.25E-03
041M63B30	Acetone	1/18/1996	67641	1.34E+01	0.00143	1.91E+00	22.5	U	8.22E-03
041M63B30	Benzene	1/18/1996	71432	6.46E+00	0.00143	9.24E-01	6.5	U	4.92E-03
041M63B30	Bromodichloromethane	1/18/1996	75274		0.00143		6.5	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 25 Phase: 2 Wetland: 63B Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M63B30	Bromoform	1/18/1996	75252	1.22E+01	0.00143	1.74E+00	6.5	U	2.61E-03
041M63B30	Bromomethane	1/18/1996	74839	4.03E+00	0.00143	5.76E-01	6.5	U	7.89E-03
041M63B30	Carbon disulfide	1/18/1996	75150		0.00143		6.5	U	
041M63B30	Carbon tetrachloride	1/18/1996	56235	7.73E+00	0.00143	1.11E+00	6.5	U	4.11E-03
041M63B30	Chlorobenzene	1/18/1996	108907	5.59E+00	0.00143	7.99E-01	6.5	U	5.69E-03
041M63B30	Chloroethane	1/18/1996	75003		0.00143		6.5	U	
041M63B30	Chloroform	1/18/1996	67663	5.59E+00	0.00143	7.99E-01	6.5	U	5.69E-03
041M63B30	Chloromethane	1/18/1996	74873	2.12E+00	0.00143	3.03E-01	6.5	U	1.50E-02
041M63B30	cis-1,3-Dichloropropene	1/18/1996	10061015		0.00143		6.5	U	
041M63B30	Dibromochloromethane	1/18/1996	124481		0.00143		6.5	U	
041M63B30	Ethylbenzene	1/18/1996	100414	9.64E+00	0.00143	1.38E+00	6.5	U	3.30E-03
041M63B30	Methylene chloride	1/18/1996	75092	3.73E+00	0.00143	5.33E-01	6.5	U	8.53E-03
041M63B30	Styrene	1/18/1996	100425	9.18E+00	0.00143	1.31E+00	6.5	U	3.46E-03
041M63B30	Tetrachloroethene	1/18/1996	127184	8.83E+00	0.00143	1.26E+00	6.5	U	3.60E-03
041M63B30	Toluene	1/18/1996	108883	8.05E+00	0.00143	1.15E+00	6.5	U	3.95E-03
041M63B30	trans-1,3-Dichloropropene	1/18/1996	10061026		0.00143		6.5	U	
041M63B30	Trichloroethene	1/18/1996	79016	6.65E+00	0.00143	9.51E-01	6.5	U	4.78E-03
041M63B30	Vinyl chloride	1/18/1996	75014		0.00143		2	U	
041M63B30	Xylene (Total)	1/18/1996	1330207	9.70E+00	0.00143	1.39E+00	6.5	U	3.28E-03
041M63B40	1,1,1-Trichloroethane	1/24/1996	71556	6.50E+00	0.00295	1.92E+00	7	U	1.24E-03
041M63B40	1,1,2,2-Tetrachloroethane	1/24/1996	79345	8.13E+00	0.00295	2.40E+00	7	U	9.89E-04
041M63B40	1,1,2-Trichloroethane	1/24/1996	79005	6.24E+00	0.00295	1.84E+00	7	U	1.29E-03
041M63B40	1,1-Dichloroethane	1/24/1996	75343		0.00295		7	U	
041M63B40	1,1-Dichloroethene	1/24/1996	75354	4.65E+00	0.00295	1.37E+00	7	U	1.73E-03
041M63B40	1,2-Dichloroethane	1/24/1996	107062	4.43E+00	0.00295	1.31E+00	7	U	1.82E-03
041M63B40	1,2-Dichloroethene (total)	1/24/1996	540590	4.61E+00	0.00295	1.36E+00	7	U	1.74E-03
041M63B40	1,2-Dichloropropane	1/24/1996	78875	5.26E+00	0.00295	1.55E+00	7	U	1.53E-03
041M63B40	2-Butanone (MEK)	1/24/1996	78933	2.93E+00	0.00295	8.64E-01	7	U	2.75E-03
041M63B40	2-Hexanone	1/24/1996	591786	4.43E+00	0.00295	1.31E+00	7	U	1.82E-03
041M63B40	4-Methyl-2-Pentanone (MIBK)	1/24/1996	108101	4.38E+00	0.00295	1.29E+00	7	U	1.84E-03
041M63B40	Acetone	1/24/1996	67641	1.34E+01	0.00295	3.95E+00	7	U	6.01E-04
041M63B40	Benzene	1/24/1996	71432	6.46E+00	0.00295	1.91E+00	7	U	1.24E-03
041M63B40	Bromodichloromethane	1/24/1996	75274		0.00295		7	U	
041M63B40	Bromoform	1/24/1996	75252	1.22E+01	0.00295	3.59E+00	7	U	6.60E-04
041M63B40	Bromomethane	1/24/1996	74839	4.03E+00	0.00295	1.19E+00	7	U	2.00E-03
041M63B40	Carbon disulfide	1/24/1996	75150		0.00295		7	U	
041M63B40	Carbon tetrachloride	1/24/1996	56235	7.73E+00	0.00295	2.28E+00	7	U	1.04E-03
041M63B40	Chlorobenzene	1/24/1996	108907	5.59E+00	0.00295	1.65E+00	7	U	1.44E-03
041M63B40	Chloroethane	1/24/1996	75003		0.00295		7	U	
041M63B40	Chloroform	1/24/1996	67663	5.59E+00	0.00295	1.65E+00	7	U	1.44E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 25 Phase: 2 Wetland: 63B Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M63B40	Chloromethane	1/24/1996	74873	2.12E+00	0.00295	6.26E-01	7	U	3.79E-03
041M63B40	cis-1,3-Dichloropropene	1/24/1996	10061015		0.00295		7	U	
041M63B40	Dibromochloromethane	1/24/1996	124481		0.00295		7	U	
041M63B40	Ethylbenzene	1/24/1996	100414	9.64E+00	0.00295	2.84E+00	7	U	8.35E-04
041M63B40	Methylene chloride	1/24/1996	75092	3.73E+00	0.00295	1.10E+00	7	U	2.16E-03
041M63B40	Styrene	1/24/1996	100425	9.18E+00	0.00295	2.71E+00	7	U	8.77E-04
041M63B40	Tetrachloroethene	1/24/1996	127184	8.83E+00	0.00295	2.60E+00	7	U	9.11E-04
041M63B40	Toluene	1/24/1996	108883	8.05E+00	0.00295	2.37E+00	7	U	1.00E-03
041M63B40	trans-1,3-Dichloropropene	1/24/1996	10061026		0.00295		7	U	
041M63B40	Trichloroethene	1/24/1996	79016	6.65E+00	0.00295	1.96E+00	7	U	1.21E-03
041M63B40	Vinyl chloride	1/24/1996	75014		0.00295		2	U	
041M63B40	Xylene (Total)	1/24/1996	1330207	9.70E+00	0.00295	2.86E+00	7	U	8.30E-04

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 **Phase: 2** **Wetland: 64** **Fresh/Salt: S**

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64010	1,1,1-Trichloroethane	2/9/1996	71556	6.50E+00	0.00752	4.89E+00	8	U	2.17E-04
041M64010	1,1,2,2-Tetrachloroethane	2/9/1996	79345	8.13E+00	0.00752	6.12E+00	8	U	1.74E-04
041M64010	1,1,2-Trichloroethane	2/9/1996	79005	6.24E+00	0.00752	4.69E+00	8	U	2.27E-04
041M64010	1,1-Dichloroethane	2/9/1996	75343		0.00752		8	U	
041M64010	1,1-Dichloroethene	2/9/1996	75354	4.65E+00	0.00752	3.50E+00	8	U	3.04E-04
041M64010	1,2-Dichloroethane	2/9/1996	107062	4.43E+00	0.00752	3.33E+00	8	U	3.19E-04
041M64010	1,2-Dichloroethene (total)	2/9/1996	540590	4.61E+00	0.00752	3.47E+00	8	U	3.07E-04
041M64010	1,2-Dichloropropane	2/9/1996	78875	5.26E+00	0.00752	3.96E+00	8	U	2.69E-04
041M64010	2-Butanone (MEK)	2/9/1996	78933	2.93E+00	0.00752	2.20E+00	8	U	4.83E-04
041M64010	2-Hexanone	2/9/1996	591786	4.43E+00	0.00752	3.33E+00	8	U	3.19E-04
041M64010	4-Methyl-2-Pentanone (MIBK)	2/9/1996	108101	4.38E+00	0.00752	3.30E+00	8	U	3.23E-04
041M64010	Acetone	2/9/1996	67641	1.34E+01	0.00752	1.01E+01	9.5	U	1.26E-04
041M64010	Benzene	2/9/1996	71432	6.46E+00	0.00752	4.86E+00	8	U	2.19E-04
041M64010	Bromodichloromethane	2/9/1996	75274		0.00752		8	U	
041M64010	Bromoform	2/9/1996	75252	1.22E+01	0.00752	9.16E+00	8	U	1.16E-04
041M64010	Bromomethane	2/9/1996	74839	4.03E+00	0.00752	3.03E+00	8	U	3.51E-04
041M64010	Carbon disulfide	2/9/1996	75150		0.00752		8	U	
041M64010	Carbon tetrachloride	2/9/1996	56235	7.73E+00	0.00752	5.82E+00	8	U	1.83E-04
041M64010	Chlorobenzene	2/9/1996	108907	5.59E+00	0.00752	4.20E+00	8	U	2.53E-04
041M64010	Chloroethane	2/9/1996	75003		0.00752		8	U	
041M64010	Chloroform	2/9/1996	67663	5.59E+00	0.00752	4.20E+00	8	U	2.53E-04
041M64010	Chloromethane	2/9/1996	74873	2.12E+00	0.00752	1.60E+00	8	U	6.67E-04
041M64010	cis-1,3-Dichloropropene	2/9/1996	10061015		0.00752		8	U	
041M64010	Dibromochloromethane	2/9/1996	124481		0.00752		8	U	
041M64010	Ethylbenzene	2/9/1996	100414	9.64E+00	0.00752	7.25E+00	8	U	1.47E-04
041M64010	Methylene chloride	2/9/1996	75092	3.73E+00	0.00752	2.80E+00	8	U	3.79E-04
041M64010	Styrene	2/9/1996	100425	9.18E+00	0.00752	6.90E+00	8	U	1.54E-04
041M64010	Tetrachloroethene	2/9/1996	127184	8.83E+00	0.00752	6.64E+00	8	U	1.60E-04
041M64010	Toluene	2/9/1996	108883	8.05E+00	0.00752	6.05E+00	8	U	1.76E-04
041M64010	trans-1,3-Dichloropropene	2/9/1996	10061026		0.00752		8	U	
041M64010	Trichloroethene	2/9/1996	79016	6.65E+00	0.00752	5.00E+00	8	U	2.13E-04
041M64010	Vinyl chloride	2/9/1996	75014		0.00752		2.5	U	
041M64010	Xylene (Total)	2/9/1996	1330207	9.70E+00	0.00752	7.29E+00	8	U	1.46E-04
041M64020	1,1,1-Trichloroethane	11/15/1995	71556	6.50E+00	0.0442	2.88E+01	6000	U	4.72E-03
041M64020	1,1,2,2-Tetrachloroethane	11/15/1995	79345	8.13E+00	0.0442	3.60E+01	6000	U	3.78E-03
041M64020	1,1,2-Trichloroethane	11/15/1995	79005	6.24E+00	0.0442	2.76E+01	6000	U	4.92E-03
041M64020	1,1-Dichloroethane	11/15/1995	75343		0.0442		6000	U	
041M64020	1,1-Dichloroethene	11/15/1995	75354	4.65E+00	0.0442	2.05E+01	6000	U	6.61E-03
041M64020	1,2-Dichloroethane	11/15/1995	107062	4.43E+00	0.0442	1.96E+01	6000	U	6.93E-03
041M64020	1,2-Dichloroethene (total)	11/15/1995	540590	4.61E+00	0.0442	2.04E+01	6000	U	6.66E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 Phase: 2 Wetland: 64 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64020	1,2-Dichloropropane	11/15/1995	78875	5.26E+00	0.0442	2.33E+01	6000	U	5.83E-03
041M64020	2-Butanone (MEK)	11/15/1995	78933	2.93E+00	0.0442	1.29E+01	6000	U	1.05E-02
041M64020	2-Hexanone	11/15/1995	591786	4.43E+00	0.0442	1.96E+01	6000	U	6.93E-03
041M64020	4-Methyl-2-Pentanone (MIBK)	11/15/1995	108101	4.38E+00	0.0442	1.94E+01	6000	U	7.01E-03
041M64020	Acetone	11/15/1995	67641	1.34E+01	0.0442	5.92E+01	6000	U	2.29E-03
041M64020	Benzene	11/15/1995	71432	6.46E+00	0.0442	2.86E+01	6000	U	4.75E-03
041M64020	Bromodichloromethane	11/15/1995	75274		0.0442		6000	U	
041M64020	Bromoform	11/15/1995	75252	1.22E+01	0.0442	5.39E+01	6000	U	2.52E-03
041M64020	Bromomethane	11/15/1995	74839	4.03E+00	0.0442	1.78E+01	6000	U	7.62E-03
041M64020	Carbon disulfide	11/15/1995	75150		0.0442		3100	U	
041M64020	Carbon tetrachloride	11/15/1995	56235	7.73E+00	0.0442	3.42E+01	6000	U	3.97E-03
041M64020	Chlorobenzene	11/15/1995	108907	5.59E+00	0.0442	2.47E+01	6000	U	5.50E-03
041M64020	Chloroethane	11/15/1995	75003		0.0442		6000	U	
041M64020	Chloroform	11/15/1995	67663	5.59E+00	0.0442	2.47E+01	6000	U	5.50E-03
041M64020	Chloromethane	11/15/1995	74873	2.12E+00	0.0442	9.38E+00	6000	U	1.45E-02
041M64020	cis-1,3-Dichloropropene	11/15/1995	10061015		0.0442		6000	U	
041M64020	Dibromochloromethane	11/15/1995	124481		0.0442		6000	U	
041M64020	Ethylbenzene	11/15/1995	100414	9.64E+00	0.0442	4.26E+01	6000	U	3.19E-03
041M64020	Methylene chloride	11/15/1995	75092	3.73E+00	0.0442	1.65E+01	7000	U	9.61E-03
041M64020	Styrene	11/15/1995	100425	9.18E+00	0.0442	4.06E+01	6000	U	3.35E-03
041M64020	Tetrachloroethene	11/15/1995	127184	8.83E+00	0.0442	3.90E+01	6000	U	3.48E-03
041M64020	Toluene	11/15/1995	108883	8.05E+00	0.0442	3.56E+01	6000	U	3.82E-03
041M64020	trans-1,3-Dichloropropene	11/15/1995	10061026		0.0442		6000	U	
041M64020	Trichloroethene	11/15/1995	79016	6.65E+00	0.0442	2.94E+01	6000	U	4.62E-03
041M64020	Vinyl chloride	11/15/1995	75014		0.0442		6000	U	
041M64020	Xylene (Total)	11/15/1995	1330207	9.70E+00	0.0442	4.29E+01	6000	U	3.17E-03
041M64030	1,1,1-Trichloroethane	11/15/1995	71556	6.50E+00	0.194	1.26E+02	70	U	2.86E-06
041M64030	1,1,2,2-Tetrachloroethane	11/15/1995	79345	8.13E+00	0.194	1.58E+02	70	UJ	2.29E-06
041M64030	1,1,2-Trichloroethane	11/15/1995	79005	6.24E+00	0.194	1.21E+02	70	U	2.98E-06
041M64030	1,1-Dichloroethane	11/15/1995	75343		0.194		70	U	
041M64030	1,1-Dichloroethene	11/15/1995	75354	4.65E+00	0.194	9.02E+01	70	U	4.00E-06
041M64030	1,2-Dichloroethane	11/15/1995	107062	4.43E+00	0.194	8.59E+01	70	U	4.20E-06
041M64030	1,2-Dichloroethene (total)	11/15/1995	540590	4.61E+00	0.194	8.95E+01	70	U	4.03E-06
041M64030	1,2-Dichloropropane	11/15/1995	78875	5.26E+00	0.194	1.02E+02	70	U	3.53E-06
041M64030	2-Butanone (MEK)	11/15/1995	78933	2.93E+00	0.194	5.68E+01	70	U	6.35E-06
041M64030	2-Hexanone	11/15/1995	591786	4.43E+00	0.194	8.59E+01	70	UJ	4.20E-06
041M64030	4-Methyl-2-Pentanone (MIBK)	11/15/1995	108101	4.38E+00	0.194	8.50E+01	70	UJ	4.24E-06
041M64030	Acetone	11/15/1995	67641	1.34E+01	0.194	2.60E+02	390	J	7.74E-06
041M64030	Benzene	11/15/1995	71432	6.46E+00	0.194	1.25E+02	70	U	2.88E-06
041M64030	Bromodichloromethane	11/15/1995	75274		0.194		70	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 **Phase: 2** **Wetland: 64** **Fresh/Salt: S**

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64030	Bromoform	11/15/1995	75252	1.22E+01	0.194	2.36E+02	70	U	1.53E-06
041M64030	Bromomethane	11/15/1995	74839	4.03E+00	0.194	7.82E+01	70	U	4.62E-06
041M64030	Carbon disulfide	11/15/1995	75150		0.194		70	U	
041M64030	Carbon tetrachloride	11/15/1995	56235	7.73E+00	0.194	1.50E+02	70	U	2.40E-06
041M64030	Chlorobenzene	11/15/1995	108907	5.59E+00	0.194	1.08E+02	70	UJ	3.33E-06
041M64030	Chloroethane	11/15/1995	75003		0.194		70	U	
041M64030	Chloroform	11/15/1995	67663	5.59E+00	0.194	1.08E+02	70	U	3.33E-06
041M64030	Chloromethane	11/15/1995	74873	2.12E+00	0.194	4.12E+01	70	U	8.77E-06
041M64030	cis-1,3-Dichloropropene	11/15/1995	10061015		0.194		70	U	
041M64030	Dibromochloromethane	11/15/1995	124481		0.194		70	U	
041M64030	Ethylbenzene	11/15/1995	100414	9.64E+00	0.194	1.87E+02	70	UJ	1.93E-06
041M64030	Methylene chloride	11/15/1995	75092	3.73E+00	0.194	7.23E+01	70	U	4.99E-06
041M64030	Styrene	11/15/1995	100425	9.18E+00	0.194	1.78E+02	70	UJ	2.03E-06
041M64030	Tetrachloroethene	11/15/1995	127184	8.83E+00	0.194	1.71E+02	70	UJ	2.11E-06
041M64030	Toluene	11/15/1995	108883	8.05E+00	0.194	1.56E+02	70	UJ	2.31E-06
041M64030	trans-1,3-Dichloropropene	11/15/1995	10061026		0.194		70	U	
041M64030	Trichloroethene	11/15/1995	79016	6.65E+00	0.194	1.29E+02	70	U	2.80E-06
041M64030	Vinyl chloride	11/15/1995	75014		0.194		21.5	U	
041M64030	Xylene (Total)	11/15/1995	1330207	9.70E+00	0.194	1.88E+02	70	UJ	1.92E-06
041M64040	1,1,1-Trichloroethane	2/9/1996	71556	6.50E+00	0.187	1.22E+02	17	U	7.47E-07
041M64040	1,1,2,2-Tetrachloroethane	2/9/1996	79345	8.13E+00	0.187	1.52E+02	17	U	5.98E-07
041M64040	1,1,2-Trichloroethane	2/9/1996	79005	6.24E+00	0.187	1.17E+02	17	U	7.79E-07
041M64040	1,1-Dichloroethane	2/9/1996	75343		0.187		17	U	
041M64040	1,1-Dichloroethene	2/9/1996	75354	4.65E+00	0.187	8.69E+01	17	U	1.05E-06
041M64040	1,2-Dichloroethane	2/9/1996	107062	4.43E+00	0.187	8.28E+01	17	U	1.10E-06
041M64040	1,2-Dichloroethene (total)	2/9/1996	540590	4.61E+00	0.187	8.63E+01	17	U	1.05E-06
041M64040	1,2-Dichloropropane	2/9/1996	78875	5.26E+00	0.187	9.84E+01	17	U	9.23E-07
041M64040	2-Butanone (MEK)	2/9/1996	78933	2.93E+00	0.187	5.48E+01	17	U	1.66E-06
041M64040	2-Hexanone	2/9/1996	591786	4.43E+00	0.187	8.28E+01	17	U	1.10E-06
041M64040	4-Methyl-2-Pentanone (MIBK)	2/9/1996	108101	4.38E+00	0.187	8.20E+01	17	U	1.11E-06
041M64040	Acetone	2/9/1996	67641	1.34E+01	0.187	2.50E+02	17	U	3.63E-07
041M64040	Benzene	2/9/1996	71432	6.46E+00	0.187	1.21E+02	17	U	7.52E-07
041M64040	Bromodichloromethane	2/9/1996	75274		0.187		17	U	
041M64040	Bromoform	2/9/1996	75252	1.22E+01	0.187	2.28E+02	17	U	3.99E-07
041M64040	Bromomethane	2/9/1996	74839	4.03E+00	0.187	7.53E+01	17	U	1.21E-06
041M64040	Carbon disulfide	2/9/1996	75150		0.187		17	U	
041M64040	Carbon tetrachloride	2/9/1996	56235	7.73E+00	0.187	1.45E+02	17	U	6.29E-07
041M64040	Chlorobenzene	2/9/1996	108907	5.59E+00	0.187	1.04E+02	48		2.46E-06
041M64040	Chloroethane	2/9/1996	75003		0.187		17	U	
041M64040	Chloroform	2/9/1996	67663	5.59E+00	0.187	1.04E+02	17	U	8.70E-07

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 **Phase: 2** **Wetland: 64** **Fresh/Salt: S**

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64040	Chloromethane	2/9/1996	74873	2.12E+00	0.187	3.97E+01	17	U	2.29E-06
041M64040	cis-1,3-Dichloropropene	2/9/1996	10061015		0.187		17	U	
041M64040	Dibromochloromethane	2/9/1996	124481		0.187		17	U	
041M64040	Ethylbenzene	2/9/1996	100414	9.64E+00	0.187	1.80E+02	17	U	5.04E-07
041M64040	Methylene chloride	2/9/1996	75092	3.73E+00	0.187	6.97E+01	17	U	1.30E-06
041M64040	Styrene	2/9/1996	100425	9.18E+00	0.187	1.72E+02	17	U	5.30E-07
041M64040	Tetrachloroethene	2/9/1996	127184	8.83E+00	0.187	1.65E+02	17	U	5.51E-07
041M64040	Toluene	2/9/1996	108883	8.05E+00	0.187	1.50E+02	17	U	6.04E-07
041M64040	trans-1,3-Dichloropropene	2/9/1996	10061026		0.187		17	U	
041M64040	Trichloroethene	2/9/1996	79016	6.65E+00	0.187	1.24E+02	17	U	7.31E-07
041M64040	Vinyl chloride	2/9/1996	75014		0.187		5	U	
041M64040	Xylene (Total)	2/9/1996	1330207	9.70E+00	0.187	1.81E+02	17	U	5.01E-07
041M64050	1,1,1-Trichloroethane	11/15/1995	71556	6.50E+00	0.0835	5.43E+01	13	U	2.87E-06
041M64050	1,1,2,2-Tetrachloroethane	11/15/1995	79345	8.13E+00	0.0835	6.79E+01	13	U	2.29E-06
041M64050	1,1,2-Trichloroethane	11/15/1995	79005	6.24E+00	0.0835	5.21E+01	13	U	2.99E-06
041M64050	1,1-Dichloroethane	11/15/1995	75343		0.0835		13	U	
041M64050	1,1-Dichloroethene	11/15/1995	75354	4.65E+00	0.0835	3.88E+01	13	U	4.01E-06
041M64050	1,2-Dichloroethane	11/15/1995	107062	4.43E+00	0.0835	3.70E+01	13	U	4.21E-06
041M64050	1,2-Dichloroethene (total)	11/15/1995	540590	4.61E+00	0.0835	3.85E+01	13	U	4.04E-06
041M64050	1,2-Dichloropropane	11/15/1995	78875	5.26E+00	0.0835	4.40E+01	13	U	3.54E-06
041M64050	2-Butanone (MEK)	11/15/1995	78933	2.93E+00	0.0835	2.45E+01	13	U	6.37E-06
041M64050	2-Hexanone	11/15/1995	591786	4.43E+00	0.0835	3.70E+01	13	UJ	4.21E-06
041M64050	4-Methyl-2-Pentanone (MIBK)	11/15/1995	108101	4.38E+00	0.0835	3.66E+01	13	U	4.25E-06
041M64050	Acetone	11/15/1995	67641	1.34E+01	0.0835	1.12E+02	13	U	1.39E-06
041M64050	Benzene	11/15/1995	71432	6.46E+00	0.0835	5.40E+01	13	U	2.89E-06
041M64050	Bromodichloromethane	11/15/1995	75274		0.0835		13	U	
041M64050	Bromoform	11/15/1995	75252	1.22E+01	0.0835	1.02E+02	13	U	1.53E-06
041M64050	Bromomethane	11/15/1995	74839	4.03E+00	0.0835	3.36E+01	13	U	4.63E-06
041M64050	Carbon disulfide	11/15/1995	75150		0.0835		13	U	
041M64050	Carbon tetrachloride	11/15/1995	56235	7.73E+00	0.0835	6.46E+01	13	U	2.41E-06
041M64050	Chlorobenzene	11/15/1995	108907	5.59E+00	0.0835	4.66E+01	13	U	3.34E-06
041M64050	Chloroethane	11/15/1995	75003		0.0835		13	U	
041M64050	Chloroform	11/15/1995	67663	5.59E+00	0.0835	4.66E+01	13	U	3.34E-06
041M64050	Chloromethane	11/15/1995	74873	2.12E+00	0.0835	1.77E+01	13	U	8.79E-06
041M64050	cis-1,3-Dichloropropene	11/15/1995	10061015		0.0835		13	U	
041M64050	Dibromochloromethane	11/15/1995	124481		0.0835		13	U	
041M64050	Ethylbenzene	11/15/1995	100414	9.64E+00	0.0835	8.05E+01	13	U	1.93E-06
041M64050	Methylene chloride	11/15/1995	75092	3.73E+00	0.0835	3.11E+01	13	U	5.00E-06
041M64050	Styrene	11/15/1995	100425	9.18E+00	0.0835	7.66E+01	13	U	2.03E-06
041M64050	Tetrachloroethene	11/15/1995	127184	8.83E+00	0.0835	7.37E+01	13	U	2.11E-06

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 Phase: 2 Wetland: 64 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64050	Toluene	11/15/1995	108883	8.05E+00	0.0835	6.72E+01	13	U	2.32E-06
041M64050	trans-1,3-Dichloropropene	11/15/1995	10061026		0.0835		13	U	
041M64050	Trichloroethene	11/15/1995	79016	6.65E+00	0.0835	5.55E+01	13	U	2.80E-06
041M64050	Vinyl chloride	11/15/1995	75014		0.0835		4	U	
041M64050	Xylene (Total)	11/15/1995	1330207	9.70E+00	0.0835	8.10E+01	13	U	1.92E-06
041M64060	1,1,1-Trichloroethane	11/15/1995	71556	6.50E+00	0.0281	1.83E+01	80	U	1.56E-04
041M64060	1,1,2,2-Tetrachloroethane	11/15/1995	79345	8.13E+00	0.0281	2.29E+01	80	U	1.25E-04
041M64060	1,1,2-Trichloroethane	11/15/1995	79005	6.24E+00	0.0281	1.75E+01	80	U	1.62E-04
041M64060	1,1-Dichloroethane	11/15/1995	75343		0.0281		80	U	
041M64060	1,1-Dichloroethene	11/15/1995	75354	4.65E+00	0.0281	1.31E+01	80	U	2.18E-04
041M64060	1,2-Dichloroethane	11/15/1995	107062	4.43E+00	0.0281	1.24E+01	80	U	2.29E-04
041M64060	1,2-Dichloroethene (total)	11/15/1995	540590	4.61E+00	0.0281	1.30E+01	80	U	2.20E-04
041M64060	1,2-Dichloropropane	11/15/1995	78875	5.26E+00	0.0281	1.48E+01	80	U	1.92E-04
041M64060	2-Butanone (MEK)	11/15/1995	78933	2.93E+00	0.0281	8.23E+00	80	U	3.46E-04
041M64060	2-Hexanone	11/15/1995	591786	4.43E+00	0.0281	1.24E+01	80	U	2.29E-04
041M64060	4-Methyl-2-Pentanone (MIBK)	11/15/1995	108101	4.38E+00	0.0281	1.23E+01	80	U	2.31E-04
041M64060	Acetone	11/15/1995	67641	1.34E+01	0.0281	3.76E+01	80	U	7.57E-05
041M64060	Benzene	11/15/1995	71432	6.46E+00	0.0281	1.82E+01	80	U	1.57E-04
041M64060	Bromodichloromethane	11/15/1995	75274		0.0281		80	U	
041M64060	Bromoform	11/15/1995	75252	1.22E+01	0.0281	3.42E+01	80	U	8.32E-05
041M64060	Bromomethane	11/15/1995	74839	4.03E+00	0.0281	1.13E+01	80	U	2.51E-04
041M64060	Carbon disulfide	11/15/1995	75150		0.0281		80	U	
041M64060	Carbon tetrachloride	11/15/1995	56235	7.73E+00	0.0281	2.17E+01	80	U	1.31E-04
041M64060	Chlorobenzene	11/15/1995	108907	5.59E+00	0.0281	1.57E+01	80	U	1.81E-04
041M64060	Chloroethane	11/15/1995	75003		0.0281		80	U	
041M64060	Chloroform	11/15/1995	67663	5.59E+00	0.0281	1.57E+01	80	U	1.81E-04
041M64060	Chloromethane	11/15/1995	74873	2.12E+00	0.0281	5.96E+00	80	U	4.78E-04
041M64060	cis-1,3-Dichloropropene	11/15/1995	10061015		0.0281		80	U	
041M64060	Dibromochloromethane	11/15/1995	124481		0.0281		80	U	
041M64060	Ethylbenzene	11/15/1995	100414	9.64E+00	0.0281	2.71E+01	80	U	1.05E-04
041M64060	Methylene chloride	11/15/1995	75092	3.73E+00	0.0281	1.05E+01	85	U	2.89E-04
041M64060	Styrene	11/15/1995	100425	9.18E+00	0.0281	2.58E+01	80	U	1.10E-04
041M64060	Tetrachloroethene	11/15/1995	127184	8.83E+00	0.0281	2.48E+01	80	U	1.15E-04
041M64060	Toluene	11/15/1995	108883	8.05E+00	0.0281	2.26E+01	80	U	1.26E-04
041M64060	trans-1,3-Dichloropropene	11/15/1995	10061026		0.0281		80	U	
041M64060	Trichloroethene	11/15/1995	79016	6.65E+00	0.0281	1.87E+01	80	U	1.52E-04
041M64060	Vinyl chloride	11/15/1995	75014		0.0281		24.5	U	
041M64060	Xylene (Total)	11/15/1995	1330207	9.70E+00	0.0281	2.72E+01	80	U	1.04E-04
041M64070	1,1,1-Trichloroethane	11/15/1995	71556	6.50E+00	0.00478	3.11E+00	7	U	4.71E-04
041M64070	1,1,2,2-Tetrachloroethane	11/15/1995	79345	8.13E+00	0.00478	3.89E+00	7	U	3.77E-04

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 Phase: 2 Wetland: 64 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64070	1,1,2-Trichloroethane	11/15/1995	79005	6.24E+00	0.00478	2.98E+00	7	U	4.91E-04
041M64070	1,1-Dichloroethane	11/15/1995	75343		0.00478		7	U	
041M64070	1,1-Dichloroethene	11/15/1995	75354	4.65E+00	0.00478	2.22E+00	7	U	6.59E-04
041M64070	1,2-Dichloroethane	11/15/1995	107062	4.43E+00	0.00478	2.12E+00	7	U	6.92E-04
041M64070	1,2-Dichloroethene (total)	11/15/1995	540590	4.61E+00	0.00478	2.20E+00	7	U	6.64E-04
041M64070	1,2-Dichloropropane	11/15/1995	78875	5.26E+00	0.00478	2.52E+00	7	U	5.82E-04
041M64070	2-Butanone (MEK)	11/15/1995	78933	2.93E+00	0.00478	1.40E+00	7	U	1.05E-03
041M64070	2-Hexanone	11/15/1995	591786	4.43E+00	0.00478	2.12E+00	7	U	6.92E-04
041M64070	4-Methyl-2-Pentanone (MIBK)	11/15/1995	108101	4.38E+00	0.00478	2.10E+00	7	U	6.99E-04
041M64070	Acetone	11/15/1995	67641	1.34E+01	0.00478	6.40E+00	25	J	8.17E-04
041M64070	Benzene	11/15/1995	71432	6.46E+00	0.00478	3.09E+00	7	U	4.74E-04
041M64070	Bromodichloromethane	11/15/1995	75274		0.00478		7	U	
041M64070	Bromoform	11/15/1995	75252	1.22E+01	0.00478	5.82E+00	7	U	2.51E-04
041M64070	Bromomethane	11/15/1995	74839	4.03E+00	0.00478	1.93E+00	7	U	7.60E-04
041M64070	Carbon disulfide	11/15/1995	75150		0.00478		7	U	
041M64070	Carbon tetrachloride	11/15/1995	56235	7.73E+00	0.00478	3.70E+00	7	U	3.96E-04
041M64070	Chlorobenzene	11/15/1995	108907	5.59E+00	0.00478	2.67E+00	7	U	5.49E-04
041M64070	Chloroethane	11/15/1995	75003		0.00478		7	U	
041M64070	Chloroform	11/15/1995	67663	5.59E+00	0.00478	2.67E+00	7	U	5.48E-04
041M64070	Chloromethane	11/15/1995	74873	2.12E+00	0.00478	1.01E+00	7	U	1.44E-03
041M64070	cis-1,3-Dichloropropene	11/15/1995	10061015		0.00478		7	U	
041M64070	Dibromochloromethane	11/15/1995	124481		0.00478		7	U	
041M64070	Ethylbenzene	11/15/1995	100414	9.64E+00	0.00478	4.61E+00	7	U	3.18E-04
041M64070	Methylene chloride	11/15/1995	75092	3.73E+00	0.00478	1.78E+00	7	U	8.22E-04
041M64070	Styrene	11/15/1995	100425	9.18E+00	0.00478	4.39E+00	7	U	3.34E-04
041M64070	Tetrachloroethene	11/15/1995	127184	8.83E+00	0.00478	4.22E+00	7	U	3.47E-04
041M64070	Toluene	11/15/1995	108883	8.05E+00	0.00478	3.85E+00	7	U	3.81E-04
041M64070	trans-1,3-Dichloropropene	11/15/1995	10061026		0.00478		7	U	
041M64070	Trichloroethene	11/15/1995	79016	6.65E+00	0.00478	3.18E+00	7	U	4.61E-04
041M64070	Vinyl chloride	11/15/1995	75014		0.00478		2	U	
041M64070	Xylene (Total)	11/15/1995	1330207	9.70E+00	0.00478	4.63E+00	7	U	3.16E-04
041M64080	1,1,1-Trichloroethane	2/1/1996	71556	6.50E+00	0.00851	5.54E+00	6.5	U	1.38E-04
041M64080	1,1,2,2-Tetrachloroethane	2/1/1996	79345	8.13E+00	0.00851	6.92E+00	6.5	U	1.10E-04
041M64080	1,1,2-Trichloroethane	2/1/1996	79005	6.24E+00	0.00851	5.31E+00	6.5	U	1.44E-04
041M64080	1,1-Dichloroethane	2/1/1996	75343		0.00851		6.5	U	
041M64080	1,1-Dichloroethene	2/1/1996	75354	4.65E+00	0.00851	3.96E+00	6.5	U	1.93E-04
041M64080	1,2-Dichloroethane	2/1/1996	107062	4.43E+00	0.00851	3.77E+00	6.5	U	2.03E-04
041M64080	1,2-Dichloroethene (total)	2/1/1996	540590	4.61E+00	0.00851	3.93E+00	6.5	U	1.95E-04
041M64080	1,2-Dichloropropane	2/1/1996	78875	5.26E+00	0.00851	4.48E+00	6.5	U	1.70E-04
041M64080	2-Butanone (MEK)	2/1/1996	78933	2.93E+00	0.00851	2.49E+00	6.5	U	3.06E-04

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 **Phase: 2** **Wetland: 64** **Fresh/Salt: S**

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64080	2-Hexanone	2/1/1996	591786	4.43E+00	0.00851	3.77E+00	6.5	U	2.03E-04
041M64080	4-Methyl-2-Pentanone (MIBK)	2/1/1996	108101	4.38E+00	0.00851	3.73E+00	6.5	U	2.05E-04
041M64080	Acetone	2/1/1996	67641	1.34E+01	0.00851	1.14E+01	6.5	U	6.71E-05
041M64080	Benzene	2/1/1996	71432	6.46E+00	0.00851	5.50E+00	6.5	U	1.39E-04
041M64080	Bromodichloromethane	2/1/1996	75274		0.00851		6.5	U	
041M64080	Bromoform	2/1/1996	75252	1.22E+01	0.00851	1.04E+01	6.5	U	7.37E-05
041M64080	Bromomethane	2/1/1996	74839	4.03E+00	0.00851	3.43E+00	6.5	U	2.23E-04
041M64080	Carbon disulfide	2/1/1996	75150		0.00851		6.5	U	
041M64080	Carbon tetrachloride	2/1/1996	56235	7.73E+00	0.00851	6.58E+00	6.5	U	1.16E-04
041M64080	Chlorobenzene	2/1/1996	108907	5.59E+00	0.00851	4.75E+00	6.5	U	1.61E-04
041M64080	Chloroethane	2/1/1996	75003		0.00851		6.5	U	
041M64080	Chloroform	2/1/1996	67663	5.59E+00	0.00851	4.75E+00	6.5	U	1.61E-04
041M64080	Chloromethane	2/1/1996	74873	2.12E+00	0.00851	1.81E+00	6.5	U	4.23E-04
041M64080	cis-1,3-Dichloropropene	2/1/1996	10061015		0.00851		6.5	U	
041M64080	Dibromochloromethane	2/1/1996	124481		0.00851		6.5	U	
041M64080	Ethylbenzene	2/1/1996	100414	9.64E+00	0.00851	8.20E+00	6.5	U	9.31E-05
041M64080	Methylene chloride	2/1/1996	75092	3.73E+00	0.00851	3.17E+00	6.5	U	2.41E-04
041M64080	Styrene	2/1/1996	100425	9.18E+00	0.00851	7.81E+00	6.5	U	9.78E-05
041M64080	Tetrachloroethene	2/1/1996	127184	8.83E+00	0.00851	7.51E+00	6.5	U	1.02E-04
041M64080	Toluene	2/1/1996	108883	8.05E+00	0.00851	6.85E+00	6.5	U	1.12E-04
041M64080	trans-1,3-Dichloropropene	2/1/1996	10061026		0.00851		6.5	U	
041M64080	Trichloroethene	2/1/1996	79016	6.65E+00	0.00851	5.66E+00	6.5	U	1.35E-04
041M64080	Vinyl chloride	2/1/1996	75014		0.00851		2	U	
041M64080	Xylene (Total)	2/1/1996	1330207	9.70E+00	0.00851	8.25E+00	6.5	U	9.26E-05
041M64090	1,1,1-Trichloroethane	11/15/1995	71556	6.50E+00	0.00162	1.05E+00	6.5	U	3.81E-03
041M64090	1,1,2,2-Tetrachloroethane	11/15/1995	79345	8.13E+00	0.00162	1.32E+00	6.5	U	3.04E-03
041M64090	1,1,2-Trichloroethane	11/15/1995	79005	6.24E+00	0.00162	1.01E+00	6.5	U	3.97E-03
041M64090	1,1-Dichloroethane	11/15/1995	75343		0.00162		6.5	U	
041M64090	1,1-Dichloroethene	11/15/1995	75354	4.65E+00	0.00162	7.53E-01	6.5	U	5.33E-03
041M64090	1,2-Dichloroethane	11/15/1995	107062	4.43E+00	0.00162	7.17E-01	6.5	U	5.59E-03
041M64090	1,2-Dichloroethene (total)	11/15/1995	540590	4.61E+00	0.00162	7.47E-01	6.5	U	5.37E-03
041M64090	1,2-Dichloropropane	11/15/1995	78875	5.26E+00	0.00162	8.53E-01	6.5	U	4.70E-03
041M64090	2-Butanone (MEK)	11/15/1995	78933	2.93E+00	0.00162	4.74E-01	6.5	U	8.46E-03
041M64090	2-Hexanone	11/15/1995	591786	4.43E+00	0.00162	7.18E-01	6.5	U	5.59E-03
041M64090	4-Methyl-2-Pentanone (MIBK)	11/15/1995	108101	4.38E+00	0.00162	7.10E-01	6.5	U	5.65E-03
041M64090	Acetone	11/15/1995	67641	1.34E+01	0.00162	2.17E+00	24	J	6.83E-03
041M64090	Benzene	11/15/1995	71432	6.46E+00	0.00162	1.05E+00	6.5	U	3.83E-03
041M64090	Bromodichloromethane	11/15/1995	75274		0.00162		6.5	U	
041M64090	Bromoform	11/15/1995	75252	1.22E+01	0.00162	1.97E+00	6.5	U	2.03E-03
041M64090	Bromomethane	11/15/1995	74839	4.03E+00	0.00162	6.53E-01	6.5	U	6.15E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 Phase: 2 Wetland: 64 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64090	Carbon disulfide	11/15/1995	75150		0.00162		6.5	U	
041M64090	Carbon tetrachloride	11/15/1995	56235	7.73E+00	0.00162	1.25E+00	6.5	U	3.20E-03
041M64090	Chlorobenzene	11/15/1995	108907	5.59E+00	0.00162	9.05E-01	6.5	U	4.43E-03
041M64090	Chloroethane	11/15/1995	75003		0.00162		6.5	U	
041M64090	Chloroform	11/15/1995	67663	5.59E+00	0.00162	9.05E-01	6.5	U	4.43E-03
041M64090	Chloromethane	11/15/1995	74873	2.12E+00	0.00162	3.44E-01	6.5	U	1.17E-02
041M64090	cis-1,3-Dichloropropene	11/15/1995	10061015		0.00162		6.5	U	
041M64090	Dibromochloromethane	11/15/1995	124481		0.00162		6.5	U	
041M64090	Ethylbenzene	11/15/1995	100414	9.64E+00	0.00162	1.56E+00	6.5	U	2.57E-03
041M64090	Methylene chloride	11/15/1995	75092	3.73E+00	0.00162	6.04E-01	7	U	7.15E-03
041M64090	Styrene	11/15/1995	100425	9.18E+00	0.00162	1.49E+00	6.5	U	2.70E-03
041M64090	Tetrachloroethene	11/15/1995	127184	8.83E+00	0.00162	1.43E+00	6.5	U	2.81E-03
041M64090	Toluene	11/15/1995	108883	8.05E+00	0.00162	1.30E+00	6.5	U	3.08E-03
041M64090	trans-1,3-Dichloropropene	11/15/1995	10061026		0.00162		6.5	U	
041M64090	Trichloroethene	11/15/1995	79016	6.65E+00	0.00162	1.08E+00	6.5	U	3.72E-03
041M64090	Vinyl chloride	11/15/1995	75014		0.00162		2	U	
041M64090	Xylene (Total)	11/15/1995	1330207	9.70E+00	0.00162	1.57E+00	6.5	U	2.55E-03
041M64100	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.0897	5.83E+01	29.5	U	5.64E-06
041M64100	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.0897	7.30E+01	29.5	U	4.51E-06
041M64100	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.0897	5.60E+01	29.5	U	5.87E-06
041M64100	1,1-Dichloroethane	11/16/1995	75343		0.0897		29.5	U	
041M64100	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.0897	4.17E+01	29.5	U	7.89E-06
041M64100	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.0897	3.97E+01	29.5	U	8.28E-06
041M64100	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.0897	4.14E+01	29.5	U	7.95E-06
041M64100	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.0897	4.72E+01	29.5	U	6.96E-06
041M64100	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.0897	2.63E+01	29.5	U	1.25E-05
041M64100	2-Hexanone	11/16/1995	591786	4.43E+00	0.0897	3.97E+01	29.5	U	8.28E-06
041M64100	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.0897	3.93E+01	29.5	U	8.36E-06
041M64100	Acetone	11/16/1995	67641	1.34E+01	0.0897	1.20E+02	150		1.39E-05
041M64100	Benzene	11/16/1995	71432	6.46E+00	0.0897	5.80E+01	29.5	U	5.67E-06
041M64100	Bromodichloromethane	11/16/1995	75274		0.0897		29.5	U	
041M64100	Bromoform	11/16/1995	75252	1.22E+01	0.0897	1.09E+02	29.5	U	3.01E-06
041M64100	Bromomethane	11/16/1995	74839	4.03E+00	0.0897	3.61E+01	29.5	U	9.10E-06
041M64100	Carbon disulfide	11/16/1995	75150		0.0897		29.5	U	
041M64100	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.0897	6.94E+01	29.5	U	4.74E-06
041M64100	Chlorobenzene	11/16/1995	108907	5.59E+00	0.0897	5.01E+01	29.5	U	6.56E-06
041M64100	Chloroethane	11/16/1995	75003		0.0897		29.5	U	
041M64100	Chloroform	11/16/1995	67663	5.59E+00	0.0897	5.01E+01	29.5	U	6.56E-06
041M64100	Chloromethane	11/16/1995	74873	2.12E+00	0.0897	1.90E+01	29.5	U	1.73E-05
041M64100	cis-1,3-Dichloropropene	11/16/1995	10061015		0.0897		29.5	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 Phase: 2 Wetland: 64 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64100	Dibromochloromethane	11/16/1995	124481		0.0897		29.5	U	
041M64100	Ethylbenzene	11/16/1995	100414	9.64E+00	0.0897	8.64E+01	29.5	U	3.80E-06
041M64100	Methylene chloride	11/16/1995	75092	3.73E+00	0.0897	3.34E+01	29.5	U	9.83E-06
041M64100	Styrene	11/16/1995	100425	9.18E+00	0.0897	8.23E+01	29.5	U	4.00E-06
041M64100	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.0897	7.92E+01	29.5	U	4.15E-06
041M64100	Toluene	11/16/1995	108883	8.05E+00	0.0897	7.22E+01	29.5	U	4.56E-06
041M64100	trans-1,3-Dichloropropene	11/16/1995	10061026		0.0897		29.5	U	
041M64100	Trichloroethene	11/16/1995	79016	6.65E+00	0.0897	5.97E+01	29.5	U	5.51E-06
041M64100	Vinyl chloride	11/16/1995	75014		0.0897		9	U	
041M64100	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.0897	8.70E+01	29.5	U	3.78E-06
041M64110	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.0401	2.61E+01	21	U	2.01E-05
041M64110	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.0401	3.26E+01	21	U	1.61E-05
041M64110	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.0401	2.50E+01	21	U	2.09E-05
041M64110	1,1-Dichloroethane	11/16/1995	75343		0.0401		21	U	
041M64110	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.0401	1.86E+01	21	U	2.81E-05
041M64110	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.0401	1.78E+01	21	U	2.95E-05
041M64110	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.0401	1.85E+01	21	U	2.83E-05
041M64110	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.0401	2.11E+01	21	U	2.48E-05
041M64110	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.0401	1.17E+01	21	U	4.46E-05
041M64110	2-Hexanone	11/16/1995	591786	4.43E+00	0.0401	1.78E+01	21	U	2.95E-05
041M64110	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.0401	1.76E+01	21	U	2.98E-05
041M64110	Acetone	11/16/1995	67641	1.34E+01	0.0401	5.37E+01	21	U	9.76E-06
041M64110	Benzene	11/16/1995	71432	6.46E+00	0.0401	2.59E+01	21	U	2.02E-05
041M64110	Bromodichloromethane	11/16/1995	75274		0.0401		21	U	
041M64110	Bromoform	11/16/1995	75252	1.22E+01	0.0401	4.89E+01	21	U	1.07E-05
041M64110	Bromomethane	11/16/1995	74839	4.03E+00	0.0401	1.62E+01	21	U	3.24E-05
041M64110	Carbon disulfide	11/16/1995	75150		0.0401		21	U	
041M64110	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.0401	3.10E+01	21	U	1.69E-05
041M64110	Chlorobenzene	11/16/1995	108907	5.59E+00	0.0401	2.24E+01	21	U	2.34E-05
041M64110	Chloroethane	11/16/1995	75003		0.0401		21	U	
041M64110	Chloroform	11/16/1995	67663	5.59E+00	0.0401	2.24E+01	21	U	2.34E-05
041M64110	Chloromethane	11/16/1995	74873	2.12E+00	0.0401	8.51E+00	21	U	6.16E-05
041M64110	cis-1,3-Dichloropropene	11/16/1995	10061015		0.0401		21	U	
041M64110	Dibromochloromethane	11/16/1995	124481		0.0401		21	U	
041M64110	Ethylbenzene	11/16/1995	100414	9.64E+00	0.0401	3.86E+01	21	U	1.36E-05
041M64110	Methylene chloride	11/16/1995	75092	3.73E+00	0.0401	1.50E+01	21	U	3.50E-05
041M64110	Styrene	11/16/1995	100425	9.18E+00	0.0401	3.68E+01	21	U	1.42E-05
041M64110	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.0401	3.54E+01	21	U	1.48E-05
041M64110	Toluene	11/16/1995	108883	8.05E+00	0.0401	3.23E+01	21	U	1.62E-05
041M64110	trans-1,3-Dichloropropene	11/16/1995	10061026		0.0401		21	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 **Phase: 2** **Wetland: 64** **Fresh/Salt: S**

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64110	Trichloroethene	11/16/1995	79016	6.65E+00	0.0401	2.67E+01	21	U	1.96E-05
041M64110	Vinyl chloride	11/16/1995	75014		0.0401		6.5	U	
041M64110	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.0401	3.89E+01	21	U	1.35E-05
041M64120	1,1,1-Trichloroethane	11/15/1995	71556	6.50E+00	0.00176	1.14E+00	6	U	2.98E-03
041M64120	1,1,2,2-Tetrachloroethane	11/15/1995	79345	8.13E+00	0.00176	1.43E+00	6	U	2.38E-03
041M64120	1,1,2-Trichloroethane	11/15/1995	79005	6.24E+00	0.00176	1.10E+00	6	U	3.10E-03
041M64120	1,1-Dichloroethane	11/15/1995	75343		0.00176		6	U	
041M64120	1,1-Dichloroethene	11/15/1995	75354	4.65E+00	0.00176	8.18E-01	6	U	4.17E-03
041M64120	1,2-Dichloroethane	11/15/1995	107062	4.43E+00	0.00176	7.79E-01	6	U	4.37E-03
041M64120	1,2-Dichloroethene (total)	11/15/1995	540590	4.61E+00	0.00176	8.12E-01	6	U	4.20E-03
041M64120	1,2-Dichloropropane	11/15/1995	78875	5.26E+00	0.00176	9.27E-01	6	U	3.68E-03
041M64120	2-Butanone (MEK)	11/15/1995	78933	2.93E+00	0.00176	5.15E-01	6	U	6.61E-03
041M64120	2-Hexanone	11/15/1995	591786	4.43E+00	0.00176	7.80E-01	6	UJ	4.37E-03
041M64120	4-Methyl-2-Pentanone (MIBK)	11/15/1995	108101	4.38E+00	0.00176	7.71E-01	6	U	4.42E-03
041M64120	Acetone	11/15/1995	67641	1.34E+01	0.00176	2.36E+00	6	U	1.45E-03
041M64120	Benzene	11/15/1995	71432	6.46E+00	0.00176	1.14E+00	6	U	3.00E-03
041M64120	Bromodichloromethane	11/15/1995	75274		0.00176		6	U	
041M64120	Bromoform	11/15/1995	75252	1.22E+01	0.00176	2.14E+00	6	U	1.59E-03
041M64120	Bromomethane	11/15/1995	74839	4.03E+00	0.00176	7.09E-01	6	U	4.81E-03
041M64120	Carbon disulfide	11/15/1995	75150		0.00176		6	U	
041M64120	Carbon tetrachloride	11/15/1995	56235	7.73E+00	0.00176	1.36E+00	6	U	2.50E-03
041M64120	Chlorobenzene	11/15/1995	108907	5.59E+00	0.00176	9.83E-01	6	U	3.47E-03
041M64120	Chloroethane	11/15/1995	75003		0.00176		6	U	
041M64120	Chloroform	11/15/1995	67663	5.59E+00	0.00176	9.83E-01	6	U	3.47E-03
041M64120	Chloromethane	11/15/1995	74873	2.12E+00	0.00176	3.73E-01	6	U	9.13E-03
041M64120	cis-1,3-Dichloropropene	11/15/1995	10061015		0.00176		6	U	
041M64120	Dibromochloromethane	11/15/1995	124481		0.00176		6	U	
041M64120	Ethylbenzene	11/15/1995	100414	9.64E+00	0.00176	1.70E+00	6	U	2.01E-03
041M64120	Methylene chloride	11/15/1995	75092	3.73E+00	0.00176	6.56E-01	8	U	6.93E-03
041M64120	Styrene	11/15/1995	100425	9.18E+00	0.00176	1.61E+00	6	U	2.11E-03
041M64120	Tetrachloroethene	11/15/1995	127184	8.83E+00	0.00176	1.55E+00	6	U	2.19E-03
041M64120	Toluene	11/15/1995	108883	8.05E+00	0.00176	1.42E+00	6	U	2.41E-03
041M64120	trans-1,3-Dichloropropene	11/15/1995	10061026		0.00176		6	U	
041M64120	Trichloroethene	11/15/1995	79016	6.65E+00	0.00176	1.17E+00	6	U	2.91E-03
041M64120	Vinyl chloride	11/15/1995	75014		0.00176		2	U	
041M64120	Xylene (Total)	11/15/1995	1330207	9.70E+00	0.00176	1.71E+00	6	U	2.00E-03
041M64130	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.0761	4.95E+01	35.5	U	9.42E-06
041M64130	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.0761	6.19E+01	35.5	U	7.54E-06
041M64130	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.0761	4.75E+01	35.5	U	9.82E-06
041M64130	1,1-Dichloroethane	11/16/1995	75343		0.0761		35.5	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 Phase: 2 Wetland: 64 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64130	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.0761	3.54E+01	35.5	U	1.32E-05
041M64130	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.0761	3.37E+01	35.5	U	1.38E-05
041M64130	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.0761	3.51E+01	35.5	U	1.33E-05
041M64130	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.0761	4.01E+01	35.5	U	1.16E-05
041M64130	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.0761	2.23E+01	35.5	U	2.09E-05
041M64130	2-Hexanone	11/16/1995	591786	4.43E+00	0.0761	3.37E+01	35.5	U	1.38E-05
041M64130	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.0761	3.34E+01	35.5	U	1.40E-05
041M64130	Acetone	11/16/1995	67641	1.34E+01	0.0761	1.02E+02	91		1.17E-05
041M64130	Benzene	11/16/1995	71432	6.46E+00	0.0761	4.92E+01	35.5	U	9.49E-06
041M64130	Bromodichloromethane	11/16/1995	75274		0.0761		35.5	U	
041M64130	Bromoform	11/16/1995	75252	1.22E+01	0.0761	9.27E+01	35.5	U	5.03E-06
041M64130	Bromomethane	11/16/1995	74839	4.03E+00	0.0761	3.07E+01	35.5	U	1.52E-05
041M64130	Carbon disulfide	11/16/1995	75150		0.0761		35.5	U	
041M64130	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.0761	5.89E+01	35.5	U	7.93E-06
041M64130	Chlorobenzene	11/16/1995	108907	5.59E+00	0.0761	4.25E+01	35.5	U	1.10E-05
041M64130	Chloroethane	11/16/1995	75003		0.0761		35.5	U	
041M64130	Chloroform	11/16/1995	67663	5.59E+00	0.0761	4.25E+01	35.5	U	1.10E-05
041M64130	Chloromethane	11/16/1995	74873	2.12E+00	0.0761	1.61E+01	35.5	U	2.89E-05
041M64130	cis-1,3-Dichloropropene	11/16/1995	10061015		0.0761		35.5	U	
041M64130	Dibromochloromethane	11/16/1995	124481		0.0761		35.5	U	
041M64130	Ethylbenzene	11/16/1995	100414	9.64E+00	0.0761	7.33E+01	35.5	U	6.36E-06
041M64130	Methylene chloride	11/16/1995	75092	3.73E+00	0.0761	2.84E+01	55	U	2.55E-05
041M64130	Styrene	11/16/1995	100425	9.18E+00	0.0761	6.98E+01	35.5	U	6.68E-06
041M64130	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.0761	6.72E+01	35.5	U	6.95E-06
041M64130	Toluene	11/16/1995	108883	8.05E+00	0.0761	6.12E+01	35.5	U	7.62E-06
041M64130	trans-1,3-Dichloropropene	11/16/1995	10061026		0.0761		35.5	U	
041M64130	Trichloroethene	11/16/1995	79016	6.65E+00	0.0761	5.06E+01	35.5	U	9.21E-06
041M64130	Vinyl chloride	11/16/1995	75014		0.0761		10.5	U	
041M64130	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.0761	7.38E+01	35.5	U	6.32E-06
041M64140	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.0687	4.47E+01	28	U	9.12E-06
041M64140	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.0687	5.59E+01	28	U	7.29E-06
041M64140	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.0687	4.29E+01	28	U	9.50E-06
041M64140	1,1-Dichloroethane	11/16/1995	75343		0.0687		28	U	
041M64140	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.0687	3.19E+01	28	U	1.28E-05
041M64140	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.0687	3.04E+01	28	U	1.34E-05
041M64140	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.0687	3.17E+01	28	U	1.29E-05
041M64140	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.0687	3.62E+01	28	U	1.13E-05
041M64140	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.0687	2.01E+01	28	U	2.03E-05
041M64140	2-Hexanone	11/16/1995	591786	4.43E+00	0.0687	3.04E+01	28	U	1.34E-05
041M64140	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.0687	3.01E+01	28	U	1.35E-05

Appendix K:
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Table: 26 Phase: 2 Wetland: 64 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64140	Acetone	11/16/1995	67641	1.34E+01	0.0687	9.20E+01	420		6.65E-05
041M64140	Benzene	11/16/1995	71432	6.46E+00	0.0687	4.44E+01	28	U	9.18E-06
041M64140	Bromodichloromethane	11/16/1995	75274		0.0687		28	U	
041M64140	Bromoform	11/16/1995	75252	1.22E+01	0.0687	8.37E+01	28	U	4.87E-06
041M64140	Bromomethane	11/16/1995	74839	4.03E+00	0.0687	2.77E+01	28	U	1.47E-05
041M64140	Carbon disulfide	11/16/1995	75150		0.0687		28	U	
041M64140	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.0687	5.31E+01	28	U	7.67E-06
041M64140	Chlorobenzene	11/16/1995	108907	5.59E+00	0.0687	3.84E+01	28	U	1.06E-05
041M64140	Chloroethane	11/16/1995	75003		0.0687		28	U	
041M64140	Chloroform	11/16/1995	67663	5.59E+00	0.0687	3.84E+01	28	U	1.06E-05
041M64140	Chloromethane	11/16/1995	74873	2.12E+00	0.0687	1.46E+01	28	U	2.80E-05
041M64140	cis-1,3-Dichloropropene	11/16/1995	10061015		0.0687		28	U	
041M64140	Dibromochloromethane	11/16/1995	124481		0.0687		28	U	
041M64140	Ethylbenzene	11/16/1995	100414	9.64E+00	0.0687	6.62E+01	28	U	6.16E-06
041M64140	Methylene chloride	11/16/1995	75092	3.73E+00	0.0687	2.56E+01	400	J	2.27E-04
041M64140	Styrene	11/16/1995	100425	9.18E+00	0.0687	6.30E+01	28	U	6.47E-06
041M64140	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.0687	6.06E+01	28	U	6.72E-06
041M64140	Toluene	11/16/1995	108883	8.05E+00	0.0687	5.53E+01	28	U	7.37E-06
041M64140	trans-1,3-Dichloropropene	11/16/1995	10061026		0.0687		28	U	
041M64140	Trichloroethene	11/16/1995	79016	6.65E+00	0.0687	4.57E+01	28	U	8.92E-06
041M64140	Vinyl chloride	11/16/1995	75014		0.0687		8.5	U	
041M64140	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.0687	6.66E+01	28	U	6.12E-06
041M64150	1,1,1-Trichloroethane	11/15/1995	71556	6.50E+00	0.00199	1.29E+00	7	U	2.72E-03
041M64150	1,1,2,2-Tetrachloroethane	11/15/1995	79345	8.13E+00	0.00199	1.62E+00	7	U	2.17E-03
041M64150	1,1,2-Trichloroethane	11/15/1995	79005	6.24E+00	0.00199	1.24E+00	7	U	2.83E-03
041M64150	1,1-Dichloroethane	11/15/1995	75343		0.00199		7	U	
041M64150	1,1-Dichloroethene	11/15/1995	75354	4.65E+00	0.00199	9.25E-01	7	U	3.80E-03
041M64150	1,2-Dichloroethane	11/15/1995	107062	4.43E+00	0.00199	8.81E-01	7	U	3.99E-03
041M64150	1,2-Dichloroethene (total)	11/15/1995	540590	4.61E+00	0.00199	9.18E-01	7	U	3.83E-03
041M64150	1,2-Dichloropropane	11/15/1995	78875	5.26E+00	0.00199	1.05E+00	7	U	3.36E-03
041M64150	2-Butanone (MEK)	11/15/1995	78933	2.93E+00	0.00199	5.83E-01	7	U	6.04E-03
041M64150	2-Hexanone	11/15/1995	591786	4.43E+00	0.00199	8.81E-01	7	U	3.99E-03
041M64150	4-Methyl-2-Pentanone (MIBK)	11/15/1995	108101	4.38E+00	0.00199	8.72E-01	7	U	4.03E-03
041M64150	Acetone	11/15/1995	67641	1.34E+01	0.00199	2.66E+00	14	J	2.64E-03
041M64150	Benzene	11/15/1995	71432	6.46E+00	0.00199	1.29E+00	7	U	2.74E-03
041M64150	Bromodichloromethane	11/15/1995	75274		0.00199		7	U	
041M64150	Bromoform	11/15/1995	75252	1.22E+01	0.00199	2.42E+00	7	U	1.45E-03
041M64150	Bromomethane	11/15/1995	74839	4.03E+00	0.00199	8.02E-01	7	U	4.39E-03
041M64150	Carbon disulfide	11/15/1995	75150		0.00199		7	U	
041M64150	Carbon tetrachloride	11/15/1995	56235	7.73E+00	0.00199	1.54E+00	7	U	2.29E-03

Appendix K:
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Table: 26 Phase: 2 Wetland: 64 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64150	Chlorobenzene	11/15/1995	108907	5.59E+00	0.00199	1.11E+00	7	U	3.16E-03
041M64150	Chloroethane	11/15/1995	75003		0.00199		7	U	
041M64150	Chloroform	11/15/1995	67663	5.59E+00	0.00199	1.11E+00	7	U	3.16E-03
041M64150	Chloromethane	11/15/1995	74873	2.12E+00	0.00199	4.22E-01	7	U	8.33E-03
041M64150	cis-1,3-Dichloropropene	11/15/1995	10061015		0.00199		7	U	
041M64150	Dibromochloromethane	11/15/1995	124481		0.00199		7	U	
041M64150	Ethylbenzene	11/15/1995	100414	9.64E+00	0.00199	1.92E+00	7	U	1.83E-03
041M64150	Methylene chloride	11/15/1995	75092	3.73E+00	0.00199	7.42E-01	7	U	4.74E-03
041M64150	Styrene	11/15/1995	100425	9.18E+00	0.00199	1.83E+00	7	U	1.93E-03
041M64150	Tetrachloroethene	11/15/1995	127184	8.83E+00	0.00199	1.76E+00	7	U	2.00E-03
041M64150	Toluene	11/15/1995	108883	8.05E+00	0.00199	1.60E+00	7	U	2.20E-03
041M64150	trans-1,3-Dichloropropene	11/15/1995	10061026		0.00199		7	U	
041M64150	Trichloroethene	11/15/1995	79016	6.65E+00	0.00199	1.32E+00	7	U	2.66E-03
041M64150	Vinyl chloride	11/15/1995	75014		0.00199		2	U	
041M64150	Xylene (Total)	11/15/1995	1330207	9.70E+00	0.00199	1.93E+00	7	U	1.82E-03
041M64160	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.0675	4.39E+01	28	U	9.45E-06
041M64160	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.0675	5.49E+01	28	U	7.55E-06
041M64160	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.0675	4.21E+01	28	U	9.84E-06
041M64160	1,1-Dichloroethane	11/16/1995	75343		0.0675		28	U	
041M64160	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.0675	3.14E+01	28	U	1.32E-05
041M64160	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.0675	2.99E+01	28	U	1.39E-05
041M64160	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.0675	3.11E+01	28	U	1.33E-05
041M64160	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.0675	3.55E+01	28	U	1.17E-05
041M64160	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.0675	1.98E+01	28	U	2.10E-05
041M64160	2-Hexanone	11/16/1995	591786	4.43E+00	0.0675	2.99E+01	28	U	1.39E-05
041M64160	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.0675	2.96E+01	28	U	1.40E-05
041M64160	Acetone	11/16/1995	67641	1.34E+01	0.0675	9.04E+01	180		2.95E-05
041M64160	Benzene	11/16/1995	71432	6.46E+00	0.0675	4.36E+01	28	U	9.51E-06
041M64160	Bromodichloromethane	11/16/1995	75274		0.0675		28	U	
041M64160	Bromoform	11/16/1995	75252	1.22E+01	0.0675	8.22E+01	28	U	5.04E-06
041M64160	Bromomethane	11/16/1995	74839	4.03E+00	0.0675	2.72E+01	28	U	1.53E-05
041M64160	Carbon disulfide	11/16/1995	75150		0.0675		11	J	
041M64160	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.0675	5.22E+01	28	U	7.95E-06
041M64160	Chlorobenzene	11/16/1995	108907	5.59E+00	0.0675	3.77E+01	28	U	1.10E-05
041M64160	Chloroethane	11/16/1995	75003		0.0675		28	U	
041M64160	Chloroform	11/16/1995	67663	5.59E+00	0.0675	3.77E+01	28	U	1.10E-05
041M64160	Chloromethane	11/16/1995	74873	2.12E+00	0.0675	1.43E+01	28	U	2.90E-05
041M64160	cis-1,3-Dichloropropene	11/16/1995	10061015		0.0675		28	U	
041M64160	Dibromochloromethane	11/16/1995	124481		0.0675		28	U	
041M64160	Ethylbenzene	11/16/1995	100414	9.64E+00	0.0675	6.50E+01	28	U	6.38E-06

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 Phase: 2 Wetland: 64 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64160	Methylene chloride	11/16/1995	75092	3.73E+00	0.0675	2.52E+01	270	J	1.59E-04
041M64160	Styrene	11/16/1995	100425	9.18E+00	0.0675	6.19E+01	28	U	6.70E-06
041M64160	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.0675	5.96E+01	28	U	6.96E-06
041M64160	Toluene	11/16/1995	108883	8.05E+00	0.0675	5.43E+01	28	U	7.64E-06
041M64160	trans-1,3-Dichloropropene	11/16/1995	10061026		0.0675		28	U	
041M64160	Trichloroethene	11/16/1995	79016	6.65E+00	0.0675	4.49E+01	28	U	9.24E-06
041M64160	Vinyl chloride	11/16/1995	75014		0.0675		8.5	U	
041M64160	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.0675	6.54E+01	28	U	6.34E-06
041M64170	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.0146	9.50E+00	10	U	7.21E-05
041M64170	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.0146	1.19E+01	10	U	5.77E-05
041M64170	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.0146	9.11E+00	10	U	7.51E-05
041M64170	1,1-Dichloroethane	11/16/1995	75343		0.0146		10	U	
041M64170	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.0146	6.79E+00	10	U	1.01E-04
041M64170	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.0146	6.47E+00	10	U	1.06E-04
041M64170	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.0146	6.73E+00	10	U	1.02E-04
041M64170	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.0146	7.69E+00	10	U	8.91E-05
041M64170	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.0146	4.28E+00	10	U	1.60E-04
041M64170	2-Hexanone	11/16/1995	591786	4.43E+00	0.0146	6.47E+00	10	U	1.06E-04
041M64170	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.0146	6.40E+00	10	U	1.07E-04
041M64170	Acetone	11/16/1995	67641	1.34E+01	0.0146	1.95E+01	10	U	3.50E-05
041M64170	Benzene	11/16/1995	71432	6.46E+00	0.0146	9.43E+00	10	U	7.26E-05
041M64170	Bromodichloromethane	11/16/1995	75274		0.0146		10	U	
041M64170	Bromoform	11/16/1995	75252	1.22E+01	0.0146	1.78E+01	10	U	3.85E-05
041M64170	Bromomethane	11/16/1995	74839	4.03E+00	0.0146	5.88E+00	10	U	1.16E-04
041M64170	Carbon disulfide	11/16/1995	75150		0.0146		10	U	
041M64170	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.0146	1.13E+01	10	U	6.07E-05
041M64170	Chlorobenzene	11/16/1995	108907	5.59E+00	0.0146	8.15E+00	10	U	8.40E-05
041M64170	Chloroethane	11/16/1995	75003		0.0146		10	U	
041M64170	Chloroform	11/16/1995	67663	5.59E+00	0.0146	8.16E+00	10	U	8.40E-05
041M64170	Chloromethane	11/16/1995	74873	2.12E+00	0.0146	3.10E+00	10	U	2.21E-04
041M64170	cis-1,3-Dichloropropene	11/16/1995	10061015		0.0146		10	U	
041M64170	Dibromochloromethane	11/16/1995	124481		0.0146		10	U	
041M64170	Ethylbenzene	11/16/1995	100414	9.64E+00	0.0146	1.41E+01	10	U	4.87E-05
041M64170	Methylene chloride	11/16/1995	75092	3.73E+00	0.0146	5.44E+00	110	J	1.38E-03
041M64170	Styrene	11/16/1995	100425	9.18E+00	0.0146	1.34E+01	10	U	5.11E-05
041M64170	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.0146	1.29E+01	10	U	5.32E-05
041M64170	Toluene	11/16/1995	108883	8.05E+00	0.0146	1.17E+01	10	U	5.83E-05
041M64170	trans-1,3-Dichloropropene	11/16/1995	10061026		0.0146		10	U	
041M64170	Trichloroethene	11/16/1995	79016	6.65E+00	0.0146	9.71E+00	10	U	7.05E-05
041M64170	Vinyl chloride	11/16/1995	75014		0.0146		3	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 Phase: 2 Wetland: 64 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64170	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.0146	1.42E+01	10	U	4.84E-05
041M64180	1,1,1-Trichloroethane	2/6/1996	71556	6.50E+00	0.00368	2.39E+00	6	U	6.81E-04
041M64180	1,1,2,2-Tetrachloroethane	2/6/1996	79345	8.13E+00	0.00368	2.99E+00	6	U	5.45E-04
041M64180	1,1,2-Trichloroethane	2/6/1996	79005	6.24E+00	0.00368	2.30E+00	6	U	7.10E-04
041M64180	1,1-Dichloroethane	2/6/1996	75343		0.00368		6	U	
041M64180	1,1-Dichloroethene	2/6/1996	75354	4.65E+00	0.00368	1.71E+00	6	U	9.53E-04
041M64180	1,2-Dichloroethane	2/6/1996	107062	4.43E+00	0.00368	1.63E+00	6	U	1.00E-03
041M64180	1,2-Dichloroethene (total)	2/6/1996	540590	4.61E+00	0.00368	1.70E+00	6	U	9.61E-04
041M64180	1,2-Dichloropropane	2/6/1996	78875	5.26E+00	0.00368	1.94E+00	6	U	8.42E-04
041M64180	2-Butanone (MEK)	2/6/1996	78933	2.93E+00	0.00368	1.08E+00	6	U	1.51E-03
041M64180	2-Hexanone	2/6/1996	591786	4.43E+00	0.00368	1.63E+00	6	U	1.00E-03
041M64180	4-Methyl-2-Pentanone (MIBK)	2/6/1996	108101	4.38E+00	0.00368	1.61E+00	6	U	1.01E-03
041M64180	Acetone	2/6/1996	67641	1.34E+01	0.00368	4.93E+00	6	U	3.31E-04
041M64180	Benzene	2/6/1996	71432	6.46E+00	0.00368	2.38E+00	6	U	6.86E-04
041M64180	Bromodichloromethane	2/6/1996	75274		0.00368		6	U	
041M64180	Bromoform	2/6/1996	75252	1.22E+01	0.00368	4.48E+00	6	U	3.64E-04
041M64180	Bromomethane	2/6/1996	74839	4.03E+00	0.00368	1.48E+00	6	U	1.10E-03
041M64180	Carbon disulfide	2/6/1996	75150		0.00368		6	U	
041M64180	Carbon tetrachloride	2/6/1996	56235	7.73E+00	0.00368	2.85E+00	6	U	5.73E-04
041M64180	Chlorobenzene	2/6/1996	108907	5.59E+00	0.00368	2.06E+00	6	U	7.93E-04
041M64180	Chloroethane	2/6/1996	75003		0.00368		6	U	
041M64180	Chloroform	2/6/1996	67663	5.59E+00	0.00368	2.06E+00	6	U	7.93E-04
041M64180	Chloromethane	2/6/1996	74873	2.12E+00	0.00368	7.81E-01	6	U	2.09E-03
041M64180	cis-1,3-Dichloropropene	2/6/1996	10061015		0.00368		6	U	
041M64180	Dibromochloromethane	2/6/1996	124481		0.00368		6	U	
041M64180	Ethylbenzene	2/6/1996	100414	9.64E+00	0.00368	3.55E+00	6	U	4.60E-04
041M64180	Methylene chloride	2/6/1996	75092	3.73E+00	0.00368	1.37E+00	6	U	1.19E-03
041M64180	Styrene	2/6/1996	100425	9.18E+00	0.00368	3.38E+00	6	U	4.83E-04
041M64180	Tetrachloroethene	2/6/1996	127184	8.83E+00	0.00368	3.25E+00	6	U	5.02E-04
041M64180	Toluene	2/6/1996	108883	8.05E+00	0.00368	2.96E+00	6	U	5.51E-04
041M64180	trans-1,3-Dichloropropene	2/6/1996	10061026		0.00368		6	U	
041M64180	Trichloroethene	2/6/1996	79016	6.65E+00	0.00368	2.45E+00	6	U	6.66E-04
041M64180	Vinyl chloride	2/6/1996	75014		0.00368		2	U	
041M64180	Xylene (Total)	2/6/1996	1330207	9.70E+00	0.00368	3.57E+00	6	U	4.57E-04
041M64190	1,1,1-Trichloroethane	2/1/1996	71556	6.50E+00	0.064	4.16E+01	29.5	U	1.11E-05
041M64190	1,1,2,2-Tetrachloroethane	2/1/1996	79345	8.13E+00	0.064	5.21E+01	29.5	UJ	8.85E-06
041M64190	1,1,2-Trichloroethane	2/1/1996	79005	6.24E+00	0.064	4.00E+01	29.5	U	1.15E-05
041M64190	1,1-Dichloroethane	2/1/1996	75343		0.064		29.5	U	
041M64190	1,1-Dichloroethene	2/1/1996	75354	4.65E+00	0.064	2.98E+01	29.5	U	1.55E-05
041M64190	1,2-Dichloroethane	2/1/1996	107062	4.43E+00	0.064	2.83E+01	29.5	U	1.63E-05

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 Phase: 2 Wetland: 64 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64190	1,2-Dichloroethene (total)	2/1/1996	540590	4.61E+00	0.064	2.95E+01	29.5	U	1.56E-05
041M64190	1,2-Dichloropropane	2/1/1996	78875	5.26E+00	0.064	3.37E+01	29.5	U	1.37E-05
041M64190	2-Butanone (MEK)	2/1/1996	78933	2.93E+00	0.064	1.87E+01	29.5	U	2.46E-05
041M64190	2-Hexanone	2/1/1996	591786	4.43E+00	0.064	2.83E+01	29.5	UJ	1.63E-05
041M64190	4-Methyl-2-Pentanone (MIBK)	2/1/1996	108101	4.38E+00	0.064	2.81E+01	29.5	U	1.64E-05
041M64190	Acetone	2/1/1996	67641	1.34E+01	0.064	8.57E+01	220		4.01E-05
041M64190	Benzene	2/1/1996	71432	6.46E+00	0.064	4.14E+01	29.5	U	1.11E-05
041M64190	Bromodichloromethane	2/1/1996	75274		0.064		29.5	U	
041M64190	Bromoform	2/1/1996	75252	1.22E+01	0.064	7.80E+01	29.5	U	5.91E-06
041M64190	Bromomethane	2/1/1996	74839	4.03E+00	0.064	2.58E+01	29.5	U	1.79E-05
041M64190	Carbon disulfide	2/1/1996	75150		0.064		29.5	U	
041M64190	Carbon tetrachloride	2/1/1996	56235	7.73E+00	0.064	4.95E+01	29.5	U	9.31E-06
041M64190	Chlorobenzene	2/1/1996	108907	5.59E+00	0.064	3.57E+01	29.5	UJ	1.29E-05
041M64190	Chloroethane	2/1/1996	75003		0.064		29.5	UJ	
041M64190	Chloroform	2/1/1996	67663	5.59E+00	0.064	3.58E+01	29.5	U	1.29E-05
041M64190	Chloromethane	2/1/1996	74873	2.12E+00	0.064	1.36E+01	29.5	U	3.40E-05
041M64190	cis-1,3-Dichloropropene	2/1/1996	10061015		0.064		29.5	U	
041M64190	Dibromochloromethane	2/1/1996	124481		0.064		29.5	U	
041M64190	Ethylbenzene	2/1/1996	100414	9.64E+00	0.064	6.17E+01	29.5	UJ	7.47E-06
041M64190	Methylene chloride	2/1/1996	75092	3.73E+00	0.064	2.39E+01	72		4.71E-05
041M64190	Styrene	2/1/1996	100425	9.18E+00	0.064	5.87E+01	29.5	UJ	7.85E-06
041M64190	Tetrachloroethene	2/1/1996	127184	8.83E+00	0.064	5.65E+01	29.5	UJ	8.16E-06
041M64190	Toluene	2/1/1996	108883	8.05E+00	0.064	5.15E+01	29.5	UJ	8.95E-06
041M64190	trans-1,3-Dichloropropene	2/1/1996	10061026		0.064		29.5	U	
041M64190	Trichloroethene	2/1/1996	79016	6.65E+00	0.064	4.26E+01	29.5	U	1.08E-05
041M64190	Vinyl chloride	2/1/1996	75014		0.064		9	U	
041M64190	Xylene (Total)	2/1/1996	1330207	9.70E+00	0.064	6.21E+01	29.5	UJ	7.43E-06
041M64200	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.0042	2.73E+00	6.5	U	5.66E-04
041M64200	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.0042	3.42E+00	6.5	U	4.53E-04
041M64200	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.0042	2.62E+00	6.5	U	5.90E-04
041M64200	1,1-Dichloroethane	11/16/1995	75343		0.0042		6.5	U	
041M64200	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.0042	1.95E+00	6.5	U	7.93E-04
041M64200	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.0042	1.86E+00	6.5	U	8.32E-04
041M64200	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.0042	1.94E+00	6.5	U	7.99E-04
041M64200	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.0042	2.21E+00	6.5	U	7.00E-04
041M64200	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.0042	1.23E+00	6.5	U	1.26E-03
041M64200	2-Hexanone	11/16/1995	591786	4.43E+00	0.0042	1.86E+00	6.5	U	8.32E-04
041M64200	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.0042	1.84E+00	6.5	U	8.41E-04
041M64200	Acetone	11/16/1995	67641	1.34E+01	0.0042	5.62E+00	6.5	U	2.75E-04
041M64200	Benzene	11/16/1995	71432	6.46E+00	0.0042	2.71E+00	6.5	U	5.70E-04

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 Phase: 2 Wetland: 64 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64200	Bromodichloromethane	11/16/1995	75274		0.0042		6.5	U	
041M64200	Bromoform	11/16/1995	75252	1.22E+01	0.0042	5.12E+00	6.5	U	3.02E-04
041M64200	Bromomethane	11/16/1995	74839	4.03E+00	0.0042	1.69E+00	6.5	U	9.15E-04
041M64200	Carbon disulfide	11/16/1995	75150		0.0042		6.5	U	
041M64200	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.0042	3.25E+00	6.5	U	4.76E-04
041M64200	Chlorobenzene	11/16/1995	108907	5.59E+00	0.0042	2.35E+00	6.5	U	6.60E-04
041M64200	Chloroethane	11/16/1995	75003		0.0042		6.5	U	
041M64200	Chloroform	11/16/1995	67663	5.59E+00	0.0042	2.35E+00	6.5	U	6.60E-04
041M64200	Chloromethane	11/16/1995	74873	2.12E+00	0.0042	8.91E-01	6.5	U	1.74E-03
041M64200	cis-1,3-Dichloropropene	11/16/1995	10061015		0.0042		6.5	U	
041M64200	Dibromochloromethane	11/16/1995	124481		0.0042		6.5	U	
041M64200	Ethylbenzene	11/16/1995	100414	9.64E+00	0.0042	4.05E+00	6.5	U	3.82E-04
041M64200	Methylene chloride	11/16/1995	75092	3.73E+00	0.0042	1.57E+00	64	J	9.73E-03
041M64200	Styrene	11/16/1995	100425	9.18E+00	0.0042	3.85E+00	6.5	U	4.02E-04
041M64200	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.0042	3.71E+00	6.5	U	4.18E-04
041M64200	Toluene	11/16/1995	108883	8.05E+00	0.0042	3.38E+00	6.5	U	4.58E-04
041M64200	trans-1,3-Dichloropropene	11/16/1995	10061026		0.0042		6.5	U	
041M64200	Trichloroethene	11/16/1995	79016	6.65E+00	0.0042	2.79E+00	6.5	U	5.54E-04
041M64200	Vinyl chloride	11/16/1995	75014		0.0042		2	U	
041M64200	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.0042	4.07E+00	6.5	U	3.80E-04
041M64210	1,1,1-Trichloroethane	11/16/1995	71556	6.50E+00	0.00138	8.98E-01	7	U	5.65E-03
041M64210	1,1,2,2-Tetrachloroethane	11/16/1995	79345	8.13E+00	0.00138	1.12E+00	7	U	4.52E-03
041M64210	1,1,2-Trichloroethane	11/16/1995	79005	6.24E+00	0.00138	8.61E-01	7	U	5.89E-03
041M64210	1,1-Dichloroethane	11/16/1995	75343		0.00138		7	U	
041M64210	1,1-Dichloroethene	11/16/1995	75354	4.65E+00	0.00138	6.42E-01	7	U	7.91E-03
041M64210	1,2-Dichloroethane	11/16/1995	107062	4.43E+00	0.00138	6.11E-01	7	U	8.30E-03
041M64210	1,2-Dichloroethene (total)	11/16/1995	540590	4.61E+00	0.00138	6.37E-01	7	U	7.97E-03
041M64210	1,2-Dichloropropane	11/16/1995	78875	5.26E+00	0.00138	7.27E-01	7	U	6.98E-03
041M64210	2-Butanone (MEK)	11/16/1995	78933	2.93E+00	0.00138	4.04E-01	7	U	1.26E-02
041M64210	2-Hexanone	11/16/1995	591786	4.43E+00	0.00138	6.11E-01	7	U	8.30E-03
041M64210	4-Methyl-2-Pentanone (MIBK)	11/16/1995	108101	4.38E+00	0.00138	6.05E-01	7	U	8.39E-03
041M64210	Acetone	11/16/1995	67641	1.34E+01	0.00138	1.85E+00	7	U	2.75E-03
041M64210	Benzene	11/16/1995	71432	6.46E+00	0.00138	8.92E-01	7	U	5.69E-03
041M64210	Bromodichloromethane	11/16/1995	75274		0.00138		7	U	
041M64210	Bromoform	11/16/1995	75252	1.22E+01	0.00138	1.68E+00	7	U	3.02E-03
041M64210	Bromomethane	11/16/1995	74839	4.03E+00	0.00138	5.56E-01	7	U	9.12E-03
041M64210	Carbon disulfide	11/16/1995	75150		0.00138		7	U	
041M64210	Carbon tetrachloride	11/16/1995	56235	7.73E+00	0.00138	1.07E+00	7	U	4.75E-03
041M64210	Chlorobenzene	11/16/1995	108907	5.59E+00	0.00138	7.71E-01	7	U	6.58E-03
041M64210	Chloroethane	11/16/1995	75003		0.00138		7	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 Phase: 2 Wetland: 64 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64210	Chloroform	11/16/1995	67663	5.59E+00	0.00138	7.71E-01	7	U	6.58E-03
041M64210	Chloromethane	11/16/1995	74873	2.12E+00	0.00138	2.93E-01	7	U	1.73E-02
041M64210	cis-1,3-Dichloropropene	11/16/1995	10061015		0.00138		7	U	
041M64210	Dibromochloromethane	11/16/1995	124481		0.00138		7	U	
041M64210	Ethylbenzene	11/16/1995	100414	9.64E+00	0.00138	1.33E+00	7	U	3.81E-03
041M64210	Methylene chloride	11/16/1995	75092	3.73E+00	0.00138	5.15E-01	7	U	9.86E-03
041M64210	Styrene	11/16/1995	100425	9.18E+00	0.00138	1.27E+00	7	U	4.01E-03
041M64210	Tetrachloroethene	11/16/1995	127184	8.83E+00	0.00138	1.22E+00	7	U	4.16E-03
041M64210	Toluene	11/16/1995	108883	8.05E+00	0.00138	1.11E+00	7	U	4.57E-03
041M64210	trans-1,3-Dichloropropene	11/16/1995	10061026		0.00138		7	U	
041M64210	Trichloroethene	11/16/1995	79016	6.65E+00	0.00138	9.18E-01	7	U	5.53E-03
041M64210	Vinyl chloride	11/16/1995	75014		0.00138		2	U	
041M64210	Xylene (Total)	11/16/1995	1330207	9.70E+00	0.00138	1.34E+00	7	U	3.79E-03
041M64220	1,1,1-Trichloroethane	11/17/1995	71556	6.50E+00	0.00927	6.03E+00	7	U	1.25E-04
041M64220	1,1,2,2-Tetrachloroethane	11/17/1995	79345	8.13E+00	0.00927	7.54E+00	7	U	1.00E-04
041M64220	1,1,2-Trichloroethane	11/17/1995	79005	6.24E+00	0.00927	5.79E+00	7	U	1.30E-04
041M64220	1,1-Dichloroethane	11/17/1995	75343		0.00927		7	U	
041M64220	1,1-Dichloroethene	11/17/1995	75354	4.65E+00	0.00927	4.31E+00	7	U	1.75E-04
041M64220	1,2-Dichloroethane	11/17/1995	107062	4.43E+00	0.00927	4.11E+00	7	U	1.84E-04
041M64220	1,2-Dichloroethene (total)	11/17/1995	540590	4.61E+00	0.00927	4.28E+00	7	U	1.77E-04
041M64220	1,2-Dichloropropane	11/17/1995	78875	5.26E+00	0.00927	4.88E+00	7	U	1.55E-04
041M64220	2-Butanone (MEK)	11/17/1995	78933	2.93E+00	0.00927	2.71E+00	7	U	2.78E-04
041M64220	2-Hexanone	11/17/1995	591786	4.43E+00	0.00927	4.11E+00	7	U	1.84E-04
041M64220	4-Methyl-2-Pentanone (MIBK)	11/17/1995	108101	4.38E+00	0.00927	4.06E+00	7	U	1.86E-04
041M64220	Acetone	11/17/1995	67641	1.34E+01	0.00927	1.24E+01	9	J	7.82E-05
041M64220	Benzene	11/17/1995	71432	6.46E+00	0.00927	5.99E+00	7	U	1.26E-04
041M64220	Bromodichloromethane	11/17/1995	75274		0.00927		7	U	
041M64220	Bromoform	11/17/1995	75252	1.22E+01	0.00927	1.13E+01	7	U	6.69E-05
041M64220	Bromomethane	11/17/1995	74839	4.03E+00	0.00927	3.73E+00	7	U	2.02E-04
041M64220	Carbon disulfide	11/17/1995	75150		0.00927		7	U	
041M64220	Carbon tetrachloride	11/17/1995	56235	7.73E+00	0.00927	7.17E+00	7	U	1.05E-04
041M64220	Chlorobenzene	11/17/1995	108907	5.59E+00	0.00927	5.18E+00	7	U	1.46E-04
041M64220	Chloroethane	11/17/1995	75003		0.00927		7	U	
041M64220	Chloroform	11/17/1995	67663	5.59E+00	0.00927	5.18E+00	7	U	1.46E-04
041M64220	Chloromethane	11/17/1995	74873	2.12E+00	0.00927	1.97E+00	7	U	3.84E-04
041M64220	cis-1,3-Dichloropropene	11/17/1995	10061015		0.00927		7	U	
041M64220	Dibromochloromethane	11/17/1995	124481		0.00927		7	U	
041M64220	Ethylbenzene	11/17/1995	100414	9.64E+00	0.00927	8.93E+00	7	U	8.45E-05
041M64220	Methylene chloride	11/17/1995	75092	3.73E+00	0.00927	3.46E+00	7	U	2.18E-04
041M64220	Styrene	11/17/1995	100425	9.18E+00	0.00927	8.51E+00	7	U	8.88E-05

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 Phase: 2 Wetland: 64 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64220	Tetrachloroethene	11/17/1995	127184	8.83E+00	0.00927	8.18E+00	7	U	9.23E-05
041M64220	Toluene	11/17/1995	108883	8.05E+00	0.00927	7.46E+00	7	U	1.01E-04
041M64220	trans-1,3-Dichloropropene	11/17/1995	10061026		0.00927		7	U	
041M64220	Trichloroethene	11/17/1995	79016	6.65E+00	0.00927	6.17E+00	7	U	1.22E-04
041M64220	Vinyl chloride	11/17/1995	75014		0.00927		2	U	
041M64220	Xylene (Total)	11/17/1995	1330207	9.70E+00	0.00927	8.99E+00	7	U	8.40E-05
041M64230	1,1,1-Trichloroethane	11/17/1995	71556	6.50E+00	0.00404	2.63E+00	7	U	6.59E-04
041M64230	1,1,2,2-Tetrachloroethane	11/17/1995	79345	8.13E+00	0.00404	3.29E+00	7	U	5.27E-04
041M64230	1,1,2-Trichloroethane	11/17/1995	79005	6.24E+00	0.00404	2.52E+00	7	U	6.87E-04
041M64230	1,1-Dichloroethane	11/17/1995	75343		0.00404		7	U	
041M64230	1,1-Dichloroethene	11/17/1995	75354	4.65E+00	0.00404	1.88E+00	7	U	9.23E-04
041M64230	1,2-Dichloroethane	11/17/1995	107062	4.43E+00	0.00404	1.79E+00	7	U	9.68E-04
041M64230	1,2-Dichloroethene (total)	11/17/1995	540590	4.61E+00	0.00404	1.86E+00	7	U	9.30E-04
041M64230	1,2-Dichloropropane	11/17/1995	78875	5.26E+00	0.00404	2.13E+00	7	U	8.15E-04
041M64230	2-Butanone (MEK)	11/17/1995	78933	2.93E+00	0.00404	1.18E+00	7	U	1.46E-03
041M64230	2-Hexanone	11/17/1995	591786	4.43E+00	0.00404	1.79E+00	7	U	9.68E-04
041M64230	4-Methyl-2-Pentanone (MIBK)	11/17/1995	108101	4.38E+00	0.00404	1.77E+00	7	U	9.78E-04
041M64230	Acetone	11/17/1995	67641	1.34E+01	0.00404	5.41E+00	7	U	3.20E-04
041M64230	Benzene	11/17/1995	71432	6.46E+00	0.00404	2.61E+00	7	U	6.64E-04
041M64230	Bromodichloromethane	11/17/1995	75274		0.00404		7	U	
041M64230	Bromoform	11/17/1995	75252	1.22E+01	0.00404	4.92E+00	7	U	3.52E-04
041M64230	Bromomethane	11/17/1995	74839	4.03E+00	0.00404	1.63E+00	7	U	1.06E-03
041M64230	Carbon disulfide	11/17/1995	75150		0.00404		7	U	
041M64230	Carbon tetrachloride	11/17/1995	56235	7.73E+00	0.00404	3.12E+00	7	U	5.55E-04
041M64230	Chlorobenzene	11/17/1995	108907	5.59E+00	0.00404	2.26E+00	7	U	7.68E-04
041M64230	Chloroethane	11/17/1995	75003		0.00404		7	U	
041M64230	Chloroform	11/17/1995	67663	5.59E+00	0.00404	2.26E+00	7	U	7.68E-04
041M64230	Chloromethane	11/17/1995	74873	2.12E+00	0.00404	8.57E-01	7	U	2.02E-03
041M64230	cis-1,3-Dichloropropene	11/17/1995	10061015		0.00404		7	U	
041M64230	Dibromochloromethane	11/17/1995	124481		0.00404		7	U	
041M64230	Ethylbenzene	11/17/1995	100414	9.64E+00	0.00404	3.89E+00	7	U	4.45E-04
041M64230	Methylene chloride	11/17/1995	75092	3.73E+00	0.00404	1.51E+00	8	U	1.31E-03
041M64230	Styrene	11/17/1995	100425	9.18E+00	0.00404	3.71E+00	7	U	4.67E-04
041M64230	Tetrachloroethene	11/17/1995	127184	8.83E+00	0.00404	3.57E+00	7	U	4.86E-04
041M64230	Toluene	11/17/1995	108883	8.05E+00	0.00404	3.25E+00	7	U	5.33E-04
041M64230	trans-1,3-Dichloropropene	11/17/1995	10061026		0.00404		7	U	
041M64230	Trichloroethene	11/17/1995	79016	6.65E+00	0.00404	2.69E+00	7	U	6.45E-04
041M64230	Vinyl chloride	11/17/1995	75014		0.00404		2	U	
041M64230	Xylene (Total)	11/17/1995	1330207	9.70E+00	0.00404	3.92E+00	7	U	4.42E-04
041M64240	1,1,1-Trichloroethane	11/17/1995	71556	6.50E+00	0.000739	4.81E-01	6.5	U	1.83E-02

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 26 **Phase: 2** **Wetland: 64** **Fresh/Salt: S**

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M64240	1,1,2,2-Tetrachloroethane	11/17/1995	79345	8.13E+00	0.000739	6.01E-01	6.5	U	1.46E-02
041M64240	1,1,2-Trichloroethane	11/17/1995	79005	6.24E+00	0.000739	4.61E-01	6.5	U	1.91E-02
041M64240	1,1-Dichloroethane	11/17/1995	75343		0.000739		6.5	U	
041M64240	1,1-Dichloroethene	11/17/1995	75354	4.65E+00	0.000739	3.44E-01	6.5	U	2.56E-02
041M64240	1,2-Dichloroethane	11/17/1995	107062	4.43E+00	0.000739	3.27E-01	6.5	U	2.69E-02
041M64240	1,2-Dichloroethene (total)	11/17/1995	540590	4.61E+00	0.000739	3.41E-01	6.5	U	2.58E-02
041M64240	1,2-Dichloropropane	11/17/1995	78875	5.26E+00	0.000739	3.89E-01	6.5	U	2.26E-02
041M64240	2-Butanone (MEK)	11/17/1995	78933	2.93E+00	0.000739	2.16E-01	6.5	U	4.06E-02
041M64240	2-Hexanone	11/17/1995	591786	4.43E+00	0.000739	3.27E-01	6.5	U	2.69E-02
041M64240	4-Methyl-2-Pentanone (MIBK)	11/17/1995	108101	4.38E+00	0.000739	3.24E-01	6.5	U	2.72E-02
041M64240	Acetone	11/17/1995	67641	1.34E+01	0.000739	9.89E-01	6.5	U	8.89E-03
041M64240	Benzene	11/17/1995	71432	6.46E+00	0.000739	4.78E-01	6.5	U	1.84E-02
041M64240	Bromodichloromethane	11/17/1995	75274		0.000739		6.5	U	
041M64240	Bromoform	11/17/1995	75252	1.22E+01	0.000739	9.00E-01	6.5	U	9.77E-03
041M64240	Bromomethane	11/17/1995	74839	4.03E+00	0.000739	2.98E-01	6.5	U	2.95E-02
041M64240	Carbon disulfide	11/17/1995	75150		0.000739		6.5	U	
041M64240	Carbon tetrachloride	11/17/1995	56235	7.73E+00	0.000739	5.72E-01	6.5	U	1.54E-02
041M64240	Chlorobenzene	11/17/1995	108907	5.59E+00	0.000739	4.13E-01	6.5	U	2.13E-02
041M64240	Chloroethane	11/17/1995	75003		0.000739		6.5	U	
041M64240	Chloroform	11/17/1995	67663	5.59E+00	0.000739	4.13E-01	6.5	U	2.13E-02
041M64240	Chloromethane	11/17/1995	74873	2.12E+00	0.000739	1.57E-01	6.5	U	5.61E-02
041M64240	cis-1,3-Dichloropropene	11/17/1995	10061015		0.000739		6.5	U	
041M64240	Dibromochloromethane	11/17/1995	124481		0.000739		6.5	U	
041M64240	Ethylbenzene	11/17/1995	100414	9.64E+00	0.000739	7.12E-01	6.5	U	1.24E-02
041M64240	Methylene chloride	11/17/1995	75092	3.73E+00	0.000739	2.76E-01	6.5	U	3.19E-02
041M64240	Styrene	11/17/1995	100425	9.18E+00	0.000739	6.78E-01	6.5	U	1.30E-02
041M64240	Tetrachloroethene	11/17/1995	127184	8.83E+00	0.000739	6.52E-01	6.5	U	1.35E-02
041M64240	Toluene	11/17/1995	108883	8.05E+00	0.000739	5.95E-01	6.5	U	1.48E-02
041M64240	trans-1,3-Dichloropropene	11/17/1995	10061026		0.000739		6.5	U	
041M64240	Trichloroethene	11/17/1995	79016	6.65E+00	0.000739	4.92E-01	6.5	U	1.79E-02
041M64240	Vinyl chloride	11/17/1995	75014		0.000739		2	U	
041M64240	Xylene (Total)	11/17/1995	1330207	9.70E+00	0.000739	7.17E-01	6.5	U	1.23E-02

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 27 **Phase: 2** **Wetland: 72** **Fresh/Salt: F**

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M72010	1,1,1-Trichloroethane	11/29/1995	71556	6.50E+00	0.00294	1.91E+00	800	U	1.42E-01
041M72010	1,1,2,2-Tetrachloroethane	11/29/1995	79345	8.13E+00	0.00294	2.39E+00	800	U	1.14E-01
041M72010	1,1,2-Trichloroethane	11/29/1995	79005	6.24E+00	0.00294	1.84E+00	800	U	1.48E-01
041M72010	1,1-Dichloroethane	11/29/1995	75343		0.00294		800	U	
041M72010	1,1-Dichloroethene	11/29/1995	75354	4.65E+00	0.00294	1.37E+00	800	U	1.99E-01
041M72010	1,2-Dichloroethane	11/29/1995	107062	4.43E+00	0.00294	1.30E+00	800	U	2.09E-01
041M72010	1,2-Dichloroethene (total)	11/29/1995	540590	4.61E+00	0.00294	1.36E+00	800	U	2.01E-01
041M72010	1,2-Dichloropropane	11/29/1995	78875	5.26E+00	0.00294	1.55E+00	800	U	1.76E-01
041M72010	2-Butanone (MEK)	11/29/1995	78933	2.93E+00	0.00294	8.61E-01	800	U	3.16E-01
041M72010	2-Hexanone	11/29/1995	591786	4.43E+00	0.00294	1.30E+00	800	U	2.09E-01
041M72010	4-Methyl-2-Pentanone (MIBK)	11/29/1995	108101	4.38E+00	0.00294	1.29E+00	800	U	2.11E-01
041M72010	Acetone	11/29/1995	67641	1.34E+01	0.00294	3.94E+00	800	UJ	6.91E-02
041M72010	Benzene	11/29/1995	71432	6.46E+00	0.00294	1.90E+00	800	U	1.43E-01
041M72010	Bromodichloromethane	11/29/1995	75274		0.00294		800	U	
041M72010	Bromoform	11/29/1995	75252	1.22E+01	0.00294	3.58E+00	800	U	7.60E-02
041M72010	Bromomethane	11/29/1995	74839	4.03E+00	0.00294	1.18E+00	800	U	2.30E-01
041M72010	Carbon disulfide	11/29/1995	75150		0.00294		800	U	
041M72010	Carbon tetrachloride	11/29/1995	56235	7.73E+00	0.00294	2.27E+00	800	U	1.20E-01
041M72010	Chlorobenzene	11/29/1995	108907	5.59E+00	0.00294	1.64E+00	800	U	1.66E-01
041M72010	Chloroethane	11/29/1995	75003		0.00294		800	U	
041M72010	Chloroform	11/29/1995	67663	5.59E+00	0.00294	1.64E+00	800	U	1.66E-01
041M72010	Chloromethane	11/29/1995	74873	2.12E+00	0.00294	6.24E-01	800	U	4.36E-01
041M72010	cis-1,3-Dichloropropene	11/29/1995	10061015		0.00294		800	U	
041M72010	Dibromochloromethane	11/29/1995	124481		0.00294		800	U	
041M72010	Ethylbenzene	11/29/1995	100414	9.64E+00	0.00294	2.83E+00	800	U	9.60E-02
041M72010	Methylene chloride	11/29/1995	75092	3.73E+00	0.00294	1.10E+00	740	J	2.30E-01
041M72010	Styrene	11/29/1995	100425	9.18E+00	0.00294	2.70E+00	800	U	1.01E-01
041M72010	Tetrachloroethene	11/29/1995	127184	8.83E+00	0.00294	2.59E+00	800	U	1.05E-01
041M72010	Toluene	11/29/1995	108883	8.05E+00	0.00294	2.37E+00	800	U	1.15E-01
041M72010	trans-1,3-Dichloropropene	11/29/1995	10061026		0.00294		800	U	
041M72010	Trichloroethene	11/29/1995	79016	6.65E+00	0.00294	1.96E+00	800	U	1.39E-01
041M72010	Vinyl chloride	11/29/1995	75014		0.00294		235	U	
041M72010	Xylene (Total)	11/29/1995	1330207	9.70E+00	0.00294	2.85E+00	800	U	9.55E-02
041M72020	1,1,1-Trichloroethane	11/29/1995	71556	6.50E+00	0.00164	1.07E+00	6	U	3.43E-03
041M72020	1,1,2,2-Tetrachloroethane	11/29/1995	79345	8.13E+00	0.00164	1.33E+00	6	U	2.74E-03
041M72020	1,1,2-Trichloroethane	11/29/1995	79005	6.24E+00	0.00164	1.02E+00	6	U	3.57E-03
041M72020	1,1-Dichloroethane	11/29/1995	75343		0.00164		6	U	
041M72020	1,1-Dichloroethene	11/29/1995	75354	4.65E+00	0.00164	7.62E-01	6	U	4.80E-03
041M72020	1,2-Dichloroethane	11/29/1995	107062	4.43E+00	0.00164	7.26E-01	6	U	5.04E-03
041M72020	1,2-Dichloroethene (total)	11/29/1995	540590	4.61E+00	0.00164	7.56E-01	6	U	4.84E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 27 Phase: 2 Wetland: 72 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041M72020	1,2-Dichloropropane	11/29/1995	78875	5.26E+00	0.00164	8.63E-01	6	U	4.24E-03
041M72020	2-Butanone (MEK)	11/29/1995	78933	2.93E+00	0.00164	4.80E-01	6	U	7.62E-03
041M72020	2-Hexanone	11/29/1995	591786	4.43E+00	0.00164	7.26E-01	6	U	5.04E-03
041M72020	4-Methyl-2-Pentanone (MIBK)	11/29/1995	108101	4.38E+00	0.00164	7.19E-01	6	U	5.09E-03
041M72020	Acetone	11/29/1995	67641	1.34E+01	0.00164	2.20E+00	32		8.89E-03
041M72020	Benzene	11/29/1995	71432	6.46E+00	0.00164	1.06E+00	6	U	3.45E-03
041M72020	Bromodichloromethane	11/29/1995	75274		0.00164		6	U	
041M72020	Bromoform	11/29/1995	75252	1.22E+01	0.00164	2.00E+00	6	U	1.83E-03
041M72020	Bromomethane	11/29/1995	74839	4.03E+00	0.00164	6.61E-01	6	U	5.54E-03
041M72020	Carbon disulfide	11/29/1995	75150		0.00164		6	U	
041M72020	Carbon tetrachloride	11/29/1995	56235	7.73E+00	0.00164	1.27E+00	6	U	2.88E-03
041M72020	Chlorobenzene	11/29/1995	108907	5.59E+00	0.00164	9.16E-01	6	U	3.99E-03
041M72020	Chloroethane	11/29/1995	75003		0.00164		6	U	
041M72020	Chloroform	11/29/1995	67663	5.59E+00	0.00164	9.16E-01	6	U	3.99E-03
041M72020	Chloromethane	11/29/1995	74873	2.12E+00	0.00164	3.48E-01	6	U	1.05E-02
041M72020	cis-1,3-Dichloropropene	11/29/1995	10061015		0.00164		6	U	
041M72020	Dibromochloromethane	11/29/1995	124481		0.00164		6	U	
041M72020	Ethylbenzene	11/29/1995	100414	9.64E+00	0.00164	1.58E+00	6	U	2.31E-03
041M72020	Methylene chloride	11/29/1995	75092	3.73E+00	0.00164	6.11E-01	6	U	5.98E-03
041M72020	Styrene	11/29/1995	100425	9.18E+00	0.00164	1.50E+00	6	U	2.43E-03
041M72020	Tetrachloroethene	11/29/1995	127184	8.83E+00	0.00164	1.45E+00	6	U	2.53E-03
041M72020	Toluene	11/29/1995	108883	8.05E+00	0.00164	1.32E+00	6	U	2.77E-03
041M72020	trans-1,3-Dichloropropene	11/29/1995	10061026		0.00164		6	U	
041M72020	Trichloroethene	11/29/1995	79016	6.65E+00	0.00164	1.09E+00	6	U	3.35E-03
041M72020	Vinyl chloride	11/29/1995	75014		0.00164		2	U	
041M72020	Xylene (Total)	11/29/1995	1330207	9.70E+00	0.00164	1.59E+00	6	U	2.30E-03

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 28 Phase: 2 Wetland: W1 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
003M00010	1,1,1-Trichloroethane	8/9/1995	71556	6.50E+00	0.0197	1.28E+01	22.5	U	8.91E-05
003M00010	1,1,2,2-Tetrachloroethane	8/9/1995	79345	8.13E+00	0.0197	1.60E+01	22.5	U	7.13E-05
003M00010	1,1,2-Trichloroethane	8/9/1995	79005	6.24E+00	0.0197	1.23E+01	22.5	U	9.29E-05
003M00010	1,1-Dichloroethane	8/9/1995	75343		0.0197		22.5	U	
003M00010	1,1-Dichloroethene	8/9/1995	75354	4.65E+00	0.0197	9.16E+00	22.5	U	1.25E-04
003M00010	1,2-Dichloroethane	8/9/1995	107062	4.43E+00	0.0197	8.72E+00	22.5	U	1.31E-04
003M00010	1,2-Dichloroethene (total)	8/9/1995	540590	4.61E+00	0.0197	9.09E+00	9	J	5.03E-05
003M00010	1,2-Dichloropropane	8/9/1995	78875	5.26E+00	0.0197	1.04E+01	22.5	U	1.10E-04
003M00010	2-Butanone (MEK)	8/9/1995	78933	2.93E+00	0.0197	5.77E+00	22.5	U	1.98E-04
003M00010	2-Hexanone	8/9/1995	591786	4.43E+00	0.0197	8.73E+00	22.5	U	1.31E-04
003M00010	4-Methyl-2-Pentanone (MIBK)	8/9/1995	108101	4.38E+00	0.0197	8.63E+00	22.5	U	1.32E-04
003M00010	Acetone	8/9/1995	67641	1.34E+01	0.0197	2.64E+01	39	U	7.51E-05
003M00010	Benzene	8/9/1995	71432	6.46E+00	0.0197	1.27E+01	120		4.79E-04
003M00010	Bromodichloromethane	8/9/1995	75274		0.0197		22.5	U	
003M00010	Bromoform	8/9/1995	75252	1.22E+01	0.0197	2.40E+01	22.5	U	4.76E-05
003M00010	Bromomethane	8/9/1995	74839	4.03E+00	0.0197	7.94E+00	22.5	U	1.44E-04
003M00010	Carbon disulfide	8/9/1995	75150		0.0197		22.5	U	
003M00010	Carbon tetrachloride	8/9/1995	56235	7.73E+00	0.0197	1.52E+01	22.5	U	7.50E-05
003M00010	Chlorobenzene	8/9/1995	108907	5.59E+00	0.0197	1.10E+01	22.5	U	1.04E-04
003M00010	Chloroethane	8/9/1995	75003		0.0197		22.5	U	
003M00010	Chloroform	8/9/1995	67663	5.59E+00	0.0197	1.10E+01	22.5	U	1.04E-04
003M00010	Chloromethane	8/9/1995	74873	2.12E+00	0.0197	4.18E+00	22.5	U	2.73E-04
003M00010	cis-1,3-Dichloropropene	8/9/1995	10061015		0.0197		22.5	U	
003M00010	Dibromochloromethane	8/9/1995	124481		0.0197		22.5	U	
003M00010	Ethylbenzene	8/9/1995	100414	9.64E+00	0.0197	1.90E+01	290		7.75E-04
003M00010	Methylene chloride	8/9/1995	75092	3.73E+00	0.0197	7.35E+00	85	U	5.87E-04
003M00010	Styrene	8/9/1995	100425	9.18E+00	0.0197	1.81E+01	22.5	U	6.32E-05
003M00010	Tetrachloroethene	8/9/1995	127184	8.83E+00	0.0197	1.74E+01	22.5	U	6.57E-05
003M00010	Toluene	8/9/1995	108883	8.05E+00	0.0197	1.59E+01	200		6.40E-04
003M00010	trans-1,3-Dichloropropene	8/9/1995	10061026		0.0197		22.5	U	
003M00010	Trichloroethene	8/9/1995	79016	6.65E+00	0.0197	1.31E+01	22.5	U	8.72E-05
003M00010	Vinyl chloride	8/9/1995	75014		0.0197		22.5	U	
003M00010	Xylene (Total)	8/9/1995	1330207	9.70E+00	0.0197	1.91E+01	2000		5.32E-03
003M00020	1,1,1-Trichloroethane	8/9/1995	71556	6.50E+00	0.00276	1.80E+00	6.5	U	1.31E-03
003M00020	1,1,2,2-Tetrachloroethane	8/9/1995	79345	8.13E+00	0.00276	2.25E+00	6.5	U	1.05E-03
003M00020	1,1,2-Trichloroethane	8/9/1995	79005	6.24E+00	0.00276	1.72E+00	6.5	U	1.37E-03
003M00020	1,1-Dichloroethane	8/9/1995	75343		0.00276		6.5	U	
003M00020	1,1-Dichloroethene	8/9/1995	75354	4.65E+00	0.00276	1.28E+00	6.5	U	1.84E-03
003M00020	1,2-Dichloroethane	8/9/1995	107062	4.43E+00	0.00276	1.22E+00	6.5	U	1.93E-03
003M00020	1,2-Dichloroethene (total)	8/9/1995	540590	4.61E+00	0.00276	1.27E+00	6.5	U	1.85E-03

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 28 Phase: 2 Wetland: W1 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
003M00020	1,2-Dichloropropane	8/9/1995	78875	5.26E+00	0.00276	1.45E+00	6.5	U	1.62E-03
003M00020	2-Butanone (MEK)	8/9/1995	78933	2.93E+00	0.00276	8.08E-01	6.5	U	2.91E-03
003M00020	2-Hexanone	8/9/1995	591786	4.43E+00	0.00276	1.22E+00	6.5	U	1.93E-03
003M00020	4-Methyl-2-Pentanone (MIBK)	8/9/1995	108101	4.38E+00	0.00276	1.21E+00	6.5	U	1.95E-03
003M00020	Acetone	8/9/1995	67641	1.34E+01	0.00276	3.69E+00	6	U	5.88E-04
003M00020	Benzene	8/9/1995	71432	6.46E+00	0.00276	1.78E+00	6.5	U	1.32E-03
003M00020	Bromodichloromethane	8/9/1995	75274		0.00276		6.5	U	
003M00020	Bromoform	8/9/1995	75252	1.22E+01	0.00276	3.36E+00	6.5	U	7.00E-04
003M00020	Bromomethane	8/9/1995	74839	4.03E+00	0.00276	1.11E+00	6.5	U	2.12E-03
003M00020	Carbon disulfide	8/9/1995	75150		0.00276		6.5	U	
003M00020	Carbon tetrachloride	8/9/1995	56235	7.73E+00	0.00276	2.13E+00	6.5	U	1.10E-03
003M00020	Chlorobenzene	8/9/1995	108907	5.59E+00	0.00276	1.54E+00	6.5	U	1.53E-03
003M00020	Chloroethane	8/9/1995	75003		0.00276		6.5	U	
003M00020	Chloroform	8/9/1995	67663	5.59E+00	0.00276	1.54E+00	6.5	U	1.53E-03
003M00020	Chloromethane	8/9/1995	74873	2.12E+00	0.00276	5.85E-01	6.5	U	4.02E-03
003M00020	cis-1,3-Dichloropropene	8/9/1995	10061015		0.00276		6.5	U	
003M00020	Dibromochloromethane	8/9/1995	124481		0.00276		6.5	U	
003M00020	Ethylbenzene	8/9/1995	100414	9.64E+00	0.00276	2.66E+00	6.5	U	8.85E-04
003M00020	Methylene chloride	8/9/1995	75092	3.73E+00	0.00276	1.03E+00	10.5	U	3.70E-03
003M00020	Styrene	8/9/1995	100425	9.18E+00	0.00276	2.53E+00	6.5	U	9.30E-04
003M00020	Tetrachloroethene	8/9/1995	127184	8.83E+00	0.00276	2.44E+00	6.5	U	9.67E-04
003M00020	Toluene	8/9/1995	108883	8.05E+00	0.00276	2.22E+00	6.5	U	1.06E-03
003M00020	trans-1,3-Dichloropropene	8/9/1995	10061026		0.00276		6.5	U	
003M00020	Trichloroethene	8/9/1995	79016	6.65E+00	0.00276	1.84E+00	6.5	U	1.28E-03
003M00020	Vinyl chloride	8/9/1995	75014		0.00276		6.5	U	
003M00020	Xylene (Total)	8/9/1995	1330207	9.70E+00	0.00276	2.68E+00	6.5	U	8.80E-04
003M00030	1,1,1-Trichloroethane	8/9/1995	71556	6.50E+00	0.004455	2.90E+00	7	U	5.42E-04
003M00030	1,1,2,2-Tetrachloroethane	8/9/1995	79345	8.13E+00	0.004455	3.62E+00	7	U	4.34E-04
003M00030	1,1,2-Trichloroethane	8/9/1995	79005	6.24E+00	0.004455	2.78E+00	7	U	5.65E-04
003M00030	1,1-Dichloroethane	8/9/1995	75343		0.004455		7	U	
003M00030	1,1-Dichloroethene	8/9/1995	75354	4.65E+00	0.004455	2.07E+00	7	U	7.59E-04
003M00030	1,2-Dichloroethane	8/9/1995	107062	4.43E+00	0.004455	1.97E+00	7	U	7.96E-04
003M00030	1,2-Dichloroethene (total)	8/9/1995	540590	4.61E+00	0.004455	2.05E+00	7	U	7.65E-04
003M00030	1,2-Dichloropropane	8/9/1995	78875	5.26E+00	0.004455	2.35E+00	7	U	6.70E-04
003M00030	2-Butanone (MEK)	8/9/1995	78933	2.93E+00	0.004455	1.30E+00	7	U	1.20E-03
003M00030	2-Hexanone	8/9/1995	591786	4.43E+00	0.004455	1.97E+00	7	U	7.96E-04
003M00030	4-Methyl-2-Pentanone (MIBK)	8/9/1995	108101	4.38E+00	0.004455	1.95E+00	7	U	8.05E-04
003M00030	Acetone	8/9/1995	67641	1.34E+01	0.004455	5.96E+00	7	U	2.63E-04
003M00030	Benzene	8/9/1995	71432	6.46E+00	0.004455	2.88E+00	7	U	5.46E-04
003M00030	Bromodichloromethane	8/9/1995	75274		0.004455		7	U	

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 28 Phase: 2 Wetland: W1 Fresh/Salt: F

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
003M00030	Bromoform	8/9/1995	75252	1.22E+01	0.004455	5.43E+00	7	U	2.89E-04
003M00030	Bromomethane	8/9/1995	74839	4.03E+00	0.004455	1.79E+00	7	U	8.75E-04
003M00030	Carbon disulfide	8/9/1995	75150		0.004455		7	U	
003M00030	Carbon tetrachloride	8/9/1995	56235	7.73E+00	0.004455	3.45E+00	7	U	4.56E-04
003M00030	Chlorobenzene	8/9/1995	108907	5.59E+00	0.004455	2.49E+00	7	U	6.31E-04
003M00030	Chloroethane	8/9/1995	75003		0.004455		7	U	
003M00030	Chloroform	8/9/1995	67663	5.59E+00	0.004455	2.49E+00	7	U	6.31E-04
003M00030	Chloromethane	8/9/1995	74873	2.12E+00	0.004455	9.45E-01	7	U	1.66E-03
003M00030	cis-1,3-Dichloropropene	8/9/1995	10061015		0.004455		7	U	
003M00030	Dibromochloromethane	8/9/1995	124481		0.004455		7	U	
003M00030	Ethylbenzene	8/9/1995	100414	9.64E+00	0.004455	4.29E+00	7	U	3.66E-04
003M00030	Methylene chloride	8/9/1995	75092	3.73E+00	0.004455	1.66E+00	14.5	U	1.96E-03
003M00030	Styrene	8/9/1995	100425	9.18E+00	0.004455	4.09E+00	7	U	3.84E-04
003M00030	Tetrachloroethene	8/9/1995	127184	8.83E+00	0.004455	3.93E+00	7	U	4.00E-04
003M00030	Toluene	8/9/1995	108883	8.05E+00	0.004455	3.59E+00	7	U	4.38E-04
003M00030	trans-1,3-Dichloropropene	8/9/1995	10061026		0.004455		7	U	
003M00030	Trichloroethene	8/9/1995	79016	6.65E+00	0.004455	2.96E+00	7	U	5.30E-04
003M00030	Vinyl chloride	8/9/1995	75014		0.004455		7	U	
003M00030	Xylene (Total)	8/9/1995	1330207	9.70E+00	0.004455	4.32E+00	7	U	3.64E-04

Footnotes:

Q = Data Qualifier
J = Estimated
U and UJ = Not Detected, or estimated not detected
D = Sample diluted
mg/kg = Milligrams per Kilogram
ug/kg = Micrograms per Kilogram
TOC = Total Organic Carbon
OC = Organic Carbon
HQ = Hazard Quotient

- Di Toro Sediment Quality Guidance values were adjusted for sample-specific TOC concentrations; however, if no corresponding sample TOC result was available, the minimum TOC value for the wetland was used.

- trans-1,2-Dichloroethene = surrogate for cis-1,2-dichloroethene and 1,2-dichloroethene (total)

-o-Xylene = surrogate for xylene (total)

Appendix K:
VOCs - Di Toro Sediment Quality Guidance

Table: 29 Phase: 2 Wetland: W2 Fresh/Salt: S

Sample ID	Parameter	Sample Date	CAS Num	CS, 1%OC (mg/kg)	TOC Value Decimal %	Sample-Specific Di Toro SQG (mg/kg)	Result 1/2 SQL (ug/kg)	Q	Di Toro HQ
041MW201	1,1,1-Trichloroethane	1/24/1996	71556	6.50E+00	0.0168	1.09E+01	15.5	U	8.44E-05
041MW201	1,1,2,2-Tetrachloroethane	1/24/1996	79345	8.13E+00	0.0168	1.37E+01	15.5	U	6.75E-05
041MW201	1,1,2-Trichloroethane	1/24/1996	79005	6.24E+00	0.0168	1.05E+01	15.5	U	8.80E-05
041MW201	1,1-Dichloroethane	1/24/1996	75343		0.0168		15.5	U	
041MW201	1,1-Dichloroethene	1/24/1996	75354	4.65E+00	0.0168	7.81E+00	15.5	U	1.18E-04
041MW201	1,2-Dichloroethane	1/24/1996	107062	4.43E+00	0.0168	7.44E+00	15.5	U	1.24E-04
041MW201	1,2-Dichloroethene (total)	1/24/1996	540590	4.61E+00	0.0168	7.75E+00	15.5	U	1.19E-04
041MW201	1,2-Dichloropropane	1/24/1996	78875	5.26E+00	0.0168	8.84E+00	15.5	U	1.04E-04
041MW201	2-Butanone (MEK)	1/24/1996	78933	2.93E+00	0.0168	4.92E+00	15.5	U	1.88E-04
041MW201	2-Hexanone	1/24/1996	591786	4.43E+00	0.0168	7.44E+00	15.5	U	1.24E-04
041MW201	4-Methyl-2-Pentanone (MIBK)	1/24/1996	108101	4.38E+00	0.0168	7.36E+00	15.5	U	1.25E-04
041MW201	Acetone	1/24/1996	67641	1.34E+01	0.0168	2.25E+01	27	U	7.15E-05
041MW201	Benzene	1/24/1996	71432	6.46E+00	0.0168	1.09E+01	15.5	U	8.50E-05
041MW201	Bromodichloromethane	1/24/1996	75274		0.0168		15.5	U	
041MW201	Bromoform	1/24/1996	75252	1.22E+01	0.0168	2.05E+01	15.5	U	4.51E-05
041MW201	Bromomethane	1/24/1996	74839	4.03E+00	0.0168	6.77E+00	15.5	U	1.36E-04
041MW201	Carbon disulfide	1/24/1996	75150		0.0168		15.5	U	
041MW201	Carbon tetrachloride	1/24/1996	56235	7.73E+00	0.0168	1.30E+01	15.5	U	7.10E-05
041MW201	Chlorobenzene	1/24/1996	108907	5.59E+00	0.0168	9.38E+00	15.5	U	9.83E-05
041MW201	Chloroethane	1/24/1996	75003		0.0168		15.5	U	
041MW201	Chloroform	1/24/1996	67663	5.59E+00	0.0168	9.39E+00	15.5	U	9.83E-05
041MW201	Chloromethane	1/24/1996	74873	2.12E+00	0.0168	3.56E+00	15.5	U	2.59E-04
041MW201	cis-1,3-Dichloropropene	1/24/1996	10061015		0.0168		15.5	U	
041MW201	Dibromochloromethane	1/24/1996	124481		0.0168		15.5	U	
041MW201	Ethylbenzene	1/24/1996	100414	9.64E+00	0.0168	1.62E+01	15.5	U	5.70E-05
041MW201	Methylene chloride	1/24/1996	75092	3.73E+00	0.0168	6.26E+00	15.5	U	1.47E-04
041MW201	Styrene	1/24/1996	100425	9.18E+00	0.0168	1.54E+01	15.5	U	5.98E-05
041MW201	Tetrachloroethene	1/24/1996	127184	8.83E+00	0.0168	1.48E+01	15.5	U	6.22E-05
041MW201	Toluene	1/24/1996	108883	8.05E+00	0.0168	1.35E+01	15.5	U	6.82E-05
041MW201	trans-1,3-Dichloropropene	1/24/1996	10061026		0.0168		15.5	U	
041MW201	Trichloroethene	1/24/1996	79016	6.65E+00	0.0168	1.12E+01	15.5	U	8.26E-05
041MW201	Vinyl chloride	1/24/1996	75014		0.0168		4.5	U	
041MW201	Xylene (Total)	1/24/1996	1330207	9.70E+00	0.0168	1.63E+01	15.5	U	5.66E-05
041MW202	1,1,1-Trichloroethane	1/24/1996	71556	6.50E+00	0.00511	3.32E+00	6.5	U	3.83E-04
041MW202	1,1,2,2-Tetrachloroethane	1/24/1996	79345	8.13E+00	0.00511	4.16E+00	6.5	U	3.06E-04
041MW202	1,1,2-Trichloroethane	1/24/1996	79005	6.24E+00	0.00511	3.19E+00	6.5	U	3.99E-04
041MW202	1,1-Dichloroethane	1/24/1996	75343		0.00511		6.5	U	
041MW202	1,1-Dichloroethene	1/24/1996	75354	4.65E+00	0.00511	2.38E+00	6.5	U	5.35E-04
041MW202	1,2-Dichloroethane	1/24/1996	107062	4.43E+00	0.00511	2.26E+00	6.5	U	5.62E-04
041MW202	1,2-Dichloroethene (total)	1/24/1996	540590	4.61E+00	0.00511	2.36E+00	6.5	U	5.40E-04

Appendix L

Regression Analysis of Inorganics

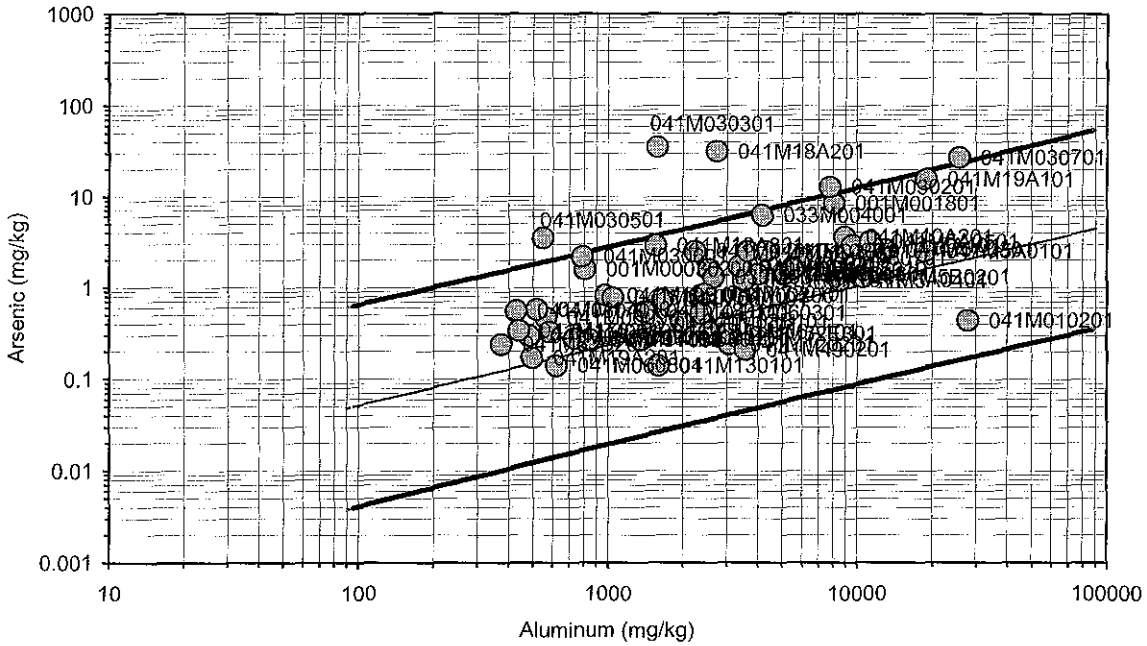
Appendix L

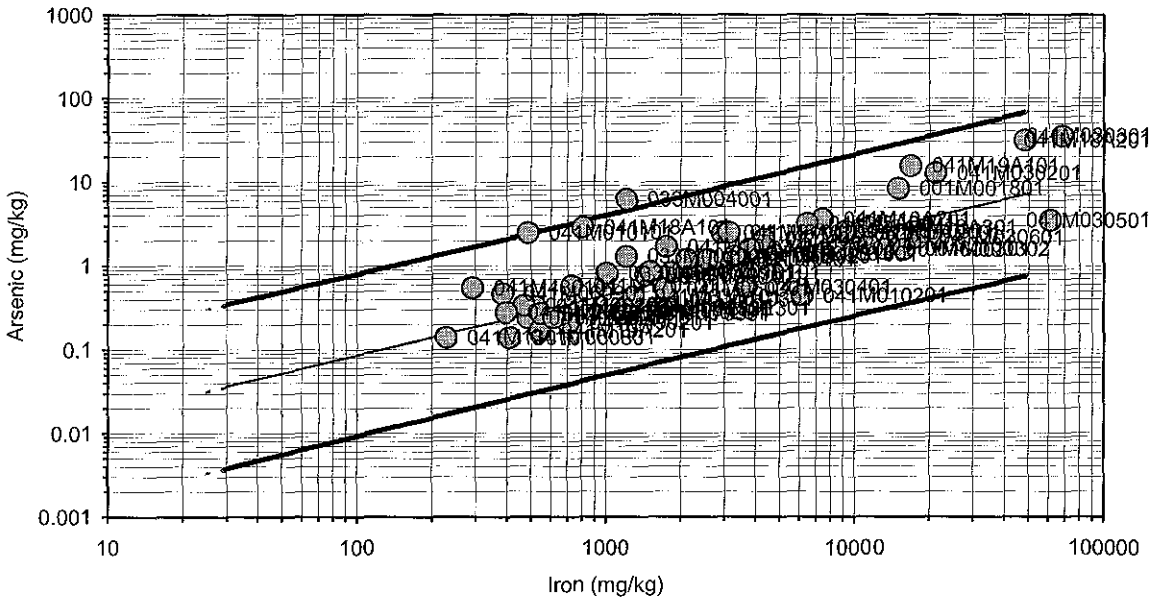
Regression Analysis of Inorganics in Freshwater Sediment

using

Carvalho, A., Schropp, S., Sloane, G., Biernacki, T., and Seal, T. (2002, May). *Development of an Interpretive Tool for Assessment of Metal Enrichment in Florida Freshwater Sediment.* Florida Department of Environmental Protection, Tallahassee, FL.

Phase II Data Freshwater Wetlands

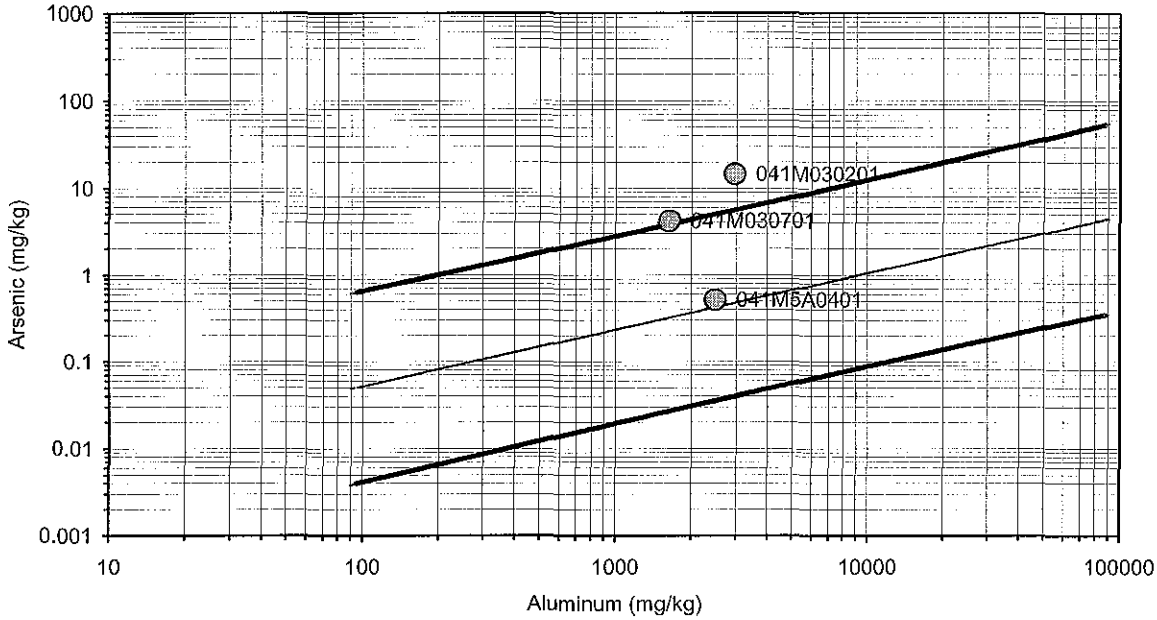


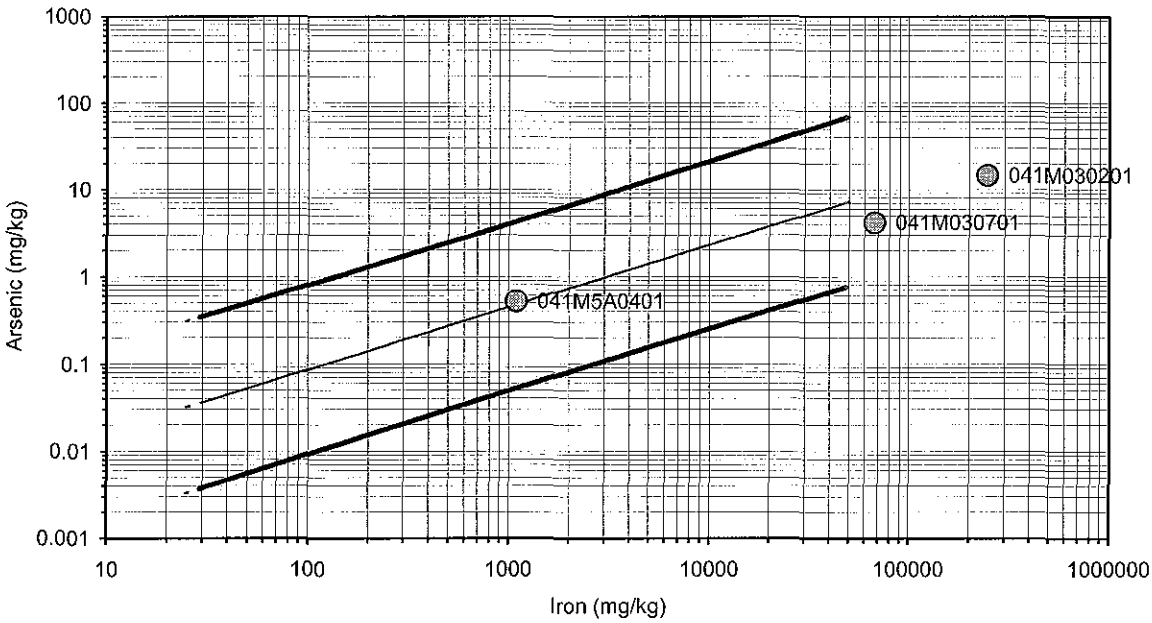


	Phase II Sediment Arsenic, Aluminum and Iron (mg/kg)											
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
001M000301	2540	13200	1.6									
001M000302	809	15800	1.6									
001M001601	5120	4680	1.4									
001M001801	8120	15000	8.4									
033M001001	2660	1210	1.3									
033M002001	2340	1010	0.82									
033M004001	4150	1210	6.2									
041M010101	2230	484	2.5									
041M010201	27800	6150	0.44									
041M010301	1510	1770	0.4									
041M010401	4290	2930	2.5									
041M030101	3590	11400	1.8									
041M030201	7780	21200	12.8									
041M030301	1570	68000	35.5									
041M030401	426	3660	0.56									
041M030501	546	61100	3.5									
041M030601	788	18000	2.2									
041M030701	25600	386000	27.1									
041M060101	1650	1620	0.74									
041M060201	1410	1150	0.28									
041M060301	2360	1730	0.53									
041M060601	3990	3640	1.4									
041M060701	5980	4320	2.1									
041M060801	618	410	0.14									
041M060901	562	384	0.47									
041M061001	582	517	0.33									
041M061101	482	1200	0.3									
041M10A101	3490	2570	1.2									
041M10A201	8910	7420	3.6									
041M10A301	3350	1750	1.7									
041M120201	3070	484	0.24									
041M130101	1590	229	0.14									
041M170101	516	727	0.58									
041M170201	438	467	0.34									
041M170301	842	1190	0.27									
041M18A101	9540	805	2.9									
041M18A201	2720	48200	31.4									
041M18A301	1550	11400	2.9									
041M19A101	18900	16800	15.7									
041M19A201	494	545	0.17									
041M19B101	976	1840	0.83									
041M480101	1400	290	0.55									

	Phase II Sediment Arsenic, Aluminum and Iron (mg/kg)											
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M490201	3560	707	0.21									
041M52E301	3060	1680	0.31									
041M56A101	2560	1210	0.33									
041M570101	5520	3790	1.6									
041M580101	1360	548	0.27									
041M5A0101	18700	9830	2.5									
041M5A0201	3630	3120	2.5									
041M5A0301	13000	9210	2.6									
041M5A0401	8470	2120	1.2									
041M5A0501	11300	6440	3.2									
041M5A0701	1040	1440	0.78									
041M5B0201	10500	3290	1.3									
041M63B101	1960	1290	0.43									
041M63B201	374	616	0.24									
041M720101	2450	1510	0.86									
041M720201	736	397	0.28									

Phase III Data Freshwater Wetlands

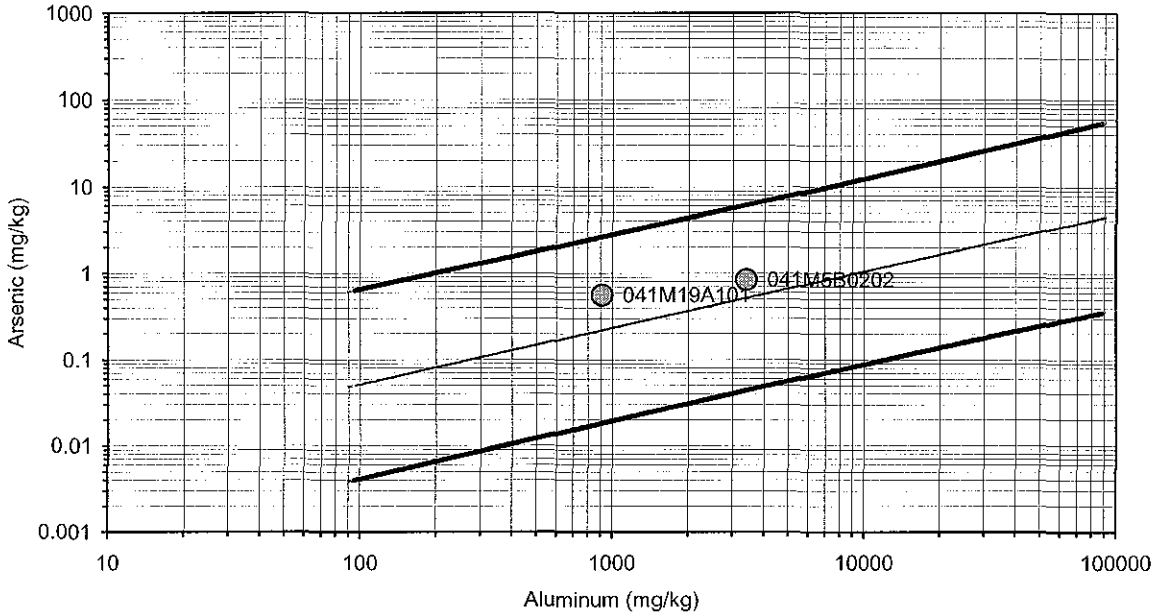


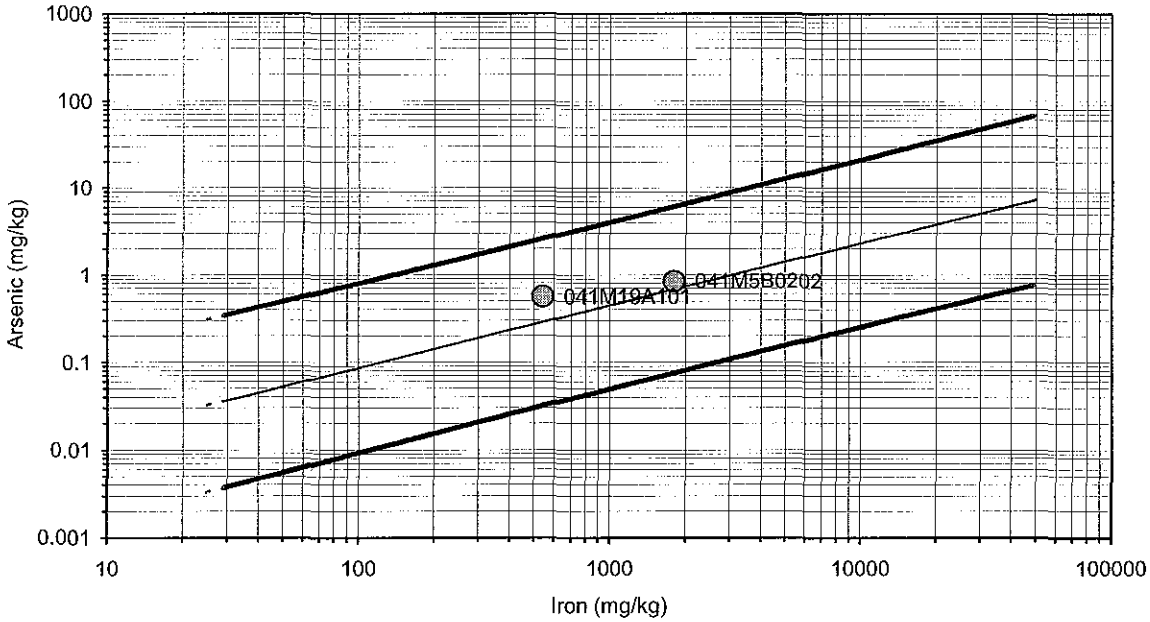


Phase III Freshwater Sediment Aluminum, Iron and Arsenic (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M030201	2950	246000	14.6									
041M030701	1630	67100	4.2									
041M5A0401	2480	1090	0.52									

2004 Data Freshwater Wetlands

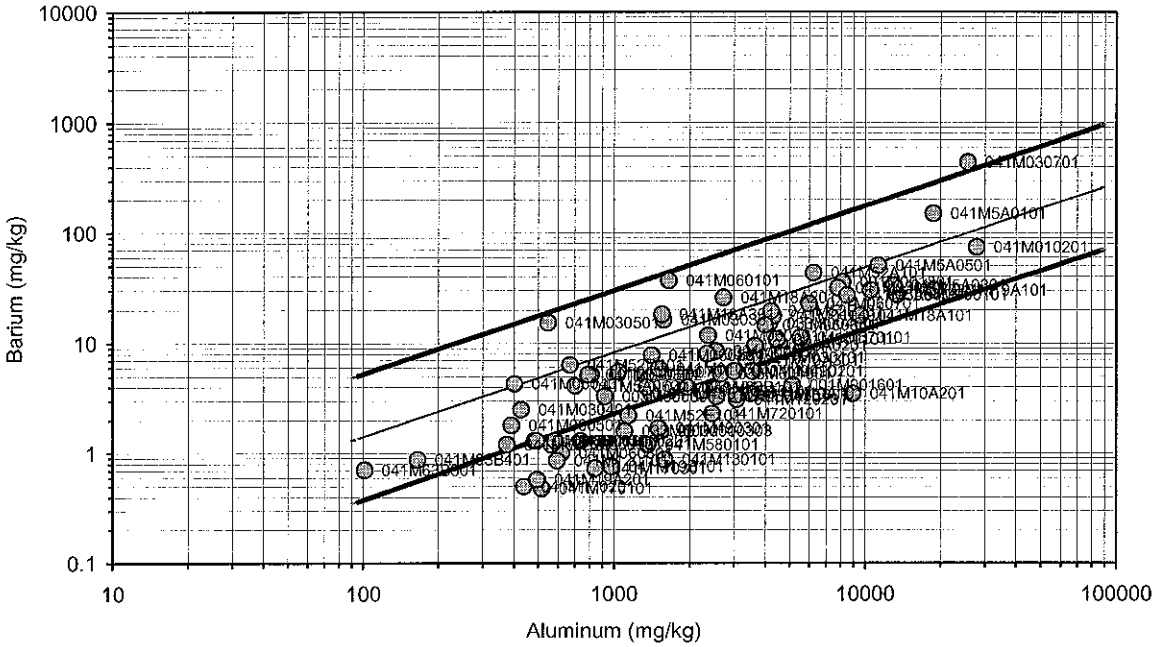


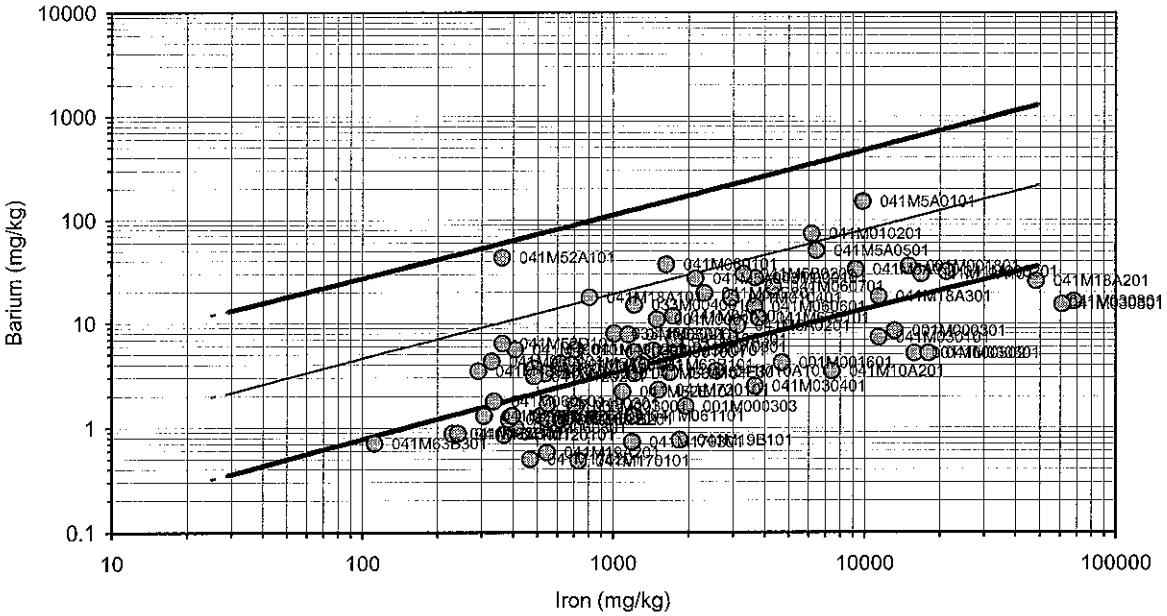


2004 Freshwater Sediment Aluminum, Iron and Arsenic (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M19A101	910	540	0.56									
041M5B0202	3400	1800	0.84									

Phase II Data Freshwater Wetlands

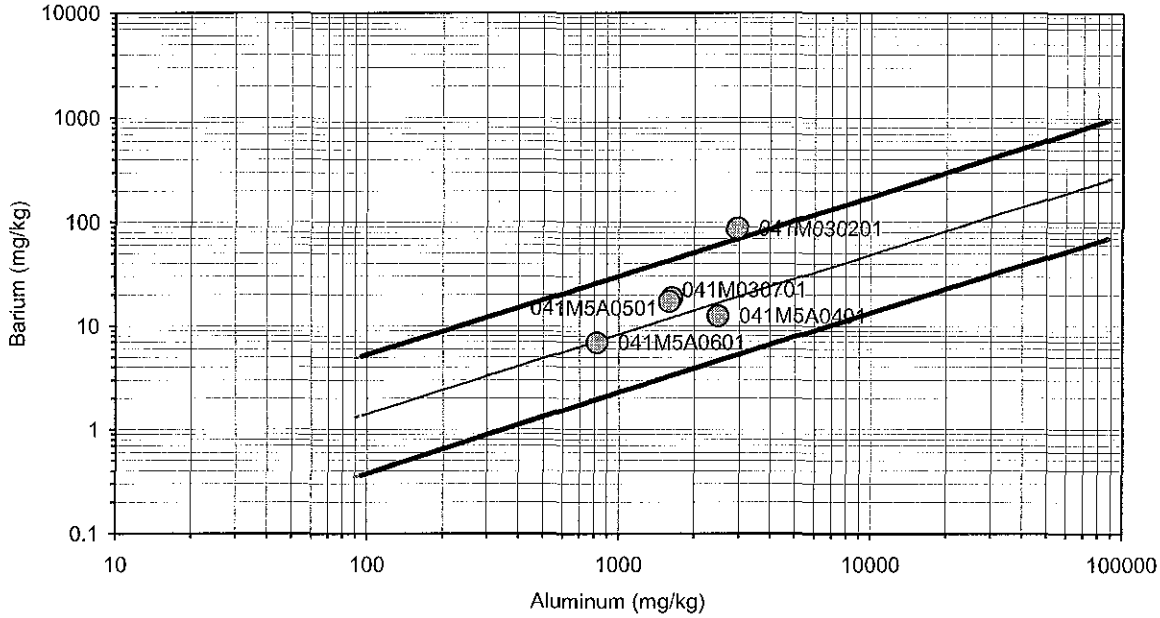


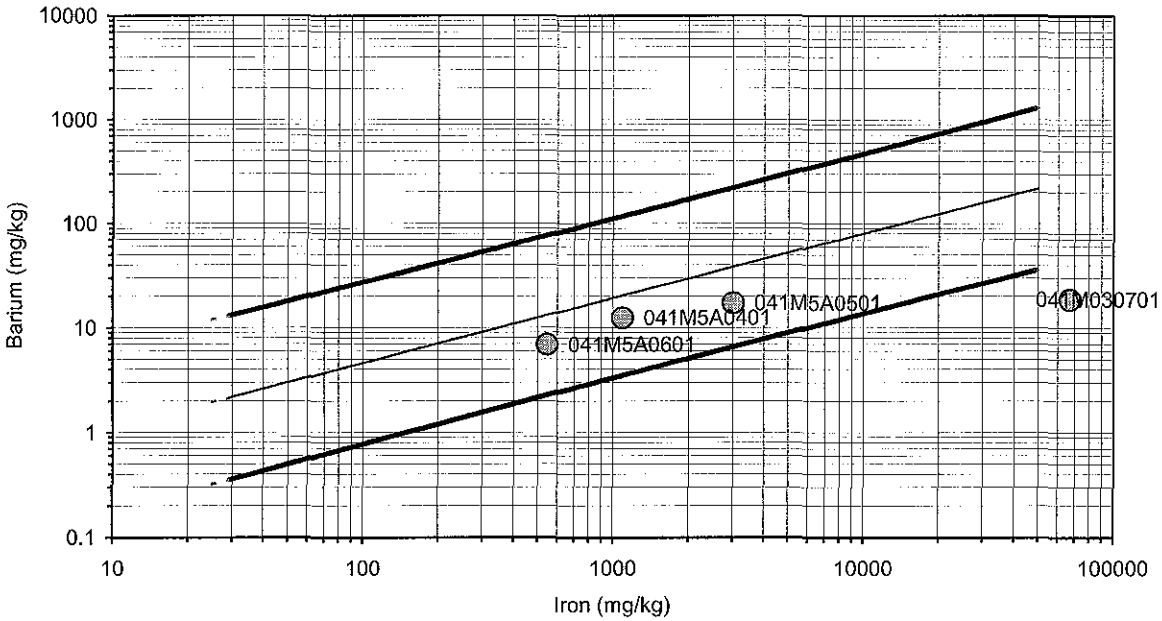


Phase II Freshwater Sediment - Aluminum, Iron and Barium (mg/kg)												
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
001M000101	4430	1490		10.9								
001M000301	2540	13200		8.5								
001M000302	809	15800		5.2								
001M000303	1530	1940		1.6								
001M001601	5120	4680		4.2								
001M001801	8120	15000		35.9								
003M000101	13400	3670		27.6								
003M000301	919	536		3.3								
033M001001	2660	1210		5.3								
033M002001	2340	1010		8								
033M003001	1100	710		1.6								
033M004001	4150	1210		15.1								
041M010101	2230	484		3.7								
041M010201	27800	6150		73.9								
041M010301	1510	1770		5.9								
041M010401	4290	2930		17.7								
041M030101	3590	11400		7.4								
041M030201	7780	21200		31.7								
041M030301	1570	68000		16.4								
041M030401	426	3660		2.5								
041M030501	546	61100		15.4								
041M030601	788	18000		5.2								
041M030701	25600	386000		438								
041M060101	1650	1620		37								
041M060201	1410	1150		7.8								
041M060301	2360	1730		11.8								
041M060401	400	328		4.3								
041M060501	390	335		1.8								
041M060601	3990	3640		14.6								
041M060701	5980	4320		22.8								
041M060801	618	410		1								
041M060901	562	384		1.2								
041M061001	582	517		1.3								
041M061101	482	1200		1.3								
041M10A101	3490	2570		3.5								
041M10A201	8910	7420		3.5								
041M10A301	3350	1750		7								
041M120101	593	367		0.86								
041M120201	3070	484		3.1								
041M130101	1590	229		0.88								
041M170101	516	727		0.48								

	Phase II Freshwater Sediment - Aluminum, Iron and Barium (mg/kg)											
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M170201	438	467		0.5								
041M170301	842	1190		0.73								
041M18A101	9540	805		17.9								
041M18A201	2720	48200		25.9								
041M18A301	1550	11400		18.3								
041M19A101	18900	16800		30.2								
041M19A201	494	545		0.58								
041M19B101	976	1840		0.76								
041M480101	1400	290		3.5								
041M490101	3000	407		5.6								
041M490201	3560	707		5.6								
041M490301	1500	548		1.7								
041M52A101	6230	361		43.3								
041M52D101	667	362		6.4								
041M52E101	1140	1090		2.2								
041M52E201	4210	2300		19.6								
041M52E301	3060	1680		3.4								
041M56A101	2560	1210		3.3								
041M570101	5520	3790		11.3								
041M580101	1360	548		1.2								
041M5A0101	18700	9830		150								
041M5A0201	3630	3120		9.5								
041M5A0301	13000	9210		33.4								
041M5A0401	8470	2120		27.2								
041M5A0501	11300	6440		50.8								
041M5A0601	699	616		4.1								
041M5A0701	1040	1440		5.5								
041M5B0101	491	306		1.3								
041M5B0201	10500	3290		30.2								
041M63B101	1960	1290		4								
041M63B201	374	616		1.2								
041M63B301	101	112		0.71								
041M63B401	165	241		0.88								
041M720101	2450	1510		2.3								
041M720201	736	397		1.3								
041M750101	1350	681		4								

Phase III Data Freshwater Wetlands

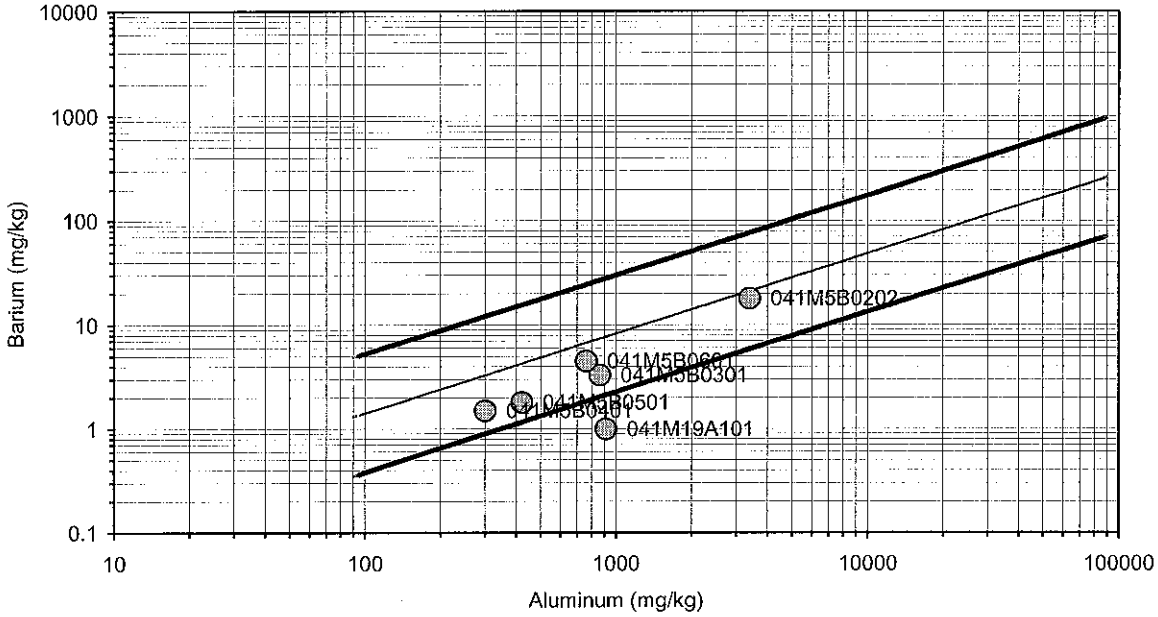


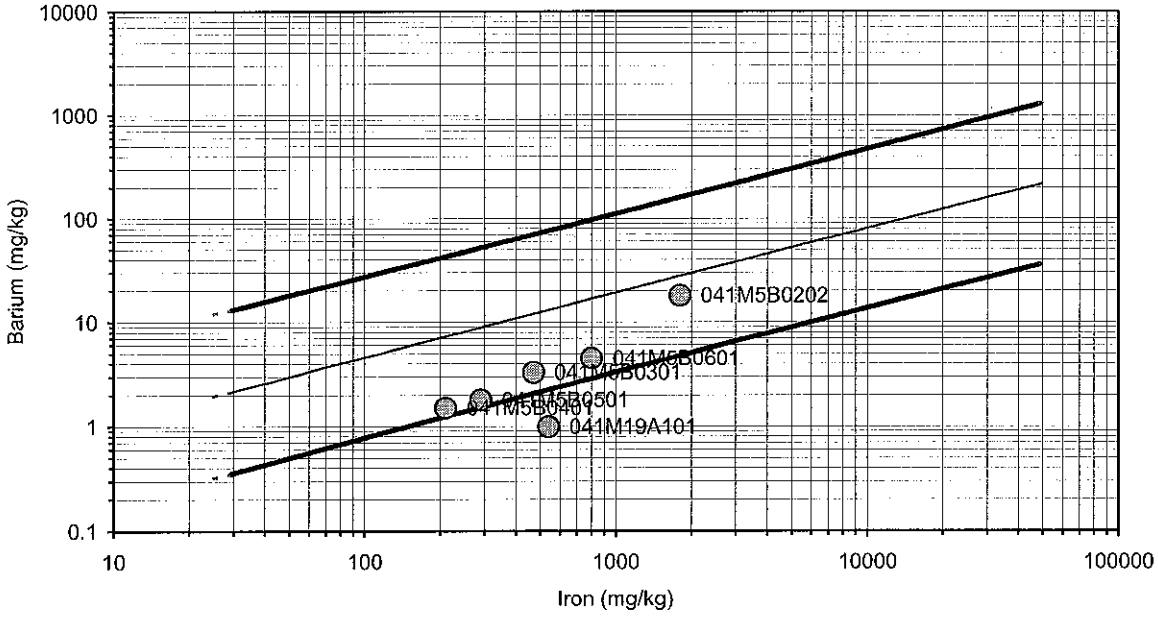


Phase III Freshwater Sediment - Aluminum, Iron and Barium (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M030201	2950	246000	14.6	87		12.1		20.6	0.1			45.8
041M030701	1630	67100	4.2	18.7	9.3	19	4	35.6	0.06	3.1	0.42	234
041M5A0401	2480	1090	0.52	12.5	0.42	4.1	21.5	54.5	0.13	2.5		77.1
041M5A0501	1590	3020		17.2	3.2	50.1	108	258	0.09	7.5	0.15	394
041M5A0601	821	546		6.9	1.2	24.4	25.6	75.5	0.06	1.8		103

2004 Data Freshwater Wetlands

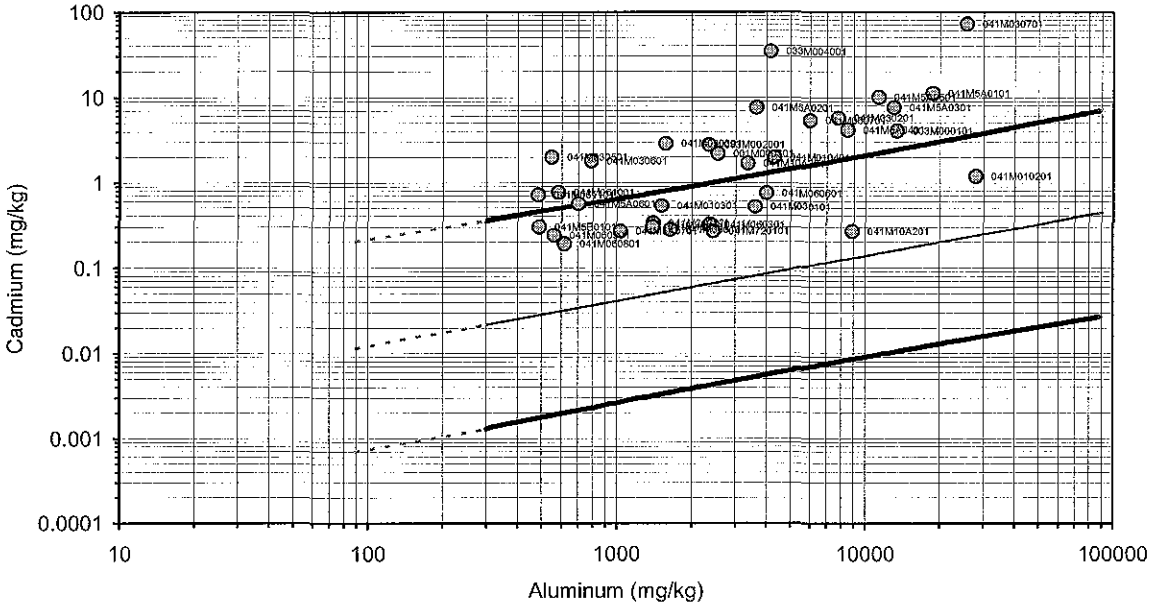


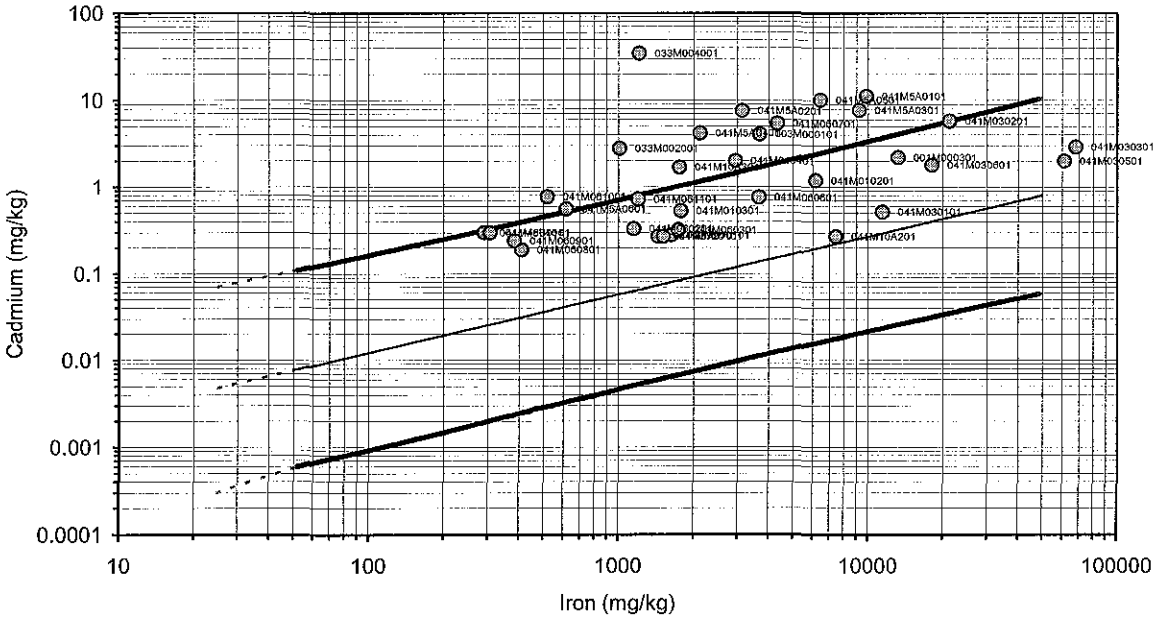


2004 Freshwater Sediment - Aluminum, Iron and Barium (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M19A101	910	540	0.56	0.99		0.95	0.47	1.5		0.26		1.3
041M5B0202	3400	1800	0.84	18	31	470	90	420	0.22	20	6.4	200
041M5B0301	860	470		3.3	1	24	12	38	0.08	1.2		45
041M5B0401	300	210		1.5	0.95	14	5.3	19		0.61		28
041M5B0501	420	290		1.8	1.1	23	7.8	24	0.01	0.97		19
041M5B0601	760	800		4.5	5.1	55	16	48	0.12	3	0.38	60

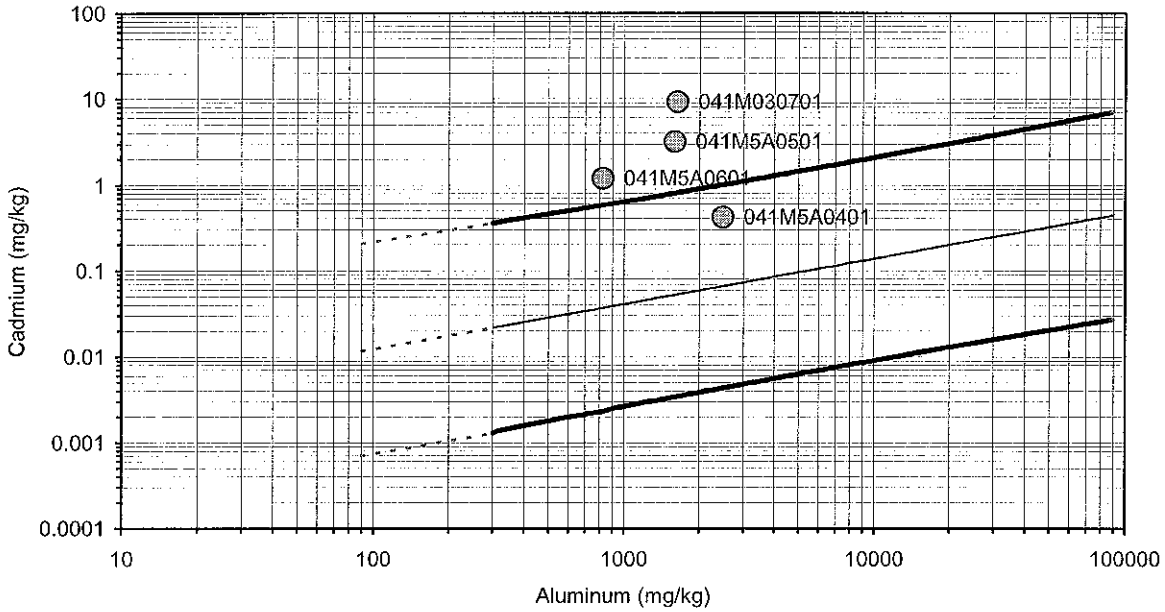
Phase II Data Freshwater Wetlands

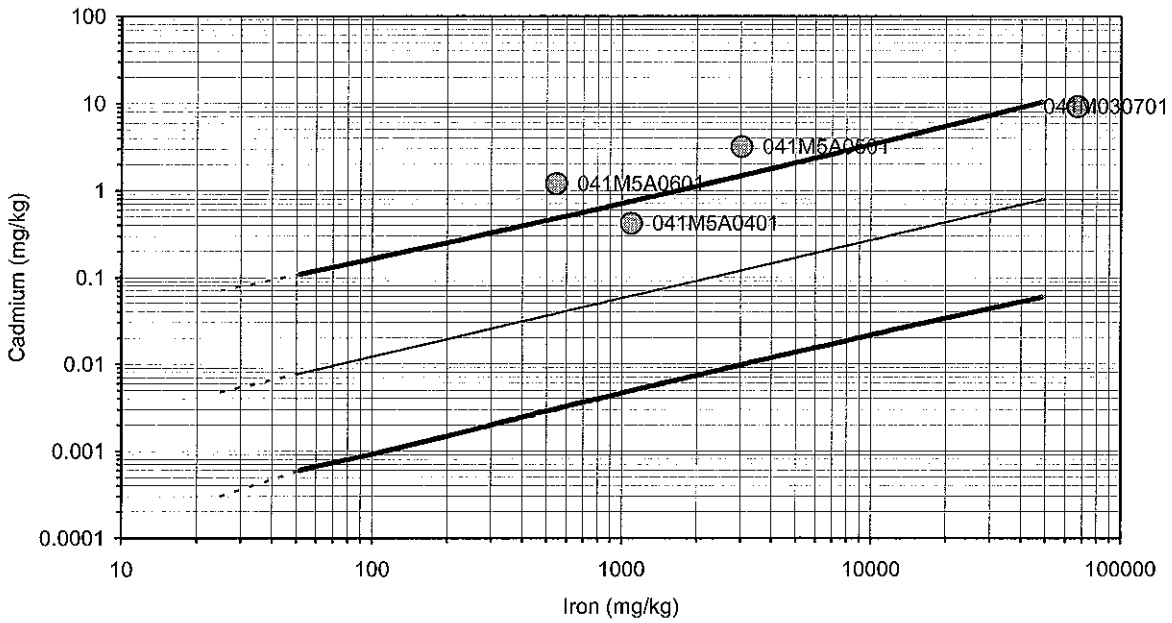




	Phase II Freshwater Sediment - Aluminum, Iron and Cadmium (mg/kg)											
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
001M000301	2540	13200			2.2							
003M000101	13400	3670			4.1							
033M002001	2340	1010			2.8							
033M004001	4150	1210			34.6							
041M010201	27800	6150			1.2							
041M010301	1510	1770			0.53							
041M010401	4290	2930			2							
041M030101	3590	11400			0.52							
041M030201	7780	21200			5.8							
041M030301	1570	68000			2.9							
041M030501	546	61100			2							
041M030601	788	18000			1.8							
041M030701	25600	386000			72.7							
041M060101	1650	1620			0.28							
041M060201	1410	1150			0.33							
041M060301	2360	1730			0.32							
041M060601	3990	3640			0.76							
041M060701	5980	4320			5.4							
041M060801	618	410			0.19							
041M060901	562	384			0.24							
041M061001	582	517			0.77							
041M061101	482	1200			0.72							
041M10A201	8910	7420			0.27							
041M10A301	3350	1750			1.7							
041M480101	1400	290			0.3							
041M5A0101	18700	9830			11.2							
041M5A0201	3630	3120			7.6							
041M5A0301	13000	9210			7.7							
041M5A0401	8470	2120			4.2							
041M5A0501	11300	6440			10.1							
041M5A0601	699	616			0.56							
041M5A0701	1040	1440			0.27							
041M5B0101	491	306			0.3							
041M5B0201	10500	3290			220							
041M720101	2450	1510			0.27							

Phase III Data Freshwater Wetlands





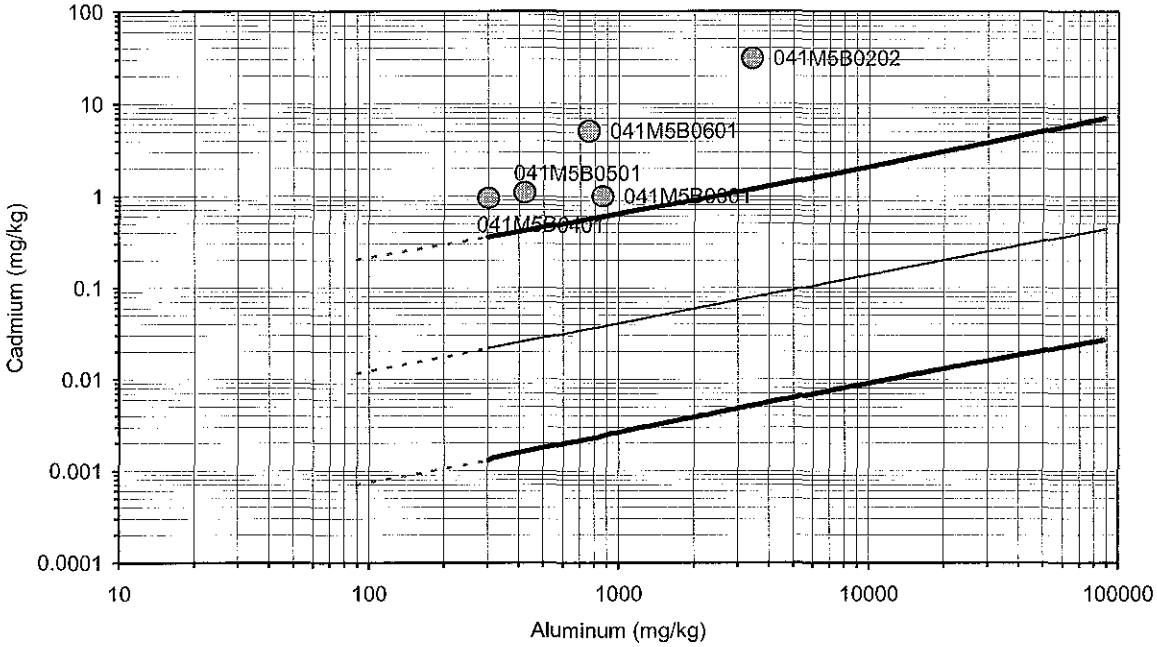
Phase III Freshwater Sediment - Aluminum, Iron and Cadmium (mg/kg)

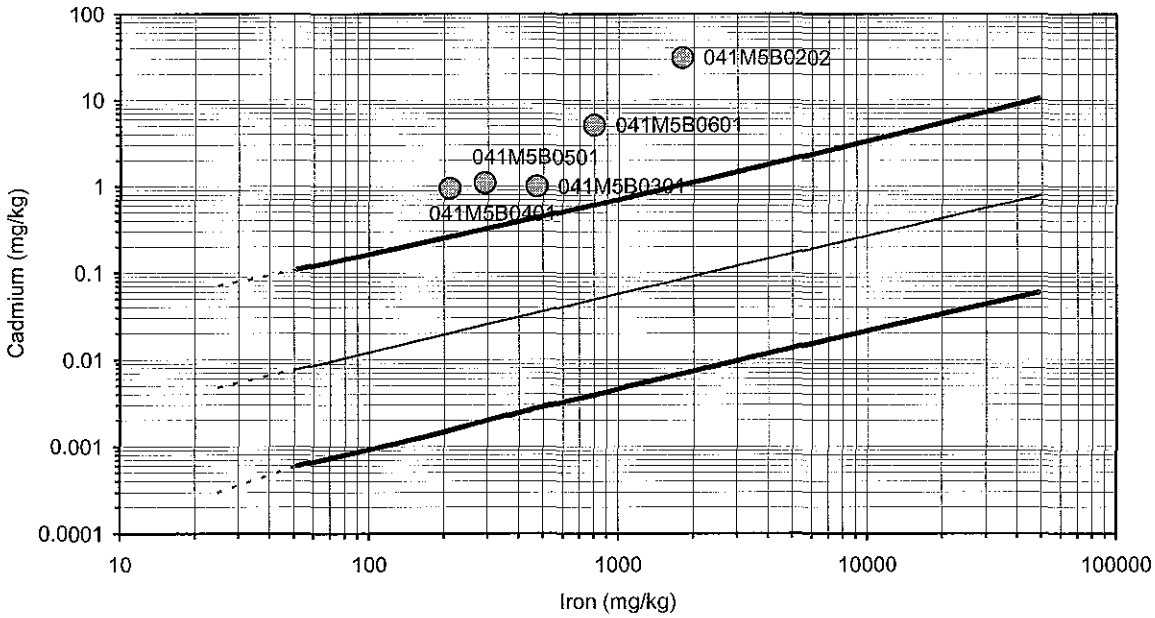
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M030701	1630	67100			9.3							
041M5A0401	2480	1090			0.42							
041M5A0501	1590	3020			3.2							
041M5A0601	821	546			1.2							

2004 Freshwater Sediment - Aluminum, Iron and Cadmium (mg/kg)

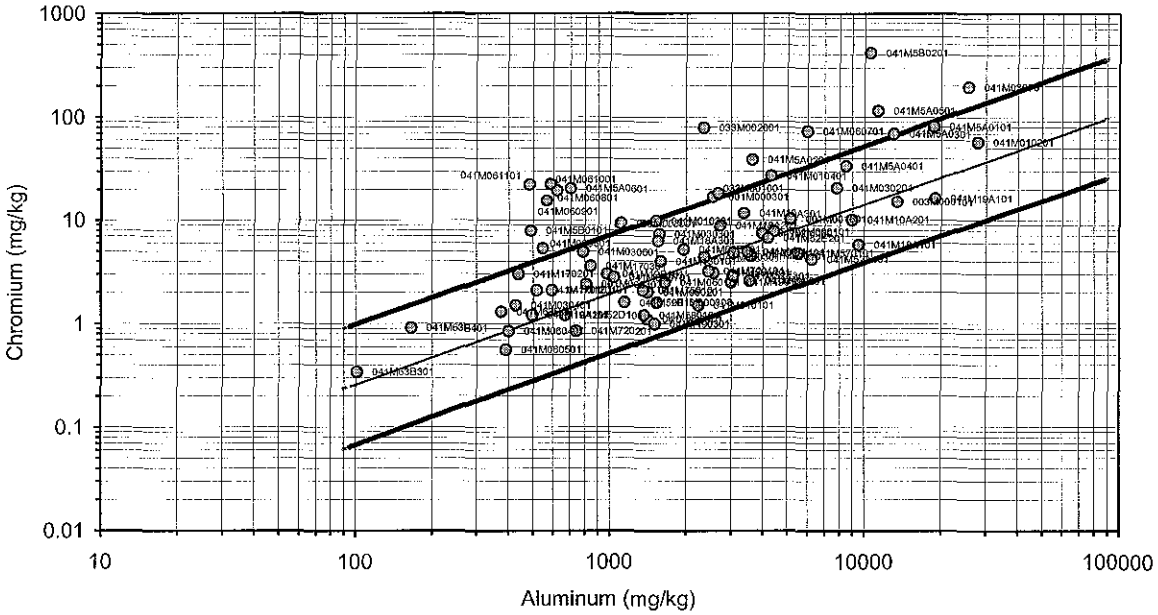
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M5B0202	3400	1800			31							
041M5B0301	860	470			1							
041M5B0401	300	210			0.95							
041M5B0501	420	290			1.1							
041M5B0601	760	800			5.1							

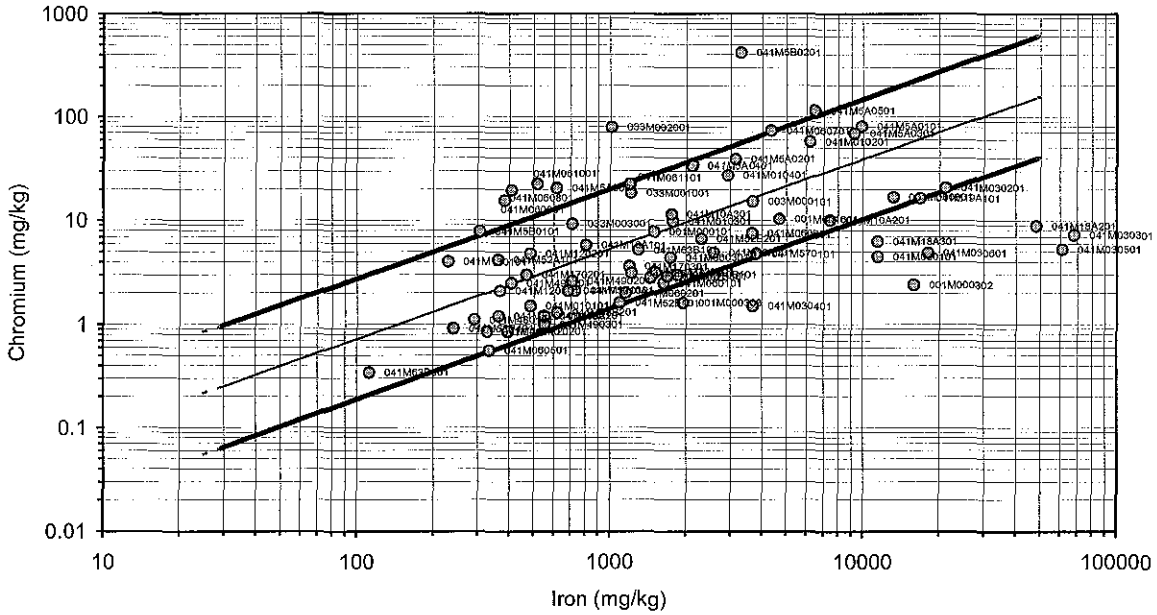
2004 Data Freshwater Data





Phase II Data Freshwater Wetlands

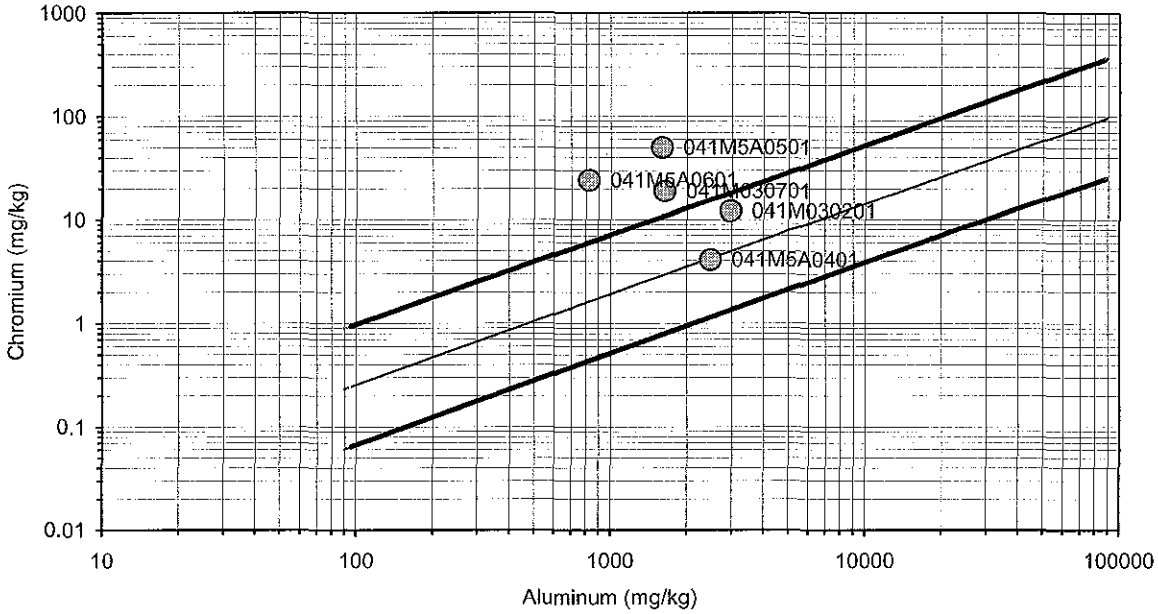


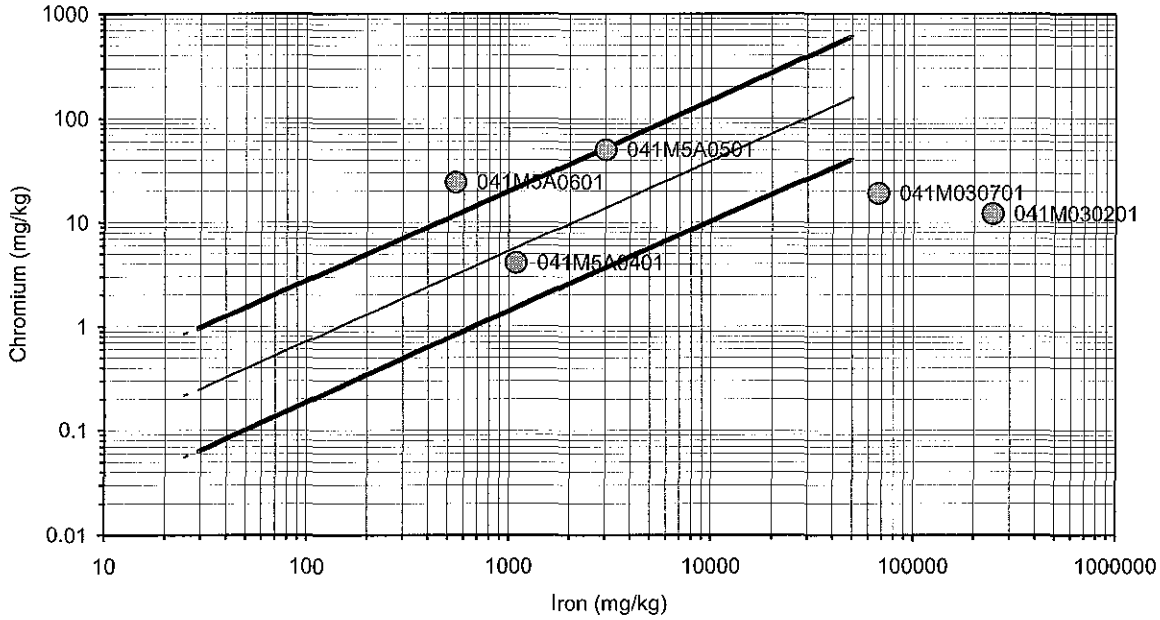


Phase II Freshwater Sediment - Aluminum, Iron and Chromium (mg/kg)												
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
001M000101	4430	1490				7.8						
001M000301	2540	13200				16.9						
001M000302	809	15800				2.4						
001M000303	1530	1940				1.6						
001M001601	5120	4680				10.3						
003M000101	13400	3670				15.2						
033M001001	2660	1210				18.5						
033M002001	2340	1010				79						
033M003001	1100	710				9.3						
033M004001	4150	1210				1180						
041M010101	2230	484				1.5						
041M010201	27800	6150				57.7						
041M010301	1510	1770				9.8						
041M010401	4290	2930				27.3						
041M030101	3590	11400				4.5						
041M030201	7780	21200				20.8						
041M030301	1570	68000				7.3						
041M030401	426	3660				1.5						
041M030501	546	61100				5.3						
041M030601	788	18000				4.9						
041M030701	25600	386000				196						
041M060101	1650	1620				2.5						
041M060201	1410	1150				2						
041M060301	2360	1730				4.4						
041M060401	400	328				0.85						
041M060501	390	335				0.56						
041M060601	3990	3640				7.5						
041M060701	5980	4320				73.5						
041M060801	618	410				19.6						
041M060901	562	384				15.6						
041M061001	582	517				22.6						
041M061101	482	1200				22.4						
041M10A101	3490	2570				4.9						
041M10A201	8910	7420				10.1						
041M10A301	3350	1750				11.6						
041M120101	593	367				2.1						
041M120201	3070	484				4.8						
041M130101	1590	229				4						
041M170101	516	727				2.1						
041M170201	438	467				3						
041M170301	842	1190				3.6						

	Phase II Freshwater Sediment - Aluminum, Iron and Chromium (mg/kg)											
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M18A101	9540	805				5.8						
041M18A201	2720	48200				8.9						
041M18A301	1550	11400				6.3						
041M19A101	18900	16800				16.5						
041M19A201	494	545				1.2						
041M19B101	976	1840				3						
041M480101	1400	290				1.1						
041M490101	3000	407				2.5						
041M490201	3560	707				2.6						
041M490301	1500	548				0.99						
041M52A101	6230	361				4.2						
041M52D101	667	362				1.2						
041M52E101	1140	1090				1.6						
041M52E201	4210	2300				6.7						
041M52E301	3060	1680				2.9						
041M56A101	2560	1210				3.1						
041M570101	5520	3790				4.8						
041M580101	1360	548				1.2						
041M5A0101	18700	9830				81.1						
041M5A0201	3630	3120				38.9						
041M5A0301	13000	9210				69.3						
041M5A0401	8470	2120				33.7						
041M5A0501	11300	6440				115						
041M5A0601	699	616				20.6						
041M5A0701	1040	1440				2.8						
041M5B0101	491	306				7.9						
041M5B0201	10500	3290				416						
041M63B101	1960	1290				5.2						
041M63B201	374	616				1.3						
041M63B301	101	112				0.34						
041M63B401	165	241				0.91						
041M720101	2450	1510				3.2						
041M720201	736	397				0.85						
041M750101	1350	681				2.1						

Phase III Data Freshwater Wetlands

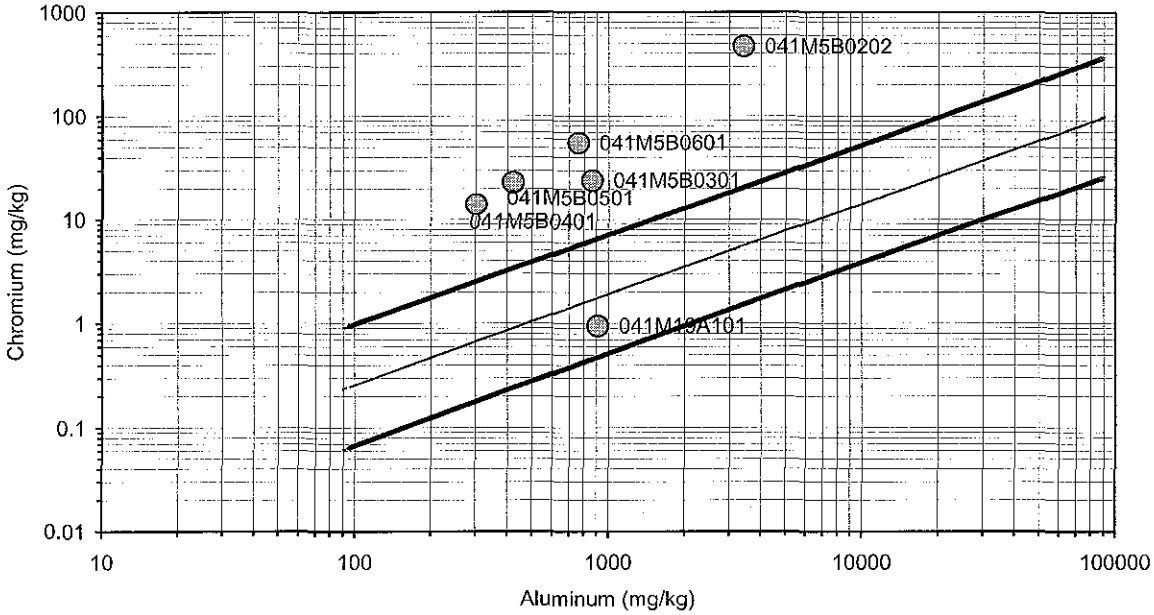


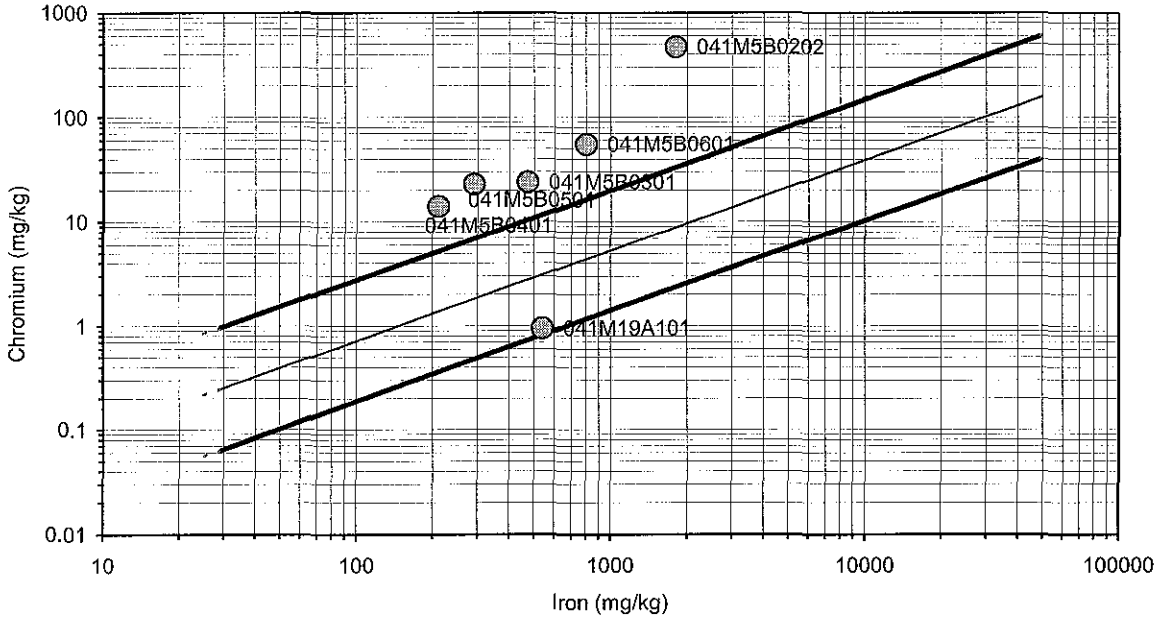


Phase III Freshwater Sediment - Aluminum, Iron and Chromium (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M030201	2950	246000				12.1						
041M030701	1630	67100				19						
041M5A0401	2480	1090				4.1						
041M5A0501	1590	3020				50.1						
041M5A0601	821	546				24.4						

2004 Data Freshwater Wetlands

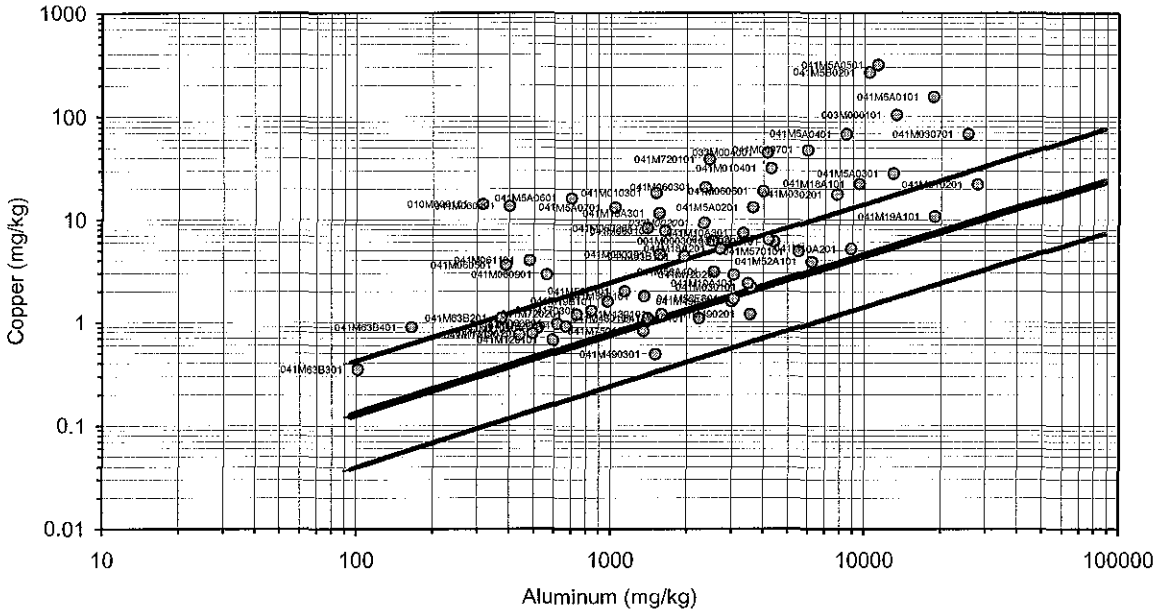


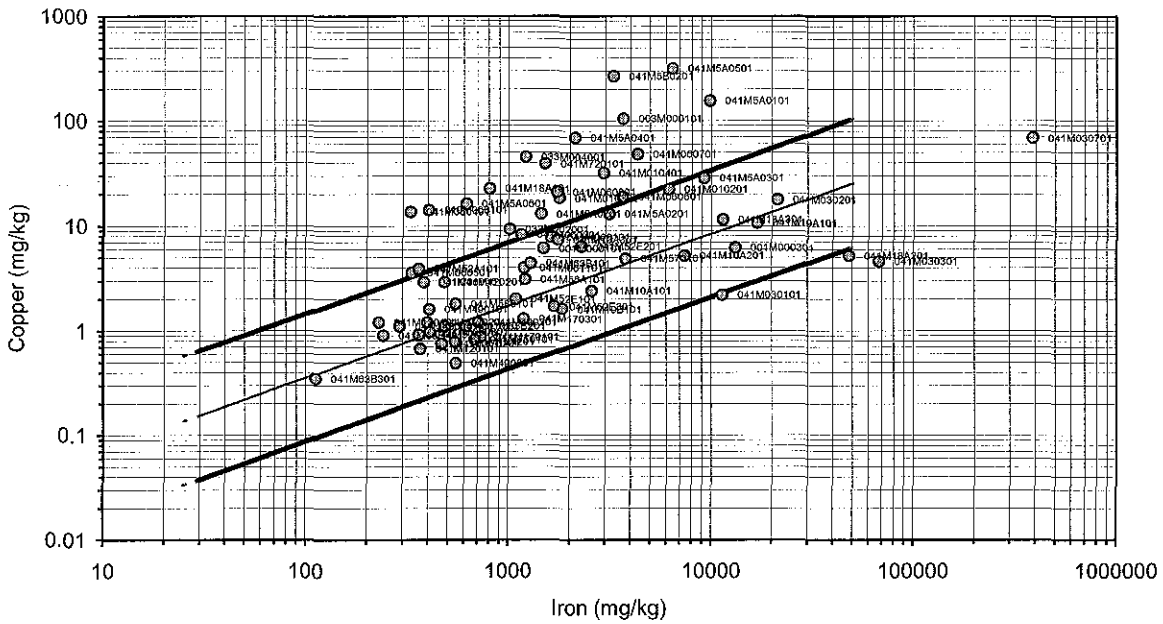


2004 Freshwater Sediment - Aluminum, Iron and Chromium (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M19A101	910	540				0.95						
041M5B0202	3400	1800				470						
041M5B0301	860	470				24						
041M5B0401	300	210				14						
041M5B0501	420	290				23						
041M5B0601	760	800				55						

Phase II Data Freshwater Wetlands

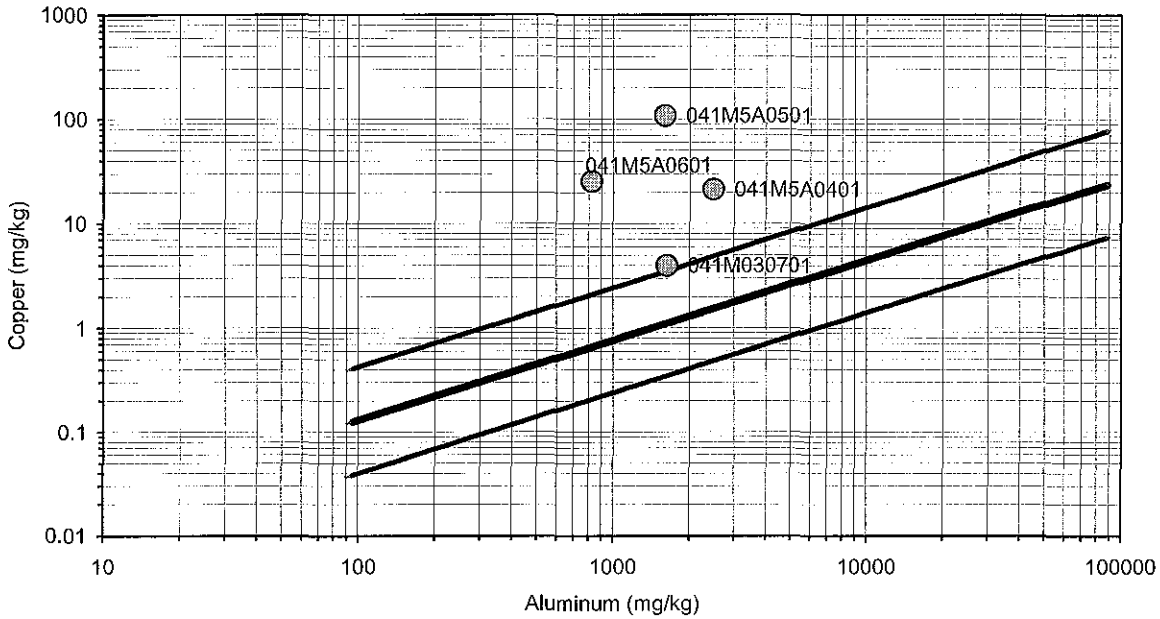


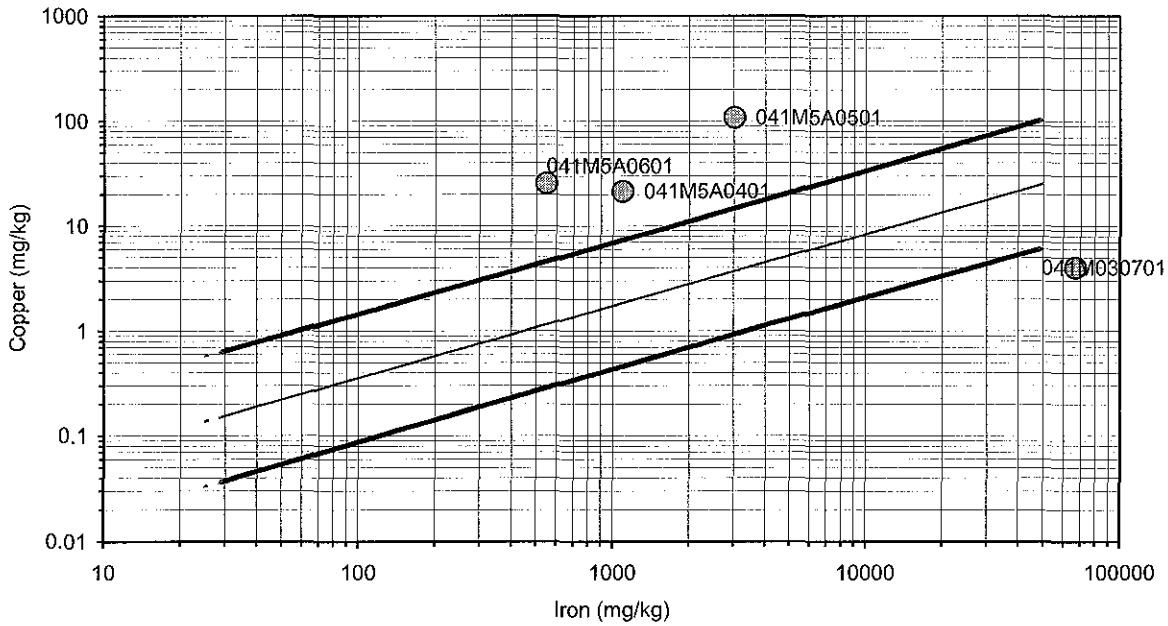


Phase II Freshwater Sediment - Aluminum, Iron and Copper (mg/kg)												
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
001M000101	4430	1490					6.1					
001M000301	2540	13200					6.2					
003M000101	13400	3670					105					
010M000101	313	402					14.2					
033M002001	2340	1010					9.3					
033M004001	4150	1210					45.1					
041M010101	2230	484					1.1					
041M010201	27800	6150					22.3					
041M010301	1510	1770					18.3					
041M010401	4290	2930					31.8					
041M030101	3590	11400					2.2					
041M030201	7780	21200					17.8					
041M030301	1570	68000					4.6					
041M030701	25600	386000					68.8					
041M060101	1650	1620					7.8					
041M060201	1410	1150					8.3					
041M060301	2360	1730					20.9					
041M060401	400	328					13.6					
041M060501	390	335					3.6					
041M060601	3990	3640					19					
041M060701	5980	4320					48.2					
041M060801	618	410					0.97					
041M060901	562	384					2.9					
041M061101	482	1200					4					
041M10A101	3490	2570					2.4					
041M10A201	8910	7420					5.2					
041M10A301	3350	1750					7.4					
041M120101	593	367					0.67					
041M120201	3070	484					2.9					
041M130101	1590	229					1.2					
041M170101	516	727					0.87					
041M170201	438	467					0.75					
041M170301	842	1190					1.3					
041M18A101	9540	805					22.6					
041M18A201	2720	48200					5.2					
041M18A301	1550	11400					11.5					
041M19A101	18900	16800					10.7					
041M19A201	494	545					0.78					
041M19B101	976	1840					1.6					
041M480101	1400	290					1.1					
041M490101	3000	407					1.6					

	Phase II Freshwater Sediment - Aluminum, Iron and Copper (mg/kg)											
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M490201	3560	707					1.2					
041M490301	1500	548					0.49					
041M52A101	6230	361					3.9					
041M52D101	667	362					0.92					
041M52E101	1140	1090					2					
041M52E201	4210	2300					6.4					
041M52E301	3060	1680					1.7					
041M56A101	2560	1210					3.1					
041M570101	5520	3790					4.9					
041M580101	1360	548					1.8					
041M5A0101	18700	9830					156					
041M5A0201	3630	3120					13.1					
041M5A0301	13000	9210					28.5					
041M5A0401	8470	2120					68.9					
041M5A0501	11300	6440					317					
041M5A0601	699	616					16.2					
041M5A0701	1040	1440					13.1					
041M5B0201	10500	3290					268					
041M63B101	1960	1290					4.4					
041M63B201	374	616					1.1					
041M63B301	101	112					0.35					
041M63B401	165	241					0.9					
041M720101	2450	1510					38.9					
041M720201	736	397					1.2					
041M750101	1350	681					0.82					

Phase III Data Freshwater Wetlands

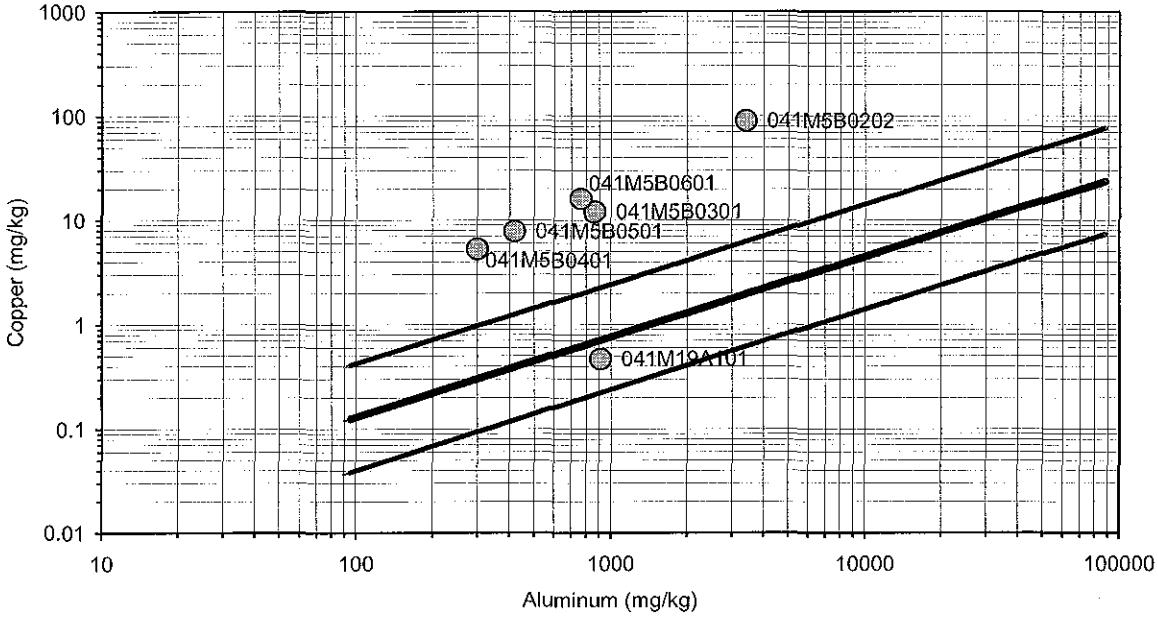


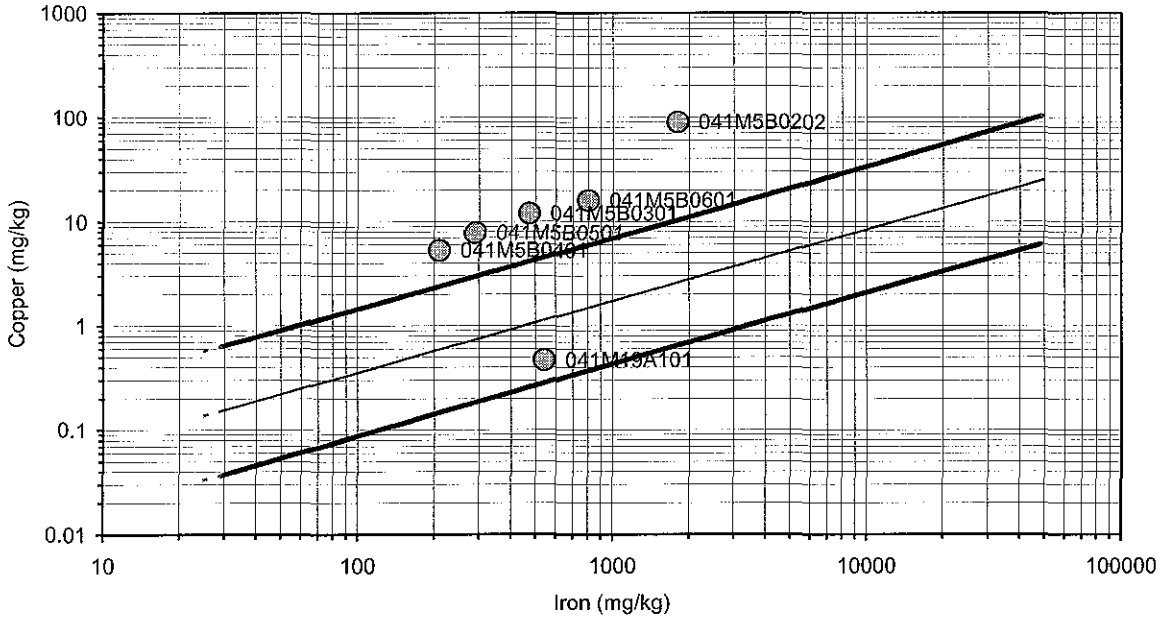


Phase III Freshwater Sediment - Aluminum, Iron and Copper (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M030701	1630	67100					4					
041M5A0401	2480	1090					21.5					
041M5A0501	1590	3020					108					
041M5A0601	821	546					25.6					

2004 Data Freshwater Wetlands

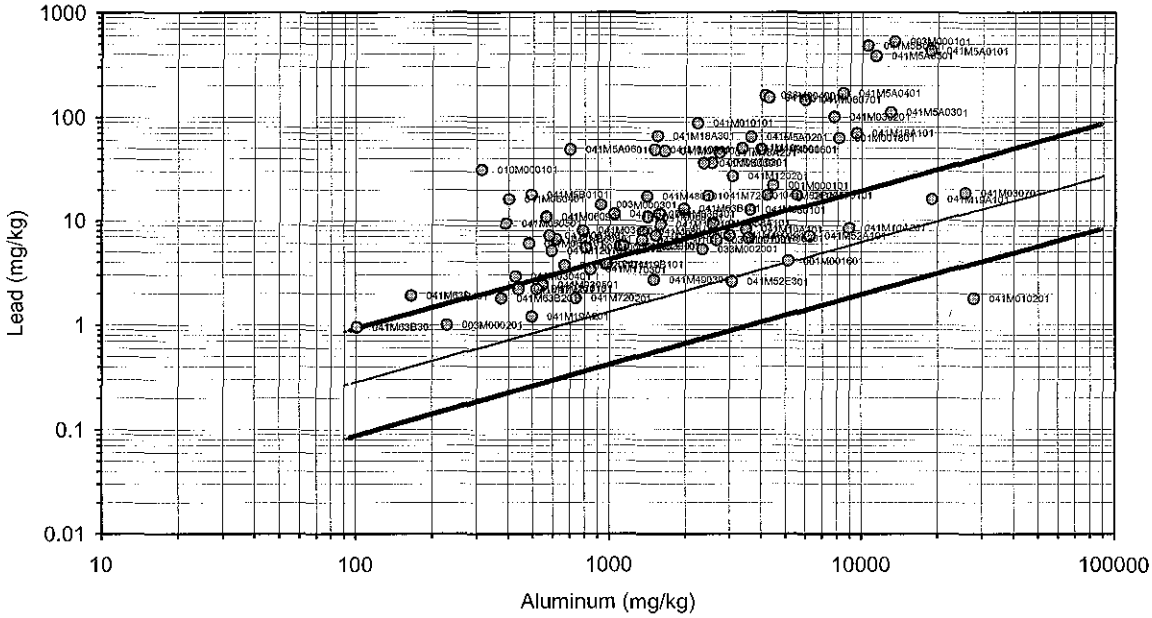


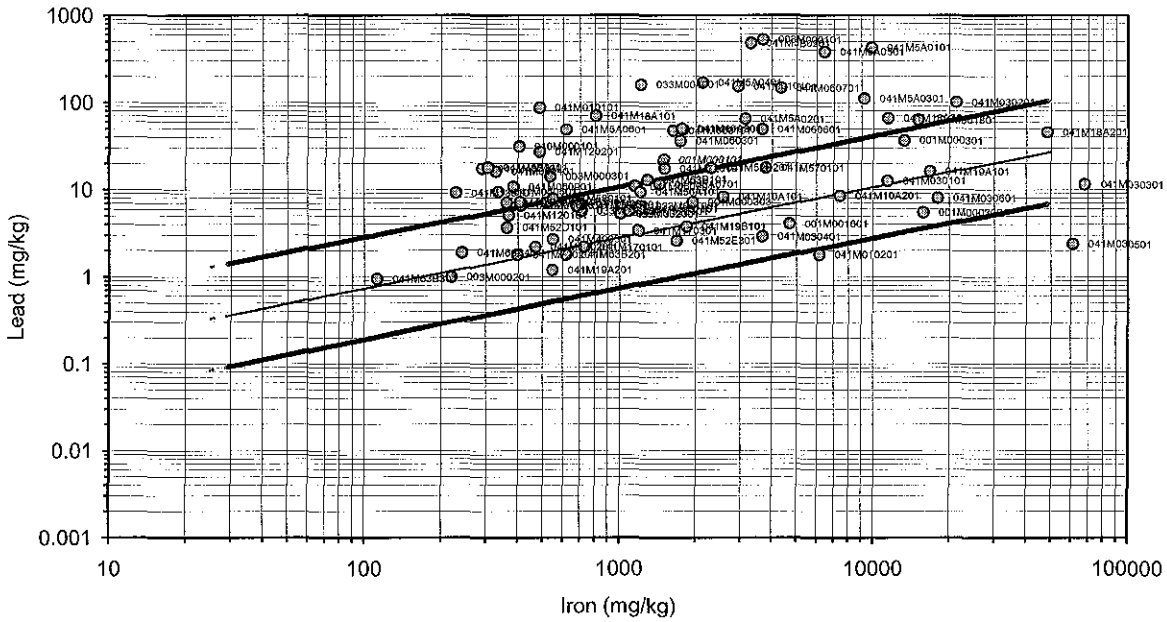


2004 Freshwater Sediment - Aluminum, Iron and Copper (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M19A101	910	540					0.47					
041M5B0202	3400	1800					90					
041M5B0301	860	470					12					
041M5B0401	300	210					5.3					
041M5B0501	420	290					7.8					
041M5B0601	760	800					16					

Phase II Data Freshwater Wetlands

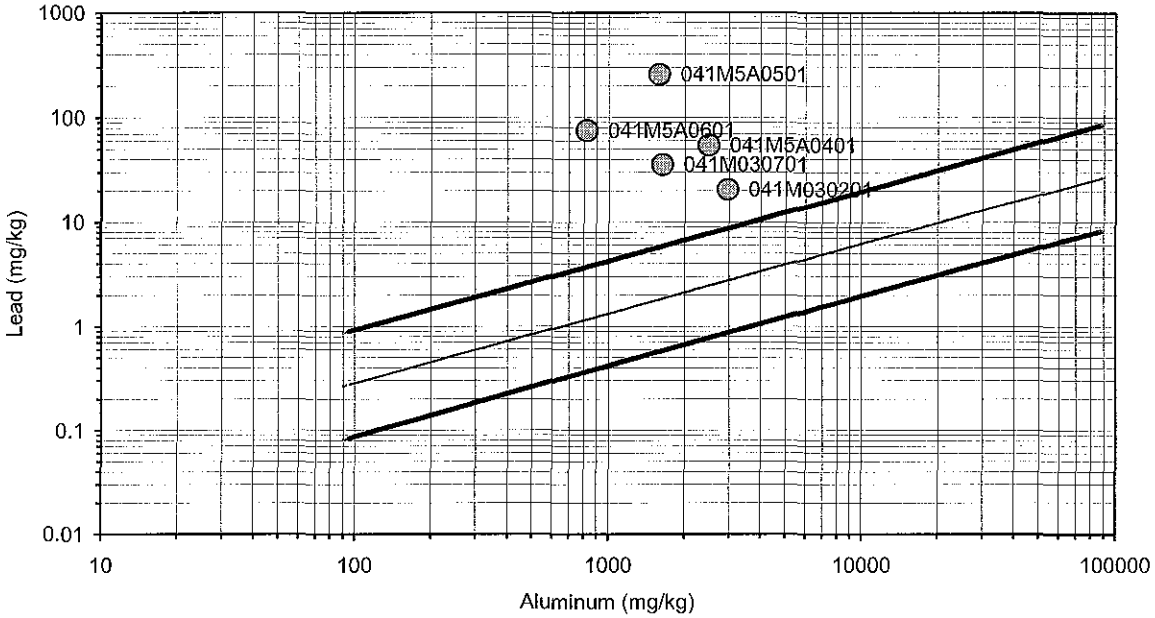


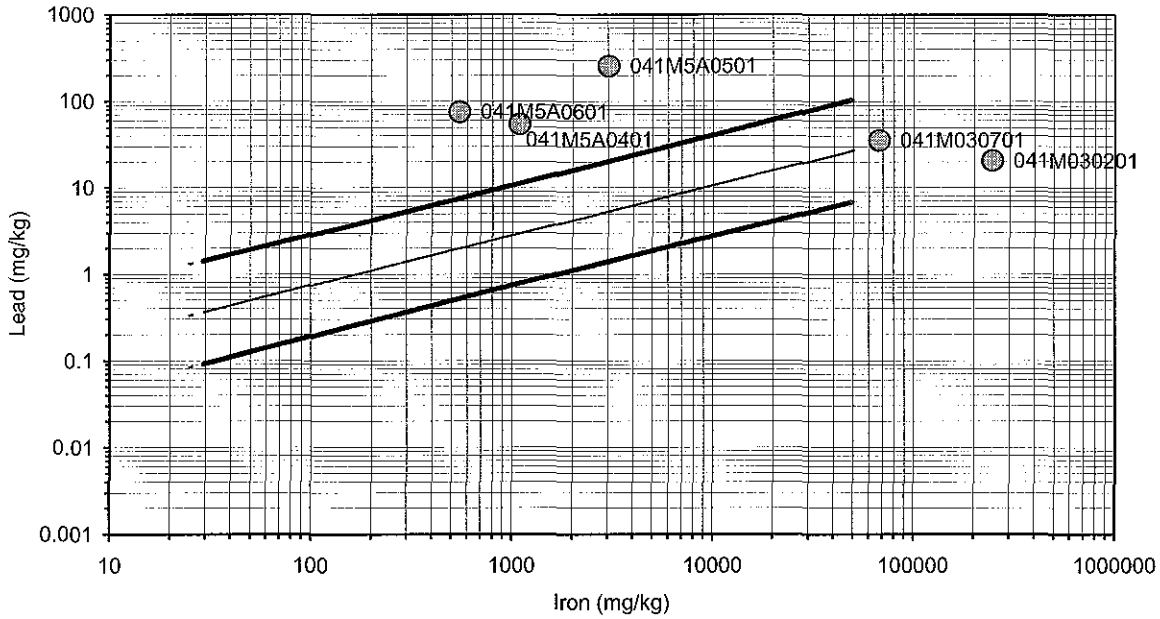


	Phase II Freshwater Sediment - Aluminum, Iron and Lead (mg/kg)											
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
001M000101	4430	1490						22				
001M000301	2540	13200						36.3				
001M000302	809	15800						5.5				
001M000303	1530	1940						7.2				
001M001601	5120	4680						4.1				
001M001801	8120	15000						63.3				
003M000101	13400	3670						525				
003M000201	228	219						1				
003M000301	919	536						14.1				
010M000101	313	402						31.4				
033M001001	2660	1210						6.5				
033M002001	2340	1010						5.3				
033M003001	1100	710						5.7				
033M004001	4150	1210						161				
041M010101	2230	484						87.3				
041M010201	27800	6150						1.8				
041M010301	1510	1770						48.8				
041M010401	4290	2930						153				
041M030101	3590	11400						12.6				
041M030201	7780	21200						101				
041M030301	1570	68000						11.5				
041M030401	426	3660						2.9				
041M030501	546	61100						2.4				
041M030601	788	18000						8				
041M030701	25600	386000						18.7				
041M060101	1650	1620						47.4				
041M060201	1410	1150						10.9				
041M060301	2360	1730						36.1				
041M060401	400	328						16.2				
041M060501	390	335						9.4				
041M060601	3990	3640						49.1				
041M060701	5980	4320						147				
041M060801	618	410						6.6				
041M060901	562	384						10.8				
041M061001	582	517						7.1				
041M061101	482	1200						6				
041M10A101	3490	2570						8.2				
041M10A201	8910	7420						8.5				
041M10A301	3350	1750						49.9				
041M120101	593	367						5.1				
041M120201	3070	484						27.1				

	Phase II Freshwater Sediment - Aluminum, Iron and Lead (mg/kg)											
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M130101	1590	229						9.2				
041M170101	516	727						2.2				
041M170201	438	467						2.2				
041M170301	842	1190						3.4				
041M18A101	9540	805						70.1				
041M18A201	2720	48200						45.4				
041M18A301	1550	11400						66				
041M19A101	18900	16800						16.2				
041M19A201	494	545						1.2				
041M19B101	976	1840						3.8				
041M480101	1400	290						17.4				
041M490101	3000	407						7.2				
041M490201	3560	707						6.8				
041M490301	1500	548						2.7				
041M52A101	6230	361						7.1				
041M52D101	667	362						3.7				
041M52E101	1140	1090						5.7				
041M52E201	4210	2300						17.7				
041M52E301	3060	1680						2.6				
041M56A101	2560	1210						9.4				
041M570101	5520	3790						17.7				
041M580101	1360	548						7.8				
041M5A0101	18700	9830						427				
041M5A0201	3630	3120						64.6				
041M5A0301	13000	9210						111				
041M5A0401	8470	2120						169				
041M5A0501	11300	6440						383				
041M5A0601	699	616						48.6				
041M5A0701	1040	1440						11.5				
041M5B0101	491	306						17.9				
041M5B0201	10500	3290						481				
041M63B101	1960	1290						13				
041M63B201	374	616						1.8				
041M63B301	101	112						0.95				
041M63B401	165	241						1.9				
041M720101	2450	1510						17.5				
041M720201	736	397						1.8				
041M750101	1350	681						6.5				

Phase III Data Freshwater Wetlands

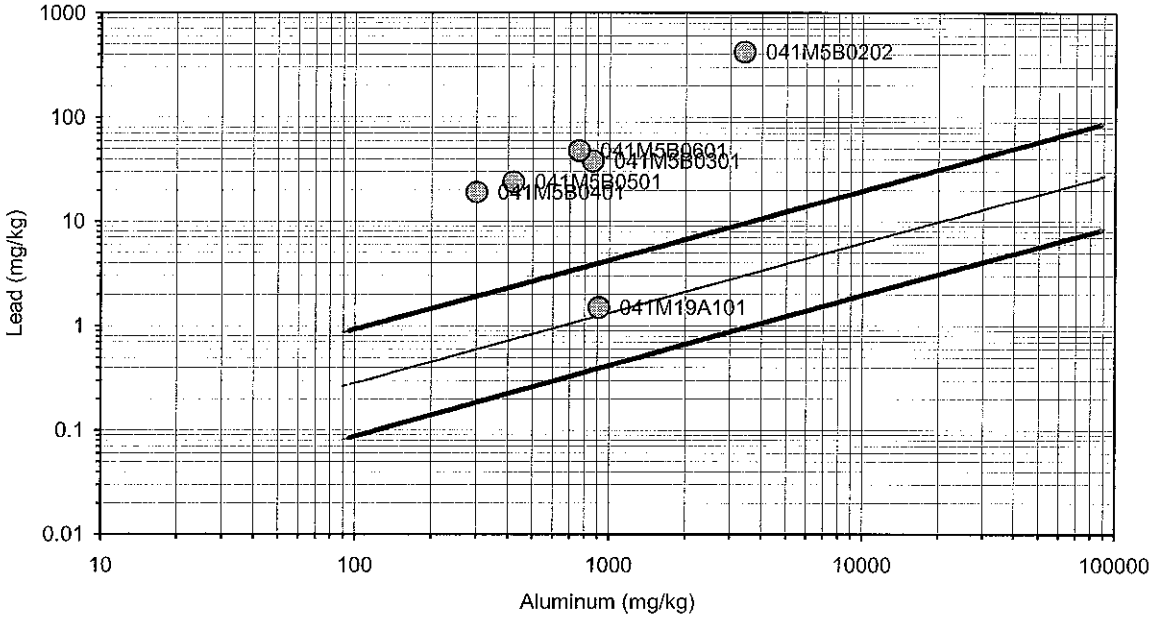


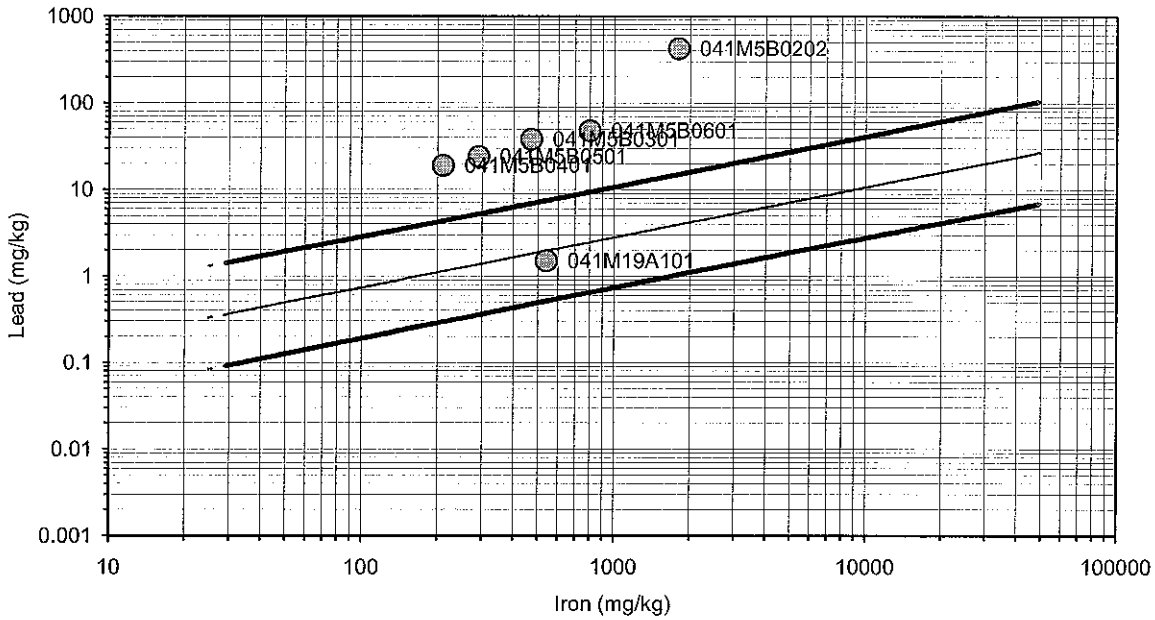


Phase III Freshwater Sediment - Aluminum, Iron and Lead (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M030201	2950	246000						20.6				
041M030701	1630	67100						35.6				
041M5A0401	2480	1090						54.5				
041M5A0501	1590	3020						258				
041M5A0601	821	546						75.5				

2004 Data Freshwater Wetlands

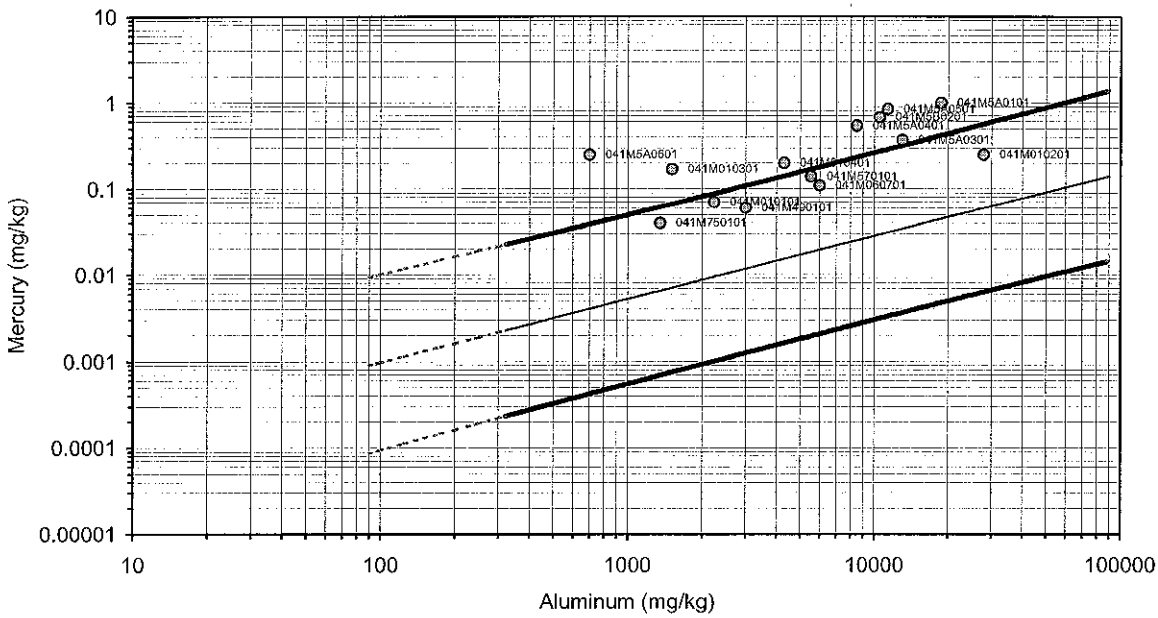


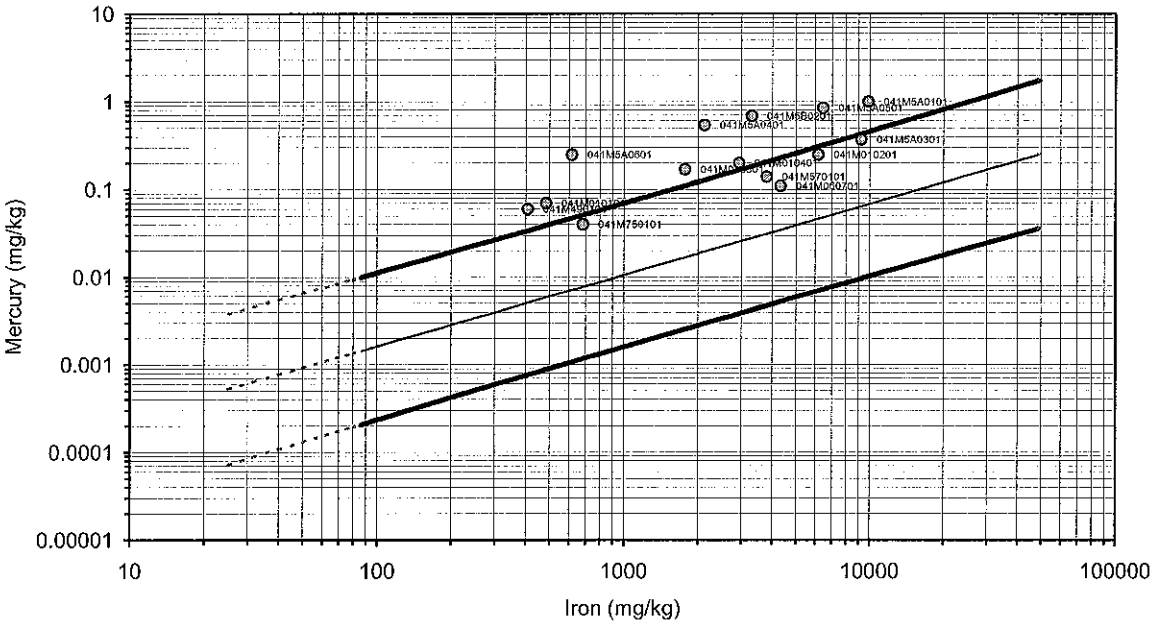


2004 Freshwater Sediment - Aluminum, Iron and Lead (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M19A101	910	540						1.5				
041M5B0202	3400	1800						420				
041M5B0301	860	470						38				
041M5B0401	300	210						19				
041M5B0501	420	290						24				
041M5B0601	760	800						48				

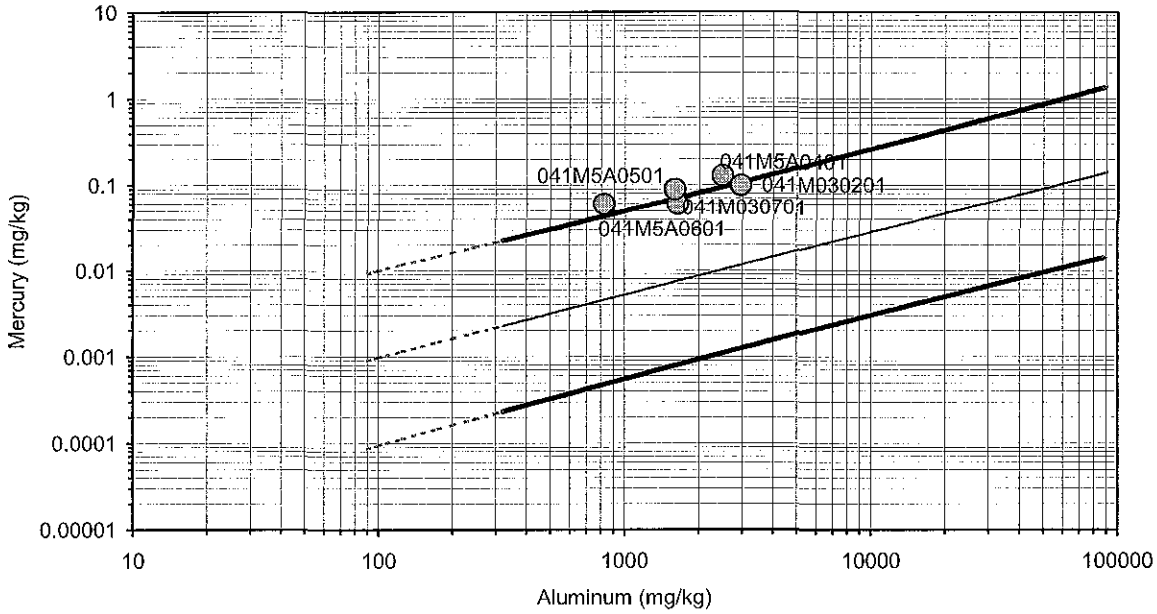
Phase II Data Freshwater Wetlands

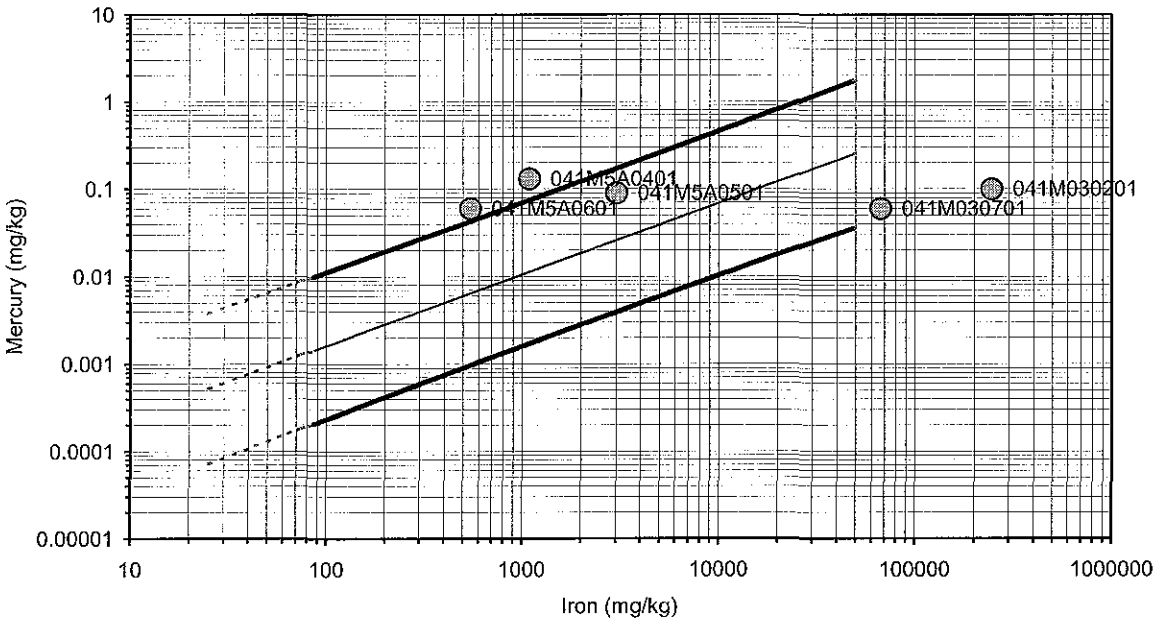




	Phase II Freshwater Sediment - Aluminum, Iron and Mercury											
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M010101	2230	484	2.5	3.7		1.5	1.1	87.3	0.07	0.8		2.2
041M010201	27800	6150	0.44	73.9	1.2	57.7	22.3	1.8	0.25	8		91
041M010301	1510	1770	0.4	5.9	0.53	9.8	18.3	48.8	0.17	3.9		69.1
041M010401	4290	2930	2.5	17.7	2	27.3	31.8	153	0.2	7.5		294
041M060701	5980	4320	2.1	22.8	5.4	73.5	48.2	147	0.11	4.2	0.89	207
041M490101	3000	407		5.6		2.5	1.6	7.2	0.06			7.6
041M570101	5520	3790	1.6	11.3		4.8	4.9	17.7	0.14	2		14.7
041M5A0101	18700	9830	2.5	150	11.2	81.1	156	427	1	23.5		2290
041M5A0301	13000	9210	2.6	33.4	7.7	69.3	28.5	111	0.37	16		96.9
041M5A0401	8470	2120	1.2	27.2	4.2	33.7	68.9	169	0.54			91.7
041M5A0501	11300	6440	3.2	50.8	10.1	115	317	383	0.84	25.2		591
041M5A0601	699	616		4.1	0.56	20.6	16.2	48.6	0.25	1.3	0.42	51.3
041M5B0201	10500	3290	1.3	30.2	220	416	268	481	0.68	93.9	5.2	1160
041M750101	1350	681		4		2.1	0.82	6.5	0.04	0.49		17.5

Phase III Data Freshwater Wetlands

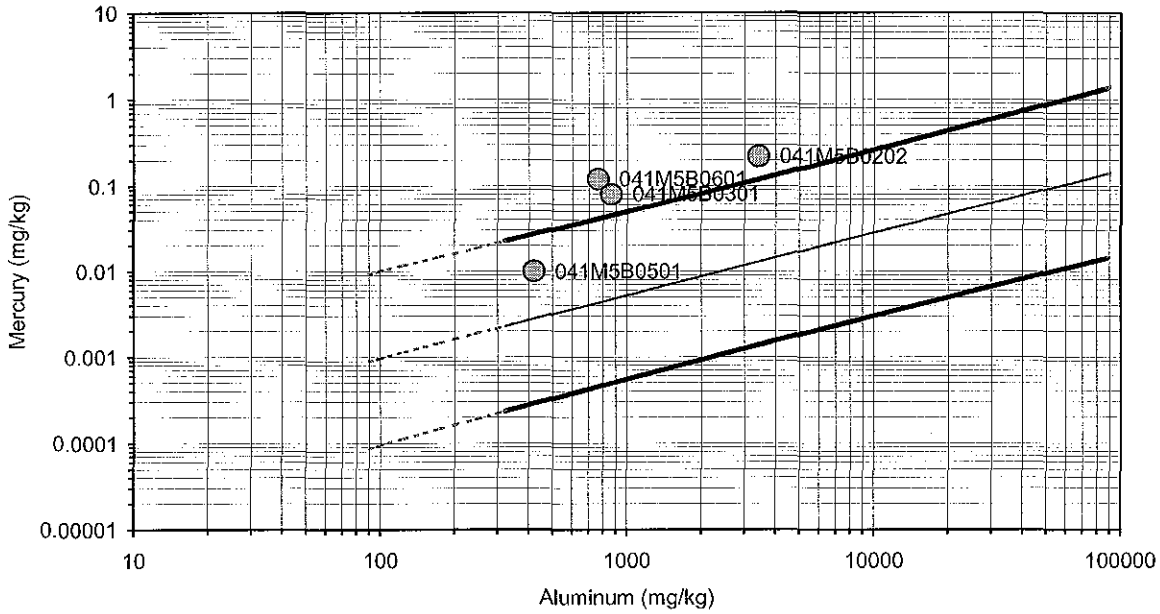


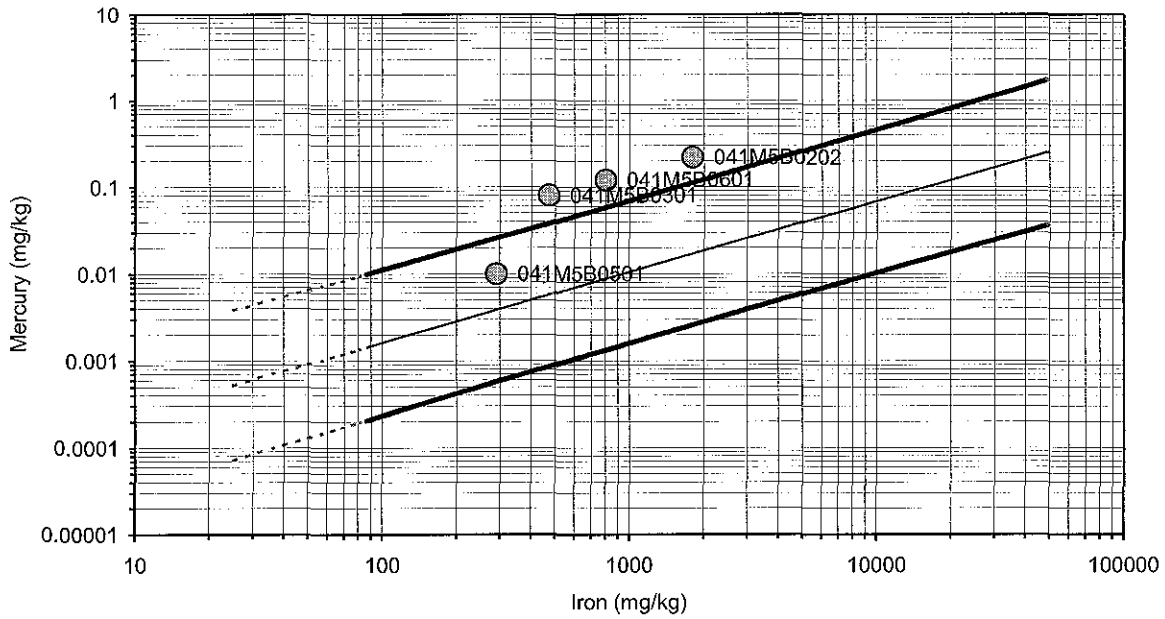


Phase III Freshwater Sediment - Aluminum, Iron and Mercury

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M030201	2950	246000							0.1			
041M030701	1630	67100							0.06			
041M5A0401	2480	1090							0.13			
041M5A0501	1590	3020							0.09			
041M5A0601	821	546							0.06			

2004 Data Freshwater Wetlands

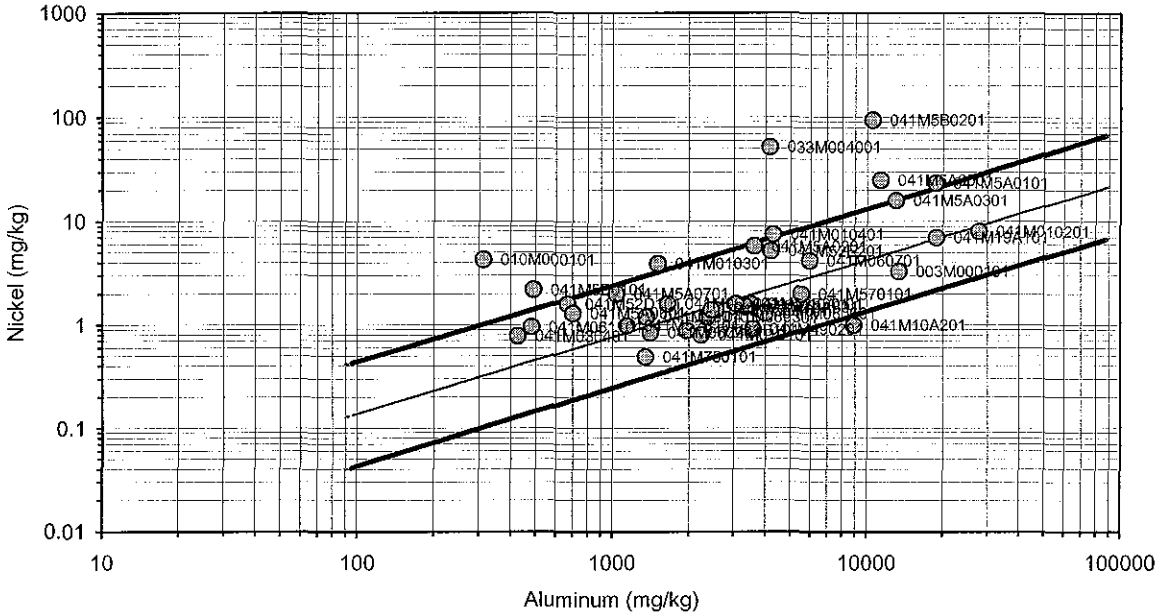


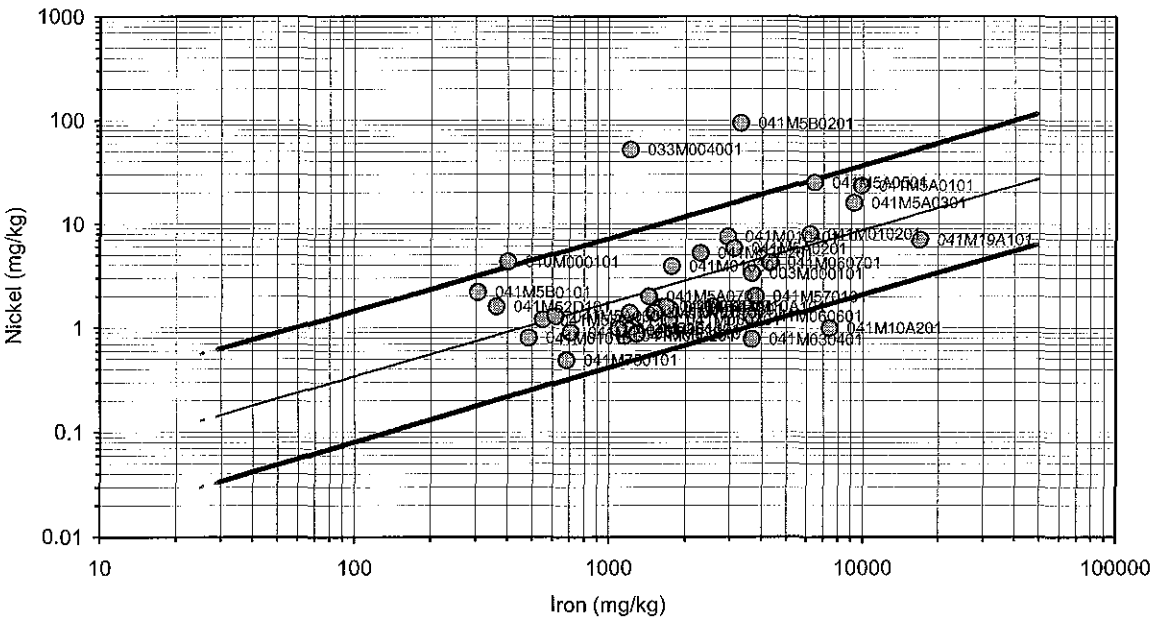


2004 Freshwater Sediment - Aluminum, Iron and Mercury

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M5B0202	3400	1800							0.22			
041M5B0301	860	470							0.08			
041M5B0501	420	290							0.01			
041M5B0601	760	800							0.12			

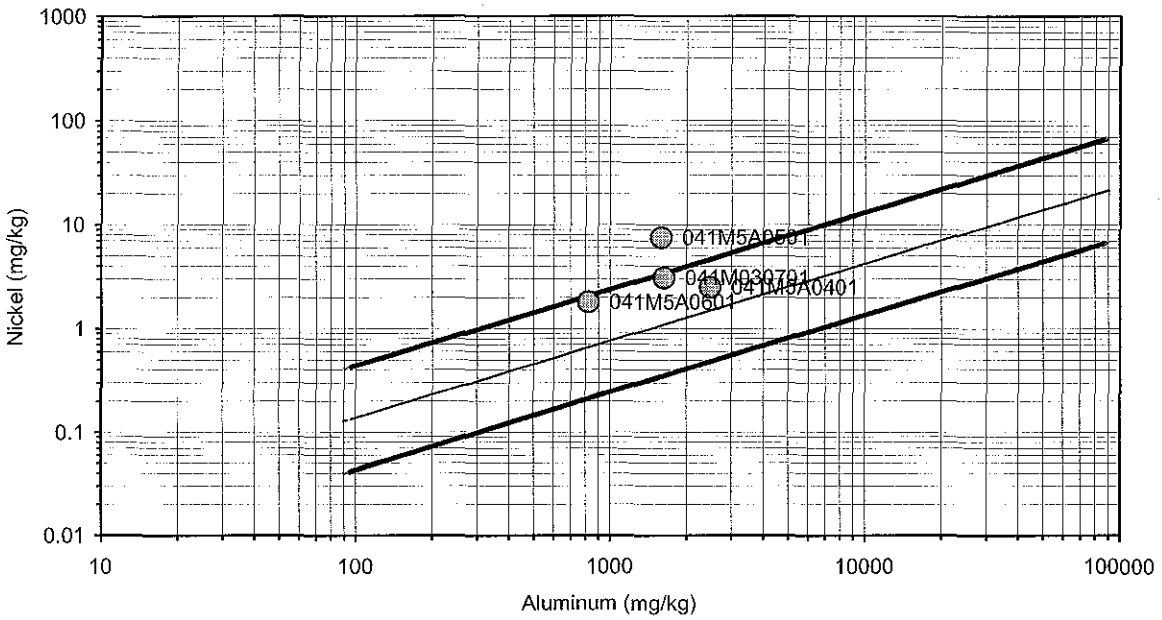
Phase II Data Freshwater Wetlands

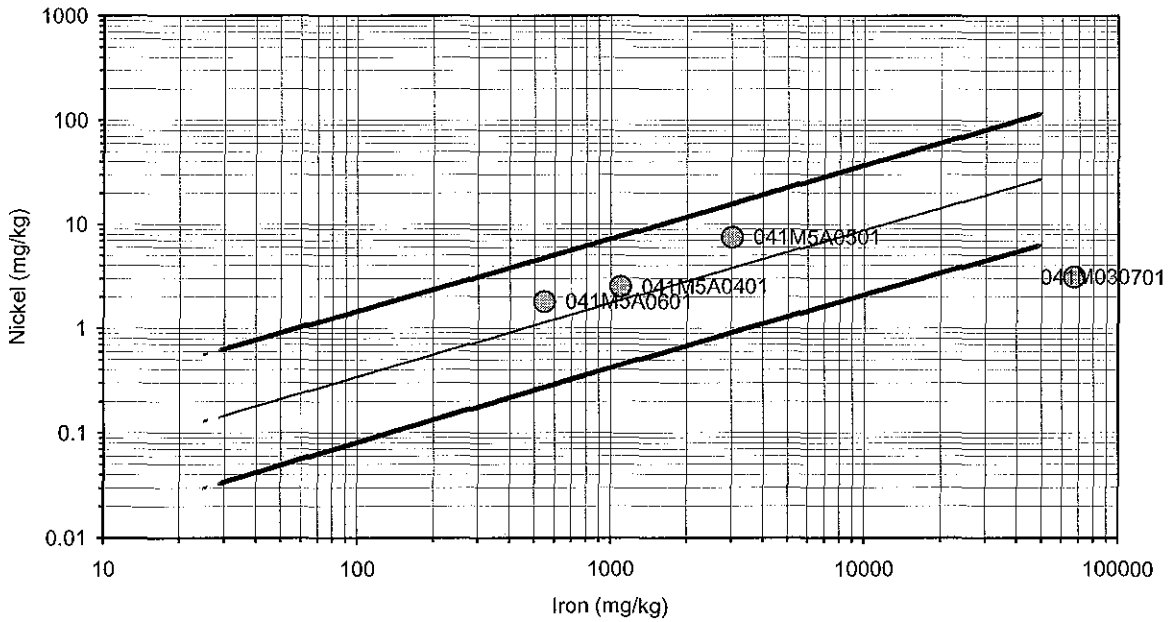




	Phase II Freshwater Sediment - Aluminum, Iron and Nickel (mg/kg)											
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
003M000101	13400	3670								3.3		
010M000101	313	402								4.3		
033M004001	4150	1210								52.1		
041M010101	2230	484								0.8		
041M010201	27800	6150								8		
041M010301	1510	1770								3.9		
041M010401	4290	2930								7.5		
041M030401	426	3660								0.78		
041M060101	1650	1620								1.6		
041M060201	1410	1150								0.84		
041M060301	2360	1730								1.2		
041M060601	3990	3640								1.3		
041M060701	5980	4320								4.2		
041M061101	482	1200								0.96		
041M10A101	3490	2570								1.6		
041M10A201	8910	7420								1		
041M10A301	3350	1750								1.5		
041M19A101	18900	16800								7		
041M490201	3560	707								0.91		
041M52D101	667	362								1.6		
041M52E101	1140	1090								0.99		
041M52E201	4210	2300								5.2		
041M52E301	3060	1680								1.6		
041M56A101	2560	1210								1.4		
041M570101	5520	3790								2		
041M580101	1360	548								1.2		
041M5A0101	18700	9830								23.5		
041M5A0201	3630	3120								5.8		
041M5A0301	13000	9210								16		
041M5A0501	11300	6440								25.2		
041M5A0601	699	616								1.3		
041M5A0701	1040	1440								2		
041M5B0101	491	306								2.2		
041M5B0201	10500	3290								93.9		
041M63B101	1960	1290								0.88		
041M720101	2450	1510								1.4		
041M750101	1350	681								0.49		

Phase III Data Freshwater Wetlands

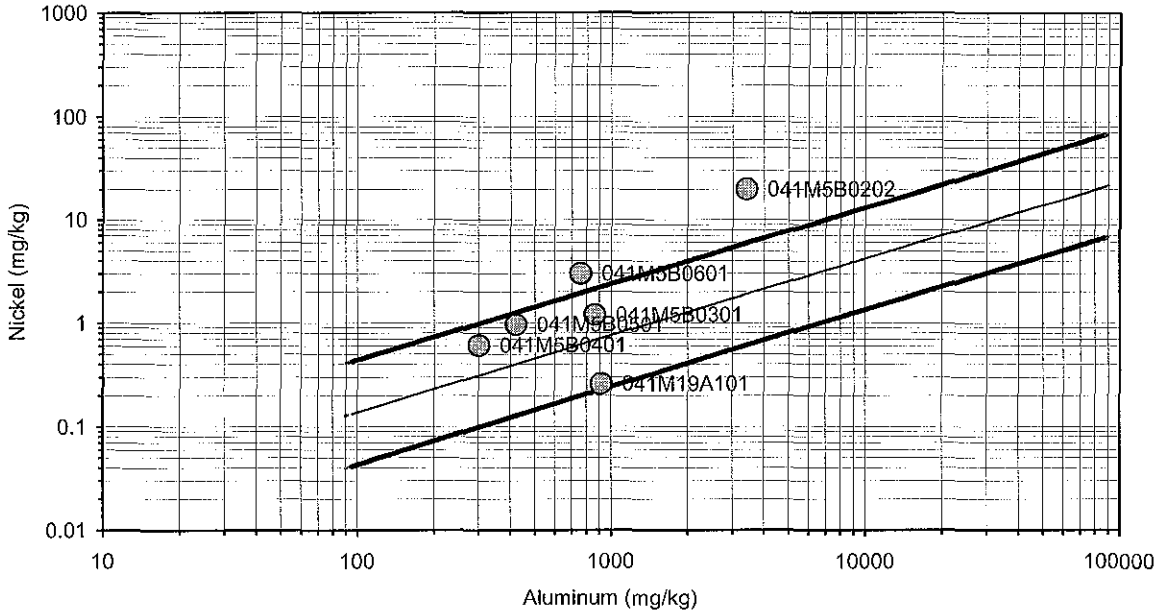


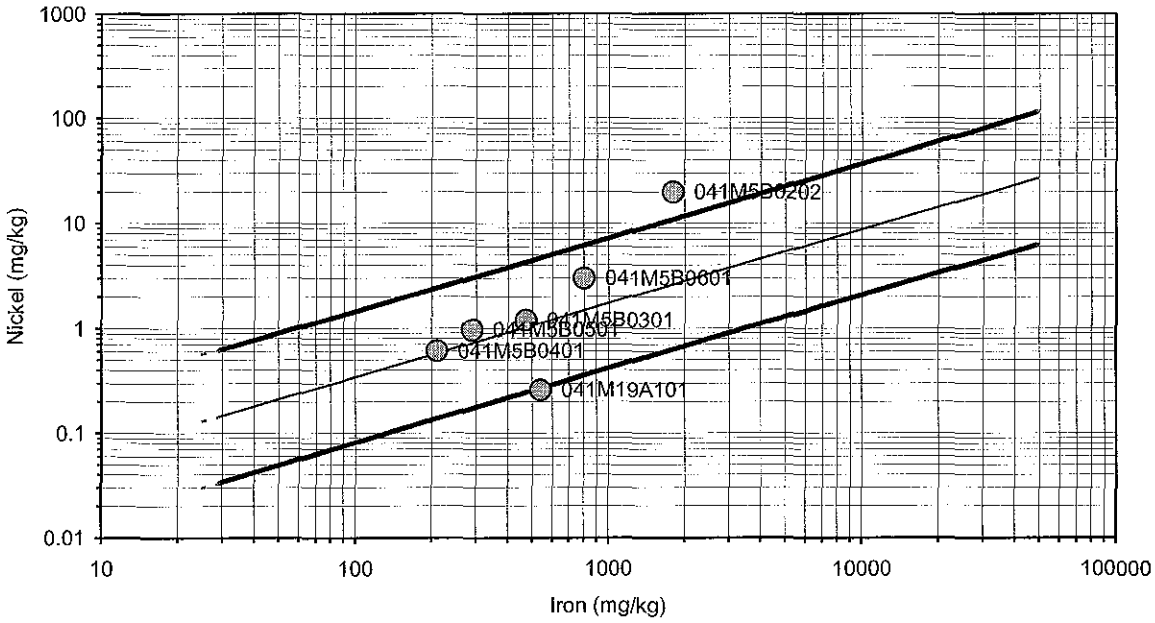


Phase III Freshwater Sediment - Aluminum, Iron and Nickel (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M030701	1630	67100								3.1		
041M5A0401	2480	1090								2.5		
041M5A0501	1590	3020								7.5		
041M5A0601	821	546								1.8		

2004 Data Freshwater Wetlands

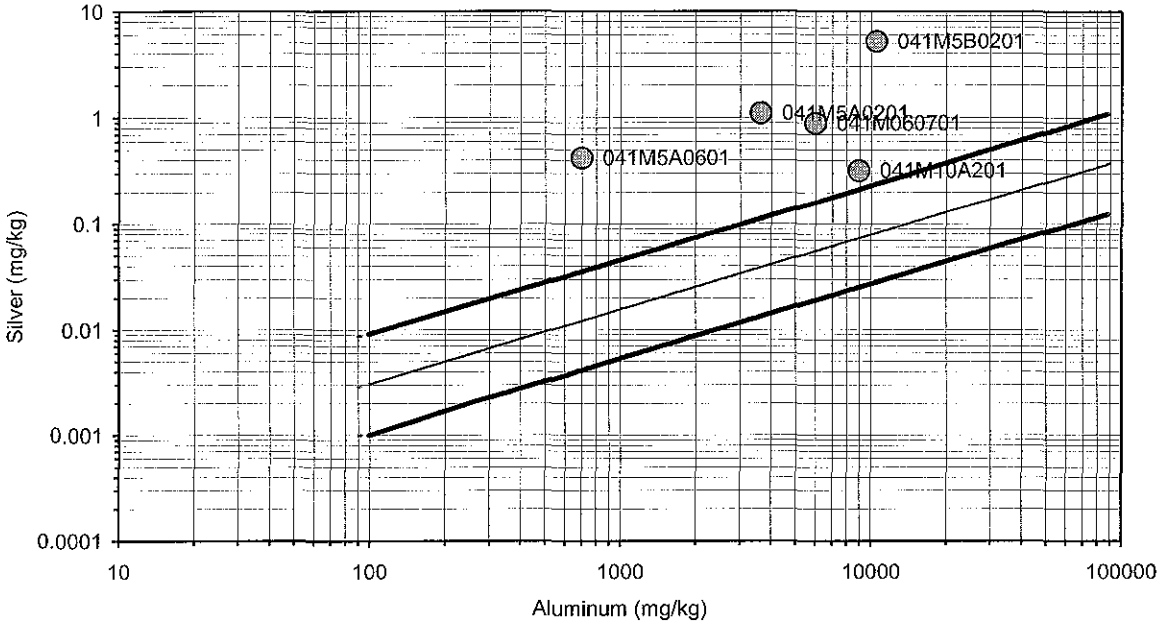


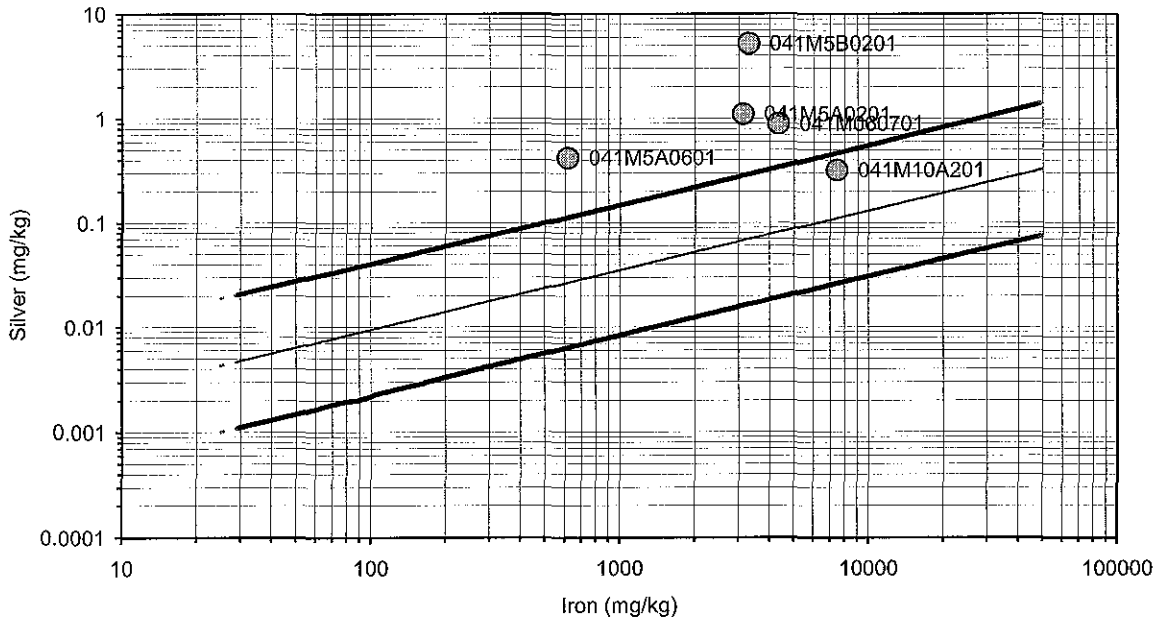


2004 Freshwater Sediment - Aluminum, Iron and Nickel (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M19A101	910	540								0.26		
041M5B0202	3400	1800								20		
041M5B0301	860	470								1.2		
041M5B0401	300	210								0.61		
041M5B0501	420	290								0.97		
041M5B0601	760	800								3		

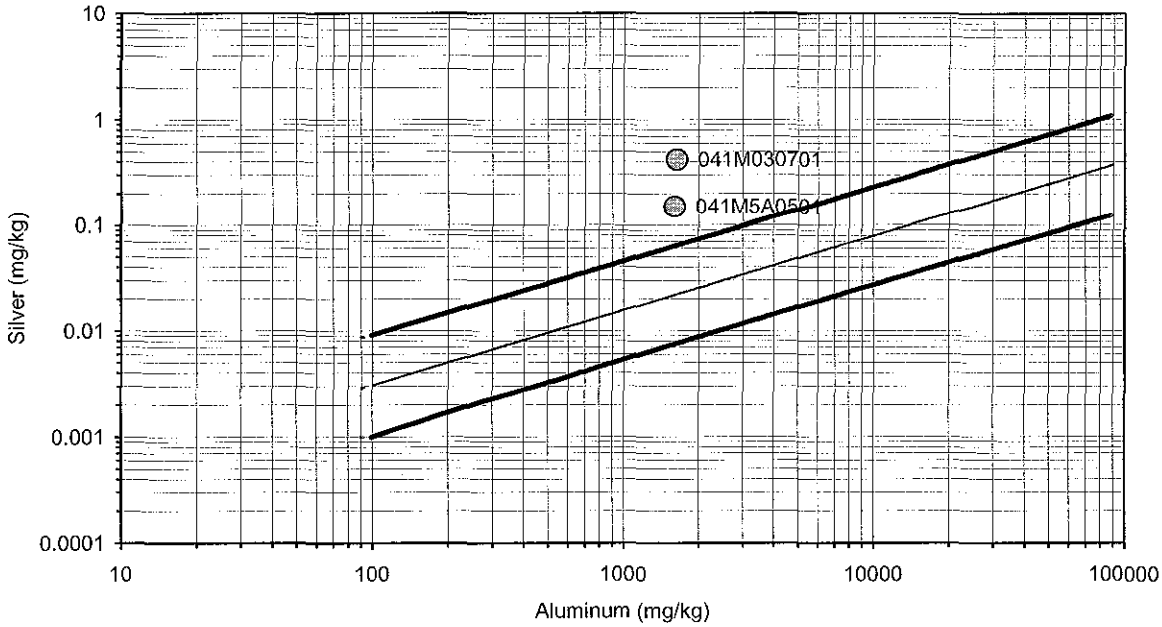
Phase II Data Freshwater Wetlands

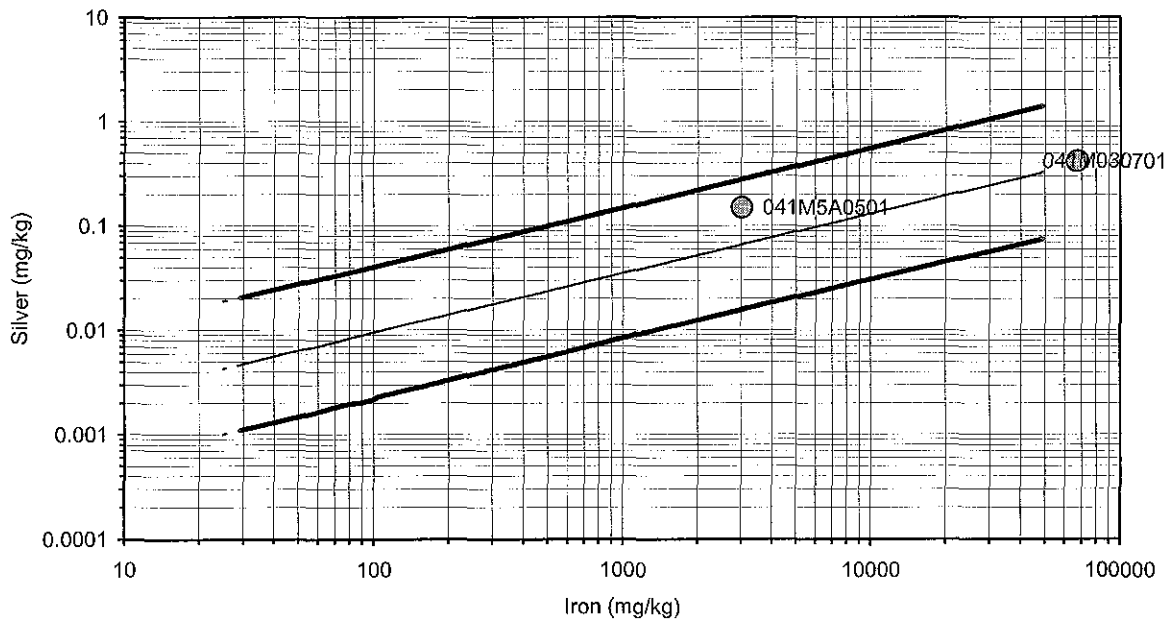




	Phase II Freshwater Sediment - Aluminum, Iron and Silver (mg/kg)											
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M060701	5980	4320									0.89	
041M10A201	8910	7420									0.32	
041M5A0201	3630	3120									1.1	
041M5A0601	699	616									0.42	
041M5B0201	10500	3290									5.2	

Phase III Freshwater Wetlands

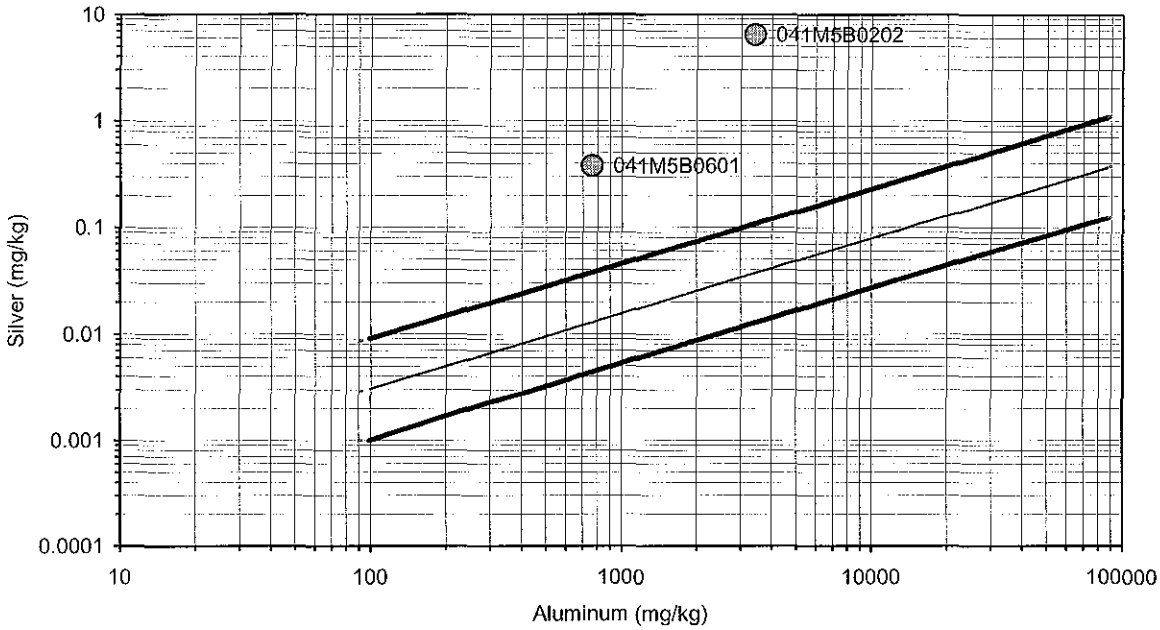


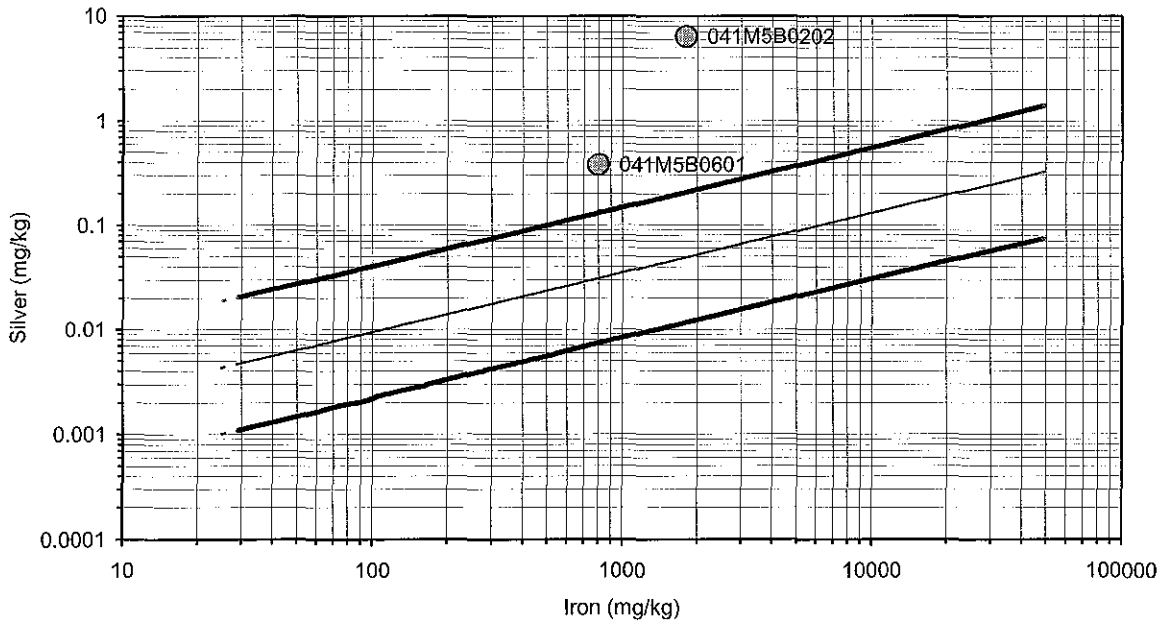


Phase III Freshwater Sediment - Aluminum, Iron and Silver (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M030701	1630	67100									0.42	
041M5A0501	1590	3020									0.15	

2004 Data Freshwater Wetlands

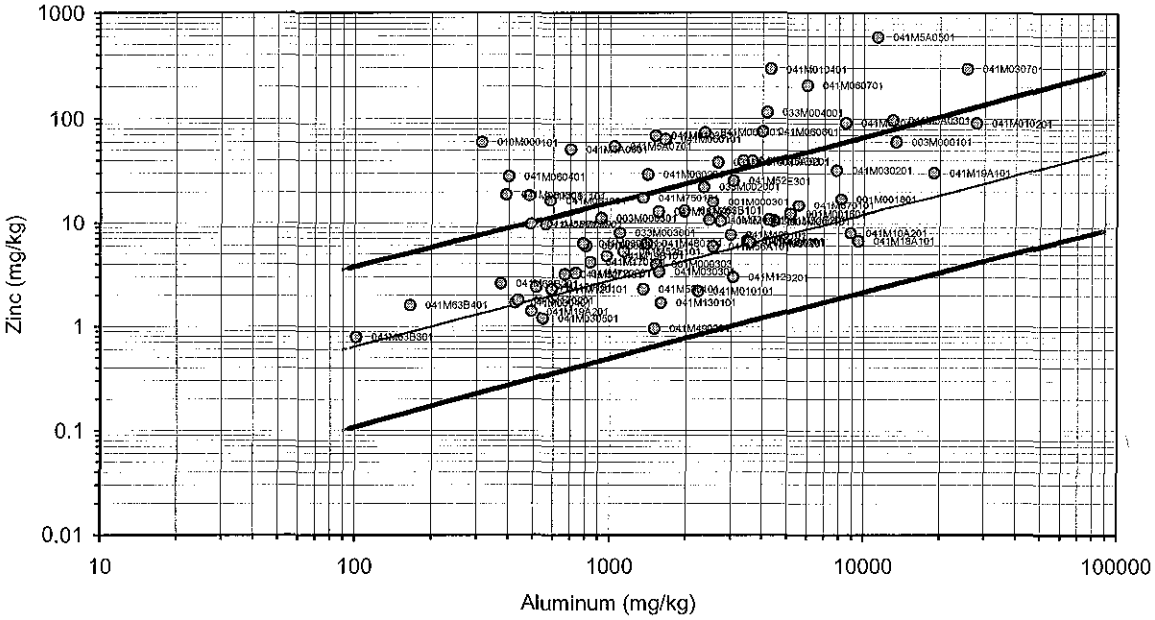


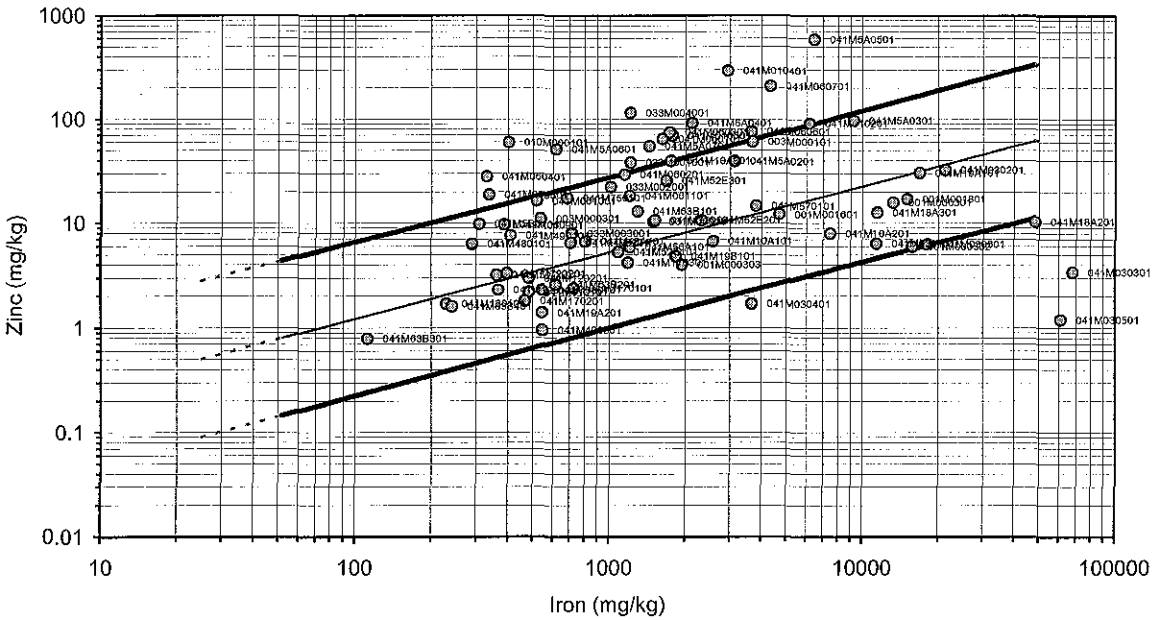


2004 Freshwater Sediment - Aluminum, Iron and Silver (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M5B0202	3400	1800									6.4	
041M5B0601	760	800									0.38	

Phase II Data Freshwater Wetlands

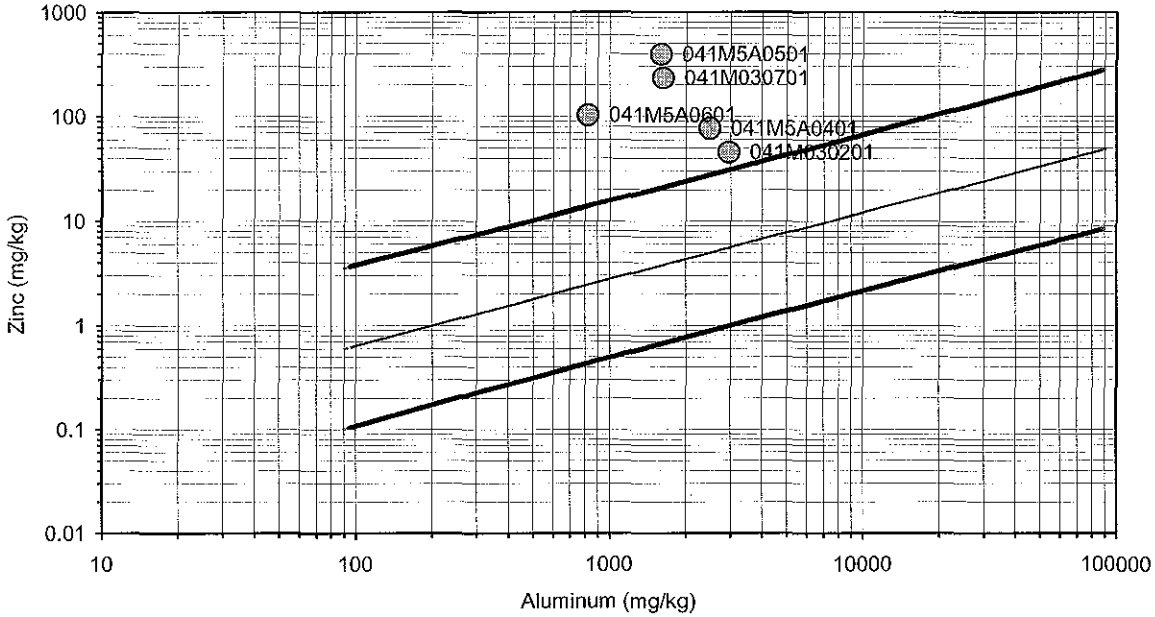


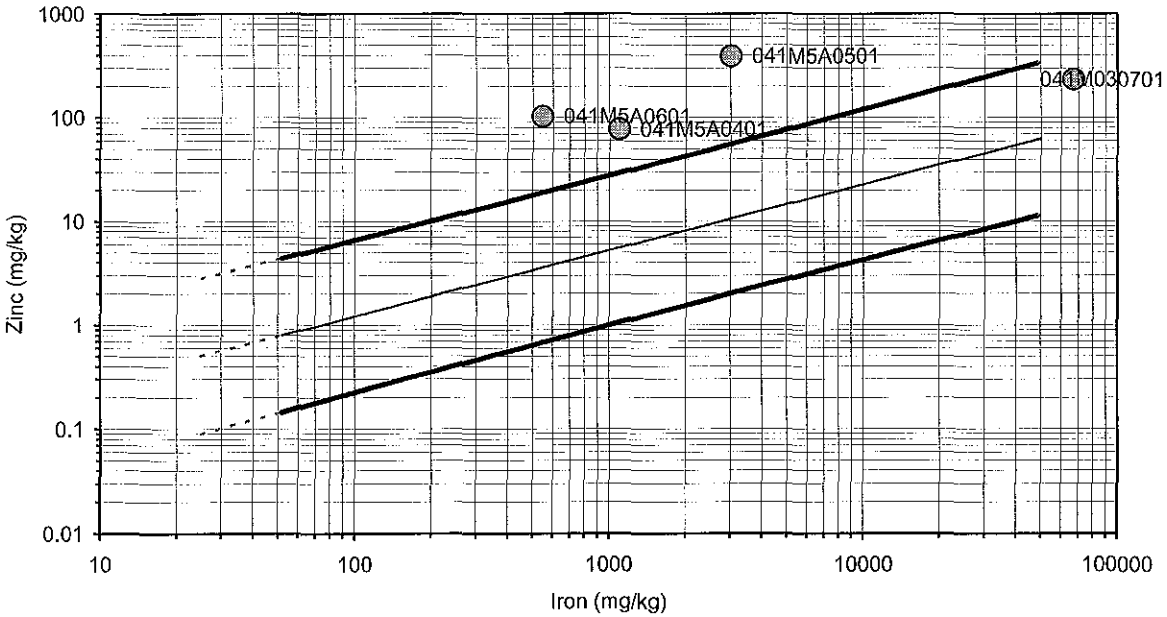


	Phase II Freshwater Sediment - Aluminum, Iron and Zinc (mg/kg)											
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
001M000101	4430	1490										10.4
001M000301	2540	13200										15.8
001M000302	809	15800										6
001M000303	1530	1940										4
001M001601	5120	4680										12.2
001M001801	8120	15000										17.1
003M000101	13400	3670										60.5
003M000301	919	536										11.1
010M000101	313	402										59.6
033M001001	2660	1210										38.2
033M002001	2340	1010										22.3
033M003001	1100	710										8
033M004001	4150	1210										115
041M010101	2230	484										2.2
041M010201	27800	6150										91
041M010301	1510	1770										69.1
041M010401	4290	2930										294
041M030101	3590	11400										6.4
041M030201	7780	21200										32.4
041M030301	1570	68000										3.4
041M030401	426	3660										1.7
041M030501	546	61100										1.2
041M030601	788	18000										6.3
041M030701	25600	386000										297
041M060101	1650	1620										64.2
041M060201	1410	1150										29.5
041M060301	2360	1730										74.1
041M060401	400	328										28.1
041M060501	390	335										18.8
041M060601	3990	3640										75.7
041M060701	5980	4320										207
041M060901	562	384										9.7
041M061001	582	517										16.4
041M061101	482	1200										18.3
041M10A101	3490	2570										6.7
041M10A201	8910	7420										8
041M10A301	3350	1750										39.6
041M120101	593	367										2.3
041M120201	3070	484										3
041M130101	1590	229										1.7
041M170101	516	727										2.4

	Phase II Freshwater Sediment - Aluminum, Iron and Zinc (mg/kg)											
	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M170201	438	467										1.8
041M170301	842	1190										4.2
041M18A101	9540	805										6.7
041M18A201	2720	48200										10.4
041M18A301	1550	11400										12.7
041M19A101	18900	16800										30.6
041M19A201	494	545										1.4
041M19B101	976	1840										4.8
041M480101	1400	290										6.3
041M490101	3000	407										7.6
041M490201	3560	707										6.5
041M490301	1500	548										0.96
041M52D101	667	362										3.2
041M52E101	1140	1090										5.3
041M52E201	4210	2300										10.7
041M52E301	3060	1680										25.5
041M56A101	2560	1210										5.9
041M570101	5520	3790										14.7
041M580101	1360	548										2.3
041M5A0101	18700	9830										2290
041M5A0201	3630	3120										39.3
041M5A0301	13000	9210										96.9
041M5A0401	8470	2120										91.7
041M5A0501	11300	6440										591
041M5A0601	699	616										51.3
041M5A0701	1040	1440										54.7
041M5B0101	491	306										9.8
041M5B0201	10500	3290										1160
041M63B101	1960	1290										13
041M63B201	374	616										2.6
041M63B301	101	112										0.79
041M63B401	165	241										1.6
041M720101	2450	1510										10.7
041M720201	736	397										3.3
041M750101	1350	681										17.5

Phase III Data Freshwater Wetlands

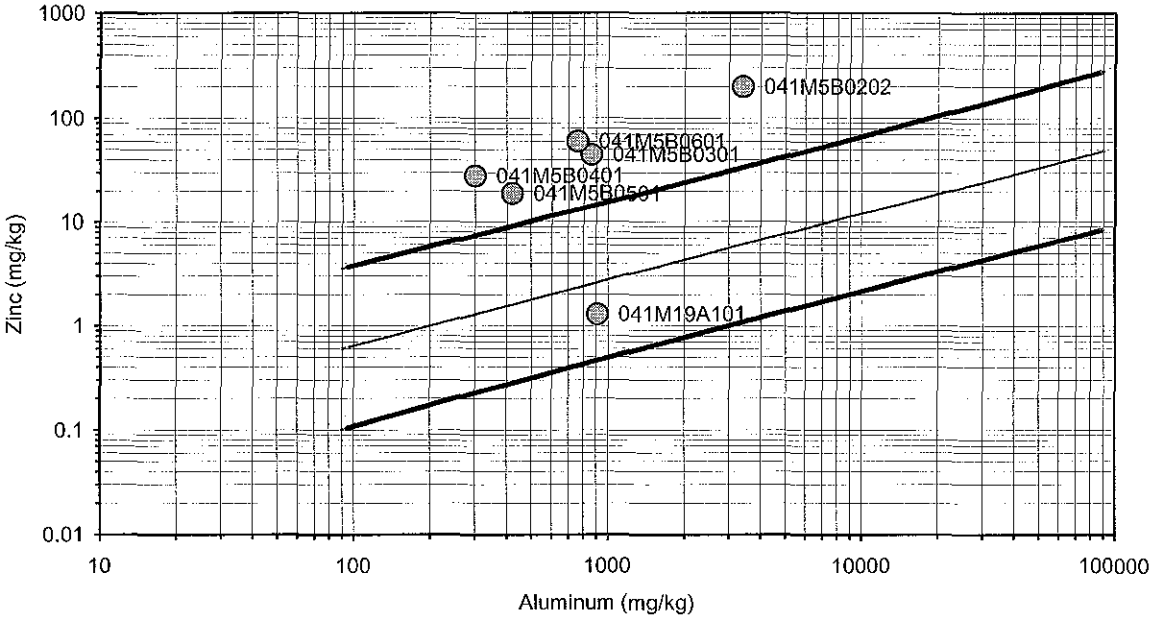


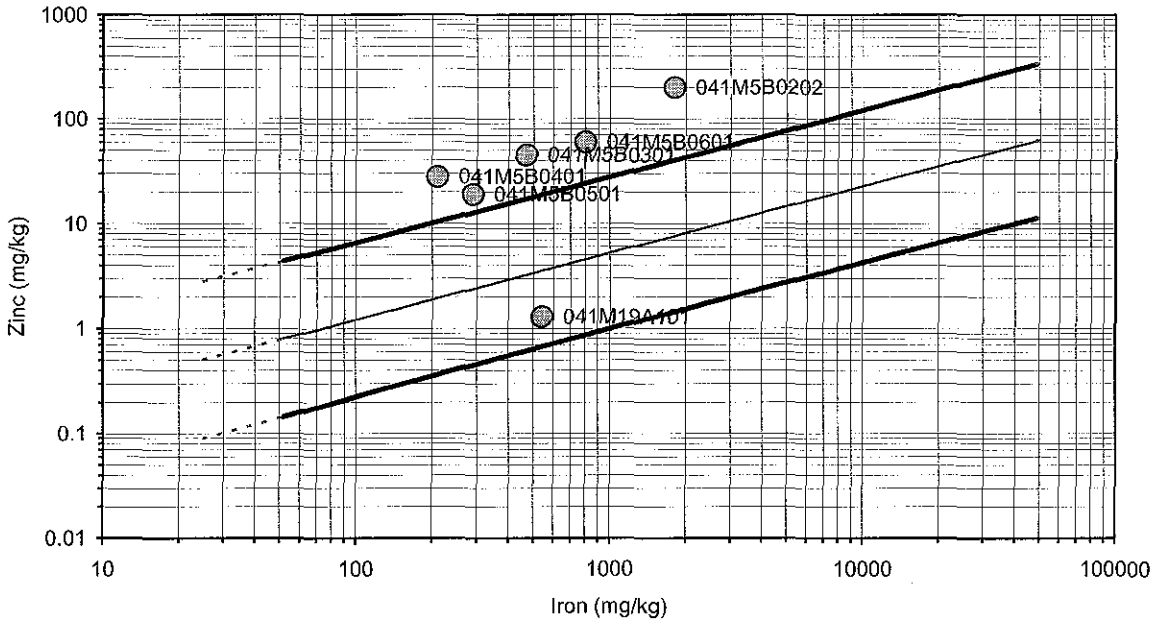


Phase III Freshwater Sediment - Aluminum, Iron and Zinc (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M030201	2950	246000										45.8
041M030701	1630	67100										234
041M5A0401	2480	1090										77.1
041M5A0501	1590	3020										394
041M5A0601	821	546										103

2004 Data Freshwater Wetlands





2004 Freshwater Sediment - Aluminum, Iron and Zinc (mg/kg)

	Aluminum	Iron	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Silver	Zinc
041M19A101	910	540										1.3
041M5B0202	3400	1800										200
041M5B0301	860	470										45
041M5B0401	300	210										28
041M5B0501	420	290										19
041M5B0601	760	800										60

FINAL REMEDIAL INVESTIGATION REPORT
SITE 41 — OPERABLE UNIT 16 — NAS PENSACOLA WETLANDS

NAVAL AIR STATION
PENSACOLA, FLORIDA

SOUTHNAVFACENGCOM
CONTRACT NUMBER: N62467-89-D-0318

CTO-036

VOLUME XI OF XI
APPENDICES J— N

Prepared for:

Comprehensive Long-Term
Environmental Action Navy
Naval Air Station
Pensacola, Florida

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Revised November 16, 2007

Appendix M

Food Chain Modeling Data

Sediment Data

OU 1 Wetlands
Phase II
Food Chain Modeling Sediment Data

WETLAND	PHASE	Parameters	Detections	Result	Units	VQUAL	Sample ID	SAMPLE DATE
15	2	Total BHC	0	1.16	µg/kg	U	041M150401	12/6/1995
15	2	Total BHC	1	3.19	µg/kg		041M150101	12/6/1995
15	2	Total BHC	1	3.65	µg/kg		041M150201	12/6/1995
15	2	Total BHC	1	7.39	µg/kg		041M150301	12/6/1995
16	2	Total BHC	0	0.4	µg/kg	U	041M160101	12/7/1995
16	2	Total BHC	0	0.64	µg/kg	U	041M160201	12/7/1995
16	2	Total BHC	0	1.72	µg/kg	U	041M160301	12/7/1995
16	2	Total BHC	0	12.8	µg/kg	U	001M001601	6/29/1994
17	2	Total BHC	0	0.44	µg/kg	U	041M170101	1/15/1996
17	2	Total BHC	1	0.5	µg/kg		041M170201	1/15/1996
17	2	Total BHC	1	0.792	µg/kg		041M170301	1/15/1996
18A	2	Total BHC	0	3.28	µg/kg	U	041M18A301	12/14/1995
18A	2	Total BHC	0	11.6	µg/kg	U	041M18A101	12/15/1995
18A	2	Total BHC	0	76	µg/kg	U	001M001801	6/29/1994
18A	2	Total BHC	1	4.9	µg/kg		041M18A201	12/15/1995
18B	2	Total BHC	0	96	µg/kg	U	041M18B101	12/14/1995
1A	2	Total BHC	0	0.44	µg/kg	U	041M010101	1/17/1996
1A	2	Total BHC	0	0.8	µg/kg	U	041M010201	1/17/1996
1A	2	Total BHC	0	13.2	µg/kg	U	001M000101	6/29/1994
1B	2	Total BHC	0	0.44	µg/kg	U	041M010301	1/18/1996
3	2	Total BHC	0	0.176	µg/kg	U	041M030701	12/4/1995
3	2	Total BHC	0	2.96	µg/kg	U	041M030201	12/1/1995
3	2	Total BHC	0	9.6	µg/kg	U	001M000301	6/28/1994
3	2	Total BHC	0	10	µg/kg	U	001M000302	6/28/1994
3	2	Total BHC	0	44	µg/kg	U	001M000303	6/28/1994
3	2	Total BHC	1	0.216	µg/kg		041M030401	12/4/1995
3	2	Total BHC	1	0.229	µg/kg		041M030601	12/4/1995
3	2	Total BHC	1	0.85	µg/kg		041M030101	12/1/1995
3	2	Total BHC	1	1.194	µg/kg		041M030301	12/4/1995
3	2	Total BHC	1	1.359	µg/kg		041M030501	12/4/1995
4D	2	Total BHC	0	0.044	µg/kg	U	041M04D501	12/5/1995
4D	2	Total BHC	1	1.07	µg/kg		041M04D301	12/5/1995
4D	2	Total BHC	1	3.102	µg/kg		041M04D201	12/5/1995
4D	2	Total BHC	1	10.117	µg/kg		041M04D401	12/5/1995
4D	2	Total BHC	1	16.508	µg/kg		041M04D101	12/5/1995
		Maximum Detected Total BHC		16.51			041M04D101	
		Average Total BHC	15	5.65				
15	2	Total Chlordane	0	0.58	µg/kg	U	041M150401	12/6/1995
15	2	Total Chlordane	0	1.26	µg/kg	U	041M150301	12/6/1995
15	2	Total Chlordane	0	1.5	µg/kg	U	041M150101	12/6/1995
15	2	Total Chlordane	1	2.15	µg/kg		041M150201	12/6/1995
16	2	Total Chlordane	0	0.2	µg/kg	U	041M160101	12/7/1995
16	2	Total Chlordane	0	0.32	µg/kg	U	041M160201	12/7/1995
16	2	Total Chlordane	0	6.4	µg/kg	U	001M001601	6/29/1994
16	2	Total Chlordane	1	0.9	µg/kg		041M160301	12/7/1995
17	2	Total Chlordane	0	0.188	µg/kg	U	041M170301	1/15/1996
17	2	Total Chlordane	0	0.2	µg/kg	U	041M170201	1/15/1996
17	2	Total Chlordane	0	0.22	µg/kg	U	041M170101	1/15/1996
18A	2	Total Chlordane	0	1.64	µg/kg	U	041M18A301	12/14/1995
18A	2	Total Chlordane	0	5.8	µg/kg	U	041M18A101	12/15/1995
18A	2	Total Chlordane	1	6	µg/kg		041M18A201	12/15/1995
18A	2	Total Chlordane	1	21.5	µg/kg		001M001801	6/29/1994
18B	2	Total Chlordane	0	48	µg/kg	U	041M18B101	12/14/1995
1A	2	Total Chlordane	0	0.22	µg/kg	U	041M010101	1/17/1996
1A	2	Total Chlordane	0	6.6	µg/kg	U	001M000101	6/29/1994
1A	2	Total Chlordane	1	4.6	µg/kg		041M010201	1/17/1996
1B	2	Total Chlordane	1	4.4	µg/kg		041M010301	1/18/1996
1B	2	Total Chlordane	1	15.7	µg/kg		041M010401	1/17/1996
3	2	Total Chlordane	0	0.044	µg/kg	U	041M030301	12/4/1995
3	2	Total Chlordane	0	0.106	µg/kg	U	041M030501	12/4/1995

OU 1 Wetlands
Phase II
Food Chain Modeling Sediment Data

WETLAND	PHASE	Parameters	Detections	Result	Units	VQUAL	Sample ID	SAMPLE DATI
3	2	Total Chlordane	1	0.28	µg/kg		041M030401	12/4/1995
3	2	Total Chlordane	1	0.494	µg/kg		041M030701	12/4/1995
3	2	Total Chlordane	1	0.88	µg/kg		041M030101	12/1/1995
3	2	Total Chlordane	1	1.23	µg/kg		041M030601	12/4/1995
3	2	Total Chlordane	1	2.49	µg/kg		041M030201	12/1/1995
3	2	Total Chlordane	1	2.96	µg/kg		001M000301	6/28/1994
3	2	Total Chlordane	1	3.01	µg/kg		001M000302	6/28/1994
3	2	Total Chlordane	1	13.2	µg/kg		001M000303	6/28/1994
4D	2	Total Chlordane	0	0.02	µg/kg	U	041M04D301	12/5/1995
4D	2	Total Chlordane	0	0.022	µg/kg	U	041M04D501	12/5/1995
4D	2	Total Chlordane	1	1.034	µg/kg		041M04D201	12/5/1995
4D	2	Total Chlordane	1	1.439	µg/kg		041M04D401	12/5/1995
4D	2	Total Chlordane	1	1.524	µg/kg		041M04D101	12/5/1995
		Maximum Detected Total Chlordane		21.50			001M001801	
		Average Total Chlordane	18	3.35				
15	2	Total DDT	1	11.89	µg/kg		041M150401	12/6/1995
15	2	Total DDT	1	176.3	µg/kg		041M150201	12/6/1995
15	2	Total DDT	1	285	µg/kg		041M150301	12/6/1995
15	2	Total DDT	1	434.9	µg/kg		041M150101	12/6/1995
16	2	Total DDT	1	0.78	µg/kg		041M160101	12/7/1995
16	2	Total DDT	1	4.93	µg/kg		041M160201	12/7/1995
16	2	Total DDT	1	12.61	µg/kg		001M001601	6/29/1994
16	2	Total DDT	1	33.6	µg/kg		041M160301	12/7/1995
17	2	Total DDT	0	0.57	µg/kg	U	041M170301	1/15/1996
17	2	Total DDT	0	0.63	µg/kg	U	041M170201	1/15/1996
17	2	Total DDT	1	0.76	µg/kg		041M170101	1/15/1996
18A	2	Total DDT	1	31.9	µg/kg		041M18A301	12/14/1995
18A	2	Total DDT	1	337	µg/kg		001M001801	6/29/1994
18A	2	Total DDT	1	416	µg/kg		041M18A201	12/15/1995
18A	2	Total DDT	1	2400	µg/kg		041M18A101	12/15/1995
18B	2	Total DDT	1	2130	µg/kg		041M18B101	12/14/1995
1A	2	Total DDT	0	0.69	µg/kg	U	041M010101	1/17/1996
1A	2	Total DDT	1	10.1	µg/kg		001M000101	6/29/1994
1A	2	Total DDT	1	17.6	µg/kg		041M010201	1/17/1996
1B	2	Total DDT	1	6.88	µg/kg		041M010301	1/18/1996
1B	2	Total DDT	1	39.5	µg/kg		041M010401	1/17/1996
3	2	Total DDT	1	2.62	µg/kg		041M030301	12/4/1995
3	2	Total DDT	1	2.82	µg/kg		041M030401	12/4/1995
3	2	Total DDT	1	5.7	µg/kg		041M030501	12/4/1995
3	2	Total DDT	1	8.62	µg/kg		041M030701	12/4/1995
3	2	Total DDT	1	10	µg/kg		001M000302	6/28/1994
3	2	Total DDT	1	12.1	µg/kg		041M030601	12/4/1995
3	2	Total DDT	1	32.3	µg/kg		001M000301	6/28/1994
3	2	Total DDT	1	33.9	µg/kg		041M030201	12/1/1995
3	2	Total DDT	1	42.5	µg/kg		041M030101	12/1/1995
3	2	Total DDT	1	740	µg/kg		001M000303	6/28/1994
4D	2	Total DDT	1	0.74	µg/kg		041M04D501	12/5/1995
4D	2	Total DDT	1	2.43	µg/kg		041M04D301	12/5/1995
4D	2	Total DDT	1	46.2	µg/kg		041M04D201	12/5/1995
4D	2	Total DDT	1	81.9	µg/kg		041M04D101	12/5/1995
4D	2	Total DDT	1	178.9	µg/kg		041M04D401	12/5/1995
		Maximum Detected Total DDT		2400.00			041M18A101	
		Average Total DDT	33	209.76				
15	2	Total Endrin	1	2.68	µg/kg		041M150401	12/6/1995
15	2	Total Endrin	1	3.9	µg/kg		041M150301	12/6/1995
15	2	Total Endrin	1	11.7	µg/kg		041M150101	12/6/1995
15	2	Total Endrin	1	19	µg/kg		041M150201	12/6/1995
16	2	Total Endrin	0	0.63	µg/kg	U	041M160101	12/7/1995
16	2	Total Endrin	0	0.99	µg/kg	U	041M160201	12/7/1995
16	2	Total Endrin	0	2.64	µg/kg	U	041M160301	12/7/1995

OU 1 Wetlands
Phase II
Food Chain Modeling Sediment Data

WETLAND	PHASE	Parameters	Detections	Result	Units	VQUAL	Sample ID	SAMPLE DATI
16	2	Total Endrin	0	18.3	µg/kg	U	001M001601	6/29/1994
17	2	Total Endrin	0	0.57	µg/kg	U	041M170301	1/15/1996
17	2	Total Endrin	0	0.63	µg/kg	U	041M170201	1/15/1996
17	2	Total Endrin	0	0.69	µg/kg	U	041M170101	1/15/1996
18A	2	Total Endrin	0	5.1	µg/kg	U	041M18A301	12/14/1995
18A	2	Total Endrin	0	18	µg/kg	U	041M18A101	12/15/1995
18A	2	Total Endrin	1	11.3	µg/kg		041M18A201	12/15/1995
18A	2	Total Endrin	1	87	µg/kg		001M001801	6/29/1994
18B	2	Total Endrin	0	150	µg/kg	U	041M18B101	12/14/1995
1A	2	Total Endrin	0	0.69	µg/kg	U	041M010101	1/17/1996
1A	2	Total Endrin	0	1.23	µg/kg	U	041M010201	1/17/1996
1A	2	Total Endrin	0	19.2	µg/kg	U	001M000101	6/29/1994
1B	2	Total Endrin	1	1.92	µg/kg		041M010301	1/18/1996
3	2	Total Endrin	0	0.72	µg/kg	U	041M030401	12/4/1995
3	2	Total Endrin	0	0.75	µg/kg	U	041M030601	12/4/1995
3	2	Total Endrin	0	2.64	µg/kg	U	041M030701	12/4/1995
3	2	Total Endrin	0	4.5	µg/kg	U	041M030201	12/1/1995
3	2	Total Endrin	0	14.4	µg/kg	U	001M000302	6/28/1994
3	2	Total Endrin	0	66	µg/kg	U	001M000303	6/28/1994
3	2	Total Endrin	1	1.78	µg/kg		041M030101	12/1/1995
3	2	Total Endrin	1	2.7	µg/kg		041M030301	12/4/1995
3	2	Total Endrin	1	3.8	µg/kg		041M030501	12/4/1995
3	2	Total Endrin	1	9.93	µg/kg		001M000301	6/28/1994
4D	2	Total Endrin	0	0.63	µg/kg	U	041M04D501	12/5/1995
4D	2	Total Endrin	0	0.63	µg/kg	U	041M04D301	12/5/1995
4D	2	Total Endrin	0	1.44	µg/kg	U	041M04D101	12/5/1995
4D	2	Total Endrin	0	2.04	µg/kg	U	041M04D201	12/5/1995
4D	2	Total Endrin	0	2.31	µg/kg	U	041M04D401	12/5/1995
		Maximum Average Total Endrin		87.00			001M001801	
		Average Total Endrin	11	8.95				
15	2	Dieldrin	0	0.59	µg/kg	U	041M150401	12/6/1995
15	2	Dieldrin	0	1.3	µg/kg	U	041M150301	12/6/1995
15	2	Dieldrin	0	1.5	µg/kg	U	041M150101	12/6/1995
15	2	Dieldrin	0	1.5	µg/kg	U	041M150201	12/6/1995
16	2	Dieldrin	0	0.21	µg/kg	U	041M160101	12/7/1995
16	2	Dieldrin	0	6.1	µg/kg	U	001M001601	6/29/1994
16	2	Dieldrin	1	0.35	µg/kg	J	041M160201	12/7/1995
16	2	Dieldrin	1	4.2	µg/kg	J	041M160301	12/7/1995
17	2	Dieldrin	0	0.19	µg/kg	U	041M170301	1/15/1996
17	2	Dieldrin	0	0.21	µg/kg	U	041M170201	1/15/1996
17	2	Dieldrin	0	0.23	µg/kg	U	041M170101	1/15/1996
18A	2	Dieldrin	0	1.7	µg/kg	U	041M18A301	12/14/1995
18A	2	Dieldrin	0	2.4	µg/kg	U	041M18A201	12/15/1995
18A	2	Dieldrin	0	6	µg/kg	U	041M18A101	12/15/1995
18A	2	Dieldrin	0	37	µg/kg	U	001M001801	6/29/1994
18B	2	Dieldrin	0	50	µg/kg	U	041M18B101	12/14/1995
1A	2	Dieldrin	0	0.23	µg/kg	UJ	041M010101	1/17/1996
1A	2	Dieldrin	1	3.7	µg/kg	J	001M000101	6/29/1994
1A	2	Dieldrin	1	6.9	µg/kg	J	041M010201	1/17/1996
1B	2	Dieldrin	0	0.21	µg/kg	UJ	041M010301	1/18/1996
3	2	Dieldrin	0	0.24	µg/kg	U	041M030401	12/4/1995
3	2	Dieldrin	0	0.25	µg/kg	U	041M030601	12/4/1995
3	2	Dieldrin	0	0.4	µg/kg	U	041M030101	12/1/1995
3	2	Dieldrin	0	0.45	µg/kg	UJ	041M030301	12/4/1995
3	2	Dieldrin	0	0.88	µg/kg	U	041M030701	12/4/1995
3	2	Dieldrin	0	1.1	µg/kg	U	041M030501	12/4/1995
3	2	Dieldrin	0	4.7	µg/kg	U	001M000301	6/28/1994
3	2	Dieldrin	0	4.8	µg/kg	U	001M000302	6/28/1994
3	2	Dieldrin	0	22	µg/kg	U	001M000303	6/28/1994
3	2	Dieldrin	1	6	µg/kg	J	041M030201	12/1/1995

OU 1 Wetlands
Phase II
Food Chain Modeling Sediment Data

WETLAND	PHASE	Parameters	Detections	Result	Units	VQUAL	Sample ID	SAMPLE DATE
4D	2	Dieldrin	0	0.21	µg/kg	U	041M04D501	12/5/1995
4D	2	Dieldrin	0	0.21	µg/kg	U	041M04D301	12/5/1995
4D	2	Dieldrin	0	0.68	µg/kg	UJ	041M04D201	12/5/1995
4D	2	Dieldrin	1	0.78	µg/kg	J	041M04D101	12/5/1995
4D	2	Dieldrin	1	1.1	µg/kg	J	041M04D401	12/5/1995
		Maximum Detected Dieldrin		6.90			041M010201	
		Average Dieldrin	7	2.73				
15	2	Total PCBs	0	46.4	µg/kg	U	041M150401	12/6/1995
15	2	Total PCBs	1	119	µg/kg		041M150101	12/6/1995
15	2	Total PCBs	1	122	µg/kg		041M150301	12/6/1995
15	2	Total PCBs	1	129	µg/kg		041M150201	12/6/1995
16	2	Total PCBs	0	486	µg/kg	U	001M001601	6/29/1994
16	2	Total PCBs	1	16.6	µg/kg		041M160101	12/7/1995
16	2	Total PCBs	1	33.9	µg/kg		041M160201	12/7/1995
16	2	Total PCBs	1	139	µg/kg		041M160301	12/7/1995
17	2	Total PCBs	1	13.9	µg/kg		041M170301	1/15/1996
17	2	Total PCBs	1	15.37	µg/kg		041M170201	1/15/1996
17	2	Total PCBs	1	18.8	µg/kg		041M170101	1/15/1996
18A	2	Total PCBs	0	135	µg/kg	U	041M18A301	12/14/1995
18A	2	Total PCBs	0	191	µg/kg	U	041M18A201	12/15/1995
18A	2	Total PCBs	0	480	µg/kg	U	041M18A101	12/15/1995
18A	2	Total PCBs	0	2960	µg/kg	U	001M001801	6/29/1994
18B	2	Total PCBs	0	3500	µg/kg	U	041M18B101	12/14/1995
1A	2	Total PCBs	0	18.4	µg/kg	U	041M010101	1/17/1996
1A	2	Total PCBs	0	514	µg/kg	U	001M000101	6/29/1994
1A	2	Total PCBs	1	36.3	µg/kg		041M010201	1/17/1996
1B	2	Total PCBs	1	124.7	µg/kg		041M010301	1/18/1996
1B	2	Total PCBs	1	140	µg/kg		041M010401	1/17/1996
3	2	Total PCBs	0	19	µg/kg	U	041M030401	12/4/1995
3	2	Total PCBs	0	19.9	µg/kg	U	041M030601	12/4/1995
3	2	Total PCBs	0	31.8	µg/kg	U	041M030101	12/1/1995
3	2	Total PCBs	0	35.7	µg/kg	U	041M030301	12/4/1995
3	2	Total PCBs	0	69.8	µg/kg	U	041M030701	12/4/1995
3	2	Total PCBs	0	86	µg/kg	U	041M030501	12/4/1995
3	2	Total PCBs	0	378	µg/kg	U	001M000301	6/28/1994
3	2	Total PCBs	0	385	µg/kg	U	001M000302	6/28/1994
3	2	Total PCBs	0	1760	µg/kg	U	001M000303	6/28/1994
3	2	Total PCBs	1	455	µg/kg		041M030201	12/1/1995
4D	2	Total PCBs	0	16.6	µg/kg	U	041M04D301	12/5/1995
4D	2	Total PCBs	0	61.2	µg/kg	U	041M04D401	12/5/1995
4D	2	Total PCBs	1	14.82	µg/kg		041M04D501	12/5/1995
4D	2	Total PCBs	1	83.4	µg/kg		041M04D101	12/5/1995
4D	2	Total PCBs	1	89	µg/kg		041M04D201	12/5/1995
		Maximum Detected Total PCBs		455.00			041M030201	
		Average Total PCBs	16	198.55				
15	2	Mercury	0	0.14	mg/kg	UJ	041M150401	12/6/1995
15	2	Mercury	0	0.32	mg/kg	UJ	041M150301	12/6/1995
15	2	Mercury	0	0.35	mg/kg	U	041M150101	12/6/1995
15	2	Mercury	0	0.45	mg/kg	UJ	041M150201	12/6/1995
16	2	Mercury	0	0.05	mg/kg	U	041M160101	12/7/1995
16	2	Mercury	0	0.1	mg/kg	U	041M160201	12/7/1995
16	2	Mercury	0	0.18	mg/kg	U	001M001601	6/29/1994
16	2	Mercury	1	0.41	mg/kg	J	041M160301	12/7/1995
17	2	Mercury	0	0.05	mg/kg	U	041M170101	1/15/1996
17	2	Mercury	0	0.05	mg/kg	U	041M170201	1/15/1996
17	2	Mercury	0	0.06	mg/kg	U	041M170301	1/15/1996
18A	2	Mercury	0	0.3	mg/kg	U	041M18A101	12/15/1995
18A	2	Mercury	0	0.48	mg/kg	U	041M18A301	12/14/1995
18A	2	Mercury	0	0.54	mg/kg	U	041M18A201	12/15/1995
18A	2	Mercury	0	1.1	mg/kg	U	001M001801	6/29/1994

OU 1 Wetlands
Phase II
Food Chain Modeling Sediment Data

WETLAND	PHASE	Parameters	Detections	Result	Units	VQUAL	Sample ID	SAMPLE DATE
18B	2	Mercury	0	0.33	mg/kg	U	041M18B101	12/14/1995
1A	2	Mercury	0	0.21	mg/kg	U	001M000101	6/29/1994
1A	2	Mercury	1	0.07	mg/kg	J	041M010101	1/17/1996
1A	2	Mercury	1	0.25	mg/kg		041M010201	1/17/1996
1B	2	Mercury	1	0.17	mg/kg		041M010301	1/18/1996
1B	2	Mercury	1	0.2	mg/kg		041M010401	1/17/1996
3	2	Mercury	0	0.05	mg/kg	U	041M030501	12/4/1995
3	2	Mercury	0	0.06	mg/kg	U	041M030601	12/4/1995
3	2	Mercury	0	0.06	mg/kg	U	041M030101	12/1/1995
3	2	Mercury	0	0.06	mg/kg	U	041M030401	12/4/1995
3	2	Mercury	0	0.13	mg/kg	U	001M000303	6/28/1994
3	2	Mercury	0	0.14	mg/kg	U	001M000301	6/28/1994
3	2	Mercury	0	0.15	mg/kg	U	041M030301	12/4/1995
3	2	Mercury	0	0.15	mg/kg	U	001M000302	6/28/1994
3	2	Mercury	0	0.24	mg/kg	U	041M030701	12/4/1995
3	2	Mercury	0	0.47	mg/kg	U	041M030201	12/1/1995
4D	2	Mercury	0	0.05	mg/kg	U	041M04D501	12/5/1995
4D	2	Mercury	0	0.05	mg/kg	U	041M04D301	12/5/1995
4D	2	Mercury	0	0.15	mg/kg	U	041M04D201	12/5/1995
4D	2	Mercury	1	0.12	mg/kg	J	041M04D101	12/5/1995
4D	2	Mercury	1	0.16	mg/kg	J	041M04D401	12/5/1995
		Maximum Detected Mercury		0.41			041M160301	
		Average Mercury	7	0.13				

OU 1 Wetlands
Phase III
Food Chain Modeling Sediment Data

WETLAND	PHASE	Parameters	Detections	Result	VQUAL	Units	Sample_ID	SAMPLE_ID
3	3	Dieldrin	0	4.1	U	µg/kg	041M030701	8/27/1997
3	3	Dieldrin	0	16	U	µg/kg	041M030201	8/27/1997
16	3	Dieldrin	0	8.7	U	µg/kg	041M160301	9/4/1997
18B	3	Dieldrin	0	6.7	U	µg/kg	041M18B101	8/29/1997
		Maximum Detected Dieldrin		0				
		Average Dieldrin		4.44				
16	3	Total BHC	0	18	U	µg/kg	041M160301	9/4/1997
18B	3	Total BHC	0	14	U	µg/kg	041M18B101	8/29/1997
3	3	Total BHC	0	14.4	U	µg/kg	041M030701	8/27/1997
3	3	Total BHC	0	30.2	U	µg/kg	041M030201	8/27/1997
		Maximum Detected Total BHC		0				
		Average Total BHC	0	9.58				
16	3	Total Chlordane	0	9	U	µg/kg	041M160301	9/4/1997
18B	3	Total Chlordane	0	7	U	µg/kg	041M18B101	8/29/1997
3	3	Total Chlordane	0	17	U	µg/kg	041M030201	8/27/1997
3	3	Total Chlordane	1	4.34		µg/kg	041M030701	8/27/1997
		Maximum Detected Total Chlordane		4.34			041M030701	
		Average Total Chlordane	1	5.21				
16	3	Total DDT	1	27.7		µg/kg	041M160301	9/4/1997
18B	3	Total DDT	1	152.1		µg/kg	041M18B101	8/29/1997
3	3	Total DDT	1	33.7		µg/kg	041M030201	8/27/1997
3	3	Total DDT	1	69.3		µg/kg	041M030701	8/27/1997
		Maximum Detected Total DDT		152.1			041M18B101	
		Average Total DDT	4	70.7				
16	3	Total Endrin	1	18.7		µg/kg	041M160301	9/4/1997
18B	3	Total Endrin	0	20.1	U	µg/kg	041M18B101	8/29/1997
3	3	Total Endrin	0	21	U	µg/kg	041M030701	8/27/1997
3	3	Total Endrin	1	34.8		µg/kg	041M030201	8/27/1997
		Maximum Detected Total Endrin		34.8			041M030201	
		Average Total Endrin	2	18.5125				
16	3	Total PCBs	0	702	U	µg/kg	041M160301	9/4/1997
18B	3	Total PCBs	0	542	U	µg/kg	041M18B101	8/29/1997
3	3	Total PCBs	0	560	U	µg/kg	041M030701	8/27/1997
3	3	Total PCBs	0	1300	U	µg/kg	041M030201	8/27/1997
		Maximum Detected Total PCBs		0				
		Average Total PCBs	0	388				
16	3	Mercury	1	0.07	J	mg/kg	041M160301	9/4/1997
18B	3	Mercury	0	0.02	U	mg/kg	041M18B101	8/29/1997
3	3	Mercury	1	0.06	J	mg/kg	041M030701	8/27/1997
3	3	Mercury	1	0.1	J	mg/kg	041M030201	8/27/1997
		Maximum Detected Mercury		0.1			041M030201	
		Average Mercury	3	0.06				

OU 2 Wetlands
Phase II
Food Chain Modeling Sediment Data

WETLAND	PHASE	PARAMETER	Detect	RESULT	VQUAL	Units	SAMPLE ID	SAMPLE DATE
5A	2	Dieldrin	0	0.2	U	µg/kg	041M5A0701	11/16/1995
5A	2	Dieldrin	0	0.32	UJ	µg/kg	041M5A0201	11/16/1995
5A	2	Dieldrin	0	0.61	UJ	µg/kg	041M5A0301	11/16/1995
5A	2	Dieldrin	0	0.72	UJ	µg/kg	041M5A0401	11/16/1995
5A	2	Dieldrin	0	0.81	UJ	µg/kg	041M5A0501	11/27/1995
5A	2	Dieldrin	1	0.85	J	µg/kg	041M5A0601	11/17/1995
5A	2	Dieldrin	1	2.5	J	µg/kg	041M5A0101	11/16/1995
5B	2	Dieldrin	1	0.42	J	µg/kg	041M5B0101	11/17/1995
5B	2	Dieldrin	1	7.1	J	µg/kg	041M5B0201	11/17/1995
6	2	Dieldrin	0	0.21	UJ	µg/kg	041M060201	11/15/1995
6	2	Dieldrin	0	0.22	U	µg/kg	041M060901	11/14/1995
6	2	Dieldrin	0	1	U	µg/kg	041M060401	11/15/1995
6	2	Dieldrin	0	4.2	UJ	µg/kg	010M000101	2/4/1994
6	2	Dieldrin	1	0.24	J	µg/kg	041M061001	11/16/1995
6	2	Dieldrin	1	0.3	J	µg/kg	041M061101	11/16/1995
6	2	Dieldrin	1	0.6	J	µg/kg	041M060501	11/16/1995
6	2	Dieldrin	1	2.1	J	µg/kg	041M060101	11/15/1995
6	2	Dieldrin	1	4	J	µg/kg	041M060301	11/15/1995
6	2	Dieldrin	1	4.7		µg/kg	041M060601	11/16/1995
6	2	Dieldrin	1	5.6		µg/kg	041M060801	11/14/1995
6	2	Dieldrin	1	10	J	µg/kg	041M060701	11/14/1995
64	2	Dieldrin	0	0.21	U	µg/kg	041M640901	11/15/1995
64	2	Dieldrin	0	0.21	U	µg/kg	041M641201	11/15/1995
64	2	Dieldrin	0	0.21	U	µg/kg	041M642001	11/16/1995
64	2	Dieldrin	0	0.21	U	µg/kg	041M642101	11/16/1995
64	2	Dieldrin	0	0.22	UJ	µg/kg	041M641501	11/15/1995
64	2	Dieldrin	0	0.22	U	µg/kg	041M642301	11/17/1995
64	2	Dieldrin	0	0.22	U	µg/kg	041M641801	2/6/1996
64	2	Dieldrin	0	0.23	U	µg/kg	041M640701	11/15/1995
64	2	Dieldrin	0	0.23	U	µg/kg	041M640101	2/9/1996
64	2	Dieldrin	0	0.23	UJ	µg/kg	041M642401	11/17/1995
64	2	Dieldrin	0	0.24	U	µg/kg	041M642201	11/17/1995
64	2	Dieldrin	0	0.26	U	µg/kg	041M640801	2/1/1996
64	2	Dieldrin	0	0.31	U	µg/kg	041M641701	11/16/1995
64	2	Dieldrin	0	0.97	U	µg/kg	041M641601	11/16/1995
64	2	Dieldrin	0	1	U	µg/kg	041M641401	11/16/1995
64	2	Dieldrin	0	1.1	U	µg/kg	041M641901	2/1/1996
64	2	Dieldrin	0	1.4	U	µg/kg	041M640601	11/15/1995
64	2	Dieldrin	0	1.9	U	µg/kg	041M640401	2/9/1996
64	2	Dieldrin	0	7	U	µg/kg	041M640301	11/15/1995
64	2	Dieldrin	1	0.79	J	µg/kg	041M640501	11/15/1995
64	2	Dieldrin	1	1.4	J	µg/kg	041M641301	11/16/1995
64	2	Dieldrin	1	1.5	J	µg/kg	041M641001	11/16/1995
64	2	Dieldrin	1	1.7	J	µg/kg	041M641101	11/16/1995
64	2	Dieldrin	1	3.3	J	µg/kg	041M640201	11/15/1995
		Maximum Detected Dieldrin		10			041M060701	
		Average Dieldrin		1.320666667				
5A	2	Total BHC	0	0.64	U	µg/kg	041M5A0201	11/16/1995
5A	2	Total BHC	0	0.75	U	µg/kg	041M5A0701	11/16/1995
5A	2	Total BHC	0	1.24	U	µg/kg	041M5A0301	11/16/1995
5A	2	Total BHC	0	1.44	U	µg/kg	041M5A0401	11/16/1995
5A	2	Total BHC	0	1.56	U	µg/kg	041M5A0501	11/27/1995
5A	2	Total BHC	1	0.67		µg/kg	041M5A0601	11/17/1995
5A	2	Total BHC	1	1.54		µg/kg	041M5A0101	11/16/1995
5B	2	Total BHC	1	0.6		µg/kg	041M5B0101	11/17/1995
5B	2	Total BHC	1	2.88		µg/kg	041M5B0201	11/17/1995
6	2	Total BHC	0	0.4	U	µg/kg	041M061101	11/16/1995
6	2	Total BHC	0	0.44	U	µg/kg	041M060901	11/14/1995
6	2	Total BHC	0	0.47	U	µg/kg	041M060501	11/16/1995
6	2	Total BHC	0	0.67	U	µg/kg	041M061001	11/16/1995
6	2	Total BHC	0	0.67	U	µg/kg	041M060601	11/16/1995
6	2	Total BHC	0	2.04	U	µg/kg	041M060401	11/15/1995
6	2	Total BHC	0	3.92	U	µg/kg	041M060101	11/15/1995
6	2	Total BHC	0	8.8	U	µg/kg	010M000101	2/4/1994
6	2	Total BHC	1	0.84		µg/kg	041M060201	11/15/1995
6	2	Total BHC	1	0.9		µg/kg	041M060801	11/14/1995
6	2	Total BHC	1	3.69		µg/kg	041M060701	11/14/1995
6	2	Total BHC	1	3.91		µg/kg	041M060301	11/15/1995
64	2	Total BHC	0	0.44	U	µg/kg	041M641501	11/15/1995
64	2	Total BHC	0	0.44	U	µg/kg	041M642301	11/17/1995
64	2	Total BHC	0	0.44	U	µg/kg	041M642101	11/16/1995

OU 2 Wetlands
Phase II
Food Chain Modeling Sediment Data

WETLAND	PHASE	PARAMETER	Detect	RESULT	VQUAL	Units	SAMPLE ID	SAMPLE DATE
64	2	Total BHC	0	0.48	U	µg/kg	041M642201	11/17/1995
64	2	Total BHC	0	0.52	U	µg/kg	041M640801	2/1/1996
64	2	Total BHC	0	0.53	U	µg/kg	041M642001	11/16/1995
64	2	Total BHC	0	0.81	U	µg/kg	041M641701	11/16/1995
64	2	Total BHC	0	1.35	U	µg/kg	041M641101	11/16/1995
64	2	Total BHC	0	1.96	U	µg/kg	041M641001	11/16/1995
64	2	Total BHC	0	2.08	U	µg/kg	041M641901	2/1/1996
64	2	Total BHC	0	2.76	U	µg/kg	041M640601	11/15/1995
64	2	Total BHC	0	6.4	U	µg/kg	041M640201	11/15/1995
64	2	Total BHC	0	13.6	U	µg/kg	041M640301	11/15/1995
64	2	Total BHC	1	0.47		µg/kg	041M640101	2/9/1996
64	2	Total BHC	1	0.48		µg/kg	041M642401	11/17/1995
64	2	Total BHC	1	0.51		µg/kg	041M641801	2/6/1996
64	2	Total BHC	1	0.55		µg/kg	041M640701	11/15/1995
64	2	Total BHC	1	0.67		µg/kg	041M641201	11/15/1995
64	2	Total BHC	1	0.85		µg/kg	041M640901	11/15/1995
64	2	Total BHC	1	1.1		µg/kg	041M640501	11/15/1995
64	2	Total BHC	1	2.04		µg/kg	041M641301	11/16/1995
64	2	Total BHC	1	2.11		µg/kg	041M641601	11/16/1995
64	2	Total BHC	1	2.5		µg/kg	041M641401	11/16/1995
64	2	Total BHC	1	4.36		µg/kg	041M640401	2/9/1996
		Maximum Detected Total BHC					041M060301	
		Average Total BHC	19					
5A	2	Total Chlordane	0	0.22	U	µg/kg	041M5A0601	11/17/1995
5A	2	Total Chlordane	0	0.32	U	µg/kg	041M5A0201	11/16/1995
5A	2	Total Chlordane	0	0.62	U	µg/kg	041M5A0301	11/16/1995
5A	2	Total Chlordane	0	0.72	U	µg/kg	041M5A0401	11/16/1995
5A	2	Total Chlordane	1	0.33		µg/kg	041M5A0701	11/16/1995
5A	2	Total Chlordane	1	0.63		µg/kg	041M5A0101	11/16/1995
5A	2	Total Chlordane	1	2.9		µg/kg	041M5A0501	11/27/1995
5B	2	Total Chlordane	1	0.29		µg/kg	041M5B0101	11/17/1995
5B	2	Total Chlordane	1	2.2		µg/kg	041M5B0201	11/17/1995
6	2	Total Chlordane	0	0.2	U	µg/kg	041M061101	11/16/1995
6	2	Total Chlordane	0	0.2	U	µg/kg	041M060501	11/16/1995
6	2	Total Chlordane	0	1.02	U	µg/kg	041M060401	11/15/1995
6	2	Total Chlordane	0	1.96	U	µg/kg	041M060101	11/15/1995
6	2	Total Chlordane	0	4.4	U	µg/kg	010M000101	2/4/1994
6	2	Total Chlordane	1	0.26		µg/kg	041M060901	11/14/1995
6	2	Total Chlordane	1	0.39		µg/kg	041M061001	11/16/1995
6	2	Total Chlordane	1	0.43		µg/kg	041M060201	11/15/1995
6	2	Total Chlordane	1	0.44		µg/kg	041M060601	11/16/1995
6	2	Total Chlordane	1	1.64		µg/kg	041M060801	11/14/1995
6	2	Total Chlordane	1	2.5		µg/kg	041M060301	11/15/1995
6	2	Total Chlordane	1	2.7		µg/kg	041M060701	11/14/1995
64	2	Total Chlordane	0	0.2	U	µg/kg	041M641201	11/15/1995
64	2	Total Chlordane	0	0.2	U	µg/kg	041M640901	11/15/1995
64	2	Total Chlordane	0	0.2	U	µg/kg	041M642101	11/16/1995
64	2	Total Chlordane	0	0.22	U	µg/kg	041M642401	11/17/1995
64	2	Total Chlordane	0	0.22	U	µg/kg	041M640701	11/15/1995
64	2	Total Chlordane	0	0.22	U	µg/kg	041M641501	11/15/1995
64	2	Total Chlordane	0	0.22	U	µg/kg	041M642001	11/16/1995
64	2	Total Chlordane	0	0.22	U	µg/kg	041M640101	2/9/1996
64	2	Total Chlordane	0	0.22	U	µg/kg	041M641801	2/6/1996
64	2	Total Chlordane	0	0.22	U	µg/kg	041M642301	11/17/1995
64	2	Total Chlordane	0	0.24	U	µg/kg	041M642201	11/17/1995
64	2	Total Chlordane	0	0.3	U	µg/kg	041M641701	11/16/1995
64	2	Total Chlordane	0	0.6	U	µg/kg	041M641101	11/16/1995
64	2	Total Chlordane	0	0.92	U	µg/kg	041M641301	11/16/1995
64	2	Total Chlordane	0	0.98	U	µg/kg	041M641601	11/16/1995
64	2	Total Chlordane	0	1.04	U	µg/kg	041M641401	11/16/1995
64	2	Total Chlordane	0	1.04	U	µg/kg	041M641901	2/1/1996
64	2	Total Chlordane	0	1.84	U	µg/kg	041M640401	2/9/1996
64	2	Total Chlordane	1	0.41		µg/kg	041M640801	2/1/1996
64	2	Total Chlordane	1	1.14		µg/kg	041M641001	11/16/1995
64	2	Total Chlordane	1	1.5		µg/kg	041M640601	11/15/1995
64	2	Total Chlordane	1	1.58		µg/kg	041M640501	11/15/1995
64	2	Total Chlordane	1	10.8		µg/kg	041M640201	11/15/1995
64	2	Total Chlordane	1	18.5		µg/kg	041M640301	11/15/1995
		Maximum Detected Total Chlordane					041M640301	
		Average Total Chlordane	18					

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Phase II
Food Chain Modeling Sediment Data

WETLAND	PHASE	PARAMETER	Detect	RESULT	VQUAL	Units	SAMPLE ID	SAMPLE DATE
5A	2	Total DDT	1	0.63		µg/kg	041M5A0701	11/16/1995
5A	2	Total DDT	1	1.66		µg/kg	041M5A0601	11/17/1995
5A	2	Total DDT	1	2.06		µg/kg	041M5A0301	11/16/1995
5A	2	Total DDT	1	2.29		µg/kg	041M5A0101	11/16/1995
5A	2	Total DDT	1	3.22		µg/kg	041M5A0201	11/16/1995
5A	2	Total DDT	1	5.3		µg/kg	041M5A0401	11/16/1995
5A	2	Total DDT	1	125.81		µg/kg	041M5A0501	11/27/1995
5B	2	Total DDT	1	0.74		µg/kg	041M5B0101	11/17/1995
5B	2	Total DDT	1	6.83		µg/kg	041M5B0201	11/17/1995
6	2	Total DDT	1	0.67		µg/kg	041M061001	11/16/1995
6	2	Total DDT	1	0.7		µg/kg	041M061101	11/16/1995
6	2	Total DDT	1	1.21		µg/kg	041M060901	11/14/1995
6	2	Total DDT	1	6.25		µg/kg	041M060201	11/15/1995
6	2	Total DDT	1	7.2		µg/kg	041M060501	11/16/1995
6	2	Total DDT	1	8.6		µg/kg	041M060401	11/15/1995
6	2	Total DDT	1	19.3		µg/kg	041M060801	11/14/1995
6	2	Total DDT	1	21.1		µg/kg	041M060601	11/16/1995
6	2	Total DDT	1	67		µg/kg	041M060701	11/14/1995
6	2	Total DDT	1	77		µg/kg	010M000101	2/4/1994
6	2	Total DDT	1	125		µg/kg	041M060301	11/15/1995
6	2	Total DDT	1	393		µg/kg	041M060101	11/15/1995
64	2	Total DDT	0	0.63	U	µg/kg	041M642001	11/16/1995
64	2	Total DDT	0	0.63	U	µg/kg	041M642101	11/16/1995
64	2	Total DDT	0	0.66	U	µg/kg	041M642301	11/17/1995
64	2	Total DDT	0	0.66	U	µg/kg	041M641801	2/6/1996
64	2	Total DDT	0	0.69	U	µg/kg	041M642401	11/17/1995
64	2	Total DDT	0	0.72	U	µg/kg	041M642201	11/17/1995
64	2	Total DDT	0	0.93	U	µg/kg	041M641701	11/16/1995
64	2	Total DDT	0	2.91	U	µg/kg	041M641601	11/16/1995
64	2	Total DDT	0	3	U	µg/kg	041M641401	11/16/1995
64	2	Total DDT	1	0.68		µg/kg	041M641201	11/15/1995
64	2	Total DDT	1	0.87		µg/kg	041M640901	11/15/1995
64	2	Total DDT	1	1.23		µg/kg	041M641501	11/15/1995
64	2	Total DDT	1	3.24		µg/kg	041M641301	11/16/1995
64	2	Total DDT	1	3.27		µg/kg	041M641101	11/16/1995
64	2	Total DDT	1	3.5		µg/kg	041M641901	2/1/1996
64	2	Total DDT	1	5.26		µg/kg	041M640801	2/1/1996
64	2	Total DDT	1	5.67		µg/kg	041M641001	11/16/1995
64	2	Total DDT	1	12.84		µg/kg	041M640701	11/15/1995
64	2	Total DDT	1	29.7		µg/kg	041M640101	2/9/1996
64	2	Total DDT	1	35.9		µg/kg	041M640401	2/9/1996
64	2	Total DDT	1	47.4		µg/kg	041M640601	11/15/1995
64	2	Total DDT	1	56.74		µg/kg	041M640501	11/15/1995
64	2	Total DDT	1	136		µg/kg	041M640301	11/15/1995
64	2	Total DDT	1	215.3		µg/kg	041M640201	11/15/1995
		Maximum Detected Total DDT					041M060101	
		Average Total DDT	36					
5A	2	Total Endrin	0	0.69	U	µg/kg	041M5A0601	11/17/1995
5A	2	Total Endrin	0	0.96	U	µg/kg	041M5A0201	11/16/1995
5A	2	Total Endrin	0	1.77	U	µg/kg	041M5A0101	11/16/1995
5A	2	Total Endrin	0	1.83	U	µg/kg	041M5A0301	11/16/1995
5A	2	Total Endrin	0	2.16	U	µg/kg	041M5A0401	11/16/1995
5A	2	Total Endrin	1	0.66		µg/kg	041M5A0701	11/16/1995
5A	2	Total Endrin	1	2.63		µg/kg	041M5A0501	11/27/1995
5B	2	Total Endrin	0	0.63	U	µg/kg	041M5B0101	11/17/1995
5B	2	Total Endrin	0	2.19	U	µg/kg	041M5B0201	11/17/1995
6	2	Total Endrin	0	0.6	U	µg/kg	041M061101	11/16/1995
6	2	Total Endrin	0	0.6	U	µg/kg	041M060501	11/16/1995
6	2	Total Endrin	0	0.63	U	µg/kg	041M060201	11/15/1995
6	2	Total Endrin	0	0.63	U	µg/kg	041M061001	11/16/1995
6	2	Total Endrin	0	0.66	U	µg/kg	041M060901	11/14/1995
6	2	Total Endrin	0	0.72	U	µg/kg	041M060601	11/16/1995
6	2	Total Endrin	0	3	U	µg/kg	041M060401	11/15/1995
6	2	Total Endrin	0	12.6	U	µg/kg	010M000101	2/4/1994
6	2	Total Endrin	1	2.49		µg/kg	041M060801	11/14/1995
6	2	Total Endrin	1	4.04		µg/kg	041M060301	11/15/1995
6	2	Total Endrin	1	6.1		µg/kg	041M060101	11/15/1995
6	2	Total Endrin	1	6.6		µg/kg	041M060701	11/14/1995
64	2	Total Endrin	0	0.63	U	µg/kg	041M642101	11/16/1995
64	2	Total Endrin	0	0.63	U	µg/kg	041M640901	11/15/1995
64	2	Total Endrin	0	0.63	U	µg/kg	041M641201	11/15/1995

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Phase II
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WETLAND	PHASE	PARAMETER	Detect	RESULT	VQUAL	Units	SAMPLE ID	SAMPLE DATE
64	2	Total Endrin	0	0.63	U	µg/kg	041M642001	11/16/1995
64	2	Total Endrin	0	0.66	U	µg/kg	041M642301	11/17/1995
64	2	Total Endrin	0	0.66	U	µg/kg	041M641501	11/15/1995
64	2	Total Endrin	0	0.66	U	µg/kg	041M641801	2/6/1996
64	2	Total Endrin	0	0.69	U	µg/kg	041M642401	11/17/1995
64	2	Total Endrin	0	0.69	U	µg/kg	041M640701	11/15/1995
64	2	Total Endrin	0	0.72	U	µg/kg	041M642201	11/17/1995
64	2	Total Endrin	0	0.93	U	µg/kg	041M641701	11/16/1995
64	2	Total Endrin	0	1.77	U	µg/kg	041M641101	11/16/1995
64	2	Total Endrin	0	2.76	U	µg/kg	041M641301	11/16/1995
64	2	Total Endrin	0	2.91	U	µg/kg	041M641601	11/16/1995
64	2	Total Endrin	0	2.91	U	µg/kg	041M641001	11/16/1995
64	2	Total Endrin	0	3	U	µg/kg	041M641401	11/16/1995
64	2	Total Endrin	0	3.3	U	µg/kg	041M641901	2/1/1996
64	2	Total Endrin	0	4.2	U	µg/kg	041M640601	11/15/1995
64	2	Total Endrin	0	21	U	µg/kg	041M640301	11/15/1995
64	2	Total Endrin	1	1.01		µg/kg	041M640801	2/1/1996
64	2	Total Endrin	1	2		µg/kg	041M640501	11/15/1995
64	2	Total Endrin	1	8.46		µg/kg	041M640101	2/9/1996
64	2	Total Endrin	1	9.3		µg/kg	041M640401	2/9/1996
64	2	Total Endrin	1	10.4		µg/kg	041M640201	11/15/1995
		Maximum Detected Total Endrin					041M640101	
		Average Total Endrin	11					
5A	2	Total PCBs	0	25.6	U	µg/kg	041M5A0201	11/16/1995
5A	2	Total PCBs	0	48.6	U	µg/kg	041M5A0301	11/16/1995
5A	2	Total PCBs	0	57.2	U	µg/kg	041M5A0401	11/16/1995
5A	2	Total PCBs	1	16.6		µg/kg	041M5A0701	11/16/1995
5A	2	Total PCBs	1	45.7		µg/kg	041M5A0601	11/17/1995
5A	2	Total PCBs	1	57.5		µg/kg	041M5A0101	11/16/1995
5A	2	Total PCBs	1	156.5		µg/kg	041M5A0501	11/27/1995
5B	2	Total PCBs	1	37.6		µg/kg	041M5B0101	11/17/1995
5B	2	Total PCBs	1	152		µg/kg	041M5B0201	11/17/1995
6	2	Total PCBs	0	16	U	µg/kg	041M060501	11/16/1995
6	2	Total PCBs	0	32.1	U	µg/kg	041M060801	11/14/1995
6	2	Total PCBs	0	33.8	U	µg/kg	041M060901	11/14/1995
6	2	Total PCBs	0	120	U	µg/kg	041M060301	11/15/1995
6	2	Total PCBs	0	161	U	µg/kg	041M060401	11/15/1995
6	2	Total PCBs	0	233	U	µg/kg	041M060701	11/14/1995
6	2	Total PCBs	0	313	U	µg/kg	041M060101	11/15/1995
6	2	Total PCBs	0	338	U	µg/kg	010M000101	2/4/1994
6	2	Total PCBs	1	15.32		µg/kg	041M061001	11/16/1995
6	2	Total PCBs	1	17.8		µg/kg	041M061101	11/16/1995
6	2	Total PCBs	1	20.9		µg/kg	041M060601	11/16/1995
6	2	Total PCBs	1	38.3		µg/kg	041M060201	11/15/1995
64	2	Total PCBs	0	16.8	U	µg/kg	041M642101	11/16/1995
64	2	Total PCBs	0	33.7	U	µg/kg	041M642301	11/17/1995
64	2	Total PCBs	0	35.4	U	µg/kg	041M642401	11/17/1995
64	2	Total PCBs	0	37	U	µg/kg	041M642201	11/17/1995
64	2	Total PCBs	1	16.6		µg/kg	041M641801	2/6/1996
64	2	Total PCBs	1	16.7		µg/kg	041M642001	11/16/1995
64	2	Total PCBs	1	26.5		µg/kg	041M641701	11/16/1995
64	2	Total PCBs	1	28		µg/kg	041M640101	2/9/1996
64	2	Total PCBs	1	29.1		µg/kg	041M640801	2/1/1996
64	2	Total PCBs	1	30.1		µg/kg	041M640901	11/15/1995
64	2	Total PCBs	1	30.5		µg/kg	041M641201	11/15/1995
64	2	Total PCBs	1	33.6		µg/kg	041M641501	11/15/1995
64	2	Total PCBs	1	34.2		µg/kg	041M640701	11/15/1995
64	2	Total PCBs	1	70.5		µg/kg	041M641101	11/16/1995
64	2	Total PCBs	1	83.5		µg/kg	041M641601	11/16/1995
64	2	Total PCBs	1	87		µg/kg	041M641401	11/16/1995
64	2	Total PCBs	1	91		µg/kg	041M641301	11/16/1995
64	2	Total PCBs	1	91.5		µg/kg	041M641001	11/16/1995
64	2	Total PCBs	1	106		µg/kg	041M640501	11/15/1995
64	2	Total PCBs	1	126		µg/kg	041M641901	2/1/1996
64	2	Total PCBs	1	154		µg/kg	041M640401	2/9/1996
64	2	Total PCBs	1	246		µg/kg	041M640601	11/15/1995
64	2	Total PCBs	1	825		µg/kg	041M640201	11/15/1995
64	2	Total PCBs	1	1130		µg/kg	041M640301	11/15/1995
		Maximum Detected Total PCBs					041M640301	
		Average Total PCBs	30					

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Phase II
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WETLAND	PHASE	PARAMETER	Detect	RESULT	VQUAL	Units	SAMPLE ID	SAMPLE DATE
5A	2	Mercury	0	0.05	U	mg/kg	041M5A0701	11/16/1995
5A	2	Mercury	0	0.17	U	mg/kg	041M5A0201	11/16/1995
5A	2	Mercury	1	0.25		mg/kg	041M5A0601	11/17/1995
5A	2	Mercury	1	0.37		mg/kg	041M5A0301	11/16/1995
5A	2	Mercury	1	0.54	J	mg/kg	041M5A0401	11/16/1995
5A	2	Mercury	1	0.84		mg/kg	041M5A0501	11/27/1995
5A	2	Mercury	1	1		mg/kg	041M5A0101	11/16/1995
5B	2	Mercury	0	0.05	U	mg/kg	041M5B0101	11/17/1995
5B	2	Mercury	1	0.68		mg/kg	041M5B0201	11/17/1995
6	2	Mercury	0	0.03	U	mg/kg	010M000101	2/4/1994
6	2	Mercury	0	0.05	U	mg/kg	041M060101	11/15/1995
6	2	Mercury	0	0.05	U	mg/kg	041M061001	11/16/1995
6	2	Mercury	0	0.05	U	mg/kg	041M061101	11/16/1995
6	2	Mercury	0	0.05	U	mg/kg	041M060501	11/16/1995
6	2	Mercury	0	0.05	U	mg/kg	041M060801	11/14/1995
6	2	Mercury	0	0.05	U	mg/kg	041M060401	11/15/1995
6	2	Mercury	0	0.06	U	mg/kg	041M060201	11/15/1995
6	2	Mercury	0	0.06	U	mg/kg	041M060301	11/15/1995
6	2	Mercury	0	0.06	U	mg/kg	041M060901	11/14/1995
6	2	Mercury	0	0.08	U	mg/kg	041M060601	11/16/1995
6	2	Mercury	1	0.11	J	mg/kg	041M060701	11/14/1995
64	2	Mercury	0	0.05	U	mg/kg	041M641201	11/15/1995
64	2	Mercury	0	0.05	U	mg/kg	041M640901	11/15/1995
64	2	Mercury	0	0.05	U	mg/kg	041M642001	11/16/1995
64	2	Mercury	0	0.06	U	mg/kg	041M640801	2/1/1996
64	2	Mercury	0	0.06	U	mg/kg	041M640101	2/9/1996
64	2	Mercury	0	0.06	U	mg/kg	041M641501	11/15/1995
64	2	Mercury	0	0.06	U	mg/kg	041M642101	11/16/1995
64	2	Mercury	0	0.06	U	mg/kg	041M641801	2/6/1996
64	2	Mercury	0	0.07	U	mg/kg	041M642301	11/17/1995
64	2	Mercury	0	0.08	U	mg/kg	041M641701	11/16/1995
64	2	Mercury	1	0.1	J	mg/kg	041M640701	11/15/1995
64	2	Mercury	1	0.12	J	mg/kg	041M640601	11/15/1995
64	2	Mercury	1	0.15	J	mg/kg	041M642201	11/17/1995
64	2	Mercury	1	0.17		mg/kg	041M640201	11/15/1995
64	2	Mercury	1	0.27	J	mg/kg	041M640501	11/15/1995
64	2	Mercury	1	0.3	J	mg/kg	041M641101	11/16/1995
64	2	Mercury	1	0.3		mg/kg	041M642401	11/17/1995
64	2	Mercury	1	0.41	J	mg/kg	041M641401	11/16/1995
64	2	Mercury	1	0.43	J	mg/kg	041M640401	2/9/1996
64	2	Mercury	1	0.46	J	mg/kg	041M641301	11/16/1995
64	2	Mercury	1	0.49	J	mg/kg	041M641601	11/16/1995
64	2	Mercury	1	0.5	J	mg/kg	041M641001	11/16/1995
64	2	Mercury	1	0.66		mg/kg	041M641901	2/1/1996
64	2	Mercury	1	0.88		mg/kg	041M640301	11/15/1995
		Maximum Detected Mercury					041M5A0101	
		Average Mercury	21					

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Phase III
Food Chain Modeling Sediment Data

WETLAND	PHASE	PARAMETER	Detect	RESULT	VQUAL	Units	SAMPLE ID	SAMPLE DAT
5A	3	Dieldrin	0	2.9	U	µg/kg	041M5A0401	8/28/1997
5A	3	Dieldrin	0	100	U	µg/kg	041M5A0501	8/28/1997
5A	3	Dieldrin	1	1.4	J	µg/kg	041M5A0601	8/28/1997
64	3	Dieldrin	1	7.7	J	µg/kg	041M640601	9/3/1997
64	3	Dieldrin	1	17	J	µg/kg	041M640501	9/4/1997
64	3	Dieldrin	1	20	J	µg/kg	041M640401	9/4/1997
		Maximum Detected Dieldrin		20			041M640401	
		Average Dieldrin		16.26				
5A	3	Total BHC	0	11.2	U	µg/kg	041M5A0601	8/28/1997
5A	3	Total BHC	0	216	U	µg/kg	041M5A0501	8/28/1997
5A	3	Total BHC	1	8.04		µg/kg	041M5A0401	8/28/1997
64	3	Total BHC	0	35.6	U	µg/kg	041M640501	9/4/1997
64	3	Total BHC	1	13.29		µg/kg	041M640601	9/3/1997
64	3	Total BHC	1	42.69		µg/kg	041M640401	9/4/1997
		Maximum Detected Total BHC		42.69			041M640401	
		Average Total BHC	3	32.5700				
5A	3	Total Chlordane	0	0.4	U	µg/kg	041M5A0601	8/28/1997
5A	3	Total Chlordane	0	108	U	µg/kg	041M5A0501	8/28/1997
5A	3	Total Chlordane	1	12.4		µg/kg	041M5A0401	8/28/1997
64	3	Total Chlordane	0	6	U	µg/kg	041M640601	9/3/1997
64	3	Total Chlordane	1	6.4		µg/kg	041M640501	9/4/1997
64	3	Total Chlordane	1	19.7		µg/kg	041M640401	9/4/1997
		Maximum Detected Total Chlordane		19.7			041M5A0401	
		Average Total Chlordane	3	15.95				
5A	3	Total DDT	0	300	U	µg/kg	041M5A0501	8/28/1997
5A	3	Total DDT	1	8.1		µg/kg	041M5A0601	8/28/1997
5A	3	Total DDT	1	164.2		µg/kg	041M5A0401	8/28/1997
64	3	Total DDT	1	70.7		µg/kg	041M640501	9/4/1997
64	3	Total DDT	1	116		µg/kg	041M640601	9/3/1997
64	3	Total DDT	1	196		µg/kg	041M640401	9/4/1997
		Maximum Detected Total DDT		196			041M640401	
		Average Total DDT	5	117.5000				
5A	3	Total Endrin	0	6.25	U	µg/kg	041M5A0401	8/28/1997
5A	3	Total Endrin	0	202.4	U	µg/kg	041M5A0501	8/28/1997
5A	3	Total Endrin	1	11.9		µg/kg	041M5A0601	8/28/1997
64	3	Total Endrin	0	33	U	µg/kg	041M640601	9/3/1997
64	3	Total Endrin	0	51	U	µg/kg	041M640501	9/4/1997
64	3	Total Endrin	0	78	U	µg/kg	041M640401	9/4/1997
		Maximum Detected Total Endrin		11.9			041M5A0601	
		Average Total Endrin	1	32.8708				
5A	3	Total PCBs	0	400	U	µg/kg	041M5A0401	8/28/1997
5A	3	Total PCBs	0	434	U	µg/kg	041M5A0601	8/28/1997
5A	3	Total PCBs	0	8100	U	µg/kg	041M5A0501	8/28/1997
64	3	Total PCBs	1	950		µg/kg	041M640601	9/3/1997
64	3	Total PCBs	1	1480		µg/kg	041M640501	9/4/1997
64	3	Total PCBs	1	2140		µg/kg	041M640401	9/4/1997
		Maximum Detected Total PCBs		2140			041M640401	
		Average Total PCBs	3	1506.1667				
5A	3	Mercury	1	0.06		mg/kg	041M5A0601	8/28/1997
5A	3	Mercury	1	0.09		mg/kg	041M5A0501	8/28/1997
5A	3	Mercury	1	0.13		mg/kg	041M5A0401	8/28/1997
64	3	Mercury	1	0.25		mg/kg	041M640601	9/3/1997
64	3	Mercury	1	0.26		mg/kg	041M640501	9/4/1997
64	3	Mercury	1	0.26		mg/kg	041M640401 041M640501	9/4/1997
		Maximum Detected Mercury		0.26			041M640401	
		Average Mercury	6	0.175				

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Phase IV
2004 Data Food Chain Modeling Sediment Data

WETLAND	PHASE	PARAMETER	Detect	RESULT	Result 1/2SQL	VQUAL	Units	SAMPLE ID	SAMPLE DATE
5B	4	Dieldrin	1	8.6	8.6		UG/KG	041M5B0401	4/6/2004
5B	4	Dieldrin	1	9	9		UG/KG	041M5B0501	4/6/2004
5B	4	Dieldrin	1	14	14		UG/KG	041M5B0301	4/6/2004
5B	4	Dieldrin	1	29	29		UG/KG	041M5B0202	4/6/2004
5B	4	Dieldrin	1	100	100		UG/KG	041M5B0601	4/6/2004
64	4	Dieldrin	0	4	2	U	UG/KG	041M640702	8/1/2001
64	4	Dieldrin	0	4.1	2.05	UJ	UG/KG	041M642402	8/1/2001
64	4	Dieldrin	0	43	21.5	UJ	UG/KG	041M640302	8/1/2001
64	4	Dieldrin	0	48	24	U	UG/KG	041M640602	8/1/2001
64	4	Dieldrin	0	60	30	U	UG/KG	041M640502	8/2/2001
64	4	Dieldrin	0	68	34	U	UG/KG	041M640202	8/1/2001
64	4	Dieldrin	0	130	65	UJ	UG/KG	041M641102	8/2/2001
Maximum Detected Dieldrin				100				041M5B0601	
Average Dieldrin				28.26					
5B	4	Total BHC	0	1.16	0.58	U	UG/KG	041M5B0401	4/6/2004
5B	4	Total BHC	0	1.23	0.615	U	UG/KG	041M5B0501	4/6/2004
5B	4	Total BHC	0	1.43	0.715	U	UG/KG	041M5B0301	4/6/2004
5B	4	Total BHC	0	1.77	0.885	U	UG/KG	041M5B0202	4/6/2004
5B	4	Total BHC	1	4.05	4.05		UG/KG	041M5B0601	4/6/2004
64	4	Total BHC	0	8.4	4.2	U	UG/KG	041M642402	8/1/2001
64	4	Total BHC	0	88	44	U	UG/KG	041M640302	8/1/2001
64	4	Total BHC	1	6.96	6.96		UG/KG	041M640702	8/1/2001
64	4	Total BHC	1	77.1	77.1		UG/KG	041M640602	8/1/2001
64	4	Total BHC	1	96.6	96.6		UG/KG	041M640502	8/2/2001
64	4	Total BHC	1	109.4	109.4		UG/KG	041M640202	8/1/2001
64	4	Total BHC	1	210.9	210.9		UG/KG	041M641102	8/2/2001
		Maximum Detected Total BHC		210.9				041M641102	
		Average Total BHC	6	46.33					
5B	4	Total Chlordane	0	0.35	0.175	U	UG/KG	041M5B0401	4/6/2004
5B	4	Total Chlordane	0	0.37	0.185	U	UG/KG	041M5B0501	4/6/2004
5B	4	Total Chlordane	0	0.43	0.215	U	UG/KG	041M5B0301	4/6/2004
5B	4	Total Chlordane	0	0.53	0.265	U	UG/KG	041M5B0202	4/6/2004
5B	4	Total Chlordane	0	0.55	0.275	U	UG/KG	041M5B0601	4/6/2004
64	4	Total Chlordane	0	4.2	2.1	U	UG/KG	041M640702	8/1/2001
64	4	Total Chlordane	0	4.2	2.1	U	UG/KG	041M642402	8/1/2001
64	4	Total Chlordane	0	44	22	U	UG/KG	041M640302	8/1/2001
64	4	Total Chlordane	0	50	25	U	UG/KG	041M640602	8/1/2001
64	4	Total Chlordane	0	62	31	U	UG/KG	041M640502	8/2/2001
64	4	Total Chlordane	0	70	35	U	UG/KG	041M640202	8/1/2001
64	4	Total Chlordane	0	136	68	U	UG/KG	041M641102	8/2/2001
		Maximum Detected Total Chlordane							
		Average Total Chlordane	0	15.53					
5B	4	Total DDT	0	17.4	8.7	U	UG/KG	041M5B0401	4/6/2004
5B	4	Total DDT	0	18.5	9.25	U	UG/KG	041M5B0501	4/6/2004
5B	4	Total DDT	1	32.7	32.7		UG/KG	041M5B0202	4/6/2004
5B	4	Total DDT	1	34.7	34.7		UG/KG	041M5B0301	4/6/2004
5B	4	Total DDT	1	39	39		UG/KG	041M5B0601	4/6/2004
64	4	Total DDT	0	12	6	U	UG/KG	041M640702	8/1/2001
64	4	Total DDT	0	12.3	6.15	U	UG/KG	041M642402	8/1/2001
64	4	Total DDT	0	390	195	U	UG/KG	041M641102	8/2/2001
64	4	Total DDT	1	65.4	65.4		UG/KG	041M640302	8/1/2001
64	4	Total DDT	1	115	115		UG/KG	041M640502	8/2/2001
64	4	Total DDT	1	141	141		UG/KG	041M640202	8/1/2001
64	4	Total DDT	1	178	178		UG/KG	041M640602	8/1/2001
		Maximum Detected Total DDT		178				041M640602	
		Average Total DDT	7	69.24166667					
5B	4	Total Endrin	0	1.62	0.81	U	UG/KG	041M5B0401	4/6/2004
5B	4	Total Endrin	0	1.72	0.86	U	UG/KG	041M5B0501	4/6/2004
5B	4	Total Endrin	0	2	1	U	UG/KG	041M5B0301	4/6/2004
5B	4	Total Endrin	0	2.49	1.245	U	UG/KG	041M5B0202	4/6/2004
5B	4	Total Endrin	0	2.54	1.27	U	UG/KG	041M5B0601	4/6/2004
64	4	Total Endrin	0	12	6	U	UG/KG	041M640702	8/1/2001
64	4	Total Endrin	0	12.3	6.15	U	UG/KG	041M642402	8/1/2001
64	4	Total Endrin	0	129	64.5	U	UG/KG	041M640302	8/1/2001
64	4	Total Endrin	0	144	72	U	UG/KG	041M640602	8/1/2001
64	4	Total Endrin	0	180	90	U	UG/KG	041M640502	8/2/2001
64	4	Total Endrin	0	204	102	U	UG/KG	041M640202	8/1/2001
64	4	Total Endrin	0	390	195	U	UG/KG	041M641102	8/2/2001
		Maximum Detected Total Endrin							
		Average Total Endrin	0	45.0696					

OU 2 Wetlands
Phase IV
2004 Data Food Chain Modeling Sediment Data

WETLAND	PHASE	PARAMETER	Detect	RESULT	Result 1/2SQL	VQUAL	Units	SAMPLE ID	SAMPLE DATE
5B	4	Total PCBs	0	75.5	37.75	U	UG/KG	041M5B0401	4/6/2004
5B	4	Total PCBs	1	92	92		UG/KG	041M5B0501	4/6/2004
5B	4	Total PCBs	1	145	145		UG/KG	041M5B0301	4/6/2004
5B	4	Total PCBs	1	203.9	203.9		UG/KG	041M5B0601	4/6/2004
5B	4	Total PCBs	1	255.7	255.7		UG/KG	041M5B0202	4/6/2004
64	4	Total PCBs	0	322	161	U	UG/KG	041M640702	8/1/2001
64	4	Total PCBs	0	330	165	U	UG/KG	041M642402	8/1/2001
64	4	Total PCBs	0	3450	1725	U	UG/KG	041M640302	8/1/2001
64	4	Total PCBs	0	3860	1930	U	UG/KG	041M640602	8/1/2001
64	4	Total PCBs	0	4800	2400	U	UG/KG	041M640502	8/2/2001
64	4	Total PCBs	0	5480	2740	U	UG/KG	041M640202	8/1/2001
64	4	Total PCBs	0	10500	5250	U	UG/KG	041M641102	8/2/2001
		Maximum Detected Total PCBs		255.7				041M5B0202	
		Average Total PCBs	4	1258.779167					
5B	4	Mercury	0	0.0068	0.0034	U	MG/KG	041M5B0401	4/6/2004
5B	4	Mercury	1	0.019	0.019	I	MG/KG	041M5B0501	4/6/2004
5B	4	Mercury	1	0.086	0.086		MG/KG	041M5B0301	4/6/2004
5B	4	Mercury	1	0.12	0.12		MG/KG	041M5B0601	4/6/2004
5B	4	Mercury	1	0.22	0.22		MG/KG	041M5B0202	4/6/2004
64	4	Mercury	0	0.0057	0.00285	U	MG/KG	041M642402	8/1/2001
64	4	Mercury	1	0.0066	0.0066	J	MG/KG	041M640702	8/1/2001
64	4	Mercury	1	0.12	0.12		MG/KG	041M640602	8/1/2001
64	4	Mercury	1	0.18	0.18		MG/KG	041M640302	8/1/2001
64	4	Mercury	1	0.24	0.24		MG/KG	041M640202	8/1/2001
64	4	Mercury	1	0.31	0.31		MG/KG	041M640502	8/2/2001
64	4	Mercury	1	0.46	0.46		MG/KG	041M641102	8/2/2001
		Maximum Detected Mercury		0.46				041M641102	
		Average Mercury	10	0.1473					

Chevalier Field Wetlands
Phase II
Food Chain Modeling Sediment Data

WETLANDS	PHASE	PARAMETER	Detect	RESULT	VQUAL	Units	SAMPLE ID
63A	2	Total BHC	0	0.392	U	µg/kg	041M63A101
63A	2	Total BHC	0	0.4	U	µg/kg	041M63A501
63A	2	Total BHC	0	0.52	U	µg/kg	041M63A401
63A	2	Total BHC	0	0.76	U	µg/kg	041M63A301
63A	2	Total BHC	1	0.67		µg/kg	041M63A201
63B	2	Total BHC	0	0.44	U	µg/kg	041M63B401
63B	2	Total BHC	0	0.44	U	µg/kg	041M63B301
63B	2	Total BHC	0	0.48	U	µg/kg	041M63B201
		Maximum Detected Total BHC		0.67			041M63A201
		Average Total BHC		0.29825			
63A	2	Total Chlordane	0	0.196	U	µg/kg	041M63A101
63A	2	Total Chlordane	0	0.2	U	µg/kg	041M63A501
63A	2	Total Chlordane	0	0.22	U	µg/kg	041M63A201
63A	2	Total Chlordane	0	0.26	U	µg/kg	041M63A401
63A	2	Total Chlordane	1	2.4		µg/kg	041M63A301
63B	2	Total Chlordane	0	0.22	U	µg/kg	041M63B301
63B	2	Total Chlordane	0	0.22	U	µg/kg	041M63B401
63B	2	Total Chlordane	0	0.24	U	µg/kg	041M63B201
		Maximum Detected Total Chlordane		2.4			041M63A301
		Average Total BHC		0.39725			
63A	2	Total DDT	0	0.6	U	µg/kg	041M63A101
63A	2	Total DDT	0	0.63	U	µg/kg	041M63A501
63A	2	Total DDT	1	1.36		µg/kg	041M63A401
63A	2	Total DDT	1	2.54		µg/kg	041M63A201
63A	2	Total DDT	1	7.08		µg/kg	041M63A301
63B	2	Total DDT	0	0.63	U	µg/kg	041M63B301
63B	2	Total DDT	1	0.36		µg/kg	041M63B101
63B	2	Total DDT	1	0.82		µg/kg	041M63B401
63B	2	Total DDT	1	0.84		µg/kg	041M63B201
		Maximum Detected Total DDT		7.08			041M63A301
		Average Total DDT		1.5477778			
63A	2	Total Endrin	0	0.6	U	µg/kg	041M63A101
63A	2	Total Endrin	0	0.63	U	µg/kg	041M63A501
63A	2	Total Endrin	0	0.66	U	µg/kg	041M63A201
63A	2	Total Endrin	0	0.78	U	µg/kg	041M63A401
63A	2	Total Endrin	1	3.46		µg/kg	041M63A301
63B	2	Total Endrin	0	0.63	U	µg/kg	041M63B301
63B	2	Total Endrin	0	0.66	U	µg/kg	041M63B401
63B	2	Total Endrin	0	0.69	U	µg/kg	041M63B201
		Maximum Detected Total Endrin		3.46			041M63A301
		Average Total Endrin		0.723125			
63A	2	Dieldrin	0	0.2	U	µg/kg	041M63A101
63A	2	Dieldrin	0	0.21	U	µg/kg	041M63A501
63A	2	Dieldrin	0	0.22	U	µg/kg	041M63A201
63A	2	Dieldrin	0	0.26	UJ	µg/kg	041M63A401
63A	2	Dieldrin	1	4.1	J	µg/kg	041M63A301
63B	2	Dieldrin	0	0.21	U	µg/kg	041M63B301
63B	2	Dieldrin	0	0.22	U	µg/kg	041M63B401
63B	2	Dieldrin	0	0.23	U	µg/kg	041M63B201
		Maximum Detected Dieldrin		4.1			041M63A301
		Average Dieldrin		0.609375			
63A	2	Total PCBs	0	15.9	U	µg/kg	041M63A101
63A	2	Total PCBs	1	18.4		µg/kg	041M63A501
63A	2	Total PCBs	1	19.3		µg/kg	041M63A401
63A	2	Total PCBs	1	29.2		µg/kg	041M63A201
63A	2	Total PCBs	1	286.4		µg/kg	041M63A301
63B	2	Total PCBs	1	6.3		µg/kg	041M63B101
63B	2	Total PCBs	1	15.9		µg/kg	041M63B301
63B	2	Total PCBs	1	17.7		µg/kg	041M63B201
63B	2	Total PCBs	1	18.4		µg/kg	041M63B401
		Maximum Detected Total PCBs		286.4			041M63A301
		Average Total PCBs	8	46.616667			

Chevalier Field Wetlands
Phase II
Food Chain Modeling Sediment Data

WETLANDS	PHASE	PARAMETER	Detect	RESULT	VQUAL	Units	SAMPLE ID
63A	2	Mercury	0	0.05	U	mg/kg	041M63A101
63A	2	Mercury	0	0.05	U	mg/kg	041M63A201
63A	2	Mercury	0	0.05	U	mg/kg	041M63A501
63A	2	Mercury	0	0.07	U	mg/kg	041M63A401
63A	2	Mercury	1	0.14	J	mg/kg	041M63A301
63B	2	Mercury	0	0.05	U	mg/kg	041M63B301
63B	2	Mercury	0	0.05	U	mg/kg	041M63B401
63B	2	Mercury	0	0.06	U	mg/kg	041M63B201
63B	2	Mercury	0	0.07	U	mg/kg	041M63B101
		Maximum Detected Mercury		0.14			041M63A301
		Average Mercury	1	0.0405556			

OU 10 Wetlands
Phase II
Food Chain Modeling Sediment Data

WETLAND	PHASE	PARAMETER	DETECT	RESULT	QUAL	UNITS	SAMPLE ID	SAMPLE DATE
10	2	Total Endrin	0	0.63	U	µg/kg	041M10A201	11/28/1995
10	2	Total Endrin	0	0.63	U	µg/kg	041M10A101	11/28/1995
10	2	Total Endrin	0	0.63	U	µg/kg	041M10A301	11/27/1995
10	2	Total Endrin	0	12.9	U	µg/kg	033M002001	1/19/1993
10	2	Total Endrin	0	13.2	U	µg/kg	033M001001	1/19/1993
10	2	Total Endrin	1	5.24		µg/kg	033M004001	1/19/1993
10	2	Total Endrin	1	10.7		µg/kg	033M003001	1/19/1993
12	2	Total Endrin	1	0.92		µg/kg	041M120201	11/29/1995
12	2	Total Endrin	1	13.42		µg/kg	041M120101	11/28/1995
13	2	Total Endrin	0	0.78	U	µg/kg	041M130101	11/27/1995
		Maximum Detected Total Endrin		13.42			041M120101	
		Average Total Endrin	4	4.47				
10	2	Total DDT	0	0.63	U	µg/kg	041M10A101	11/28/1995
10	2	Total DDT	1	0.99		µg/kg	041M10A201	11/28/1995
10	2	Total DDT	1	2.76		µg/kg	041M10A301	11/27/1995
10	2	Total DDT	1	50.8		µg/kg	033M004001	1/19/1993
10	2	Total DDT	1	64.2		µg/kg	033M001001	1/19/1993
10	2	Total DDT	1	98.8		µg/kg	033M002001	1/19/1993
10	2	Total DDT	1	264		µg/kg	033M003001	1/19/1993
12	2	Total DDT	0	0.63	U	µg/kg	041M120101	11/28/1995
12	2	Total DDT	1	1.61		µg/kg	041M120201	11/29/1995
13	2	Total DDT	1	3.56		µg/kg	041M130101	11/27/1995
		Maximum Detected Total DDT		264			033M003001	
		Average Total DDT	8	48.74				
10	2	Total Chlordane	0	0.2	U	µg/kg	041M10A201	11/28/1995
10	2	Total Chlordane	1	0.25		µg/kg	041M10A301	11/27/1995
10	2	Total Chlordane	1	0.29		µg/kg	041M10A101	11/28/1995
10	2	Total Chlordane	1	0.4		µg/kg	033M004001	1/19/1993
10	2	Total Chlordane	1	0.78		µg/kg	033M002001	1/19/1993
10	2	Total Chlordane	1	1.78		µg/kg	033M001001	1/19/1993
10	2	Total Chlordane	1	2.31		µg/kg	033M003001	1/19/1993
12	2	Total Chlordane	0	0.2	U	µg/kg	041M120101	11/28/1995
12	2	Total Chlordane	0	0.32	U	µg/kg	041M120201	11/29/1995
13	2	Total Chlordane	0	0.24	U	µg/kg	041M130101	11/27/1995
		Maximum Detected Total Chlordane		2.31			033M001001	
		Average Total Chlordane	6	0.63				
10	2	Total BHC	0	0.4	U	µg/kg	041M10A101	11/28/1995
10	2	Total BHC	0	0.4	U	µg/kg	041M10A301	11/27/1995
10	2	Total BHC	0	0.4	U	µg/kg	041M10A201	11/28/1995
10	2	Total BHC	0	8.8	U	µg/kg	033M004001	1/19/1993
10	2	Total BHC	1	4.94		µg/kg	033M002001	1/19/1993
10	2	Total BHC	1	5.554		µg/kg	033M001001	1/19/1993
10	2	Total BHC	1	6.68		µg/kg	033M003001	1/19/1993
12	2	Total BHC	0	0.64	U	µg/kg	041M120201	11/29/1995
12	2	Total BHC	1	2.19		µg/kg	041M120101	11/28/1995
13	2	Total BHC	0	0.48	U	µg/kg	041M130101	11/27/1995
		Maximum Detected Total BHC		6.68			033M003001	
		Average Total BHC	4	2.49				
10	2	Dieldrin	0	0.21	U	µg/kg	041M10A201	11/28/1995
10	2	Dieldrin	0	0.21	U	µg/kg	041M10A301	11/27/1995
10	2	Dieldrin	0	0.21	U	µg/kg	041M10A101	11/28/1995
10	2	Dieldrin	0	4.2	U	µg/kg	033M003001	1/19/1993
10	2	Dieldrin	0	4.3	U	µg/kg	033M002001	1/19/1993
10	2	Dieldrin	0	4.4	U	µg/kg	033M001001	1/19/1993
10	2	Dieldrin	1	0.39	J	µg/kg	033M004001	1/19/1993
12	2	Dieldrin	0	0.21	U	µg/kg	041M120101	11/28/1995
12	2	Dieldrin	1	0.31	J	µg/kg	041M120201	11/29/1995
13	2	Dieldrin	1	0.3	J	µg/kg	041M130101	11/27/1995
		Maximum Detected Dieldrin		0.39			033M004001	
		Average Dieldrin	3	0.79				
10	2	Total PCBs	0	16.6	U	µg/kg	041M10A201	11/28/1995
10	2	Total PCBs	0	16.6	U	µg/kg	041M10A301	11/27/1995
10	2	Total PCBs	0	16.7	U	µg/kg	041M10A101	11/28/1995
10	2	Total PCBs	0	337	U	µg/kg	033M003001	1/19/1993
10	2	Total PCBs	0	344	U	µg/kg	033M004001	1/19/1993
10	2	Total PCBs	1	314		µg/kg	033M002001	1/19/1993
10	2	Total PCBs	1	358		µg/kg	033M001001	1/19/1993
12	2	Total PCBs	0	16.7	U	µg/kg	041M120101	11/28/1995
12	2	Total PCBs	0	25.4	U	µg/kg	041M120201	11/29/1995
13	2	Total PCBs	0	20.6	U	µg/kg	041M130101	11/27/1995
		Maximum Detected Total PCBs		358			033M001001	
		Average Total PCBs	2	106.88				
10	2	Mercury	0	0.05	U	mg/kg	041M10A301	11/27/1995
10	2	Mercury	0	0.05	U	mg/kg	041M10A201	11/28/1995
10	2	Mercury	0	0.07	U	mg/kg	041M10A101	11/28/1995
10	2	Mercury	0	0.13	U	mg/kg	033M002001	1/19/1993
10	2	Mercury	0	0.13	U	mg/kg	033M004001	1/19/1993
10	2	Mercury	0	0.13	U	mg/kg	033M003001	1/19/1993
10	2	Mercury	0	0.13	U	mg/kg	033M001001	1/19/1993
12	2	Mercury	0	0.06	U	mg/kg	041M120101	11/28/1995
12	2	Mercury	0	0.1	U	mg/kg	041M120201	11/29/1995
13	2	Mercury	0	0.06	U	mg/kg	041M130101	11/27/1995
		Maximum Detected Mercury		0				
		Average Mercury		0.0455				

UST 18 Wetlands
Phase II
Food Chain Modeling Sediment Data

WETLAND	PHASE	PARAMETER	DETECT	RESULT	VQUAL	UNITS	SAMPLE ID	SAMPLE DATE
52	2	Total BHC	0	0.88	U	µg/kg	041M52E201	1/23/1996
52	2	Total BHC	0	2.76	U	µg/kg	041M52A101	1/23/1996
52	2	Total BHC	1	0.5		µg/kg	041M52E301	1/24/1996
52	2	Total BHC	1	0.82		µg/kg	041M52E101	1/23/1996
52	2	Total BHC	1	1.24		µg/kg	041M52D101	1/23/1996
72	2	Total BHC	0	0.4	U	µg/kg	041M720201	11/29/1995
72	2	Total BHC	0	0.44	U	µg/kg	041M720101	11/29/1995
W1	2	Total BHC	0	8.4	U	µg/kg	003M000201	8/9/1995
W1	2	Total BHC	1	2.34		µg/kg	003M000101	8/9/1995
W1	2	Total BHC	1	5.126		µg/kg	003M000301	8/9/1995
		Maximum Detected Total BHC		5.126			003M000301	
		Average Total BHC	5	1.647				
52	2	Total Chlordane	0	0.24	U	µg/kg	041M52E301	1/24/1996
52	2	Total Chlordane	0	0.26	U	µg/kg	041M52E101	1/23/1996
52	2	Total Chlordane	0	0.42	U	µg/kg	041M52D101	1/23/1996
52	2	Total Chlordane	1	0.56		µg/kg	041M52E201	1/23/1996
52	2	Total Chlordane	1	1.6		µg/kg	041M52A101	1/23/1996
72	2	Total Chlordane	0	0.2	U	µg/kg	041M720201	11/29/1995
72	2	Total Chlordane	0	0.22	U	µg/kg	041M720101	11/29/1995
W1	2	Total Chlordane	0	4.2	U	µg/kg	003M000201	8/9/1995
W1	2	Total Chlordane	1	0.184		µg/kg	003M000301	8/9/1995
W1	2	Total Chlordane	1	2.15		µg/kg	003M000101	8/9/1995
		Maximum Detected Total Chlordane		2.150			003M000101	
		Average Total Chlordane		0.726				
52	2	Total DDT	0	0.72	U	µg/kg	041M52E301	1/24/1996
52	2	Total DDT	0	4.2	U	µg/kg	041M52A101	1/23/1996
52	2	Total DDT	1	1.31		µg/kg	041M52D101	1/23/1996
52	2	Total DDT	1	1.41		µg/kg	041M52E201	1/23/1996
52	2	Total DDT	1	14.4		µg/kg	041M52E101	1/23/1996
72	2	Total DDT	1	0.62		µg/kg	041M720201	11/29/1995
72	2	Total DDT	1	0.73		µg/kg	041M720101	11/29/1995
W1	2	Total DDT	0	12.3	U	µg/kg	003M000201	8/9/1995
W1	2	Total DDT	1	5.92		µg/kg	003M000301	8/9/1995
W1	2	Total DDT	1	17.86		µg/kg	003M000101	8/9/1995
		Maximum Detected Total DDT		17.860			041M52E101	
		Average Total DDT	7	5.086				
52	2	Total Endrin	0	0.72	U	µg/kg	041M52E301	1/24/1996
52	2	Total Endrin	0	0.78	U	µg/kg	041M52E101	1/23/1996
52	2	Total Endrin	0	4.2	U	µg/kg	041M52A101	1/23/1996
52	2	Total Endrin	1	2.6		µg/kg	041M52E201	1/23/1996
52	2	Total Endrin	1	3.26		µg/kg	041M52D101	1/23/1996
72	2	Total Endrin	0	0.63	U	µg/kg	041M720201	11/29/1995
72	2	Total Endrin	0	0.69	U	µg/kg	041M720101	11/29/1995
W1	2	Total Endrin	0	12.3	U	µg/kg	003M000201	8/9/1995
W1	2	Total Endrin	1	3.44		µg/kg	003M000101	8/9/1995
W1	2	Total Endrin	1	9.63		µg/kg	003M000301	8/9/1995
		Maximum Detected Total Endrin		9.630			003M000301	
		Average Total Endrin	4	2.859				
52	2	Dieldrin	0	0.24	U	µg/kg	041M52E301	1/24/1996
52	2	Dieldrin	0	0.26	U	µg/kg	041M52E101	1/23/1996
52	2	Dieldrin	0	0.43	U	µg/kg	041M52D101	1/23/1996
52	2	Dieldrin	0	0.45	U	µg/kg	041M52E201	1/23/1996
52	2	Dieldrin	1	9.5	J	µg/kg	041M52A101	1/23/1996
72	2	Dieldrin	0	0.21	U	µg/kg	041M720201	11/29/1995
72	2	Dieldrin	0	0.23	U	µg/kg	041M720101	11/29/1995
W1	2	Dieldrin	1	0.094	J	µg/kg	003M000201	8/9/1995
W1	2	Dieldrin	1	0.42	J	µg/kg	003M000101	8/9/1995
W1	2	Dieldrin	1	0.67	J	µg/kg	003M000301	8/9/1995
		Maximum Detected Dieldrin		9.500			041M52A101	
		Average Dieldrin	4	1.159				
52	2	Total PCBs	0	19.3	U	µg/kg	041M52E301	1/24/1996
52	2	Total PCBs	0	20.9	U	µg/kg	041M52E101	1/23/1996
52	2	Total PCBs	0	112	U	µg/kg	041M52A101	1/23/1996
52	2	Total PCBs	1	33.7		µg/kg	041M52D101	1/23/1996
52	2	Total PCBs	1	34.8		µg/kg	041M52E201	1/23/1996
72	2	Total PCBs	0	16.7	U	µg/kg	041M720201	11/29/1995
72	2	Total PCBs	0	18.3	U	µg/kg	041M720101	11/29/1995
W1	2	Total PCBs	0	330	U	µg/kg	003M000201	8/9/1995
W1	2	Total PCBs	0	378	U	µg/kg	003M000301	8/9/1995
W1	2	Total PCBs	0	1200	U	µg/kg	003M000101	8/9/1995
		Maximum Detected Total PCBs		34.800			041M52E201	
		Average Total PCBs	2	111.610				
52	2	Mercury	0	0.06	U	mg/kg	041M52E301	1/24/1996
52	2	Mercury	0	0.08	U	mg/kg	041M52E101	1/23/1996
52	2	Mercury	0	0.1	U	mg/kg	041M52D101	1/23/1996
52	2	Mercury	0	0.37	U	mg/kg	041M52E201	1/23/1996
52	2	Mercury	0	0.38	U	mg/kg	041M52A101	1/23/1996
72	2	Mercury	0	0.05	U	mg/kg	041M720201	11/29/1995
72	2	Mercury	0	0.06	U	mg/kg	041M720101	11/29/1995
W1	2	Mercury	0	0.13	U	mg/kg	003M000201	8/9/1995
W1	2	Mercury	0	0.14	U	mg/kg	003M000301	8/9/1995
W1	2	Mercury	0	0.45	U	mg/kg	003M000101	8/9/1995
		Maximum Detected Mercury		0.000				
		Average Mercury	0	0.091				

Remaining Wetlands
Phase II
Food Chain Modeling Sediment Data

WETLAND	PHASE	PARAMETER	Detect	RESULT	RESULT 1/2SQL	VQUAL	UNITS	SAMPLE ID	SAMPLE DATE
48	2	Total BHC	0	40	20	U	µg/kg	041M480101	1/22/1996
56	2	Total BHC	1	0.79	0.79		µg/kg	041M56A101	1/24/1996
57	2	Total BHC	1	0.95	0.95		µg/kg	041M570101	11/29/1995
58	2	Total BHC	0	0.48	0.24	U	µg/kg	041M580101	1/24/1996
19A	2	Total BHC	0	2.72	1.36	U	µg/kg	041M19A101	1/16/1996
19A	2	Total BHC	1	0.41	0.41		µg/kg	041M19A201	1/16/1996
19B	2	Total BHC	1	0.64	0.64		µg/kg	041M19B101	1/16/1996
49	2	Total BHC	0	0.48	0.24	U	µg/kg	041M490301	1/16/1996
49	2	Total BHC	0	2.48	1.24	U	µg/kg	041M490201	1/16/1996
49	2	Total BHC	0	4	2	U	µg/kg	041M490101	1/16/1996
W2	2	Total BHC	0	0.4	0.2	U	µg/kg	041MW20201	1/24/1996
W2	2	Total BHC	0	1.84	0.92	U	µg/kg	041MW20301	1/24/1996
W2	2	Total BHC	1	0.96	0.96		µg/kg	041MW20101	1/24/1996
		Maximum Detected Total BHC		0.96				041M750101	
		Average Total BHC	5	2.30					
48	2	Total Chlordane	0	20	10	U	µg/kg	041M480101	1/22/1996
56	2	Total Chlordane	0	0.26	0.13	U	µg/kg	041M56A101	1/24/1996
57	2	Total Chlordane	0	0.36	0.18	U	µg/kg	041M570101	11/29/1995
58	2	Total Chlordane	0	0.24	0.12	U	µg/kg	041M580101	1/24/1996
19A	2	Total Chlordane	0	0.2	0.1	U	µg/kg	041M19A201	1/16/1996
19A	2	Total Chlordane	1	1.98	1.98		µg/kg	041M19A101	1/16/1996
19B	2	Total Chlordane	0	0.22	0.11	U	µg/kg	041M19B101	1/16/1996
49	2	Total Chlordane	0	0.24	0.12	U	µg/kg	041M490301	1/16/1996
49	2	Total Chlordane	0	1.24	0.62	U	µg/kg	041M490201	1/16/1996
49	2	Total Chlordane	0	2	1	U	µg/kg	041M490101	1/16/1996
W2	2	Total Chlordane	0	0.92	0.46	U	µg/kg	041MW20301	1/24/1996
W2	2	Total Chlordane	1	0.25	0.25		µg/kg	041MW20101	1/24/1996
W2	2	Total Chlordane	1	0.32	0.32		µg/kg	041MW20201	1/24/1996
		Maximum Detected Total Chlordane		1.98				041MW20201	
		Average Total Chlordane	3	1.18					
48	2	Total DDT	1	3460	3460		µg/kg	041M480101	1/22/1996
56	2	Total DDT	1	61.1	61.1		µg/kg	041M56A101	1/24/1996
57	2	Total DDT	1	11.7	11.7		µg/kg	041M570101	11/29/1995
58	2	Total DDT	0	0.69	0.345	U	µg/kg	041M580101	1/24/1996
19A	2	Total DDT	0	4.2	2.1	U	µg/kg	041M19A101	1/16/1996
19A	2	Total DDT	1	0.97	0.76		µg/kg	041M19A201	1/16/1996
19B	2	Total DDT	1	2.25	2.25		µg/kg	041M19B101	1/16/1996
49	2	Total DDT	0	0.72	0.36	U	µg/kg	041M490301	1/16/1996
49	2	Total DDT	1	71.2	71.2		µg/kg	041M490201	1/16/1996
49	2	Total DDT	1	113.2	113.2		µg/kg	041M490101	1/16/1996
W2	2	Total DDT	0	2.73	1.365	U	µg/kg	041MW20301	1/24/1996
W2	2	Total DDT	1	1.52	1.52		µg/kg	041MW20201	1/24/1996
W2	2	Total DDT	1	11.7	11.7		µg/kg	041MW20101	1/24/1996
		Maximum Detected Total DDT		3460	3460			041M480101	
		Average Total DDT	9	287.51					
48	2	Total Endrin	0	63	31.5	U	µg/kg	041M480101	1/22/1996
56	2	Total Endrin	1	0.93	0.93		µg/kg	041M56A101	1/24/1996
57	2	Total Endrin	0	1.11	0.555	U	µg/kg	041M570101	11/29/1995
58	2	Total Endrin	0	0.69	0.345	U	µg/kg	041M580101	1/24/1996
19A	2	Total Endrin	0	0.63	0.315	U	µg/kg	041M19A201	1/16/1996
19A	2	Total Endrin	0	4.2	2.1	U	µg/kg	041M19A101	1/16/1996
19B	2	Total Endrin	1	0.71	0.71		µg/kg	041M19B101	1/16/1996
49	2	Total Endrin	0	0.72	0.36	U	µg/kg	041M490301	1/16/1996
49	2	Total Endrin	0	3.9	1.95	U	µg/kg	041M490201	1/16/1996
49	2	Total Endrin	0	6.3	3.15	U	µg/kg	041M490101	1/16/1996
W2	2	Total Endrin	0	0.63	0.315	U	µg/kg	041MW20201	1/24/1996
W2	2	Total Endrin	1	1.21	1.21		µg/kg	041MW20101	1/24/1996
W2	2	Total Endrin	1	4.32	4.32		µg/kg	041MW20301	1/24/1996
		Maximum Detected Total Endrin		4.32				041MW20301	
		Average Total Endrin	4	3.67					
48	2	Dieldrin	0	21	10.5	U	µg/kg	041M480101	1/22/1996
56	2	Dieldrin	0	0.27	0.135	U	µg/kg	041M56A101	1/24/1996
57	2	Dieldrin	0	0.37	0.185	U	µg/kg	041M570101	11/29/1995
58	2	Dieldrin	0	0.23	0.115	U	µg/kg	041M580101	1/24/1996
19A	2	Dieldrin	0	1.4	0.7	U	µg/kg	041M19A101	1/16/1996
19A	2	Dieldrin	1	0.2	0.2	J	µg/kg	041M19A201	1/16/1996
19B	2	Dieldrin	1	0.21	0.21	J	µg/kg	041M19B101	1/16/1996
49	2	Dieldrin	0	0.24	0.12	U	µg/kg	041M490301	1/16/1996
49	2	Dieldrin	0	1.3	0.65	U	µg/kg	041M490201	1/16/1996
49	2	Dieldrin	0	2.1	1.05	U	µg/kg	041M490101	1/16/1996
W2	2	Dieldrin	0	0.21	0.105	U	µg/kg	041MW20201	1/24/1996
W2	2	Dieldrin	0	0.91	0.455	U	µg/kg	041MW20301	1/24/1996
W2	2	Dieldrin	1	0.34	0.34	J	µg/kg	041MW20101	1/24/1996
		Maximum Detected Dieldrin		0.034	0.34			041MW20102	
		Average Dieldrin	3	1.14					
48	2	Total PCBs	0	1670	835	U	µg/kg	041M480101	1/22/1996
56	2	Total PCBs	0	21.6	10.8	U	µg/kg	041M56A101	1/24/1996
57	2	Total PCBs	1	29.3	29.3		µg/kg	041M570101	11/29/1995
58	2	Total PCBs	1	16.76	16.76		µg/kg	041M580101	1/24/1996
19A	2	Total PCBs	0	111	55.5	U	µg/kg	041M19A101	1/16/1996
19A	2	Total PCBs	1	15.6	15.6		µg/kg	041M19A201	1/16/1996
19B	2	Total PCBs	1	19.4	19.4		µg/kg	041M19B101	1/16/1996
49	2	Total PCBs	0	19	9.5	U	µg/kg	041M490301	1/16/1996
49	2	Total PCBs	0	103	51.5	U	µg/kg	041M490201	1/16/1996
49	2	Total PCBs	0	166	83	U	µg/kg	041M490101	1/16/1996
W2	2	Total PCBs	1	17	17		µg/kg	041MW20101	1/24/1996
W2	2	Total PCBs	1	18.4	18.4		µg/kg	041MW20201	1/24/1996
W2	2	Total PCBs	1	69.1	69.1		µg/kg	041MW20301	1/24/1996
		Maximum Detected Total PCBs		69.1					
		Average Total PCBs		94.68					
48	2	Mercury	0	0.08	0.04	U	mg/kg	041M480101	1/22/1996
56	2	Mercury	0	0.07	0.035	U	mg/kg	041M56A101	1/24/1996
57	2	Mercury	1	0.14	0.14	J	mg/kg	041M570101	11/29/1995
58	2	Mercury	0	0.06	0.03	U	mg/kg	041M580101	1/24/1996
19A	2	Mercury	0	0.05	0.025	U	mg/kg	041M19A201	1/16/1996
19A	2	Mercury	0	0.27	0.135	U	mg/kg	041M19A101	1/16/1996
19B	2	Mercury	0	0.06	0.03	U	mg/kg	041M19B101	1/16/1996
49	2	Mercury	0	0.06	0.03	U	mg/kg	041M490301	1/16/1996
49	2	Mercury	0	0.06	0.03	U	mg/kg	041M490201	1/16/1996
49	2	Mercury	1	0.06	0.06	J	mg/kg	041M490101	1/16/1996
W2	2	Mercury	0	0.05	0.025	U	mg/kg	041MW20201	1/24/1996
W2	2	Mercury	0	0.07	0.035	U	mg/kg	041MW20101	1/24/1996
W2	2	Mercury	0	0.27	0.135	U	mg/kg	041MW20301	1/24/1996
		Maximum Detected Mercury		0.14	0.14			041M570101	
		Average Mercury		0.06					

Surface Water Data

OU 1 Wetlands
Phase II
Food Chain Modeling Surface Water Data

WETLAND	PHASE	PARAMETER	Detects	RESULT	RESULT 1/2SQL	UNITS	VQUAL	SAMPLE ID
15	2	Total BHC	0	0.2	0.1	UG/L	U	041W150201
15	2	Total BHC	0	0.2	0.1	UG/L	U	041W150101
16	2	Total BHC	0	0.2	0.1	UG/L	U	001W001601
16	2	Total BHC	0	0.2	0.1	UG/L	U	041W160101
16	2	Total BHC	0	0.2	0.1	UG/L	U	041W160201
17	2	Total BHC	0	0.2	0.1	UG/L	U	041W170101
18A	2	Total BHC	0	0.2	0.1	UG/L	U	041W18A201
18A	2	Total BHC	0	0.2	0.1	UG/L	U	001W001801
18B	2	Total BHC	0	0.2	0.1	UG/L	U	041W18B101
1A	2	Total BHC	0	0.2	0.1	UG/L	U	001W000101
1B	2	Total BHC	0	0.2	0.1	UG/L	U	041W010301
3	2	Total BHC	0	0.2	0.1	UG/L	U	001W000302
3	2	Total BHC	0	0.2	0.1	UG/L	U	041W030401
3	2	Total BHC	0	0.2	0.1	UG/L	U	041W030101
3	2	Total BHC	0	0.2	0.1	UG/L	U	001W000301
3	2	Total BHC	0	0.2	0.1	UG/L	U	041W030301
3	2	Total BHC	0	0.2	0.1	UG/L	U	001W000303
4D	2	Total BHC	0	0.2	0.1	UG/L	U	041W04D401
4D	2	Total BHC	0	0.2	0.1	UG/L	U	041W04D101
Maximum Detected Total BHC				0	0			
Average Total BHC				0.1				
15	2	Total Chlordane	0	0.1	0.05	UG/L	U	041W150201
15	2	Total Chlordane	0	0.1	0.05	UG/L	U	041W150101
16	2	Total Chlordane	0	0.1	0.05	UG/L	U	041W160101
16	2	Total Chlordane	0	0.1	0.05	UG/L	U	001W001601
16	2	Total Chlordane	0	0.1	0.05	UG/L	U	041W160201
17	2	Total Chlordane	0	0.1	0.05	UG/L	U	041W170101
18A	2	Total Chlordane	0	0.1	0.05	UG/L	U	001W001801
18A	2	Total Chlordane	0	0.1	0.05	UG/L	U	041W18A201
18B	2	Total Chlordane	0	0.1	0.05	UG/L	U	041W18B101
1A	2	Total Chlordane	0	0.1	0.05	UG/L	U	001W000101
1B	2	Total Chlordane	0	0.1	0.05	UG/L	U	041W010301
3	2	Total Chlordane	0	0.1	0.05	UG/L	U	041W030401
3	2	Total Chlordane	0	0.1	0.05	UG/L	U	041W030101
3	2	Total Chlordane	0	0.1	0.05	UG/L	U	001W000303
3	2	Total Chlordane	0	0.1	0.05	UG/L	U	041W030301
3	2	Total Chlordane	0	0.1	0.05	UG/L	U	001W000301
3	2	Total Chlordane	0	0.1	0.05	UG/L	U	001W000302
4D	2	Total Chlordane	0	0.1	0.05	UG/L	U	041W04D101
4D	2	Total Chlordane	0	0.1	0.05	UG/L	U	041W04D401
Maximum Detected Total Chlordane				0	0			
Average Total Chlordane				0.05				
15	2	Total DDT	0	0.3	0.15	UG/L	U	041W150201
15	2	Total DDT	1	0.263	0.263	UG/L		041W150101
16	2	Total DDT	0	0.3	0.15	UG/L	U	041W160101
16	2	Total DDT	0	0.3	0.15	UG/L	U	041W160201
16	2	Total DDT	0	0.3	0.15	UG/L	U	001W001601
17	2	Total DDT	0	0.3	0.15	UG/L	U	041W170101
18A	2	Total DDT	0	0.3	0.15	UG/L	U	001W001801
18A	2	Total DDT	0	0.3	0.15	UG/L	U	041W18A201
18B	2	Total DDT	0	0.3	0.15	UG/L	U	041W18B101
1A	2	Total DDT	0	0.3	0.15	UG/L	U	001W000101
1B	2	Total DDT	0	0.3	0.15	UG/L	U	041W010301
3	2	Total DDT	0	0.3	0.15	UG/L	U	041W030101
3	2	Total DDT	0	0.3	0.15	UG/L	U	041W030301
3	2	Total DDT	0	0.3	0.15	UG/L	U	041W030401
3	2	Total DDT	0	0.3	0.15	UG/L	U	001W000301
3	2	Total DDT	0	0.3	0.15	UG/L	U	001W000302
3	2	Total DDT	0	0.3	0.15	UG/L	U	001W000303
4D	2	Total DDT	0	0.3	0.15	UG/L	U	041W04D401
4D	2	Total DDT	0	0.3	0.15	UG/L	U	041W04D101
Maximum Detected Total DDT				0.263				
Average Total DDT				0.1559				
15	2	Total Endrin	0	0.3	0.15	UG/L	U	041W150201
15	2	Total Endrin	0	0.3	0.15	UG/L	U	041W150101
16	2	Total Endrin	0	0.3	0.15	UG/L	U	041W160201
16	2	Total Endrin	0	0.3	0.15	UG/L	U	001W001601
16	2	Total Endrin	0	0.3	0.15	UG/L	U	041W160101
17	2	Total Endrin	0	0.3	0.15	UG/L	U	041W170101
18A	2	Total Endrin	0	0.3	0.15	UG/L	U	001W001801
18A	2	Total Endrin	0	0.3	0.15	UG/L	U	041W18A201
18B	2	Total Endrin	0	0.3	0.15	UG/L	U	041W18B101
1A	2	Total Endrin	0	0.3	0.15	UG/L	U	001W000101
1B	2	Total Endrin	0	0.3	0.15	UG/L	U	041W010301
3	2	Total Endrin	0	0.3	0.15	UG/L	U	001W000303
3	2	Total Endrin	0	0.3	0.15	UG/L	U	001W000301
3	2	Total Endrin	0	0.3	0.15	UG/L	U	001W000302
3	2	Total Endrin	0	0.3	0.15	UG/L	U	041W030301
3	2	Total Endrin	0	0.3	0.15	UG/L	U	041W030101
3	2	Total Endrin	0	0.3	0.15	UG/L	U	041W030401
3	2	Total Endrin	1	0.25	0.25	UG/L		041W030201
4D	2	Total Endrin	0	0.3	0.15	UG/L	U	041W04D101
4D	2	Total Endrin	0	0.3	0.15	UG/L	U	041W04D401

OU 1 Wetlands
Phase II
Food Chain Modeling Surface Water Data

WETLAND	PHASE	PARAMETER	Detects	RESULT	RESULT 1/2SQL	UNITS	VQUAL	SAMPLE ID
Maximum Detected Total Endrin				0.25				
Average Total Endrin				0.155				
15	2	Total PCB	0	8	4	UG/L	U	041W150201
15	2	Total PCB	0	8	4	UG/L	U	041W150101
16	2	Total PCB	0	8	4	UG/L	U	041W160201
16	2	Total PCB	0	8	4	UG/L	U	001W001601
16	2	Total PCB	0	8	4	UG/L	U	041W160101
17	2	Total PCB	0	8	4	UG/L	U	041W170101
18A	2	Total PCB	0	8	4	UG/L	U	001W001801
18A	2	Total PCB	0	8	4	UG/L	U	041W18A201
18B	2	Total PCB	0	8	4	UG/L	U	041W18B101
1A	2	Total PCB	0	8	4	UG/L	U	001W000101
1B	2	Total PCB	0	8	4	UG/L	U	041W010301
3	2	Total PCB	0	8	4	UG/L	U	001W000301
3	2	Total PCB	0	8	4	UG/L	U	041W030101
3	2	Total PCB	0	8	4	UG/L	U	001W000302
3	2	Total PCB	0	8	4	UG/L	U	041W030401
3	2	Total PCB	0	8	4	UG/L	U	041W030301
3	2	Total PCB	0	8	4	UG/L	U	001W000303
3	2	Total PCB	1	0.5	0.5	UG/L		041W030201
4D	2	Total PCB	0	8	4	UG/L	U	041W04D401
4D	2	Total PCB	0	8	4	UG/L	U	041W04D101
Maximum Detected Total PCBs				0.5				
Average Total PCBs				3.825				
15	2	Mercury	0	0.13	0.065	UG/L	U	041W150201
15	2	Mercury	1	0.94	0.94	UG/L		041W150101
16	2	Mercury	0	0.13	0.065	UG/L	U	041W160101
16	2	Mercury	0	0.13	0.065	UG/L	U	041W160201
16	2	Mercury	0	0.2	0.1	UG/L	U	001W001601
17	2	Mercury	0	0.13	0.065	UG/L	U	041W170101
18A	2	Mercury	0	0.13	0.065	UG/L	U	041W18A201
18A	2	Mercury	0	0.2	0.1	UG/L	U	001W001801
18B	2	Mercury	0	0.14	0.07	UG/L	U	041W18B101
1A	2	Mercury	0	0.2	0.1	UG/L	U	001W000101
1B	2	Mercury	0	0.14	0.07	UG/L	U	041W010301
3	2	Mercury	0	0.13	0.065	UG/L	U	041W030401
3	2	Mercury	0	0.13	0.065	UG/L	U	041W030101
3	2	Mercury	0	0.13	0.065	UG/L	U	041W030201
3	2	Mercury	0	0.13	0.065	UG/L	U	041W030301
3	2	Mercury	0	0.2	0.1	UG/L	U	001W000303
3	2	Mercury	0	0.2	0.1	UG/L	U	001W000302
3	2	Mercury	0	0.2	0.1	UG/L	U	001W000301
4D	2	Mercury	0	0.13	0.065	UG/L	U	041W04D101
4D	2	Mercury	0	0.13	0.065	UG/L	U	041W04D401
Total Detected Mercury				0.94				
Average Mercury				0.11975				
3	2	Dieldrin	0	0.1	0.05	U	UG/L	001W000301
3	2	Dieldrin	0	0.1	0.05	U	UG/L	001W000302
3	2	Dieldrin	0	0.1	0.05	U	UG/L	001W000303
3	2	Dieldrin	0	0.1	0.05	U	UG/L	041W030101
3	2	Dieldrin	0	0.1	0.05	U	UG/L	041W030301
3	2	Dieldrin	0	0.1	0.05	U	UG/L	041W030401
3	3	Dieldrin	0	0.1	0.05	U	UG/L	041W030101
15	2	Dieldrin	0	0.1	0.05	U	UG/L	041W150101
15	2	Dieldrin	0	0.1	0.05	U	UG/L	041W150201
16	2	Dieldrin	0	0.1	0.05	U	UG/L	001W001601
16	2	Dieldrin	0	0.1	0.05	U	UG/L	041W160101
16	2	Dieldrin	0	0.1	0.05	U	UG/L	041W160201
17	2	Dieldrin	0	0.1	0.05	U	UG/L	041W170101
1A	2	Dieldrin	0	0.1	0.05	U	UG/L	001W000101
1B	2	Dieldrin	0	0.1	0.05	U	UG/L	041W010301
4D	2	Dieldrin	0	0.1	0.05	U	UG/L	041W04D401
4D	2	Dieldrin	0	0.1	0.05	U	UG/L	041W04D101
Maximum Detected Dieldrin				0				
Average Dieldrin				0.05				

OU 1 Wetlands
Phase III
Food Chain Modeling Surface Water

WETLAND	PHASE	PARAMETER	DETECTS	RESULT	RESULT 1/2SQL	VQUAL	UNITS	SAMPLE ID
3	3	Total BHC	0	0.2	0.1	U	UG/L	041W030101
3	3	Total Chlordane	0	0.1	0.05	U	UG/L	041W030101
3	3	Total DDT	0	0.3	0.15	U	UG/L	041W030101
3	3	Total Endrin	0	0.3	0.15	U	UG/L	041W030101
3	3	Total PCB	0	8	4	U	UG/L	041W030101
3	3	Mercury	0	0.05	0.025	U	UG/L	041W030101
3	3	Dieldrin	0	0.1	0.05	U	UG/L	041W030101

OU1 Wetlands
Phase IV
2004 Food Chain Modeling Surface Water Data

WETLAND	PHASE	PARAMETER	DETECTS	RESULT	RESULT 1/2SQL	VQUAL	UNITS	SAMPLE ID	SAMPLE DATE
16	4	Mercury	0	0.078	0.039	U	UG/L	041W150102	4/8/2004
17	4	Mercury	0	0.078	0.039	U	UG/L	041W170102	4/8/2004
16	4	Mercury	1	0.093	0.093	I	UG/L	041W150102	4/8/2004
17	4	Mercury	1	0.081	0.081	I	UG/L	041W170102	4/8/2004

OU 2 Wetlands
Phase II
Food Chain Modeling Surface Water Data

WETLAND	PHASE	PARAM	Detects	RESULT	Result_1/2SQL	VQUAL	Units	SAMPLE_ID
5A	2	Total BHC	0	0.2	0.1	U	UG/L	041W5A0701
5A	2	Total BHC	0	0.2	0.1	U	UG/L	041W5A0601
5A	2	Total BHC	0	0.2	0.1	U	UG/L	041W5A0401
5A	2	Total BHC	0	0.2	0.1	U	UG/L	041W5A0201
5A	2	Total BHC	0	0.2	0.1	U	UG/L	041W5A0101
5A	2	Total BHC	0	0.2	0.1	U	UG/L	041W5A0501
5B	2	Total BHC	0	0.2	0.1	U	UG/L	041W5B0201
6	2	Total BHC	0	0.2	0.1	U	UG/L	041W060701
6	2	Total BHC	0	0.2	0.1	U	UG/L	041W061001
Maximum Detected Total BHC				0				
Average Total BHC				0.1				
5A	2	Total Chlordane	0	0.1	0.05	U	UG/L	041W5A0701
5A	2	Total Chlordane	0	0.1	0.05	U	UG/L	041W5A0101
5A	2	Total Chlordane	0	0.1	0.05	U	UG/L	041W5A0601
5A	2	Total Chlordane	0	0.1	0.05	U	UG/L	041W5A0201
5A	2	Total Chlordane	0	0.1	0.05	U	UG/L	041W5A0501
5A	2	Total Chlordane	0	0.1	0.05	U	UG/L	041W5A0401
5B	2	Total Chlordane	0	0.1	0.05	U	UG/L	041W5B0201
6	2	Total Chlordane	0	0.1	0.05	U	UG/L	041W060701
6	2	Total Chlordane	0	0.1	0.05	U	UG/L	041W061001
6	2	Total Chlordane	0	0.1	0.05	U	UG/L	041W060301
Maximum Detected Total Chlordane				0				
Average Total Chlordane				0.05				
5A	2	Total DDT	0	0.3	0.15	U	UG/L	041W5A0501
5A	2	Total DDT	0	0.3	0.15	U	UG/L	041W5A0101
5A	2	Total DDT	0	0.3	0.15	U	UG/L	041W5A0401
5A	2	Total DDT	0	0.3	0.15	U	UG/L	041W5A0701
5A	2	Total DDT	0	0.3	0.15	U	UG/L	041W5A0601
5A	2	Total DDT	0	0.3	0.15	U	UG/L	041W5A0201
5B	2	Total DDT	0	0.3	0.15	U	UG/L	041W5B0201
6	2	Total DDT	0	0.3	0.15	U	UG/L	041W060301
6	2	Total DDT	0	0.3	0.15	U	UG/L	041W060701
6	2	Total DDT	0	0.3	0.15	U	UG/L	041W061001
Maximum Detected Total DDT				0				
Average DDT				0.15				
5A	2	Total Endrin	0	0.3	0.15	U	UG/L	041W5A0101
5A	2	Total Endrin	0	0.3	0.15	U	UG/L	041W5A0701
5A	2	Total Endrin	0	0.3	0.15	U	UG/L	041W5A0201
5A	2	Total Endrin	0	0.3	0.15	U	UG/L	041W5A0501
5A	2	Total Endrin	0	0.3	0.15	U	UG/L	041W5A0401
5A	2	Total Endrin	0	0.3	0.15	U	UG/L	041W5A0601
5B	2	Total Endrin	0	0.3	0.15	U	UG/L	041W5B0201
6	2	Total Endrin	0	0.3	0.15	U	UG/L	041W060301
6	2	Total Endrin	0	0.3	0.15	U	UG/L	041W060701
6	2	Total Endrin	0	0.3	0.15	U	UG/L	041W061001
Maximum Detected Total Endrin				0				
Average Total Endrin				0.15				
5A	2	Total PCB	0	8	4	U	UG/L	041W5A0201
5A	2	Total PCB	0	8	4	U	UG/L	041W5A0501
5A	2	Total PCB	0	8	4	U	UG/L	041W5A0701
5A	2	Total PCB	0	8	4	U	UG/L	041W5A0401
5A	2	Total PCB	0	8	4	U	UG/L	041W5A0101
5A	2	Total PCB	0	8	4	U	UG/L	041W5A0601
5B	2	Total PCB	0	8	4	U	UG/L	041W5B0201
6	2	Total PCB	0	8	4	U	UG/L	041W060701
6	2	Total PCB	0	8	4	U	UG/L	041W061001
6	2	Total PCB	0	8	4	U	UG/L	041W060301
Maximum Detected Total PCB				0				
Average Total PCB				4				
5A	2	Mercury	0	0.13	0.065	U	UG/L	041W5A0101
5A	2	Mercury	0	0.13	0.065	U	UG/L	041W5A0201
5A	2	Mercury	0	0.13	0.065	U	UG/L	041W5A0401
5A	2	Mercury	0	0.13	0.065	U	UG/L	041W5A0501
5A	2	Mercury	0	0.13	0.065	U	UG/L	041W5A0601
5A	2	Mercury	0	0.13	0.065	U	UG/L	041W5A0701
5B	2	Mercury	1	0.14	0.14	J	UG/L	041W5B0201
6	2	Mercury	0	0.13	0.065	U	UG/L	041W060301
6	2	Mercury	0	0.13	0.065	U	UG/L	041W060701
6	2	Mercury	1	0.88	0.88		UG/L	041W061001
Maximum Detected Mercury				0.88				
Average Mercury				0.154				
6	2	Dieldrin	0	0.1	0.05	U	UG/L	041W060301
6	2	Dieldrin	0	0.1	0.05	U	UG/L	041W060701
6	2	Dieldrin	0	0.1	0.05	U	UG/L	041W061001
5A	2	Dieldrin	0	0.1	0.05	U	UG/L	041W5A0701
5A	2	Dieldrin	0	0.1	0.05	U	UG/L	041W5A0101
5A	2	Dieldrin	0	0.1	0.05	U	UG/L	041W5A0201
5A	2	Dieldrin	0	0.1	0.05	U	UG/L	041W5A0401
5A	2	Dieldrin	0	0.1	0.05	U	UG/L	041W5A0501
5A	2	Dieldrin	0	0.1	0.05	U	UG/L	041W5A0601
5B	2	Dieldrin	0	0.1	0.05	U	UG/L	041W5B0201
Maximum Detected Dieldrin				0				
Average Dieldrin				0.05				

OU 2 Wetlands
Phase III
Food Chain Modeling Surface Water Data

WETLAND	PHASE	PARAMETER	DETECTS	RESULT	RESULT 1/2SQL	VQUAL	UNITS	SAMPLE ID	SAMPLE DATE
5A	3	Total BHC	0	0.1109	0.05545	U	UG/L	041W5A0501	8/26/1997
5A	3	Total BHC	0	0.2	0.1	U	UG/L	041W5A0401	8/26/1997
5A	3	Total BHC	0	0.2	0.1	U	UG/L	041W5A0601	8/26/1997
64	3	Total BHC	0	0.1101	0.05505	U	UG/L	041W640501	9/4/1997
64	3	Total BHC	1	0.1097	0.1097		UG/L	041W640101	9/4/1997
Maximum Detected Total BHC				0.1097					
Average Total BHC				0.08404					
5A	3	Total Chlordane	0	0.0573	0.02865	U	UG/L	041W5A0601	8/26/1997
5A	3	Total Chlordane	0	0.1	0.05	U	UG/L	041W5A0501	8/26/1997
5A	3	Total Chlordane	0	0.1	0.05	U	UG/L	041W5A0401	8/26/1997
64	3	Total Chlordane	0	0.1	0.05	U	UG/L	041W640501	9/4/1997
64	3	Total Chlordane	0	0.1	0.05	U	UG/L	041W640101	9/4/1997
Maximum Detected Total Chlordane				0	0				
Average Total Chlordane				0.04573					
5A	3	Total DDT	0	0.3	0.15	U	UG/L	041W5A0401	8/26/1997
5A	3	Total DDT	0	0.3	0.15	U	UG/L	041W5A0601	8/26/1997
5A	3	Total DDT	0	0.3	0.15	U	UG/L	041W5A0501	8/26/1997
64	3	Total DDT	0	0.3	0.15	U	UG/L	041W640101	9/4/1997
64	3	Total DDT	0	0.3	0.15	U	UG/L	041W640501	9/4/1997
Maximum Detected Total DDT				0	0				
Average Total DDT				0.15					
5A	3	Total Endrin	0	0.3	0.15	U	UG/L	041W5A0601	8/26/1997
5A	3	Total Endrin	0	0.3	0.15	U	UG/L	041W5A0401	8/26/1997
5A	3	Total Endrin	0	0.3	0.15	U	UG/L	041W5A0501	8/26/1997
64	3	Total Endrin	0	0.3	0.15	U	UG/L	041W640501	9/4/1997
64	3	Total Endrin	0	0.3	0.15	U	UG/L	041W640101	9/4/1997
Maximum Detected Total Endrin				0	0				
Average Total Endrin				0.15					
5A	3	Total PCB	0	8	4	U	UG/L	041W5A0601	8/26/1997
5A	3	Total PCB	0	8	4	U	UG/L	041W5A0401	8/26/1997
5A	3	Total PCB	0	8	4	U	UG/L	041W5A0501	8/26/1997
64	3	Total PCB	0	8	4	U	UG/L	041W640101	9/4/1997
64	3	Total PCB	0	8	4	U	UG/L	041W640501	9/4/1997
Maximum Detected Total PCB				0	0				
Average Total PCB				4					
5A	3	Mercury	0	0.05	0.025	U	UG/L	041W5A0401	8/26/1997
5A	3	Mercury	0	0.05	0.025	U	UG/L	041W5A0601	8/26/1997
5A	3	Mercury	0	0.09	0.045	U	UG/L	041W5A0501	8/26/1997
64	3	Mercury	0	0.05	0.025	UJ	UG/L	041W640101	9/4/1997
64	3	Mercury	1	0.06	0.06	J	UG/L	041W640501	9/4/1997
Maximum Detected Mercury				0.06					
Average Mercury				0.036					
64	3	Dieldrin	0	0.1	0.05	U	UG/L	041W640101	9/4/1997
64	3	Dieldrin	0	0.1	0.05	U	UG/L	041W640501	9/4/1997
5A	3	Dieldrin	0	0.0028	0.0014	U	UG/L	041W5A0501	8/26/1997
5A	3	Dieldrin	0	0.1	0.05	U	UG/L	041W5A0401	8/26/1997
5A	3	Dieldrin	0	0.1	0.05	U	UG/L	041W5A0601	8/26/1997
Maximum Detected Dieldrin				0					
Average Dieldrin				0.04028					

OU 2 Wetlands
Phase IV
2004 Food Chain Modeling Suface Water Data

WETLAND	PHASE	Methods	PARAMETER	DETECTS	RESULT	RESULT 1/2SQL	VQUAL	UNITS	SAMPLE ID
6	4	DISS METAL	Mercury	0	0.078	0.039	U	UG/L	041W061002
6	4	METAL	Mercury	0	0.078	0.039	U	UG/L	041W061002

OU 10 Wetlands
Phase II
Food Chain Modeling Surface Water Data

WETLAND	PHASE	PARAMETER	Detects	RESULT	RESULT 1/2SQL	VQUAL	UNITS	SAMPLE ID
10	2	Total BHC	0	0.2	0.1	U	µg/L	033W001002
10	2	Total BHC	0	0.2	0.1	U	µg/L	033W004002
10	2	Total BHC	1	0.1527	0.1527		µg/L	033W003002
10	2	Total BHC	1	0.1543	0.1543		µg/L	033W002002
12	2	Total BHC	0	0.2	0.1	U	µg/L	041W120101
Maximum Detected Total BHC				0.1543				033W002002
Average Total BHC				0.1214				
10	2	Total Chlordane	0	0.1	0.05	U	µg/L	033W002002
10	2	Total Chlordane	1	0.0513	0.0513		µg/L	033W003002
10	2	Total Chlordane	1	0.053	0.053		µg/L	033W004002
10	2	Total Chlordane	1	0.0534	0.0534		µg/L	033W001002
12	2	Total Chlordane	0	0.1	0.05	U	µg/L	041W120101
Maximum Detected Total Chlordane				0.0534				033W001002
Average Total BHC				0.05154				
10	2	Total DDT	1	0.06	0.06		µg/L	033W004002
10	2	Total DDT	1	0.2021	0.2021		µg/L	033W001002
10	2	Total DDT	1	0.214	0.214		µg/L	033W002002
10	2	Total DDT	1	0.202	0.202		µg/L	033W003002
12	2	Total DDT	0	0.3	0.15	U	µg/L	041W120101
Maximum Detected Total DDT				0.214				033W002002
Average Total DDT				0.16562				
10	2	Total Endrin	0	0.3	0.15	U	µg/L	033W003002
10	2	Total Endrin	0	0.3	0.15	U	µg/L	033W002002
10	2	Total Endrin	0	0.3	0.15	U	µg/L	033W001002
10	2	Total Endrin	0	0.3	0.15	U	µg/L	033W004002
12	2	Total Endrin	0	0.3	0.15	U	µg/L	041W120101
Maximum Detected Total Endrin				0				
Average Total Endrin				0.15				
10	2	Dieldrin	0	0.05	0.1	U	µg/L	033W004002
10	2	Dieldrin	0	0.05	0.1	U	µg/L	033W001002
10	2	Dieldrin	0	0.05	0.1	U	µg/L	033W002002
10	2	Dieldrin	0	0.05	0.1	U	µg/L	033W003002
12	2	Dieldrin	0	0.05	0.1	U	µg/L	041W120101
Maximum Detected Dieldrin				0				
Average Dieldrin				0.1				
10	2	Total PCB	0	8	4	U	µg/L	033W003002
10	2	Total PCB	0	8	4	U	µg/L	033W001002
10	2	Total PCB	0	8	4	U	µg/L	033W002002
10	2	Total PCB	0	8	4	U	µg/L	033W004002
12	2	Total PCB	0	8	4	U	µg/L	041W120101
Maximum Detected Total PCBs				0				
Average Total PCBs				4				
10	2	Mercury	0	0.2	0.1	U	µg/L	033W001002
10	2	Mercury	0	0.2	0.1	U	µg/L	033W002002
10	2	Mercury	0	0.2	0.1	U	µg/L	033W003002
10	2	Mercury	0	0.2	0.1	U	µg/L	033W004002
12	2	Mercury	0	0.13	0.065	U	µg/L	041W120101
13	2	Mercury	1	1.3	1.3		µg/L	041W130101
Maximum Detected Mercury				1.3				041W130101
Average Mercury				0.294166667				

UST 18 Wetlands
Phase II
Food Chain Modeling Surface Water Data

WETLAND	PHASE	PARAMETER	DETECTS	RESULT	RESULT 1/2SQL	VQUAL	UNITS	SAMPLE ID	SAMPLE DATE
52	2	Dieldrin	0	0.1	0.05	U	µg/L	041W52A101	1/23/1996
52	2	Dieldrin	0	0.1	0.05	UJ	µg/L	041W52E301	1/23/1996
72	2	Dieldrin	0	0.1	0.05	U	µg/L	041W720101	11/29/1995
W1	2	Dieldrin	0	0.1	0.05	UJ	µg/L	041WW10201	1/22/1996
W1	2	Dieldrin	0	0.1	0.05	U	µg/L	041WW10301	1/22/1996
W1	2	Dieldrin	0	0.1	0.05	U	µg/L	041WW10101	1/22/1996
W1	2	Dieldrin	0	0.1	0.05	U	µg/L	003W000301	8/9/1995
W1	2	Dieldrin	0	0.1	0.05	U	µg/L	003W000201	8/9/1995
W1	2	Dieldrin	0	0.1	0.05	U	µg/L	003W000101	8/9/1995
Maximum Detected Dieldrin				0					
Average Dieldrin				0.05					
52	2	Total BHC	0	0.2	0.1	U	µg/L	041W52E301	1/23/1996
52	2	Total BHC	0	0.2	0.1	U	µg/L	041W52A101	1/23/1996
72	2	Total BHC	0	0.2	0.1	U	µg/L	041W720101	11/29/1995
W1	2	Total BHC	0	0.2	0.1	U	µg/L	003W000201	8/9/1995
W1	2	Total BHC	0	0.2	0.1	U	µg/L	041WW10301	1/22/1996
W1	2	Total BHC	0	0.2	0.1	U	µg/L	041WW10201	1/22/1996
W1	2	Total BHC	0	0.2	0.1	U	µg/L	041WW10101	1/22/1996
W1	2	Total BHC	0	0.65	0.325	U	µg/L	003W000301	8/9/1995
W1	2	Total BHC	1	0.1561	0.1561		µg/L	003W000101	8/9/1995
Maximum Detected Total BHC				0.1561				003W000101	
Average Total BHC				0.131233333					
52	2	Total Chlordane	0	0.1	0.05	U	µg/L	041W52A101	1/23/1996
52	2	Total Chlordane	0	0.1	0.05	U	µg/L	041W52E301	1/23/1996
72	2	Total Chlordane	0	0.1	0.05	U	µg/L	041W720101	11/29/1995
W1	2	Total Chlordane	0	0.1	0.05	U	µg/L	041WW10101	1/22/1996
W1	2	Total Chlordane	0	0.1	0.05	U	µg/L	003W000301	8/9/1995
W1	2	Total Chlordane	0	0.1	0.05	U	µg/L	003W000101	8/9/1995
W1	2	Total Chlordane	0	0.1	0.05	U	µg/L	041WW10301	1/22/1996
W1	2	Total Chlordane	0	0.1	0.05	U	µg/L	003W000201	8/9/1995
W1	2	Total Chlordane	1	0.300	0.3		µg/L	041WW10201	1/22/1996
Maximum Detected Total Chlordane				0.3					
Average Total Chlordane				0.077777778					
52	2	Total DDT	0	0.3	0.15	U	µg/L	041W52E301	1/23/1996
52	2	Total DDT	0	0.3	0.15	U	µg/L	041W52A101	1/23/1996
72	2	Total DDT	0	0.3	0.15	U	µg/L	041W720101	11/29/1995
W1	2	Total DDT	0	0.3	0.15	U	µg/L	041WW10301	1/22/1996
W1	2	Total DDT	0	0.3	0.15	U	µg/L	041WW10201	1/22/1996
W1	2	Total DDT	0	0.3	0.15	U	µg/L	003W000101	8/9/1995
W1	2	Total DDT	0	0.3	0.15	U	µg/L	003W000201	8/9/1995
W1	2	Total DDT	0	0.3	0.15	U	µg/L	041WW10101	1/22/1996
W1	2	Total DDT	0	0.3	0.15	U	µg/L	003W000301	8/9/1995
Maximum Detected Total DDT				0					
Average Total DDT				0.15					
52	2	Total Endrin	0	0.3	0.15	U	µg/L	041W52A101	1/23/1996
52	2	Total Endrin	0	0.3	0.15	U	µg/L	041W52E301	1/23/1996
72	2	Total Endrin	0	0.3	0.15	U	µg/L	041W720101	11/29/1995
W1	2	Total Endrin	0	0.3	0.15	U	µg/L	041WW10101	1/22/1996
W1	2	Total Endrin	0	0.3	0.15	U	µg/L	003W000201	8/9/1995
W1	2	Total Endrin	0	0.3	0.15	U	µg/L	003W000301	8/9/1995
W1	2	Total Endrin	0	0.3	0.15	U	µg/L	041WW10301	1/22/1996
W1	2	Total Endrin	0	0.3	0.15	U	µg/L	041WW10201	1/22/1996
W1	2	Total Endrin	0	0.3	0.15	U	µg/L	003W000101	8/9/1995
Maximum Detected Total Endrin				0					
Average Total Endrin				0.15					
52	2	Total PCB	0	8	4	U	µg/L	041W52A101	1/23/1996
52	2	Total PCB	0	8	4	U	µg/L	041W52E301	1/23/1996
72	2	Total PCB	0	8	4	U	µg/L	041W720101	11/29/1995
W1	2	Total PCB	0	8	4	U	µg/L	003W000301	8/9/1995
W1	2	Total PCB	0	8	4	U	µg/L	041WW10201	1/22/1996
W1	2	Total PCB	0	8	4	U	µg/L	003W000201	8/9/1995
W1	2	Total PCB	0	8	4	U	µg/L	041WW10101	1/22/1996
W1	2	Total PCB	0	8	4	U	µg/L	041WW10301	1/22/1996
W1	2	Total PCB	0	8	4	U	µg/L	003W000101	8/9/1995
Maximum Detected Total PCBs				0					
Average PCBs				4					
52	2	Mercury	0	0.13	0.065	U	µg/L	041W52A101	1/23/1996
52	2	Mercury	0	0.13	0.065	U	µg/L	041W52E301	1/23/1996
72	2	Mercury	0	0.13	0.065	U	µg/L	041W720101	11/29/1995
W1	2	Mercury	0	0.13	0.065	U	µg/L	041WW10101	1/22/1996
W1	2	Mercury	0	0.13	0.065	U	µg/L	041WW10201	1/22/1996
W1	2	Mercury	0	0.13	0.065	U	µg/L	041WW10301	1/22/1996
W1	2	Mercury	0	0.2	0.1	U	µg/L	003W000101	8/9/1995
W1	2	Mercury	0	0.2	0.1	U	µg/L	003W000201	8/9/1995
W1	2	Mercury	0	0.2	0.1	U	µg/L	003W000301	8/9/1995
Maximum Detected Mercury				0					
Average Mercury				0.076666667					
72	4	Mercury	0	0.078	0.039	U	µg/L	041W720102	4/8/2004
72	4	Mercury	0	0.078	0.039	U	µg/L	041W720102	4/8/2004
52	2	Dieldrin	0	0.1	0.05	U	UG/L	041W52A101	1/23/1996
52	2	Dieldrin	0	0.1	0.05	UJ	UG/L	041W52E301	1/23/1996
72	2	Dieldrin	0	0.1	0.05	U	UG/L	041W720101	11/29/1995
W1	2	Dieldrin	0	0.1	0.05	UJ	UG/L	041WW10201	1/22/1996
W1	2	Dieldrin	0	0.1	0.05	U	UG/L	041WW10301	1/22/1996
W1	2	Dieldrin	0	0.1	0.05	U	UG/L	041WW10101	1/22/1996
W1	2	Dieldrin	0	0.1	0.05	U	UG/L	003W000301	8/9/1995
W1	2	Dieldrin	0	0.1	0.05	U	UG/L	003W000201	8/9/1995
W1	2	Dieldrin	0	0.1	0.05	U	UG/L	003W000101	8/9/1995
Maximum Detected Dieldrin									
Average Dieldrin									

Remaining Wetlands
Phase II
Food Chain Modeling Surface Water Data

WETLAND	PHASE	PARAM	DETECTS	RESULT	RESULT 1/2SQL	VQUAL	Units	SAMPLE ID
48	2	Total BHC	0	0.2	0.1	U	µg/L	041W480101
56	2	Total BHC	0	0.2	0.1	U	µg/L	041W56A101
57	2	Total BHC	0	0.2	0.1	U	µg/L	041W570101
58	2	Total BHC	0	0.2	0.1	U	µg/L	041W580101
19A	2	Total BHC	0	0.2	0.1	U	µg/L	041W190101
19B	2	Total BHC	0	0.2	0.1	U	µg/L	041W190301
49	2	Total BHC	0	0.2	0.1	U	µg/L	041W490301
49	2	Total BHC	0	0.2	0.1	U	µg/L	041W490101
W2	2	Total BHC	0	0.2	0.1	U	µg/L	041WW20201
Maximum Total BHC				0				
Average Total BHC				0.1				
48	2	Total Chlordane	0	0.1	0.05	U	µg/L	041W480101
56	2	Total Chlordane	0	0.1	0.05	U	µg/L	041W56A101
57	2	Total Chlordane	0	0.1	0.05	U	µg/L	041W570101
58	2	Total Chlordane	0	0.1	0.05	U	µg/L	041W580101
19A	2	Total Chlordane	0	0.1	0.05	U	µg/L	041W190101
19B	2	Total Chlordane	0	0.1	0.05	U	µg/L	041W190301
49	2	Total Chlordane	0	0.1	0.05	U	µg/L	041W490101
49	2	Total Chlordane	0	0.1	0.05	U	µg/L	041W490301
W2	2	Total Chlordane	0	0.1	0.05	U	µg/L	041WW20201
Maximum Total Chlordane				0				
Average Total Chlordane				0.05				
48	2	Total DDT	0	0.3	0.15	U	µg/L	041W480101
56	2	Total DDT	0	0.3	0.15	U	µg/L	041W56A101
57	2	Total DDT	0	0.3	0.15	U	µg/L	041W570101
58	2	Total DDT	0	0.3	0.15	U	µg/L	041W580101
19A	2	Total DDT	0	0.3	0.15	U	µg/L	041W190101
19B	2	Total DDT	0	0.3	0.15	U	µg/L	041W190301
49	2	Total DDT	0	0.3	0.15	U	µg/L	041W490101
49	2	Total DDT	0	0.3	0.15	U	µg/L	041W490301
W2	2	Total DDT	0	0.3	0.15	U	µg/L	041WW20201
Maximum Detected Total DDT				0				
Average DDT				0.15				
48	2	Total Endrin	0	0.3	0.15	U	µg/L	041W480101
49	2	Total Endrin	0	0.3	0.15	U	µg/L	041W490101
49	2	Total Endrin	0	0.3	0.15	U	µg/L	041W490301
56	2	Total Endrin	0	0.3	0.15	U	µg/L	041W56A101
57	2	Total Endrin	0	0.3	0.15	U	µg/L	041W570101
58	2	Total Endrin	0	0.3	0.15	U	µg/L	041W580101
19A	2	Total Endrin	0	0.3	0.15	U	µg/L	041W190101
19B	2	Total Endrin	0	0.3	0.15	U	µg/L	041W190301
W2	2	Total Endrin	0	0.3	0.15	U	µg/L	041WW20201
Maximum Detected Total Endrin				0				
Average Total Endrin				0.15				
48	2	Dieldrin	0	0.1	0.05	U	µg/L	041W480101
49	2	Dieldrin	0	0.1	0.05	U	µg/L	041W490101
49	2	Dieldrin	0	0.1	0.05	U	µg/L	041W490301
56	2	Dieldrin	0	0.1	0.05	UJ	µg/L	041W56A101
57	2	Dieldrin	0	0.1	0.05	U	µg/L	041W570101
58	2	Dieldrin	0	0.1	0.05	U	µg/L	041W580101
19A	2	Dieldrin	0	0.1	0.05	U	µg/L	041W190101
19B	2	Dieldrin	0	0.1	0.05	U	µg/L	041W190301
W2	2	Dieldrin	0	0.1	0.05	UJ	µg/L	041WW20201
Maximum Detected Dieldrin				0				
Average Dieldrin				0.05				
48	2	Total PCB	0	8	4	U	µg/L	041W480101
49	2	Total PCB	0	8	4	U	µg/L	041W490301
49	2	Total PCB	0	8	4	U	µg/L	041W490101
56	2	Total PCB	0	8	4	U	µg/L	041W56A101
57	2	Total PCB	0	8	4	U	µg/L	041W570101
58	2	Total PCB	0	8	4	U	µg/L	041W580101
19A	2	Total PCB	0	8	4	U	µg/L	041W190101
19B	2	Total PCB	0	8	4	U	µg/L	041W190301
W2	2	Total PCB	0	8	4	U	µg/L	041WW20201
Maximum detected PCBs				0				
Average PCBs				4				
48	2	Mercury	0	0.13	0.065	U	µg/L	041W480101
49	2	Mercury	0	0.13	0.065	U	µg/L	041W490301
49	2	Mercury	0	0.13	0.065	U	µg/L	041W490101
56	2	Mercury	0	0.13	0.065	U	µg/L	041W56A101
57	2	Mercury	0	0.13	0.065	U	µg/L	041W570101
58	2	Mercury	0	0.13	0.065	U	µg/L	041W580101
19A	2	Mercury	1	0.59	0.59		µg/L	041W190101
19B	2	Mercury	0	0.13	0.065	U	µg/L	041W190301
W2	2	Mercury	0	0.13	0.065	U	µg/L	041WW20201
Maximum detected PCBs				0.59				
Average PCBs				0.12				
19A	4	Mercury	0	0.078	0.039	U	µg/L	041W19A102
19A	4	Mercury	0	0.078	0.039	U	µg/L	041W19A102

Chevalier Fields Wetlands
Phase II
Food Chain Model Surface Water Data

WETLAND	PHASE	PARAMETER	Detects	RESULT	RESULTS 1/2SQL	VQUAL	UNITS	SAMPLE ID
63A	2	Total BHC	0	0.2	0.1	U	µg/L	041W63A201
63B	2	Total BHC	0	0.2	0.1	U	µg/L	041W63B401
63B	2	Total BHC	0	0.2	0.1	U	µg/L	041W63B201
Maximum Detected Total BHC				0				
Average Total BHC				0.1				
63A	2	Total Chlordane	0	0.1	0.05	U	µg/L	041W63A201
63B	2	Total Chlordane	0	0.1	0.05	U	µg/L	041W63B201
63B	2	Total Chlordane	0	0.1	0.05	U	µg/L	041W63B401
Maximum Detected Total Chlordane				0				
Average Total Chlordane				0.05				
63A	2	Total DDT	0	0.3	0.15	U	µg/L	041W63A201
63B	2	Total DDT	0	0.3	0.15	U	µg/L	041W63B401
63B	2	Total DDT	0	0.3	0.15	U	µg/L	041W63B201
Maximum Detected Total DDT				0				
Average DDT				0.15				
63A	2	Total Endrin	0	0.3	0.15	U	µg/L	041W63A201
63B	2	Total Endrin	0	0.3	0.15	U	µg/L	041W63B201
63B	2	Total Endrin	0	0.3	0.15	U	µg/L	041W63B401
Maximum Detected Total Endrin				0				
Average Total Endrin				0.15				
63A	2	Dieldrin	0	0.1	0.05	U	µg/L	041W63A201
63B	2	Dieldrin	0	0.1	0.05	U	µg/L	041W63B401
63B	2	Dieldrin	0	0.1	0.05	U	µg/L	041W63B201
Maximum Detected Dieldrin				0				
Average Dieldrin				0.05				
63A	2	Total PCB	0	8	4	U	µg/L	041W63A201
63B	2	Total PCB	0	8	4	U	µg/L	041W63B401
63B	2	Total PCB	0	8	4	U	µg/L	041W63B201
Maximum Detected Total PCBs				0				
Average Total PCBs				4				
63A	2	Mercury	0	0.13	0.065	U	µg/L	041W63A201
63B	2	Mercury	0	0.13	0.065	U	µg/L	041W63B201
63B	2	Mercury	0	0.13	0.065	U	µg/L	041W63B401
Maximum Detected Mercury				0				
Average Mercury				0.065				
63A	2	Dieldrin	0	0.1	0.05	U	UG/L	041W63A201
63B	2	Dieldrin	0	0.1	0.05	U	UG/L	041W63B401
63B	2	Dieldrin	0	0.1	0.05	U	UG/L	041W63B201
Maximum Detected Dieldrin				0				
Average Dieldrin				0.05				
63A	4	Mercury	0	0.078	0.039	U	µg/L	041W63A202
63A	4	Mercury	0	0.078	0.039	U	µg/L	041W63A202

Fish Tissue Data

Wetland 18B
Operable Unit 1
Food Chain Model Fish Tissue Data

PARAMETER	RESULT	1/2 U VALUE	CONC UNITS	VQUAL	SAMPLE ID
4,4'-DDD	68	68	UG/KG		041J18B101
4,4'-DDE	61	61	UG/KG		041J18B101
4,4'-DDT	7.7	3.85	UG/KG	U	041J18B101
Total DDT	132.85		UG/KG		041J18B101
Dieldrin	33	16.5	UG/KG	U	041J18B101
alpha-BHC	17	8.5	UG/KG	U	041J18B101
beta-BHC	17	8.5	UG/KG	U	041J18B101
delta-BHC	17	8.5	UG/KG	U	041J18B101
gamma-BHC (Lindane)	17	8.5	UG/KG	U	041J18B101
Total BHC	34		UG/KG	U	041J18B101
alpha-Chlordane	1.4	1.4	UG/KG	J	041J18B101
gamma-Chlordane	17	8.5	UG/KG	U	041J18B101
Total Chlordane	9.9		UG/KG		041J18B101
Endrin	33	16.5	UG/KG	U	041J18B101
Endrin aldehyde	33	16.5	UG/KG	U	041J18B101
Endrin ketone	33	16.5	UG/KG	U	041J18B101
Total Endrin	49.5		UG/KG	U	041J18B101
Aroclor-1016	330	165	UG/KG	U	041J18B101
Aroclor-1221	670	335	UG/KG	U	041J18B101
Aroclor-1232	330	165	UG/KG	U	041J18B101
Aroclor-1242	330	165	UG/KG	U	041J18B101
Aroclor-1248	330	165	UG/KG	U	041J18B101
Aroclor-1254	330	165	UG/KG	U	041J18B101
Aroclor-1260	87	87	UG/KG	J	041J18B101
Total PCBs	1247		UG/KG	J	041J18B101

Wetland 64
Operable Unit 2
Food Chain Model Fish Tissue Data

PARAMETER	RESULT	1/2 U VALUE	CONC UNITS	VQUAL	SAMPLE ID
4,4'-DDD	4.9	4.9	UG/KG		041J640101
4,4'-DDE	9.6	9.6	UG/KG		041J640101
4,4'-DDT	2.8	2.8	UG/KG	J	041J640101
Total DDT	17.3		UG/KG	J	041J640101
4,4'-DDD	9.9	4.95	UG/KG	U	041J640202
4,4'-DDE	6.7	6.7	UG/KG	J	041J640202
4,4'-DDT	8.3	8.3	UG/KG	J	041J640202
Total DDT	19.95		UG/KG	J	041J640202
4,4'-DDD	19	19	UG/KG	J	041J640301
4,4'-DDE	25	25	UG/KG		041J640301
4,4'-DDT	28	28	UG/KG	J	041J640301
Total DDT	72		UG/KG	J	041J640301
4,4'-DDD	9.9	4.95	UG/KG	U	041J640302
4,4'-DDE	6.3	3.15	UG/KG	U	041J640302
4,4'-DDT	9.6	9.6	UG/KG	J	041J640302
Total DDT	17.7		UG/KG	J	041J640302
4,4'-DDD	10	10	UG/KG	J	041J64030K
4,4'-DDE	14	14	UG/KG	J	041J64030K
4,4'-DDT	26	26	UG/KG	J	041J64030K
Total DDT	50		UG/KG	J	041J64030K
4,4'-DDD	9.9	4.95	UG/KG	U	041J640501
4,4'-DDE	9.9	4.95	UG/KG	U	041J640501
4,4'-DDT	9.9	4.95	UG/KG	U	041J640501
Total DDT	14.85		UG/KG	U	041J640501
4,4'-DDD	4.8	4.8	UG/KG	J	041J640601
4,4'-DDE	13	13	UG/KG		041J640601
4,4'-DDT	8.1	8.1	UG/KG		041J640601
Total DDT	25.9		UG/KG		041J640601
4,4'-DDD	13	13	UG/KG	J	041J640602
4,4'-DDE	22	22	UG/KG		041J640602
4,4'-DDT	23	23	UG/KG	J	041J640602
Total DDT	58		UG/KG	J	041J640602
4,4'-DDD	8.2	4.1	UG/KG	U	041J640701
4,4'-DDE	7.7	7.7	UG/KG	J	041J640701
4,4'-DDT	16	16	UG/KG	J	041J640701
Total DDT	27.8		UG/KG	J	041J640701
4,4'-DDD	16	8	UG/KG	U	041J642401
4,4'-DDE	16	8	UG/KG	U	041J642401
4,4'-DDT	16	8	UG/KG	U	041J642401
Total DDT	24		UG/KG	U	041J642401
Maximum Detected Total DDT	72		UG/KG		
Average Total DDT	32.75		UG/KG		
alpha-BHC	1.7	0.85	UG/KG	U	041J640101
beta-BHC	1.7	0.85	UG/KG	U	041J640101
delta-BHC	1.7	0.85	UG/KG	U	041J640101
gamma-BHC (Lindane)	0.44	0.44	UG/KG	J	041J640101
Total BHC	2.99		UG/KG	J	041J640101
alpha-BHC	5.1	2.55	UG/KG	U	041J640202
beta-BHC	5.1	2.55	UG/KG	U	041J640202
delta-BHC	5.1	2.55	UG/KG	U	041J640202
gamma-BHC (Lindane)	5.1	2.55	UG/KG	U	041J640202
Total BHC	10.2		UG/KG	U	041J640202
alpha-BHC	5.1	2.55	UG/KG	U	041J640301
beta-BHC	5.1	2.55	UG/KG	U	041J640301
delta-BHC	5.1	2.55	UG/KG	U	041J640301
gamma-BHC (Lindane)	5.1	2.55	UG/KG	U	041J640301
Total BHC	10.2		UG/KG	U	041J640301
alpha-BHC	5.1	2.55	UG/KG	U	041J640302
beta-BHC	5.1	2.55	UG/KG	U	041J640302
delta-BHC	5.1	2.55	UG/KG	U	041J640302
gamma-BHC (Lindane)	5.1	2.55	UG/KG	U	041J640302
Total BHC	10.2		UG/KG	U	041J640302
alpha-BHC	5.1	2.55	UG/KG	UJ	041J64030K
beta-BHC	5.1	2.55	UG/KG	UJ	041J64030K
delta-BHC	5.1	2.55	UG/KG	UJ	041J64030K
gamma-BHC (Lindane)	5.1	2.55	UG/KG	UJ	041J64030K
Total BHC	10.2		UG/KG	UJ	041J64030K
alpha-BHC	5.1	2.55	UG/KG	U	041J640501
beta-BHC	5.1	2.55	UG/KG	U	041J640501
delta-BHC	5.1	2.55	UG/KG	U	041J640501
gamma-BHC (Lindane)	5.1	2.55	UG/KG	U	041J640501
Total BHC	10.2		UG/KG	U	041J640501
alpha-BHC	3.4	1.7	UG/KG	U	041J640601
beta-BHC	3.4	1.7	UG/KG	U	041J640601
delta-BHC	3.4	1.7	UG/KG	U	041J640601
gamma-BHC (Lindane)	0.61	0.61	UG/KG	J	041J640601
Total BHC	5.71		UG/KG	J	041J640601
alpha-BHC	5.1	2.55	UG/KG	U	041J640602
beta-BHC	5.1	2.55	UG/KG	U	041J640602
delta-BHC	5.1	2.55	UG/KG	U	041J640602
gamma-BHC (Lindane)	5.1	2.55	UG/KG	U	041J640602
Total BHC	10.2		UG/KG	U	041J640602
alpha-BHC	4.2	2.1	UG/KG	U	041J640701
beta-BHC	4.2	2.1	UG/KG	U	041J640701
delta-BHC	4.2	2.1	UG/KG	U	041J640701
gamma-BHC (Lindane)	1.6	1.6	UG/KG	J	041J640701
Total BHC	7.9		UG/KG	J	041J640701
alpha-BHC	8.5	4.25	UG/KG	U	041J642401

Wetland 64
Operable Unit 2
Food Chain Model Fish Tissue Data

PARAMETER	RESULT	1/2 U VALUE	CONC UNITS	VQUAL	SAMPLE ID
beta-BHC	8.5	4.25	UG/KG	U	041J642401
delta-BHC	8.5	4.25	UG/KG	U	041J642401
gamma-BHC (Lindane)	0.9	0.9	UG/KG	J	041J642401
Total BHC	13.65		UG/KG	J	041J642401
Maximum Detected Total BHC	13.65				
Average Total BHC	9.145				
alpha-Chlordane	0.39	0.195	UG/KG	U	041J640101
gamma-Chlordane	0.67	0.335	UG/KG	U	041J640101
Total Chlordane	0.53		UG/KG	U	041J640101
alpha-Chlordane	5.1	2.55	UG/KG	U	041J640202
gamma-Chlordane	0.93	0.465	UG/KG	U	041J640202
Total Chlordane	3.015		UG/KG	U	041J640202
alpha-Chlordane	5.1	2.55	UG/KG	U	041J640301
gamma-Chlordane	4.4	4.4	UG/KG	J	041J640301
Total Chlordane	6.95		UG/KG	J	041J640301
alpha-Chlordane	5.1	2.55	UG/KG	U	041J640302
gamma-Chlordane	1.6	0.8	UG/KG	U	041J640302
Total Chlordane	3.35		UG/KG	U	041J640302
alpha-Chlordane	5.1	2.55	UG/KG	UJ	041J64030K
gamma-Chlordane	5	5	UG/KG	J	041J64030K
Total Chlordane	7.55		UG/KG	J	041J64030K
alpha-Chlordane	5.1	2.55	UG/KG	U	041J640501
gamma-Chlordane	0.81	0.405	UG/KG	U	041J640501
Total Chlordane	2.955		UG/KG	U	041J640501
alpha-Chlordane	1.2	1.2	UG/KG	J	041J640601
gamma-Chlordane	1.9	1.9	UG/KG	J	041J640601
Total Chlordane	3.1		UG/KG	J	041J640601
alpha-Chlordane	5.1	2.55	UG/KG	U	041J640602
gamma-Chlordane	4	4	UG/KG	J	041J640602
Total Chlordane	6.55		UG/KG	J	041J640602
alpha-Chlordane	4.2	2.1	UG/KG	U	041J640701
gamma-Chlordane	4.2	2.1	UG/KG	U	041J640701
Total Chlordane	4.2		UG/KG	U	041J640701
alpha-Chlordane	8.5	4.25	UG/KG	U	041J642401
gamma-Chlordane	8.5	4.25	UG/KG	U	041J642401
Total Chlordane	8.5		UG/KG	U	041J642401
Maximum Detected Total Chlordane	7.55		UG/KG		
Average Total Chlordane	4.67		UG/KG		
Endrin	3.3	1.65	UG/KG	U	041J640101
Endrin aldehyde	3.3	1.65	UG/KG	U	041J640101
Endrin ketone	3.3	1.65	UG/KG	U	041J640101
Total Endrin	4.95		UG/KG	U	041J640101
Endrin	9.9	4.95	UG/KG	U	041J640202
Endrin aldehyde	9.9	4.95	UG/KG	U	041J640202
Endrin ketone	9.9	4.95	UG/KG	U	041J640202
Total Endrin	14.85		UG/KG	U	041J640202
Endrin	9.9	4.95	UG/KG	U	041J640301
Endrin aldehyde	9.9	4.95	UG/KG	U	041J640301
Endrin ketone	9.9	4.95	UG/KG	U	041J640301
Total Endrin	14.85		UG/KG	U	041J640301
Endrin	9.9	4.95	UG/KG	U	041J640302
Endrin aldehyde	9.9	4.95	UG/KG	U	041J640302
Endrin ketone	9.9	4.95	UG/KG	U	041J640302
Total Endrin	14.85		UG/KG	U	041J640302
Endrin	9.9	4.95	UG/KG	UJ	041J64030K
Endrin aldehyde	9.9	4.95	UG/KG	UJ	041J64030K
Endrin ketone	9.9	4.95	UG/KG	UJ	041J64030K
Total Endrin	14.85		UG/KG	UJ	041J64030K
Endrin	9.9	4.95	UG/KG	U	041J640501
Endrin aldehyde	9.9	4.95	UG/KG	U	041J640501
Endrin ketone	9.9	4.95	UG/KG	U	041J640501
Total Endrin	14.85		UG/KG	U	041J640501
Endrin	6.6	3.3	UG/KG	U	041J640601
Endrin aldehyde	6.6	3.3	UG/KG	U	041J640601
Endrin ketone	6.6	3.3	UG/KG	U	041J640601
Total Endrin	9.9		UG/KG	U	041J640601
Endrin	9.9	4.95	UG/KG	U	041J640602
Endrin aldehyde	9.9	4.95	UG/KG	U	041J640602
Endrin ketone	9.9	4.95	UG/KG	U	041J640602
Total Endrin	14.85		UG/KG	U	041J640602
Endrin	8.2	4.1	UG/KG	U	041J640701
Endrin aldehyde	8.2	4.1	UG/KG	U	041J640701
Endrin ketone	8.2	4.1	UG/KG	U	041J640701
Total Endrin	12.3		UG/KG	U	041J640701
Endrin	16	8	UG/KG	U	041J642401
Endrin aldehyde	16	8	UG/KG	U	041J642401
Endrin ketone	16	8	UG/KG	U	041J642401
Total Endrin	24		UG/KG	U	041J642401
Maximum Detected Total Endrin	0				
Average Total Endrin	14.03				

Wetland 64
Operable Unit 2
Food Chain Model Fish Tissue Data

PARAMETER	RESULT	1/2 U VALUE	CONC UNITS	VQUAL	SAMPLE ID
Aroclor-1016	334	334	UG/KG		041J640101
Aroclor-1221	67	33.5	UG/KG	U	041J640101
Aroclor-1232	33	16.5	UG/KG	U	041J640101
Aroclor-1242	33	16.5	UG/KG	U	041J640101
Aroclor-1248	33	16.5	UG/KG	U	041J640101
Aroclor-1254	33	16.5	UG/KG	U	041J640101
Aroclor-1260	26	26	UG/KG	J	041J640101
Total PCBs	459.5		UG/KG	J	041J640101
Aroclor-1016	99	49.5	UG/KG	U	041J640202
Aroclor-1221	200	100	UG/KG	U	041J640202
Aroclor-1232	99	49.5	UG/KG	U	041J640202
Aroclor-1242	99	49.5	UG/KG	U	041J640202
Aroclor-1248	99	49.5	UG/KG	U	041J640202
Aroclor-1254	99	49.5	UG/KG	U	041J640202
Aroclor-1260	99	49.5	UG/KG	U	041J640202
Total PCBs	397		UG/KG	U	041J640202
Aroclor-1016	99	49.5	UG/KG	U	041J640301
Aroclor-1221	200	100	UG/KG	U	041J640301
Aroclor-1232	99	49.5	UG/KG	U	041J640301
Aroclor-1242	99	49.5	UG/KG	U	041J640301
Aroclor-1248	99	49.5	UG/KG	U	041J640301
Aroclor-1254	99	49.5	UG/KG	U	041J640301
Aroclor-1260	210	210	UG/KG		041J640301
Total PCBs	557.5		UG/KG		041J640301
Aroclor-1016	99	49.5	UG/KG	U	041J640302
Aroclor-1221	200	100	UG/KG	U	041J640302
Aroclor-1232	99	49.5	UG/KG	U	041J640302
Aroclor-1242	99	49.5	UG/KG	U	041J640302
Aroclor-1248	99	49.5	UG/KG	U	041J640302
Aroclor-1254	99	49.5	UG/KG	U	041J640302
Aroclor-1260	99	49.5	UG/KG	U	041J640302
Total PCBs	397		UG/KG	U	041J640302
Aroclor-1016	99	49.5	UG/KG	UJ	041J64030K
Aroclor-1221	200	100	UG/KG	UJ	041J64030K
Aroclor-1232	99	49.5	UG/KG	UJ	041J64030K
Aroclor-1242	99	49.5	UG/KG	UJ	041J64030K
Aroclor-1248	99	49.5	UG/KG	UJ	041J64030K
Aroclor-1254	99	49.5	UG/KG	UJ	041J64030K
Aroclor-1260	220	220	UG/KG	J	041J64030K
Total PCBs	567.5		UG/KG	J	041J64030K
Aroclor-1016	99	49.5	UG/KG	U	041J640501
Aroclor-1221	200	100	UG/KG	U	041J640501
Aroclor-1232	99	49.5	UG/KG	U	041J640501
Aroclor-1242	99	49.5	UG/KG	U	041J640501
Aroclor-1248	99	49.5	UG/KG	U	041J640501
Aroclor-1254	99	49.5	UG/KG	U	041J640501
Aroclor-1260	99	49.5	UG/KG	U	041J640501
Total PCBs	397		UG/KG	U	041J640501
Aroclor-1016	66	33	UG/KG	U	041J640601
Aroclor-1221	130	65	UG/KG	U	041J640601
Aroclor-1232	66	33	UG/KG	U	041J640601
Aroclor-1242	66	33	UG/KG	U	041J640601
Aroclor-1248	66	33	UG/KG	U	041J640601
Aroclor-1254	66	33	UG/KG	U	041J640601
Aroclor-1260	41	41	UG/KG	J	041J640601
Total PCBs	271		UG/KG	J	041J640601
Aroclor-1016	99	49.5	UG/KG	U	041J640602
Aroclor-1221	200	100	UG/KG	U	041J640602
Aroclor-1232	99	49.5	UG/KG	U	041J640602
Aroclor-1242	99	49.5	UG/KG	U	041J640602
Aroclor-1248	99	49.5	UG/KG	U	041J640602
Aroclor-1254	99	49.5	UG/KG	U	041J640602
Aroclor-1260	120	120	UG/KG	J	041J640602
Total PCBs	467.5		UG/KG	J	041J640602
Aroclor-1016	82	41	UG/KG	U	041J640701
Aroclor-1221	170	85	UG/KG	U	041J640701
Aroclor-1232	82	41	UG/KG	U	041J640701
Aroclor-1242	82	41	UG/KG	U	041J640701
Aroclor-1248	82	41	UG/KG	U	041J640701
Aroclor-1254	82	41	UG/KG	U	041J640701
Aroclor-1260	120	120	UG/KG		041J640701
Total PCBs	410		UG/KG		041J640701
Aroclor-1016	160	80	UG/KG	U	041J642401
Aroclor-1221	340	170	UG/KG	U	041J642401
Aroclor-1232	160	80	UG/KG	U	041J642401
Aroclor-1242	160	80	UG/KG	U	041J642401
Aroclor-1248	160	80	UG/KG	U	041J642401
Aroclor-1254	160	80	UG/KG	U	041J642401
Aroclor-1260	160	80	UG/KG	U	041J642401
Total PCBs	650		UG/KG	U	041J642401
Maximum Detected Total PCBs	567.5		UG/KG		
Average Total PCBs	457.4		UG/KG		

Wetland 64
Operable Unit 2
Food Chain Model Fish Tissue Data

PARAMETER	RESULT	1/2 U VALUE	CONC UNITS	VQUAL	SAMPLE ID
Dieldrin	0.66	0.66	UG/KG	J	041J640101
Dieldrin	9.9	4.95	UG/KG	U	041J640202
Dieldrin	9.9	4.95	UG/KG	U	041J640301
Dieldrin	9.9	4.95	UG/KG	U	041J640302
Dieldrin	9.9	4.95	UG/KG	UJ	041J64030K
Dieldrin	9.9	4.95	UG/KG	U	041J640501
Dieldrin	0.8	0.4	UG/KG	U	041J640601
Dieldrin	9.9	4.95	UG/KG	U	041J640602
Dieldrin	8.2	4.1	UG/KG	U	041J640701
Dieldrin	16	8	UG/KG	U	041J642401
Maximum Detected Dieldrin	0.66		UG/KG		
Average Dieldrin	8.51		UG/KG		
Mercury	0.018	0.009	MG/KG	U	041J640202
Mercury	0.024	0.012	MG/KG	U	041J640301
Mercury	0.024	0.012	MG/KG	U	041J640302
Mercury	0.028	0.028	MG/KG	J	041J64030K
Mercury	0.022	0.011	MG/KG	U	041J640501
Mercury	0.045	0.045	MG/KG	J	041J640602
Mercury	0.078	0.078	MG/KG	J	041J640701
Mercury	0.096	0.096	MG/KG		041J642401
Maximum Detected Mercury	0.10		MG/KG		
Average Mercury	0.04		MG/KG		

Wetland 18B
Operable Unit 1
Food Chain Model Fish Tissue Data

PARAMETER	RESULT	1/2 U VALUE	CONC UNITS	VQUAL	SAMPLE ID
4,4'-DDD	68	68	UG/KG		041J18B101
4,4'-DDE	61	61	UG/KG		041J18B101
4,4'-DDT	7.7	3.85	UG/KG	U	041J18B101
Total DDT	132.85		UG/KG		041J18B101
Dieldrin	33	16.5	UG/KG	U	041J18B101
alpha-BHC	17	8.5	UG/KG	U	041J18B101
beta-BHC	17	8.5	UG/KG	U	041J18B101
delta-BHC	17	8.5	UG/KG	U	041J18B101
gamma-BHC (Lindane)	17	8.5	UG/KG	U	041J18B101
Total BHC	34		UG/KG	U	041J18B101
alpha-Chlordane	1.4	1.4	UG/KG	J	041J18B101
gamma-Chlordane	17	8.5	UG/KG	U	041J18B101
Total Chlordane	9.9		UG/KG		041J18B101
Endrin	33	16.5	UG/KG	U	041J18B101
Endrin aldehyde	33	16.5	UG/KG	U	041J18B101
Endrin ketone	33	16.5	UG/KG	U	041J18B101
Total Endrin	49.5		UG/KG	U	041J18B101
Aroclor-1016	330	165	UG/KG	U	041J18B101
Aroclor-1221	670	335	UG/KG	U	041J18B101
Aroclor-1232	330	165	UG/KG	U	041J18B101
Aroclor-1242	330	165	UG/KG	U	041J18B101
Aroclor-1248	330	165	UG/KG	U	041J18B101
Aroclor-1254	330	165	UG/KG	U	041J18B101
Aroclor-1260	87	87	UG/KG	J	041J18B101
Total PCBs	1247		UG/KG	J	041J18B101

Wetland 64
Operable Unit 2
Food Chain Model Fish Tissue Data

PARAMETER	RESULT	1/2 U VALUE	CONC UNITS	VQUAL	SAMPLE ID
4,4'-DDD	4.9	4.9	UG/KG		041J640101
4,4'-DDE	9.6	9.6	UG/KG		041J640101
4,4'-DDT	2.8	2.8	UG/KG	J	041J640101
Total DDT	17.3		UG/KG	J	041J640101
4,4'-DDD	9.9	4.95	UG/KG	U	041J640202
4,4'-DDE	6.7	6.7	UG/KG	J	041J640202
4,4'-DDT	8.3	8.3	UG/KG	J	041J640202
Total DDT	19.95		UG/KG	J	041J640202
4,4'-DDD	19	19	UG/KG	J	041J640301
4,4'-DDE	25	25	UG/KG		041J640301
4,4'-DDT	28	28	UG/KG	J	041J640301
Total DDT	72		UG/KG	J	041J640301
4,4'-DDD	9.9	4.95	UG/KG	U	041J640302
4,4'-DDE	6.3	3.15	UG/KG	U	041J640302
4,4'-DDT	9.6	9.6	UG/KG	J	041J640302
Total DDT	17.7		UG/KG	J	041J640302
4,4'-DDD	10	10	UG/KG	J	041J64030K
4,4'-DDE	14	14	UG/KG	J	041J64030K
4,4'-DDT	26	26	UG/KG	J	041J64030K
Total DDT	50		UG/KG	J	041J64030K
4,4'-DDD	9.9	4.95	UG/KG	U	041J640501
4,4'-DDE	9.9	4.95	UG/KG	U	041J640501
4,4'-DDT	9.9	4.95	UG/KG	U	041J640501
Total DDT	14.85		UG/KG	U	041J640501
4,4'-DDD	4.8	4.8	UG/KG	J	041J640601
4,4'-DDE	13	13	UG/KG		041J640601
4,4'-DDT	8.1	8.1	UG/KG		041J640601
Total DDT	25.9		UG/KG		041J640601
4,4'-DDD	13	13	UG/KG	J	041J640602
4,4'-DDE	22	22	UG/KG		041J640602
4,4'-DDT	23	23	UG/KG	J	041J640602
Total DDT	58		UG/KG	J	041J640602
4,4'-DDD	8.2	4.1	UG/KG	U	041J640701
4,4'-DDE	7.7	7.7	UG/KG	J	041J640701
4,4'-DDT	16	16	UG/KG	J	041J640701
Total DDT	27.8		UG/KG	J	041J640701
4,4'-DDD	16	8	UG/KG	U	041J642401
4,4'-DDE	16	8	UG/KG	U	041J642401
4,4'-DDT	16	8	UG/KG	U	041J642401
Total DDT	24		UG/KG	U	041J642401
Maximum Detected Total DDT	72		UG/KG		
Average Total DDT	32.75		UG/KG		
alpha-BHC	1.7	0.85	UG/KG	U	041J640101
beta-BHC	1.7	0.85	UG/KG	U	041J640101
delta-BHC	1.7	0.85	UG/KG	U	041J640101
gamma-BHC (Lindane)	0.44	0.44	UG/KG	J	041J640101
Total BHC	2.99		UG/KG	J	041J640101
alpha-BHC	5.1	2.55	UG/KG	U	041J640202
beta-BHC	5.1	2.55	UG/KG	U	041J640202
delta-BHC	5.1	2.55	UG/KG	U	041J640202
gamma-BHC (Lindane)	5.1	2.55	UG/KG	U	041J640202
Total BHC	10.2		UG/KG	U	041J640202
alpha-BHC	5.1	2.55	UG/KG	U	041J640301
beta-BHC	5.1	2.55	UG/KG	U	041J640301
delta-BHC	5.1	2.55	UG/KG	U	041J640301
gamma-BHC (Lindane)	5.1	2.55	UG/KG	U	041J640301
Total BHC	10.2		UG/KG	U	041J640301
alpha-BHC	5.1	2.55	UG/KG	U	041J640302
beta-BHC	5.1	2.55	UG/KG	U	041J640302
delta-BHC	5.1	2.55	UG/KG	U	041J640302
gamma-BHC (Lindane)	5.1	2.55	UG/KG	U	041J640302
Total BHC	10.2		UG/KG	U	041J640302
alpha-BHC	5.1	2.55	UG/KG	UJ	041J64030K
beta-BHC	5.1	2.55	UG/KG	UJ	041J64030K
delta-BHC	5.1	2.55	UG/KG	UJ	041J64030K
gamma-BHC (Lindane)	5.1	2.55	UG/KG	UJ	041J64030K
Total BHC	10.2		UG/KG	UJ	041J64030K
alpha-BHC	5.1	2.55	UG/KG	U	041J640501
beta-BHC	5.1	2.55	UG/KG	U	041J640501
delta-BHC	5.1	2.55	UG/KG	U	041J640501
gamma-BHC (Lindane)	5.1	2.55	UG/KG	U	041J640501
Total BHC	10.2		UG/KG	U	041J640501
alpha-BHC	3.4	1.7	UG/KG	U	041J640601
beta-BHC	3.4	1.7	UG/KG	U	041J640601
delta-BHC	3.4	1.7	UG/KG	U	041J640601
gamma-BHC (Lindane)	0.61	0.61	UG/KG	J	041J640601
Total BHC	5.71		UG/KG	J	041J640601
alpha-BHC	5.1	2.55	UG/KG	U	041J640602
beta-BHC	5.1	2.55	UG/KG	U	041J640602
delta-BHC	5.1	2.55	UG/KG	U	041J640602
gamma-BHC (Lindane)	5.1	2.55	UG/KG	U	041J640602
Total BHC	10.2		UG/KG	U	041J640602
alpha-BHC	4.2	2.1	UG/KG	U	041J640701
beta-BHC	4.2	2.1	UG/KG	U	041J640701
delta-BHC	4.2	2.1	UG/KG	U	041J640701
gamma-BHC (Lindane)	1.6	1.6	UG/KG	J	041J640701
Total BHC	7.9		UG/KG	J	041J640701
alpha-BHC	8.5	4.25	UG/KG	U	041J642401

Wetland 64
Operable Unit 2
Food Chain Model Fish Tissue Data

PARAMETER	RESULT	1/2 U VALUE	CONC UNITS	VQUAL	SAMPLE ID
beta-BHC	8.5	4.25	UG/KG	U	041J642401
delta-BHC	8.5	4.25	UG/KG	U	041J642401
gamma-BHC (Lindane)	0.9	0.9	UG/KG	J	041J642401
Total BHC	13.65		UG/KG	J	041J642401
Maximum Detected Total BHC	13.65				
Average Total BHC	9.145				
alpha-Chlordane	0.39	0.195	UG/KG	U	041J640101
gamma-Chlordane	0.67	0.335	UG/KG	U	041J640101
Total Chlordane	0.53		UG/KG	U	041J640101
alpha-Chlordane	5.1	2.55	UG/KG	U	041J640202
gamma-Chlordane	0.93	0.465	UG/KG	U	041J640202
Total Chlordane	3.015		UG/KG	U	041J640202
alpha-Chlordane	5.1	2.55	UG/KG	U	041J640301
gamma-Chlordane	4.4	4.4	UG/KG	J	041J640301
Total Chlordane	6.95		UG/KG	J	041J640301
alpha-Chlordane	5.1	2.55	UG/KG	U	041J640302
gamma-Chlordane	1.6	0.8	UG/KG	U	041J640302
Total Chlordane	3.35		UG/KG	U	041J640302
alpha-Chlordane	5.1	2.55	UG/KG	UJ	041J64030K
gamma-Chlordane	5	5	UG/KG	J	041J64030K
Total Chlordane	7.55		UG/KG	J	041J64030K
alpha-Chlordane	5.1	2.55	UG/KG	U	041J640501
gamma-Chlordane	0.81	0.405	UG/KG	U	041J640501
Total Chlordane	2.955		UG/KG	U	041J640501
alpha-Chlordane	1.2	1.2	UG/KG	J	041J640601
gamma-Chlordane	1.9	1.9	UG/KG	J	041J640601
Total Chlordane	3.1		UG/KG	J	041J640601
alpha-Chlordane	5.1	2.55	UG/KG	U	041J640602
gamma-Chlordane	4	4	UG/KG	J	041J640602
Total Chlordane	6.55		UG/KG	J	041J640602
alpha-Chlordane	4.2	2.1	UG/KG	U	041J640701
gamma-Chlordane	4.2	2.1	UG/KG	U	041J640701
Total Chlordane	4.2		UG/KG	U	041J640701
alpha-Chlordane	8.5	4.25	UG/KG	U	041J642401
gamma-Chlordane	8.5	4.25	UG/KG	U	041J642401
Total Chlordane	8.5		UG/KG	U	041J642401
Maximum Detected Total Chlordane	7.55		UG/KG		
Average Total Chlordane	4.67		UG/KG		
Endrin	3.3	1.65	UG/KG	U	041J640101
Endrin aldehyde	3.3	1.65	UG/KG	U	041J640101
Endrin ketone	3.3	1.65	UG/KG	U	041J640101
Total Endrin	4.95		UG/KG	U	041J640101
Endrin	9.9	4.95	UG/KG	U	041J640202
Endrin aldehyde	9.9	4.95	UG/KG	U	041J640202
Endrin ketone	9.9	4.95	UG/KG	U	041J640202
Total Endrin	14.85		UG/KG	U	041J640202
Endrin	9.9	4.95	UG/KG	U	041J640301
Endrin aldehyde	9.9	4.95	UG/KG	U	041J640301
Endrin ketone	9.9	4.95	UG/KG	U	041J640301
Total Endrin	14.85		UG/KG	U	041J640301
Endrin	9.9	4.95	UG/KG	U	041J640302
Endrin aldehyde	9.9	4.95	UG/KG	U	041J640302
Endrin ketone	9.9	4.95	UG/KG	U	041J640302
Total Endrin	14.85		UG/KG	U	041J640302
Endrin	9.9	4.95	UG/KG	UJ	041J64030K
Endrin aldehyde	9.9	4.95	UG/KG	UJ	041J64030K
Endrin ketone	9.9	4.95	UG/KG	UJ	041J64030K
Total Endrin	14.85		UG/KG	UJ	041J64030K
Endrin	9.9	4.95	UG/KG	U	041J640501
Endrin aldehyde	9.9	4.95	UG/KG	U	041J640501
Endrin ketone	9.9	4.95	UG/KG	U	041J640501
Total Endrin	14.85		UG/KG	U	041J640501
Endrin	6.6	3.3	UG/KG	U	041J640601
Endrin aldehyde	6.6	3.3	UG/KG	U	041J640601
Endrin ketone	6.6	3.3	UG/KG	U	041J640601
Total Endrin	9.9		UG/KG	U	041J640601
Endrin	9.9	4.95	UG/KG	U	041J640602
Endrin aldehyde	9.9	4.95	UG/KG	U	041J640602
Endrin ketone	9.9	4.95	UG/KG	U	041J640602
Total Endrin	14.85		UG/KG	U	041J640602
Endrin	8.2	4.1	UG/KG	U	041J640701
Endrin aldehyde	8.2	4.1	UG/KG	U	041J640701
Endrin ketone	8.2	4.1	UG/KG	U	041J640701
Total Endrin	12.3		UG/KG	U	041J640701
Endrin	16	8	UG/KG	U	041J642401
Endrin aldehyde	16	8	UG/KG	U	041J642401
Endrin ketone	16	8	UG/KG	U	041J642401
Total Endrin	24		UG/KG	U	041J642401
Maximum Detected Total Endrin	0				
Average Total Endrin	14.03				

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Operable Unit 2
Food Chain Model Fish Tissue Data

PARAMETER	RESULT	1/2 U VALUE	CONC UNITS	VQUAL	SAMPLE ID
Aroclor-1016	334	334	UG/KG		041J640101
Aroclor-1221	67	33.5	UG/KG	U	041J640101
Aroclor-1232	33	16.5	UG/KG	U	041J640101
Aroclor-1242	33	16.5	UG/KG	U	041J640101
Aroclor-1248	33	16.5	UG/KG	U	041J640101
Aroclor-1254	33	16.5	UG/KG	U	041J640101
Aroclor-1260	26	26	UG/KG	J	041J640101
Total PCBs	459.5		UG/KG	J	041J640101
Aroclor-1016	99	49.5	UG/KG	U	041J640202
Aroclor-1221	200	100	UG/KG	U	041J640202
Aroclor-1232	99	49.5	UG/KG	U	041J640202
Aroclor-1242	99	49.5	UG/KG	U	041J640202
Aroclor-1248	99	49.5	UG/KG	U	041J640202
Aroclor-1254	99	49.5	UG/KG	U	041J640202
Aroclor-1260	99	49.5	UG/KG	U	041J640202
Total PCBs	397		UG/KG	U	041J640202
Aroclor-1016	99	49.5	UG/KG	U	041J640301
Aroclor-1221	200	100	UG/KG	U	041J640301
Aroclor-1232	99	49.5	UG/KG	U	041J640301
Aroclor-1242	99	49.5	UG/KG	U	041J640301
Aroclor-1248	99	49.5	UG/KG	U	041J640301
Aroclor-1254	99	49.5	UG/KG	U	041J640301
Aroclor-1260	210	210	UG/KG		041J640301
Total PCBs	557.5		UG/KG		041J640301
Aroclor-1016	99	49.5	UG/KG	U	041J640302
Aroclor-1221	200	100	UG/KG	U	041J640302
Aroclor-1232	99	49.5	UG/KG	U	041J640302
Aroclor-1242	99	49.5	UG/KG	U	041J640302
Aroclor-1248	99	49.5	UG/KG	U	041J640302
Aroclor-1254	99	49.5	UG/KG	U	041J640302
Aroclor-1260	99	49.5	UG/KG	U	041J640302
Total PCBs	397		UG/KG	U	041J640302
Aroclor-1016	99	49.5	UG/KG	UJ	041J64030K
Aroclor-1221	200	100	UG/KG	UJ	041J64030K
Aroclor-1232	99	49.5	UG/KG	UJ	041J64030K
Aroclor-1242	99	49.5	UG/KG	UJ	041J64030K
Aroclor-1248	99	49.5	UG/KG	UJ	041J64030K
Aroclor-1254	99	49.5	UG/KG	UJ	041J64030K
Aroclor-1260	220	220	UG/KG	J	041J64030K
Total PCBs	567.5		UG/KG	J	041J64030K
Aroclor-1016	99	49.5	UG/KG	U	041J640501
Aroclor-1221	200	100	UG/KG	U	041J640501
Aroclor-1232	99	49.5	UG/KG	U	041J640501
Aroclor-1242	99	49.5	UG/KG	U	041J640501
Aroclor-1248	99	49.5	UG/KG	U	041J640501
Aroclor-1254	99	49.5	UG/KG	U	041J640501
Aroclor-1260	99	49.5	UG/KG	U	041J640501
Total PCBs	397		UG/KG	U	041J640501
Aroclor-1016	66	33	UG/KG	U	041J640601
Aroclor-1221	130	65	UG/KG	U	041J640601
Aroclor-1232	66	33	UG/KG	U	041J640601
Aroclor-1242	66	33	UG/KG	U	041J640601
Aroclor-1248	66	33	UG/KG	U	041J640601
Aroclor-1254	66	33	UG/KG	U	041J640601
Aroclor-1260	41	41	UG/KG	J	041J640601
Total PCBs	271		UG/KG	J	041J640601
Aroclor-1016	99	49.5	UG/KG	U	041J640602
Aroclor-1221	200	100	UG/KG	U	041J640602
Aroclor-1232	99	49.5	UG/KG	U	041J640602
Aroclor-1242	99	49.5	UG/KG	U	041J640602
Aroclor-1248	99	49.5	UG/KG	U	041J640602
Aroclor-1254	99	49.5	UG/KG	U	041J640602
Aroclor-1260	120	120	UG/KG	J	041J640602
Total PCBs	467.5		UG/KG	J	041J640602
Aroclor-1016	82	41	UG/KG	U	041J640701
Aroclor-1221	170	85	UG/KG	U	041J640701
Aroclor-1232	82	41	UG/KG	U	041J640701
Aroclor-1242	82	41	UG/KG	U	041J640701
Aroclor-1248	82	41	UG/KG	U	041J640701
Aroclor-1254	82	41	UG/KG	U	041J640701
Aroclor-1260	120	120	UG/KG		041J640701
Total PCBs	410		UG/KG		041J640701
Aroclor-1016	160	80	UG/KG	U	041J642401
Aroclor-1221	340	170	UG/KG	U	041J642401
Aroclor-1232	160	80	UG/KG	U	041J642401
Aroclor-1242	160	80	UG/KG	U	041J642401
Aroclor-1248	160	80	UG/KG	U	041J642401
Aroclor-1254	160	80	UG/KG	U	041J642401
Aroclor-1260	160	80	UG/KG	U	041J642401
Total PCBs	650		UG/KG	U	041J642401
Maximum Detected Total PCBs	567.5		UG/KG		
Average Total PCBs	457.4		UG/KG		

Wetland 64
Operable Unit 2
Food Chain Model Fish Tissue Data

PARAMETER	RESULT	1/2 U VALUE	CONC UNITS	VQUAL	SAMPLE ID
Dieldrin	0.66	0.66	UG/KG	J	041J640101
Dieldrin	9.9	4.95	UG/KG	U	041J640202
Dieldrin	9.9	4.95	UG/KG	U	041J640301
Dieldrin	9.9	4.95	UG/KG	U	041J640302
Dieldrin	9.9	4.95	UG/KG	UJ	041J64030K
Dieldrin	9.9	4.95	UG/KG	U	041J640501
Dieldrin	0.8	0.4	UG/KG	U	041J640601
Dieldrin	9.9	4.95	UG/KG	U	041J640602
Dieldrin	8.2	4.1	UG/KG	U	041J640701
Dieldrin	16	8	UG/KG	U	041J642401
Maximum Detected Dieldrin	0.66		UG/KG		
Average Dieldrin	8.51		UG/KG		
Mercury	0.018	0.009	MG/KG	U	041J640202
Mercury	0.024	0.012	MG/KG	U	041J640301
Mercury	0.024	0.012	MG/KG	U	041J640302
Mercury	0.028	0.028	MG/KG	J	041J64030K
Mercury	0.022	0.011	MG/KG	U	041J640501
Mercury	0.045	0.045	MG/KG	J	041J640602
Mercury	0.078	0.078	MG/KG	J	041J640701
Mercury	0.096	0.096	MG/KG		041J642401
Maximum Detected Mercury	0.10		MG/KG		
Average Mercury	0.04		MG/KG		

Appendix N

Human Health Toxicity

1.0 Aldrin – CAS Number 309002

Aldrin's former use as a pesticide resulted in its direct release to the environment. It is a colorless to dark brown crystalline solid (needles). If released to air, aldrin will exist solely in the vapor-phase in the ambient atmosphere. Vapor-phase aldrin will be degraded in the atmosphere. If released to soil, aldrin is expected to have moderate to no mobility. Volatilization from moist soil surfaces is expected to be an important fate process. However, adsorption to soil is expected to attenuate volatilization. Aldrin is converted to dieldrin in aerobic and biologically-active soils. If released into water, aldrin is expected to adsorb to suspended solids and sediment.

Aldrin was imported from Shell International (Holland) for formulation and limited use in the United States from 1974 to 1985, except when imports were temporarily ceased in 1979 and 1980. Between 1981 and 1985, an estimated 1-1.5 million pounds of aldrin were imported annually. EPA reports that aldrin has not been imported into the United States since 1985. The general population may be exposed to aldrin from former uses via ingestion of food and drinking water containing this compound based on its past uses and releases to the environment. Inhalation of contaminated air may be a significant route of exposure for persons living in aldrin-treated homes. Cessation of aldrin production and use is expected to eventually eliminate human exposure to the insecticide in the USA but will result in dieldrin exposure. Occupational exposure to aldrin may have occurred through inhalation and dermal contact with this compound at workplaces where aldrin was produced or used.

Human exposure could occur through ingestion, inhalation, and skin absorption. Rats were fed aldrin in their diet for 2 years, and liver lesions characteristic of chlorinated insecticide poisoning were observed. These lesions were characterized by enlarged centrilobular hepatic cells, with increased cytoplasmic oxyphilia, and peripheral migration of basophilic granules. A statistically significant increase in liver-to-body weight ratio was observed at all dose levels. Kidney lesions occurred at the highest dose levels.

Aldrin has been shown to cause increased incidence of liver tumors in rats. A statistically significant increase of hepatomas was reported in the treated animals as compared with controls. Human carcinogenicity data are inadequate. This compound is classified as B2 carcinogen by EPA's weight-of-evidence classification.

The following is a presentation of the toxicity information associated with **Aldrin**:

Noncarcinogenic Health Effects

- The Oral Chronic Reference Dose is 3.00E-05 (mg/kg-day).
- The Oral Chronic Reference Dose has a modifying factor of 1.
- The Oral Chronic Reference Dose has an uncertainty factor of 1000.
- The Oral Chronic Reference Dose is based on the Fitzhugh study from 1964.
- The Oral Chronic Reference Dose study critical effect is liver toxicity.
- The overall confidence in the Oral Chronic Reference Dose is medium.

Carcinogenic Health Effects

- The Oral Unit Risk is 4.90E-04 $(mg/L)^{-1}$.
- The Oral Slope Factor is 1.70E+01 $(mg/kg\text{-}day)^{-1}$.
- The Oral Slope Factor study target organ is the liver.

- The Oral Slope Factor study cancer type is liver carcinoma.
- The Oral Slope Factor is based on the Davis study from 1978.

2.0 alpha-HCH – CAS Number 319846

alpha-Hexachlorocyclohexane is referred to as alpha-HCH or alpha BHC and is produced in the manufacture of the broad spectrum insecticide lindane, along with a number of different HCH isomers. alpha-HCH is a solid pesticide that varies in color from brownish to white. It is slightly soluble in water and is soluble in alcohol. alpha-HCH's production and use as a component of the pesticide lindane may have resulted in its direct release to the environment through various waste streams. Lindane was banned in the U.S. and Europe. alpha-HCH can volatilize from moist soil surfaces; however, volatilization from dry soil is not expected to be a significant transport mechanism. Volatilization and dry deposition is an important transport mechanism for alpha-HCH, which has been identified in air, tap water, soil, food, human blood, and human milk and has been shown to bioconcentrate in aquatic organisms. Occupational exposure to alpha-HCH may occur through inhalation and dermal contact at workplaces where technical HCH is produced. The general population may be exposed to alpha-HCH from consumption of contaminated food.

No data are available on the systemic (non-carcinogenic) effects of alpha-HCH in humans. Dietary alpha-HCH has been shown to cause increased incidence of liver tumors in rats and mice. Liver nodules and hepatomas were observed. Long-term oral administration of α-HCH, β-HCH, γ- HCH, or technical-grade HCH to laboratory rodents produced liver cancer. The Department of Health and Human Services (DHHS) has determined that HCH (all isomers) may reasonably be anticipated to cause cancer in humans. The International Agency for Research on Cancer (IARC) has classified HCH (all isomers) as possibly carcinogenic to humans. The EPA has determined that there is suggestive evidence that lindane (γ-HCH) is carcinogenic, but the evidence is not sufficient to assess its human carcinogenic potential. The EPA has additionally classified technical HCH and α- HCH as probable human carcinogens, β-HCH as a possible human carcinogen, and δ and ε-HCH as not classifiable as to human carcinogenicity. This compound is classified as B2 carcinogen by EPA's weight-of-evidence classification.

The following is a presentation of the toxicity information associated with **alpha-HCH**:

Carcinogenic Health Effects

- The Oral Unit Risk is 1.80E-01 $(mg/L)^{-1}$.
- The Oral Slope Factor is 6.30E+00 $(mg/kg\text{-}day)^{-1}$.
- The Oral Slope Factor study target organ is liver.
- The Oral Slope Factor study cancer type is liver cancer.
- The Oral Slope Factor is based on the U.S. EPA study from 1973.
- The Dermal Slope Factor is 1.26E+01 $(mg/kg\text{-}day)^{-1}$.
- The Dermal Slope Factor is based on a gastrointestinal absorption factor of 0.5.

3.0 delta-HCH – CAS Number 319868

delta-Hexachlorocyclohexane is referred to as delta-HCH or delta-BHC and is a pesticide produced in the manufacture of the broad spectrum insecticide lindane, along with a number of different HCH isomers. delta-HCH is a solid crystals or platelets. It is slightly soluble in water and is soluble in alcohol. delta-HCH's production and use as a component of the pesticide lindane may have resulted in its direct release

to the environment through various waste streams. Lindane was banned in the U.S. and Europe, and non-gamma isomers may not be sold, manufactured, or distributed for use in the U.S. delta-HCH can volatilize from moist soil surfaces; however, volatilization from dry soil is not expected to be a significant transport mechanism. Vapor-phase delta-HCH will be degraded in the atmosphere. Volatilization and dry deposition is an important transport mechanism for delta-HCH. Occupational exposure to delta-HCH may occur through inhalation and dermal contact at workplaces where technical HCH is produced. The general population may be exposed to delta-HCH from consumption of contaminated food.

No data are available on the effects of delta-HCH in humans, and few animal data are available. delta-HCH is less toxic than lindane. delta-HCH is a class D chemical based on EPA's weight-of-evidence classification.

Toxicological values for lindane (gamma-BHC) were used as a surrogate for delta-HCH based on toxicological similarity.

4.0 gamma-BHC (Lindane) – CAS Number 58899

Lindance, also known as gamma-HCH or gamma-BHC, is an insecticide used to control a broad spectrum of phytophagous and soil-inhabiting insects, public-health pests, and animal ectoparasites. Lindane is a solid that varies from colorless, white, to yellow and is corrosive to metal. It is slightly soluble in water and is soluble in alcohol. Lindane's use resulted in its direct release to the environment through various waste streams. Lindane was banned in the U.S. and Europe. Lindane can volatilize from moist soil surfaces; however, volatilization from dry soil is not expected to be a significant transport mechanism. Volatilization and dry deposition is an important transport mechanism for lindane, which has been shown to bioconcentrate in aquatic organisms.

Occupational exposure to lindane may occur through inhalation of dust particles and dermal contact with this insecticide during or after its application or at workplaces where lindane is produced. The general population may be exposed to lindane via inhalation of ambient air, ingestion of contaminated food and drinking water, or dermal contact with medicinal products (scabicides, pediculicides, ectoparasiticides) containing this insecticide. Infants may be exposed to lindane via ingestion of contaminated breast milk.

Test organisms exposed to lindane were observed to have increased incidence of the following: liver hypertrophy, kidney tubular degeneration, hyaline droplets, tubular distension, interstitial nephritis, increased serum alkaline phosphatase, enlarged dark friable livers, and basophilic tubules.

Long-term oral administration of α-HCH, β-HCH, γ-HCH, or technical-grade HCH to laboratory rodents produced liver cancer. The Department of Health and Human Services (DHHS) has determined that HCH (all isomers) may reasonably be anticipated to cause cancer in humans. The International Agency for Research on Cancer (IARC) has classified HCH (all isomers) as possibly carcinogenic to humans. The EPA has determined that there is suggestive evidence that lindane (γ-HCH) is carcinogenic, but the evidence is not sufficient to assess its human carcinogenic potential. The EPA has additionally classified technical HCH and α-HCH as probable human carcinogens, β-HCH as a possible human carcinogen, and δ and ε-HCH as not classifiable as to human carcinogenicity. The USEPA carcinogenicity assessment for lifetime exposure weight of evidence characterization for lindane was assessed under the Health Effects Assessment Summary Tables program.

The following is a presentation of the toxicity information associated with **lindane**:

Noncarcinogenic Health Effects

- The Oral Chronic Reference Dose is 3.00E-04 (mg/kg-day).
- The Oral Chronic Reference Dose has a modifying factor of 1.
- The Oral Chronic Reference Dose has an uncertainty factor of 1000.
- The Oral Chronic Reference Dose is based on the Zoecon Corp. study from 1983.
- The Oral Chronic Reference Dose study critical effect is liver toxicity.
- The overall confidence in the Oral Chronic Reference Dose is medium.

Carcinogenic Health Effects

- The Oral Slope Factor is 1.30E+00 $(mg/kg\text{-}day)^{-1}$.

5.0 Arsenic, Inorganic - CAS Number 7440382

Arsenic is a naturally occurring element widely distributed in the earth's crust. In the environment, arsenic is combined with oxygen, chlorine, and sulfur to form inorganic arsenic compounds. Arsenic in animals and plants combines with carbon and hydrogen to form organic arsenic compounds. Inorganic arsenic compounds are mainly used to preserve wood. Organic arsenic compounds are used as pesticides, primarily on cotton plants. Arsenic cannot be destroyed in the environment. It can only change its form. Arsenic in air will settle to the ground or is washed out of the air by rain. Many arsenic compounds can dissolve in water. Fish and shellfish can accumulate arsenic, but the arsenic in fish is mostly in a form that is not harmful. The toxicity of inorganic arsenic depends on its valence state and also on the physical and chemical properties of the compound in which it occurs.

Water soluble inorganic arsenic compounds are absorbed through the gastrointestinal tract and lungs; distributed primarily to the liver, kidney, lung, spleen, aorta, and skin; and excreted mainly in the urine at rates as high as 80%. Symptoms of acute inorganic arsenic poisoning in humans are nausea, anorexia, vomiting, epigastric and abdominal pain, and diarrhea. Dermatitis (exfoliative erythroderma), muscle cramps, cardiac abnormalities, hepatotoxicity, bone marrow suppression and hematologic abnormalities (anemia), vascular lesions, and peripheral neuropathy (motor dysfunction, paresthesia) have also been reported. Oral doses as low as 20-60 g/kg/day have been reported to cause toxic effects in some individuals. Severe exposures can result in acute encephalopathy, congestive heart failure, stupor, convulsions, paralysis, coma, and death. The acute lethal dose to humans has been estimated to be about 0.6 mg/kg/day.

General symptoms of chronic arsenic poisoning in humans are weakness, general debility and lassitude, loss of appetite and energy, loss of hair, hoarseness of voice, loss of weight, and mental disorders. Primary target organs are the skin (hyperpigmentation and hyperkeratosis), nervous system (peripheral neuropathy), and vascular system. Anemia, leukopenia, hepatomegaly, and portal hypertension have also been reported. In addition, possible reproductive effects include a high male to female birth ratio.

Epidemiological studies have revealed an association between arsenic concentrations in drinking water and increased incidences of skin cancers, as well as cancers of the liver, bladder, respiratory and gastrointestinal tracts. Occupational exposure studies have shown a clear correlation between exposure to arsenic and lung cancer mortality. Several studies have shown that inorganic arsenic can increase the risk of lung cancer, skin cancer, bladder cancer, liver cancer, kidney cancer, and prostate cancer. The World Health Organization (WHO), the Department of Health and Human Services (DHHS), and the EPA have determined that inorganic arsenic is a human carcinogen and is classified: A; human carcinogen.

The following is a presentation of the toxicity information associated with **Arsenic**:

Noncarcinogenic Health Effects

- The Oral Chronic Reference Dose is 3.00E-04 (mg/kg-day).
- The Oral Chronic Reference Dose has a modifying factor of 1.
- The Oral Chronic Reference Dose has an uncertainty factor of 3.
- The Oral Chronic Reference Dose is based on the Tseng study from 1977.
- The Oral Chronic Reference Dose study critical effects are hyperpigmentation, keratosis, and possible vascular complications.
- The overall confidence in the Oral Chronic Reference Dose is medium.
- The Dermal Chronic Reference Dose is 1.23E-04 (mg/kg-day).
- The Dermal Chronic Reference Dose is based on a gastrointestinal absorption factor of 0.4100.

- The Oral Subchronic Reference Dose is 5.00E-03 (mg/kg-day).
- The Oral Subchronic Reference Dose has a modifying factor of 1.
- The Oral Subchronic Reference Dose has an uncertainty factor of 10.
- The Oral Subchronic Reference Dose is based on a human study (EPA 2002).
- The Oral Subchronic Reference Dose study critical effects are skin / hyperpigmentation and hyperkeratosis.
- The overall confidence in the Oral Subchronic Reference Dose is not listed.
- The Dermal Subchronic Reference Dose is 1.23E-04 (mg/kg-day).
- The Dermal Subchronic Reference Dose is based on a gastrointestinal absorption factor of 0.4100.

Carcinogenic Health Effects

- The Oral Unit Risk is 5.00E-02 $(mg/L)^{-1}$.
- The Oral Slope Factor is 1.50E+00 $(mg/kg\text{-}day)^{-1}$.
- The Oral Slope Factor study target organ is skin.
- The Oral Slope Factor study cancer type is skin cancer.
- The Oral Slope Factor is based on the U.S. EPA study from 1988.
- The Inhalation Slope Factor is 1.51E+01 $(mg/kg\text{-}day)^{-1}$.
- The Inhalation Unit Risk is 4.3E+00 $(mg/m3)^{-1}$.
- The Inhalation Risk study target organ is lung.
- The Inhalation Unit Risk study cancer type of lung cancer.
- The Inhalation Unit Risk is based on the Brown and Chu study from 1983.
- The Dermal Slope Factor is 3.66E+00 $(mg/kg\text{-}day)^{-1}$.
- The Dermal Slope Factor is based on a gastrointestinal absorption factor of 0.4100.

6.0 Benzene - CAS Number 71432

Benzene is widely used in the United States; it ranks in the top 20 chemicals for production volume. Benzene is a colorless organic liquid with a sweet odor. It evaporates into the air very quickly and dissolves slightly in water. It is highly flammable and is formed from both natural processes and human activities. Benzene. Benzene is used primarily in the production of other chemicals such as ethylbenzene, cumene, and cyclohexane. Benzene has also been used as a solvent, but this use is declining, coincidental with the replacement of benzene with other organic solvents. Benzene is emitted into the

workplace and the environment from industrial and other manmade sources, including gasoline from filling stations, smoking tobacco products, and auto exhaust.

Because of benzene's high vapor pressure, inhalation is the most likely route of exposure to the chemical, particularly in the workplace. Benzene is absorbed via ingestion, inhalation, and skin application. Experimental data indicate that humans can absorb up to 80% of inhaled benzene (after 5 minutes of exposure). Lethal oral doses of benzene are estimated to be 10 mL in humans. Nonlethal oral doses of benzene can impact the nervous, hematological, and immunological systems. Ingested and inhaled benzene produces symptoms of neurotoxicity at acute doses of 2 mL for humans. Inhalation of benzene vapor concentrations of 20,000 ppm for 5-10 minutes can be fatal to humans; death results from central nervous system depression.

Benzene is carcinogenic in humans by inhalation and in animals by the oral route of exposure. Occupational exposure to benzene has been associated mainly with increased incidences of acute myeloblastic or erythroblastic leukemias and chronic myeloid and lymphoid leukemias among workers. Studies in animals have demonstrated an association between oral and inhalation exposure to benzene and the development of a variety of tumors, including lymphoma and carcinomas of the Zymbal gland, oral cavity, mammary gland, ovaries, lung, and skin. Benzene has been placed in the EPA weight-of-evidence classification A, human carcinogen.

The following is a presentation of the toxicity information associated with **Benzene**:

Noncarcinogenic Health Effects

- The Oral Chronic Reference Dose is 4.00E-03 (mg/kg-day).
- The Oral Chronic Reference Dose has a modifying factor of 1.
- The Oral Chronic Reference Dose has an uncertainty factor of 300.
- The Oral Chronic Reference Dose is based on the Rothman et. al. study from 1996.
- The Oral Chronic Reference Dose study critical effect is decreased lymphocyte count.
- The Oral Chronic Reference Dose is based on human study.
- The overall confidence in the Oral Chronic Reference Dose is medium.
- The Inhalation Chronic Reference Concentration is 3.00E-02 (mg/m^3).
- The Inhalation Chronic Reference Concentration has a modifying factor of 1.
- The Inhalation Chronic Reference Concentration has an uncertainty factor of 300.
- The Inhalation Chronic Reference Concentration is based on the Rothman et. al. study from 1996.
- The Inhalation Chronic Reference Concentration study critical effects is decreased lymphocyte count.
- The Inhalation Chronic Reference Concentration is based on human study.
- The overall confidence in the Inhalation Chronic Reference Concentration is medium.
- The Inhalation Chronic Reference Dose (converted from the RfC) is 8.57E-03 (mg/kg-day).
- The Dermal Chronic Reference Dose is 3.88E-03 (mg/kg-day).
- The Dermal Chronic Reference Dose is based on a gastrointestinal absorption factor of 0.97.

Carcinogenic Health Effects

- The Oral Slope Factor is 5.50E-02 $(mg/kg\text{-}day)^{-1}$.

- The Oral Slope Factor study target organ is blood.
- The Oral Slope Factor study cancer type is leukemia.
- The Oral Slope Factor is based on the U.S. EPA study from 1999.
- The Inhalation Unit Risk is 7.8E-03 $(mg/m^3)^{-1}$.
- The Inhalation Unit Risk study target organ is blood.
- The Inhalation Unit Risk study cancer type is Leukemia.
- The Inhalation Unit Risk is based on the U.S. EPA study from 1998.
- The Inhalation Slope Factor (converted from the IUR) is 2.73E-02 $(mg/kg\text{-}day)^{-1}$.
- The Dermal Slope Factor is 5.67E-02 $(mg/kg\text{-}day)^{-1}$.
- The Dermal Slope Factor is based on a gastrointestinal absorption factor of 0.9700.

7.0 Benzo[a]pyrene - CAS Number 50328

Benzo[a]pyrene is one of many chemicals known as polycyclic aromatic hydrocarbons (PAH). It exists as yellowish plates and needles. Benzo[a]pyrene is practically insoluble in water but is soluble in benzene, toluene, xylene and sparingly soluble in alcohol and methanol. No current commercial production or use of benzo[a]pyrene is known. It occurs ubiquitously in products of incomplete combustion and in fossil fuels. It has been identified in surface water, tap water, rain water, groundwater, waste water, and sewage sludge. Benzo[a]pyrene is primarily released to the air and removed from the atmosphere by photochemical oxidation and dry deposition to land or water. Biodegradation is the most important transformation process in soil or sediment.

No data are available on the systemic (non-carcinogenic) effects of benzo[a]pyrene in humans. Benzo[a]pyrene is readily absorbed following inhalation, oral, and dermal routes of administration. Following inhalation exposure, benzo[a]pyrene is rapidly distributed to several tissues in rats. The metabolism of benzo[a]pyrene is complex and includes the formation of a proposed ultimate carcinogen, benzo[a]pyrene 7,8 diol-9,10-epoxide. Dietary administration of doses as low as 10 mg/kg during gestation caused reduced fertility and reproductive capacity in mice offspring, and treatment by gavage with 120 mg/kg/day during gestation caused stillbirths, resorptions, and malformations.

Numerous epidemiologic studies have shown a clear association between exposure to various mixtures of PAHs containing benzo[a]pyrene (e.g., coke oven emissions, roofing tar emissions, and cigarette smoke) and increased risk of lung cancer and other tumors. However, each of the mixtures also contained other potentially carcinogenic PAHs; therefore, it is not possible to evaluate the contribution of benzo[a]pyrene to the carcinogenicity of these mixtures. Based on United States Environmental Protection Agency (EPA) guidelines, benzo[a]pyrene was assigned to weight-of-evidence group B2, probable human carcinogen.

The following is a presentation of the toxicity information associated with **Benzo[a]pyrene**:

Carcinogenic Health Effects

- The Oral Slope Factor is 7.30E+00 $(mg/kg\text{-}day)^{-1}$.
- The Oral Slope Factor study target organ is forestomach.
- The Oral Slope Factor study cancer type is squamous cell papillomas and carcinomas.
- The Oral Slope Factor is based on the Neal and Rigdon study from 1967.
- The Inhalation Unit Risk is 8.8E-01 $(mg/m^3)^{-1}$.
- The Dermal Slope Factor is 2.35E+01 $(mg/kg\text{-}day)^{-1}$.
- The Dermal Slope Factor is based on a gastrointestinal absorption factor of 0.3100.

8.0 Benzo[b]fluoranthene - CAS Number 205992

Benzo[b]fluoranthene is a polycyclic aromatic hydrocarbon (PAH) with one five-membered carbon ring and four six-membered carbon rings. It is a crystalline solid that is virtually insoluble in water and is slightly soluble in benzene and acetone. There is no commercial production or known use of this compound. Benzo[b]fluoranthene is found in fossil fuels and occurs ubiquitously in products of incomplete combustion. It has been detected in mainstream cigarette smoke; urban air; gasoline engine exhaust; emissions from burning coal and from oil-fired heating; broiled and smoked food; oils and margarine; and in soils, groundwater, and surface waters at hazardous waste sites.

No absorption data were available for benzo[b]fluoranthene; however, by analogy to structurally-related PAHs, primarily benzo[a]pyrene, it would be expected to be absorbed from the gastrointestinal tract, lungs, and skin. No data were found concerning the acute, subchronic, chronic, developmental, or reproductive toxicity of benzo[b]fluoranthene in humans.

No long-term oral or inhalation bioassays were available to assess the carcinogenicity of benzo[b]fluoranthene in humans. Benzo[b]fluoranthene was tested for carcinogenicity in animals in dermal application, lung implantation, subcutaneous (s.c.) injection, and intraperitoneal (i.p.) injection studies. Dermal applications of 0.01-0.5% solutions of benzo[b]fluoranthene for life produced a high incidence of skin papillomas and carcinomas in mice. Sarcomas and carcinomas of the lungs and thorax were seen in rats receiving single lung implants of 0.1-1 mg benzo[b]fluoranthene. Newborn mice receiving 0.5 umol benzo[b]fluoranthene via i.p. injection developed liver and lung tumors and mice administered three s.c. injections of 0.6 mg benzo[b]fluoranthene developed injection site sarcomas.

Based on no human data and sufficient evidence for carcinogenicity in animals, EPA has assigned a weight-of-evidence classification of B2, probable human carcinogen, to benzo[b]fluoranthene.

The following is a presentation of the toxicity information associated with **Benzo[b]fluoranthene**:

Carcinogenic Health Effects

- The Oral Slope Factor is 7.30E-01 $(mg/kg\text{-}day)^{-1}$.
- The Inhalation Unit Risk is 8.8E-02 $(mg/m^3)^{-1}$.
- The Dermal Slope Factor is 2.35E+00 $(mg/kg\text{-}day)^{-1}$.
- The Dermal Slope Factor is based on a gastrointestinal absorption factor of 0.3100.

9.0 Bis(2-ethylhexyl)phthalate - CAS Number 117817

Bis(2-ethylhexyl)phthalate or di(2-ethylhexyl)phthalate (DEHP) is a clear oily liquid and is practically insoluble in water. Bis(2-ethylhexyl)phthalate is primarily used in the plastics industry as a plasticizer with such varied applications as wire insulation, food packaging and biomedical applications such as tubing and blood containers. Other uses include vacuum pump oil and as a dielectric fluid in capacitors. The combined annual production of dioctyl phthalates in the United States exceeds 300 million pounds. The wide-spread uses of bis(2-ethylhexyl)phthalate have made the compound, along with other phthalic acid esters, ubiquitous in the environment. It has been detected in ground water, surface water, drinking water, air, soil, plants, fish and animals.

There is no evidence that DEHP causes serious health effects in humans. Most of what we know about the health effects of DEHP comes from high exposures to rats and mice. Brief exposure to very high levels of DEHP in food or water damaged sperm, but the effect reversed when DEHP was removed from the diet. Longer exposures to high doses affected the ability of both males and females to reproduce and caused birth defects. High levels of DEHP damaged the livers of rats and mice. Long exposures of rats to DEHP caused kidney damage similar to the damage seen in the kidneys of long-term dialysis patients. Whether or not DEHP contributes to human kidney damage, is unclear at present. Health effects from skin contact with products containing DEHP do not cause harmful effects because it cannot be taken up easily through the skin.

There is no direct evidence in any study on humans exposed to bis(2-ethylhexyl)phthalate that it causes cancer. Bis(2-ethylhexyl)phthalate is known to induce the proliferation of peroxisomes, which has been associated with carcinogenesis. Dose-dependent, statistically-significant increases in the incidences of hepatocellular carcinomas and combined carcinomas and adenomas were seen in mice and rats exposed to bis(2-ethylhexyl)phthalate in their diet. An increased incidence of neoplastic nodules and hepatocellular carcinomas was also reported in exposed rats.

Based on U.S. EPA guidelines, bis(2-ethylhexyl)phthalate was assigned to weight-of-evidence Group B2, probable human carcinogen, on the basis of an increased incidence of liver tumors in rats and mice.

The following is a presentation of the toxicity information associated with **Bis(2-ethylhexyl)phthalate**:

Noncarcinogenic Health Effects

- The Oral Chronic Reference Dose is 2.00E-02 (mg/kg-day).
- The Oral Chronic Reference Dose has a modifying factor of 1.
- The Oral Chronic Reference Dose has an uncertainty factor of 1000.
- The Oral Chronic Reference Dose is based on the Carpenter et al. study from 1953.
- The Oral Chronic Reference Dose study target organ is liver.
- The Oral Chronic Reference Dose study critical effect is increased relative weight.
- The overall confidence in the Oral Chronic Reference Dose is medium.
- The Dermal Chronic Reference Dose is 3.80E-03 (mg/kg-day).
- The Dermal Chronic Reference Dose is based on a gastrointestinal absorption factor of 0.1900.

Carcinogenic Health Effects

- The Oral Slope Factor is 1.40E-02 $(mg/kg\text{-}day)^{-1}$.
- The Oral Slope Factor study target organ is liver.
- The Oral Slope Factor study cancer type is carcinoma and adenoma.
- The Oral Slope Factor is based on the NTP study from 1982.
- The Dermal Slope Factor is 7.37E-02 $(mg/kg\text{-}day)^{-1}$.
- The Dermal Slope Factor is based on a gastrointestinal absorption factor of 0.1900.

10.0 Chlordane - CAS Number 57749

Chlordane is a manufactured chemical that was used as a pesticide in the United States from 1948 to 1988; it does not occur naturally in the environment. Technical chlordane is not a single chemical, but is

actually a mixture of pure chlordane mixed with many related chemicals. It is a thick liquid whose color ranges from colorless to amber. Chlordane has a mild, irritating smell. Some of its trade names are Octachlor and Velsicol 1068. Until 1983, chlordane was used as a pesticide on crops like corn and citrus and on home lawns and gardens. Because of concern about damage to the environment and harm to human health, the Environmental Protection Agency (EPA) banned all uses of chlordane in 1983 except to control termites. In 1988, EPA banned all uses.

Chlordane is readily absorbed after oral, inhalation, or dermal exposure and is stored in adipose tissue. Death in humans from ingestion of chlordane was accompanied by vomiting, dry cough, agitation, restlessness, hemorrhagic gastritis, bronchopneumonia, muscle twitching, and convulsions. Headaches, irritability, confusion, weakness, vision problems, vomiting, stomach cramps, diarrhea, and jaundice have occurred in humans who breathed air containing high concentrations of chlordane or accidentally swallowed small amounts of chlordane. Large amounts of chlordane taken by mouth can cause convulsions and death in humans. Animals given high levels of chlordane by mouth for short periods died or had convulsions. Long-term exposure caused harmful effects in the liver of test animals.

Exposure of humans from chlordane treated homes has been associated with leukemia. An increased risk of non-Hodgkin's lymphoma has been found among farmers exposed to chlordane 20 or more days per year. Hepatic carcinomas and hepatocellular adenomas have been described for several strains of male and female mice and male rats given chlordane in the diet. EPA has classified chlordane as group B2, probable human carcinogen on the basis of benign and malignant liver tumor induction in four strains of male and female mice and in male rats treated with chlordane in the diet.

The following is a presentation of the toxicity information associated with **Chlordane**.

Noncarcinogenic Health Effects

- The Oral Chronic Reference Dose is 5.00E-04 (mg/kg-day).
- The Oral Chronic Reference Dose has a modifying factor of 1.
- The Oral Chronic Reference Dose has an uncertainty factor of 300.
- The Oral Chronic Reference Dose is based on the Khasawinah and Grutsch study from 1989.
- The Oral Chronic Reference Dose study target organ is liver.
- The Oral Chronic Reference Dose study critical effect is necrosis.
- The overall confidence in the Oral Chronic Reference Dose is medium.
- The Inhalation Chronic Reference Concentration is 7.00E-04 (mg/m^3).
- The Inhalation Chronic Reference Concentration has a modifying factor of 1.
- The Inhalation Chronic Reference Concentration has an uncertainty factor of 1000.
- The Inhalation Chronic Reference Concentration is based on the Khawawinah et al. study from 1989.
- The Inhalation Chronic Reference Concentration study target organ is liver.
- The Inhalation Chronic Reference Concentration study critical effect is effects.
- The overall confidence in the Inhalation Chronic Reference Concentration is low.
- The Dermal Chronic Reference Dose is 2.50E-04 (mg/kg-day).
- The Dermal Chronic Reference Dose is based on a gastrointestinal absorption factor of 0.5000.

Carcinogenic Health Effects

- The Oral Slope Factor is 3.50E-01 $(mg/kg\text{-}day)^{-1}$.
- The Oral Slope Factor study target organ is liver.
- The Oral Slope Factor study cancer type is carcinoma.
- The Oral Slope Factor is based on the Khasawinah and Grutsch study from 1989.
- The Inhalation Unit Risk is 1.0E-01 $(mg/m^3)^{-1}$.
- The Inhalation Unit Risk study target organ is liver.
- The Inhalation Unit Risk study cancer type is carcinoma.
- The Inhalation Unit Risk is based on the Khasawinah and Grutsch study from 1989.
- The Dermal Slope Factor is 7.00E-01 $(mg/kg\text{-}day)^{-1}$.
- The Dermal Slope Factor is based on a gastrointestinal absorption factor of 0.5000.

11.0 DDD - CAS Number 72548

2,2-Bis(p-chlorophenyl)-1,1-dichloroethane's (DDD) former production and use as a nonsystemic contact and stomach insecticide has resulted in its widespread environmental release. DDD is also a metabolite of 2,2-bis(p-chlorophenyl)-1,1,1-trichloroethane (DDT), and the former use of DDT has resulted in the release of DDD to the environment. If released to air, DDD will exist in both the vapor and particulate phases in the ambient atmosphere. Vapor-phase DDD will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 4 days. Particulate-phase DDD will be removed from the atmosphere by wet and dry deposition.

If released to soil, DDD is expected to have no mobility. Volatilization from moist soil surfaces is expected to be an important fate process; however, adsorption may attenuate this process. DDD is not expected to volatilize from dry soil surfaces. DDD is generally considered recalcitrant, with a reported half-life of 160 days in anaerobic soil.

If released into water, DDD is expected to adsorb to suspended solids and sediment. Volatilization from water surfaces is expected to be an important fate process. However, volatilization from water surfaces is expected to be severely attenuated by adsorption to suspended solids and sediment in the water column. Estimated volatilization half-lives for a model river and model lake are 10 and 79 days, respectively, if adsorption is neglected. The volatilization half-life from a model pond is about 81 years when adsorption is considered. Biodegradation of DDD in water is expected to be very slow. No degradation of DDD exposed to ocean sediments in seawater under aerobic and anaerobic conditions was observed after a 12 month incubation period. DDD undergoes base catalyzed hydrolysis with a half-life of 570 days at pH 9. The hydrolysis rate of DDD under acidic conditions is slow, with a reported half-life of 190 years. BCF values of 51,000 to 83,200 measured in fish suggest that bioconcentration in aquatic organisms is very high.

Occupational exposure may occur through inhalation and dermal contact with this compound at workplaces where mitotane is produced or used. Although DDD is no longer registered for agricultural use in the US, the general population continues to be exposed to this compound due to its persistence. Oral ingestion of food is the primary source of exposure for the general population. Ingestion of contaminated drinking water, inhalation of contaminated air and dermal contact with contaminated soil surfaces are also possible routes of human exposure. There have been continual decreases in the overall levels of residues of DDE in all classes of food from 1965 to 1975.

The evidence for human carcinogenicity weight-of-evidence characterization classification is B2, probable human carcinogen, based on an increased incidence of lung tumors in male and female mice, liver tumors in male mice and thyroid tumors in male rats. DDD is structurally similar to, and is a known metabolite of DDT, a probable human carcinogen.

Carcinogenic Health Effects

- The Oral Slope Factor is 2.40E-01 $(mg/kg\text{-}day)^{-1}$.
- The Oral Slope Factor study target organ is liver.
- The Oral Slope Factor study cancer type is increased liver tumor incidence.
- The Oral Slope Factor is based on the Tomatis et al. study from 1974.

12.0 DDE - CAS Number 72559

2,2-Bis(p-chlorophenyl)-1,1-dichloroethene (DDE) is an impurity in the formerly manufactured and used pesticide 2,2-bis(p-chlorophenyl)-1,1,1-trichloroethane (DDT), as well as a degradation product of DDT and therefore has been released to the environment as a result of the use of DDT as an insecticide. If released to air, DDE will exist in both the vapor and particulate phases in the ambient atmosphere. Vapor-phase DDE will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 2 days. DDE may also undergo direct photolysis in the environment since it absorbs light greater than 290 nm. The reported atmospheric half-life in sunlight at 40 deg latitude was calculated to range from 0.9 days in summer to 6.1 days in winter. Particulate-phase DDE will be removed from the atmosphere by wet and dry deposition.

If released to soil, DDE is expected to have no mobility. Volatilization from moist soil surfaces is expected to be an important fate process; however, adsorption may attenuate this process. DDE is not expected to volatilize from dry soil surfaces based on its vapor pressure. p,p'-DDE was less than 1% mineralized in flooded soils during a 42 day incubation period, suggesting biodegradation in soil surfaces is very slow.

If released into water, DDE is expected to adsorb to suspended solids and sediment in water based upon the Koc data. Volatilization from water surfaces is expected to be an important fate process based upon this compound's Henry's Law constant. However, volatilization from water surfaces is expected to be severely attenuated by adsorption to suspended solids and sediment in the water column. Estimated volatilization half-lives for a model river and model lake are 2 and 18 days, respectively, if adsorption is neglected. The volatilization half-life from a model pond is about 5 years when adsorption is considered. Biodegradation of DDE in water is expected to be very slow. No degradation of DDE exposed to ocean sediments in seawater under aerobic and anaerobic conditions was observed after a 12 month incubation period. The hydrolysis rate of DDE under environmental conditions is very slow, with a reported half-life of 120 years at 27 deg C and pH 3-5. Photolysis in sunlit surface water is expected to be an important fate process. Half-lives of 15 and 26 hours were reported for photolysis of DDE in water solutions irradiated at 310-410 nm. BCF values of 27,500 to 81,000 measured in fish, suggest that bioconcentration in aquatic organisms is very high.

Although DDT is no longer registered for agricultural use in the US, the general population continues to be exposed to DDE due to its long persistence time. Although concentrations are continuously decreasing, monitoring data continues to show levels of DDT, DDD and DDE in environmental media. Oral ingestion of food is the primary source of exposure for the general population. Ingestion of contaminated drinking water, inhalation of contaminated air and dermal contact with contaminated soil surfaces are also possible routes of human exposure.

The evidence for human carcinogenicity weight-of-evidence characterization classification is B2, probable human carcinogen, based on an increased incidence of lung tumors in male and female mice, liver tumors in male mice and thyroid tumors in male rats. DDE is structurally similar to, and is a known metabolite of DDT, a probable human carcinogen.

Carcinogenic Health Effects

- The Oral Slope Factor is 3.40E-01 $(mg/kg\text{-}day)^{-1}$.
- The Oral Slope Factor study target organ is liver.
- The Oral Slope Factor study cancer type is increased liver tumor incidence.
- The Oral Slope Factor is based on the Tomatis et al. study from 1974, the NCI study from 1978, and the Rossi et al. study from 1983.

13.0 DDT - CAS Number 50293

2,2'-Bis(p-chlorophenyl)-1,1,1-trichloroethane's (DDT) former production and use as a broad spectrum pesticide has resulted in its widespread environmental release. If released to air, a vapor pressure of 1.6X10-7 mm Hg at 25 deg C indicates DDT will exist in both the vapor and particulate phases in the ambient atmosphere. Vapor-phase DDT will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 5 days. Particulate-phase DDT will be removed from the atmosphere by wet and dry deposition.

If released to soil, DDT is expected to have no mobility. Volatilization from moist soil surfaces is expected to be an important fate process; however adsorption may attenuate this process. The volatilization half-life of DDT from a soil in Kenya was reported as 110 days. DDT is generally considered recalcitrant under aerobic conditions in soil surfaces, but may undergo biodegradation under anaerobic conditions. It was reported that the mean lifetime of DDT in temperate US soils is about 5.3 years.

If released into water, DDT is expected to adsorb to suspended solids and sediment in water. Volatilization from water surfaces is expected to be an important fate process based upon this compound's Henry's Law constant but the Koc values would suggest that volatilization will be seriously attenuated. DDT undergoes base catalyzed hydrolysis with a half-life of 81 days at pH 9 and the product formed in the hydrolysis reaction is DDE. The hydrolysis rate of DDT under acidic conditions is very slow, with a reported half-life of 12 years at 27 deg C and pH 3-5. BCF values of 600 to 84,500 measured in fish, suggest that bioconcentration in aquatic organisms is very high.

Although DDT is no longer used in the US, the general population continues to be exposed to this compound due to its long persistence time. Oral ingestion of food is the primary source of exposure for the general population. Ingestion of contaminated drinking water, inhalation of contaminated air and dermal contact with contaminated soil surfaces are also possible routes of human exposure.

Weanling rats were fed DDT, and study organisms stored DDT in peripheral fat. Increasing hepatocellular hypertrophy, especially centrilobularly, increased cytoplasmic oxyphilia, and peripheral basophilic cytoplasmic granules (based on H and E paraffin sections) were observed. No effects were reported at 1 ppm, the NOEL level used as the basis for the RfD calculation. DDT-induced liver effects were observed in mice, hamsters and dogs as well.

The Laug et al. (1950) study was chosen for the RfD calculation because: 1) male rats appear to be the most sensitive animals to DDT exposure; 2) the study was of sufficient length to observe toxic effects; and 3) several doses were administered in the diet over the range of the dose-response curve. This study also established a LOAEL and a NOEL, with the LOAEL (0.25 mg/kg/day) being the lowest of any observed for this compound.

The evidence for human carcinogenicity weight-of-evidence characterization classification is B2, probable human carcinogen, based on an increased incidence of lung tumors in male and female mice, liver tumors in male mice and thyroid tumors in male rats.

Noncarcinogenic Health Effects

- The Oral Chronic Reference Dose is 5.00E-04 (mg/kg-day).
- The Oral Chronic Reference Dose has a modifying factor of 1.
- The Oral Chronic Reference Dose has an uncertainty factor of 100.
- The Oral Chronic Reference Dose is based on the Laud et al. study from 1950.
- The Oral Chronic Reference Dose study target organ is liver.
- The Oral Chronic Reference Dose study critical effect is liver lesions.
- The overall confidence in the Oral Chronic Reference Dose is medium.

Carcinogenic Health Effects

- The Oral Slope Factor is 3.40E-01 $(mg/kg\text{-}day)^{-1}$.
- The Oral Slope Factor study target organ is liver.
- The Oral Slope Factor study cancer type is increased liver tumor incidence.
- The Oral Slope Factor is based on the Terracini et al. study from 1973 and the Turusov et al. study from 1973.

14.0 Methylene Chloride - CAS Number 75092

Methylene chloride, also known as also known as dichloromethane, is a colorless organic liquid with a penetrating ether-like odor that does not occur naturally in the environment. Methylene chloride is used as a solvent in paint removers, degreasing agents, and aerosol propellants; as a polyurethane foam-blowing agent; as a process solvent in the pharmaceutical industry; and as an extraction solvent for spice oleoresins, hops, and caffeine.

Methylene chloride is readily absorbed from the lungs, the digestive tract, and to some extent through the skin. Breathing large amounts of methylene chloride may cause unsteadiness, dizziness, nausea, and a tingling or numbness of fingers and toes. Breathing smaller amounts of methylene chloride may decrease attention and accuracy in tasks requiring hand-eye coordination. Skin contact with methylene chloride causes burning and redness of the skin.

The primary adverse health effects associated with methylene chloride exposure are central nervous system (CNS) depression and mild liver effects. Neurological symptoms described in individuals occupationally exposed to methylene chloride included headaches, dizziness, nausea, memory loss, paresthesia, tingling hands and feet, and loss of consciousness. Major effects following acute inhalation exposure include fatigue, irritability, analgesia, narcosis, and death.

It is not known whether methylene chloride causes cancer in humans. Studies of workers exposed to methylene chloride have not recorded a significant increase in cancer cases above the number of cases expected for nonexposed workers; however, an increased cancer risk was seen in mice breathing large amounts of methylene chloride for a long time. Tumors were found in lungs and liver of exposed mice. Rats showed increases of benign mammary tumors. Based on inadequate evidence of carcinogenicity in humans and sufficient evidence in animals, U.S. EPA has placed methylene chloride in weight-of-evidence group B2, probable human carcinogen.

The following is a presentation of the toxicity information associated with **Methylene Chloride**.

Noncarcinogenic Health Effects

- The Oral Chronic Reference Dose is 6.00E-02 (mg/kg-day).
- The Oral Chronic Reference Dose has a modifying factor of 1.
- The Oral Chronic Reference Dose has an uncertainty factor of 100.
- The Oral Chronic Reference Dose is based on the National Coffee Association study from 1982.
- The Oral Chronic Reference Dose study target organ is liver.
- The Oral Chronic Reference Dose study critical effect is toxicity.
- The overall confidence in the Oral Chronic Reference Dose is medium.
- The Inhalation Chronic Reference Concentration is 3.00E+00 (mg/m^3).
- The Inhalation Chronic Reference Concentration has a modifying factor of 1.
- The Inhalation Chronic Reference Concentration has an uncertainty factor of 100.
- The Inhalation Chronic Reference Concentration is based on the U.S. EPA study from 1989.
- The Inhalation Chronic Reference Concentration study target organ is liver.
- The Inhalation Chronic Reference Concentration study critical effect is toxicity.
- The Dermal Chronic Reference Dose is 5.70E-02 (mg/kg-day).
- The Dermal Chronic Reference Dose is based on a gastrointestinal absorption factor of 0.9500.

Carcinogenic Health Effects

- The Oral Slope Factor is 7.50E-03 $(mg/kg\text{-}day)^{-1}$.
- The Oral Slope Factor study target organ is liver.
- The Oral Slope Factor study cancer types are adenomas, carcinomas, nodules.
- The Oral Slope Factor is based on the NTP study from 1986.
- The Inhalation Unit Risk is 4.7E-04 $(mg/m^3)^{-1}$.
- The Inhalation Unit Risk study target organs are liver and lung.
- The Inhalation Unit Risk study cancer types are adenomas and carcinomas.
- The Inhalation Unit Risk is based on the NTP study from 1986.
- The Dermal Slope Factor is 7.89E-03 $(mg/kg\text{-}day)^{-1}$.
- The Dermal Slope Factor is based on a gastrointestinal absorption factor of 0.9500.

15.0 N-Nitrosodi-n-propylamine - CAS Number 621647

There is no evidence that N-nitrosodi-n-propylamine is produced commercially. However it has been identified as a contaminant in dinitrotrifluralin herbicides, and thus may be released to the environment when these herbicides are used and from spills, as well as from some industrial effluents. If released to air, N-nitrosodi-n-propylamine will exist solely as a vapor in the ambient atmosphere. Vapor-phase N-nitrosodi-n-propylamine is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 16 hr. N-Nitrosodi-n-propylamine is readily photolyzed in air forming N,N-dipropylnitramine in 5 to 7 hours in a photoreactor irradiated with simulated sunlight.

If released to soil, N-nitrosodi-n-propylamine is expected to have high mobility. A large fraction of the chemical will rapidly volatilize if released onto the soil surface, as opposed to being incorporated into the soil. N-Nitrosodi-n-propylamine readily photolyzes and would be expected to photolyze on the soil surface. N-Nitrosodi-n-propylamine's half-life in aerobic soils under laboratory conditions was about 3 weeks with volatilization and biodegradation the primary removal processes.

If released into water, N-nitrosodi-n-propylamine is not expected to adsorb to suspended solids and sediment in the water column. The major degradative process for N-nitrosodi-n-propylamine in surface water is expected to be photolysis where studies have shown thon may occur in 8 hours of exposure to sunlight. A Henry's Law constant of 5.38X10-6 atm-cu m/mole suggests N-nitrosodi-n-propylamine is expected to volatilize slowly from water surfaces. Estimated volatilization half-lives from a model river and model lake are 7.9 and 61 days, respectively. The potential for bioconcentration in aquatic organisms is low based upon an estimated BCF of 6. Experimental data suggest hydrolysis is not expected to be an important process.

Exposure to N-nitrosodi-n-propylamine would be primarily occupational via inhalation and dermal contact. Since N-nitrosodi-n-propylamine has been found as an impurity in the herbicide trifluralin, workers who apply trifluralin or come into contact with treated crops, or receptors downgradient from a spray drift formed during application may be exposed to N-nitrosodi-n-propylamine. It has been estimated that air, diet, and smoking all play a roughly equivalent role in direct human exposure to preformed N-Nitrosamine contributing a few micrograms per day, with direct intake from drinking water probably much less than 1 ug/day.

No data are available on the systemic (non-carcinogenic) effects of N-nitrosodi-n-propylamine in humans. This compound increased tumor incidence at multiple sites in two rodent species and in monkeys administered the compound by various routes. Human studies are inadequate to classify this compound as a human carcinogen. Consequently, it is a B2 carcinogen by EPA's weight-of-evidence classification.

The following is a presentation of the toxicity information associated with **N-nitrosodi-n-propylamine**:

Carcinogenic Health Effects

- The Oral Unit Risk is 2.00E-04 $(mg/L)^{-1}$.
- The Oral Slope Factor is 7.00E+00 $(mg/kg\text{-}day)^{-1}$.
- The Oral Slope Factor study target organ is liver.

- The Oral Slope Factor study cancer type is liver cancer.
- The Oral Slope Factor is based on the Druckrey et al. study from 1967.

16.0 PCB Aroclor® 1254 - CAS Number 11097691

Aroclor® 1254 is a is a viscous, light yellow liquid polychlorinated biphenyl (PCB) mixture containing approximately 21% $C_{12}H_6Cl_4$, 48% $C_{12}H_5Cl_5$, 23% $C_{12}H_4Cl_6$, and 6% $C_{12}H_3Cl_7$ with an average chlorine content of54%. PCBs are inert, thermally and physically stable, and have dielectric properties. In the environment, the behavior of PCB mixtures is directly correlated to the degree of chlorination. They have been used in closed systems such as heat transfer liquids, hydraulic fluids and lubricants, and in open systems such as plasticizers, surface coatings, inks, adhesives, pesticide extenders, and for microencapsulation of dyes for carbonless duplicating papers. Aroclor® is strongly sorbed to soil and remains immobile when leached with water; however, the mixture is highly mobile in the presence of organic solvents. PCBs are resistant to chemical degradation by oxidation or hydrolysis. PCBs have high bioconcentration factors and tend to accumulate in the fat of fish, birds, mammals, and humans.

PCBs are absorbed after oral, inhalation, or dermal exposure and are stored in adipose tissue. The major route of PCB excretion is in the urine and feces; however, more important is the elimination in human milk. Accidental human poisonings and data from occupational exposure to PCBs suggest initial dermal and mucosal disturbances followed by systemic effects that may manifest themselves several years post-exposure. Initial effects are enlargement and hypersecretion of the Meibomian gland of the eye, swelling of the eyelids, pigmentation of the fingernails and mucous membranes, fatigue, and nausea. These effects were followed by hyperkeratosis, darkening of the skin, acneform eruptions, edema of the arms and legs, neurological symptoms, such as headache and limb numbness, and liver disturbance.

Data are suggestive but not conclusive concerning the carcinogenicity of PCBs in humans. However, hepatocellular carcinomas in three strains of rats and two strains of mice have led the EPA to classify PCBs as group B2, probable human carcinogen.

The following is a presentation of the toxicity information associated with **Aroclor-1254**:

Noncarcinogenic Health Effects

- The Oral Chronic Reference Dose is 2.00E-05 (mg/kg-day).
- The Oral Chronic Reference Dose has a modifying factor of 1.
- The Oral Chronic Reference Dose has an uncertainty factor of 300.
- The Oral Chronic Reference Dose is based on the Arnold study from 1994.
- The Oral Chronic Reference Dose study critical effects are ocular exudate, inflamed and prominent Meibomian glands.
- The overall confidence in the Oral Chronic Reference Dose is medium.
- The Dermal Chronic Reference Dose is 1.80E-05 (mg/kg-day).
- The Dermal Chronic Reference Dose is based on a gastrointestinal absorption factor of 0.9000.

Carcinogenic Health Effects

- The Oral Slope Factor is for exposure to soil or food is 2.00E+00 (mg/kg-day)-1.
- The Oral Slope Factor is for exposure to water is 4.00E-01 (mg/kg-day)-1.

- The Inhalation Unit Risk for exposure to soil or food is 5.7E-01 (mg/m3)-1.
- The Inhalation Unit Risk for exposure to water is 1.0E-01 (mg/m3)-1.
- The Dermal Slope Factor for exposure to soil or food is 2.22E+00 (mg/kg-day)-1.
- The Dermal Slope Factor for exposure to water is 4.44E-01 (mg/kg-day)-1.
- The Dermal Slope Factors are based on a gastrointestinal absorption factor of 0.9000.

17.0 PCB Aroclor® 1260 - CAS Number 11096825

Aroclor® 1260 is a colorless, liquid polychlorinated biphenyl (PCB) mixture containing approximately 38% $C_{12}H_4Cl_6$, 41% $C_{12}H_3Cl_7$, 8% $C_{12}H_2Cl_8$, and 12% $C_{12}H_5Cl_5$ with an average chlorine content of 60%. PCBs are inert, thermally and physically stable, and have dielectric properties. They have been used in closed systems such as heat transfer liquids, hydraulic fluids and lubricants, and in open systems such as plasticizers, surface coatings, inks, adhesives, pesticide extenders, and for microencapsulation of dyes for carbonless duplicating papers. In the environment, the behavior of PCB mixtures is directly correlated to the degree of chlorination. Aroclor® is strongly sorbed to soil and remains immobile when leached with water; however, the mixture is highly mobile in the presence of organic solvents. PCBs are resistant to chemical degradation by oxidation or hydrolysis. PCBs have high bioconcentration factors, and tend to accumulate in the fat of fish, birds, mammals, and humans. In humans, relatively greater amounts of PCBs have also been identified in skin, liver, and breast milk.

PCBs are absorbed after oral, inhalation, or dermal exposure and are stored in adipose tissue. Accidental human poisonings and data from occupational exposure to PCBs suggest initial dermal and mucosal disturbances followed by systemic effects that may manifest themselves several years post-exposure. Initial effects are enlargement and hypersecretion of the Meibomian gland of the eye, swelling of the eyelids, pigmentation of the fingernails and mucous membranes, fatigue, and nausea. These effects were followed by hyperkeratosis, darkening of the skin, acneform eruptions, edema of the arms and legs, neurological symptoms, such as headache and limb numbness, and liver disturbance. Hepatotoxicity is a prominent effect of PCBs, including Aroclor® 1260, that has been well characterized. Effects include hepatic microsomal enzyme induction, increased serum levels of liver-related enzymes (indicative of hepatocellular damage), liver enlargement, lipid deposition, fibrosis, and necrosis.

Data are suggestive but not conclusive concerning the carcinogenicity of PCBs in humans. However, hepatocellular carcinomas in three strains of rats and two strains of mice have led the EPA to classify PCBs as group B2, probable human carcinogen.

The following is a presentation of the toxicity information associated with **Aroclor-1260**:

Carcinogenic Health Effects

- The Oral Slope Factor is for exposure to soil or food is 2.00E+00 (mg/kg-day)-1.
- The Oral Slope Factor is for exposure to water is 4.00E-01 (mg/kg-day)-1.
- The Inhalation Unit Risk for exposure to soil or food is 5.7E-01 (mg/m3)-1.
- The Inhalation Unit Risk for exposure to water is 1.0E-01 (mg/m3)-1.
- The Dermal Slope Factor for exposure to soil or food is 2.22E+00 (mg/kg-day)-1.
- The Dermal Slope Factor for exposure to water is 4.44E-01 (mg/kg-day)-1.
- The Dermal Slope Factors are based on a gastrointestinal absorption factor of 0.9000.

18.0 Pyrene - CAS Number 129000

Pyrene, also known as benzo(def)phenanthrene, is a polycyclic aromatic hydrocarbon (PAH) with four aromatic carbon rings. Pure pyrene is a colorless crystalline solid at ambient temperature; the presence of tetracene, a common contaminant, gives it a yellow color. Pyrene can be derived from coal tar, but there is no commercial production or known commercial use of this compound. Pyrene from coal tar has been used as the starting material for the synthesis of benzo[a]pyrene.

Human exposure to pyrene occurs primarily through inhalation of tobacco smoke and polluted air and by ingestion of water polluted by combustion effluents. Pyrene is common in the environment as a product of incomplete combustion and has been identified in water, food, and in the air. Although a large body of literature exists on the toxicity and carcinogenicity of other PAHs, toxicity data for pyrene are limited. No human data were available that addressed the toxicity of pyrene. Subchronic oral exposure to pyrene produced nephropathy, decreased kidney weights, increased liver weights, and slight hematological changes in mice and produced fatty livers in rats. A single intraperitoneal injection of pyrene produced swelling and congestion of the liver and increased serum aspartate amino transferase (AST) and bilirubin levels in rats. No data were available concerning the toxic effects of inhalation exposure to pyrene.

No oral or inhalation bioassays were available to assess the carcinogenicity of pyrene in humans. Many studies involving different routes of pyrene exposure were done on animals. None of these studies saw an increase in tumor rates, but there is evidence that pyrene enhances the tumor causing ability of benzo[a]pyrene. Based on no human data and inadequate data from animal bioassays, U.S. EPA has placed pyrene in weight-of-evidence group D, not classifiable as to human carcinogenicity.

The following is a presentation of the toxicity information associated with **Pyrene**.

Noncarcinogenic Health Effects

- The Oral Chronic Reference Dose is 3.00E-02 (mg/kg-day).
- The Oral Chronic Reference Dose has a modifying factor of 1.
- The Oral Chronic Reference Dose has an uncertainty factor of 3000.
- The Oral Chronic Reference Dose is based on the U.S. EPA study from 1989.
- The Oral Chronic Reference Dose study target organ is kidney.
- The Oral Chronic Reference Dose study critical effect is effects.
- The overall confidence in the Oral Chronic Reference Dose is low.
- The Dermal Chronic Reference Dose is 9.30E-03 (mg/kg-day).
- The Dermal Chronic Reference Dose is based on a gastrointestinal absorption factor of 0.3100.

19.0 Trichloroethene - CAS Number 79016

Trichloroethene (TCE), also known as trichlorothylene, is a colorless, highly volatile liquid that is miscible with water and a number of organic solvents. TCE is a man-made chemical and is not known to occur naturally. It is mainly used as a solvent in industrial degreasing and cleaning of metals, but it is also used as a solvent for waxes, fats, resins, oils, and in numerous other applications. Prior to 1977, TCE had been used as an anesthetic, grain fumigant, disinfectant, and extractant of spice oleoresins in food and of caffeine in the production of decaffeinated coffee. The evaluation of the toxicity of TCE is complicated by the presence or absence of other chemicals. Industrial grade TCE usually contains stabilizers that are

known to be toxic such as triethylamine, triethanolamine, epichlorohydrin, or stearates. In the absence of stabilizers, TCE readily decomposes. These decomposition products are also toxic.

Human and animal data indicate that exposure to TCE can result in toxic effects on a number of organs and systems, including the liver, kidney, blood, skin, immune system, reproductive system, nervous system, and cardiovascular system. Breathing small amounts of TCE may cause headaches, lung irritation, dizziness, poor coordination, and difficulty concentrating. Breathing large amounts of TCE may cause impaired heart function, unconsciousness, and death. Breathing it for long periods may cause nerve, kidney, and liver damage. Drinking large amounts of TCE may cause nausea, liver damage, unconsciousness, impaired heart function, or death. Drinking small amounts of TCE for long periods may cause liver and kidney damage, impaired immune system function, and impaired fetal development in pregnant women, although the extent of some of these effects is not yet clear. Skin contact with TCE for short periods may cause skin rashes.

Epidemiologic studies have been inadequate to determine if a correlation exists between exposure to TCE and increased cancer risk in humans. Some human studies with exposure over long periods to high levels of TCE in drinking water or in workplace air have found evidence of increased cancer; however, these results are inconclusive because the cancer could have been caused by other chemicals. Some studies with mice and rats have suggested that high levels of TCE may cause liver or lung cancer. Although U.S. EPA's Science Advisory Board recommended a weight-of-evidence classification of C-B2 continuum (C = possible human carcinogen; B2 = probable human carcinogen), the agency has not adopted a current position on the weight-of-evidence classification. In an earlier evaluation, TCE was assigned to weight-of-evidence Group B2, probable human carcinogen. The International Agency for Research on Cancer (IARC) has determined that TCE is not classifiable as to human carcinogenicity.

The following is a presentation of the toxicity information associated with **Trichloroethene.**

Noncarcinogenic Health Effects

- The Oral Chronic Reference Dose is 3.00E-04 (mg/kg-day) based on critical effects in the liver, kidney, and developing fetus.
- The Dermal Chronic Reference Dose is 4.50E-05 (mg/kg-day).
- The Dermal Chronic Reference Dose is based on a gastrointestinal absorption factor of 0.1500.
- The Inhalation Chronic Reference Concentration is 4.00E-02 (mg/m^3) based on critical effects in the central nervous system, liver, and endocrine system.
- The Inhalation Chronic Reference Dose is 1.14E-02 (mg/kg-day).

Carcinogenic Health Effects

- The Oral Slope Factor is 4.00E-01 $(mg/kg\text{-}day)^{-1}$.
- The Inhalation Slope Factor is 4.00E-01 $(mg/kg\text{-}day)^{-1}$.
- The Dermal Slope Factor is 2.67E+00 $(mg/kg\text{-}day)^{-1}$.
- The Dermal Slope Factor is based on a gastrointestinal absorption factor of 0.1500.