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Round 2 Groundwater Monitoring Report for Goss Cove Landfill

Naval Submarine Base New London

Groton, Connecticut

Engineering Field Activity Northeast
Naval Facilities Engineering Command

Contract Number N62467-94-D-0888

Contract Task Order 0816

June 2002

TETRA TECH NUS, INC.

060209/P

ROUND 2 GROUNDWATER MONITORING REPORT
FOR
GOSS COVE LANDFILL

NAVAL SUBMARINE BASE - NEW LONDON
GROTON, CONNECTICUT

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Engineering Field Activity Northeast
Environmental Branch (Code EV2)
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, Pennsylvania 19113-2090

Submitted by:
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CONTRACT TASK ORDER 0816

JUNE 2002

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LIST OF ACRONYMS AND ABBREVIATIONS

Atlantic	Atlantic Environmental Services, Inc.
B&R Environmental	Brown & Root Environmental
CLEAN	Comprehensive Long-term Environmental Action Navy
COCs	chemicals of concern
COPCs	chemicals of potential concern
CTDEP	Connecticut Department of Environmental Protection
CTO	Contract Task Order
DGI	Data Gap Investigation
EDTA	Ethylenediaminetetraacetic acid
FS	Feasibility Study
GMP	Groundwater Monitoring Plan
IAS	Initial Assessment Study
IDW	investigation derived waste
IRP	Installation Restoration Program
NA	Not Available
Navy	U.S. Department of the Navy
ND	Not Detected
NEESA	Naval Engineering and Environmental Support Activity
NFESC	Naval Facilities Engineering Service Center
NSB-NLON	Naval Submarine Base New London
NTU	nephelometric turbidity unit
O&M	Operation and Maintenance
OU	Operable Unit
PAH	Polycylic Aromatic Hydrocarbons
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PRAP	Proposed Remedial Action Plan
RI	Remedial Investigation
ROD	Record of Decision
SAIC	Science Applications International Corporation
SVOC	semi-volatile organic compound
SWPC	Surface Water Protection Criteria (Connecticut)
TAL	Target Analyte List
TCL	Target Compound List
TIE	Toxicity Identification Evaluation

TtNUS	Tetra Tech NUS, Inc.
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

1.0 INTRODUCTION

This Round 2 Groundwater Monitoring Report for the Goss Cove Landfill at the Naval Submarine Base New London (NSB-NLON) in Groton, Connecticut was prepared for the U.S. Department of the Navy (Navy) by Tetra Tech NUS, Inc. (TtNUS) under the Comprehensive Long-Term Environmental Action Navy (CLEAN), Contract Number N62467-94-D-0888, Contract Task Order (CTO) 0816.

This document has been prepared in accordance with the Navy Installation Restoration Laboratory Quality Assurance Guide (Interim Guidance) of the Naval Facilities Engineering Service Center (NFESC, February 1996).

1.1 SCOPE AND OBJECTIVE

A Record of Decision (ROD) (TtNUS, 1999b) was signed for the soil and sediment Operable Units (OUs) at the Goss Cove Landfill (Site 8/OU5). Based on the ROD a remedial action was required for the soil OU and no further action was required for the sediment OU. The selected remedy for the soil and waste/fill material within the Goss Cove Landfill consisted of containment using an engineered control cap, institutional controls, groundwater monitoring, operation and maintenance (O&M), and five-year reviews. The remedy also included the replacement of a storm sewer system that serves the southern portion of NSB-NLON and the Goss Cove Landfill parking lot and surrounding area with a 4-foot by 10-foot reinforced concrete box culvert. Groundwater monitoring is being conducted to evaluate the effectiveness of the remedial action, i.e., to assess whether contamination is migrating from the landfill to downgradient locations.

The objective of this Round 2 Groundwater Monitoring Report is to present the results of the second round of long-term groundwater monitoring for the Goss Cove Landfill site. Eleven monitoring wells were sampled and analyzed for Target Compound List (TCL) organics and Target Analyte List (TAL) metals (total and dissolved). Water quality parameters were monitored as well. Sampling and analyses were performed in accordance with the Groundwater Monitoring Plan (GMP) prepared for the Goss Cove Landfill (TtNUS, March 2001). Because this is an interim report for the second round of groundwater monitoring, evaluation of monitoring results is limited to a comparison of these results to the criteria identified in the GMP for the Goss Cove Landfill.

1.2 BACKGROUND INFORMATION

1.2.1 Base Description

NSB-NLON is located in southeastern Connecticut in the towns of Ledyard and Groton. It encompasses approximately 687 acres on the east bank of the Thames River, approximately 6 miles north of Long Island Sound. The base is bounded to the east by Connecticut Route 12, to the south by Crystal Lake Road, and to the west by the Thames River (refer to Figure 1-1). The northern border is a low ridge that trends approximately east-southeast from the Thames River to Baldwin Hill.

NSB-NLON currently provides base command for naval submarine activities in the Atlantic Ocean. It also provides housing for Navy personnel and their families and supports submarine training facilities, military offices, medical facilities, and facilities for submarine maintenance, repair, and overhaul.

1.2.2 Site Description and History

The Goss Cove Landfill is located in the southwestern corner of NSB-NLON, adjacent to the Thames River (refer to Figure 1-2). It is west of Shark Boulevard and the intersection of Crystal Lake Road and Military Highway, east of the Thames River and north of Goss Cove. Figure 1-3 displays the general site layout. The Nautilus Museum and a paved parking lot were constructed directly over the site of the former landfill. The Nautilus Museum is a submarine museum operated by the U.S. Navy and is open to the public.

Goss Cove Landfill is one of the 25 Installation Restoration Program (IRP) sites identified at NSB-NLON. The Initial Assessment Study (IAS) report (NEESA, 1983) indicated that a landfill was operated at this site from 1946 through 1957. Incinerator ash and inert rubble were disposed at the site, in what was then the northern portion of Goss Cove. It is not known if any other materials were disposed in the former landfill. It has been reported that several large compressed gas cylinders were uncovered during the excavation of a utility trench in the parking area north of the Nautilus Museum building. One of the cylinders was leaking propane, one was filled with ammonia, and the others were empty.

In a 1934 aerial photograph, the limits of Goss Cove appeared to be open water with no evidence of fill. Railroad tracks are shown at their present position between the cove and the Thames River. In 1951 aerial photographs, the fill extended south to approximately the location of an access driveway to the museum. The 1965 aerial photographs show the landfill extending to the present limit of encroachment on Goss Cove. Aerial photographs from 1965, 1970, 1975, and 1980 show cars parked on the landfill surface. In 1986 photographs, the Nautilus Museum is present on the southern limits of the landfill and a paved parking area extends over the remaining limit of the landfill to the north. Construction of the

Nautilus Museum was completed in 1985. Construction of an addition to the Nautilus Museum was initiated in 1999 and completed in the summer of 2000.

The boring logs generated during the construction of the Nautilus Museum indicated the presence of fill material consisting of cinders, metal, brick, glass, and sand and gravel to a depth of 15 feet. Beneath the fill is a layer of organic silt approximately 10 to 15 feet thick. This material is presumably the sediment bottom of the former cove. The silt is underlain by fine sand to depths ranging from 25 to 100 feet below the surface. The thickness of overburden increases from east to west, toward the river.

Remedial Investigation (RI) activities have been conducted at the Goss Cove Landfill and include sampling and analyses of various environmental media: surface soil, subsurface soil, groundwater, surface water, sediment, and air. Other RI activities that were completed include assessment of human health and ecological risks. A Feasibility Study (FS) was completed which concluded that the presumptive remedy of containment was the appropriate remedial action for the soil OU at the site. A Proposed Remedial Action Plan (PRAP) and ROD were subsequently prepared for the site. The remedial action consisted of excavation of surface soil, compacting excavated soil over the existing paved parking lot area, construction of a multi-layered impermeable soil-type cap, land use restrictions, groundwater monitoring, and five-year site reviews.

1.2.3 Previous Site Investigations

Various investigations have been conducted at the Goss Cove Landfill beginning with the IAS (NEESA, 1983). This study was conducted in June 1982 to identify and evaluate past hazardous waste disposal practices and assessed the potential for environmental contamination. Record searches, interviews with present long-term employees and former employees indicated that this area was used as a landfill for incinerator ash and inert rubble from 1946 to 1957.

Two phases of RI were conducted to determine the nature and extent of contamination at the Goss Cove Landfill. Atlantic Environmental Services, Inc. (Atlantic) conducted the Phase I RI field investigation from 1990 to 1992. This investigation consisted of a soil gas survey; test borings; monitoring well installation; and soil, surface water, and groundwater sampling. The soil gas survey was conducted in an attempt to locate potential sources of volatile organic contamination. Subsurface (3 feet deep) soil samples were collected from test borings and monitoring well borings to confirm the soil gas survey results. Overburden monitoring wells were installed within the former landfill and groundwater samples were obtained. One surface water sample was collected in the Thames River downstream of the landfill. The findings of this investigation were presented in the Phase I RI Report (Atlantic, August 1992).

Brown and Root Environmental (B&R Environmental) conducted the Phase II RI field investigation from 1993 to 1995. This investigation included the collection of surface (<3 feet deep) and subsurface (>3 feet deep) soil samples from well borings. Surface and subsurface soil samples were also collected from test borings. Shallow and deep monitoring wells were installed. Groundwater samples were collected from the Phase I monitoring wells and Phase II monitoring wells during each round of two rounds of sampling. Surface water and sediment samples were also collected during the Phase II RI. Surface water samples and sediment samples were collected from the perimeter of Goss Cove. Additional sediment sampling was conducted in Goss Cove to perform a supplemental toxicity identification evaluation. Three rounds of air sampling were performed. Air samples were collected from within and around the Nautilus Museum. The findings of this study were presented in the Phase II RI Report (B&R, March 1997)

A Data Gap Investigation (DGI) was conducted by B&R Environmental in January 1997 to determine if the source of the tetrachloroethene (PCE) contamination detected in the groundwater samples collected during the Phase II RI. Soil borings were drilled during this investigation then converted to monitoring wells. Groundwater samples were collected from each of the new wells and from select existing wells. Subsurface soil samples were collected from each boring. The DGI concluded that the source of PCE contamination detected in the groundwater is an upgradient, off site source. The Connecticut Department of Environmental Protection (CTDEP) verified the results of this investigation by conducting their own Phase I/II Environmental Site Assessments (CTDEP, 1999).

As part of the evaluation of remedial strategies for Goss Cove sediment and surface water, a desktop modeling effort was performed to evaluate the potential for migration of chemicals of concern (COCs) from the former Goss Cove Landfill into Goss Cove and an information package was prepared to present the results of this modeling. This information was included in the FS Report prepared by Tetra Tech NUS, Inc. (TtNUS, 1999a). Modeling was performed for two migration pathways; i.e., surface water runoff and groundwater movement. For each of these pathways two scenarios were evaluated, including existing site conditions and future site conditions after placement of an impervious cap over the former Goss Cove Landfill. Results of this modeling effort showed that migration of COCs is unlikely to occur in the future from the former Goss Cove Landfill to Goss Cove.

A Wetlands Function and Values Assessment was completed by TtNUS in July 1998 to evaluate if the ecological stress in the Goss Cove water body was a result of natural conditions or due to migration from other NSB-NLON sites. This study evaluated the marginal cove vegetation in terms of its ecological functions and values and identified the wetland species associated with the fringing belt. A detailed vegetation inventory of the taxa which included an inventory of all species of vascular plants present above mean high tide and an examination of the biota associated with the intertidal zone was undertaken. A few wetland species were found. The results of this assessment concluded that the contrast between

the Thames River and cove side is dramatic due to the lack of tidal flushing. Although the tidal range is reflected within the cove, it does not appear adequate to aid in supporting a rich viable intertidal algal population and invertebrate biota. This may be related to water quality since it appears that estuarine organisms can and have become established in the cove in the past but fail to thrive.

The purpose of the Evaluation of Chemical and Toxicological Data study, conducted by Science Applications International Corporation (SAIC, 1998) in 1998, was to evaluate chemical and toxicological relationships for sediments in Goss Cove. The objective of the study was to establish toxicological response relationships to contaminants in Goss Cove sediments, describe the extent of ecological risks associated with chemical contaminants in Goss Cove sediments, and identify risks for biological effects. Based on data needs, 10 stations were sampled for chemical, toxicological, and Toxicity Identification Evaluation (TIE). The TIE involves chemical manipulation of the sediment to separate contaminant classes. The TIE employed three manipulations, including C18 column extraction, Ethylenediaminetetraacetic acid (EDTA) chelation, and an aeration/Ulva treatment. These three steps remove organic compounds, metals, and hydrogen sulfide/ammonia, respectively. The study supports the conclusion that a complete pathway does not exist between contaminants and observed ecological effects. It may be possible to improve benthic habitat quality by reducing the hypoxic conditions in the cove, thereby reducing the ammonia concentrations which appear to cause depauperate aquatic community.

After the FS was finalized for the soil and sediment at this site, a PRAP was prepared and issued on June 8, 1999. The PRAP for the Goss Cove Landfill was discussed at a Public Meeting on June 23, 1999. The final ROD for the soil and sediment OUs at the site was issued on September 30, 1999.

1.3 REPORT ORGANIZATION

This report has been prepared in the following format to address the requirements for long-term groundwater monitoring at the Goss Cove Landfill. Section 1.0 is this brief introduction including the project scope and objective and a discussion of previous investigations. Section 2.0 describes Round 2 field activities. Section 3.0 presents and evaluates the analytical results from the Round 2 sampling effort.

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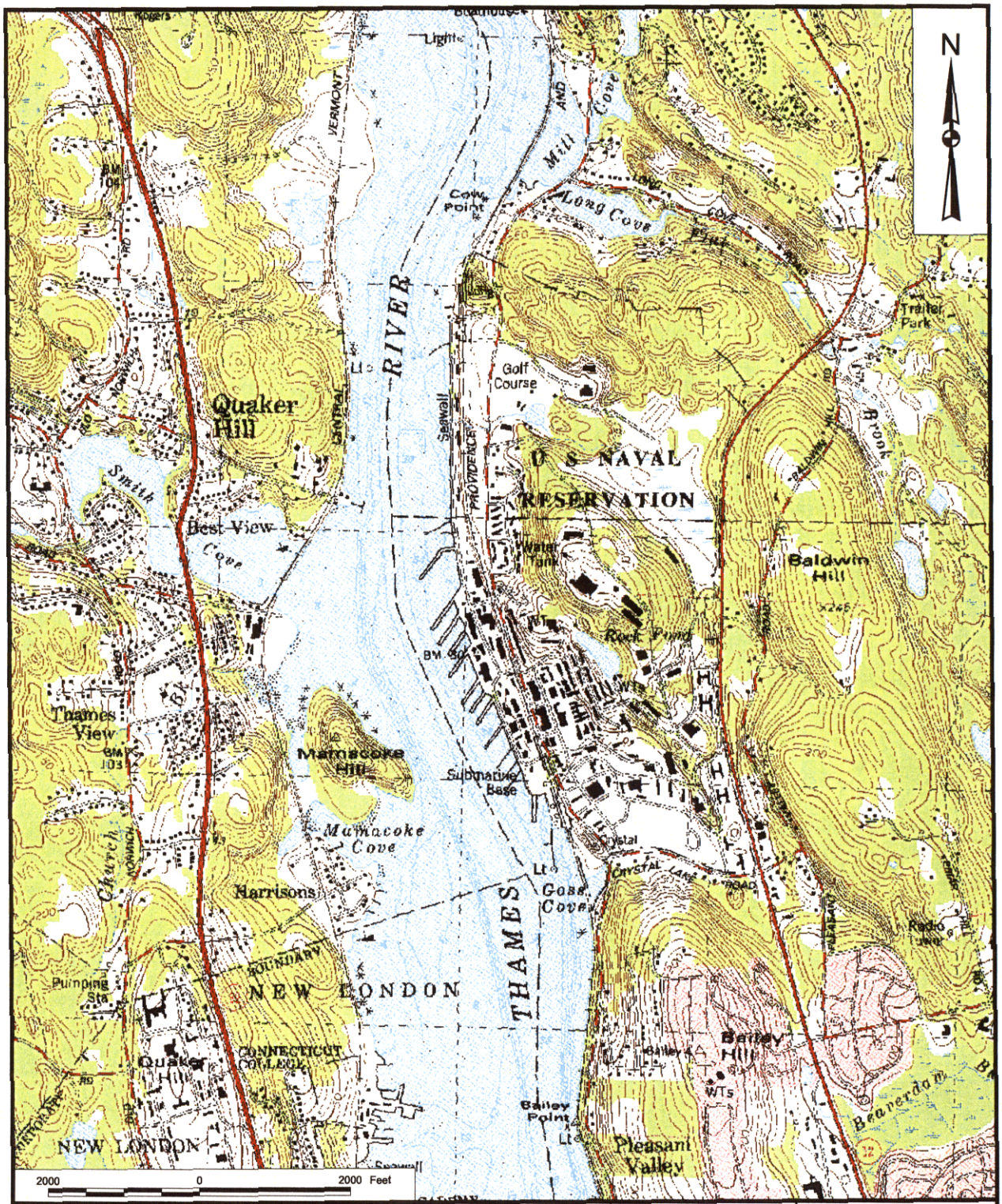

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COST/SCHEDULE-AREA			APPROVED BY / DATE
SCALE AS NOTED			DRAWING NO. FIGURE 1 - 1 / REV 0

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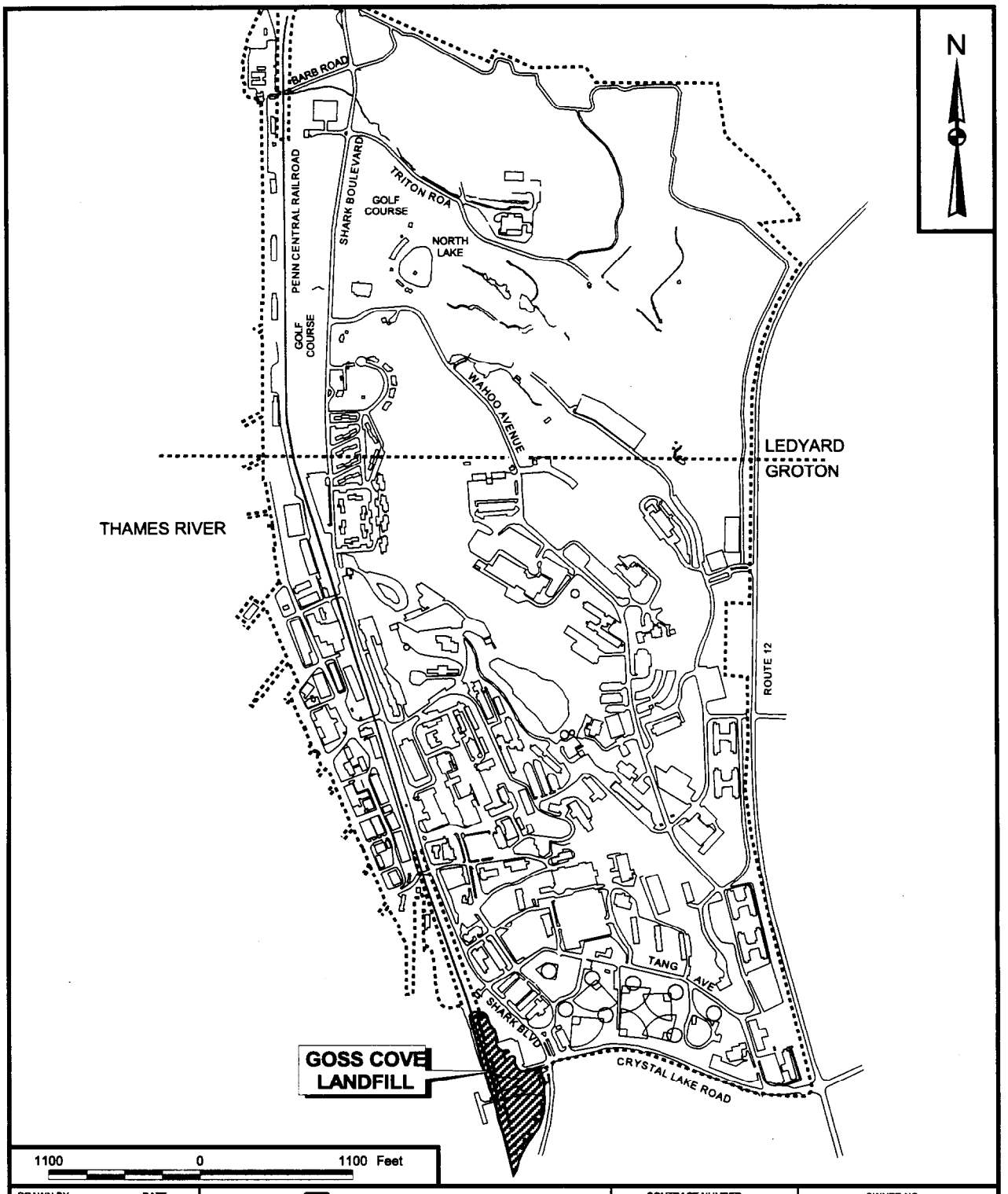

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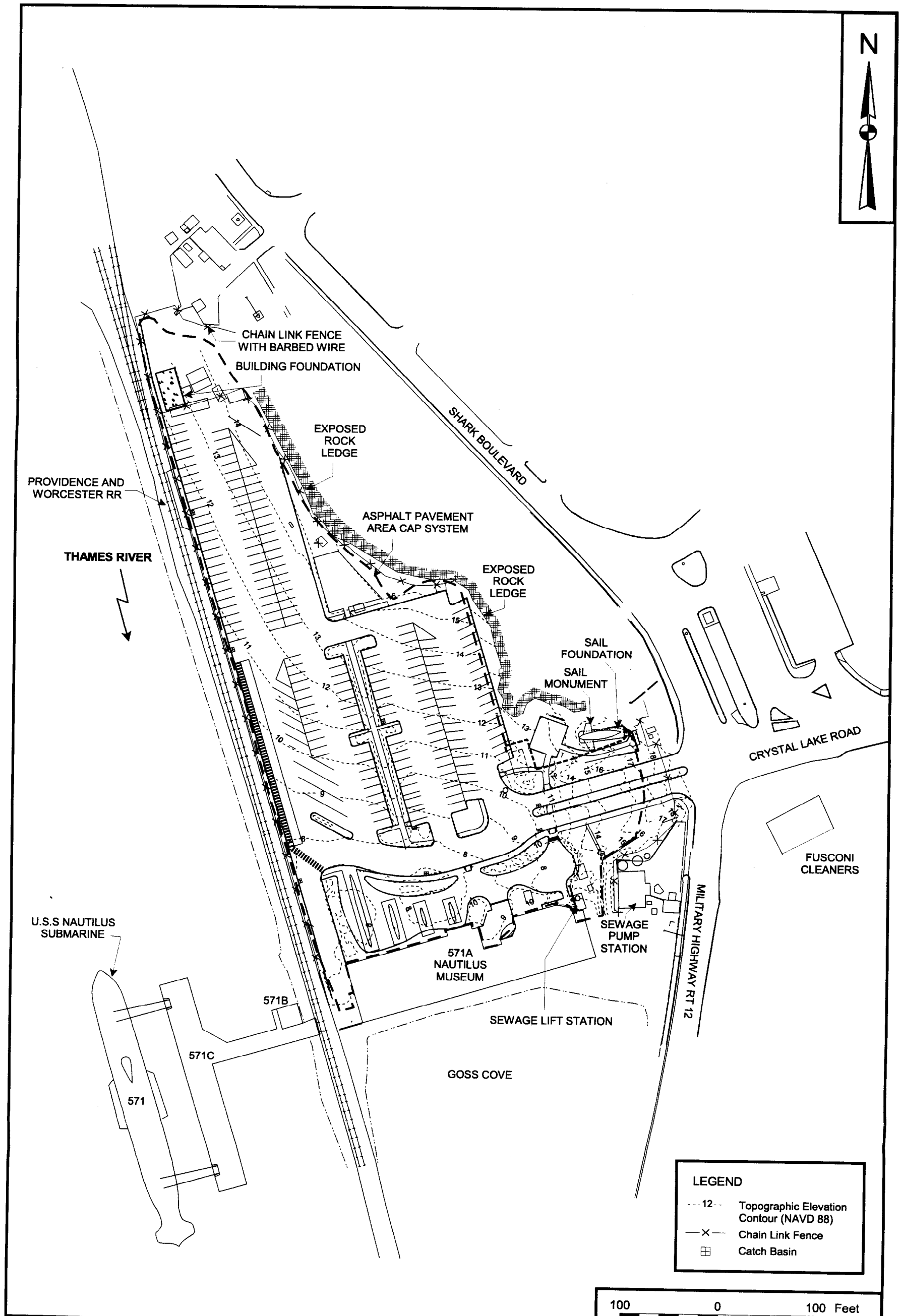
P:\GIS\NLON\GOSSCOVELANDFILL.APR SITE LAYOUT 4/30/02 JAL



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COST/SCHEDULE-AREA		APPROVED BY	DATE
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2.0 FIELD INVESTIGATION ACTIVITIES

Field investigation activities performed as part of the second round of the groundwater monitoring at Goss Cove Landfill included the following:

- Inspection of 11 monitoring wells.
- Collection of two rounds of water level measurements (high and low tide) at 11 monitoring wells and one staff gauge in the vicinity of Goss Cove.
- Collection of groundwater samples from 11 monitoring wells.
- Measurement of field parameters and redox-sensitive parameters.

Round 2 field activities occurred in March 2002. Figure 2-1 illustrates the sampling locations. Copies of the field activities logbook; monitoring well inspection sheets; water level measurement sheets; monitoring instrument calibration logs; groundwater sample logsheets and low-flow purge data sheets; chain-of-custody records; data validation letters and laboratory data sheets; and waste characterization and waste manifest for Round 2 are provided in Appendices A through H.

2.1 MONITORING WELL INSPECTION

Prior to water level measurements, 11 monitoring wells were inspected. The monitoring wells were generally in good condition (refer to Appendix B). Two wells (HNUS-23 and 8MW8D) had water in the vaults indicating a problem with the seals on the vaults.

2.2 WATER LEVEL MEASUREMENT

Water levels were measured at 11 monitoring wells during high tide on March 24, 2002 and low tide on March 25, 2002. Groundwater level measurement sheets are provided in Appendix C. Table 2-1 summarizes the Round 2 of water level measurements. Reference elevations for all monitoring wells were re-surveyed after the remedial action and prior to the Round 1 field sampling event. Figures 2-2 and 2-3 illustrate the potentiometric surface maps for the shallow groundwater at Goss Cove Landfill for Round 2 during low and high tide, respectively.

2.3 GROUNDWATER PURGING AND SAMPLING

Prior to sampling activities, each well was purged by a low-flow method utilizing a dedicated bladder pump or peristaltic pump. Prior to purging, the initial static water level was measured in the well using a water-level indicator. During purging, the water level was measured every 5 to 10 minutes. The pumping

rate was initially set at ≤300 milliliters per minute and adjusted as necessary such that drawdown within the well did not exceed 0.3 feet. Copies of the low-flow purge data sheets are provided in Appendix E.

During purging, water quality parameters of pH, specific conductance, temperature, turbidity, dissolved oxygen, Eh, and salinity were measured and recorded every 5 to 10 minutes using a water quality meter and flow through cell until all of the parameters stabilized, and the minimum purge volume (equal to the stabilized drawdown volume plus the tubing volume) was removed. Stabilization of the above parameters was generally defined as follows:

- pH ± 0.2 standard units
- turbidity ± 10 % for values greater than 5 nephelometric turbidity unit (NTU)
- specific conductance ± 10 %
- temperature ± 10 %
- Eh ± 10 mV
- dissolved oxygen ± 10 %.
- Salinity record only

When these parameters had stabilized, iron (Fe+2) was measured in the field using a test kit and recorded on the sample log sheets. Following purging by the dedicated bladder pumps, all samples were collected directly from the discharge end of the tubing. All sample containers were filled by allowing the discharge to flow gently down the inside of the container with minimal turbulence. At wells 8MW2D, 8MW5, and 8MW10S, a peristaltic pump was used to complete sampling. Samples collected from these wells to be analyzed for volatile organic compounds (VOCs) were collected by drawing a column of water into the tubing with the pump, crimping the discharge end of the tubing, pulling the tubing from the well, disconnecting the tubing from the pump, releasing the tubing, and decanting the sample into the sample vials from the intake end of the tubing via gravity flow. For filtered inorganic samples, an in-line 0.45-micron filter was used, the filter was attached to the discharge end of the pump tubing and pre-rinsed with approximately 400 ml of sample water prior to filling the filtered inorganic container. Copies of the groundwater sample logsheets and Chain-of-Custody-Records are provided in Appendices E and F, respectively.

Groundwater samples were sent to the project laboratory (Katahdin) for analysis for select TCL VOCs, semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), pesticides and polychlorinated biphenyls (PCBs); TAL metals (total and dissolved); and water chemistry parameters (nitrate, sulfate, and hardness). Data validation letters and laboratory data sheets are provided in Appendix G. Analytical results for groundwater samples are discussed in Section 3.0.

2.4 DECONTAMINATION AND INVESTIGATION-DERIVED WASTE

All water quality and water level meters were decontaminated by rinsing with deionized water prior to and after use.

Liquid investigation derived waste (IDW) generated during Round 2 groundwater monitoring activities at the Goss Cove Landfill was containerized and subsequently tested for COCs. The results of the testing indicated that the IDW was non-hazardous and could be disposed of as such, at an offsite disposal facility. The waste was subsequently collected by a certified waste disposal subcontractor and disposed offsite. Waste profile and waste manifest documentation are provided in Appendix H.

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TABLE 2-1

GROUNDWATER LEVEL MEASUREMENTS AND ELEVATIONS
GROUNDWATER MONITORING REPORT
GOSS COVE LANDFILL, NSB-NLON, GROTON, CONNECTICUT

Well Number	Reference Elevation[1] (feet)	Depth to Water[2] (feet) LOW TIDE	Depth to Water[2] (feet) HIGH TIDE	Groundwater Elevation (feet) LOW TIDE	Groundwater Elevation (feet) HIGH TIDE	Well Screen Depth[3]	Tidal (Y/N)
8MW1	11.97	13.33	11.93	-1.36	0.04	Shallow	Y
8MW2S	9.63	10.30	10.30	-0.67	-0.67	Shallow	Y
8MW2D	9.93	10.94	9.36	-1.01	0.57	Deep	Y
8MW3	8.27	8.84	8.97	-0.57	-0.70	Shallow	Y
8MW5S	12.32	13.69	12.07	-1.37	0.25	Shallow	Y
8MW6S	8.41	8.70	8.69	-0.29	-0.28	Shallow	N
8MW6D	7.45	8.34	6.80	-0.89	0.65	Deep	Y
8MW7S	9.19	9.03	9.00	0.16	0.19	Shallow	N
8MW8D	17.20	16.93	16.38	0.27	0.82	Bedrock	Y
8MW10S	19.24	16.08	16.07	3.16	3.17	Shallow	N
HNUS23	18.11	6.59	6.51	11.52	11.60	Shallow	N
8SG01 [4]	8.37	10.38	8.05	-2.01	0.32	NA	Y

NOTES:

1 Reference elevation is top of well casing (NGVD 1988).
2 Depth to water is from top of well casing. Low tide was measured on March 25, 2002 and high tide was measured on March 24, 2002.
3 Well screen depths designated as shallow unconfined, deep unconfined, and bedrock groundwater.
4 Reference elevation is surveyed mark on top of peir.

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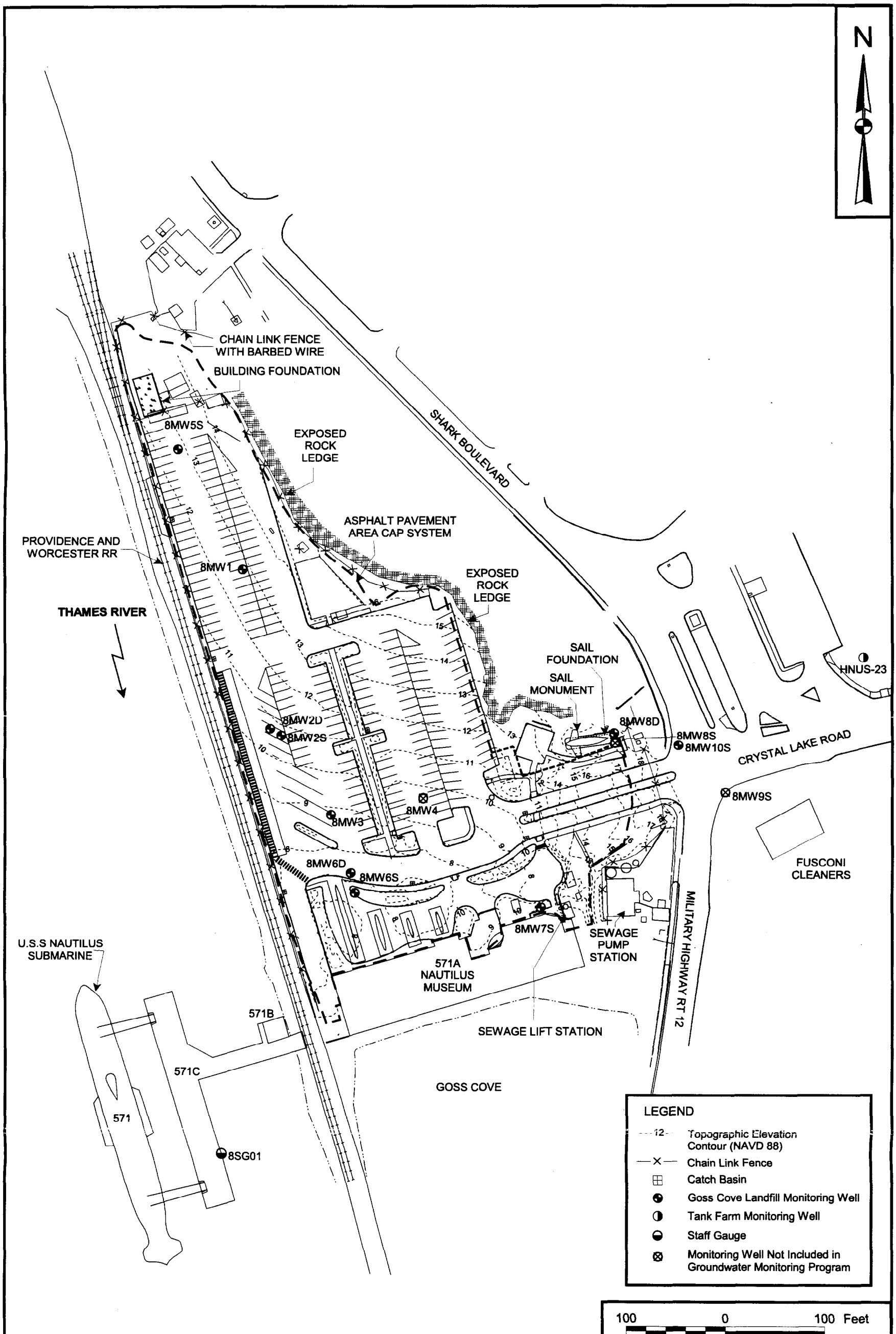
P:\GIS\NLON\GOSSCOVELANDFILL.APR SAMPLE LOCATION MAP 4/30/02 JAL



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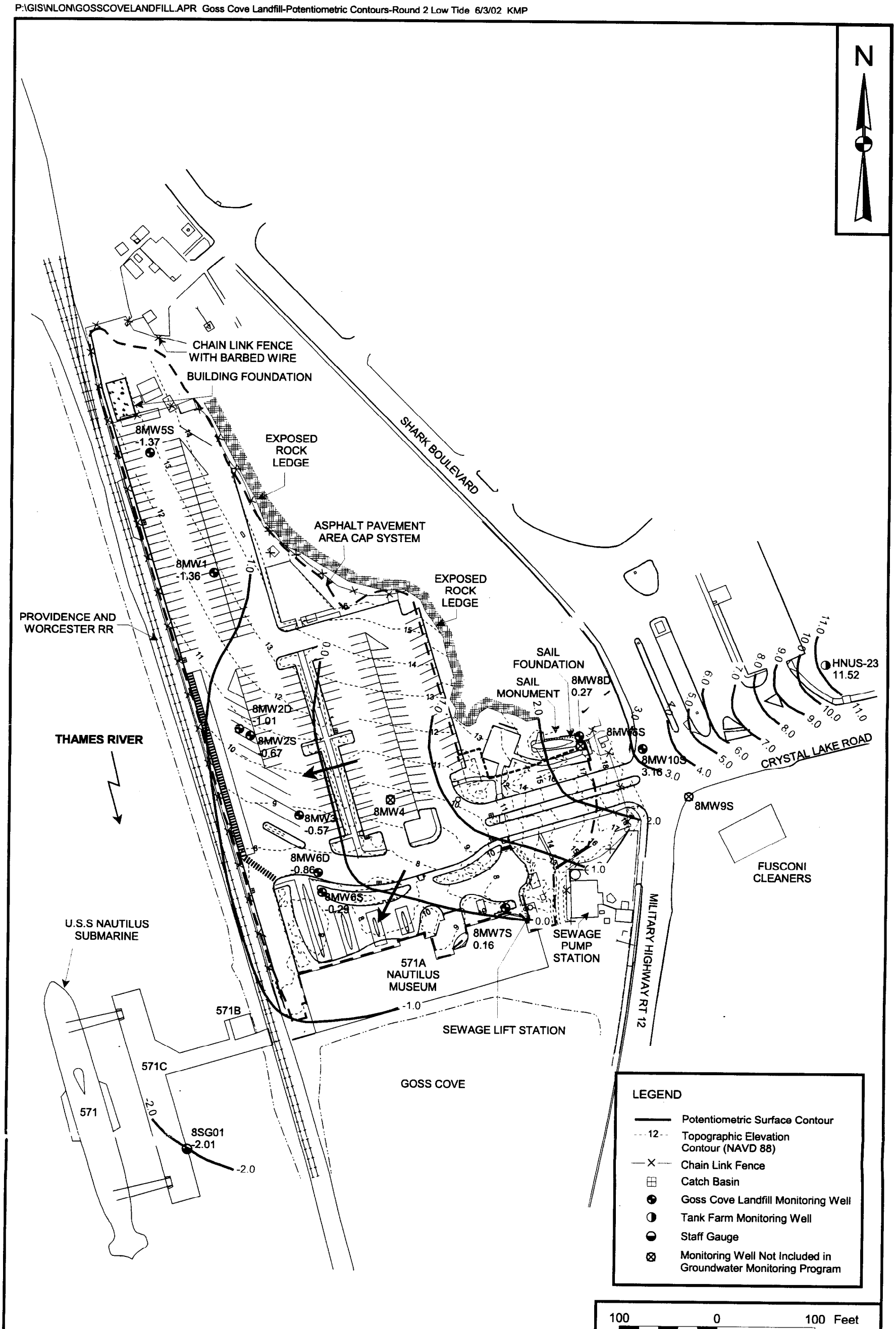

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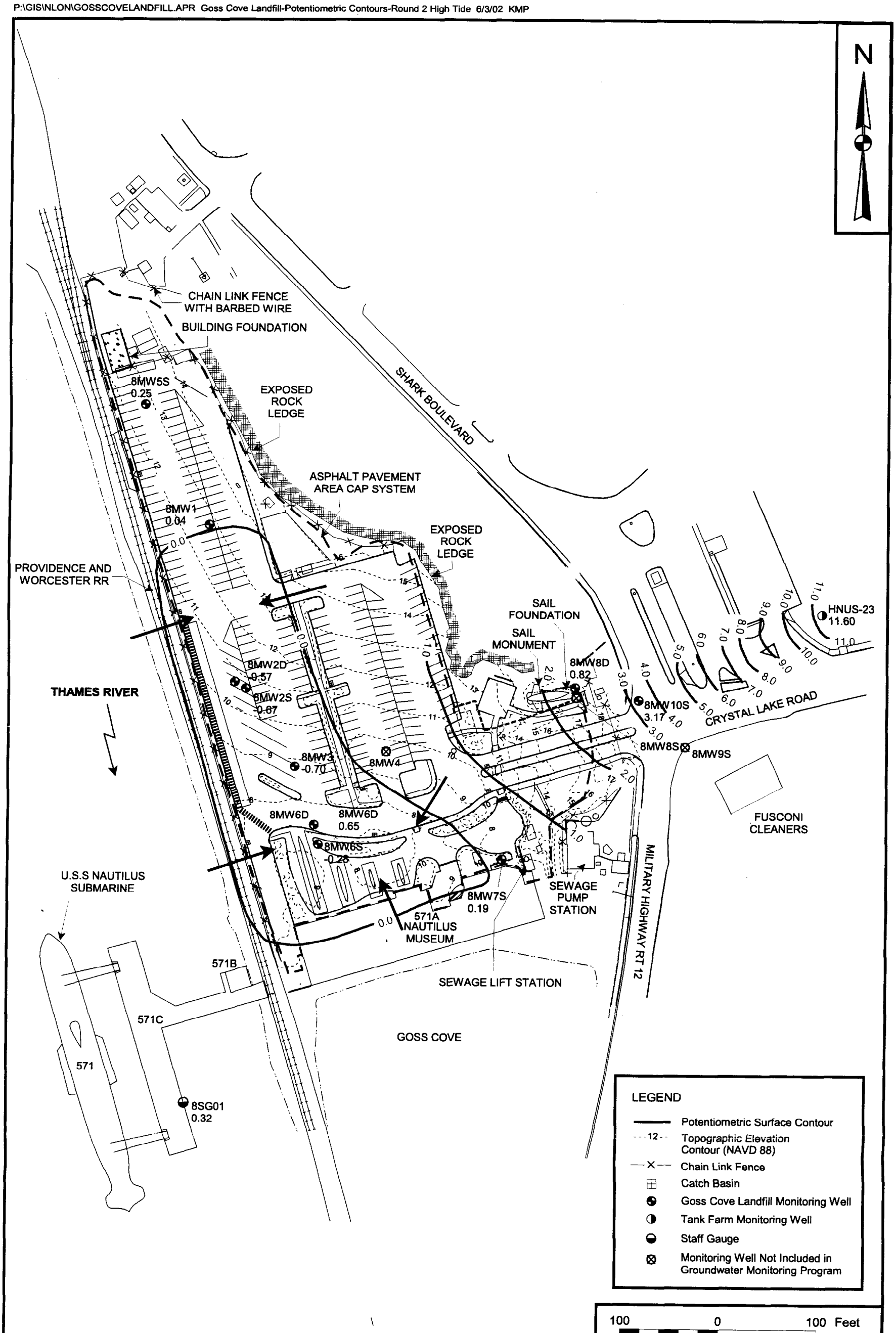

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3.0 MONITORING RESULTS

The groundwater samples collected from 11 monitoring wells were analyzed for select TCL VOCs, SVOCs, PAHs, pesticides, and PCBs, TAL metals (total and dissolved), and water chemistry parameters (nitrate, sulfate, and hardness). Evaluation focused on the following organic and inorganic chemicals of potential concern (COPCs), as identified in the GMP (TtNUS, March 2001).

- Methylene Chloride
- Tetrachloroethane
- Xylenes
- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(g,h,i)perylene
- Benzo(k)fluoranthene
- Bis(2-ethylhexyl)phthalate
- Carbazole
- Chrysene
- Dibenzo(a,h)anthracene
- Fluoranthene
- Indeno(1,2,3-cd)pyrene
- Phenanthrene
- Pyrene
- 4,4-DDD
- 4,4-DDE
- 4,4-DDT
- Aldrin
- Aroclor 1248
- Aroclor 1254
- Aroclor 1260
- Dieldrin
- Heptachlor
- Antimony
- Arsenic
- Beryllium
- Cadmium
- Copper
- Lead
- Mercury
- Nickel
- Vanadium
- Zinc

The contaminants listed above have been detected either in groundwater at concentrations exceeding the CTDEP Surface Water Protection Criteria (SWPCs) or in soil and landfill material at concentrations above their respective CTDEP Pollutant Mobility Criteria for GB groundwater.

The Round 2 analytical results are summarized on Table 3-1. Of the above listed COPCs, all of the COPCs except methylene chloride, pesticides, PCBs, antimony, beryllium, cadmium, mercury, nickel, and vanadium were detected. Within the table, the analytical results are compared to the primary and secondary monitoring criteria, as established in the GMP (TtNUS, March 2001) and background groundwater concentrations determined during the Basewide Groundwater OU RI (TtNUS, 2002). Chemicals exceeding either primary or secondary monitoring criteria or background concentrations are noted by shading. Figure 3-1 shows the chemicals detected in groundwater samples that exceed criteria. Data validation letters and laboratory data sheets are attached to this report as Appendix G.

The results of this comparison can be summarized as follows:

- There were no detections of methylene chloride, pesticides, PCBs, antimony, beryllium, cadmium, mercury, nickel, or vanadium in the groundwater samples.

- Tetrachloroethene was detected in four of eleven groundwater samples. The concentrations were 2300 µg/L, 650 µg/L, 21 µg/L and 0.3J µg/L, which were detected in the samples from wells 8MW8D, 8MW10S, 8MW2D, and 8MW6D, respectively. The concentrations detected in samples from 8MW8D and 8MW10S exceeded the primary monitoring criterion (88 µg/L). These wells are located upgradient of the site. The concentrations detected in all samples, except the sample from 8MW6D, exceeded the secondary monitoring criterion (8.85 µg/L).

- Total xylenes were detected in five (plus the duplicate) of eleven groundwater samples. The concentrations ranged from 9.0 µg/L to 190 µg/L in the groundwater samples collected from 8MW2S, 8MW3, 8MW6D, 8MW6S, 8MW7S, and 8MW7S(DUP). None of these results exceeded the monitoring criterion (50,000 µg/L).

- The laboratory's detection limits for all SVOCs compounds except bis(2-ethylhexyl)phthalate, carbazole, fluoranthene, and pyrene exceeded the secondary monitoring criteria in all samples with non-detected results. The project laboratory was unable to report defensible results below 0.1 µg/L using currently available laboratory equipment.

- Benzo(a)anthracene was detected in two of eleven groundwater samples. The concentrations were 0.09 µg/L and 0.05 µg/L, which were detected in samples 8MW2S and 8MW3 respectively. These results exceeded the secondary monitoring criterion (0.031 µg/L).

- Benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, and benzo(k)fluroanthene were each detected once in eleven groundwater samples. The concentrations were 0.4 µg/L, 0.4 µg/L, 0.2J µg/L, and 0.3 µg/L in the sample collected from monitoring well 8MW6D. The benzo(a)pyrene and benzo(b)fluoranthene results exceeded the primary monitoring criterion (0.3 µg/L) and secondary monitoring criterion (0.031 µg/L). The benzo(g,h,i)perylene result exceeded the secondary monitoring criterion (0.031 µg/L). The benzo(k)fluoranthene result also exceeded the secondary monitoring criterion (0.031 µg/L).

- Bis(2-ethylhexyl)phthalate was detected in five of eleven groundwater samples. The concentrations were 9J µg/L, 3J µg/L, 3J µg/L, 10J µg/L, and 12J µg/L in the samples from monitoring wells 8MW10S, 8MW2D, 8MW3, 8MW8D, and HNUS-23, respectively. The concentrations in samples from monitoring wells 8MW10S, 8MW8D, and HNUS-23 exceeded the secondary monitoring criterion (5.9 µg/L).

- Carbazole was detected in three (plus the duplicate) of eleven groundwater samples. The concentrations were 18J µg/L, 10J µg/L, and 0.8J µg/L in the samples from 8MW2S, 8MW3 and 8MW7S, respectively. None of these concentrations exceeded the criterion.

- Chrysene was detected in four of eleven groundwater samples. The concentrations were 0.05J µg/L, 0.07J µg/L, 0.05J µg/L, and 0.6J µg/L in the samples from monitoring wells 8MW2D, 8MW2S, 8MW3 and 8MW6D respectively. All of these results exceeded the secondary monitoring criterion (0.031 µg/L). The concentration detected in the sample from 8MW6D (0.6 µg/L) also exceeded the primary monitoring criterion (0.3 µg/L).

- Dibenzo(a,h)anthracene was detected in one of eleven groundwater samples. The concentration was 0.07J µg/L in the sample from 8MW6D. This result exceeded the secondary monitoring criterion (0.031 µg/L).

- Fluoranthene was detected in six (plus the duplicate) of eleven groundwater samples. The concentrations ranged from 0.2J µg/L to 5 µg/L in the samples from 8MW2D, 8MW2S, 8MW3, 8MW6D, 8MW6S, 8MW7S, and 8MW7S(DUP). None of these results exceeded either of the criteria.

- Indeno(1,2,3-cd)pyrene was detected in one of eleven groundwater samples. The concentration was 0.4 µg/L in the sample from 8MW6D. This result exceeded the primary monitoring criterion (0.3 µg/L) and secondary criterion (0.031 µg/L).

- Phenanthrene was detected in five (plus the duplicate) of eleven groundwater samples. The concentrations ranged from 0.6J µg/L to 5J µg/L in the samples from 8MW2D, 8MW2S, 8MW3, 8MW6D, 8MW7S, and 8MW7S(DUP). The results (0.7J µg/L, 4J µg/L, 5J µg/L, 0.6J µg/L, 0.6 J µg/L, and 0.7J µg/L, respectively) exceeded the primary monitoring criterion (0.3 µg/L) and the secondary monitoring criterion (0.031 µg/L).

- Pyrene was detected in six (plus the duplicate) of eleven groundwater samples. The concentrations ranged from 0.2J µg/L to 5J µg/L in the samples from 8MW2D, 8MW2S, 8MW3, 8MW6D, 8MW6S, 8MW7S and 8MW7S(DUP). None of the results exceeded either of the criteria.

- The laboratory's detection limits for all pesticides exceeded the secondary monitoring criterion for all samples. The project laboratory was unable to report defensible results within two orders of magnitude of the secondary criteria using currently available laboratory equipment.

- Arsenic was detected in eight (plus the duplicate) unfiltered groundwater samples and seven filtered samples collected from 8MW1, 8MW2D, 8MW2S, 8MW3, 8MW5S, 8MW6D, 8MW6S, 8MW7S and 8MW7S(DUP). The concentrations in the unfiltered samples were 7.0, 28.1, 1.2, 1.4, 5.6, 16.6, 4.6, 0.89, and 1.0 µg/L, respectively, while the concentrations in the filtered samples were 9.7, 28.1, 2.1, 0.8U, 4.9, 17.0, 4.6, 1.6, and 0.8U µg/L respectively. Five total and filtered detections of arsenic exceeded the primary criterion of (4 µg/L). All of the detections exceeded the secondary criterion (0.14 µg/L). Four of the concentrations of arsenic detected in the filtered samples were higher than the results in the unfiltered portion of the corresponding samples. Additionally five of the concentrations in the unfiltered samples and five of the concentrations in the filtered samples exceeded the NSB-NLON total and filtered background concentrations (1.92 and 2.55 µg/L, respectively).

- Copper was detected in four (plus the duplicate) unfiltered groundwater samples and two filtered samples collected from 8MW1, 8MW10S, 8MW3, 8MW5S, 8MW7S, and 8MW7S(DUP). The concentrations in the unfiltered samples were 33.1, 1.74U, 5.2, 10.5, 2.1J, and 2.0J µg/L, respectively. The concentrations in the filtered samples were 23.9, 2.1J, 1.74U, 8.7U, 1.74U, and 1.74U µg/L, respectively. Four of the detections of copper exceeded the secondary criterion of 2.4 µg/L. One of the results for copper in the filtered sample was higher than the result in the unfiltered portion of the corresponding sample. None of the detected concentrations exceeded NSB-NLON total and filtered background concentrations (107 and 39.4 µg/L, respectively).

- Lead was detected in one unfiltered groundwater sample collected from 8MW6D. The concentration in the unfiltered sample was 2.2 µg/L. This detection of lead did not exceed either of the criteria. Additionally, this result did not exceed the NSB-NLON total background concentration (6.63 µg/L).

- Zinc was detected in five unfiltered groundwater samples and four filtered groundwater samples collected from 8MW1, 8MW10S, 8MW2D, 8MW5S and 8MW6D. The concentrations in the unfiltered groundwater samples were 60.5, 34.6, 14.5, 38.8J, and 386 µg/L, respectively while the concentrations in the filtered samples were 54.4, 34.4, 6.3U, 39.9, and 10.5 µg/L, respectively. The concentration of zinc detected in the unfiltered sample from 8MW6D exceeded the primary criterion of 123 µg/L and the secondary criterion of 81 µg/L. Additionally, the unfiltered concentration exceeded the NSB-NLON total background concentration for zinc (109 µg/L).

- Results for hardness, nitrate, and sulfate are presented in Table 3-1. Iron (+2) results are summarized in Table E-1 in Appendix E. An evaluation of these results was not done in this section because there were no monitoring criteria for these parameters. An evaluation of the results will be provided in the Year 1 Annual Groundwater Monitoring Report.

As stated in Section 1.1, because this is only an interim report, the evaluation of the analytical results is limited to the above comparison. No conclusions or recommendations are drawn from this comparison. Subsequent conclusions and recommendations will be stated in the Year 1 Annual Groundwater Monitoring Report based on monitoring performed during year 1.

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TABLE 3-1

ROUND 2 GROUNDWATER ANALYTICAL RESUTLS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
GOSS COVE LANDFILL, NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 3

Chemical	Primary Monitoring Criterion[1]	Secondary Monitoring Criterion[4]	NSB-NLON Background Concentration[7]	8MW1 02 3/24/2002	8MW10S 02 3/23/2002	8MW2D 02 3/23/2002	8MW2S 02 3/19/2002
VOCs (ug/L)							
METHYLENE CHLORIDE	48,000	1,600	--	1 U	2 U	2 U	5 U
TETRACHLOROETHENE	8.8	8.85	--	1 U	650	21	5 U
XYLENES, TOTAL	50000[2]	NA	--	1 U	1 U	1 U	180
SVOCs (ug/L)							
BENZO(A)ANTHRACENE	0.3	0.031	--	0.1 U	0.1 UJ	0.1 U	0.03 J
BENZO(A)PYRENE	0.3	0.031	--	0.1 U	0.1 UJ	0.1 U	0.1 UJ
BENZO(B)FLUORANTHENE	0.3	0.031	--	0.1 U	0.1 UJ	0.1 U	0.1 UJ
BENZO(G,H,I)PERYLENE	0.3[3]	0.031	--	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
BENZO(K)FLUORANTHENE	0.3	0.031	--	0.1 U	0.1 UJ	0.1 U	0.1 UJ
BIS(2-ETHYLHEXYL)PHTHALATE	59	5.9	--	5 U	9 J	3 J	5 U
CARBAZOLE	29[3]	NA	--	5 U	5 U	5 U	18 J
CHRYSENE	0.3[3]	0.031	--	0.1 U	0.1 UJ	0.05 J	0.07 J
DIBENZO(A,H)ANTHRACENE	NA	0.031	--	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
FLUORANTHENE	3,700	370	--	0.1 U	0.1 U	0.6	2 J
INDENO(1,2,3-CD)PYRENE	0.3[3]	0.031	--	0.1 U	0.1 UJ	0.1 U	0.1 UJ
PHENANTHRENE	0.3	0.031	--	0.1 UJ	0.1 UJ	0.7 J	4 J
PYRENE	110,000	11,000	--	0.1 U	0.1 UJ	0.5	0.8 J
Pesticides/PCBs (ug/L)							
4,4-DDD	NA	0.00059[5]	--	0.020 U	0.020 U	0.019 U	0.019 U
4,4-DDE	NA	0.00059	--	0.020 U	0.020 U	0.019 U	0.019 U
4,4-DDT	NA	0.00059	--	0.020 U	0.020 U	0.019 U	0.019 U
ALDRIN	NA	0.00014	--	0.010 U	0.010 U	0.010 U	0.010 U
AROCLOR-1248	0.5	NA	--	0.20 U	0.20 U	0.19 U	0.19 U
AROCLOR-1254	0.5	NA	--	0.20 U	0.20 U	0.19 U	0.19 U
AROCLOR-1260	0.5	NA	--	0.20 U	0.20 U	0.19 U	0.19 U
DIELDRIN	0.1	0.00014	--	0.020 U	0.020 U	0.019 U	0.019 U
HEPTACHLOR	0.05	0.00021	--	0.010 U	0.010 U	0.010 U	0.010 U
Inorganics (total/dissolved) (ug/L)							
ANTIMONY	86,000	4,300	2.9/2.01	0.72 U/0.69 U	0.29 U/0.34 U	0.20 U/0.20 U	0.60 U/0.64 U
ARSENIC	4	0.14	1.92/2.55	7.5/7.7	0.80 U/0.80 U	28.1/28.1	1.3/2.1
BERYLLIUM	4	0.13	ND	1.45 U/1.45 U	0.29 U/0.29 U	1.45 U/1.45 U	0.29 U/0.29 U
CADMIUM	6	9.3[6]	ND	14.9 U/14.9 U	2.98 U/2.98 U	14.9 U/14.9 U	2.98 U/2.98 U
COPPER	48	2.4	107/39.4	33.1/25.9	1.74 U/2.1 J	8.70 U/8.70 U	1.74 U/1.74 U
LEAD	13	8.1[6]	6.63/2.52	0.22 U/0.20 U	0.45 U/0.08 U	0.74 U/0.20 U	0.70 U/0.07 U
MERCURY	0.4	0.025[6]	ND	0.10 U/0.06 U	0.08 U/0.10 U	0.12 U/0.08 U	0.05 U/0.07 U
NICKEL	880	8.2[6]	32.2/15.3	46.3 U/46.3 U	9.25 U/9.25 U	46.3 U/46.3 U	9.25 U/9.25 U
VANADIUM	NA	NA	10.2/9.9	19.2 U/19.2 U	3.84 U/3.84 U	19.2 U/19.2 U	3.84 U/3.84 U
ZINC	123	81[6]	131/109	60.5/54.4	34.6/34.4	14.5/6.30 U	1.6 U/1.26 U
Miscellaneous Parameters (mg/L)							
HARDNESS	NA	NA	NA	2750	25.3	1910	279
NITRATE	NA	NA	NA	0.05 U	0.2 J	0.05 UJ	0.05 U
SULFATE	NA	NA	NA	1000	11	360	5

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TABLE 3-1

ROUND 2 GROUNDWATER ANALYTICAL RESUTLS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
GOSS COVE LANDFILL, NSB-NLON, GROTON, CONNECTICUT
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Chemical	Primary Monitoring Criterion[1]	Secondary Monitoring Criterion[4]	NSB-NLON Background Concentration[7]	8MW3 02 3/19/2002	8MW5S 02 3/20/2002	8MW6D 02 3/24/2002	8MW6S 02 3/19/2002
VOCs (ug/L)							
METHYLENE CHLORIDE	48,000	1,600	--	2 U	2 U	2 U	2 U
TETRACHLOROETHENE	88	8.85	--	1 U	1 U	0.3 J	1 U
XYLENES, TOTAL	50000[2]	NA	--	190	1 U	18	10
SVOCs (ug/L)							
BENZO(A)ANTHRACENE	0.3	0.031	--	0.05 J	0.1 U	0.1 U	0.1 U
BENZO(A)PYRENE	0.3	0.031	--	0.1 UJ	0.1 UJ	0.4	0.1 UJ
BENZO(B)FLUORANTHENE	0.3	0.031	--	0.1 UJ	0.1 UJ	0.4	0.1 UJ
BENZO(G,H,I)PERYLENE	0.3[3]	0.031	--	0.1 UJ	0.1 UJ	0.2 J	0.1 UJ
BENZO(K)FLUORANTHENE	0.3	0.031	--	0.1 UJ	0.1 UJ	0.3	0.1 UJ
BIS(2-ETHYLHEXYL)PHTHALATE	59	5.9	--	3 J	5 U	5 U	5 U
CARBAZOLE	29[3]	NA	--	10 J	5 U	5 U	5 U
CHRYSENE	0.3	0.031	--	0.05 J	0.1 UJ	0.6 J	0.1 UJ
DIBENZO(A,H)ANTHRACENE	NA	0.031	--	0.1 UJ	0.1 UJ	0.07 J	0.1 UJ
FLUORANTHENE	3,700	370	--	0.7 J	0.1 UJ	5	0.2 J
INDENO(1,2,3-CD)PYRENE	0.3	0.031	--	0.1 UJ	0.1 UJ	0.4	0.1 UJ
PHENANTHRENE	0.3	0.031	--	5 J	0.1 UJ	0.6 J	0.1 UJ
PYRENE	110,000	11,000	--	0.4	0.1 U	5 J	0.2 J
Pesticides/PCBs (ug/L)							
4,4-DDD	NA	0.00059[5]	--	0.02 U	0.021 U	0.019 U	0.019 U
4,4-DDE	NA	0.00059	--	0.02 U	0.021 U	0.019 U	0.019 U
4,4-DDT	NA	0.00059	--	0.02 U	0.021 U	0.019 U	0.019 U
ALDRIN	NA	0.00014	--	0.0097 U	0.010 U	0.010 U	0.010 U
AROCLOR-1248	0.5	NA	--	0.19 U	0.21 U	0.19 U	0.19 U
AROCLOR-1254	0.5	NA	--	0.19 U	0.21 U	0.19 U	0.19 U
AROCLOR-1260	0.5	NA	--	0.19 U	0.21 U	0.19 U	0.19 U
DIELDRIN	0.1	0.00014	--	0.019 U	0.021 U	0.019 U	0.019 U
HEPTACHLOR	0.05	0.00021	--	0.0097 U	0.010 U	0.010 U	0.010 U
Inorganics (total/dissolved) (ug/L)							
ANTIMONY	86,000	4,300	2.9/2.01	0.62 U/0.48 U	0.91 U/0.85 U	0.38 U/0.20 U	0.52 U/0.46 U
ARSENIC	4	0.14	1.92/2.55	1.4/0.80 U	5.6/4.9	16.6/17.0	4.1/4.6
BERYLLIUM	4	0.13	ND	0.29 U/0.29 U	0.36 U/1.45 U	1.45 U/1.45 U	0.29 U/0.29 U
CADMIUM	6	9.3[6]	ND	2.98 U/2.98 U	2.98 UJ/14.9 U	14.9 U/14.9 U	2.98 U/2.98 U
COPPER	48	2.4	107/39.4	5.2/1.74 U	10.5/8.70 U	8.70 U/8.70 U	1.74 U/1.74 U
LEAD	13	8.1[6]	6.63/2.52	3.8 U/0.06 U	0.62 U/0.20 U	2.2/0.20 U	0.56 U/0.12 U
MERCURY	0.4	0.025[6]	ND	0.10 U/0.09 U	0.09 U/0.11 U	0.06 U/0.11 U	0.10 U/0.03 U
NICKEL	880	8.2[6]	32.2/15.3	9.3 U/9.25 U	9.25 U/46.3 U	46.3 U/46.3 U	9.25 U/9.25 U
VANADIUM	NA	NA	10.2/9.9	3.84 U/3.84 U	3.84 U/19.2 U	19.2 U/19.2 U	3.84 U/3.84 U
ZINC	123	81[6]	131/109	6.4 U/1.26 U	38.8 J/39.9	356/10.5	1.26 U/1.26 U
HARDNESS	NA	NA	NA	272	2620	4820	186
NITRATE	NA	NA	NA	0.05 U	0.27	0.05 U	0.05 U
SULFATE	NA	NA	NA	4	1100	1400	9.8

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TABLE 3-1

ROUND 2 GROUNDWATER ANALYTICAL RESUTLS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
GOSS COVE LANDFILL, NSB-NLON, GROTON, CONNECTICUT
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Chemical	Primary Monitoring Criterion[1]	Secondary Monitoring Criterion[4]	NSB-NLON Background Concentration[7]	8MW7S 02 3/19/2002	8MW7S (DUP) 02 3/19/2002	8MW8D 02 3/23/2002	HNUS-23 02 3/23/2002
VOCs (ug/L)							
METHYLENE CHLORIDE	48,000	1,600	--	2 U	2 U	2 U	2 U
TETRACHLOROETHENE	88	8.85	--	1 U	1 U	2300	1 U
XYLENES, TOTAL	50000[2]	NA	--	10	9	1 U	1 U
SVOCs (ug/L)							
BENZO(A)ANTHRACENE	0.3	0.031	--	0.1 U	0.1 U	0.1 U	0.1 UJ
BENZO(A)PYRENE	0.3	0.031	--	0.1 UJ	0.1 UJ	0.1 U	0.1 U
BENZO(B)FLUORANTHENE	0.3	0.031	--	0.1 UJ	0.1 UJ	0.1 U	0.1 UJ
BENZO(G,H,I)PERYLENE	0.3[3]	0.031	--	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
BENZO(K)FLUORANTHENE	0.3	0.031	--	0.1 UJ	0.1 UJ	0.1 U	0.1 UJ
BIS(2-ETHYLHEXYL)PHTHALATE	59	5.9	--	5 U	5 U	10 J	12 J
CARBAZOLE	29[3]	NA	--	0.8 J	0.8 J	5 U	5 U
CHRYSENE	0.3[3]	0.031	--	0.1 UJ	0.1 UJ	0.1 U	0.1 U
DIBENZO(A,H)ANTHRACENE	NA	0.031	--	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
FLUORANTHENE	3,700	370	--	0.7 J	0.7 J	0.1 U	0.1 U
INDENO(1,2,3-CD)PYRENE	0.3[3]	0.031	--	0.1 UJ	0.1 UJ	0.1 U	0.1 UJ
PHENANTHRENE	0.3	0.031	--	0.6 J	0.7 J	0.1 UJ	0.1 UJ
PYRENE	110,000	11,000	--	0.4	0.3 J	0.1 U	0.1 UJ
Pesticides/PCBs (ug/L)							
4,4-DDD	NA	0.00059[5]	--	0.019 U	0.020 U	0.019 U	0.020 U
4,4-DDE	NA	0.00059	--	0.019 U	0.020 U	0.019 U	0.020 U
4,4-DDT	NA	0.00059	--	0.019 U	0.020 U	0.019 U	0.020 U
ALDRIN	NA	0.00014	--	0.010 U	0.010 U	0.009 U	0.010 U
AROCLOR-1248	0.5	NA	--	0.19 U	0.20 U	0.19 U	0.20 U
AROCLOR-1254	0.5	NA	--	0.19 U	0.20 U	0.19 U	0.20 U
AROCLOR-1260	0.5	NA	--	0.19 U	0.20 U	0.19 U	0.20 U
DIELDRIN	0.1	0.00014	--	0.019 U	0.020 U	0.019 U	0.020 U
HEPTACHLOR	0.05	0.00021	--	0.010 U	0.010 U	0.009 U	0.010 U
Inorganics (total/dissolved) (ug/L)							
ANTIMONY	86,000	4,300	2.9/2.01	0.50 U/0.46 U	0.60 U/0.44 U	0.38 U/0.50 U	0.49 U/0.60 U
ARSENIC	4	0.14	1.92/2.55	0.89/1.6	1.0/0.80 U	0.80 U/0.80 U	0.80 U/0.80 U
BERYLLIUM	4	0.13	ND	0.29 U/0.29 U	0.29 U/0.29 U	0.29 U/0.29 U	0.29 U/0.29 U
CADMIUM	6	9.3[6]	ND	2.98 U/2.98 U	2.98 U/2.98 U	2.98 U/2.98 U	2.98 U/2.98 U
COPPER	48	2.4[6]	107/39.4	2.1 J/1.74 U	2.0 J/1.74 U	1.74 U/1.74 U	1.74 U/1.74 U
LEAD	13	8.1[6]	6.63/2.52	0.71 U/0.05 U	0.80 U/0.21 U	0.05 U/0.06 U	0.10 U/0.05 U
MERCURY	0.4	0.025[6]	ND	0.10 U/0.03 U	0.09 U/0.03 U	0.10 U/0.04 U	0.11 U/0.10 U
NICKEL	880	8.2[6]	32.2/15.3	9.25 U/9.25 U	9.25 U/9.25 U	9.25 U/9.25 U	9.25 U/9.25 U
VANADIUM	NA	NA	10.2/9.9	3.84 U/3.84 U	3.84 U/3.84 U	3.84 U/3.84 U	3.84 U/3.84 U
ZINC	123	81[6]	131/109	1.5 U/1.26 U	1.8 U/1.26 U	1.26 U/1.26 U	1.8 U/4.0 U
HARDNESS	NA	NA	NA	262	246	61.6	222
NITRATE	NA	NA	NA	0.05 U	0.05 U	0.37 J	14 J
SULFATE	NA	NA	NA	1	1	16	20

NOTES:

Bold numbers denote exceedance of secondary monitoring criterion, primary monitoring criterion, or background concentrations.

1 Surface Water Protection Criteria for Substances in Groundwater (CTDEP, January 1996)
2 Industrial/commercial volatilization criteria for groundwater (CTDEP, January 1996).
3 Surface Water Protection Criteria for Substances in Groundwater, using a site-specific dilution factor or 118 (TtNUS, September 1999).
4 Connecticut Water Quality Standards for the protection of Human Health from consumption of organisms. (CTDEP, April 1997)
5 National Recommended Water Quality Criteria for the protection of human health from consumption of oganisms (USEPA, April 1999)
6 Connecticut Water Quality Standards for the protection of aquatic life (chronic, saltwater). (CTDEP, April 1997)
7 Background Concentrations taken from Basewide Groundwater Operable Unit Remedial Investigation Report (TtNUS, January 2002)
J Estimated Value
R Rejected Value
U Undetected
NA Not Available
ND Not Detected in background samples
-- Not analyzed for in background samples.

DRAFT

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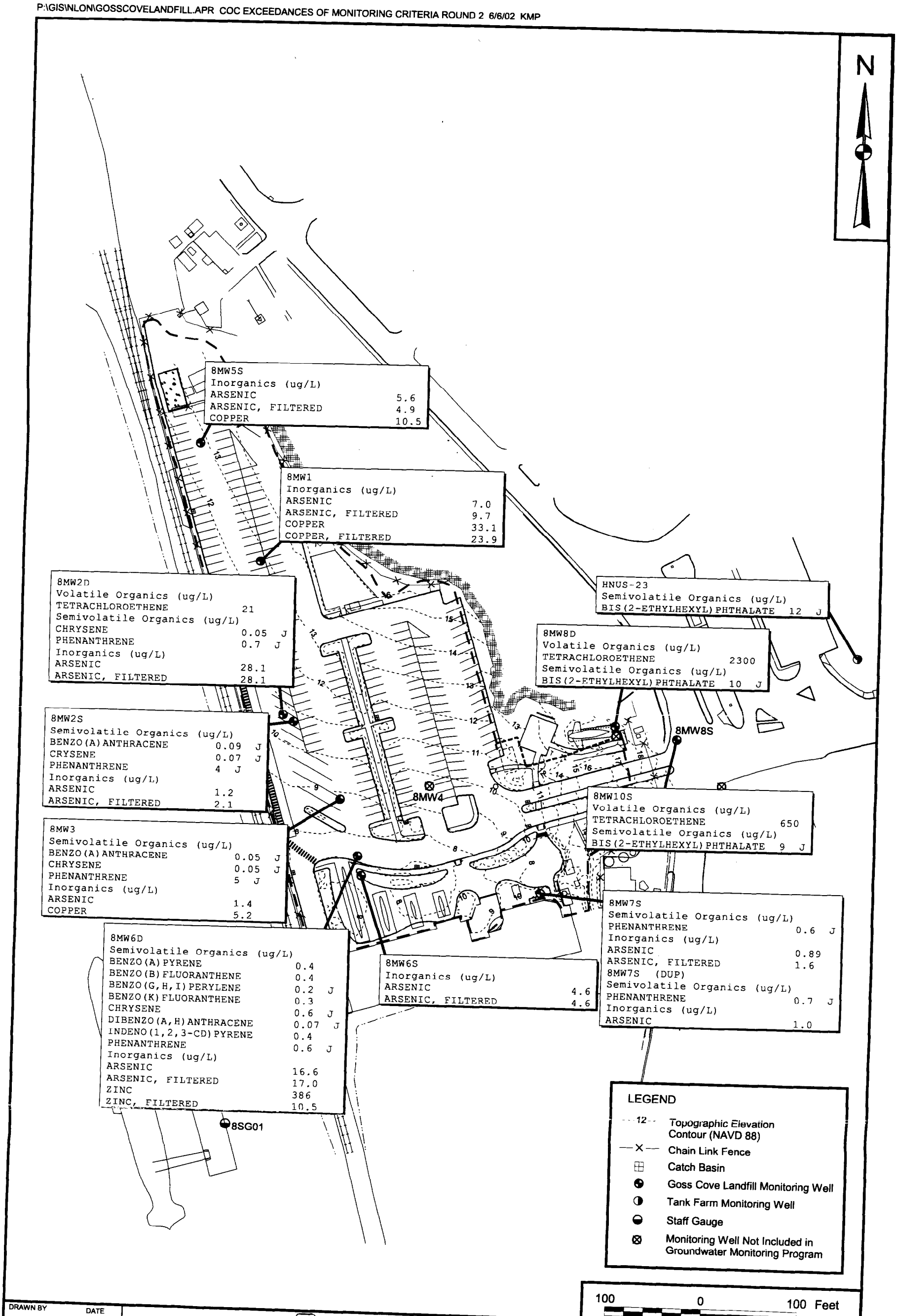
P:\GIS\NLON\GOSSCOVELANDFILL.APR COC EXCEEDANCES OF MONITORING CRITERIA ROUND 2 6/6/02 KMP



DRAWN BY K. PEILA	DATE 6/6/02	Tetra Tech NUS, Inc.	CONTRACT NUMBER 2863	OWNER NUMBER 816
CHECKED BY	DATE	COC EXCEEDANCES OF MONITORING CRITERIA ROUND 2 GOSS COVE LANDFILL NSB NLON GROTON, CONNECTICUT	APPROVED BY CAR	DATE 6/25/02
COST/SCHEDULE-AREA			APPROVED BY	DATE
SCALE AS NOTED			DRAWING NO. FIGURE 3-1	REV 0

060209/P

3-11

CTO 0816

DRAFT

11077.042

REFERENCES

Atlantic (Atlantic Environmental Services, Inc.), August 1992. Phase I Remedial Investigation Naval Submarine Base - New London, Groton, Connecticut. Colchester, Connecticut.

B&R Environmental (Brown & Root Environmental), March 1997. Phase II Remedial Investigation for Naval Submarine Base New London, Groton, Connecticut, Revision 1. King of Prussia, Pennsylvania.

B&R Environmental (Brown & Root Environmental), August 1997. Data Gap Investigation Report for Goss Cove Landfill, Naval Submarine Base, New London, Groton, Connecticut. King of Prussia, Pennsylvania.

CTDEP (State of Connecticut Department of Environmental Protection), January 1996. "Remediation Standard Regulations." Bureau of Water Management, Permitting, Enforcement and Remediation Division, Hartford, Connecticut.

CTDEP (State of Connecticut Department of Environmental Protection), April 1997. Water Quality Standards. Connecticut Department of Environmental Protection, Bureau of Water Management, Planning and Standards, Hartford, Connecticut.

CTDEP (State of Connecticut Department of Environmental Protection), March 1999. Connecticut Phase I/II Environmental Site Assessment, Fusconi Dry Cleaners, Groton, Connecticut. CERLIS CT0018668426 Bureau of Water Management, Permitting, Enforcement and Remediation Division, Hartford, Connecticut.

NEESA (Naval Engineering and Environmental Support Activity), March 1993. Final Initial Assessment Study of Naval Submarine Base, New London, Connecticut. NEESA 13-025. Port Hueneme, California.

NFESC (Naval Facilities Engineering Service Center), February 1996. Navy Installation Restoration Laboratory Quality Assurance Guide (Interim Guidance).

SAIC (Science Applications International Corporation) December 1998. Draft Evaluation of Chemical and Toxicological Data for Goss Cove, Naval Submarine Base, New London CT. Newport, Rhode Island.

TtNUS (Tetra Tech NUS, Inc.), September 1998. Wetland Functions and Values Assessment Report. King of Prussia, Pennsylvania.

TtNUS (Tetra Tech NUS, Inc.), June 1999. Proposed Remedial Action Plan for Goss Cove Landfill (Site 8) Naval Submarine Base - New London, Groton, Connecticut. King of Prussia, Pennsylvania.

TtNUS (Tetra Tech NUS, Inc.), September 1999a. Feasibility Study for Goss Cove Landfill (Site 8) Soil Operable Unit, Naval Submarine Base-New London, Groton, Connecticut. King of Prussia, Pennsylvania.

TtNUS (Tetra Tech NUS, Inc.), September 1999b. Record of Decision for Goss Cove Landfill (Site 8) Naval Submarine Base - New London, Groton, Connecticut. King of Prussia, Pennsylvania.

TtNUS (Tetra Tech NUS, Inc.), March 2001. Groundwater Monitoring Plan for Goss Cove Landfill, Naval Submarine Base - New London, Groton, Connecticut. King of Prussia, Pennsylvania.

TtNUS (Tetra Tech NUS, Inc.), January 2002. Basewide Groundwater Operable Unit Remedial Investigation Report, Naval Submarine Base - New London, Groton, Connecticut. King of Prussia, Pennsylvania.

USEPA (United States Environmental Protection Agency), April 1999. National Recommended Water Quality Criteria-Correction. EPA 822-Z-99-001. Office of Water (4304). Washington, D.C.

APPENDIX A

FIELD ACTIVITIES LOG BOOK

START SHIFT

3-18-02

DAILY SUMMARY

ON SITE, T+NUS

KEITH SIMPSON
TERRY ROJAHN

TRAVEL TO SITE (MOB)

HIGH WL @ GOSS COVE (HIGH TIDE RD.)
PREP. BOTTLE SETS,
CAL. EQ.

TITLE NSB-NLON

PROJECT NO. 2863

BOOK NO. 1300

MONDAY 3.18.02

Work continued from Page WEATHER: SNOW OVERCAST 33-35°F

0630 KEITH SIMPSON & TERRY ROJAHN @ PGH AIRPO - TO GROTON, CT.

1020 CHECK INTO HOTEL, BEST WESTERN, TR TO GAS SUPPLY & PICK-UP 3 CYL OF NITROGEN KS PAPER WORK.

TO BASE / PASS & ID THEN TO BLD 166 MET WITH DICK CONANT.

1240 TO GOSS COVE FOR HIGH TIDE WATER LEVELS

1420 RETURN TO BLD 166 PREP BOTTLE SETS CAL. EQ. LOAD TRUCKS, PICK-UP DRUM FROM HAZ-WASTE BLD FOR IDW @ GOSS COVE

1920 TO GOSS COVE & DROP IDW DRUM OFF

1940 TO HOTEL - KS TO STORE FOR WATER, ZIPLOCS

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE [signature] DATE 3.18.02

DISCLOSED TO AND UNDERSTOOD BY | DATE | WITNESS | DATE

3.19.02

DAILY SUMMARY

ON SITE: T + NUS, T. ROJAHN
R. SIMPSON

4 ~~X~~ RS MWs SAMPLED @ GOSS COVE

2 MWs PURGED DRY @ AREA A

ROUND OF WLs @ AREA A

TUES. 3.19.02

Work continued from Page WEATHER: LT RAIN OVERNITE 34-42°F OVERCAST

0640 KS & TR TO GOSS COVE SET UP ON 8MW3 & 2S PURGE & SAMPLE.

0930 COMPLETE SAMPLING MOVE TO 8MW6S & 7S NON-TIDAL PURGE & SAMPLE DUP @ 7S, MS/MSD @ 6S

1225 COMPLETE SAMPLING "DUMP" PURGE WATER TO MANCH

1310 PICK-UP MORE ICE TO BLD 166

1515 LOAD TRUCKS TO AREA A FOR SITE WATER LEVELS

1715 COMPLETE WL/INSPECTIONS START PURGE @ 2WMW3GDS & 2WMW42DS

1855 RETURN TO BLD 166 CLEAN EQ.

1930 OFF SITE TO HOTEL

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE [signature] DATE 3.19.02

DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

Work continued from Page

GOSS COVE ROUND 2 SAMPLING
MARCH 2002

LOCATION	DATE SAMPLED	PUMP USED	QA	TIDAL	COMMENTS
8MW1	3.24.02	B	—	Y	
8MW2S	3.19.02	B	—	Y	
8MW2D	3.23.02	P	—	Y	
8MW3	3.19.02	B	—	Y	
8MW5S	3.20.02	P	—	Y	
8MW6S	3.19.02	B	MS/MSD	N	
8MW6D	3.24.02	B	—	Y	
8MW7S	3.19.02	B	DUP	N	
8MW8D	3.23.02	B	—	Y	
8MW10S	3.23.02	P	~~MS~~/MSD*	N	ON ROAD - SECURITY TO CLOSE RD.
HNUS23	3.23.02	B	—	N	BALL FIELD

B = BLADDER (DEDICATED PUMPS)
P = PERISTALTIC

* LAB ASK FOR A 2ND MS/MSD. DUE TO RERUNS ON MS/MSD @ 6S THERE WAS NOT SUFFICIENT VOL. A 2ND MS/MSD WAS COLLECTED @ 10S

HIGH TIDE ROUND OF WLs 3.24.02 @ 1748
LOW TIDE ROUND OF WLs 3.25.02 @ 1302

SIGNATURE [signature] DATE 3.19.02

DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

Work continued from Page

AREA A LANDFILL SAMPLING
ROUND 10

LOCATION	SAMPLE DATE	QA	PURGE DATE	COMMENTS
3MW37S	3.24.02	MS/MSD	—	
2WMW38DS	3.21,23, 02	—	3.19,02	
39DS	3.22.02	—	3.21.02	
40DS	3.22,23.02	—	3.21.02	RD. 11 PURGE DRY AM SAMPLE NEXT DAY PM
41DS	3.22.02	—	3.21.02	
42DS	3.21.02	—	3.19.02	
43DS	3.22.01	—	3.21.02	
44DS	3.22.02	—	—	RD. 11 PURGE DRY
45DS	3.22.02	—	3.21.02	
46DS	3.22.02	—	3.21.02	
47DS	3.20.02	—	—	
2CMW20S	3.24.02	—	—	FLUSH MT.
4WMW21S	3.20.02	DUP	—	
4MW1S	3.20.02	DUP	—	
SWSG 15	DRY	—	NA	
16	DRY	—		
17	DRY	—		
18	3.21.02	MS/MSD		
19	3.25.02	—		
20	3.21.02	DUP		
21	3.25.02	—		
22	DRY	—		
23	3.25.02	—		
24	3.25.02	—		
3MSP01	3.24.02	—		
LFSP01	3.23.02	—		ONE TIME SAMPLE

ROUND OF W/LS 3.19.02 PM

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE [illegible] DATE 3.19.02

DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

3.20.02

DAILY SUMMARY

ON SITE; T+NUS, K. SIMPSON
T. ROJAHN

AREA A: 3 MWs SAMPLED

GOSS COVE: 1- MW SAMPLED

SHIPPED 9 COOLERS TO LAB

SEE ALSO LOG BOOK # 1301

WED. 3.20.02

Work continued from Page WEATHER: AM OVERCAST 37°F
RAIN/SNOW STARTING @ 1030 31-34°F

0655 KS @ GOSS COVE SET-UP ON 8MW5S
TR @ AREA A SET-UP ON 2WMW21S

0905 KS COMPLETES SAMPLING TO AREA A
TALKED WITH COREY RICH HE WOULD LIKE PHOTOS OF "NEW" SEEP @ AREA A & SEEP BELOW DIKE. ALSO, ALL SAMPLING EQ. IS DEDACHTED THEREFORE WE WILL NOT COLLECT A RINSATE BLANK THIS ROUND (BOTH SITES)

1000 WENT TO AREA A WITH DICK CONANT WE LOOK AT "NEW" SEEP AND THERE IS A QUESTION WHETHER IT IS COMING OUT FROM UNDER THE LANDFILL OR FROM UPSTREAM IN THE WETLAND. WE WILL SAMPLE THE WEEKEND.
ALSO SHOWED SURFACE WATER LOCATIONS AND HE AGREES THEY ARE VALID SW LOCATIONS.

1200 TR COMPLETES 2WMW21S + DUP @ BLD 166
TO LUNCH + PICK-UP MORE ICE

1300 @ BLD 166 PREP FOR GW SAMPLING @ AREA A
KS TO 2WMW47DS PURGE & SAMPLE TR TO 4MW1S PURGE & SAMPLE + DUP
KS COMPLETE SAMPLING TO BLD 166 PACK FOR SAMPLE SHIPPMENT & PAPER WORK

1850 DEPART SITE FOR SAMPLE PICK-UP

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE [signature] DATE 3.20.02
DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

3-21-02

DAILY SUMMARY

ON SITE; T + NUS, K. SIMPSON
T. ROJAHN

AREA A: SAMPLED 1 MW +
STARTED 38DS

6 MWS PURGED DRY

THUR 3.21.02

BOOK NO. 1300

Work continued from Page WEATHER: NICE, SUNNY 33-42°F

0700 KS & TR @ BLD 166 CAL EQ., LOAD SUVs

0735 TO AREA A FOR GW SAMPLING

KS SAMPLED 42DS, TR START SAMPLING 38DS

ALSO PURGE DRY 45DS, 46DS,

TR PURGED 39DS & 40DS TO LUNCH

1250 TO BLD 166 RESTOCK SUVs, DUMP PURGE WATER

@ OT 10

1330 RETURN TO AREA A PURGE 41DS & 43DS

1540 START SW SAMPLING SAMPLED 2 SG LOCATIONS

SWSG-18 + MS/MSD & SWSG-20 + DUP

1700 TO BLD 166, TR OFF SITE FOR ICE,

PAPER WORK FILTER SW DIS. METALS

CLEAN-UP

1840 DEPART SITE TO HOTEL

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE [signature] DATE 3.21.02

DISCLOSED TO AND UNDERSTOOD BY | DATE | WITNESS | DATE

3-22-02

DAILY SUMMARY

ON SITE; T+NUS, R. SIMPSON
T. ROJAHN

AREA A:
SAMPLED 7 MWs

SHIPPED 8 COOLERS TO LAB

FRIDAY 3·22·02

Work continued from Page WEATHER: WINDY COLD 22-33°F

0700 KS & TR @ BLD 166 LOAD TRUCKS FOR GW SAMPLING @ AREA A (SEE PG 105)

1040 KS TO BLD 166 PAPERWORK, STORE SAMPLES, IDW TO OT 10 LOAD SUV FOR PM GW SAMPLING @ AREA A

1250 KS & TR RETURN TO AREA A & CONTINUE SAMPLING GW.

1625 @ BLD 166 PACKING SAMPLES, PAPER WORK, CLEAN-UP, PREP FOR SAT. SAMPLING

1830 DEPART SITE FOR SAMPLE PICK-UP @ HOTEL

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE [signature] DATE 3·22·02

DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

3.23.02

DAILY SUMMARY

ON SITE: T. HINUS, T. ROJAHN
K. SIMPSON

AREA A: SEEP LFSP01 SAMPLED
4 ODS COMPLETED
CONTINUE SAMPLING 3 ODS

GOSS COVE: 4 MWs SAMPLED
& 1 MS/MSD COLLECTED

SCIENTIFIC GENERAL PRODUCTS CINCINNATI 10270 MADE IN U.S.A.

SAT. 3.23.02

BOOK NO. 1300

Work continued from Page WEATHER: SUNNY 27-45°F-HIGH WINDS

0655 ON SITE KS & TR LOAD SUV CAL EQ.;
TO AREA A SAMPLE 38DS & LFSP01
CALLED SECURITY TO HAVE ROAD BLOCKED FOR
8MW10S @ 1330 TALK WITH SARGENT WELLS
WILL BE THERE @ 1330

0930 RETURN TO BLD 166 FILTER SEEP DIS. METALS
LOAD SUVS FOR GOSS COVE GW SAMPLING

0930 TO GOSS COVE SET-UP PURGE SAMPLE 8D & 20

1210 COMPLETE SAMPLING TO LUNCH, PICK-UP ICE

1250 TR SET-UP ON HNUS23 KS @ 8MW10S
COMPLETE SAMPLING TO BLD 166 STORE
SAMPLES, CLEAN EQ.
TR TO AREA A & CONTINUE SAMPLING 40DS
KS @ 166 PAPERWORK

1840 DEPART SITE TO HOTEL

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE

DATE 3-23-02

DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

3-24-02

DAILY SUMMARY

ON SITE: T + NUS, R. SIMPSON
T. ROJAHN

AREA A: 2 MWs SAMPLED + MS/MSD
SEEP 3MSP01 SAMPLED

GOSS COVE: 2 MWs SAMPLED
- HIGH TIDE WLs

SCIENTIFIC BINDERY PRODUCTS CHICAGO MADE IN U.S.A.

SUNDAY 3.24.02

Work continued from Page WEATHER: NICE SUNNY 35-49°F NO WIND

0655 KS & TR PICK-UP ICE TO BLD 166 CAL 2.
LOAD SUVs FOR GW SAMPLING @ AREA A
0730 TO AREA A TR SET-UP ON 3MW37S, KS TO 2LMW20S
1010 TO BLD 166 SWITCH OUT EQ. FOR GOSS COVE SAMPLING
1025 TO GOSS COVE SET-UP TO PURGE & SAMPLE MW1 & 6D. ALL MWs SAMPLED @ GOSS COVE
1230 COMPLETE SAMPLING DUMPED PURGE WATER INTO IDW DRUM ≈ 40 GAL OF WATER IN ONE DRUM
1340 TO AREA A TR CONTINUE ON MW 3MW37S + MS/MSD KS SAMPLED SEEP 3MSP01
KS TO BLD 166 CLEAN-UP, PAPER WORK
1730 TO GOSS COVE FOR HIGH TIDE WLs
TR & KS @ BLD 166 STORE SAMPLES
CLEAN-UP
DEPART SITE TO HOTEL

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE [signature] DATE 3-24-02

DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

3-25-02

DAILY SUMMARY

ON SITE: T+NUS, K. SIMPSON
T. ROJAHN

AREA A:
4 SW, COMPLETE 38DS

GOSS COVE:
LOW TIDE W/L ROUND

SHIPPED 12 COOLERS

DEMOB

MONDAY 3-25-02

Work continued from Page WEATHER: AM OVERCAST 38°F PM

0700 PICK-UP ICE TO BASE @ BLD 166 CAL EQ, LOAD SUVs FOR SW SAMPLING @ AREA A
0800 TO AREA A, SAMPLED 4 SW LOCATIONS
0915 RETURN TO BLD 166 UNLOAD SUVs LABEL SAMPLES
START DEMOB
1230 TR RETURN NITROGEN CYL. KS TO GOSS COVE FOR ROUND OF LOW TIDE WLs
TR TO MW 38DS TO COMPLETE SAMPLING
1400 TR/KS @ BLD 166 PACKING RENTED EQ. FOR FEDEX
1600 KS RETURN TO BLD 166
LOAD COOLERS, CLEAN TRAINING ROOM, STORE SUPPLIES IN BASEMENT
1730 OFF SITE TO HOTEL FOR SAMPLE PICK-UP

TUESDAY 3-26-02
TRAVEL TO PGH. OFFICE

END OF SHIFT
AREA A ROUND 10
GOSS COVE ROUND 2

SIGNATURE [signature] DATE 3-25-02
DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

APPENDIX B

MONITORING WELL INSPECTION SHEETS

MONITORING WELL INSPECTION SHEET

NSB NLON

Well ID: 8MW1

Time: 1339 **Date:** 3.18.02 **Inspector's Name:** K. SIMPSON

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible	✓		
Well security	Condition protective case, cap, lock	✓		
Well pad	Concrete or gravel & condition	✓		
Well seal	Condition of…	✓		
Area Immediately around well pad	Record any evidence of/or standing water in area of well	✓		
Dedicated sampling equipment	Condition of…	✓		
PVC Riser	Condition of riser & survey reference point	✓		

Comments: GOSS COVE ROUND 2

Signature(s) [illegible]

Note: S= Satisfactory, U= Unsatisfactory
Check one, if unsatisfactory explain

MONITORING WELL INSPECTION SHEET

NSB NLON

Well ID: EMW2S

Time: 1335 **Date:** 3.18.02 **Inspector's Name:** K. SIMPSON

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible	✓		
Well security	Condition protective case, cap, lock	✓		
Well pad	Concrete or gravel & condition	✓		
Well seal	Condition of...	✓		
Area Immediately around well pad	Record any evidence of/or standing water in area of well	✓		
Dedicated sampling equipment	Condition of...	✓		
PVC Riser	Condition of riser & survey reference point	✓		

Comments: GOSS COVE
ROUND 2

Signature(s) [illegible]

Note: S= Satisfactory, U= Unsatisfactory
Check one, if unsatisfactory explain

MONITORING WELL INSPECTION SHEET

NSB NLON

Well ID: GMW2D

Time: 1337 **Date:** 3.18.02 **Inspector's Name:** R. SIMPSON

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible	✓		
Well security	Condition protective case, cap, lock	✓		
Well pad	Concrete or gravel & condition	✓		
Well seal	Condition of…	✓		
Area Immediately around well pad	Record any evidence of/or standing water in area of well	✓		
Dedicated sampling equipment	Condition of…	✓		
PVC Riser	Condition of riser & survey reference point	✓		

Comments: GOSS COVE
ROUND 2

Signature(s) [illegible]

Note: S= Satisfactory, U= Unsatisfactory
Check one, if unsatisfactory explain

MONITORING WELL INSPECTION SHEET

NSB NLON

Well ID: 8MW3

Time: 1333 **Date:** 3.18.02 **Inspector's Name:** K. SIMPSON

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible	✓		
Well security	Condition protective case, cap, lock	✓		
Well pad	Concrete or gravel & condition	✓		
Well seal	Condition of…	✓		
Area Immediately around well pad	Record any evidence of/or standing water in area of well	✓		
Dedicated sampling equipment	Condition of…	✓		
PVC Riser	Condition of riser & survey reference point	✓		

Comments: GOSS COVE
ROUND 2

Signature(s) [illegible]

Note: S= Satisfactory, U= Unsatisfactory
Check one, if unsatisfactory explain

MONITORING WELL INSPECTION SHEET

NSB NLON

Well ID: 8MW5S

Time: 1335 **Date:** 3.18.02 **Inspector's Name:** R. SIMPSON

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible	✓		
Well security	Condition protective case, cap, lock	✓		
Well pad	Concrete or gravel & condition	✓		
Well seal	Condition of…	✓		
Area Immediately around well pad	Record any evidence of/or standing water in area of well	✓		
Dedicated sampling equipment	Condition of…	✓		
PVC Riser	Condition of riser & survey reference point	✓		

Comments: GOSS COVE
ROUND 2

Signature(s) [illegible]

Note: S= Satisfactory, U= Unsatisfactory
Check one, if unsatisfactory explain

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

NSB NLON

Well ID: 8MW6S

Time: 1250 **Date:** 3.18.02 **Inspector's Name:** R. SIMPSON

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible	✓		
Well security	Condition protective case, cap, lock	✓		
Well pad	Concrete or gravel & condition	✓		
Well seal	Condition of…	✓		
Area Immediately around well pad	Record any evidence of/or standing water in area of well	✓		
Dedicated sampling equipment	Condition of…	✓		
PVC Riser	Condition of riser & survey reference point	✓		

Comments: GOSS COVE
ROUND 2

Signature(s) [illegible]

Note: S= Satisfactory, U= Unsatisfactory
Check one, if unsatisfactory explain

MONITORING WELL INSPECTION SHEET

NSB NLON

Well ID: BMW6D

Time: 1255 **Date:** 3.18.02 **Inspector's Name:** K. SIMPSON

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible	✓		
Well security	Condition protective case, cap, lock	✓		
Well pad	Concrete or gravel & condition	✓		
Well seal	Condition of…	✓		
Area Immediately around well pad	Record any evidence of/or standing water in area of well	✓		
Dedicated sampling equipment	Condition of…	✓		
PVC Riser	Condition of riser & survey reference point	✓		

Comments: GOSS COVE ROUND 2

Signature(s) [illegible]

Note: S= Satisfactory, U= Unsatisfactory
Check one, if unsatisfactory explain

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

NSB NLON

Well ID: 8MW75

Time: 1308 **Date:** 3.18.02 **Inspector's Name:** K. SIMPSON

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible	✓		
Well security	Condition protective case, cap, lock	✓		
Well pad	Concrete or gravel & condition	✓		
Well seal	Condition of…	✓		
Area Immediately around well pad	Record any evidence of/or standing water in area of well	✓		
Dedicated sampling equipment	Condition of…	✓		
PVC Riser	Condition of riser & survey reference point	✓		

Comments: GOSS COVE
ROUND 2

Signature(s) [illegible]

Note: S= Satisfactory, U= Unsatisfactory
Check one, if unsatisfactory explain

MONITORING WELL INSPECTION SHEET

NSB NLON

Well ID: 8MW8D

Time: 1309 **Date:** 3.18.02 **Inspector's Name:** R. SIMPSON

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible	✓		
Well security	Condition protective case, cap, lock	✓		
Well pad	Concrete or gravel & condition	✓		
Well seal	Condition of…	✓		
Area Immediately around well pad	Record any evidence of/or standing water in area of well	✓		WATER IN FLUSH MT. VAULT
Dedicated sampling equipment	Condition of…	✓		
PVC Riser	Condition of riser & survey reference point	✓		

Comments: GOSS COVE ROUND 2

Signature(s) [illegible]

Note: S= Satisfactory, U= Unsatisfactory
Check one, if unsatisfactory explain

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

NSB NLON

Well ID: EMW10S

Time: 1315 **Date:** 3.18.02 **Inspector's Name;** K. SIMPSON

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible	✓		
Well security	Condition protective case, cap, lock	✓		
Well pad	Concrete or gravel & condition	✓		
Well seal	Condition of…	✓		
Area Immediately around well pad	Record any evidence of/or standing water in area of well	✓		
Dedicated sampling equipment	Condition of…	✓		
PVC Riser	Condition of riser & survey reference point	✓		

Comments: GOSS COVE ROUND 2

Signature(s) [signature]

Note: S= Satisfactory, U= Unsatisfactory
Check one, if unsatisfactory explain

NSB-NLON
Field Form
Revision: 1
Janu ' 999

MONITORING WELL INSPECTION SHEET

NSB NLON

Well ID: HNUS 23

Time: 1400 **Date:** 3.18.02 **Inspector's Name;** K. SIMPSON

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible	✓		
Well security	Condition protective case, cap, lock	✓		
Well pad	Concrete or gravel & condition	✓		
Well seal	Condition of…	✓		
Area Immediately around well pad	Record any evidence of/or standing water in area of well	✓		WATER IN FLUSH MT. VAULT
Dedicated sampling equipment	Condition of…	✓		
PVC Riser	Condition of riser & survey reference point	✓		

Comments: GOSS COVE
ROUND 2

Signature(s) [illegible]

Note: S= Satisfactory, U= Unsatisfactory
Check one, if unsatisfactory explain

APPENDIX C

WATER LEVEL MEASUREMENT SHEETS

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NSB NLON Groton, CT
Project No.: N2863 CTO 0816
Location: Goss Cove - Round 2
Personnel: K. SIMPSON
Weather Conditions: CLEAR 40°F
Measuring Device: M-Scope
Tide Times: LOW @ 1302

Location ID	Date	Time	Tidal (Y/N)	Total Well Depth From TOC (feet)*	Water Level Indicator Reading (feet)*	Comments
8MW1	3.25.02	1250	Y		13.33	
8MW2S		1244	Y		10.30	
8MW2D		1246	Y		10.94	
8MW3		1258	Y		8.84	
8MW5S		1255	Y		13.69	
8MW6S		1237	N		8.70	
8MW6D		1235	Y		8.34	
8MW7S		1240	N		9.03	
8MW8D		1305	Y		16.93	SLIGHT PRES. WHEN WELL CAP REMOVED
8MW10S		1310	N		16.08	
HNUS23		1320	N		6.59	
8SG01		1300	Y		10.38	

* All measurements to the nearest 0.01 foot

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NSB NLON Groton, CT
Project No.: N2863 CTO 0816
Location: Goss Cove - Round 2
Personnel: K. SIMPSON
Weather Conditions: CLEAR 45° F
Measuring Device: M-Scope
Tide Times: HIGH @ 1748

Location ID	Date	Time	Tidal (Y/N)	Total Well Depth From TOC (feet)*	Water Level Indicator Reading (feet)*	Comments
8MW1	3.24.02	1751	Y		11.93	SAMPLED THIS AM
8MW2S		1749	Y		10.30	
8MW2D		1750	Y		9.36	
8MW3		1746	Y		8.97	
8MW5S		1753	Y		12.07	
8MW6S		1739	N		8.69	
8MW6D		1741	Y		6.80	SAMPLED THIS AM
8MW7S		1735	N		9.00	
8MW8D		1735	Y		16.38	
8MW10S		1730	N		16.07	
HNUS23		1725	N		6.51	
8SG01		1743	Y		8.05	

* All measurements to the nearest 0.01 foot

APPENDIX D

MONITORING INSTRUMENT CALIBRATION LOGS

EQUIPMENT CALIBRATION LOG

INSTRUMENT NAME/MODEL : LA MOTTE 2020

PROJECT NAME : NSB-NLON AREA A & GOSS COVE

MANUFACTURER : LA MOTTE TURB

PROJECT NUMBER : CTO 816 N2863

SER# 1738-1800

CALIBRATION DATE	INITIAL SETTINGS	STANDARDS USED	PROCEDURE	ADJUSTMENTS MADE	FINAL SETTINGS	SIGNATURE	COMMENTS
3.18.02	0 & 9.7	0-10	ASPER.	YES	0-10	[illegible]	0-10 NTUs
3.19.02	0 & 10	"	MANUF.	—	"	[illegible]	
3.20.02	0 & 10	"	"	—	"	[illegible]	
3.21.02	0 & 9.8	"	"	Y	"	[illegible]	
3.22.02	0.2 & 9.8	"	"	Y	"	[illegible]	
3.23.02	0 & 9.9	"	"	Y	"	[illegible]	
3.24.02	0 & 10	"	"	N	"	[illegible]	
3.25.02	0 & 10	"	"	N	"	[illegible]	

Instrument Rented From: US ENVIRONMENTAL

EQUIPMENT CALIBRATION LOG

INSTRUMENT NAME/MODEL : LA MOTTE 2020

PROJECT NAME : NSB-NION AREA A & GOSS COVE

MANUFACTURER : LA MOTTE TURB.

PROJECT NUMBER : CTO 816 N2863

SER# 0914 4098

CALIBRATION DATE	INITIAL SETTINGS	STANDARDS USED	PROCEDURE	ADJUSTMENTS MADE	FINAL SETTINGS	SIGNATURE	COMMENTS
3.18.02	0 & 9.8	0 - 10	AS PER -	YES	0 - 10	[illegible]	0 & 10 NTUs
3.19.02	0 & 9.9	"	MANUF.	Y	"	[illegible]	
3.20.02	0 & 9.7	"	"	Y	"	[illegible]	
3.21.02	0 & 10	"	"	—	"	[illegible]	
3.22.02	0 & 10	"	"	—	"	[illegible]	
3.23.02	0 & 10	"	"	—	"	[illegible]	
3.24.02	0 & 10	"	"	—	"	[illegible]	

Instrument Rented From: US ENVIRONMENTAL

EQUIPMENT CALIBRATION LOG

INSTRUMENT NAME/MODEL : PID 2020

PROJECT NAME : NSB-NION AREA A & GOSS COVE

MANUFACTURER : PHOTOVAC

PROJECT NUMBER : CTO 816 N2863

SER # ED F K 206

CALIBRATION DATE	INITIAL SETTINGS	STANDARDS USED	PROCEDURE	ADJUSTMENTS MADE	FINAL SETTINGS	SIGNATURE	COMMENTS
3.18.02	89	100 PPM	AS PER MANUF.	AUTO	100 PPM	RSP	CHANGED FILTER
		ISOBUTY-					
		LENE,					
		EX 8/02					

Instrument Rented From: US ENVIRONMENTAL

EQUIPMENT CALIBRATION LOG

INSTRUMENT NAME/MODEL : YSI 650 MDS SER# 01K1272 A

PROJECT NAME : NSB-NLON AREA A & GOSS COVE

MANUFACTURER : YSI INC

PROJECT NUMBER : CTO 816 N2863

6920 SONDE

CALIBRATION DATE	INITIAL SETTINGS	STANDARDS USED	PROCEDURE	ADJUSTMENTS MADE	FINAL SETTINGS	SIGNATURE	COMMENTS
3.18.02	—	SEE RIGHT	AS PER	YES - AUTO	4.0 PH	RSP	COND. 1.0 MS/CM
3.19.02	—	"	MANUF.	"	7.0 PH	RSP	LOT 2904 EX 11/02
3.20.02	—	"	"	"	1.0 MS/CM	RSP	
3.21.02	—	"	"	"	S.COND	RSP	PH 7.0 LOT 2675
3.22.02	—	"	"	"	100 ORP	RSP	EX 6/03
3.23.02	—	"	"	"		RSP	
3.24.02	—	"	"	"		RSP	PH 4.0 LOT 2230
3.25.02	—	"	"	"		RSP	EX 4/02
							ORP 100 MV
							LOT 2505 EX 4/02
							DO SAT. AIR

Instrumented From: US ENVIRONMENTAL

EQUIPMENT CALIBRATION LOG

SER# 01L0055AB

INSTRUMENT NAME/MODEL: YSI 650 MDS

PROJECT NAME: NSB-NLON AREA A & GOSS COVE

MANUFACTURER: YSI INC.

PROJECT NUMBER: CTO 816 N2863

6920 SOND

CALIBRATION DATE	INITIAL SETTINGS	STANDARDS USED	PROCEDURE	ADJUSTMENTS MADE	FINAL SETTINGS	SIGNATURE	COMMENTS
3.18.02	—	SEE 2ND	AS PER	YES - AUTO	4.0 PH	RSP	
3.19.02	—	METER	MANUF.	"	7.0 PH	RSP	
3.20.02	—	SHEET	"	"	1.0 MS/CM	RSP	
3.21.02	—		"	"	COND	RSP	
3.22.02	—		"	"	100 ORP	RSP	
3.23.02	—		"	"		RSP	
3.24.02	—		"	"		RSP	

Instrument Rented From: US ENVIRONMENTAL

APPENDIX E

GROUNDWATER SAMPLE LOGSHEETS AND LOW-FLOW PURGE DATA SHEETS

TABLE E-1

SUMMARY OF GROUNDWATER FIELD PARAMETERS
GOSS COVE LANDFILL GROUNDWATER MONITORING PROGRAM ROUNDS 1 AND 2
NSB-NLON, GROTON, CONNECTICUT

Monitoring Well ID	Round	Date	pH Standard	SC mS/cm	Temp. Degree C	Turb. NTU	DO mg/L	Eh mV	Salinity ppt	Fe mg/L
8MW1	1	1/13/02	7.67	34.33	9.1	0	0.28	-189	21.50	0.6
(DG)	2	3/24/02	7.32	25.59	9.8	0.2	0.29	15	15.58	0.1
8MW2S	1	1/11/02	8.41	2.628	15.2	0	0.86	-307	1.37	0.9
(DG)	2	3/19/02	8.70	2.223	13.0	1.3	0.13	-259	1.15	0.2
8MW2D	1	1/9/02	8.10	19.45	12.7	3.0	0.59	-308	11.01	4.0
(DG)	2	3/23/02	7.93	19.91	13.3	3.8	0.60	-254	11.91	5.2
8MW3	1	1/11/02	8.82	4.720	14.2	16	0.39	-316	2.50	0.8
(DG)	2	3/19/02	8.98	2.644	11.8	1.7	0.29	-334	1.38	0
8MW5S	1	1/8/02	7.25	37.36	10.3	0	2.50	-203	23.50	1.4
(DG)	2	3/20/02	7.09	21.86	8.9	0.3	6.10	-7	13.11	0.9
8MW6S	1	1/10/02	8.01	1.700	13.0	0	0.36	-309	0.87	3.0
(DG)	2	3/19/02	7.89	1.412	10.4	0.8	0.14	-214	0.72	2.2
8MW6D	1	1/10/02	7.08	42.40	13.9	32	2.87	-203	27.20	2.1
(DG)	2	3/24/02	6.99	42.64	13.9	4.9	0.61	-92	27.41	2.2
8MW7S	1	1/8/02	7.85	0.856	11.2	12	1.02	-263	0.42	3.8
(SC)	2	3/19/02	7.83	0.848	11.1	1.9	0.36	-231	0.42	3.9
8MW8D	1	1/13/02	6.41	0.414	12.7	0.5	5.63	57	0.21	0
(UG)	2	3/23/02	6.49	0.313	12.3	0.5	6.57	35	0.15	0
8MW10S	1	1/10/02	6.32	0.234	11.3	0	7.73	-38	0.11	0
(UG)	2	3/23/02	5.99	0.151	10.8	0	9.00	105	0.07	0
HNUS23	1	1/10/02	6.00	0.355	11.6	9.0	1.15	1	0.17	<0.2
(UG)	2	3/23/02	6.31	0.469	8.9	5.0	1.86	36	0.23	0

DG = Downgradient Location
UG = Upgradient Location
SC = South Central portion of landfill
MW = Monitoring Well

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / GOSS COVE
Project No.: CTO 816 2863.0520

[ ] Domestic Well Data
[x] Monitoring Well Data
[Y] Tidal (Y/N)
Low Tide at: 1209 LAG=14 1223

Sample ID No.: 8GW 01 02
Sample Location: 8MW1
Sampled By: T. ROJAHN
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

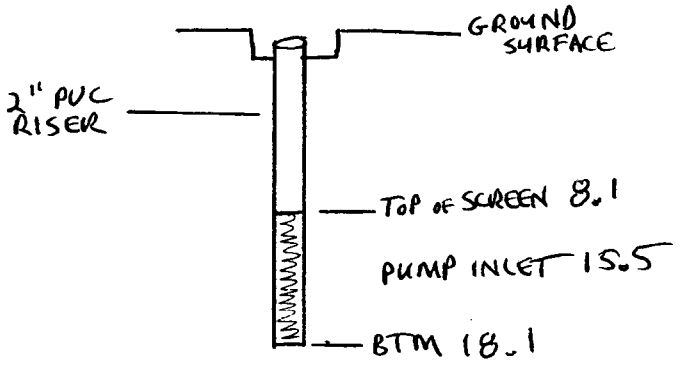
SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: 3/24/02 Time: 1223 Method: Low Flow, BLADDER	CLEAR	7.32	25.59	9.84	0.2	0.29	+15	15.58

PURGE DATA:

Date: 3/24/02
Method: Low Flow, BLADDER
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 18.1
Static Water Level (WL): 13.37
One Casing Volume(gal): 0.8
Start Purge (hrs): 1045
End Purge (hrs): 1215
Total Purge Time (min): 90
Total Vol. Purged (gal): 6.1

ALL MEASUREMENTS FROM TOP OF 2" PVC



SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
Nitrate, Sulfate	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

Field test results for Divalent iron 0.1 mg/L

Circle if Applicable:

MS/MSD —

Duplicate ID No.:

Signature(s): Terry Rojahn

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / Goss Cove
PROJECT NUMBER: CTO 816 job#2863

WELL ID.: 8 MW1
DATE: 7/24/02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh mV	Sal. ppt	Comments
1045	13.37	—	—	—	—	—	—	—	—	Start Purge
1055	13.45	300	7.12	24.18	4.0	1.09	9.72	+45	14.66	3000 ml CLEAR - NO ODOR
1105	13.50	250	7.16	24.42	3.0	0.81	9.69	+35	14.80	5500 ml "
1115	13.53	250	7.19	24.56	0.65	0.73	9.79	+32	14.93	8000 "
1125	13.56	250	7.21	24.68	0.55	0.67	9.87	+28	14.97	10500 "
1135	13.58	250	7.23	24.88	0.30	0.58	9.91	+24	15.10	13000 "
1145	13.63	250	7.25	25.00	0.30	0.54	9.99	+19	15.17	15500 "
1155	13.63	250	7.27	25.16	0.25	0.42	9.87	+19	15.30	18000 "
1205	13.65	250	7.30	25.44	0.10	0.34	9.82	+14	15.48	20500 "
1215	13.68	250	7.32	25.59	0.20	0.29	9.84	+15	15.58	23,000 "
1223										Start Sampling

SIGNATURE(S): Tony Lopez

ROUND 2

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / GOSS COVE
Project No.: CTO 816 2863.0520

[ ] Domestic Well Data
[x] Monitoring Well Data
[Y] Tidal (Y/N)
Low Tide at: 0718 LAG = 62 + 10 (0830)

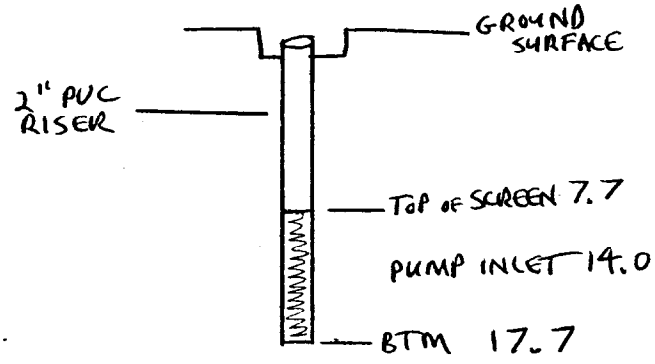
Sample ID No.: 8GW02S 02
Sample Location: 8MW2
Sampled By: T. ROJAHN
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: 3/19/02								
Time: 0830								
Method: Low Flow, BLADDER	CLEAR	8.70	2.223	13.02	1.3	0.13	-259	1.15

PURGE DATA:

Date: 3/19/02
Method: Low Flow, BLADDER
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 17.7
Static Water Level (WL): 9.95
One Casing Volume(gal): 1.3
Start Purge (hrs): 0730
End Purge (hrs): 0830
Total Purge Time (min): 60
Total Vol. Purged (gal): 3.7



ALL MEASUREMENTS FROM TOP OF 2" PVC

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
Nitrate, Sulfate	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

Field test results for Divalent iron 0.2 mg/L

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Terry Rojahn

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / Goss Cove
PROJECT NUMBER: CTO 816 job#2863

WELL ID.: 8MW2S
DATE: 3-19-02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh mV	Sal. ppt	Comments
0730	9.95	—	—	—	—	—	—	—	-	Start PURGE
0740	9.97	300	8.70	2.225	2.0	0.24	12.58	-221	1.15	3000 CLEAR
0750	10.01	220	8.71	2.206	1.4	0.17	12.76	-244	1.14	5200 "
0800	10.03	220	8.71	2.193	1.3	0.15	12.77	-276	1.13	7400 "
0810	10.03	220	8.71	2.215	1.3	0.14	12.82	-265	1.14	9600 "
0820	10.03	220	8.70	2.223	1.3	0.13	13.02	-259	1.15	11800 "
0830	—	—	Start SAMPLING			—	—	—	—	14000 "

SIGNATURE(S): Terry Rojahn

PAGE 2 OF 2

ROUND 2

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / GOSS COVE
Project No.: CTO 816 2863.0520

[ ] Domestic Well Data
[x] Monitoring Well Data
[Y] Tidal (Y/N)
Low Tide at: 1114 (NO LAG)

Sample ID No.: BGW02D 02
Sample Location: BMW2
Sampled By: R. SIMPSON
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

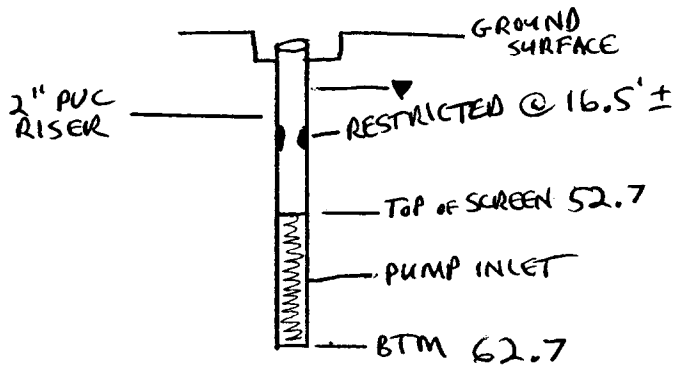
SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh ORP mV	Salinity ppt
Date: 3-23-02								
Time: 1114								
Method: Low Flow, PERISTALTIC	CLEAR	7.93	19.91	13.3	3.8	0.60	-254	11.91

PURGE DATA:

Date: 3.23.02
Method: Low Flow, PERISTALTIC
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 62.7
Static Water Level (WL): 10.88
One Casing Volume(gal): 8.4
Start Purge (hrs): 1000
End Purge (hrs): 1105
Total Purge Time (min): 65
Total Vol. Purged (gal): 3.4

ALL MEASUREMENTS FROM TOP OF 2" PVC



SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
Nitrate, Sulfate	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

Field test results for Divalent iron 5.2 mg/L

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / Goss Cove
PROJECT NUMBER: CTO 816 job#2863

WELL ID.: 8MW2D
DATE: 3.23.02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh ORP mV	Sal. ppt	Comments
1000	10.88	200								START PURGE
1005	11.83		7.61	40.41	14	1.11	12.9	-261	25.73	CLEAR, NO ODOR
1015	12.90		7.78	27.12	12	0.69	12.8	-316	16.00	
1025	13.22		8.14	21.62	8.2	0.47	13.0	-323	13.04	
1035	13.34		8.10	20.65	7.8	0.43	13.1	-303	12.40	
1045	13.44		8.02	20.16	7.4	0.51	13.3	-279	12.08	
1055	13.49		7.96	19.99	5.1	0.50	13.3	-263	11.98	
1105	13.55	↓	7.93	19.91	3.8	0.60	13.3	-254	11.91	END PURGE

SIGNATURE(S): [illegible]

ROUND 2

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / GOSS COVE
Project No.: CTO 816 2863.0520

[ ] Domestic Well Data
[x] Monitoring Well Data
[Y] Tidal (Y/N)
Low Tide at: 0728 + LA964 = 0832

Sample ID No.: BGW03 02
Sample Location: BMW3
Sampled By: R. SIMPSON
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

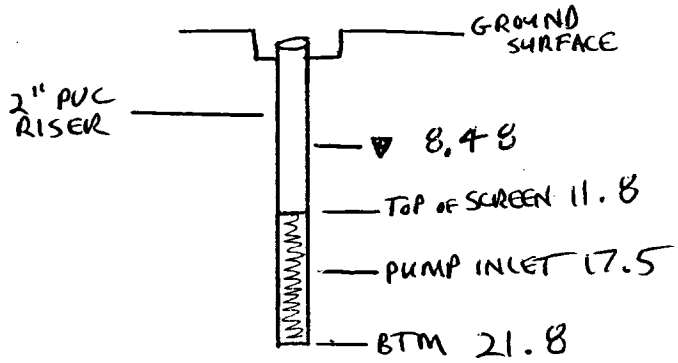
SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh ORP mV	Salinity ppt
Date: 3.19.02 Time: 0932 Method: Low Flow, BLADDER	CLEAR	8.98	2.64	11.8	1.7	0.29	-334	1.38

PURGE DATA:

Date: 3.19.02
Method: Low Flow, BLADDER
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 21.8
Static Water Level (WL): 8.48
One Casing Volume(gal): 2.1
Start Purge (hrs): 0715
End Purge (hrs): 0815
Total Purge Time (min): 60
Total Vol. Purged (gal): 2.9

ALL MEASUREMENTS FROM TOP OF 2" PVC



SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
Nitrate, Sulfate	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

Field test results for Divalent iron 0 mg/L

FUEL ODOR

Circle if Applicable:

MS/MSD —

Duplicate ID No.: —

Signature(s): [illegible]

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / Goss Cove
PROJECT NUMBER: CTO 816 job#2863

WELL ID.: 8MW3
DATE: 3.19.02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh ORP mV	Sal. ppt	Comments
0715	8.48	320								START PURGE
0723	8.50	200	8.96	2.826	33	0.47	12.2	-297	1.47	BLACK FINES, FUEL
0735	8.52	180	8.98	2.668	17	0.38	11.7	-316	1.39	ODOR
0745	8.54	↓	8.99	2.674	9.5	0.34	11.7	-319	1.39	CLEARING, FUEL
0755	8.55	↓	8.98	2.697	6.0	0.40	11.8	-328	1.40	ODOR
0805	8.58	↓	8.98	2.651	2.4	0.40	11.8	-333	1.38	
0815	8.59	↓	8.98	2.644	1.7	0.29	11.8	-334	1.38	START SAMPLING

SIGNATURE(S): [illegible]

ROUND 2

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / GOSS COVE
Project No.: CTO 816 2863.0520

[ ] Domestic Well Data
[x] Monitoring Well Data
[Y] Tidal (Y/N)
Low Tide at: 0823

Sample ID No.: 8GW05S 02
Sample Location: 8MW5S
Sampled By: K. SIMPSON
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

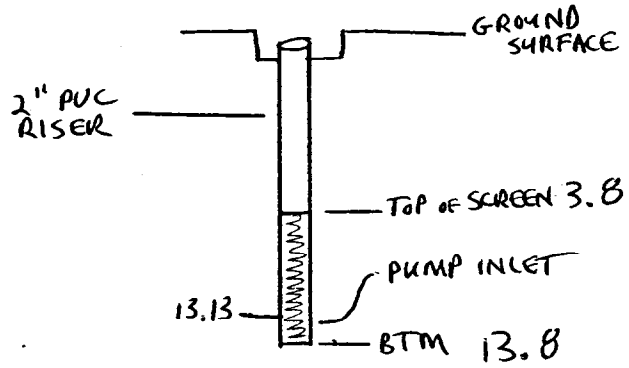
SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh ORP mV	Salinity ppt
Date: 3·20·02								
Time: 0823								
Method: Low Flow, PERISTALTIC	CLEAR	7.09	21.86	8.9	0.3	6.10	-7	13.11

PURGE DATA:

Date: 3·20·02
Method: Low Flow, PERISTALTIC
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 13.80
Static Water Level (WL): 13.13
One Casing Volume(gal): >0.1
Start Purge (hrs): 0714
End Purge (hrs): 0820
Total Purge Time (min): 66
Total Vol. Purged (gal): 3.3

ALL MEASURMENTS FROM TOP OF 2" PVC



SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
Nitrate, Sulfate	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

Field test results for Divalent iron 0.9 mg/L

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s): [illegible]

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / Goss Cove
PROJECT NUMBER: CTO 816 job#2863

WELL ID.: 8MW5S
DATE: 3.20.02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh ORP mV	Sal. ppt	Comments
0714	13.13	200	—				8.2		—	START PURGE
0720	13.16	↓	7.95	23.24	6.9	7.69	8.2	-44	13.98	CLEAR, NO ODOR
0730	13.19	↓	7.25	22.20	3.6	6.21	8.7	-4	13.34	
0740	13.24	180	7.18	22.09	1.3	5.85	8.8	-4	13.26	
0750	13.26	↓	7.13	21.97	0.8	6.45	8.8	-2	13.19	
0800	13.31	↓	7.09	21.91	0.3	6.22	8.8	0	13.14	
0810	13.32	↓	7.09	21.87	0.3	6.33	8.9	-5	13.12	
0820	13.34	↓	7.09	21.86	0.3	6.10	8.9	-7	13.11	END PURGE

SIGNATURE(S): [illegible]

ROUND 2

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / GOSS COVE
Project No.: CTO 816 2863.0520

[ ] Domestic Well Data
[x] Monitoring Well Data
[N] Tidal (Y/N)
Low Tide at: _____

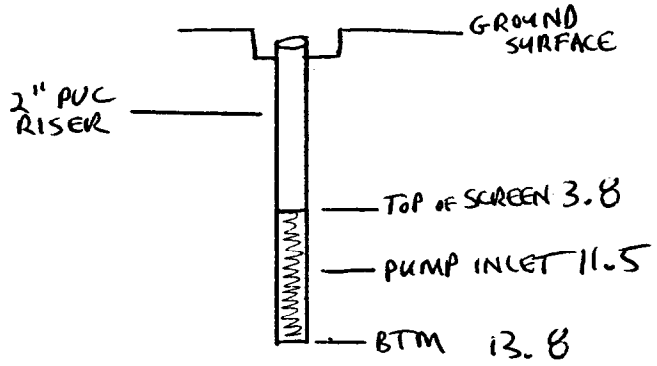
Sample ID No.: 8GW06S 02
Sample Location: 8MW6S
Sampled By: T. ROJAHN
C.O.C. No.: _____
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: 3-19-02								
Time: 1050								
Method: Low Flow, BLADDER	CLEAR	7.89	1.412	10.42	0.75	0.14	-214	0.72

PURGE DATA:

Date: 3-19-02
Method: Low Flow, BLADDER
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 13.8
Static Water Level (WL): 8.50
One Casing Volume(gal): 0.86
Start Purge (hrs): 0945
End Purge (hrs): 1045
Total Purge Time (min): 60
Total Vol. Purged (gal): 3.96



ALL MEASUREMENTS FROM TOP OF 2" PVC

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements		Collected
TCL VOLATILES	HCL / 4° C	9	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	8	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	6	2 - Qt. Amber Glass	✓
TCL PAH	4° C	6	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	2	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	2	1 - L PE	✓
Nitrate, Sulfate	4° C	1	1 - L PE	1 ✓

OBSERVATIONS / NOTES:

Field test results for Divalent iron 2.2 mg/L

Circle if Applicable:

MS/MSD YES

Duplicate ID No.: _____

Signature(s): Terri Rojal

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / Goss Cove
PROJECT NUMBER: CTO 816 job#2863

WELL ID.: 8MW6S
DATE: 3-19-02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh mV	Sal. ppt	Comments
0945	8.50	—	—	—	—	—	—	—	—	START PURGE
0955	8.52	250	7.92	1.356	2.0	0.47	10.74	-211	0.68	2500ml CLEAR
1005	8.53	250	7.95	1.364	1.1	0.21	10.60	-219	0.69	5000 "
1015	8.53	250	7.94	1.380	1.1	0.16	10.49	-217	0.70	7500 "
1025	8.52	250	7.92	1.393	1.0	0.15	10.46	-215	0.70	10000 "
1035	8.52	250	7.91	1.405	1.0	0.14	10.43	-213	0.71	12500 "
1045	8.52	250	7.89	1.412	0.75	0.14	10.42	-214	0.72	15000 "
1050	—	—	—	—	—	—	—	—	—	start SAMPLING

SIGNATURE(S): _____

ROUND 2

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / GOSS COVE
Project No.: CTO 816 2863.0520

[ ] Domestic Well Data
[x] Monitoring Well Data
[Y] Tidal (Y/N)
Low Tide at: 1209 LAG=4 1213

Sample ID No.: 8GW06D 02
Sample Location: 8MW6D
Sampled By: R. SIMPSON
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

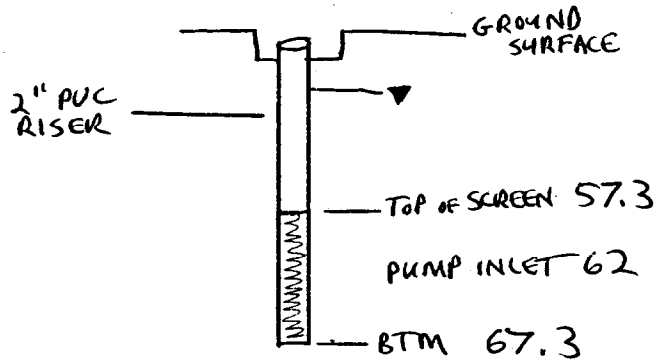
SAMPLING DATA:

Date: 3.24.02	Color	pH	S.C.	Temp.	Turbidity	DO	Eh ORP	Salinity
Time: 1213	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	ppt
Method:Low Flow, BLADDER	CLEAR	6.99	42.64	13.9	4.9	0.61	-92	27.4

PURGE DATA:

Date: 3.24.02
Method:Low Flow, BLADDER
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 67.3
Static Water Level (WL): 8.14
One Casing Volume(gal): 9.6
Start Purge (hrs): 1050
End Purge (hrs): 1200
Total Purge Time (min): 70
Total Vol. Purged (gal): 3.7

ALL MEASURMENTS FROM TOP OF 2" PVC



SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
Nitrate, Sulfate	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

Field test results for Divalent iron 2.2 mg/L

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / Goss Cove
PROJECT NUMBER: CTO 816 job#2863

WELL ID.: 8MW6D
DATE: 3.24.02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh ORP mV	Sal. ppt.	Comments
1050	8.14	200								START PURGE
1055	8.21		6.95	40.60	10	1.31	13.9	-22	25.94	CLEAR, NO ODOR
1105	8.28		7.01	40.73	5.3	1.14	13.7	-78	26.21	
1115	8.34		7.01	42.18	2.5	0.91	13.9	-91	27.11	
1125	8.37		7.00	42.64	2.9	0.99	13.9	-91	27.44	
1135	8.40		7.00	42.66	3.0	0.75	13.9	-92	27.38	
1145	8.41		7.00	42.69	4.1	0.76	14.0	-92	27.44	
1155	8.43		6.99	42.65	5.2	0.66	13.9	-92	27.41	
1200	8.43		6.99	42.64	4.9	0.61	13.9	-92	27.41	END PURGE

SIGNATURE(S): [illegible]

ROUND 2

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / GOSS COVE
Project No.: CTO 816 2863.0520

[ ] Domestic Well Data
[x] Monitoring Well Data
[N] Tidal (Y/N)
Low Tide at: _____

Sample ID No.: 8GW07S 02
Sample Location: 8MW7S
Sampled By: K. SIMPSON
C.O.C. No.: _____
Type of Sample:
[X] Low Concentration
[ ] High Concentration

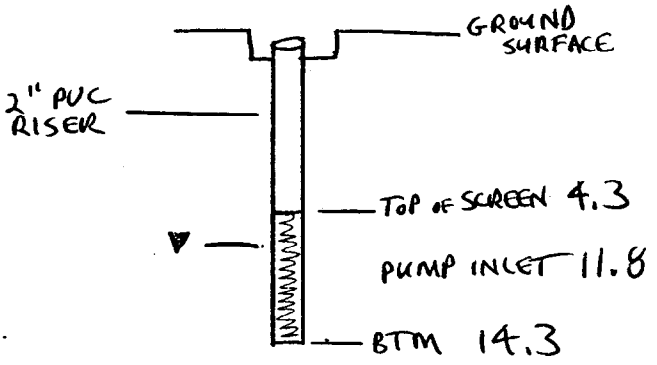
SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh ORP mV	Salinity ppt
Date: 3.19.02								
Time: 1040								
Method: Low Flow, BLADDER	CLEAR	7.53	0.848	11.1	1.9	0.36	-231	0.42

PURGE DATA:

Date: 3.19.02
Method: Low Flow, BLADDER
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 14.3
Static Water Level (WL): 9.11
One Casing Volume(gal): 0.8
Start Purge (hrs): 0940
End Purge (hrs): 1040
Total Purge Time (min): 60
Total Vol. Purged (gal): 3.4

ALL MEASUREMENTS FROM TOP OF 2" PVC



SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
Nitrate, Sulfate	4° C	1 - L PE	✓
		2X VOL FOR DUP	

OBSERVATIONS / NOTES:

Field test results for Divalent iron 3.9 mg/L

Circle if Applicable:

MS/MSD —

Duplicate ID No.: FD 031902 01

Signature(s): [illegible]

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / Goss Cove
PROJECT NUMBER: CTO 816 job#2863

WELL ID.: 8MW7S
DATE: 3.19.02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh ORP mV	Sal. ppt	Comments
0940	9.11	130								START PURGE
0945		130	7.46	0.846	12	1.48	10.8	-159	0.42	CLEAR, LT. SULFUR
0955		220	7.66	0.846	9.7	0.61	10.9	-197	0.42	ODOR
1005			7.72	0.846	2.6	0.84	11.0	-209	0.42	
1015			7.76	0.849	3.9	0.32	11.1	-217	0.42	
1025			7.80	0.849	3.0	0.49	11.1	-224	0.42	
1035			7.82	0.848	2.2	0.36	11.1	-230		
1040			7.83	0.848	1.9	0.36	11.1	-231		

SIGNATURE(S): [illegible]

PAGE 2 OF 2

ROUND 2

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / GOSS COVE
Project No.: CTO 816 2863.0520

[ ] Domestic Well Data
[x] Monitoring Well Data
[X] Tidal (Y/N)
Low Tide at: 1114 + 12 MIN LAG = 1126

Sample ID No.: BGW08D 02
Sample Location: BMW8D
Sampled By: T. ROJAHN
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

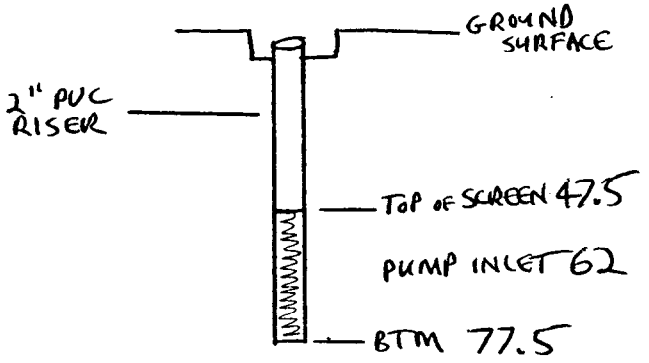
SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: 3/23/02 Time: 1126 Method: Low Flow, BLADDER	CLEAR	6.49	0.313	12.34	0.5	6.57	+35	0.15

PURGE DATA:

Date: 3/23/02
Method: Low Flow, BLADDER
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 77.5
Static Water Level (WL): 17.10
One Casing Volume(gal): 9.9
Start Purge (hrs): 1000
End Purge (hrs): 1120
Total Purge Time (min): 80
Total Vol. Purged (gal): 6.6

ALL MEASUREMENTS FROM TOP OF 2" PVC



SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
Nitrate, Sulfate	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

Field test results for Divalent iron 0.0 mg/L

NO ODOR

Circle if Applicable:

MS/MSD —

Duplicate ID No.: —

Signature(s): Troy Rojahn

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / Goss Cove
PROJECT NUMBER: CTO 816 job#2863

WELL ID.: 8MW8D
DATE: 3/23/02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh mV	Sal. ppt	Comments
1000	17.10	—	—	—	—	—	—	—	—	START PURGE
1010	18.30	350	7.26	1.368	27	2.11	12.17	-89	0.69	3500 SLIGHTLY
1020	18.31	350	7.34	0.907	11	2.03	12.42	-98	0.44	7000 ML CLEAR
1030	18.35	300	6.92	0.385	6.9	5.04	12.37	-38	0.18	10000 ML "
1040	18.38	300	6.64	0.325	2.2	6.69	12.78	-0.2	0.16	13000 ML "
1050	18.45	300	6.53	0.318	2.5	6.47	12.43	+19	0.15	16000 ML "
1100	19.45	300	6.45	0.311	1.1	6.54	12.35	+27	0.15	19000 ML "
1110	18.45	300	6.42	0.314	0.8	6.55	12.28	+33	0.15	22000 ML "
1120	19.43	300	6.49	0.313	0.5	6.57	12.34	+35	0.15	25000 ML "
1126										START SAMPLING

SIGNATURE(S): Tony Rojek

PAGE 2 OF 2

ROUND 2

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / GOSS COVE
Project No.: CTO 816 2863.0520

[ ] Domestic Well Data
[x] Monitoring Well Data
[N] Tidal (Y/N)
Low Tide at: _____

Sample ID No.: 8GW10S 02
Sample Location: 8MW10S
Sampled By: K. SIMPSON
C.O.C. No.: _____
Type of Sample:
[X] Low Concentration
[ ] High Concentration

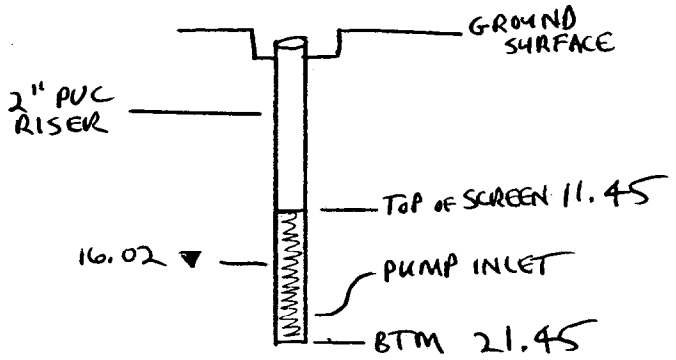
SAMPLING DATA: KS

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh ORP mV	Salinity ppt
Date: 3-23-02								
Time: 1415								
Method: Low Flow, PERISTALTIC	CLEAR	5.99	0.151	10.8	0	9.00	105	0.07

PURGE DATA: KS

Date: 3-23-02
Method: Low Flow, PERISTALTIC
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 21.45
Static Water Level (WL): 16.02
One Casing Volume(gal): 0.9
Start Purge (hrs): 1330
End Purge (hrs): 1415
Total Purge Time (min): 45
Total Vol. Purged (gal): 2.4

ALL MEASUREMENTS FROM TOP OF 2" PVC



SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	9 KS 8 - 40 ml Vial	—
TCL SEMIVOLATILES	4° C	6 2 - Qt. Amber Glass	—
TCL PEST/PCBs	4° C	8 2 - Qt. Amber Glass	—
TCL PAH	4° C	6 2 - Qt. Amber Glass	—
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	2 1 - L PE	—
TAL METALS (DISSOLVED)	HNO_3 / 4° C	2 1 - L PE	—
Nitrate, Sulfate	4° C	1 - L PE	✓
		X VOL FOR MS/MSD	

OBSERVATIONS / NOTES:

PURGE/ SAMPLE 3-23-02

Field test results for Divalent iron 0 mg/L

END SAMPLING 1640

Circle If Applicable:

MS/MSD: YES
Duplicate ID No.: —

Signature(s): [signature]

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / Goss Cove
PROJECT NUMBER: CTO 816 job#2863

WELL ID.: MW 10 S
DATE: 3.23.02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh ORP mV	Sal. ppt	Comments
1330	16.02	200								START PURGE
1340	16.04		7.33	0.162	1.2	9.04	10.8	6.3	0.08	CLEAR, NO ODOR
1350			6.31	0.150	0.7	9.22	10.5	76	0.07	
1400			6.06	0.152	0.1	8.90	10.6	94.7	0.07	
1405			6.00	0.152	0.1	9.02	10.7	100.9	0.07	
1410			5.98	0.151	0	9.01	10.8	105.0	0.07	
1415			5.99	0.151	0	9.00	10.8	105.5	0.07	END PURGE

SIGNATURE(S): [illegible]

ROUND 2

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / GOSS COVE
Project No.: CTO 816 2863.0520

[ ] Domestic Well Data
[x] Monitoring Well Data
[N] Tidal (Y/N)
Low Tide at: _____

Sample ID No.: HNUS23 02
Sample Location: HNUS23
Sampled By: T. ROJAHN
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

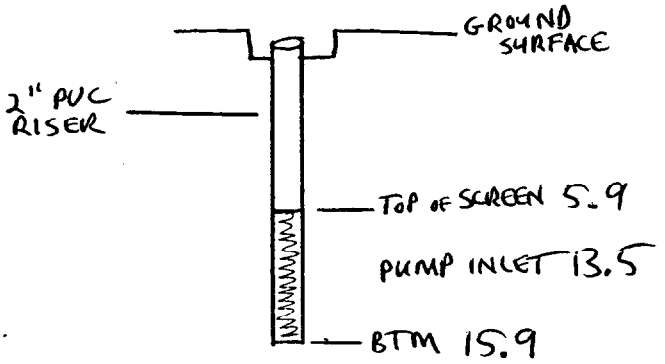
SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: 3/23/02								
Time: 1437								
Method: Low Flow, BLADDER	CLEAR	6.31	0.469	8.88	5.0	1.86	+36	0.23

PURGE DATA:

Date: 3/23/02
Method: Low Flow, BLADDER
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 15.9
Static Water Level (WL): 6.41
One Casing Volume(gal): 1.6
Start Purge (hrs): 1345
End Purge (hrs): 1435
Total Purge Time (min): 50
Total Vol. Purged (gal): 1.6

ALL MEASUREMENTS FROM TOP OF 2" PVC



SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
Nitrate, Sulfate	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

Field test results for Divalent iron 0.0 mg/L
NO ODOR

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s): Ty Rojahn

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / Goss Cove
PROJECT NUMBER: CTO 816 job#2863

WELL ID.: HNUS 23
DATE: 3-23-02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh mV	Sal. ppt	Comments
1345	6.41	—	—	—	—	—	—	—	—	START PURGE
1355	6.46	150	6.34	0.460	16	0.94	9.21	+23	0.22	1500 CLEAR
1405	6.42	110	6.32	0.465	18	1.32	9.23	+27	0.23	2600 "
1415	6.42	110	6.32	0.468	13	1.76	9.28	+30	0.23	3700 "
1420	6.42	110	6.31	0.469	10	1.83	9.16	+32	0.23	4250 "
1425	6.42	110	6.31	0.472	8.4	1.87	9.08	+33	0.23	4900 "
1430	6.42	110	6.31	0.470	4.2	1.85	8.97	+35	0.23	5350 "
1435	6.42	110	6.31	0.469	5.0	1.96	8.88	+36	0.23	5900 "
1437	6.42	→								START SAMPLING

SIGNATURE(S): [signature]

ROUND 2

APPENDIX F

CHAIN OF CUSTODY RECORDS

TETRA TECH NUS, INC. CHAIN OF CUSTODY NUMBER PAGE 1 OF 1

PROJECT NO: CT0816 # 2963	SITE NAME: NSB-NLON
PROJECT MANAGER AND PHONE NUMBER	COREY RICH 412 921 8994
LABORATORY NAME AND CONTACT:	KATAHDIN
SAMPLERS (SIGNATURE)	[signature]
FIELD OPERATIONS LEADER AND PHONE NUMBER	KEITH SIMPSON 412 921 8984
ADDRESS	
CARRIER/WAYBILL NUMBER	CD & L
CITY, STATE	MAINE

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2002	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TCL VOCs	TCL SVOC	TCL PEST/PCBs	TCL PAH	TAL METALS + HARDNESS	DISS. TAL METALS	NITRATE + SULFATE		COMMENTS
		GOSS COVE RD 2												
					CONTAINER TYPE PLASTIC (P) or GLASS (G)	G	G	G	G	P	P	P		
					PRESERVATIVE USED	HCL	4°C	4°C	4°C	HNO3	HNO3	4°C		
3/19	0700	TB 031802 01	AQ	G	2	2								TB03190201
	0000	FD 031902 01	AQ	G	12	3	2	2	2	1	1	1		DUP OF 8GW07S02
	0830	8GW02S 02	AQ	G	12	3	2	2	2	1	1	1		
	0832	8GW03 02	AQ	G	12	3	2	2	2	1	1	1		
	1040	8GW07S 02	AQ	G	12	3	2	2	2	1	1	1		
	1050	8GW06S 02	AQ	G	~~34~~ 32	9	8	8 4	6	2	2	1		2 JAAS BROKEN → MS/MSD
3/20	0823	8GW05S 02	AQ	G	12	3	2	2	2	1	1	1		

1. RELINQUISHED BY [signature]	DATE 3.20.02	TIME 1900	1. RECEIVED BY CD & L	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS NOTE: DISSOLVED METALS IDs END IN "F" FILTERED

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

3/99
FORM NO. TtNUS-001

TETRA TECH NUS, INC. CHAIN OF CUSTODY NUMBER PAGE 1 OF 1

PROJECT NO.: CTO 816 #2863	SITE NAME: NSB-NLON	PROJECT MANAGER AND PHONE NUMBER: COREY RICH 412 921 8994	LABORATORY NAME AND CONTACT: KATAHDIN
SAMPLERS (SIGNATURE): [signature]		FIELD OPERATIONS LEADER AND PHONE NUMBER: KEITH SIMPSON 412 921 8131	ADDRESS:
		CARRIER/WAYBILL NUMBER: CD&L	CITY, STATE: MAINE

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2002	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TCL VOC	TCL SVOC	TCL PEST/PCBs	TCL PAH	TAL METALS + HARDNESS	DISS. TAL METALS	NITRATE + SULFATE		COMMENTS
CONTAINER TYPE PLASTIC (P) or GLASS (G)						G	G	G	G	P	P	P		
PRESERVATIVE USED						HCL	4°C	4°C	4°C	HNO3	HNO3	4°C		
3/23	1114	GOSS COVE ROUND 2 8GW02D 02	AQ	G	12	3	2	2	2	1	1	1		
↓	1126	8GW08D 02	AQ	G	12	3	2	2	2	1	1	1		
↓	1415	8GW10S 02	AQ	G	34	9	6	8	6	2	2	1		RUN ALSO MS/MSD
↓	1437	HNUS23 02	AQ	G	12	3	2	2	2	1	1	1		
3/24	1213	8GW06D 02	AQ	G	12	3	2	2	2	1	1	1		
↓	1223	8GW01 02	AQ	G	12	3	2	2	2	1	1	1		

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY [signature]	3.25.02	1900	1. RECEIVED BY CD&L		
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS NOTE: DISSOLVED METALS IDs END IN " F" FILTERED

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

3/99
FORM NO. TINUS 001

APPENDIX G

DATA VALIDATION LETTERS AND LABORATORY DATA SHEETS

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**C. RICH**	**DATE:**	**JUNE 5, 2002**
FROM:	**REBEKAH A. HAYNIE**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS AND MISCELLANEOUS PARAMETERS**
CTO-816 NSB NEW LONDON
SAMPLE DELIVERY GROUP (SDG) – 816-5

SAMPLES: 12/Aqueous/

8GW0102	8GW02D02	8GW02S02
8GW0302	8GW05S02	8GW06D02
8GW06S02	8GW07S02	8GW08D02
8GW10S02	FD03190201	HNUS2302

Overview

The sample set for CTO 816, NSB New London, SDG 816-5, consists of twelve (12) aqueous environmental samples. Two (2) field duplicate pairs FD03190201/8GW07S02 and FD03190201-F/8GW07S02-F are included within this SDG.

All samples were analyzed for total and dissolved target analyte list (TAL) metals, nitrate, sulfate, and hardness. Samples designated "–F" were analyzed for dissolved metals. The samples were collected by TetraTech NUS on March 19, 20, 23, and 24, 2002 and analyzed by Katahdin Analytical Services under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses were performed using method ILM04.0. Results for hardness were calculated using Standard Methods 18th ed. Method 2340B. Analyses for nitrate and sulfate were performed using EPA method 300, with the exception of sample 8GW05S02, which was analyzed for nitrate using EPA method 353.2 instead of 300.0.

Most metals analyses were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA). Antimony, arsenic, chromium, lead, selenium, and thallium analyses were conducted using Inductively Coupled Plasma Mass Spectrometric (ICP-MS) methodologies.

These data were evaluated based on the following parameters:

* • Data Completeness
• Holding Times
• Calibration Recoveries
• Laboratory Blank Analyses
* • Laboratory Control Sample Results
• ICP Interference Check Sample Results
• Matrix Spike Results
* • ICP Serial Dilution Results
* • Field Duplicate Results

* • Laboratory Duplicate Results
• Sample Quantitation
* • Detection Limits

* - All quality control criteria were met for this parameter.

Holding Times

Holding times noncompliance for nitrate analyses (HT > 48 hours) was noted for samples 8GW02D02, 8GW08D02, 8GW10S02, and HNUS2302. The nondetected result reported in sample 8GW02S02 was qualified as estimated, "UJ", while the positive results in the other samples were qualified as estimated, "J".

Laboratory Blank Analyses

The following contaminants were detected in the laboratory method / preparation blanks at the following maximum concentrations:

Analyte	Maximum Concentration	Action Level
Aluminum(1)	36.62 µg/L	183.1 µg/L
Antimony(4)	0.265 µg/L	1.325 µg/L
Antimony(5)	0.325 µg/L	1.63 µg/L
Beryllium(1)	0.6 µg/L	3.0 µg/L
Calcium(1)	49.61 µg/L	248.05 µg/L
Chromium(3)	0.62 µg/L	3.1 µg/L
Iron(1)	21.47 µg/L	107.35 µg/L
Lead(3)	0.17 µg/L	0.85 µg/L
Magnesium(1)	66.57 µg/L	332.85 µg/L
Mercury(2)	0.1 µg/L	0.5 µg/L
Sodium(1)	65.44 µg/L	327.2 µg/L
Thallium(3)	0.11 µg/L	0.55 µg/L
Thallium(5)	0.654 µg/L	3.27 µg/L
Zinc(1)	2.46 µg/L	12.3 µg/L
Zinc(5)	3.77 µg/L	18.85 µg/L

(1) Maximum concentration present in a method blank, affecting samples analyzed on instrument TJA 61 ICP by ICP.
(2) Maximum concentration present in a method blank, affecting samples analyzed on Leeman Mercury An instrument by CVAA.
(3) Maximum concentration present in a method blank, affecting samples analyzed on Agilent 7500 by ICP-MS.
(4) Maximum concentration present in a preparation blank from preparation batch SC28ICW1.
(5) Maximum concentration present in a preparation blank from preparation batch SC28ICW0.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Because different analytes were analyzed on different instruments (resulting in different Instrument Detection Limits (IDLs)), maximum contaminant concentrations were evaluated relative to the instrument in which they were run. Sample aliquot and dilution factors were taken into consideration when evaluating for blank

contamination. Positive results for aluminum, antimony, beryllium, chromium, iron, lead, mercury, thallium, and zinc that were less than the associated action level were qualified nondetected, "U", as a result of laboratory blank contamination.

Sample Quantitation

Due to uncertainty near the detection limit, positive results < 2X the Instrument Detection Limit (IDL) for copper in samples 8GW07S02, FD03190201, and 8GW10S02-F, and for manganese in sample HNUS2302 were qualified as estimated, "J".

Calibration Recoveries

Contract Required Detection Limits (CRDLs) noncompliance (recovery outside of -20% quality control limit) was noted for silver affecting the samples 8GW05S02-F, 8GW02D02, 8GW06D02, 8GW0102, 8GW02D02-F, 8GW06D02-F, and 8GW0102-F. Nondetected results reported for silver in these samples were qualified as estimated, "UJ".

ICP Interference Check Sample Results

The interfering analyte magnesium was present in sample 8GW05S02 at a concentration comparable to the level of magnesium in the ICS solution. Several analytes namely antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, silver, and zinc were present in the ICS solution at concentrations that exceeded 2X the absolute value of the IDL. Interference affects exist for cadmium, cobalt, manganese, silver, and zinc. The nondetected results reported for cadmium, cobalt, and silver were qualified as estimated, "UJ". Positive results for manganese and zinc were qualified as estimated, "J".

Matrix Spike Results

Matrix Spike (MS) noncompliance (percent recovery (%R) < 75%) was noted for selenium, affecting the dissolved metals matrix. Positive results were qualified as estimated, "J", while nondetected results were qualified as "UJ".

Notes

Sample 8GW05S02 was analyzed for nitrate by EPA method 353.2 instead of EPA method 300.0. As documented in the case narrative, the sample was originally analyzed by method 300.0 but the chloride peak was too high and the nitrate result could not be quantitated.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method/preparation blanks. CRDL calibration noncompliance was noted for silver.

Other Factors Affecting Data Quality: Copper and manganese were qualified due to uncertainty near the IDL. The interfering analytes magnesium and calcium were present in several samples. MS noncompliance was noted for selenium.

TO: C. RICH – PAGE 4
DATE: JUNE 5, 2002

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", February 1989, "Region 1 Laboratory Data Validation Function Guidelines for Evaluating Inorganics Analyses", June 1988, and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Rebekah A. Haynie

Tetra Tech NUS
Rebekah A. Haynie
Environmental Scientist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Regional Worksheets
4. Appendix D - Support Documentation

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: M

nsample	8GW0102	nsample	8GW02D02	nsample	8GW02S02
samp_date	3/24/2002	samp_date	3/23/2002	samp_date	3/19/2002
lab_id	WS0670-006	lab_id	WS0670-001	lab_id	WS0608-003
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	ValQual	QualCode
ALUMINUM	131	U	A
ANTIMONY	0.72	U	A
ARSENIC	7.0		
BARIUM	56.5		
BERYLLIUM	1.45	U	
CADMIUM	14.9	U	
CALCIUM	197000		
CHROMIUM	1.8		
COBALT	14.7	U	
COPPER	33.1		
IRON	184	U	A
LEAD	0.22	U	A
MAGNESIUM	588000		
MANGANESE	114		
MERCURY	0.10	U	A
NICKEL	46.3	U	
POTASSIUM	192000		
SELENIUM	8.00	U	
SILVER	19.5	UJ	C
SODIUM	4660000		
THALLIUM	0.40	U	
VANADIUM	19.2	U	
ZINC	60.5		

Parameter	Result	ValQual	QualCode
ALUMINUM	78.0	U	
ANTIMONY	0.20	U	
ARSENIC	28.1		
BARIUM	23.4		
BERYLLIUM	1.45	U	
CADMIUM	14.9	U	
CALCIUM	108000		
CHROMIUM	1.40	U	
COBALT	14.7	U	
COPPER	8.70	U	
IRON	6940		
LEAD	0.74	U	A
MAGNESIUM	402000		
MANGANESE	999		
MERCURY	0.12	U	A
NICKEL	46.3	U	
POTASSIUM	166000		
SELENIUM	8.00	U	
SILVER	19.5	UJ	C
SODIUM	3840000		
THALLIUM	2.3	U	A
VANADIUM	19.2	U	
ZINC	14.5		

Parameter	Result	ValQual	QualCode
ALUMINUM	15.6	U	
ANTIMONY	0.60	U	A
ARSENIC	1.2		
BARIUM	674		
BERYLLIUM	0.29	U	
CADMIUM	2.98	U	
CALCIUM	41200		
CHROMIUM	0.98	U	A
COBALT	2.93	U	
COPPER	1.74	U	
IRON	452		
LEAD	0.70	U	A
MAGNESIUM	42900		
MANGANESE	124		
MERCURY	0.05	U	A
NICKEL	9.25	U	
POTASSIUM	29200		
SELENIUM	2.00	U	
SILVER	3.89	U	
SODIUM	382000		
THALLIUM	0.35	U	A
VANADIUM	3.84	U	
ZINC	1.6	U	A

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: M

nsample	8GW0302	nsample	8GW05S02	nsample	8GW06D02
samp_date	3/19/2002	samp_date	3/20/2002	samp_date	3/24/2002
lab_id	WS0608-004	lab_id	WS0608-007	lab_id	WS0670-005
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	ValQual	QualCode
ALUMINUM	51.0	U	A
ANTIMONY	0.62	U	A
ARSENIC	1.4		
BARIUM	609		
BERYLLIUM	0.29	U	
CADMIUM	2.98	U	
CALCIUM	31600		
CHROMIUM	0.71	U	A
COBALT	2.9		
COPPER	5.2		
IRON	693		
LEAD	3.8	U	A
MAGNESIUM	46800		
MANGANESE	65.7		
MERCURY	0.10	U	A
NICKEL	9.3		
POTASSIUM	28200		
SELENIUM	2.0	U	
SILVER	3.89	U	
SODIUM	423000		
THALLIUM	0.26	U	A
VANADIUM	3.84	U	
ZINC	6.4	U	A

Parameter	Result	ValQual	QualCode
ALUMINUM	19.2	U	A
ANTIMONY	0.91	U	A
ARSENIC	5.6		
BARIUM	21.4		
BERYLLIUM	0.36	U	A
CADMIUM	2.98	UJ	K
CALCIUM	182000		
CHROMIUM	1.40	U	
COBALT	2.93	UJ	K
COPPER	10.5		
IRON	433		
LEAD	0.62	U	A
MAGNESIUM	525000		
MANGANESE	2.2	J	K
MERCURY	0.09	U	A
NICKEL	9.25	U	
POTASSIUM	188000		
SELENIUM	8.00	U	
SILVER	3.89	UJ	K
SODIUM	4170000		
THALLIUM	0.40	U	
VANADIUM	3.84	U	
ZINC	38.8	J	K

Parameter	Result	ValQual	QualCode
ALUMINUM	378	U	A
ANTIMONY	0.38	U	A
ARSENIC	16.6		
BARIUM	51.5		
BERYLLIUM	1.45	U	
CADMIUM	14.9	U	
CALCIUM	328000		
CHROMIUM	2.8		
COBALT	14.7	U	
COPPER	8.70	U	
IRON	2640		
LEAD	2.2		
MAGNESIUM	1030000		
MANGANESE	5010		
MERCURY	0.06	U	A
NICKEL	46.3	U	
POTASSIUM	334000		
SELENIUM	11.0		
SILVER	19.5	UJ	C
SODIUM	7980000		
THALLIUM	0.40	U	
VANADIUM	19.2	U	
ZINC	386		

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: M

nsample	8GW06S02	nsample	8GW07S02	nsample	8GW08D02
samp_date	3/19/2002	samp_date	3/19/2002	samp_date	3/23/2002
lab_id	WS0608-006	lab_id	WS0608-005	lab_id	WS0670-002
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	ValQual	QualCode
ALUMINUM	15.6	U	
ANTIMONY	0.52	U	A
ARSENIC	4.6		
BARIUM	402		
BERYLLIUM	0.29	U	
CADMIUM	2.98	U	
CALCIUM	33900		
CHROMIUM	0.35	U	
COBALT	2.93	U	
COPPER	1.74	U	
IRON	3010		
LEAD	0.56	U	A
MAGNESIUM	24500		
MANGANESE	148		
MERCURY	0.10	U	A
NICKEL	9.25	U	
POTASSIUM	21800		
SELENIUM	2.00	U	
SILVER	3.89	U	
SODIUM	218000		
THALLIUM	0.12	U	A
VANADIUM	3.84	U	
ZINC	1.26	U	

Parameter	Result	ValQual	QualCode
ALUMINUM	17.9	U	A
ANTIMONY	0.50	U	A
ARSENIC	0.89		
BARIUM	479		
BERYLLIUM	0.29	U	A
CADMIUM	2.98	U	
CALCIUM	66300		
CHROMIUM	0.35	U	
COBALT	2.93	U	
COPPER	2.1	J	P
IRON	6880		
LEAD	0.71	U	A
MAGNESIUM	23500		
MANGANESE	525		
MERCURY	0.10	U	A
NICKEL	9.25	U	
POTASSIUM	18500		
SELENIUM	2.00	U	
SILVER	3.89	U	
SODIUM	66500		
THALLIUM	0.19	U	A
VANADIUM	3.84	U	
ZINC	1.5	U	A

Parameter	Result	ValQual	QualCode
ALUMINUM	15.6	U	
ANTIMONY	0.38	U	A
ARSENIC	0.80	U	
BARIUM	16.8		
BERYLLIUM	0.29	U	
CADMIUM	2.98	U	
CALCIUM	19700		
CHROMIUM	0.36	U	A
COBALT	2.93	U	
COPPER	1.74	U	
IRON	21.5	U	A
LEAD	0.05	U	
MAGNESIUM	3020		
MANGANESE	96.5		
MERCURY	0.10	U	A
NICKEL	9.25	U	
POTASSIUM	3450		
SELENIUM	2.00	U	
SILVER	3.89	U	
SODIUM	35400		
THALLIUM	0.27	U	A
VANADIUM	3.84	U	
ZINC	1.26	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: M

nsample	8GW10S02	nsample	FD03190201	nsample	HNUS2302
samp_date	3/23/2002	samp_date	3/19/2002	samp_date	3/23/2002
lab_id	WS0670-003	lab_id	WS0608-002	lab_id	WS0670-004
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:	8GW07S02	DUP_OF:	

Parameter	Result	ValQual	QualCode
ALUMINUM	16.1	U	A
ANTIMONY	0.29	U	A
ARSENIC	0.80	U	
BARIUM	15.5		
BERYLLIUM	0.29	U	
CADMIUM	2.98	U	
CALCIUM	7420		
CHROMIUM	0.71	U	A
COBALT	2.93	U	
COPPER	1.74	U	
IRON	6.91	U	
LEAD	0.45	U	A
MAGNESIUM	1640		
MANGANESE	21.9		
MERCURY	0.08	U	A
NICKEL	9.25	U	
POTASSIUM	1990		
SELENIUM	2.00	U	
SILVER	3.89	U	
SODIUM	19500		
THALLIUM	0.16	U	A
VANADIUM	3.84	U	
ZINC	34.6		

Parameter	Result	ValQual	QualCode
ALUMINUM	15.6	U	
ANTIMONY	0.60	U	A
ARSENIC	1.0	U	
BARIUM	450		
BERYLLIUM	0.29	U	
CADMIUM	2.98	U	
CALCIUM	62000		
CHROMIUM	0.35	U	
COBALT	2.93	U	
COPPER	2.0	J	P
IRON	6490		
LEAD	0.80	U	A
MAGNESIUM	22100		
MANGANESE	492		
MERCURY	0.09	U	A
NICKEL	9.25	U	
POTASSIUM	17300		
SELENIUM	2.00	U	
SILVER	3.89	U	
SODIUM	62900		
THALLIUM	0.64	U	A
VANADIUM	3.84	U	
ZINC	1.8	U	A

Parameter	Result	ValQual	QualCode
ALUMINUM	94.4	U	A
ANTIMONY	0.49	U	A
ARSENIC	0.80	U	
BARIUM	44.8		
BERYLLIUM	0.29	U	
CADMIUM	2.98	U	
CALCIUM	68300		
CHROMIUM	0.73		
COBALT	2.93	U	
COPPER	1.74	U	
IRON	92.1	U	A
LEAD	0.10	U	A
MAGNESIUM	12400		
MANGANESE	0.89	J	P
MERCURY	0.11	U	A
NICKEL	9.25	U	
POTASSIUM	3510		
SELENIUM	2.00	U	
SILVER	3.89	U	
SODIUM	7010		
THALLIUM	0.11	U	A
VANADIUM	3.84	U	
ZINC	1.8	U	A

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: MF

nsample	8GW0102-F	nsample	8GW02D02-F	nsample	8GW02S02-F
samp_date	3/24/2002	samp_date	3/23/2002	samp_date	3/19/2002
lab_id	WS0670-012	lab_id	WS0670-007	lab_id	WS0608-009
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	ValQual	QualCode
ALUMINUM	78.0	U	
ANTIMONY	0.69	U	A
ARSENIC	9.7		
BARIUM	56.1		
BERYLLIUM	1.45	U	
CADMIUM	14.9	U	
CALCIUM	197000		
CHROMIUM	1.40	U	
COBALT	14.7	U	
COPPER	23.9		
IRON	183	U	A
LEAD	0.20	U	
MAGNESIUM	596000		
MANGANESE	112		
MERCURY	0.06	U	A
NICKEL	46.3	U	
POTASSIUM	196000		
SELENIUM	13.4	J	D
SILVER	19.5	UJ	C
SODIUM	4670000		
THALLIUM	0.40	U	
VANADIUM	19.2	U	
ZINC	54.4		

Parameter	Result	ValQual	QualCode
ALUMINUM	78.0	U	
ANTIMONY	0.20	U	
ARSENIC	28.1		
BARIUM	22.4		
BERYLLIUM	1.45	U	
CADMIUM	14.9	U	
CALCIUM	114000		
CHROMIUM	1.7		
COBALT	14.7	U	
COPPER	8.70	U	
IRON	6760		
LEAD	0.20	U	
MAGNESIUM	415000		
MANGANESE	1040		
MERCURY	0.08	U	A
NICKEL	46.3	U	
POTASSIUM	170000		
SELENIUM	8.00	UJ	D
SILVER	19.5	UJ	C
SODIUM	3890000		
THALLIUM	0.40	U	
VANADIUM	19.2	U	
ZINC	6.30	U	

Parameter	Result	ValQual	QualCode
ALUMINUM	15.6	U	
ANTIMONY	0.64	U	A
ARSENIC	2.1		
BARIUM	673		
BERYLLIUM	0.29	U	
CADMIUM	2.98	U	
CALCIUM	41600		
CHROMIUM	0.44	U	A
COBALT	2.93	U	
COPPER	1.74	U	
IRON	371		
LEAD	0.07	U	A
MAGNESIUM	41000		
MANGANESE	121		
MERCURY	0.07	U	A
NICKEL	9.25	U	
POTASSIUM	27600		
SELENIUM	2.00	UJ	D
SILVER	3.89	U	
SODIUM	347000		
THALLIUM	0.10	U	
VANADIUM	3.84	U	
ZINC	1.26	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: MF

nsample	8GW0302-F
samp_date	3/19/2002
lab_id	WS0608-010
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
ALUMINUM	15.6	U	
ANTIMONY	0.48	U	A
ARSENIC	0.80	U	
BARIUM	628		
BERYLLIUM	0.29	U	
CADMIUM	2.98	U	
CALCIUM	32800		
CHROMIUM	0.42	U	A
COBALT	2.93	U	
COPPER	1.74	U	
IRON	272		
LEAD	0.06	U	A
MAGNESIUM	47600		
MANGANESE	64.0		
MERCURY	0.09	U	A
NICKEL	9.25	U	
POTASSIUM	28600		
SELENIUM	2.00	UJ	D
SILVER	3.89	U	
SODIUM	420000		
THALLIUM	0.10	U	
VANADIUM	3.84	U	
ZINC	1.26	U	

nsample	8GW05S02-F
samp_date	3/20/2002
lab_id	WS0608-013
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
ALUMINUM	78.0	U	
ANTIMONY	0.85	U	A
ARSENIC	4.9		
BARIUM	23.4		
BERYLLIUM	1.45	U	
CADMIUM	14.9	U	
CALCIUM	174000		
CHROMIUM	1.40	U	
COBALT	14.65	U	
COPPER	8.70	U	
IRON	420	U	A
LEAD	0.20	U	
MAGNESIUM	533000		
MANGANESE	4.40	U	
MERCURY	0.11	U	A
NICKEL	46.3	U	
POTASSIUM	172000		
SELENIUM	8.1	J	D
SILVER	19.5	UJ	C
SODIUM	4060000		
THALLIUM	0.40	U	
VANADIUM	19.2	U	
ZINC	39.9		

nsample	8GW06D02-F
samp_date	3/24/2002
lab_id	WS0670-011
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
ALUMINUM	78.0	U	
ANTIMONY	0.20	U	
ARSENIC	17.0		
BARIUM	52.0		
BERYLLIUM	1.45	U	
CADMIUM	14.9	U	
CALCIUM	332000		
CHROMIUM	1.6		
COBALT	14.7	U	
COPPER	8.70	U	
IRON	2280		
LEAD	0.20	U	
MAGNESIUM	1040000		
MANGANESE	5030		
MERCURY	0.11	U	A
NICKEL	46.3	U	
POTASSIUM	335000		
SELENIUM	8.00	UJ	D
SILVER	19.5	U	C
SODIUM	8290000		
THALLIUM	0.74	U	A
VANADIUM	19.2	U	
ZINC	10.5		

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: MF

nsample	8GW06S02-F
samp_date	3/19/2002
lab_id	WS0608-012
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
ALUMINUM	15.6	U	
ANTIMONY	0.46	U	A
ARSENIC	4.6		
BARIUM	405		
BERYLLIUM	0.29	U	
CADMIUM	2.98	U	
CALCIUM	36800		
CHROMIUM	0.35	U	
COBALT	2.93	U	
COPPER	1.74	U	
IRON	3140		
LEAD	0.12	U	A
MAGNESIUM	25100		
MANGANESE	157		
MERCURY	0.03	U	A
NICKEL	9.25	U	
POTASSIUM	22100		
SELENIUM	2.00	UJ	D
SILVER	3.89	U	
SODIUM	215000		
THALLIUM	0.10	U	
VANADIUM	3.84	U	
ZINC	1.26	U	

nsample	8GW07S02-F
samp_date	3/19/2002
lab_id	WS0608-011
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
ALUMINUM	15.6	U	
ANTIMONY	0.46	U	A
ARSENIC	1.6		
BARIUM	458		
BERYLLIUM	0.29	U	
CADMIUM	2.98	U	
CALCIUM	65800		
CHROMIUM	0.35	U	
COBALT	2.93	U	
COPPER	1.74	U	
IRON	6500		
LEAD	0.05	U	
MAGNESIUM	22600		
MANGANESE	502		
MERCURY	0.03	U	A
NICKEL	9.25	U	
POTASSIUM	17400		
SELENIUM	2.00	UJ	D
SILVER	3.89	U	
SODIUM	61900		
THALLIUM	0.10	U	
VANADIUM	3.84	U	
ZINC	1.26	U	

nsample	8GW08D02-F
samp_date	3/23/2002
lab_id	WS0670-008
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
ALUMINUM	15.6	U	
ANTIMONY	0.50	U	A
ARSENIC	0.80	U	
BARIUM	17.1		
BERYLLIUM	0.29	U	
CADMIUM	2.98	U	
CALCIUM	19600		
CHROMIUM	1.0		
COBALT	2.93	U	
COPPER	1.74	U	
IRON	26.4	U	A
LEAD	0.06	U	A
MAGNESIUM	3010		
MANGANESE	95.8		
MERCURY	0.04	U	A
NICKEL	9.25	U	
POTASSIUM	3370		
SELENIUM	2.00	U	
SILVER	3.89	U	
SODIUM	35600		
THALLIUM	0.10	U	
VANADIUM	3.84	U	
ZINC	1.26	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: MF

nsample	8GW10S02-F	nsample	FD03190201-F	nsample	HNUS2302-F
samp_date	3/23/2002	samp_date	3/19/2002	samp_date	3/23/2002
lab_id	WS0670-009	lab_id	WS0608-008	lab_id	WS0670-010
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:	8GW07S02-F	DUP_OF:	

Parameter	Result	ValQual	QualCode
ALUMINUM	25.8	U	A
ANTIMONY	0.34	U	A
ARSENIC	0.80	U	
BARIUM	15.5		
BERYLLIUM	0.29	U	
CADMIUM	2.98	U	
CALCIUM	7310		
CHROMIUM	1.2		
COBALT	2.93	U	
COPPER	2.1	J	P
IRON	6.91	U	
LEAD	0.08	U	A
MAGNESIUM	1650		
MANGANESE	21.6		
MERCURY	0.10	U	A
NICKEL	9.25	U	
POTASSIUM	2160		
SELENIUM	2.00	UJ	D
SILVER	3.89	U	
SODIUM	19200		
THALLIUM	0.10	U	
VANADIUM	3.84	U	
ZINC	34.4		

Parameter	Result	ValQual	QualCode
ALUMINUM	15.6	U	
ANTIMONY	0.44	U	A
ARSENIC	0.80	U	
BARIUM	464		
BERYLLIUM	0.29	U	
CADMIUM	2.98	U	
CALCIUM	67400		
CHROMIUM	0.35	U	
COBALT	2.93	U	
COPPER	1.74	U	
IRON	6680		
LEAD	0.21	U	A
MAGNESIUM	23000		
MANGANESE	519		
MERCURY	0.03	U	A
NICKEL	9.25	U	
POTASSIUM	17700		
SELENIUM	2.00	UJ	D
SILVER	3.89	U	
SODIUM	63200		
THALLIUM	0.10	U	
VANADIUM	3.84	U	
ZINC	1.26	U	

Parameter	Result	ValQual	QualCode
ALUMINUM	28.7	U	A
ANTIMONY	0.60	U	A
ARSENIC	0.80	U	
BARIUM	45.5		
BERYLLIUM	0.29	U	
CADMIUM	2.98	U	
CALCIUM	71000		
CHROMIUM	0.78		
COBALT	2.93	U	
COPPER	1.74	U	
IRON	13.2	U	A
LEAD	0.05	U	
MAGNESIUM	12800		
MANGANESE	0.88	U	
MERCURY	0.10	U	A
NICKEL	9.25	U	
POTASSIUM	3580		
SELENIUM	2.00	UJ	D
SILVER	3.89	U	
SODIUM	7160		
THALLIUM	0.10	U	
VANADIUM	3.84	U	
ZINC	4.0	U	A

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: MISC

nsample	8GW0102
samp_date	3/24/2002
lab_id	WS0670-006
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
HARDNESS	MG/L	2750		
NITRATE	MG/L	0.05	U	
SULFATE	MG/L	1000		

nsample	8GW02D02
samp_date	3/23/2002
lab_id	WS0670-001
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
HARDNESS	MG/L	1910		
NITRATE	MG/L	0.05	UJ	H
SULFATE	MG/L	360		

nsample	8GW02S02
samp_date	3/19/2002
lab_id	WS0608-003
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
HARDNESS	MG/L	279		
NITRATE	MG/L	0.05	U	
SULFATE	MG/L	5		

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: MISC

nsample	8GW0302
samp_date	3/19/2002
lab_id	WS0608-004
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
HARDNESS	MG/L	272		
NITRATE	MG/L	0.05	U	
SULFATE	MG/L	4		

nsample	8GW05S02
samp_date	3/20/2002
lab_id	WS0608-007
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
HARDNESS	MG/L	2620		
NITRATE	MG/L	0.27		
SULFATE	MG/L	1100		

nsample	8GW06D02
samp_date	3/24/2002
lab_id	WS0670-005
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
HARDNESS	MG/L	4820		
NITRATE	MG/L	0.05	U	
SULFATE	MG/L	1400		

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: MISC

nsample	8GW06S02
samp_date	3/19/2002
lab_id	WS0608-006
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
HARDNESS	MG/L	186		
NITRATE	MG/L	0.05	U	
SULFATE	MG/L	9.8		

nsample	8GW07S02
samp_date	3/19/2002
lab_id	WS0608-005
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
HARDNESS	MG/L	262		
NITRATE	MG/L	0.05	U	
SULFATE	MG/L	1		

nsample	8GW08D02
samp_date	3/23/2002
lab_id	WS0670-002
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
HARDNESS	MG/L	61.6		
NITRATE	MG/L	0.37	J	H
SULFATE	MG/L	16		

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: MISC

nsample	8GW10S02
samp_date	3/23/2002
lab_id	WS0670-003
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
HARDNESS	MG/L	25.3		
NITRATE	MG/L	0.2	J	H
SULFATE	MG/L	11		

nsample	FD03190201
samp_date	3/19/2002
lab_id	WS0608-002
qc_type	NM
Pct_Solids	0
DUP_OF:	8GW07S02

Parameter	units	Result	Val Qual	Qual Code
HARDNESS	MG/L	246		
NITRATE	MG/L	0.05	U	
SULFATE	MG/L	1		

nsample	HNUS2302
samp_date	3/23/2002
lab_id	WS0670-004
qc_type	NM
Pct_Solids	0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
HARDNESS	MG/L	222		
NITRATE	MG/L	14	J	H
SULFATE	MG/L	20		

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **C. RICH** **DATE: MAY 31, 2002**

FROM: **SETH C. STAFFEN** **COPIES: DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION: VOA/SVOA/PAH/PEST/PCB**
CTO 816, NSB NEW LONDON
SDG: 816-5

SAMPLES: 13/Aqueous/VOA/SVOA/PAH/PEST/PCB

8GW0102	8GW02D02	8GW02S02	8GW0302	8GW05S02
8GW06D02	8GW06S02	8GW07S02	8GW08D02	8GW10S02
FD03190201	HNUS2302	TB03190201*		

Overview

The sample set for CTO 816, NSB New London, SDG: 816-5 consists of twelve (12) groundwater environmental samples and one (1) trip blank. The environmental samples were analyzed for TCL volatile, semivolatile, polynuclear aromatic hydrocarbons (PAHs), pesticides (PEST), and polychlorinated biphenyl (PCB) organic compounds. The trip bank designated with an (*) was analyzed for Target Compound List (TCL) volatile organic compounds only. One field duplicate pair was included in this SDG: 8GW07S02 / FD03190201.

The samples were collected by Tetra Tech NUS, Inc. on March 19-20 and 23-24, 2002 and were analyzed by Katahdin Analytical Services. Analyses were conducted using the Contract Laboratory Program (CLP) Statement of Work (SOW) OLC02.1 (volatile, pesticide and PCB), and the U.S. EPA Test Methods for Evaluating Solid Wastes (SW-846) Methods 8270C and 8270-SIM analytical and reporting protocols.

The data were evaluated based on the following parameters:

- * Data Completeness
- * Holding Times
- * GC/MS Tuning
- Calibration
- Blanks
- Surrogate Spike Recoveries
- Blank Spike Recoveries
- Matrix Spike/Matrix Spike Duplicate Recoveries
- Internal Standards Performance
- * Instrument Performance
- Field Duplicate Precision
- * Compound Identification
- Compound Quantitation
- * Tentatively Identified Compounds (TICs)

The asterisk (*) indicates that all quality control criteria were met for this parameter. Qualified (if applicable) analytical results are summarized in Appendix A. Results as reported by the laboratory are presented in Appendix B. Appendix C contains Region I worksheets, and Appendix D contains the documentation to support the findings as discussed in this data validation report.

HOLDING TIMES

All quality control parameters for holding times were met.

CALIBRATIONS

The following tables (by analytical fraction) summarize calibration non-compliances and corresponding actions:

Compound	IC (5972-S) 03/21/02	IC 03/22/02	CC 03/23/02; 0749
Acetone	D	R	
2-Butanone		R	
1,2-dibromo-3-chloropropane		R	
1,3-dichlorobenzene			X
Bromoform			X
Associated Samples:	All	All	8GW07S02

Compound	IC (5972-Z) 03/21/02	CC 03/22/02	CC 03/27/02; 1043	CC 03/28/02; 1134
Methylene Chloride			X	X
Acetone	R	R	R	R
2-Butanone				R
1,2-dibromo-3-chloropropane	R	R		R
1,3-dichlorobenzene				
Bromoform				
1,1-dichloroethene		X		
Cis-1,3-dichloropropene			X	
Associated Samples:	All	8GW06S02	8GW02D02, 8GW08D02, 8GW10S02	HNUS2302, 8GW06D02, 8GW0102

Compound	IC (5972-Z) 03/30/02
1,2,4-Trichlorbenzene	D
Associated Samples:	All

DATE: 05/31/02
SDG: 816-5

Compound	IC 03/28/02	CC 03/28/02 at 1143	CC 03/29/02 at 1208
Benzoic Acid	D		
4-Chloroaniline	D		
3-Nitroaniline	D	R	X
2,4-Dinitrophenol	D		
4-Nitrophenol	D		
3,3'-Dichlorobenzidine			X
	Samples: ALL	FD03190201, 8GW02S02, 8GW0302, 8GW07S02	8GW02D02, 8GW08D02, 8GW10S02, HNUS2302, 8GW06D02, 8GW0102 8GW06S02, 8GW05S02

Compound	CC 03/27/02; 0747	CC 04/02/02; 0849
Dibenzo(a,h)anthracene	X	X
Naphthalene		X
1-Methylnaphthalene		X
Phenanthrene		X
Anthracene		X
Benzo(g,h,i)perylene		X
Associated Samples:	FD03190201, 8GW02S02, 8GW0302, 8GW07S02, 8GW06S02, 8GW05S02	8GW02D02, 8GW08D02, 8GW10S02, HNUS2302, 8GW0102, 8GW06D02

Compound	CC 04/03/02 at 0618
Endrin	X*

Calibration Actions:

D - Percent Relative Standard Deviation (%RSD) > 30%, Estimate positive and nondetected results (J) and (UJ), respectively.

X - Percent Difference (%D) > 25%; Estimate positive and nondetected results (J) and (UJ), respectively.

R - Relative Response Factors (RRF) < 0.05; Reject nondetected results (UR) and estimate positive results (J).

X* - Other column was compliant; no qualification action.

BLANKS

The following compounds were detected in the method blanks as indicated below:

Compound	Maximum Concentration	Action Level
Methylene chloride	2 µg/L	20 µg/L
Acetone	2 µg/L	20 µg/L
1,2-Dichlorobenzene	0.2 µg/L	1.0 µg/L
1,4-Dichlorobenzene	0.6 µg/L	3.0 µg/L
Carbon Disulfide	0.9 µg/L	4.5 µg/L

Samples Affected: All
Blank Actions:

- Value < Reportng Limit (RL); report RL followed by a U.
- Value > RL and < action level; report value followed by a U.
- Value > RL and > action level; report value unqualified.

An action level of 10X (common laboratory contaminants) and 5X (other contaminants) the blank concentration was used to evaluate contamination for the aforementioned compounds. Dilution factors and sample aliquots were taken into consideration prior to the application of all action levels. Field quality control blanks were not qualified due to method blank contamination or contamination in other field quality control blanks.

SURROGATE RECOVERY

Surrogate Recoveries were within quality control limit for all fractions in this SDG, except in cases were the surrogates were diluted due to dilution.

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

The MS/MSD %Rs were less than the lower quality control limit for 3,3'-dichlorobenzidine, hexachloroethane, hexachlorocyclopentadiene, hexachlorobutadiene, and benzoic acid. Positive and nondetected results were qualified as estimated, J, and, UJ, respectively, in the unspiked sample, 8GW06S02.

The MS/MSD %Rs were greater than the upper quality control limit for 3-nitroaniline and 4-nitroaniline. Positive results were qualified as estimated, J, in the unspiked sample, 8GW06S02.

The MS/MSD %Rs were less than the lower quality control limit for hexachlorocyclopentadiene, hexachlorobutadiene, and benzoic acid. Positive and nondetected results were qualified as estimated, J, and, UJ, respectively, in the unspiked sample, 8GW10S02.

The MS/MSD %Rs were greater than the upper quality control limit for 3-nitroaniline, 3,3'-dichlorobenzidine, carbazole, and 4-nitroaniline. No qualification action was taken on MS/MSD %Rs alone.

The MS/MSD %Rs were less than the lower quality control limit for all of the PAHs except naphthalene, pyrene, benzo(a)anthracene, and anthracene. Positive and nondetected results were qualified as estimated, J, and, UJ, respectively, in the unspiked sample, 8GW06S02.

The MS/MSD %Rs were less than the lower quality control limit for benzo(g,h,i)perylene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, and ancenaphthalene. Positive and nondetected results were qualified as estimated, J, and, UJ, respectively, in the unspiked sample, 8GW10S02.

The MS/MSD %Rs were greater than the upper quality control limit for phenanthrene. Positive results were qualified as estimated, J, in the unspiked sample, 8GW10S02.

INTERNAL STANDARDS PERFORMANCE

The internal standard naphthalene-d8 exceeded the upper quality control limit for sample FD03190201. The re-analysis of the sample yielded naphthalene-d8 within quality control limits. The original analysis was used for data validation purposes. No qualification action was taken because the reported results associated with the internal standard were not detected.

The internal standards chyrsene-d12 and perylene-d12 exceeded the upper quality control limits for sample 8GW02S02. The re-analysis of the sample yielded similar exceedances of chyrsene-d12 and perylene-d12. Therefore, the original analysis was used for data validation purposes. Positive results associated with the internal standards were qualified as estimated, J, in the aforementioned sample.

The internal standard perylene-d12 exceeded the upper quality control limit for samples 8GW07S02 and 8GW06S02. Positive results associated with the internal standard were qualified as estimated, J, in the aforementioned samples.

The internal standards, perylene-d12 and chrysene-d12 were less than the lower quality control limit for samples 8GW10S02, HNUS2302 and only chrysene-d12 was less than the lower limit for sample 8GW06D02. The re-analysis of samples, 8GW10S02, HNUS2302 yielded identical internal standards that were less than the lower quality control limits. Therefore the original analysis was used for data validation purposes. Sample 8GW06D02 was not re-analyzed. Positive and nondetected results associated with the internal standards were qualified as estimated, J, and, UJ, respectively in the aforementioned samples.

LABORATORY CONTROL SAMPLES

The volatile laboratory control sample (LCS) RPD was greater than the quality control limit for 1,4-dichlorobenzene. No qualification action was taken based on LCS RPD noncompliance.

The LCS percent recoveries were marginally less than the lower quality control limits in the semivolatile fraction prepared on 03/25/02 for 2,2'-oxybis(1-chloropropane), 2,4-dichlorophenol, 2,4-dimethylphenol, 2-chlorophenol, 2-methylphenol, 2-nitrophenol, 4-bromophneyl-phenylether, benzoic acid, bis(2-chloroethoxy)methane, hexachlorobutadiene, hexachlorocyclopentadiene, hexachloroethane, isophorone, N-nitroso-di-n-propylamine, nitrobenzene, and phenol. Nondetected results for benzoic acid and hexachlorocyclopentadiene were qualified as estimated, UJ, in the associated samples.

The LCS percent recoveries were greater than the upper quality control limit in the semivolatile fraction prepared on 03/25/02 for 3-nitroaniline, 4-nitroaniline, carbazole and 3,3'-dichlorobenzidine. Positive results for carbazole were qualified as estimated, J, in the associated samples prepared on 03/25/02.

The LCS percent recoveries were less than the lower quality control limits in the PAH fraction prepared on 03/25/02 for all the PAHs except pyrene and benzo(a)anthracene. Positive and nondetected results were qualified as estimated, J, and, UJ, receptively, in the associated samples.

The LCS percent recoveries were less than the lower quality control limits in the PAH fraction prepared on 03/29/02 for acenaphthene, acenaphthylene, dibenzo(a,h)anthracene, fluorene, and naphthalene. Positive and nondetected results were qualified as estimated, J, and, UJ, receptively, in the associated samples.

LCS sample, LCP2023SC, from the pesticide fraction contained a %R for g-BHC (49%) that was less than the lower quality control limit (50%). No qualification action was taken.

TENTATIVELY INDENTIFIED COMPOUNDS

Numerous TICs were identified in the volatile fraction of all samples (see Table 1).

ADDITIONAL COMMENTS

Positive results reported at concentrations below the RL were qualified as estimated, (J).

The linear calibration range of the instrument was exceeded by ethylbenzene and total xylenes in sample 8GW0302. The results were transposed over from the 5X dilution and used for data validation purposes. The other compounds were reported from the original analysis.

The linear calibration range of the instrument was exceeded by total xylenes in sample 8GW06D02. The result was transposed over from the 2X dilution and used for data validation purposes. The other compounds were reported from the original analysis.

The linear calibration range of the instrument was exceeded by tetrachloroethene in sample 8GW08D02. The result was transposed over from the 100X dilution and used for data validation purposes. The other compounds were reported from the original analysis.

The linear calibration range of the instrument was exceeded by chlorodibromomethane and tetrachloroethene in sample 8GW10S02. The results for tetrachloroethene were transposed over from the 50X dilution and used for data validation purposes. The other compounds were reported from the original analysis.

The OLC02.1 volatile compound 1,2,4-trichlorobenzene was reported in the volatile and semivolatile fractions of this SDG. Since 1,2,4-trichlorobenzene is on the CLP OLC02.1 volatile target compound list and the volatile analysis yields the lower reporting limit, it was removed from the semivolatile database.

Despite the absence of butyl benzyl phthalate, bis(2-ethylhexyl)phthalate, and di-n-butyl phthalate in the semivolatile laboratory method blank, phthalates are common laboratory contaminants. Therefore, the presence of butyl benzyl phthalate, bis(2-ethylhexyl)phthalate, and di-n-butyl phthalate in environmental samples are possible laboratory contaminants. Positive results were qualified as estimated, J.

The laboratory did not report 4,4'-DDD in sample 8GW07S02. The laboratory re-analyzed the sample to include 4,4'-DDD. The reported result for 4,4'-DDD was transposed over from the re-analysis to the original analysis. All other compounds were reported from the original analysis.

Field duplicate imprecision occurred between sample 8GW07S02 and its duplicate FD03190201 for 2-methylnaphthalene. Positive results were qualified as estimated, J, in the field pair.

OVERALL ASSESSMENT

Laboratory Performance: Initial and continuing calibration of several volatile, semivolatile and PAH compounds failed to meet quality control criteria, resulting in the qualification of analytical data. Transcription errors were observed for sample identifications between EDDs and Form Is. Several data completeness issues were noted. Several phthalates were possible laboratory contaminants.

Other Factors Affecting Data Quality: Noncompliances (% recoveries and %RPDs) were observed for several MS/MSD and LCS analyses of samples, resulting in the qualification of analytical data.

The data for these analyses were reviewed with reference to the Region I EPA "Data Validation Functional Guidelines - Part II" (12/96).

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

TetraTech NUS

Seth C. Staffen
Environmental Scientist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Regional Worksheets
4. Appendix D - Support Documentation

APPENDIX A

QUALIFIED LABORATORY RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OV

nsample	8GW0102
samp_date	3/24/2002
lab_id	WS0670-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	U	
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	5	UR	C
2-HEXANONE	5	U	
4-METHYL-2-PENTANONE	5	U	
ACETONE	5	UR	C
BENZENE	1	U	
BROMOCHLOROMETHANE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	1	U	
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	1	U	

nsample	8GW0102
samp_date	3/24/2002
lab_id	WS0670-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
CIS-1,3-DICHLOROPROPENE	1	U	
ETHYLBENZENE	1		
METHYLENE CHLORIDE	1	U	A
STYRENE	1	U	
TETRACHLOROETHENE	1	U	
TOLUENE	1	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	1	U	
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	1	U	
VINYL CHLORIDE	1	U	

nsample	8GW02D02
samp_date	3/23/2002
lab_id	WS0670-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	U	
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	5	U	
2-HEXANONE	5	U	
4-METHYL-2-PENTANONE	5	U	
ACETONE	5	U	A
BENZENE	1	U	
BROMOCHLOROMETHANE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	A
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	1	U	
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	24		

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OV

nsample	8GW02D02
samp_date	3/23/2002
lab_id	WS0670-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
CIS-1,3-DICHLOROPROPENE	1	UJ	C
ETHYLBENZENE	1	U	
METHYLENE CHLORIDE	2	U	A
STYRENE	1	U	
TETRACHLOROETHENE	21		
TOLUENE	1	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	2		
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	6		
VINYL CHLORIDE	5		

nsample	8GW02S02
samp_date	3/19/2002
lab_id	WS0608-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
1,1,1-TRICHLOROETHANE	5	U	
1,1,2,2-TETRACHLOROETHANE	5	U	
1,1,2-TRICHLOROETHANE	5	U	
1,1-DICHLOROETHANE	5	U	
1,1-DICHLOROETHENE	5	U	
1,2,4-TRICHLOROBENZENE	5	U	
1,2-DIBROMO-3-CHLOROPROPANE	5	UR	C
1,2-DIBROMOETHANE	5	U	
1,2-DICHLOROBENZENE	5	U	
1,2-DICHLOROETHANE	5	U	
1,2-DICHLOROPROPANE	5	U	
1,3-DICHLOROBENZENE	5	U	
1,4-DICHLOROBENZENE	5	U	
2-BUTANONE	25	UR	C
2-HEXANONE	25	U	
4-METHYL-2-PENTANONE	25	U	
ACETONE	25	UR	C
BENZENE	5	U	
BROMOCHLOROMETHANE	5	U	
BROMODICHLOROMETHANE	5	U	
BROMOFORM	5	U	
BROMOMETHANE	5	U	
CARBON DISULFIDE	5	U	
CARBON TETRACHLORIDE	5	U	
CHLOROBENZENE	5	U	
CHLORODIBROMOMETHANE	5	U	
CHLOROETHANE	5	U	
CHLOROFORM	5	U	
CHLOROMETHANE	5	U	
CIS-1,2-DICHLOROETHENE	1	J	P

nsample	8GW02S02
samp_date	3/19/2002
lab_id	WS0608-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
CIS-1,3-DICHLOROPROPENE	5	U	
ETHYLBENZENE	100		
METHYLENE CHLORIDE	5	U	A
STYRENE	5	U	
TETRACHLOROETHENE	5	U	
TOLUENE	4	J	P
TOTAL XYLENES	180		
TRANS-1,2-DICHLOROETHENE	5	U	
TRANS-1,3-DICHLOROPROPENE	5	U	
TRICHLOROETHENE	5	U	
VINYL CHLORIDE	5	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OV

nsample	8GW0302
samp_date	3/19/2002
lab_id	WS0608-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	0.4	J	P
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	U	
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	5	UR	C
2-HEXANONE	5	U	
4-METHYL-2-PENTANONE	5	U	
ACETONE	5	UR	C
BENZENE	3		
BROMOCHLOROMETHANE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	0.7	J	P
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	7		

nsample	8GW0302
samp_date	3/19/2002
lab_id	WS0608-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
CIS-1,3-DICHLOROPROPENE	1	U	
ETHYLBENZENE	120		
METHYLENE CHLORIDE	2	U	A
STYRENE	1	U	
TETRACHLOROETHENE	1	U	
TOLUENE	2		
TOTAL XYLENES	190		
TRANS-1,2-DICHLOROETHENE	0.5	J	P
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	2		
VINYL CHLORIDE	6		

nsample	8GW05S02
samp_date	3/20/2002
lab_id	WS0608-7
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	U	
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	5	UR	C
2-HEXANONE	5	U	
4-METHYL-2-PENTANONE	5	U	
ACETONE	5	UR	C
BENZENE	1	U	
BROMOCHLOROMETHANE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	1	U	
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	1	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OV

nsample	8GW05S02
samp_date	3/20/2002
lab_id	WS0608-7
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
CIS-1,3-DICHLOROPROPENE	1	U	
ETHYLBENZENE	1	U	
METHYLENE CHLORIDE	2	U	
STYRENE	1	U	
TETRACHLOROETHENE	1	U	
TOLUENE	1	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	1	U	
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	1	U	
VINYL CHLORIDE	1	U	

nsample	8GW06D02
samp_date	3/24/2002
lab_id	WS0670-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	U	
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	5	UR	C
2-HEXANONE	5	U	
4-METHYL-2-PENTANONE	5	U	
ACETONE	5	UR	C
BENZENE	0.3	J	P
BROMOCHLOROMETHANE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	A
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	1	U	
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.3	J	P

nsample	8GW06D02
samp_date	3/24/2002
lab_id	WS0670-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
CIS-1,3-DICHLOROPROPENE	1	U	
ETHYLBENZENE	24		
METHYLENE CHLORIDE	2	U	A
STYRENE	1	U	
TETRACHLOROETHENE	0.3	J	P
TOLUENE	1	U	
TOTAL XYLENES	18		
TRANS-1,2-DICHLOROETHENE	1	U	
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	0.4	J	P
VINYL CHLORIDE	1	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OV

nsample	8GW06S02
samp_date	3/19/2002
lab_id	WS0608-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	UJ	C
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	0.4	J	P
1,4-DICHLOROBENZENE	1	U	A
2-BUTANONE	5	U	
2-HEXANONE	5	U	
4-METHYL-2-PENTANONE	5	U	
ACETONE	5	UR	C
BENZENE	1		
BROMOCHLOROMETHANE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	A
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	0.3	J	P
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	1	U	

nsample	8GW06S02
samp_date	3/19/2002
lab_id	WS0608-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
CIS-1,3-DICHLOROPROPENE	1	U	
ETHYLBENZENE	9		
METHYLENE CHLORIDE	2	U	A
STYRENE	1	U	
TETRACHLOROETHENE	1	U	
TOLUENE	0.2	J	P
TOTAL XYLENES	10		
TRANS-1,2-DICHLOROETHENE	1	U	
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	1	U	
VINYL CHLORIDE	1	U	

nsample	8GW07S02
samp_date	3/19/2002
lab_id	WS0608-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	UJ	C
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	5	UR	C
2-HEXANONE	5	U	
4-METHYL-2-PENTANONE	5	U	
ACETONE	5	UR	C
BENZENE	1		
BROMOCHLOROMETHANE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	UJ	C
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	A
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	0.6	J	P
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	1	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OV

nsample	8GW07S02
samp_date	3/19/2002
lab_id	WS0608-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
CIS-1,3-DICHLOROPROPENE	1	U	
ETHYLBENZENE	4		
METHYLENE CHLORIDE	2	U	A
STYRENE	1	U	
TETRACHLOROETHENE	1	U	
TOLUENE	1	U	
TOTAL XYLENES	10		
TRANS-1,2-DICHLOROETHENE	1	U	
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	1	U	
VINYL CHLORIDE	1	U	

nsample	8GW08D02
samp_date	3/23/2002
lab_id	WS0670-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	U	
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	5	U	
2-HEXANONE	5	U	
4-METHYL-2-PENTANONE	5	U	
ACETONE	5	U	A
BENZENE	1	U	
BROMOCHLOROMETHANE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	1	U	
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.3	J	P

nsample	8GW08D02
samp_date	3/23/2002
lab_id	WS0670-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
CIS-1,3-DICHLOROPROPENE	1	UJ	C
ETHYLBENZENE	1	U	
METHYLENE CHLORIDE	2	U	A
STYRENE	1	U	
TETRACHLOROETHENE	2300		
TOLUENE	1	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	1	U	
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	1		
VINYL CHLORIDE	1	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OV

nsample	8GW10S02
samp_date	3/23/2002
lab_id	WS0670-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	U	
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	5	U	
2-HEXANONE	5	U	
4-METHYL-2-PENTANONE	5	U	
ACETONE	5	U	A
BENZENE	1	U	
BROMOCHLOROMETHANE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	1	U	
CHLORODIBROMOMETHANE	29	J	L
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	1	U	

nsample	8GW10S02
samp_date	3/23/2002
lab_id	WS0670-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
CIS-1,3-DICHLOROPROPENE	1	U	
ETHYLBENZENE	1	U	
METHYLENE CHLORIDE	2	U	A
STYRENE	1	U	
TETRACHLOROETHENE	650		
TOLUENE	1	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	1	U	
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	0.4	J	P
VINYL CHLORIDE	1	U	

nsample	FD03190201
samp_date	3/19/2002
lab_id	WS0608-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	8GW07S02

Parameter	Result	ValQual	QualCode
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	U	
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	5	UR	C
2-HEXANONE	5	U	
4-METHYL-2-PENTANONE	5	U	
ACETONE	5	UR	C
BENZENE	1		
BROMOCHLOROMETHANE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	A
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	0.6	J	P
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.2	J	P

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OV

nsample	FD03190201
samp_date	3/19/2002
lab_id	WS0608-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	8GW07S02

Parameter	Result	ValQual	QualCode
CIS-1,3-DICHLOROPROPENE	1	U	
ETHYLBENZENE	3		
METHYLENE CHLORIDE	2	U	A
STYRENE	1	U	
TETRACHLOROETHENE	1	U	
TOLUENE	1	U	
TOTAL XYLENES	9		
TRANS-1,2-DICHLOROETHENE	1	U	
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	1	U	
VINYL CHLORIDE	1	U	

nsample	HNUS2302
samp_date	3/23/2002
lab_id	WS0670-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	U	
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	5	UR	C
2-HEXANONE	5	U	
4-METHYL-2-PENTANONE	5	U	
ACETONE	5	UR	C
BENZENE	1	U	
BROMOCHLOROMETHANE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	1	U	
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	1	U	
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	1	U	

nsample	HNUS2302
samp_date	3/23/2002
lab_id	WS0670-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
CIS-1,3-DICHLOROPROPENE	1	U	
ETHYLBENZENE	1	U	
METHYLENE CHLORIDE	2	U	A
STYRENE	1	U	
TETRACHLOROETHENE	1	U	
TOLUENE	1	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	1	U	
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	1	U	
VINYL CHLORIDE	1	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OV

nsample	TB03190201
samp_date	3/19/2002
lab_id	WS0608-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
1,1,1-TRICHLOROETHANE	1	U	
1,1,2,2-TETRACHLOROETHANE	1	U	
1,1,2-TRICHLOROETHANE	1	U	
1,1-DICHLOROETHANE	1	U	
1,1-DICHLOROETHENE	1	U	
1,2,4-TRICHLOROBENZENE	1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C
1,2-DIBROMOETHANE	1	U	
1,2-DICHLOROBENZENE	1	U	
1,2-DICHLOROETHANE	1	U	
1,2-DICHLOROPROPANE	1	U	
1,3-DICHLOROBENZENE	1	U	
1,4-DICHLOROBENZENE	1	U	
2-BUTANONE	5	UR	C
2-HEXANONE	5	U	
4-METHYL-2-PENTANONE	5	U	
ACETONE	5	UR	C
BENZENE	1	U	
BROMOCHLOROMETHANE	1	U	
BROMODICHLOROMETHANE	1	U	
BROMOFORM	1	U	
BROMOMETHANE	1	U	
CARBON DISULFIDE	0.5	J	P
CARBON TETRACHLORIDE	1	U	
CHLOROBENZENE	1	U	
CHLORODIBROMOMETHANE	1	U	
CHLOROETHANE	1	U	
CHLOROFORM	1	U	
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	1	U	

nsample	TB03190201
samp_date	3/19/2002
lab_id	WS0608-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
CIS-1,3-DICHLOROPROPENE	1	U	
ETHYLBENZENE	1	U	
METHYLENE CHLORIDE	0.4	J	P
STYRENE	1	U	
TETRACHLOROETHENE	1	U	
TOLUENE	1	U	
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	1	U	
TRANS-1,3-DICHLOROPROPENE	1	U	
TRICHLOROETHENE	1	U	
VINYL CHLORIDE	1	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OS

nsample	8GW0102
samp_date	3/24/2002
lab_id	WS0670-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U	
2,4,5-TRICHLOROPHENOL	20	U	
2,4,6-TRICHLOROPHENOL	5	U	
2,4-DICHLOROPHENOL	5	U	
2,4-DIMETHYLPHENOL	5	U	
2,4-DINITROPHENOL	20	UJ	C
2,4-DINITROTOLUENE	5	U	
2,6-DINITROTOLUENE	5	U	
2-CHLORONAPHTHALENE	5	U	
2-CHLOROPHENOL	5	U	
2-METHYLPHENOL	5	U	
2-NITROANILINE	20	U	
2-NITROPHENOL	5	U	
3,3'-DICHLOROBENZIDINE	5	UJ	C
3-NITROANILINE	20	UJ	C
4,6-DINITRO-2-METHYLPHENOL	20	U	
4-BROMOPHENYL PHENYL ETHER	5	U	
4-CHLORO-3-METHYLPHENOL	5	U	
4-CHLOROANILINE	5	UJ	C
4-CHLOROPHENYL PHENYL ETHER	5	U	
4-METHYLPHENOL	5	U	
4-NITROANILINE	20	U	
4-NITROPHENOL	20	UJ	C
BENZOIC ACID	20	UJ	C
BIS(2-CHLOROETHOXY)METHANE	5	U	
BIS(2-CHLOROETHYL)ETHER	5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	5	U	
BUTYL BENZYL PHTHALATE	0.6	J	AP
CARBAZOLE	5	U	
DI-N-BUTYL PHTHALATE	5	U	

nsample	8GW0102
samp_date	3/24/2002
lab_id	WS0670-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
DI-N-OCTYL PHTHALATE	5	U	
DIBENZOFURAN	5	U	
DIETHYL PHTHALATE	5	U	
DIMETHYL PHTHALATE	5	U	
HEXACHLOROBENZENE	5	U	
HEXACHLOROBUTADIENE	5	U	
HEXACHLOROCYCLOPENTADIENE	5	U	
HEXACHLOROETHANE	5	U	
ISOPHORONE	5	U	
N-NITROSO-DI-N-PROPYLAMINE	5	U	
N-NITROSODIPHENYLAMINE	5	U	
NITROBENZENE	5	U	
PENTACHLOROPHENOL	20	U	
PHENOL	5	U	

nsample	8GW02D02
samp_date	3/23/2002
lab_id	WS0670-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U	
2,4,5-TRICHLOROPHENOL	20	U	
2,4,6-TRICHLOROPHENOL	5	U	
2,4-DICHLOROPHENOL	5	U	
2,4-DIMETHYLPHENOL	5	U	
2,4-DINITROPHENOL	20	UJ	C
2,4-DINITROTOLUENE	5	U	
2,6-DINITROTOLUENE	5	U	
2-CHLORONAPHTHALENE	5	U	
2-CHLOROPHENOL	5	U	
2-METHYLPHENOL	5	U	
2-NITROANILINE	20	U	
2-NITROPHENOL	5	U	
3,3'-DICHLOROBENZIDINE	5	UJ	C
3-NITROANILINE	20	UJ	C
4,6-DINITRO-2-METHYLPHENOL	20	U	
4-BROMOPHENYL PHENYL ETHER	5	U	
4-CHLORO-3-METHYLPHENOL	5	U	
4-CHLOROANILINE	5	UJ	C
4-CHLOROPHENYL PHENYL ETHER	5	U	
4-METHYLPHENOL	5	U	
4-NITROANILINE	20	U	
4-NITROPHENOL	20	UJ	C
BENZOIC ACID	20	UJ	C
BIS(2-CHLOROETHOXY)METHANE	5	U	
BIS(2-CHLOROETHYL)ETHER	5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	3	J	AP
BUTYL BENZYL PHTHALATE	0.7	J	AP
CARBAZOLE	5	U	
DI-N-BUTYL PHTHALATE	1	J	AP

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OS

nsample	8GW02D02
samp_date	3/23/2002
lab_id	WS0670-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
DI-N-OCTYL PHTHALATE	5	U	
DIBENZOFURAN	5	U	
DIETHYL PHTHALATE	5	U	
DIMETHYL PHTHALATE	5	U	
HEXACHLOROBENZENE	5	U	
HEXACHLOROBUTADIENE	5	U	
HEXACHLOROCYCLOPENTADIENE	5	U	
HEXACHLOROETHANE	5	U	
ISOPHORONE	5	U	
N-NITROSO-DI-N-PROPYLAMINE	5	U	
N-NITROSODIPHENYLAMINE	5	U	
NITROBENZENE	5	U	
PENTACHLOROPHENOL	20	U	
PHENOL	5	U	

nsample	8GW02S02
samp_date	3/19/2002
lab_id	WS0608-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U	
2,4,5-TRICHLOROPHENOL	20	U	
2,4,6-TRICHLOROPHENOL	5	U	
2,4-DICHLOROPHENOL	5	U	
2,4-DIMETHYLPHENOL	40		
2,4-DINITROPHENOL	20	UJ	C
2,4-DINITROTOLUENE	5	U	
2,6-DINITROTOLUENE	5	U	
2-CHLORONAPHTHALENE	5	U	
2-CHLOROPHENOL	5	U	
2-METHYLPHENOL	6		
2-NITROANILINE	20	U	
2-NITROPHENOL	5	U	
3,3'-DICHLOROBENZIDINE	5	U	
3-NITROANILINE	20	UR	C
4,6-DINITRO-2-METHYLPHENOL	20	U	
4-BROMOPHENYL PHENYL ETHER	5	U	
4-CHLORO-3-METHYLPHENOL	5	U	
4-CHLOROANILINE	5	UJ	C
4-CHLOROPHENYL PHENYL ETHER	5	U	
4-METHYLPHENOL	1	J	P
4-NITROANILINE	20	U	
4-NITROPHENOL	20	UJ	C
BENZOIC ACID	20	UJ	CE
BIS(2-CHLOROETHOXY)METHANE	5	U	
BIS(2-CHLOROETHYL)ETHER	5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	5	U	
BUTYL BENZYL PHTHALATE	5	U	
CARBAZOLE	18	J	E
DI-N-BUTYL PHTHALATE	5	U	

nsample	8GW02S02
samp_date	3/19/2002
lab_id	WS0608-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
DI-N-OCTYL PHTHALATE	5	U	
DIBENZOFURAN	2	J	P
DIETHYL PHTHALATE	5	U	
DIMETHYL PHTHALATE	5	U	
HEXACHLOROBENZENE	5	U	
HEXACHLOROBUTADIENE	5	U	
HEXACHLOROCYCLOPENTADIENE	5	UJ	E
HEXACHLOROETHANE	5	U	
ISOPHORONE	5	U	
N-NITROSO-DI-N-PROPYLAMINE	5	U	
N-NITROSODIPHENYLAMINE	5	U	
NITROBENZENE	5	U	
PENTACHLOROPHENOL	20	U	
PHENOL	5		

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OS

nsample	8GW0302
samp_date	3/19/2002
lab_id	WS0608-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U	
2,4,5-TRICHLOROPHENOL	20	U	
2,4,6-TRICHLOROPHENOL	5	U	
2,4-DICHLOROPHENOL	5	U	
2,4-DIMETHYLPHENOL	43		
2,4-DINITROPHENOL	20	UJ	C
2,4-DINITROTOLUENE	5	U	
2,6-DINITROTOLUENE	5	U	
2-CHLORONAPHTHALENE	5	U	
2-CHLOROPHENOL	5	U	
2-METHYLPHENOL	9		
2-NITROANILINE	20	U	
2-NITROPHENOL	5	U	
3,3'-DICHLOROBENZIDINE	5	U	
3-NITROANILINE	20	UR	C
4,6-DINITRO-2-METHYLPHENOL	20	U	
4-BROMOPHENYL PHENYL ETHER	5	U	
4-CHLORO-3-METHYLPHENOL	5	U	
4-CHLOROANILINE	5	UJ	C
4-CHLOROPHENYL PHENYL ETHER	5	U	
4-METHYLPHENOL	4	J	P
4-NITROANILINE	20	U	
4-NITROPHENOL	20	UJ	C
BENZOIC ACID	20	UJ	CE
BIS(2-CHLOROETHOXY)METHANE	5	U	
BIS(2-CHLOROETHYL)ETHER	5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	3	J	AP
BUTYL BENZYL PHTHALATE	5	U	
CARBAZOLE	10	J	E
DI-N-BUTYL PHTHALATE	5	U	

nsample	8GW0302
samp_date	3/19/2002
lab_id	WS0608-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
DI-N-OCTYL PHTHALATE	5	U	
DIBENZOFURAN	3	J	P
DIETHYL PHTHALATE	5	U	
DIMETHYL PHTHALATE	5	U	
HEXACHLOROBENZENE	5	U	
HEXACHLOROBUTADIENE	5	U	
HEXACHLOROCYCLOPENTADIENE	5	UJ	E
HEXACHLOROETHANE	5	U	
ISOPHORONE	5	U	
N-NITROSO-DI-N-PROPYLAMINE	5	U	
N-NITROSODIPHENYLAMINE	5	U	
NITROBENZENE	5	U	
PENTACHLOROPHENOL	20	U	
PHENOL	5		

nsample	8GW05S02
samp_date	3/20/2002
lab_id	WS0608-7
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U	
2,4,5-TRICHLOROPHENOL	20	U	
2,4,6-TRICHLOROPHENOL	5	U	
2,4-DICHLOROPHENOL	5	U	
2,4-DIMETHYLPHENOL	5	U	
2,4-DINITROPHENOL	20	UJ	C
2,4-DINITROTOLUENE	5	U	
2,6-DINITROTOLUENE	5	U	
2-CHLORONAPHTHALENE	5	U	
2-CHLOROPHENOL	5	U	
2-METHYLPHENOL	5	U	
2-NITROANILINE	20	U	
2-NITROPHENOL	5	U	
3,3'-DICHLOROBENZIDINE	5	UJ	C
3-NITROANILINE	20	UJ	C
4,6-DINITRO-2-METHYLPHENOL	20	U	
4-BROMOPHENYL PHENYL ETHER	5	U	
4-CHLORO-3-METHYLPHENOL	5	U	
4-CHLOROANILINE	5	UJ	C
4-CHLOROPHENYL PHENYL ETHER	5	U	
4-METHYLPHENOL	5	U	
4-NITROANILINE	20	U	
4-NITROPHENOL	20	UJ	C
BENZOIC ACID	20	UJ	C
BIS(2-CHLOROETHOXY)METHANE	5	U	
BIS(2-CHLOROETHYL)ETHER	5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	5	U	
BUTYL BENZYL PHTHALATE	5	U	
CARBAZOLE	5	U	
DI-N-BUTYL PHTHALATE	5	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OS

nsample	8GW05S02
samp_date	3/20/2002
lab_id	WS0608-7
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
DI-N-OCTYL PHTHALATE	5	U	
DIBENZOFURAN	5	U	
DIETHYL PHTHALATE	5	U	
DIMETHYL PHTHALATE	5	U	
HEXACHLOROBENZENE	5	U	
HEXACHLOROBUTADIENE	5	U	
HEXACHLOROCYCLOPENTADIENE	5	U	
HEXACHLOROETHANE	5	U	
ISOPHORONE	5	U	
N-NITROSO-DI-N-PROPYLAMINE	5	U	
N-NITROSODIPHENYLAMINE	5	U	
NITROBENZENE	5	U	
PENTACHLOROPHENOL	20	U	
PHENOL	5	U	

nsample	8GW06D02
samp_date	3/24/2002
lab_id	WS0670-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U	
2,4,5-TRICHLOROPHENOL	20	U	
2,4,6-TRICHLOROPHENOL	5	U	
2,4-DICHLOROPHENOL	5	U	
2,4-DIMETHYLPHENOL	5	U	
2,4-DINITROPHENOL	20	UJ	C
2,4-DINITROTOLUENE	5	U	
2,6-DINITROTOLUENE	5	U	
2-CHLORONAPHTHALENE	5	U	
2-CHLOROPHENOL	5	U	
2-METHYLPHENOL	5	U	
2-NITROANILINE	20	U	
2-NITROPHENOL	5	U	
3,3'-DICHLOROBENZIDINE	5	UJ	C
3-NITROANILINE	20	UJ	C
4,6-DINITRO-2-METHYLPHENOL	20	U	
4-BROMOPHENYL PHENYL ETHER	5	U	
4-CHLORO-3-METHYLPHENOL	5	U	
4-CHLOROANILINE	5	UJ	C
4-CHLOROPHENYL PHENYL ETHER	5	U	
4-METHYLPHENOL	5	U	
4-NITROANILINE	20	U	
4-NITROPHENOL	20	UJ	C
BENZOIC ACID	20	UJ	C
BIS(2-CHLOROETHOXY)METHANE	5	U	
BIS(2-CHLOROETHYL)ETHER	5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	5	U	
BUTYL BENZYL PHTHALATE	5	U	
CARBAZOLE	5	U	
DI-N-BUTYL PHTHALATE	5	U	

nsample	8GW06D02
samp_date	3/24/2002
lab_id	WS0670-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
DI-N-OCTYL PHTHALATE	5	U	
DIBENZOFURAN	5	U	
DIETHYL PHTHALATE	5	U	
DIMETHYL PHTHALATE	5	U	
HEXACHLOROBENZENE	5	U	
HEXACHLOROBUTADIENE	5	U	
HEXACHLOROCYCLOPENTADIENE	5	U	
HEXACHLOROETHANE	5	U	
ISOPHORONE	5	U	
N-NITROSO-DI-N-PROPYLAMINE	5	U	
N-NITROSODIPHENYLAMINE	5	U	
NITROBENZENE	5	U	
PENTACHLOROPHENOL	20	U	
PHENOL	5	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OS

nsample	8GW06S02
samp_date	3/19/2002
lab_id	WS0608-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U	
2,4,5-TRICHLOROPHENOL	20	U	
2,4,6-TRICHLOROPHENOL	5	U	
2,4-DICHLOROPHENOL	5	U	
2,4-DIMETHYLPHENOL	5		
2,4-DINITROPHENOL	20	UJ	C
2,4-DINITROTOLUENE	5	U	
2,6-DINITROTOLUENE	5	U	
2-CHLORONAPHTHALENE	5	U	
2-CHLOROPHENOL	5	U	
2-METHYLPHENOL	0.9	J	P
2-NITROANILINE	20	U	
2-NITROPHENOL	5	U	
3,3'-DICHLOROBENZIDINE	5	UJ	CD
3-NITROANILINE	20	UJ	C
4,6-DINITRO-2-METHYLPHENOL	20	U	
4-BROMOPHENYL PHENYL ETHER	5	U	
4-CHLORO-3-METHYLPHENOL	5	U	
4-CHLOROANILINE	5	UJ	C
4-CHLOROPHENYL PHENYL ETHER	5	U	
4-METHYLPHENOL	5	U	
4-NITROANILINE	20	U	
4-NITROPHENOL	20	UJ	C
BENZOIC ACID	20	UJ	C
BIS(2-CHLOROETHOXY)METHANE	5	U	
BIS(2-CHLOROETHYL)ETHER	5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	5	U	
BUTYL BENZYL PHTHALATE	5	U	
CARBAZOLE	5	U	
DI-N-BUTYL PHTHALATE	5	U	

nsample	8GW06S02
samp_date	3/19/2002
lab_id	WS0608-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
DI-N-OCTYL PHTHALATE	5	U	
DIBENZOFURAN	5	U	
DIETHYL PHTHALATE	5	U	
DIMETHYL PHTHALATE	5	U	
HEXACHLOROBENZENE	5	U	
HEXACHLOROBUTADIENE	5	UJ	D
HEXACHLOROCYCLOPENTADIENE	5	UJ	D
HEXACHLOROETHANE	5	UJ	D
ISOPHORONE	5	U	
N-NITROSO-DI-N-PROPYLAMINE	5	U	
N-NITROSODIPHENYLAMINE	5	U	
NITROBENZENE	5	U	
PENTACHLOROPHENOL	20	U	
PHENOL	5	U	

nsample	8GW07S02
samp_date	3/19/2002
lab_id	WS0608-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U	
2,4,5-TRICHLOROPHENOL	20	U	
2,4,6-TRICHLOROPHENOL	5	U	
2,4-DICHLOROPHENOL	5	U	
2,4-DIMETHYLPHENOL	5	U	
2,4-DINITROPHENOL	20	UJ	C
2,4-DINITROTOLUENE	5	U	
2,6-DINITROTOLUENE	5	U	
2-CHLORONAPHTHALENE	5	U	
2-CHLOROPHENOL	5	U	
2-METHYLPHENOL	5	U	
2-NITROANILINE	20	U	
2-NITROPHENOL	5	U	
3,3'-DICHLOROBENZIDINE	5	U	
3-NITROANILINE	20	UR	C
4,6-DINITRO-2-METHYLPHENOL	20	U	
4-BROMOPHENYL PHENYL ETHER	5	U	
4-CHLORO-3-METHYLPHENOL	5	U	
4-CHLOROANILINE	5	UJ	C
4-CHLOROPHENYL PHENYL ETHER	5	U	
4-METHYLPHENOL	5	U	
4-NITROANILINE	20	U	
4-NITROPHENOL	20	UJ	C
BENZOIC ACID	20	UJ	CE
BIS(2-CHLOROETHOXY)METHANE	5	U	
BIS(2-CHLOROETHYL)ETHER	5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	5	U	
BUTYL BENZYL PHTHALATE	5	U	
CARBAZOLE	0.8	J	EP
DI-N-BUTYL PHTHALATE	5	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OS

nsample	8GW07S02
samp_date	3/19/2002
lab_id	WS0608-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
DI-N-OCTYL PHTHALATE	5	U	
DIBENZOFURAN	0.6	J	P
DIETHYL PHTHALATE	5	U	
DIMETHYL PHTHALATE	5	U	
HEXACHLOROBENZENE	5	U	
HEXACHLOROBUTADIENE	5	U	
HEXACHLOROCYCLOPENTADIENE	5	UJ	E
HEXACHLOROETHANE	5	U	
ISOPHORONE	5	U	
N-NITROSO-DI-N-PROPYLAMINE	5	U	
N-NITROSODIPHENYLAMINE	5	U	
NITROBENZENE	5	U	
PENTACHLOROPHENOL	20	U	
PHENOL	5	U	

nsample	8GW08D02
samp_date	3/23/2002
lab_id	WS0670-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U	
2,4,5-TRICHLOROPHENOL	20	U	
2,4,6-TRICHLOROPHENOL	5	U	
2,4-DICHLOROPHENOL	5	U	
2,4-DIMETHYLPHENOL	5	U	
2,4-DINITROPHENOL	20	UJ	C
2,4-DINITROTOLUENE	5	U	
2,6-DINITROTOLUENE	5	U	
2-CHLORONAPHTHALENE	5	U	
2-CHLOROPHENOL	5	U	
2-METHYLPHENOL	5	U	
2-NITROANILINE	20	U	
2-NITROPHENOL	5	U	
3,3'-DICHLOROBENZIDINE	5	UJ	C
3-NITROANILINE	20	UJ	C
4,6-DINITRO-2-METHYLPHENOL	20	U	
4-BROMOPHENYL PHENYL ETHER	5	U	
4-CHLORO-3-METHYLPHENOL	5	U	
4-CHLOROANILINE	5	UJ	C
4-CHLOROPHENYL PHENYL ETHER	5	U	
4-METHYLPHENOL	5	U	
4-NITROANILINE	20	U	
4-NITROPHENOL	20	UJ	C
BENZOIC ACID	20	UJ	C
BIS(2-CHLOROETHOXY)METHANE	5	U	
BIS(2-CHLOROETHYL)ETHER	5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	10	J	A
BUTYL BENZYL PHTHALATE	0.6	J	AP
CARBAZOLE	5	U	
DI-N-BUTYL PHTHALATE	5	U	

nsample	8GW08D02
samp_date	3/23/2002
lab_id	WS0670-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
DI-N-OCTYL PHTHALATE	5	U	
DIBENZOFURAN	5	U	
DIETHYL PHTHALATE	5	U	
DIMETHYL PHTHALATE	5	U	
HEXACHLOROBENZENE	5	U	
HEXACHLOROBUTADIENE	5	U	
HEXACHLOROCYCLOPENTADIENE	5	U	
HEXACHLOROETHANE	5	U	
ISOPHORONE	5	U	
N-NITROSO-DI-N-PROPYLAMINE	5	U	
N-NITROSODIPHENYLAMINE	5	U	
NITROBENZENE	5	U	
PENTACHLOROPHENOL	20	U	
PHENOL	5	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OS

nsample	8GW10S02
samp_date	3/23/2002
lab_id	WS0670-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U	
2,4,5-TRICHLOROPHENOL	20	U	
2,4,6-TRICHLOROPHENOL	5	U	
2,4-DICHLOROPHENOL	5	U	
2,4-DIMETHYLPHENOL	5	U	
2,4-DINITROPHENOL	20	UJ	C
2,4-DINITROTOLUENE	5	U	
2,6-DINITROTOLUENE	5	U	
2-CHLORONAPHTHALENE	5	U	
2-CHLOROPHENOL	5	U	
2-METHYLPHENOL	5	U	
2-NITROANILINE	20	U	
2-NITROPHENOL	5	U	
3,3'-DICHLOROBENZIDINE	5	UJ	C
3-NITROANILINE	20	UJ	C
4,6-DINITRO-2-METHYLPHENOL	20	U	
4-BROMOPHENYL PHENYL ETHER	5	U	
4-CHLORO-3-METHYLPHENOL	5	U	
4-CHLOROANILINE	5	UJ	C
4-CHLOROPHENYL PHENYL ETHER	5	U	
4-METHYLPHENOL	5	U	
4-NITROANILINE	20	U	
4-NITROPHENOL	20	UJ	C
BENZOIC ACID	20	UJ	C
BIS(2-CHLOROETHOXY)METHANE	5	U	
BIS(2-CHLOROETHYL)ETHER	5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	9	J	A
BUTYL BENZYL PHTHALATE	0.8	J	AP
CARBAZOLE	5	U	
DI-N-BUTYL PHTHALATE	0.9	J	AP

nsample	8GW10S02
samp_date	3/23/2002
lab_id	WS0670-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
DI-N-OCTYL PHTHALATE	5	U	
DIBENZOFURAN	5	U	
DIETHYL PHTHALATE	5	U	
DIMETHYL PHTHALATE	5	U	
HEXACHLOROBENZENE	5	U	
HEXACHLOROBUTADIENE	5	UJ	D
HEXACHLOROCYCLOPENTADIENE	5	UJ	D
HEXACHLOROETHANE	5	U	
ISOPHORONE	5	U	
N-NITROSO-DI-N-PROPYLAMINE	5	U	
N-NITROSODIPHENYLAMINE	5	U	
NITROBENZENE	5	U	
PENTACHLOROPHENOL	20	U	
PHENOL	5	U	

nsample	FD03190201
samp_date	3/19/2002
lab_id	WS0608-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	8GW07S02

Parameter	Result	ValQual	QualCode
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U	
2,4,5-TRICHLOROPHENOL	20	U	
2,4,6-TRICHLOROPHENOL	5	U	
2,4-DICHLOROPHENOL	5	U	
2,4-DIMETHYLPHENOL	5	U	
2,4-DINITROPHENOL	20	UJ	C
2,4-DINITROTOLUENE	5	U	
2,6-DINITROTOLUENE	5	U	
2-CHLORONAPHTHALENE	5	U	
2-CHLOROPHENOL	5	U	
2-METHYLPHENOL	5	U	
2-NITROANILINE	20	U	
2-NITROPHENOL	5	U	
3,3'-DICHLOROBENZIDINE	5	U	
3-NITROANILINE	20	UR	C
4,6-DINITRO-2-METHYLPHENOL	20	U	
4-BROMOPHENYL PHENYL ETHER	5	U	
4-CHLORO-3-METHYLPHENOL	5	U	
4-CHLOROANILINE	5	UJ	C
4-CHLOROPHENYL PHENYL ETHER	5	U	
4-METHYLPHENOL	5	U	
4-NITROANILINE	20	U	
4-NITROPHENOL	20	UJ	C
BENZOIC ACID	20	UJ	CE
BIS(2-CHLOROETHOXY)METHANE	5	U	
BIS(2-CHLOROETHYL)ETHER	5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	5	U	
BUTYL BENZYL PHTHALATE	5	U	
CARBAZOLE	0.8	J	EP
DI-N-BUTYL PHTHALATE	5	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: OS

nsample	FD03190201
samp_date	3/19/2002
lab_id	WS0608-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	8GW07S02

Parameter	Result	ValQual	QualCode
DI-N-OCTYL PHTHALATE	5	U	
DIBENZOFURAN	0.6	J	P
DIETHYL PHTHALATE	5	U	
DIMETHYL PHTHALATE	5	U	
HEXACHLOROBENZENE	5	U	
HEXACHLOROBUTADIENE	5	U	
HEXACHLOROCYCLOPENTADIENE	5	UJ	E
HEXACHLOROETHANE	5	U	
ISOPHORONE	5	U	
N-NITROSO-DI-N-PROPYLAMINE	5	U	
N-NITROSODIPHENYLAMINE	5	U	
NITROBENZENE	5	U	
PENTACHLOROPHENOL	20	U	
PHENOL	5	U	

nsample	HNUS2302
samp_date	3/23/2002
lab_id	WS0670-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U	
2,4,5-TRICHLOROPHENOL	20	U	
2,4,6-TRICHLOROPHENOL	5	U	
2,4-DICHLOROPHENOL	5	U	
2,4-DIMETHYLPHENOL	5	U	
2,4-DINITROPHENOL	20	UJ	C
2,4-DINITROTOLUENE	5	U	
2,6-DINITROTOLUENE	5	U	
2-CHLORONAPHTHALENE	5	U	
2-CHLOROPHENOL	5	U	
2-METHYLPHENOL	5	U	
2-NITROANILINE	20	U	
2-NITROPHENOL	5	U	
3,3'-DICHLOROBENZIDINE	5	UJ	C
3-NITROANILINE	20	UJ	C
4,6-DINITRO-2-METHYLPHENOL	20	U	
4-BROMOPHENYL PHENYL ETHER	5	U	
4-CHLORO-3-METHYLPHENOL	5	U	
4-CHLOROANILINE	5	UJ	C
4-CHLOROPHENYL PHENYL ETHER	5	U	
4-METHYLPHENOL	5	U	
4-NITROANILINE	20	U	
4-NITROPHENOL	20	UJ	C
BENZOIC ACID	20	UJ	C
BIS(2-CHLOROETHOXY)METHANE	5	U	
BIS(2-CHLOROETHYL)ETHER	5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	12	J	A
BUTYL BENZYL PHTHALATE	0.9	J	AP
CARBAZOLE	5	U	
DI-N-BUTYL PHTHALATE	5	U	

nsample	HNUS2302
samp_date	3/23/2002
lab_id	WS0670-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
DI-N-OCTYL PHTHALATE	5	U	
DIBENZOFURAN	5	U	
DIETHYL PHTHALATE	5	U	
DIMETHYL PHTHALATE	5	U	
HEXACHLOROBENZENE	5	U	
HEXACHLOROBUTADIENE	5	U	
HEXACHLOROCYCLOPENTADIENE	5	U	
HEXACHLOROETHANE	5	U	
ISOPHORONE	5	U	
N-NITROSO-DI-N-PROPYLAMINE	5	U	
N-NITROSODIPHENYLAMINE	5	U	
NITROBENZENE	5	U	
PENTACHLOROPHENOL	20	U	
PHENOL	5	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: PAH

nsample	8GW0102	nsample	8GW02D02	nsample	8GW02S02
samp_date	3/24/2002	samp_date	3/23/2002	samp_date	3/19/2002
lab_id	WS0670-6	lab_id	WS0670-1	lab_id	WS0608-3
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	ValQual	QualCode
1-METHYLNAPHTHALENE	0.2	J	C
2-METHYLNAPHTHALENE	0.1	U	
ACENAPHTHENE	0.2	J	E
ACENAPHTHYLENE	0.1	UJ	E
ANTHRACENE	0.1	UJ	C
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	UJ	C
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	0.1	U	
DIBENZO(A,H)ANTHRACENE	0.1	UJ	CE
FLUORANTHENE	0.1	U	
FLUORENE	0.06	J	PE
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	1	J	CE
PHENANTHRENE	0.1	UJ	C
PYRENE	0.1	U	

Parameter	Result	ValQual	QualCode
1-METHYLNAPHTHALENE	0.1	UJ	C
2-METHYLNAPHTHALENE	0.1	U	
ACENAPHTHENE	0.2	J	E
ACENAPHTHYLENE	0.1	UJ	E
ANTHRACENE	0.07	J	CP
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	UJ	C
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	0.05	J	P
DIBENZO(A,H)ANTHRACENE	0.1	UJ	CE
FLUORANTHENE	0.6		
FLUORENE	0.1	J	E
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.08	J	CEP
PHENANTHRENE	0.7	J	C
PYRENE	0.5		

Parameter	Result	ValQual	QualCode
1-METHYLNAPHTHALENE	2	J	E
2-METHYLNAPHTHALENE	2	J	EP
ACENAPHTHENE	4	J	E
ACENAPHTHYLENE	0.1	UJ	E
ANTHRACENE	0.8	J	E
BENZO(A)ANTHRACENE	0.09	J	NP
BENZO(A)PYRENE	0.1	UJ	E
BENZO(B)FLUORANTHENE	0.1	UJ	E
BENZO(G,H,I)PERYLENE	0.1	UJ	E
BENZO(K)FLUORANTHENE	0.1	UJ	E
CHRYSENE	0.07	J	ENP
DIBENZO(A,H)ANTHRACENE	0.1	UJ	CE
FLUORANTHENE	2	J	EP
FLUORENE	1	J	EP
INDENO(1,2,3-CD)PYRENE	0.1	UJ	E
NAPHTHALENE	15	J	E
PHENANTHRENE	4	J	E
PYRENE	0.8	J	N

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: PAH

nsample	8GW0302	nsample	8GW05S02	nsample	8GW06D02
samp_date	3/19/2002	samp_date	3/20/2002	samp_date	3/24/2002
lab_id	WS0608-4	lab_id	WS0608-7	lab_id	WS0670-5
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	ValQual	QualCode
1-METHYLNAPHTHALENE	3	J	E
2-METHYLNAPHTHALENE	3	J	E
ACENAPHTHENE	2	J	E
ACENAPHTHYLENE	0.1	J	E
ANTHRACENE	0.7	J	E
BENZO(A)ANTHRACENE	0.05	J	EP
BENZO(A)PYRENE	0.1	UJ	E
BENZO(B)FLUORANTHENE	0.1	UJ	E
BENZO(G,H,I)PERYLENE	0.1	UJ	E
BENZO(K)FLUORANTHENE	0.1	UJ	E
CHRYSENE	0.05	J	P
DIBENZO(A,H)ANTHRACENE	0.1	UJ	CE
FLUORANTHENE	0.7	J	E
FLUORENE	2	J	ECP
INDENO(1,2,3-CD)PYRENE	0.1	UJ	E
NAPHTHALENE	21	J	E
PHENANTHRENE	5	J	E
PYRENE	0.4		

Parameter	Result	ValQual	QualCode
1-METHYLNAPHTHALENE	0.1	UJ	E
2-METHYLNAPHTHALENE	0.1	UJ	E
ACENAPHTHENE	0.1	UJ	E
ACENAPHTHYLENE	0.1	UJ	E
ANTHRACENE	0.1	UJ	E
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	UJ	E
BENZO(B)FLUORANTHENE	0.1	UJ	E
BENZO(G,H,I)PERYLENE	0.1	UJ	E
BENZO(K)FLUORANTHENE	0.1	UJ	E
CHRYSENE	0.1	UJ	E
DIBENZO(A,H)ANTHRACENE	0.1	UJ	CE
FLUORANTHENE	0.1	UJ	E
FLUORENE	0.1	UJ	E
INDENO(1,2,3-CD)PYRENE	0.1	UJ	E
NAPHTHALENE	0.1	UJ	E
PHENANTHRENE	0.1	UJ	E
PYRENE	0.1	U	

Parameter	Result	ValQual	QualCode
1-METHYLNAPHTHALENE	0.1	UJ	C
2-METHYLNAPHTHALENE	0.1	U	
ACENAPHTHENE	0.07	J	EP
ACENAPHTHYLENE	0.1	U	E
ANTHRACENE	0.2	J	C
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.4		
BENZO(B)FLUORANTHENE	0.4		
BENZO(G,H,I)PERYLENE	0.2	J	C
BENZO(K)FLUORANTHENE	0.3		
CHRYSENE	0.6	J	N
DIBENZO(A,H)ANTHRACENE	0.07	J	ECP
FLUORANTHENE	5		
FLUORENE	0.1	U	
INDENO(1,2,3-CD)PYRENE	0.4		
NAPHTHALENE	0.1	UJ	CE
PHENANTHRENE	0.6	J	C
PYRENE	5	J	N

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: PAH

nsample	8GW06S02	nsample	8GW07S02	nsample	8GW08D02
samp_date	3/19/2002	samp_date	3/19/2002	samp_date	3/23/2002
lab_id	WS0608-6	lab_id	WS0608-5	lab_id	WS0670-2
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	ValQual	QualCode
1-METHYLNAPHTHALENE	0.1	J	E
2-METHYLNAPHTHALENE	0.1	UJ	DE
ACENAPHTHENE	0.3	J	E
ACENAPHTHYLENE	0.1	UJ	E
ANTHRACENE	0.1	UJ	E
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	UJ	DE
BENZO(B)FLUORANTHENE	0.1	UJ	DE
BENZO(G,H,I)PERYLENE	0.1	UJ	DE
BENZO(K)FLUORANTHENE	0.1	UJ	DE
CHRYSENE	0.1	UJ	DE
DIBENZO(A,H)ANTHRACENE	0.1	UJ	CDE
FLUORANTHENE	0.2	J	DE
FLUORENE	0.1	UJ	DE
INDENO(1,2,3-CD)PYRENE	0.1	UJ	DE
NAPHTHALENE	0.6	J	E
PHENANTHRENE	0.1	UJ	DE
PYRENE	0.2	J	N

Parameter	Result	ValQual	QualCode
1-METHYLNAPHTHALENE	0.5	J	E
2-METHYLNAPHTHALENE	0.3	J	GE
ACENAPHTHENE	2	J	E
ACENAPHTHYLENE	0.05	J	PE
ANTHRACENE	0.2	J	E
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	UJ	E
BENZO(B)FLUORANTHENE	0.1	UJ	E
BENZO(G,H,I)PERYLENE	0.1	UJ	E
BENZO(K)FLUORANTHENE	0.1	UJ	E
CHRYSENE	0.1	UJ	E
DIBENZO(A,H)ANTHRACENE	0.1	UJ	CE
FLUORANTHENE	0.7	J	E
FLUORENE	0.6	J	E
INDENO(1,2,3-CD)PYRENE	0.1	UJ	E
NAPHTHALENE	2	J	E
PHENANTHRENE	0.6	J	E
PYRENE	0.4		

Parameter	Result	ValQual	QualCode
1-METHYLNAPHTHALENE	0.1	UJ	C
2-METHYLNAPHTHALENE	0.1	U	
ACENAPHTHENE	0.1	UJ	E
ACENAPHTHYLENE	0.1	UJ	E
ANTHRACENE	0.1	UJ	C
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	U	
BENZO(G,H,I)PERYLENE	0.1	UJ	C
BENZO(K)FLUORANTHENE	0.1	U	
CHRYSENE	0.1	U	
DIBENZO(A,H)ANTHRACENE	0.1	UJ	CE
FLUORANTHENE	0.1	U	
FLUORENE	0.1	UJ	E
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.1	UJ	CE
PHENANTHRENE	0.1	UJ	C
PYRENE	0.1	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: PAH

nsample	8GW10S02
samp_date	3/23/2002
lab_id	WS0670-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
1-METHYLNAPHTHALENE	0.1	UJ	C
2-METHYLNAPHTHALENE	0.1	U	
ACENAPHTHENE	0.1	UJ	E
ACENAPHTHYLENE	0.1	UJ	DE
ANTHRACENE	0.1	UJ	C
BENZO(A)ANTHRACENE	0.1	UJ	N
BENZO(A)PYRENE	0.1	UJ	CD
BENZO(B)FLUORANTHENE	0.1	UJ	DN
BENZO(G,H,I)PERYLENE	0.1	UJ	D
BENZO(K)FLUORANTHENE	0.1	UJ	N
CHRYSENE	0.1	UJ	N
DIBENZO(A,H)ANTHRACENE	0.1	UJ	CEDN
FLUORANTHENE	0.1	U	
FLUORENE	0.1	UJ	E
INDENO(1,2,3-CD)PYRENE	0.1	UJ	DN
NAPHTHALENE	0.1	UJ	CE
PHENANTHRENE	0.1	UJ	CD
PYRENE	0.1	UJ	N

nsample	FD03190201
samp_date	3/19/2002
lab_id	WS0608-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	8GW07S02

Parameter	Result	ValQual	QualCode
1-METHYLNAPHTHALENE	0.5	J	E
2-METHYLNAPHTHALENE	0.2	J	GE
ACENAPHTHENE	2	J	E
ACENAPHTHYLENE	0.1	UJ	E
ANTHRACENE	0.2	J	E
BENZO(A)ANTHRACENE	0.1	U	
BENZO(A)PYRENE	0.1	UJ	E
BENZO(B)FLUORANTHENE	0.1	UJ	E
BENZO(G,H,I)PERYLENE	0.1	UJ	E
BENZO(K)FLUORANTHENE	0.1	UJ	E
CHRYSENE	0.1	UJ	E
DIBENZO(A,H)ANTHRACENE	0.1	UJ	E
FLUORANTHENE	0.7	J	E
FLUORENE	0.7	J	E
INDENO(1,2,3-CD)PYRENE	0.1	UJ	E
NAPHTHALENE	2	J	E
PHENANTHRENE	0.7	J	E
PYRENE	0.3	J	N

nsample	HNUS2302
samp_date	3/23/2002
lab_id	WS0670-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	ValQual	QualCode
1-METHYLNAPHTHALENE	0.1	UJ	C
2-METHYLNAPHTHALENE	0.1	U	
ACENAPHTHENE	0.1	UJ	E
ACENAPHTHYLENE	0.1	UJ	E
ANTHRACENE	0.1	UJ	C
BENZO(A)ANTHRACENE	0.1	UJ	N
BENZO(A)PYRENE	0.1	U	
BENZO(B)FLUORANTHENE	0.1	UJ	N
BENZO(G,H,I)PERYLENE	0.1	UJ	C
BENZO(K)FLUORANTHENE	0.1	UJ	N
CHRYSENE	0.1	U	
DIBENZO(A,H)ANTHRACENE	0.1	UJ	CEN
FLUORANTHENE	0.1	U	
FLUORENE	0.1	UJ	E
INDENO(1,2,3-CD)PYRENE	0.1	UJ	N
NAPHTHALENE	0.1	UJ	CE
PHENANTHRENE	0.1	UJ	C
PYRENE	0.1	UJ	N

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: PEST/PCB

nsample	8GW0102	nsample	8GW02D02	nsample	8GW02S02
samp_date	3/24/2002	samp_date	3/23/2002	samp_date	3/19/2002
lab_id	WS0670-6SC	lab_id	WS0670-1SC	lab_id	WS0608-3SC
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	ValQual	QualCode
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.20	U	
4,4'-DDD	0.020	U	
4,4'-DDE	0.020	U	
4,4'-DDT	0.020	U	
ALDRIN	0.010	U	
ALPHA-BHC	0.010	U	
ALPHA-CHLORDANE	0.010	U	
AROCLOR-1016	0.20	U	
AROCLOR-1221	0.39	U	
AROCLOR-1232	0.20	U	
AROCLOR-1242	0.20	U	
AROCLOR-1248	0.20	U	
AROCLOR-1254	0.20	U	
AROCLOR-1260	0.20	U	
BETA-BHC	0.010	U	
DELTA-BHC	0.010	U	
DIELDRIN	0.020	U	
ENDOSULFAN I	0.010	U	
ENDOSULFAN II	0.020	U	
ENDOSULFAN SULFATE	0.020	U	
ENDRIN	0.020	U	
ENDRIN ALDEHYDE	0.020	U	
ENDRIN KETONE	0.020	U	
GAMMA-BHC (LINDANE)	0.010	U	
GAMMA-CHLORDANE	0.010	U	
HEPTACHLOR	0.010	U	
HEPTACHLOR EPOXIDE	0.010	U	
METHOXYCHLOR	0.098	U	
TOXAPHENE	0.98	U	

Parameter	Result	ValQual	QualCode
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.19	U	
4,4'-DDD	0.019	U	
4,4'-DDE	0.019	U	
4,4'-DDT	0.019	U	
ALDRIN	0.010	U	
ALPHA-BHC	0.010	U	
ALPHA-CHLORDANE	0.010	U	
AROCLOR-1016	0.19	U	
AROCLOR-1221	0.38	U	
AROCLOR-1232	0.19	U	
AROCLOR-1242	0.19	U	
AROCLOR-1248	0.19	U	
AROCLOR-1254	0.19	U	
AROCLOR-1260	0.19	U	
BETA-BHC	0.010	U	
DELTA-BHC	0.010	U	
DIELDRIN	0.019	U	
ENDOSULFAN I	0.010	U	
ENDOSULFAN II	0.019	U	
ENDOSULFAN SULFATE	0.019	U	
ENDRIN	0.019	U	
ENDRIN ALDEHYDE	0.019	U	
ENDRIN KETONE	0.019	U	
GAMMA-BHC (LINDANE)	0.010	U	
GAMMA-CHLORDANE	0.010	U	
HEPTACHLOR	0.010	U	
HEPTACHLOR EPOXIDE	0.010	U	
METHOXYCHLOR	0.095	U	
TOXAPHENE	0.95	U	

Parameter	Result	ValQual	QualCode
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.19	U	
4,4'-DDD	0.019	U	
4,4'-DDE	0.019	U	
4,4'-DDT	0.019	U	
ALDRIN	0.010	U	
ALPHA-BHC	0.010	U	
ALPHA-CHLORDANE	0.010	U	
AROCLOR-1016	0.19	U	
AROCLOR-1221	0.38	U	
AROCLOR-1232	0.19	U	
AROCLOR-1242	0.19	U	
AROCLOR-1248	0.19	U	
AROCLOR-1254	0.19	U	
AROCLOR-1260	0.19	U	
BETA-BHC	0.010	U	
DELTA-BHC	0.010	U	
DIELDRIN	0.019	U	
ENDOSULFAN I	0.010	U	
ENDOSULFAN II	0.019	U	
ENDOSULFAN SULFATE	0.019	U	
ENDRIN	0.019	U	
ENDRIN ALDEHYDE	0.019	U	
ENDRIN KETONE	0.019	U	
GAMMA-BHC (LINDANE)	0.010	U	
GAMMA-CHLORDANE	0.010	U	
HEPTACHLOR	0.010	U	
HEPTACHLOR EPOXIDE	0.010	U	
METHOXYCHLOR	0.095	U	
TOXAPHENE	0.95	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: PEST/PCB

nsample	8GW0302	nsample	8GW05S02	nsample	8GW06D02
samp_date	3/19/2002	samp_date	3/20/2002	samp_date	3/24/2002
lab_id	WS0608-4SC	lab_id	WS0608-7SC	lab_id	WS0670-5SC
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	ValQual	QualCode
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.19	U	
4,4'-DDD	0.02	U	
4,4'-DDE	0.02	U	
4,4'-DDT	0.02	U	
ALDRIN	0.0097	U	
ALPHA-BHC	0.0097	U	
ALPHA-CHLORDANE	0.0097	U	
AROCLOR-1016	0.19	U	
AROCLOR-1221	0.39	U	
AROCLOR-1232	0.19	U	
AROCLOR-1242	0.19	U	
AROCLOR-1248	0.19	U	
AROCLOR-1254	0.19	U	
AROCLOR-1260	0.19	U	
BETA-BHC	0.0097	U	
DELTA-BHC	0.0097	U	
DIELDRIN	0.019	U	
ENDOSULFAN I	0.0097	U	
ENDOSULFAN II	0.019	U	
ENDOSULFAN SULFATE	0.019	U	
ENDRIN	0.019	U	
ENDRIN ALDEHYDE	0.019	U	
ENDRIN KETONE	0.019	U	
GAMMA-BHC (LINDANE)	0.0097	U	
GAMMA-CHLORDANE	0.0097	U	
HEPTACHLOR	0.0097	U	
HEPTACHLOR EPOXIDE	0.0097	U	
METHOXYCHLOR	0.097	U	
TOXAPHENE	0.97	U	

Parameter	Result	ValQual	QualCode
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.21	U	
4,4'-DDD	0.021	U	
4,4'-DDE	0.021	U	
4,4'-DDT	0.021	U	
ALDRIN	0.010	U	
ALPHA-BHC	0.010	U	
ALPHA-CHLORDANE	0.010	U	
AROCLOR-1016	0.21	U	
AROCLOR-1221	0.41	U	
AROCLOR-1232	0.21	U	
AROCLOR-1242	0.21	U	
AROCLOR-1248	0.21	U	
AROCLOR-1254	0.21	U	
AROCLOR-1260	0.21	U	
BETA-BHC	0.010	U	
DELTA-BHC	0.010	U	
DIELDRIN	0.021	U	
ENDOSULFAN I	0.010	U	
ENDOSULFAN II	0.021	U	
ENDOSULFAN SULFATE	0.021	U	
ENDRIN	0.021	U	
ENDRIN ALDEHYDE	0.021	U	
ENDRIN KETONE	0.021	U	
GAMMA-BHC (LINDANE)	0.010	U	
GAMMA-CHLORDANE	0.010	U	
HEPTACHLOR	0.010	U	
HEPTACHLOR EPOXIDE	0.010	U	
METHOXYCHLOR	0.10	U	
TOXAPHENE	1.0	U	

Parameter	Result	ValQual	QualCode
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.19	U	
4,4'-DDD	0.019	U	
4,4'-DDE	0.019	U	
4,4'-DDT	0.019	U	
ALDRIN	0.010	U	
ALPHA-BHC	0.010	U	
ALPHA-CHLORDANE	0.010	U	
AROCLOR-1016	0.19	U	
AROCLOR-1221	0.38	U	
AROCLOR-1232	0.19	U	
AROCLOR-1242	0.19	U	
AROCLOR-1248	0.19	U	
AROCLOR-1254	0.19	U	
AROCLOR-1260	0.19	U	
BETA-BHC	0.010	U	
DELTA-BHC	0.010	U	
DIELDRIN	0.019	U	
ENDOSULFAN I	0.010	U	
ENDOSULFAN II	0.019	U	
ENDOSULFAN SULFATE	0.019	U	
ENDRIN	0.019	U	
ENDRIN ALDEHYDE	0.019	U	
ENDRIN KETONE	0.019	U	
GAMMA-BHC (LINDANE)	0.010	U	
GAMMA-CHLORDANE	0.010	U	
HEPTACHLOR	0.010	U	
HEPTACHLOR EPOXIDE	0.010	U	
METHOXYCHLOR	0.095	U	
TOXAPHENE	0.95	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: PEST/PCB

nsample	8GW06S02	nsample	8GW07S02	nsample	8GW08D02
samp_date	3/19/2002	samp_date	3/19/2002	samp_date	3/23/2002
lab_id	WS0608-6	lab_id	WS0608-5	lab_id	WS0670-2SC
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	ValQual	QualCode
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.19	U	
4,4'-DDD	0.019	U	
4,4'-DDE	0.019	U	
4,4'-DDT	0.019	U	
ALDRIN	0.010	U	
ALPHA-BHC	0.010	U	
ALPHA-CHLORDANE	0.010	U	
AROCLOR-1016	0.19	U	
AROCLOR-1221	0.38	U	
AROCLOR-1232	0.19	U	
AROCLOR-1242	0.19	U	
AROCLOR-1248	0.19	U	
AROCLOR-1254	0.19	U	
AROCLOR-1260	0.19	U	
BETA-BHC	0.010	U	
DELTA-BHC	0.010	U	
DIELDRIN	0.019	U	
ENDOSULFAN I	0.010	U	
ENDOSULFAN II	0.019	U	
ENDOSULFAN SULFATE	0.019	U	
ENDRIN	0.019	U	
ENDRIN ALDEHYDE	0.019	U	
ENDRIN KETONE	0.019	U	
GAMMA-BHC (LINDANE)	0.010	U	
GAMMA-CHLORDANE	0.010	U	
HEPTACHLOR	0.010	U	
HEPTACHLOR EPOXIDE	0.010	U	
METHOXYCHLOR	0.096	U	
TOXAPHENE	0.96	U	

Parameter	Result	ValQual	QualCode
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.19	U	
4,4'-DDD	0.019	U	
4,4'-DDE	0.019	U	
4,4'-DDT	0.019	U	
ALDRIN	0.010	U	
ALPHA-BHC	0.010	U	
ALPHA-CHLORDANE	0.010	U	
AROCLOR-1016	0.19	U	
AROCLOR-1221	0.38	U	
AROCLOR-1232	0.19	U	
AROCLOR-1242	0.19	U	
AROCLOR-1248	0.19	U	
AROCLOR-1254	0.19	U	
AROCLOR-1260	0.19	U	
BETA-BHC	0.010	U	
DELTA-BHC	0.010	U	
DIELDRIN	0.019	U	
ENDOSULFAN I	0.010	U	
ENDOSULFAN II	0.019	U	
ENDOSULFAN SULFATE	0.019	U	
ENDRIN	0.019	U	
ENDRIN ALDEHYDE	0.019	U	
ENDRIN KETONE	0.019	U	
GAMMA-BHC (LINDANE)	0.010	U	
GAMMA-CHLORDANE	0.010	U	
HEPTACHLOR	0.010	U	
HEPTACHLOR EPOXIDE	0.010	U	
METHOXYCHLOR	0.096	U	
TOXAPHENE	0.96	U	

Parameter	Result	ValQual	QualCode
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.19	U	
4,4'-DDD	0.019	U	
4,4'-DDE	0.019	U	
4,4'-DDT	0.019	U	
ALDRIN	0.009	U	
ALPHA-BHC	0.009	U	
ALPHA-CHLORDANE	0.009	U	
AROCLOR-1016	0.19	U	
AROCLOR-1221	0.38	U	
AROCLOR-1232	0.19	U	
AROCLOR-1242	0.19	U	
AROCLOR-1248	0.19	U	
AROCLOR-1254	0.19	U	
AROCLOR-1260	0.19	U	
BETA-BHC	0.009	U	
DELTA-BHC	0.009	U	
DIELDRIN	0.019	U	
ENDOSULFAN I	0.009	U	
ENDOSULFAN II	0.019	U	
ENDOSULFAN SULFATE	0.019	U	
ENDRIN	0.019	U	
ENDRIN ALDEHYDE	0.019	U	
ENDRIN KETONE	0.019	U	
GAMMA-BHC (LINDANE)	0.009	U	
GAMMA-CHLORDANE	0.009	U	
HEPTACHLOR	0.009	U	
HEPTACHLOR EPOXIDE	0.009	U	
METHOXYCHLOR	0.094	U	
TOXAPHENE	0.94	U	

PROJ_NO: 2863

SDG: 816-5 MEDIA: WATER DATA FRACTION: PEST/PCB

nsample	8GW10S02	nsample	FD03190201	nsample	HNUS2302
samp_date	3/23/2002	samp_date	3/19/2002	samp_date	3/23/2002
lab_id	WS0670-3SC	lab_id	WS0608-2SC	lab_id	WS0670-4SC
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:	8GW07S02	DUP_OF:	

Parameter	Result	ValQual	QualCode
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.20	U	
4,4'-DDD	0.020	U	
4,4'-DDE	0.020	U	
4,4'-DDT	0.020	U	
ALDRIN	0.010	U	
ALPHA-BHC	0.010	U	
ALPHA-CHLORDANE	0.010	U	
AROCLOR-1016	0.20	U	
AROCLOR-1221	0.39	U	
AROCLOR-1232	0.20	U	
AROCLOR-1242	0.20	U	
AROCLOR-1248	0.20	U	
AROCLOR-1254	0.20	U	
AROCLOR-1260	0.20	U	
BETA-BHC	0.010	U	
DELTA-BHC	0.010	U	
DIELDRIN	0.020	U	
ENDOSULFAN I	0.010	U	
ENDOSULFAN II	0.020	U	
ENDOSULFAN SULFATE	0.020	U	
ENDRIN	0.020	U	
ENDRIN ALDEHYDE	0.020	U	
ENDRIN KETONE	0.020	U	
GAMMA-BHC (LINDANE)	0.010	U	
GAMMA-CHLORDANE	0.010	U	
HEPTACHLOR	0.010	U	
HEPTACHLOR EPOXIDE	0.010	U	
METHOXYCHLOR	0.098	U	
TOXAPHENE	0.98	U	

Parameter	Result	ValQual	QualCode
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.20	U	
4,4'-DDD	0.020	U	
4,4'-DDE	0.020	U	
4,4'-DDT	0.020	U	
ALDRIN	0.010	U	
ALPHA-BHC	0.010	U	
ALPHA-CHLORDANE	0.010	U	
AROCLOR-1016	0.20	U	
AROCLOR-1221	0.40	U	
AROCLOR-1232	0.20	U	
AROCLOR-1242	0.20	U	
AROCLOR-1248	0.20	U	
AROCLOR-1254	0.20	U	
AROCLOR-1260	0.20	U	
BETA-BHC	0.010	U	
DELTA-BHC	0.010	U	
DIELDRIN	0.020	U	
ENDOSULFAN I	0.010	U	
ENDOSULFAN II	0.020	U	
ENDOSULFAN SULFATE	0.020	U	
ENDRIN	0.020	U	
ENDRIN ALDEHYDE	0.020	U	
ENDRIN KETONE	0.020	U	
GAMMA-BHC (LINDANE)	0.010	U	
GAMMA-CHLORDANE	0.010	U	
HEPTACHLOR	0.010	U	
HEPTACHLOR EPOXIDE	0.010	U	
METHOXYCHLOR	0.099	U	
TOXAPHENE	0.99	U	

Parameter	Result	ValQual	QualCode
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.20	U	
4,4'-DDD	0.020	U	
4,4'-DDE	0.020	U	
4,4'-DDT	0.020	U	
ALDRIN	0.010	U	
ALPHA-BHC	0.010	U	
ALPHA-CHLORDANE	0.010	U	
AROCLOR-1016	0.20	U	
AROCLOR-1221	0.39	U	
AROCLOR-1232	0.20	U	
AROCLOR-1242	0.20	U	
AROCLOR-1248	0.20	U	
AROCLOR-1254	0.20	U	
AROCLOR-1260	0.20	U	
BETA-BHC	0.010	U	
DELTA-BHC	0.010	U	
DIELDRIN	0.020	U	
ENDOSULFAN I	0.010	U	
ENDOSULFAN II	0.020	U	
ENDOSULFAN SULFATE	0.020	U	
ENDRIN	0.020	U	
ENDRIN ALDEHYDE	0.020	U	
ENDRIN KETONE	0.020	U	
GAMMA-BHC (LINDANE)	0.010	U	
GAMMA-CHLORDANE	0.010	U	
HEPTACHLOR	0.010	U	
HEPTACHLOR EPOXIDE	0.010	U	
METHOXYCHLOR	0.098	U	
TOXAPHENE	0.98	U	

APPENDIX H

WASTE CHARACTERIZATION AND WASTE MANIFEST

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS MATERIALS
One Winter Street Boston, Massachusetts 02108

128-54

GGC FILE # 88198

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CT4170022020

Manifest Document No. 64525

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
US NAVAL SUBMARINE BASE
ENV. DEPT. PO BOX 39 GROTON CT. 06349

4. Generator's Phone ( ) 860-694-4298

A. State Manifest Document Number MA Q 064525

B. State Gen. ID
RTE 12/CRYSTAL LAKE RD
GROTON ,CT

5. Transporter 1 Company Name CLEAN VENTURE INC.

6. US EPA ID Number NJ0000027193

C. State Trans. ID 45069 MA

7. Transporter 2 Company Name

8. US EPA ID Number

D. Transporter's Phone ( )

E. State Trans. ID 908-355-5800

9. Designated Facility Name and Site Address
GENERAL CHEMICAL CORPORATION
133 LELAND STREET
FRAMINGHAM MA 01702

10. US EPA ID Number MAD019371079

F. Transporter's Phone ( )

G. State Facility's ID NOT REQUIRED

H. Facility's Phone ( ) 508-872-5000

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. WASTE NO.
a. NON RCRA NON DOT REGULATED LIQUIDS (PER 40 CFR PER 49 CFR)	01	DM	55	G	MA99
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.)
Auth. # VT00107117
a.(0001) 1X55
b.
c.
d.

K. Handling Codes for Wastes Listed Above
a. S 0 2
b.
c.
d.

15. Special Handling Instructions and Additional Information
ER # (508)872-5000

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: CARL S. DIMARO
Signature:
Date: Month Day Year 05 08 02

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: James S. Zanchi
Signature:
Date: Month Day Year 05 08 02

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item19
Printed/Typed Name: R Swartz
Signature:
Date: Month Day Year 05 19 02

GENERATOR

TRANSPORTER

FACILITY

In case of emergency or spill, immediately call National Response Center (800) 424-8802

MA Q 064525

COPY 1: FACILITY MAILS TO DESTINATION STATE

Form Approved OMB No. 2050-0039.
EPA Form 8700-22 (Rev. 9-96) Previous editions are obsolete.

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Massachusetts Certification # M-MA138
Rhode Island # 98 Maine # MA138
Florida # E87600 / 87562
New Hampshire # 2538
Connecticut # PH-0777
New York # 11393

General Chemical Corp
133 Leland Street
Framingham, MA 01702

Attn: S. Savioli

Tuesday, April 09, 2002

Report Status:
- ☑ Final Report
- ☐ Re-issued Report
- ☐ Revised Report

Client Project Number:

Location: Navel Sub Base-Groton, CT

Laboratory ID	Client Sample ID	Analyses Requested
AD05695	A	TCLP Zero Headspace Extraction
		TCLP VOCs by GC/MS
		TCLP Extraction for SVOCs
		TCLP Pesticides
		TCLP Semivolatiles
		TCLP Extraction for Metals
		Metals Digestion on Leachate
		Mercury Digestion on Leachate
		TCLP RCRA8 Metals
		TCLP Mercury
		TCLP Extraction for SVOC-Herb
		TCLP Herbicides
		Separatory Funnel Extraction on

ENVIRONMENTAL ANALYSES

11 Almgren Drive • Agawam, Massachusetts 01001 • 1-800-789-9115 • 413-789-9018 • Fax 413-789-4076

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Client Project Number: **Location:** Navel Sub Base-Groton, CT

Laboratory ID	Client Sample ID	Analyses Requested

I attest that all information contained within this report has been reviewed for accuracy and checked against all quality control requirements outlined in each applicable method and meet the requirements of NELAC including any data obtained from a subcontract laboratory. Please note that all solid matrix sample results are calculated on a dry weight basis unless otherwise specified.

This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

Authorized by:

Hanibal C. Tayeh, Ph.D.
President/Laboratory Director

ENVIRONMENTAL ANALYSES

• 11 Almgren Drive • Agawam, Massachusetts 01001 • 1-800-789-9115 • 413-789-9018 • Fax 413-789-4076

SPECTRUM ANALYTICAL, INC.

Laboratory Report

Location: Navel Sub Base-Groton, CT
Client: GENCHEM
Lab ID No: AD05695
Client Id: A

Client Project No:
Submittal Date: 3/27/2002
Collection Date: 3/26/2002
Matrix Ground Water

Parameter	Results	Units	PQL	Start Date	Analyst	Method
Volatile Organic Compounds						
TCLP VOCs by GC/MS						
Benzene	Below det lim	ug/L	1.0	4/3/2002	RLJ	1311/8260B
2-Butanone (MEK)	Below det lim	ug/L	10.0	4/3/2002	RLJ	1311/8260B
Carbon tetrachloride	Below det lim	ug/L	1.0	4/3/2002	RLJ	1311/8260B
Chlorobenzene	Below det lim	ug/L	1.0	4/3/2002	RLJ	1311/8260B
Chloroform	Below det lim	ug/L	1.0	4/3/2002	RLJ	1311/8260B
1,2-Dichloroethane	Below det lim	ug/L	1.0	4/3/2002	RLJ	1311/8260B
1,1-Dichloroethene	Below det lim	ug/L	1.0	4/3/2002	RLJ	1311/8260B
Tetrachloroethene (PCE)	230	ug/L	1.0	4/3/2002	RLJ	1311/8260B
Trichloroethene (TCE)	Below det lim	ug/L	1.0	4/3/2002	RLJ	1311/8260B
Vinyl chloride	Below det lim	ug/L	1.0	4/3/2002	RLJ	1311/8260B
4-Bromofluorobenzene (%SR)	95	ug/L		4/3/2002	RLJ	1311/8260B
1,4-Difluorobenzene (%SR)	103	ug/L		4/3/2002	RLJ	1311/8260B
Chlorobenzene-d5 (%SR)	103	ug/L		4/3/2002	RLJ	1311/8260B
SVOC Preparation						
Separatory Funnel Extraction on Leachate	Completed			4/3/2002	WB	SW846 3510C
Semivolatile Organic Compounds						
TCLP Semivolatiles						
Pyridine	Below det lim	ug/L	5.0	4/5/2002	MSL	1311/8270C
1,4-Dichlorobenzene	Below det lim	ug/L	5.0	4/5/2002	MSL	1311/8270C
2-Methylphenol (o-cresol)	Below det lim	ug/L	5.0	4/5/2002	MSL	1311/8270C
Hexachloroethane	Below det lim	ug/L	5.0	4/5/2002	MSL	1311/8270C
3-Methylphenol (m-cresol)	Below det lim	ug/L	5.0	4/5/2002	MSL	1311/8270C
Nitrobenzene	Below det lim	ug/L	5.0	4/5/2002	MSL	1311/8270C
Hexachlorobutadiene	Below det lim	ug/L	5.0	4/5/2002	MSL	1311/8270C
2,4,6-Trichlorophenol	Below det lim	ug/L	5.0	4/5/2002	MSL	1311/8270C
2,4,5-Trichlorophenol	Below det lim	ug/L	5.0	4/5/2002	MSL	1311/8270C
2,4-Dinitrotoluene	Below det lim	ug/L	5.0	4/5/2002	MSL	1311/8270C
Hexachlorobenzene	Below det lim	ug/L	5.0	4/5/2002	MSL	1311/8270C
Pentachlorophenol	Below det lim	ug/L	5.0	4/5/2002	MSL	1311/8270C
4-Methylphenol (p-cresol)	Below det lim	ug/L	5.0	4/5/2002	MSL	1311/8270C
2-Fluorobiphenyl (%SR)	75	ug/L	0.	4/5/2002	MSL	1311/8270C
2-Fluorophenol (%SR)	72	ug/L	0.	4/5/2002	MSL	1311/8270C
Nitrobenzene-d5 (%SR)	73	ug/L	0.	4/5/2002	MSL	1311/8270C
Terphenyl-d14 (%SR)	78	ug/L	0.	4/5/2002	MSL	1311/8270C

Lab ID No: AD05695 **Collection Date:** 3/26/2002
Client Id: A **Matrix** Ground Water

Parameter	Results	Units	PQL	Start Date	Analyst	Method
Semivolatile Organic Compounds						
TCLP Pesticides						
Chlordane	Below det lim	ug/L	0.50	4/5/2002	TG	1311/8081A
Endrin	Below det lim	ug/L	0.10	4/5/2002	TG	1311/8081A
Heptachlor	Below det lim	ug/L	0.05	4/5/2002	TG	1311/8081A
Heptachlor epoxide	Below det lim	ug/L	0.05	4/5/2002	TG	1311/8081A
gamma-BHC (Lindane)	Below det lim	ug/L	0.05	4/5/2002	TG	1311/8081A
Methoxychlor	Below det lim	ug/L	0.50	4/5/2002	TG	1311/8081A
Toxaphene	Below det lim	ug/L	1.0	4/5/2002	TG	1311/8081A
4,4'-DDD	Below det lim	ug/L	0.10	4/5/2002	TG	1311/8081A
4,4'-DDE	Below det lim	ug/L	0.10	4/5/2002	TG	1311/8081A
4,4'-DDT	Below det lim	ug/L	0.10	4/5/2002	TG	1311/8081A
Dieldrin	Below det lim	ug/L	0.10	4/5/2002	TG	1311/8081A
Decachlorobiphenyl (%SR)	78	ug/L		4/5/2002	TG	1311/8081A
Herbicides						
TCLP Herbicides						
2,4-D	Below det lim	ug/L	5.0	4/3/2002	TG	1311/8151A
2,4,5-TP (Silvex)	Below det lim	ug/L	1.0	4/3/2002	TG	1311/8151A
4,4'-DB-Octafluorobiphenyl (SR)	73	ug/L		4/3/2002	TG	1311/8151A
Metals Preparation						
Mercury Digestion on Leachate	Completed			4/4/2002	LK	EPA 245.1
Metals Digestion on Leachate	Completed			4/4/2002	LK	EPA 200.7
Metals Analysis						
TCLP Mercury	Below det lim	mg/L	0.0004	4/4/2002	EPR	1311/245.1
TCLP RCRA8 Metals						
TCLP Arsenic	Below det lim	mg/L	0.015	4/6/2002	RER	1311/200.7
TCLP Barium	0.201	mg/L	0.005	4/6/2002	RER	1311/200.7
TCLP Cadmium	Below det lim	mg/L	0.0025	4/6/2002	RER	1311/200.7
TCLP Chromium	Below det lim	mg/L	0.005	4/6/2002	RER	1311/200.7
TCLP Lead	Below det lim	mg/L	0.0075	4/6/2002	RER	1311/200.7
TCLP Selenium	Below det lim	mg/L	0.015	4/6/2002	RER	1311/200.7
TCLP Silver	Below det lim	mg/L	0.010	4/6/2002	RER	1311/200.7
TCLP/SPLP Preparation						
TCLP Extraction for Metals	Completed			4/3/2002	HB	SW846 1311
TCLP Extraction for SVOC-Herbicides	Completed			4/3/2002	HB	SW846 1311
TCLP Extraction for SVOCs	Completed			4/3/2002	HB	SW846 1311
TCLP Zero Headspace Extraction	Completed			4/3/2002	HB	SW846 1311

Lab ID No: AD05695
Client Id: A

Collection Date: 3/26/2002
Matrix Ground Water

Parameter	Results	Units	PQL	Start Date	Analyst	Method

Reviewed by:

Quality Service/Quality Assurance Depts.

Validated by:

President/Laboratory Director

4/9/2002

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

Laboratory Report Supplement
References

SW 846	Test Methods for Evaluating Solid Waste. Third edition, 1998
40 CFR 136	Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act
40 CFR 141	National Primary Drinking Water Regulations
40 CFR 143	National Secondary Drinking Water Regulations
40 CFR 160	Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), Good Laboratory Practice Standards
APHA-AWWA-WPCF	Standard Methods for the Examination of Water and Wastewater. 19th edition, 1995
ASTM D 3328	Standard Methods for the Comparison of Waterborne Petroleum Oils by Gas Chromatography
EPA 540/G-87/003	Data Quality Objectives for Remediation Response Activities, Development Process
EPA 600/4-79-012	Quality Assurance Handbook for Analytical Quality Control in Water and Wastewater Laboratories
EPA 600/4-79-019	Handbook for Analytical Quality Control in Water and Wastewater Laboratories
EPA 600/4-79-020	Method for the Chemical Analysis of Water and Wastes
EPA 600/4-82-057	Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater
EPA 600/4-85/056	Choosing Cost-Effective QA/QC Programs for Chemical Analysis
EPA 600/4-88/039	Method for the Determination of Organic Compounds in Drinking Water
MT ETPH	Analysis of Extractable Total Petroleum Hydrocarbons (ETPH)
MADEP EPH	Method for the Determination of Extractable Petroleum Hydrocarbons (EPH)
MADEP VPH	Method for the Determination of Volatile Petroleum Hydrocarbons (VPH)
QAMS 004/80	Guidelines and Specifications for Preparing Quality Assurance Program Plans, USEPA Office of Monitoring System and Quality Assurance
GC-D-52-77	Oil Spill Identification System

Acronyms & Abbreviations

AA	Atomic Absorption	MS	Matrix Spike
ASTM	American Society for Testing and Materials	MSD	Matrix Spike Duplicate
BOD	Biological Oxygen Demand	NTU	Nephelometric Turbidity Units
°C	degree(s) Celsius	PAHs	Polynuclear Aromatic Hydrocarbons
COD	Chemical Oxygen Demand	PCBs	Polychlorinated Biphenyls
CMR	Code of Massachusetts Regulations	PID	Photo Ionization Detector
DEP	Department of Environmental Protection	PQL	Practical Quantitation Limit
DI	De-ionized	R	Recovery (%R: Percent Recovery)
DO	Dissolved Oxygen	RSD	Relative Standard Deviation
EPA	Environmental Protection Agency	SM	Standard Method
EPH	Extractable Petroleum Hydrocarbons	SR	Surrogate Recovery (%SR)
FID	Flame Ionization Detector	SW	Solid Waste
GC	Gas Chromatograph	THM	Trihalomethane(s)
GC / MS	Gas Chromatograph / Mass Spectrometer	TOC	Total Organic Carbon
ICP	Inductively Coupled Plasma	TOX	Total Organic Halogen
Id	Identification	TPH	Total Petroleum Hydrocarbons
MCL	Maximum Contaminant Level	VOC	Volatile Organic Compound
MDL	Minimum Detection Limit	VPH	Volatile Petroleum Hydrocarbons

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CHAIN OF CUSTODY RECORD

SPECTRUM ANALYTICAL

Page 1 of 1

Special Handling:
- ☒ Standard TAT - 7 to 10 business days
- ☐ Rush TAT - Date Needed: _____
- All TATs subject to laboratory approval; min. 24 hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwised instructed.

Report To: General Chemical Corp
133-138 Leland Street
Framingham MA 01702

Project Mgr.: S. Saviolo

Invoice To: Same

P.O. No.: 0980 RQN: _____

Project No.: _____
Site Name: NAVAL Sub Base
Location: Groton State: CT
Sampler(s): Bob Shuttleff

1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=MeOH 7=_____

DW=Drinking Water GW=Ground Water WW=Waste Water
SO=Soil SL=Sludge O=Oil X1=_____ X2=_____

G=Grab C=Composite

Lab Id:	Sample Id:	Date:	Time:	Type	Matrix	Preservative	pH	# Of VOA Vials	# Of Amber Glass	# Of Clear Glass	# Of Plastic		Analyses: Full TCLP								Notes:
AB 05695	A	3/26/02	10:00	C	GW	-		2	3		1		X								
AB																					
AB																					
AB																					
AB																					
AB																					
AB																					
AB																					
AB																					
AB																					

Additional Instructions:

☑ Fax results when available to (508) 875-5271

Relinquished By:	Received By:	Date:	Time:
Bob Shuttleff	[illegible]	3/26/02	16:00
Berger	Berger	3-27-02	1:45 pm
	Mtc	3/27/02	15

1100 Pmb NoTCB

11 Almgren Drive • Agawam, Massachusetts 01001 • 413-789-9018 • Fax 413-789-4076