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Year 6 Annual Groundwater Monitoring Report for Defense Reutilization and Marketing Office (DRMO)

Naval Submarine Base New London Groton, Connecticut

Engineering Field Activity, Northeast
Naval Facilities Engineering Command
Contract Number N62472-02-D-0810
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YEAR 6 ANNUAL GROUNDWATER MONITORING REPORT
FOR
DEFENSE REUTILIZATION AND MARKETING OFFICE (DRMO)

NAVAL SUBMARINE BASE – NEW LONDON
GROTON CONNECTICUT

ENVIRONMENTAL OPERATION AND MAINTENANCE CONTRACT

Submitted to:
Engineering Field Activity, Northeast
Environmental Branch, Code 18
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10 Industrial Highway, Mail Stop No. 82
Lester, Pennsylvania 19113-2090

Submitted by:
Environmental Chemical Corporation
50 D'Angelo Drive
Marlborough, MA 01752

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PREPARED BY:

Guruprasad Ranganathan
2005.08.19 08:59:11 -
04'00'

GURUPRASAD RANGANATHAN
ENVIRONMENTAL ENGINEER
ECC
MARLBOROUGH, MA

APPROVED BY:

Digitally signed by Robert J Tess
Date: 2005 08.12 11:14 57 -
04'00'

ROBERT J. TESS, P.E.
PROJECT MANAGER
ECC
MARLBOROUGH, MA

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1.0 INTRODUCTION

This sixth annual groundwater monitoring report (GMR) presents the results from the sampling conducted during 2004 at the Defense Reutilization and Marketing Office (DRMO) Site (Site 6) at the Naval Submarine Base New London (NSB-NLON) in Groton, Connecticut. The U.S. Department of the Navy (Navy) is responsible for monitoring as part of the closure requirements under the Interim Record of Decision (ROD) (B&RE, 1998). The purpose of this groundwater monitoring report is to present the results of the sixth year of long-term monitoring. Groundwater samples were collected from 7 monitoring wells and submitted for a suite of analyses based on an evaluation of site history and previous analytical results. Samples collected and analyses performed were in accordance with the *Operation and Maintenance Manual for Installation Restoration Program Sites at Naval Submarine Base New London, Volume II – Groundwater Monitoring Plan* (GMP) (TtNUS 2003c).

1.1 REPORT ORGANIZATION

This report consists of six sections. Section 1.0 provides a brief introduction and describes the site characteristics and previous investigations. Section 2.0 provides the methodologies used to perform the groundwater sampling. Section 3.0 presents the findings of the groundwater monitoring and Section 4.0 offers a statistical evaluation of the data. Section 5.0 provides conclusions for the sixth annual monitoring period and recommendations for future monitoring. Section 6.0 includes references used in preparation of the report. Appendices A through F contain field forms and data evaluation information for the report.

1.2 SITE CHARACTERISTICS

The following subsections describe the characterisitics of the DRMO site at NSB-NLON as summarized in the *Year 5 Annual Groundwater Monitoring Report for DRMO, Naval Submarine Base – New London, Groton, Connecticut* (ECC, 2004) as well as other previous reports.

1.2.1 Physical Characteristics and Historical Use

The DRMO is located adjacent to the Thames River in the northwestern section of NSB-NLON. A site locus map is included as Figure 1-1 and a map of the NSB-NLON is included as Figure 1-2. The DRMO is located between a bedrock outcrop that runs roughly parallel to the Providence and Worcester Railroad to the east and the Thames River to the west. The site covers approximately 3 acres of land gently sloping toward the Thames River. A majority of the site is paved with asphalt and includes buildings, a weighing scale, and miscellaneous storage piles. Currently, the

DRMO is used as a storage and collection facility for items such as computers, file cabinets, and other office equipment to be sold during periodic auctions and sales.

From 1950 to 1969, the DRMO was used as a landfill and waste burning area. Non-salvageable waste items including construction materials and combustible scrap were burned along the Thames River shoreline, and the residue was pushed to the shoreline and partially covered. Based on the review of archived aerial photographs of the DRMO area, fill was observed in the southern portion of the site in 1934. The fill for bulkheads and docks south of the DRMO did not exist at that time. Aerial photographs from 1951 showed the land in its present configuration, except for the northwestern portion, which was not filled at that time. Access to the site is presently restricted. A security fence and gate prevent site access from Amberjack Road. Building 397 serves as the DRMO office, where personnel must receive permission for access to the DRMO. A sign located at the front gate warns personnel not to dig at the DRMO. North of the DRMO, another fence deters trespassers from entering NSB-NLON. To the east, the site is bounded by an active railroad line, and to the west it is bounded by the Thames River. A fence is located between the railroad line and the DRMO. (TtNUS, 2003)

1.2.2 Topography and Surface Features

To the east of the DRMO, an exposed bedrock high slopes steeply to the west towards the site. Across the railroad tracks, the ground surface continues to slope to the west to an elevation of approximately 10 feet at the western boundary of the site. The ground surface at the DRMO itself gently slopes to the west from an elevation of 8 feet along the eastern boundary of the site to 4 feet at the Thames River. The land is relatively flat, low lying, and prone to flooding by the Thames River (B&RE, 1997a). The area where the cap was installed during the TCRA and the remaining portion of the DRMO was upgraded via placement of an asphalt layer. Buildings 479, 355 and 491 are located within the paved area. (TtNUS, 2003) Topography and surface features at the DRMO are shown on Figure 2-3 of *Year 4 Annual Groundwater Monitoring Report for DRMO, Naval Submarine Base – New London, Groton, Connecticut* (TtNUS, 2003). This figure is included as Appendix A of this report.

1.2.3 Surface Water Features

All surface water drainage flows west to the Thames River, which is located along the western edge of the DRMO. Two storm sewer systems exist along the southern side of the site that convey local discharge from the eastern side of the Providence and Worcester Railroad to the Thames River (B&RE, 1997a). Further north, a perimeter channel was installed during the TCRA to route westward-flowing surface water around the capped portion of the site. Surface water that enters the channel flows north along the eastern edge of the site to a drop inlet connected to a

east-west culvert that conveys the surface water to the Thames River. Riprap was also placed along the western side of the capped portion of the site for protection from erosion by the Thames River. (TtNUS, 2003) Surface water features are shown on Figure 2-3 of *Year 4 Annual Groundwater Monitoring Report for DRMO, Naval Submarine Base – New London, Groton, Connecticut* (TtNUS, 2003). This figure is included as Appendix A of this report.

1.2.4 Geology

Geologic conditions at the DRMO consist of a westward-thickening wedge of unconsolidated materials (fill and natural deposits) overlying fractured metamorphic bedrock. The DRMO is underlain by an upper layer of fill material with a maximum thickness of approximately 20 feet. The fill consists primarily of sand and gravel but also contains metal and wood debris and is thickest along the Thames River. In most cases, the fill is underlain by combinations of sand and silt that are greater than 80 feet thick along the Thames River and thin toward the east, ultimately pinching out along the bedrock outcrop to the east. An upper organic silt unit identified as river alluvium exists beneath the site and overlies a coarser grained silty sand unit. (TtNUS, 2003) Geologic cross sections are shown on Figure 2-4, 2-5 and 2-6 of *Year 4 Annual Groundwater Monitoring Report for DRMO, Naval Submarine Base – New London, Groton, Connecticut* (TtNUS, 2003) These figure is included as Appendix A of this report.

Bedrock underlying the DRMO has been mapped as the Mamacoke Formation [United States Geological Survey (USGS), 1967]. A bedrock high exists to the east of the DRMO and is an extension of the large bedrock high that borders the northern part of NSB-NLON. The slope of the surface bedrock at the DRMO is westward toward the Thames River approximately 25 percent (B&RE, 1997a).

1.2.5 Hydrogeology and Tidal Influences

Groundwater is present within the unconsolidated material and bedrock underlying the DRMO, and the water table is generally encountered within the fill materials. The coarser fill and the silty sand are expected to be significantly more permeable than the intervening organic silt unit. The organic silt unit may function as an aquitard relative to the overlying and underlying coarser grained units and these units are considered separate hydrostratigraphic units (B&RE, 1997a). This theory has generally been confirmed by groundwater level measurements taken over several years of monitoring. Groundwater level measurements taken from monitoring well clusters 6MW2S/6MW2D, 6MW10S/6MW10D, and 6MW11S/6MW11D have consistently indicated upward flow gradients between the deep and shallow wells. The deep monitoring wells were generally completed below the organic silt unit, and the shallow wells were completed above the unit. (TtNUS, 2003)

A large portion of the site along the river was originally below high tide elevation and has since been covered with fill. The fill material was placed directly on top of river sediments in most areas (Atlantic, 1995). The land surfaces are now above the high tide elevation although much of the site is located within the 100-year flood plain (OHM, 1995). Shallow groundwater elevations are approximately 3 to 6 feet below grade in the southern portion of the DRMO and approximately 12 feet below grade in the northern portion of DRMO (Atlantic, 1995). Groundwater flow is generally from east to west, following the topographic and bedrock surface slope to the Thames River. The Thames River is tidally influenced with a mean tidal range greater than 2 feet at the NSB-NLON, which creates localized reversals in groundwater flow directions and causes water levels to fluctuate by more than 1 foot in tidally affected monitoring wells. During low tide, the hydraulic gradient of the groundwater table at NSB-NLON is towards the Thames River and results in the highest discharge rate of groundwater to the river. During high tide, the hydraulic gradient of the groundwater is reversed and flow occurs from the river to the site, temporarily halting the discharge of groundwater from the Base to the river. The reversal of groundwater flow direction at high tide generally occurs within 300 feet of the river (B&RE, 1997a).

1.3 PREVIOUS INVESTIGATIONS

Important historical events and relevant dates for the DRMO include:

- DRMO used as a landfill and waste burning area - 1950 to 1969;
- Final Initial Assessment Study (IAS) - completed March 1983;
- Phase I Remedial Investigation (RI) - completed August 1992;
- Draft Focused Feasibility Study (FFS) - completed March 1994;
- Time Critical Removal Action (TCRA) - completed January 1995;
- Action Memorandum (AM) - completed March 1995;
- Final Report for Interim Removal Action (IRA) - completed September 1995;
- Phase II RI - completed March 1997;
- Proposed Plan - issued September 1997;
- Public meeting - September 1997;
- Feasibility Study (FS) - completed November 1997;

- GMP - finalized February 1998;
- Final Interim ROD - signed March 1998;
- Groundwater Monitoring Program - initiated April 1998;
- Year 1 Annual Groundwater Monitoring Report (GMR) - completed November 1999;
- Year 2 Annual GMR - completed October 2000;
- Year 3 Annual GMR - completed March 2001;
- First Five-Year Review - performed December 2001;
- Year 4 Annual GMR - completed August 2002; and
- Year 5 Annual GMR - completed August 2003.

1.3.1 Historical Investigative Reports

In 1982, Envirodyne Engineers, Inc. (Envirodyne), performed an Initial Assessment Study at NSB-NLON as part of the Navy Assessments and Control of Installation Pollutants (NACIP) program (Envirodyne, 1983). The purpose of this study was to identify and evaluate past waste disposal practices and to assess the potential for environmental impacts. A total of eleven sites were identified as containing hazardous material. Five of the sites were suspected to be contributing contaminants to the environment. The report recommended that a confirmation study be conducted at the DRMO.

A Conforming Storage Facility Report [Goldberg-Zoino & Associates (GZA), 1988] for the DRMO was prepared in 1988 as a requirement for the siting of a hazardous waste storage facility in the northern portion of the DRMO. The study performed for the report indicated the presence of PCBs and other contaminants at the DRMO.

A two-phase RI was conducted to determine the nature and extent of contamination at the DRMO. The Phase I RI field investigation, conducted from 1990 to 1992, consisted of test borings, monitoring well installation, and soil, surface water, and groundwater sampling [Atlantic Environmental Services, Inc.(Atlantic), 1992]. Some evidence of the former landfill was encountered during the drilling including wood fragments, brick, and metal, but materials encountered were predominantly earth fill material. The depth of the fill varied from 0 to 8 feet bgs. Human health risks were determined for Navy workers due to exposure to PCBs, PAHs, and beryllium in the surface soil and elevated lead levels in the northern portion of the site. In

addition, groundwater quality exceeded drinking water standards; however, no drinking water wells were within the affected area, nor could they be due to the proximity of the brackish Thames River. Risks to fish in the Thames River estuary from contaminants contained in the groundwater discharging from the site were determined to be low. It was recommended that the site proceed to the FS phase and that specific health and safety provisions be made for all subgrade construction projects at the site. The risks were primarily related to incidental oral and dermal exposure of site workers to contaminated surface soils (Atlantic, 1992). A field investigation in support of the Draft FFS was performed at the DRMO in October 1993 to better define the extent of soil contamination. Surface and subsurface soil samples were collected from 17 borings, and one of the borings was completed as a monitoring well. The soil borings indicated that the depth of fill ranged from approximately 1.5 to 20 feet bgs. Fill material consisted of wood, glass, and metal scrap in a predominantly sand and gravel matrix (Atlantic, 1994). The results of the FFS were used to complete a TCRA at the DRMO in January 1995. The TCRA at the DRMO consisted of the excavation and off-site disposal of contaminated soil hot spots and the in-ground spent acid tank, followed by the placement of an impervious cap throughout all unpaved areas of the site.

The cap consisted of woven geotextile, a geosyntheric clay liner (GCL), and nonwoven geotextile. Approximately 12 inches of crushed stone and 3 inches of asphalt were placed over the GCL cap. A bituminous concrete surface course was added per the Navy's directive. This cap does not meet Resource Conservation and Recovery Act (RCRA) Title C requirements (B&RE, 1997a). The Phase II RI field investigation of the DRMO was conducted from 1993 to 1995 (B&RE, 1997a) and consisted of the installation of five new monitoring wells, two rounds of groundwater sampling, and subsurface soil sampling. Human health and ecological risks associated with the soil left in place after the TCRA were evaluated during the Phase II RI. The Phase II RI concluded that the majority of contaminated soil had been removed, the groundwater was not significantly affected, and there were relatively low human health and ecological risks associated with the DRMO. The Phase II RI recommended that no further action be conducted at the DRMO for soil and groundwater and that groundwater monitoring be conducted to verify that significant contamination is not leaching to the groundwater.

A FS (B&RE, 1997c) was conducted for the DRMO to develop and evaluate appropriate remedial alternatives. Four alternatives were evaluated in the FS including (1) No Action; (2) Institutional Controls and Monitoring; (3) Hot Spot Excavation, Offsite Disposal, Institutional Controls, and Monitoring; and (4) Excavation, Onsite Treatment, and Offsite Disposal. The Navy, with the support of the United States Environmental Protection Agency (USEPA) and Connecticut Department of Environmental Protection (CTDEP), choose Alternative 2 as the selected remedy for the DRMO. The decision was documented in the Proposed Plan of September 1997 and presented at the Public Meeting in September 1997. Because there was potential for

modifications to the selected remedy based on the results of the monitoring activities, an interim ROD versus final ROD was signed for the DRMO in March 1998. The selected remedy defined in the interim ROD consisted of the following components:

- Institutional controls that include maintenance of the existing cap, limitations on site access, andrestrictions on land use. Maintenance of the existing asphalt and GCL cap was to consist of regular inspections to assess the integrity and periodic repair and replacement of the asphalt layer as needed. Limitations on site access were to consist of maintaining the existing chain-link fence that surrounds the DRMO and posting signs to warn potential trespassers that a health hazard is present. Land use restrictions for the DRMO were to limit activities (including, but not limited to, excavation or drilling), to prohibit residential use of property, and to restrict excessive vehicular use or any other activity that could compromise the integrity of the existing cap system;

- Groundwater monitoring to be performed in accordance with the GMP for the DRMO site (B&RE, 1997c). Groundwater samples were to be analyzed to evaluate whether contamination from the DRMO is migrating to the Thames River and causing an adverse ecological effect. After baseline conditions were established, the monitoring program might be revised based on the analytical data collected from the previous sampling events. After sufficient monitoring data were collected, such data would be evaluated to determine the need for additional remedial action at the site or the need to modify additional monitoring; and

- A site review was to be conducted every 5 years for 30 years to evaluate the site status and determine whether further action is necessary.

Groundwater monitoring for the DRMO began with the preparation of the GMP which was issued in February 1998 (B&RE, 1998b). Groundwater monitoring began in April 1998, and quarterly reports were prepared and submitted after each sample round was collected. The quarterly data were subsequently combined into yearly reports. To date, four yearly reports have been submitted (TtNUS, 1999e; TtNUS, 2000c; TtNUS, 2002b and TtNUS, 2003).

1.3.2 Monitoring History

Groundwater monitoring was initiated at the DRMO with the submittal of the GMP (B&RE, 1998b), and the first round of groundwater samples was collected in April 1998. The results of each sampling round were summarized in quarterly GMRs in which data interpretation was limited. At the end of each year, the four quarters of groundwater monitoring information were evaluated in greater detail and compiled into an annual GMR. The annual GMR provided

recommendations for future monitoring activities. To date, a total of 15 rounds of groundwater monitoring have been conducted at the DRMO, and four annual GMRs have been submitted.

The following subsections document the history of the groundwater monitoring program as reported in the past annual reports (TtNUS, 1999e; TtNUS, 2000c; TtNUS, 2002b and TtNUS, 2003). A summary of the results of each annual GMR is provided below.

Year 1 of the Monitoring Program

The groundwater monitoring program for the DRMO was initiated to confirm that the TCRA completed at the site (i.e., soil removal action and installation of a GCL cap with an asphalt wearing surface) was successful and that contaminants were not continuing to migrate from the site via groundwater. The Year 1 Annual GMR (TtNUS, 1999e) summarized the groundwater analytical data collected from the monitoring well network during Rounds 1 through 4. The number of wells and analytes were the same as defined in the GMP with the exception of the first round sampling. Three wells were found to be damaged and were not sampled during the first round including 6MW3S, 6MW3D, and 6MW9S. Wells 6MW11S and 6MW11D were subsequently installed to replace wells 6MW3S, 6MW3D, and 6MW9S was repaired during Round 1.

The analytical results were compared to primary criteria (i.e., most conservative of site-specific Surface Water Protection Criteria (SWPCs), CTDEP SWPCs, and volatilization criteria), and secondary monitoring criteria [i.e., most conservative of federal Ambient Water Quality Criteria (AWQC) and Connecticut Water Quality Standards (WQSs)]. The results obtained for the initial four rounds of groundwater monitoring indicated no exceedances of the primary criteria. Bis(2-ethylhexyl)phthalate (BEHP), Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)flouranthene, Aroclor 1260, Arsenic, Copper, Silver and Zinc exceeded secondary criteria

A statistical evaluation of the data indicated that upgradient and downgradient concentrations of both organic and inorganic chemicals of potential concern (COPCs) were found to be similar except for arsenic. The statistical evaluation established that arsenic concentrations were higher in downgradient wells than in upgradient wells. The average concentrations of arsenic in the upgradient and downgradient wells showed a decreasing trend over time.

The Year 1 Annual GMR recommended the following:

- Continuation of groundwater monitoring through Year 2 to further evaluate chemical concentrations associated with the secondary criteria exceedances. This

recommendation was also made because Round 5 of the monitoring program had been completed and Round 6 was to be conducted soon.

- Consideration of a reduction in the number of analytical parameters at the completion of Year 2 of the monitoring program.
- Reduction of the sampling frequency after the completion of Year 2 of the monitoring program.
- Continued maintenance of the monitoring well integrity (i.e., well maintenance and well development) in case of extended monitoring.
- Discussion of the endpoint for the groundwater monitoring if current trends continue.

The Annual (Year 1) GMR was submitted to the regulatory agencies for review and comment. The CTDEP did not provide any comments on the GMR. The USEPA provided general and specific comments on the report. A response to comment letter was prepared and submitted by the Navy; however, the Annual GMR was not revised to reflect the recommended changes. One of USEPA's main comments was on the regression analyses performed with the data. They recommended that an assessment of redox conditions be performed in the future. The USEPA agreed with the recommendation to continue quarterly monitoring.

Year 2 of the Monitoring Program

The Year 2 groundwater monitoring activities included four rounds of quarterly sampling from the same monitoring well network. The GMP was followed except, as agreed upon with the regulators, samples were not analyzed for dissolved metals after Round 6 because total and dissolved metal results did not show any discernible differences over the first six rounds of monitoring.

The Year 2 Annual GMR for DRMO (TtNUS, 2000c) summarized the monitoring results for Rounds 5 through 8. The results obtained during the second year of monitoring indicated no exceedances of the primary criteria. BEHP, Arsenic, Copper, Lead and Zinc exceeded secondary criteria.

A statistical evaluation of the data indicated that upgradient and downgradient concentrations of both organic and inorganic COPCs were found to be similar except for total barium. The average barium concentrations for the downgradient wells for each round were plotted as a function of round to determine the trend of the concentrations. The regression line fit to the average barium concentrations showed a slight increasing trend, which correlated with the results of the statistical

evaluation. It was noted however, that "no change" was also within the 95 percent confidence limits for the regression analysis. Therefore, the true trend of the average barium concentrations in the downgradient wells was uncertain. No primary or secondary screening criteria were available for comparison with the average barium concentrations to determine if the concentrations were significant. Arsenic concentrations in downgradient wells were not statistically higher than upgradient concentrations. A downward trend of arsenic concentration over time was noted based on an evaluation of analytical data from Rounds 1 through 8.

An assessment of redox conditions was also performed in response to USEPA comments on the Year 1 GMR. The assessment included a correlation of oxidation reduction potential (ORP) to metals concentrations to see if any trends were evident. The assessment showed little correlation between ORP and metals concentrations.

The Year 2 Annual GMR Report recommended the following:

- Continuation of groundwater monitoring through Year 3 to further evaluate chemical concentrations that exceeded secondary monitoring criteria.
- Elimination of volatile organic compounds (VOCs) from the analytical suite.
- Reduction of the sampling frequency for semivolatile organic compounds (SVOCs) from quarterly to semi-annually.
- Continued maintenance the monitoring well integrity (well maintenance and well development) in case of extended monitoring.
- Discussion of the endpoint for the groundwater monitoring if current trends continue.

The Year 2 GMR was submitted to the regulatory agencies for review and comment. The CTDEP did not provide any comments on the GMR. The USEPA provided general and specific comments on the report.

A response-to-comment letter was prepared and submitted by the Navy. The USEPA disagreed with the recommendation to eliminate VOCs from further consideration due to historical detections of VOCs in soil (excavated as part of the TCRA) and low-level detections of VOCs at some monitoring wells. USEPA did indicate however, that reduction of the monitoring frequency for VOCs was possible. USEPA also indicated that semi-annual or annual monitoring of SVOCs would be reasonable and that discussion of groundwater monitoring endpoints was needed. Because most of the Year 3 quarterly monitoring rounds had already been initiated before

resolution of these issues, it was decided that the report would not be modified to reflect the recommended changes in the monitoring program.

Year 3 of the Monitoring Program

The Year 3 groundwater monitoring activities continued with the completion of four rounds of quarterly sampling (Rounds 9 through 12) from the same monitoring well network. The analytical program was also the same as during Year 2 (i.e., samples were not analyzed for dissolved metals).

The results of the monitoring program were summarized in the Year 3 Annual GMR for DRMO (TtNUS, 2002b). The results obtained for Year 3 indicated no exceedances of primary criteria. BEHP, Benzo(a)pyrene, Benzo(k)fluoranthene, Arsenic, Copper, Lead, Silver and Zinc exceeded secondary criteria.

The statistical comparisons of COPCs concentrations in upgradient and downgradient monitoring wells indicated that downgradient concentrations of trans-1,2-dichloroethene, vinyl chloride, arsenic, barium, chromium, lead, and silver were statistically higher than concentrations detected in upgradient wells. However, none of the detected concentrations of COPCs were in excess of primary monitoring criteria, indicating that no significant contaminant migration was occurring from the DRMO. The average arsenic and barium concentrations for each round were plotted as a function of time to determine trends in the data. Concentrations of these two metals during previous sampling rounds showed statistically significant differences between upgradient and downgradient wells. However, downgradient barium concentrations were not statistically higher than upgradient concentrations during Year 3, and the elevated arsenic detections were in the deep overburden wells only. The plots did not show any significant trends in arsenic or barium detections that would indicate a contaminant migration problem from the DRMO site. The correlation between arsenic and barium detections and ORP was also tested as part of the analysis. The results of the evaluation indicated that concentrations of these metals in downgradient wells were only weakly to moderately correlated with ORP. These results are generally similar to the results of the first two years of groundwater monitoring. They indicate that the TCRA completed at the site removed sufficient contaminant source material and reduced infiltration of precipitation through any remaining source material so that significant contaminant migration from the site to the Thames River is not occurring.

The Year 3 Annual GMR recommended the following:

- Amendment of the current interim ROD for the DRMO and preparation of a final ROD for the site.

- Reduction of the sampling frequency from quarterly to annually. This recommendation is justified because there have been no exceedances of primary monitoring criteria and no significant increasing contaminant trends in the downgradient wells over three years. The annual sampling frequency should be used for two years (Years 4 and 5) and then the frequency should be re-evaluated.

- Reducing the monitoring well network to include 6MW6S, 6MW6D, and 6MW9S as upgradient monitoring wells and 6MW1S, 6MW2S, 6MW10S, and 6MW11S as downgradient monitoring wells. Monitoring wells 6MW2D, 6MW10D, and 6MW11D should be eliminated because upward flow gradients exist in these wells and therefore monitoring results from these wells do not provide an indication of impacts from the DRMO site. The deep monitoring wells should be appropriately abandoned if they will not be used for other purposes. The shallow monitoring wells at these locations provide the best monitoring points to determine the impacts of the DRMO site on groundwater quality.

- Discontinuation of attempts to develop correlations between inorganics and ORP in future data evaluation reports. Conclusive arguments were provided in the Year 3 report to justify elimination of this effort.

- Routine maintenance on the remaining monitoring wells included in the monitoring program to facilitate monitoring activities into the future.

The Year 3 GMR was submitted to the regulatory agencies for review and comment. The CTDEP did not provide any comments on the GMR. The USEPA provided general and specific comments on the report. The comments focused on the statistical approach used to evaluate the data, criteria being used for arsenic, and the trend analysis. Multiple versions of a response-to-comment letter were prepared and submitted by the Navy. Upon resolution of the comments, the USEPA agreed with the overall recommendations of the report. A revised statistical approach for data evaluation in Year 4 was detailed in the response-to-comment, but was not subsequently described in the text of the Year 3 report. Round 13 of groundwater monitoring had already been performed prior to agreement to the recommendations of the Year 3 GMR; therefore, the original sampling and analytical program was performed for Round 13. Round 14 was initiated after the agreement and reflected the recommended changes. The fourth annual GMR addressed the results from sampling Rounds 13 and14.

Year 4 of the Monitoring Program

The Year 4 groundwater monitoring activities continued with the completion of two rounds of quarterly sampling (Rounds 13 and 14) from the selected monitoring wells network. The analytical program was also the same as during Year 2 (i.e., samples were not analyzed for dissolved metals).

The results of the monitoring program were summarized in the Year 4 Annual GMR for DRMO (TtNUS, 2003). The results obtained for Year 4 indicated no exceedances of primary criteria. BEHP arsenic, copper, silver and zinc exceeded secondary criteria.

The statistical comparisons indicated that downgradient concentrations of trans-1,2-dichloroethene, vinyl chloride, phenanthrene, pyrene, arsenic, barium, cadmium, chromium, lead, and silver were statistically higher than concentrations detected in upgradient wells. However, none of the detected concentrations of COPCs were in excess of primary monitoring criteria, indicating that no significant contaminant migration is occurring from the DRMO. Temporal plots of BEHP, arsenic, and silver showed no increasing trends in concentrations in downgradient wells.

There were no trends in COPCs that would indicate significant concentrations of COPCs are migrating from the DRMO site. These results are generally similar to the results of the first three years of groundwater monitoring. They indicate that the interim remedial action at the site removed sufficient contaminant source material and reduced infiltration of precipitation through any remaining source material so that significant contaminant migration from the site to the Thames River is not occurring.

The Year 4 Annual GMR recommended the following:

- The sampling frequency should continue on an annual basis with the next sample round scheduled for September 2003. This recommendation was justified because there have been no exceedances of primary monitoring criteria and no significant increasing contaminant trends have been noted in the downgradient wells in over 4 years.

- The sampling frequency should be re-evaluated after the next sampling round (Year 5).

- The future monitoring program should include the same seven monitoring wells that were sampled in Round 14. Those wells include 6MW6S, 6MW6D, and 6MW9S as upgradient monitoring wells and 6MW1S, 6MW2S, 6MW10S, and 6MW11S as downgradient monitoring wells.

- Analyses for pesticides and PCBs should be discontinued because none of the identified COPCs have been detected in downgradient monitoring wells during the 14 rounds of monitoring.

- Routine maintenance should be conducted on the remaining monitoring wells included in the monitoring program to facilitate monitoring activities into the future.

The Year 4 GMR was submitted to the regulatory agencies for review and comment. The CTDEP did not provide any comments on the GMR. The USEPA provided general and specific comments on the report. The comments focused on the report's explanation of metal concentrations ingroundwater, the statistical approach used to evaluate the data and downgradient detections of BEHP, chromium and lead. A response-to-comment letter were prepared and submitted by the Navy, rebutted by the USEPA and responses were finalized August 11, 2003. Upon resolution of the comments, the USEPA agreed with the overall recommendations of the report. Revised explanations of statistical approach for data evaluation in was included in the final version of the Year 4 report.

Year 5 of the Monitoring Program

This Year 5 Annual GMR summarizes Round 15 of groundwater analytical data collected from selected monitoring wells installed at the DRMO. The results of the monitoring program are being used to evaluate the success of the interim remedial action (i.e., soil removal action and installation of an asphalt/GCL cap) at minimizing contaminant migration from the DRMO. The evaluation included the following:

- Gauging of ten monitoring wells and one staff gauge. Groundwater potentiometric surface plans for readings at both high and low tide were prepared and indicated groundwater flow consistent with past analyses.

- Sampling and analyses of groundwater from seven monitoring wells using low-flow purging and sampling techniques. Eleven of the twenty-one COPC's were detected during analysis.

- Completion of a general screen of analytical data to current primary and secondary monitoring criteria and background concentrations to identify exceedances in both upgradient and downgradient wells. There were no exceedances of any COPC primary monitoring criteria. Detections of BEHP, copper and zinc exceeded secondary monitoring criteria.

- Performance of a statistical comparison of the complete analytical data set from downgradient and upgradient monitoring wells to determine significant differences. Analysis of data indicated that four of the eleven COPCs (BEHP, fluoranthene, pyrene and copper) had downgradient results statistically higher than upgradient concentrations. Concentrations of fluoranthene and pyrene were below primary and secondary monitoring criteria and were only slightly above lab reporting levels. BEHP had just one detection and levels of copper were below the NSB-NLON background concentration.

The analytical results for the fifth year of groundwater monitoring at the DRMO showed no exceedances of the primary monitoring criteria and only three contaminants in excess of the secondary monitoring criteria. Four COPCs were detected in downgradient wells at concentrations that were statistically higher than concentrations in upgradient wells. However, the levels and history of these COPCs do not indicate significant concentrations of COPCs are migrating from the DRMO site. These results are generally similar to the results of the first four years of groundwater monitoring although detection, frequency and values were of a smaller magnitude. These results are indicative that the interim remedial action at the site removed sufficient contaminant source material and reduced infiltration of precipitation through any remaining source material so that significant contaminant migration from the site to the Thames River is not occurring. Therefore, as was recommended in the Year 4 report, the current interim ROD for the DRMO should be amended and a final ROD should be prepared for the site. In addition, the following recommendations are made based on the results of the four years of monitoring at the DRMO.

- The sampling frequency should be re-evaluated after the next sampling round (Year 6). This recommendation was also made in the Year 3 GMR and agreed to by the USEPA.

- The future monitoring program should include the same seven monitoring wells that were sampled in Round 15. Those wells include 6MW6S, 6MW6D, and 6MW9S as upgradient monitoring wells and 6MW1S, 6MW2S, 6MW10S, and 6MW11S as downgradient monitoring wells.

- Analyses for pesticides and PCBs should be discontinued because none of the identified COPCs have been detected in downgradient monitoring wells during the 15 rounds of monitoring.

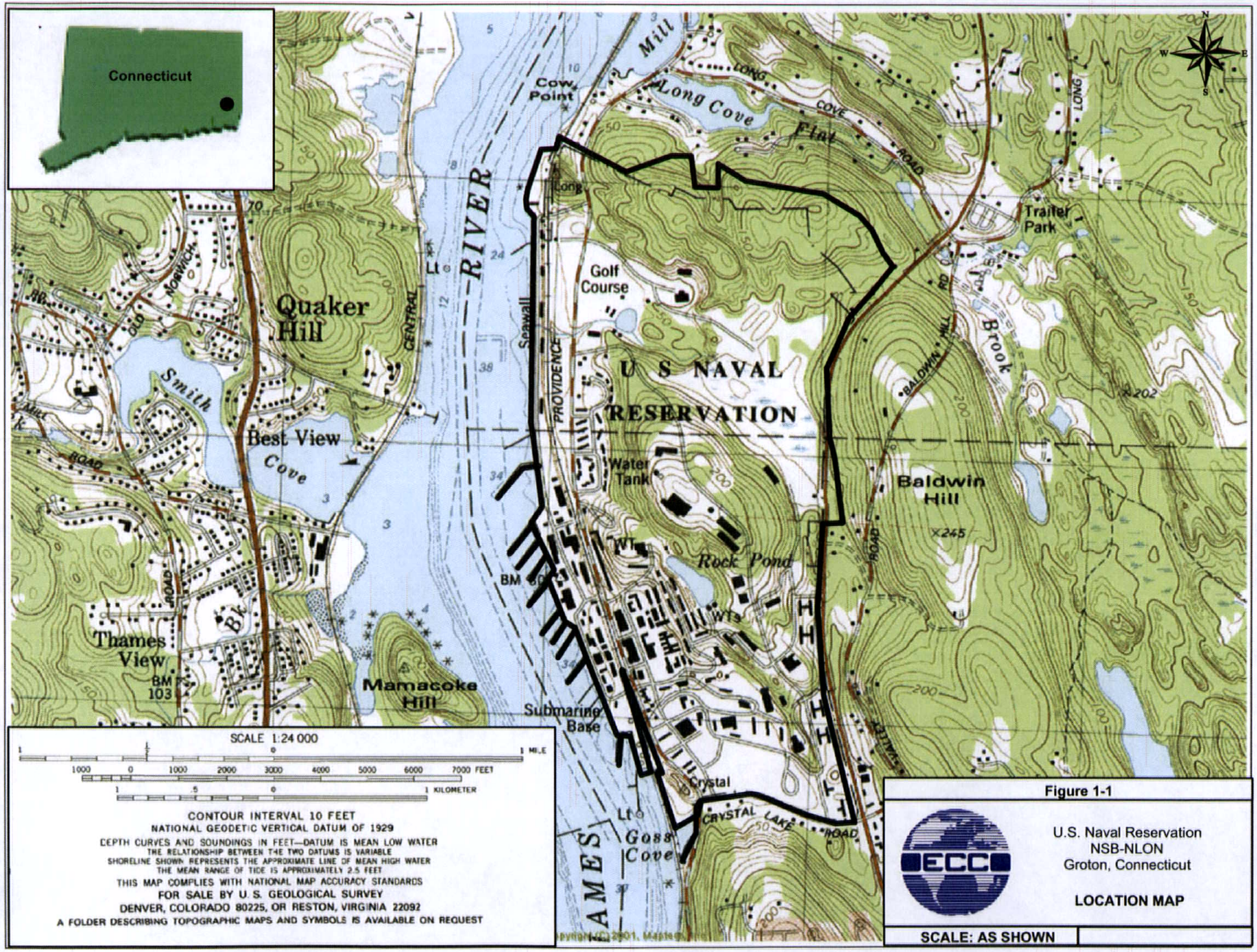

Figure 1-1

U.S. Naval Reservation
NSB-NLON
Groton, Connecticut

LOCATION MAP

SCALE: AS SHOWN

H:\Groups\Navy\New London_NSB\Landfill Inspections 2003\DRMO Landfill DWG\Round 15\DRMO GIS\GIS Maps\Figure 1-1 (Location Map)

2.0 FIELD INVESTIGATION ACTIVITIES

Field investigation activities performed as part of the sixth year groundwater monitoring at DRMO included the following:

- Two rounds of water level measurements at 10 wells and one staff gauge. Water levels were measured at both low and high tide.
- Collection of groundwater samples from 7 monitoring wells.

Year 6 (Round 16) field activities took place between June 8 and 10, 2004. Figure 2-1 shows the locations monitored during this event.

2.1 MONITORING WELL INSPECTION

Prior to water level measurements, all 10 monitoring wells were inspected. In general, groundwater wells were in good condition and well inspection sheets are included in Appendix B. Cracks in well pads of 6MW1S, 6MW6D, 6MW10D and 6MW11D were noted. Also well 6MW11D was missing dedicated sampling equipment and the well casing, well seal, and PVC riser were all broken. Several wells have casing conditions that may require repair in the future. Inspections will continue in upcoming sampling events.

2.2 WATER LEVEL MEASUREMENT

On 9 and 10 June 2004, water levels were measured at ten monitoring wells and one staff gauge during low and high tide. Optimum gauging times were determined by using the Connecticut State pier tide predicted tables in order to find out the times of high and low tide. Groundwater measurements are presented in Table 2-1. Figures 2-2 and 2-3 illustrate the potentiometric surface map of shallow groundwater at the DRMO during low and high tides. Groundwater level measurement sheets are provided in Appendix C.

As illustrated on Figure 2-2, potentiometric surface maps of water levels in shallow overburden wells during times of low tide conditions indicate a westerly flow direction toward the Thames River. As shown on Figure 2-3, potentiometric surface maps of water levels in shallow overburden wells during times of high tide conditions illustrate a flow pattern toward the Thames River. A slight reverse gradient is shown on Figure 2-3, likely because the tide rises faster than the opposing hydraulic gradient can respond. Groundwater flow directions essentially mimic the ground surface contours and are similar to those observed in the previous five years.

2.3 GROUNDWATER SAMPLING

A total of 7 monitoring wells were sampled during this event; 6MW1S, 6MW2S, 6MW6D, 6MW6S, 6MW9S, 6MW10S, and 6MW11S. All monitoring wells were sampled in accordance with the *Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells* (EPA 1996). Sampling was done using dedicated bladder pumps and dedicated teflon or teflon-lined polyethylene tubing.

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 adjusted to prevent drawdown from exceeding 0.3 ft, during purging. Each of the monitoring wells was purged with the pump intake located at the midpoint of the low tide saturated well screen and if possible, no less than 2 feet above the bottom of the well to minimize disturbance of sediment located near the bottom of the well. Purge water was collected and transported to the on-site treatment facility during sampling activities.

During purging, water quality parameters of pH, turbidity, specific conductance (SpC), temperature, oxidation-reduction potential (ORP) and dissolved oxygen (DO) were measured and recorded every 5 to 10 minutes using a water quality meter and flow-through cell until stabilization and the minimum purge volume (equal to the stabilized drawdown volume plus the tubing volume) was removed. A summary of groundwater field parameters for Year 6, Round 16 is provided in Table 2-2. Stabilization of the above parameters was generally defined as follows:

- pH ± 0.1 standard units
- turbidity ± 10 % for values greater than 1 nephelometric turbidity unit (NTU)
- SpC ± 3 %
- temperature ± 3 %
- ORP ± 10 (mV)
- DO ± 10 %

Instruments used to monitor stabilization parameters were calibrated daily before sampling and instrument readings were checked at the end of the day against the calibration standards.

Following purging, tubing was disconnected from the flow through cell and 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. Copies of the groundwater sample forms, equipment calibration logs and Chain of Custody Records are provided in Appendix E.

Groundwater samples were sent to the project laboratory (Alpha Analytical Labs) for analysis of select target compound list (TCL) volatile organic compounds (VOCs),TCL semivolatile organic compounds (SVOCs), TCL pesticides/polychlorinated biphenyls (PCBs) and target analyte list (TAL) metals (total) (TtNUS 2003). Data validation memos and laboratory datasheets are provided in Appendix E. Analytical results for the contaminants of potential concern (COPCs) are discussed in Section 3.0.

TABLE 2-1
ROUND 16 - GROUNDWATER LEVEL MEASUREMENTS AND ELEVATIONS
YEAR 6 ANNUAL GROUNDWATER MONITORING REPORT
DRMO, NSB-NLON, GROTON, CONNECTICUT

Location	Measuring Point Elevation (ft NAVD 88)	Well Screen Depth	Round 16 - June 10, 2004			
			Depth to Water (feet) LOW TIDE date	Depth to Water (feet) HIGH TIDE date	Groundwater Elevation (ft NAVD 88) LOW TIDE date	Groundwater Elevation (ft NAVD 88) High TIDE date
6MW1S	8.63	Shallow	7.62	5.48	1.01	3.15
6MW2D	7.85	Deep	5.61	4.52	2.24	3.33
6MW2S	7.30	Shallow	6.15	4.10	1.15	3.20
6MW6D	12.50	Bedrock	9.19	9.16	3.31	3.34
6MW6S	12.16	Shallow	8.87	8.91	3.29	3.25
6MW9S	7.52	Shallow	4.48	4.04	3.04	3.48
6MW10D	5.01	Deep	2.59	1.26	2.42	3.75
6MW10S	5.19	Shallow	3.85	1.23	1.34	3.96
6MW11D	5.31	Deep	2.07	0.88	3.24	4.43
6MW11S	4.92	Shallow	3.55	1.55	1.37	3.37
SG-1	5.67	NA	4.73	2.28	0.94	3.39

ft = feet
NAVD 88 = North American Vertical Datum 1988
D = deep unconfined groundwater
S = shallow unconfined groundwater
NA = Not Applicable

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TABLE 2-2
ROUND 16 - GROUNDWATER FIELD PARAMETERS
YEAR 6 ANNUAL GROUNDWATER MONITORING REPORT
DRMO, NSB-NLON, GROTON, CONNECTICUT

Well	Date	Time	Cumlative Volume Purge (L)	Temp Degrees C	PH Standard	SPC mS/cm	DO mg/L	ORP mV	Turbidity NTU	Salinity ppt	Purge Rate (ml/min)
6MW1S	6/9/2004	9:53	6.1	16.5	5.57	6.493	7	88.5	1	3.56	100
6MW2S	6/9/2004	9:53	5	16.98	6.23	14.54	2.82	264.1	1.9	8.37	100
6MW6D	6/8/2004	14:47	26.6	15.29	6.02	2.245	2.59	23.6	45	2.27	100
6MW6S	6/8/2004	14:20	7.42	13.52	3.28	0.326	8.3	489.2	1	0.16	140
6MW9S	6/9/2004	11:43	6.1	14.44	4.47	0.044	1.05	47.7	3	0.02	100
6MW10S	6/9/2004	9:53	6	15.79	7.43	5.266	0.18	-341.2	2	2.85	100
6MW11S	6/9/2004	9:53	6.3	17.89	7.59	5.6	0.15	-233	2	3.07	100

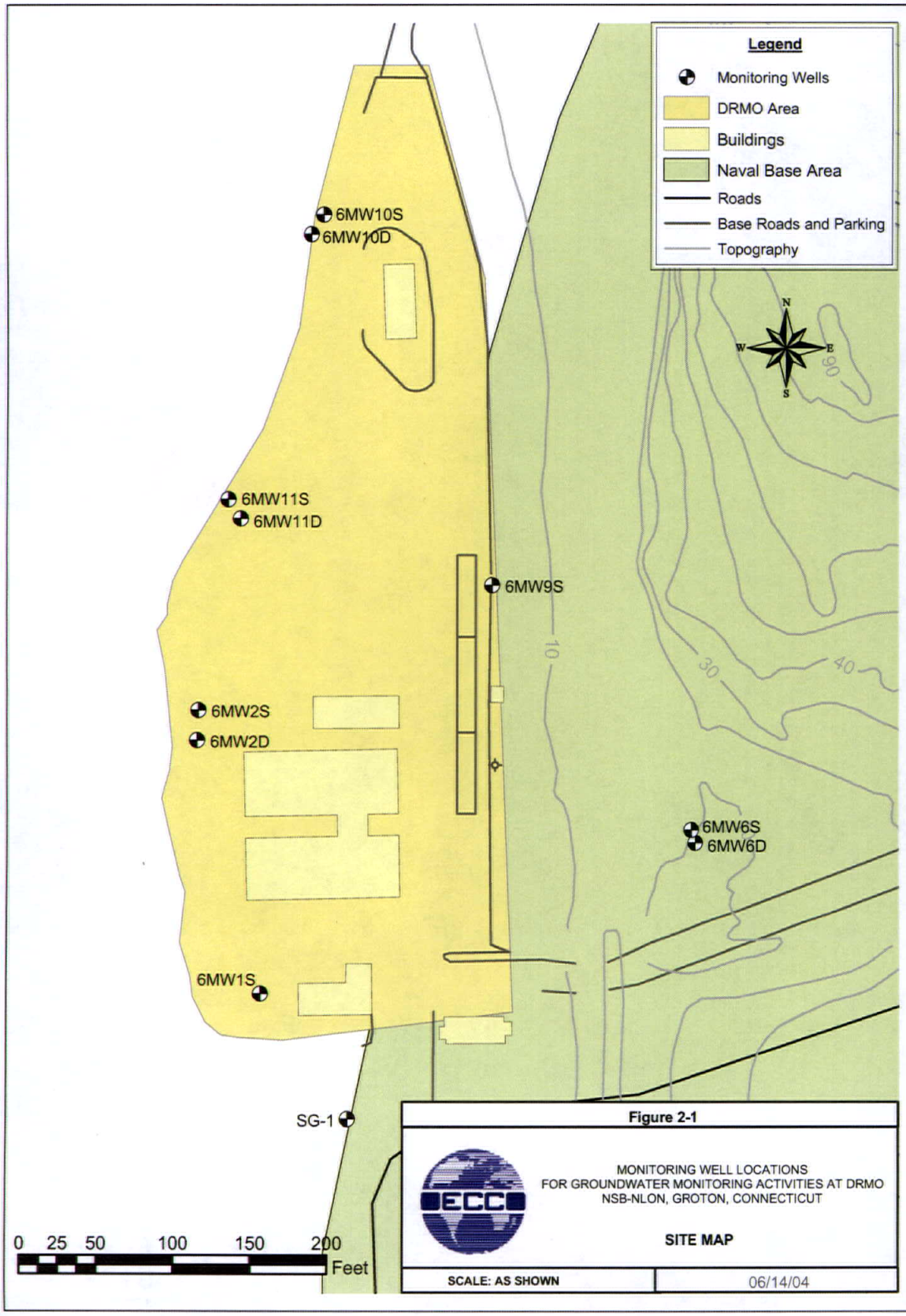

Figure 2-1

MONITORING WELL LOCATIONS
FOR GROUNDWATER MONITORING ACTIVITIES AT DRMO
NSB-NLON, GROTON, CONNECTICUT

SITE MAP

SCALE: AS SHOWN	06/14/04

H:\NAVY\New London_NSB\DRMO\2004\Figures\DRMO GIS\GIS Maps\Figure 2-1 (MW Locations)

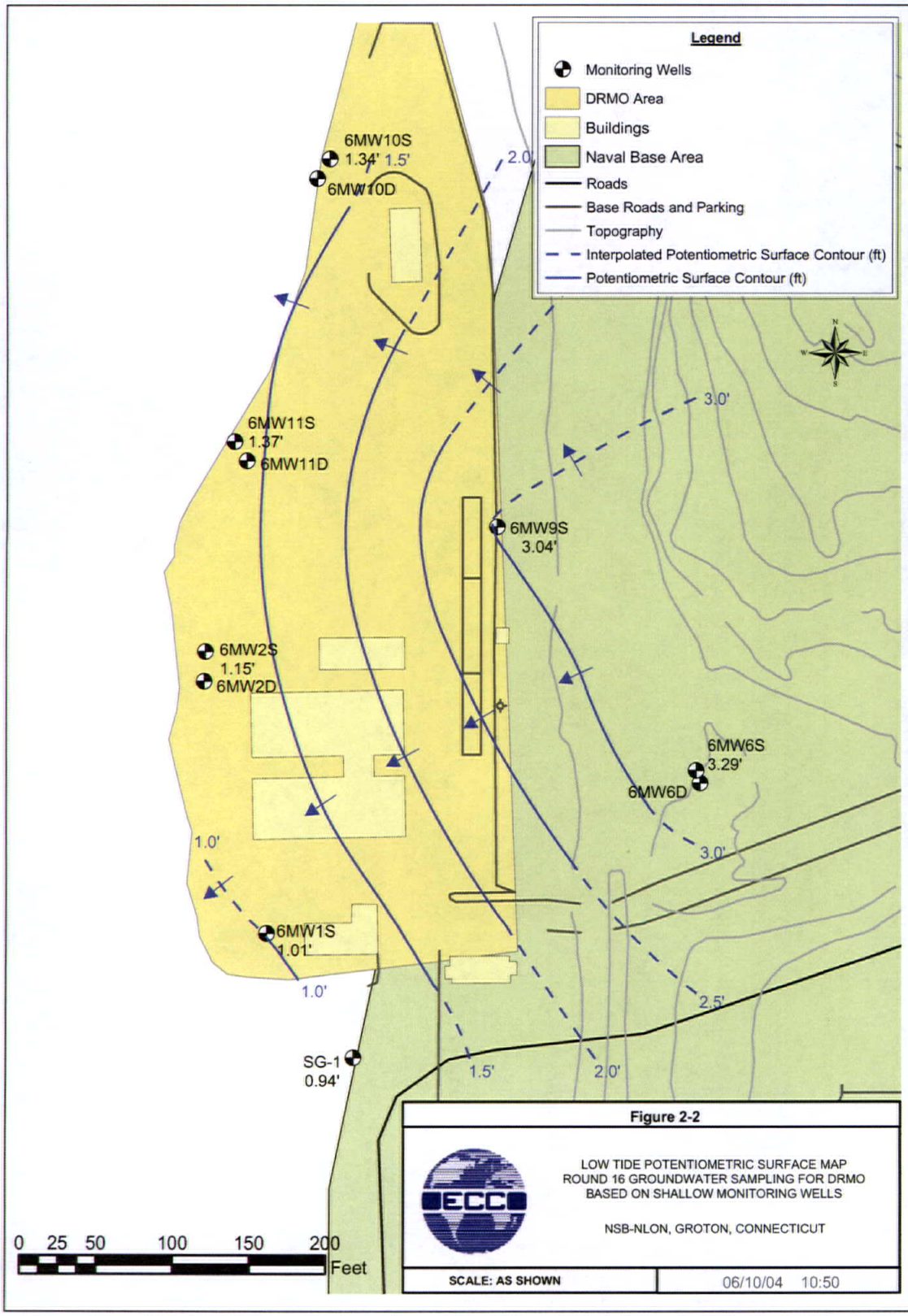

Figure 2-2

LOW TIDE POTENTIOMETRIC SURFACE MAP
ROUND 16 GROUNDWATER SAMPLING FOR DRMO
BASED ON SHALLOW MONITORING WELLS

NSB-NLON, GROTON, CONNECTICUT

SCALE: AS SHOWN | 06/10/04 10:50

H:\NAVY\New London_NSB\DRMO\2004\Figures\DRMO GIS\GIS Maps\Figure 2-2 (Low Tide)

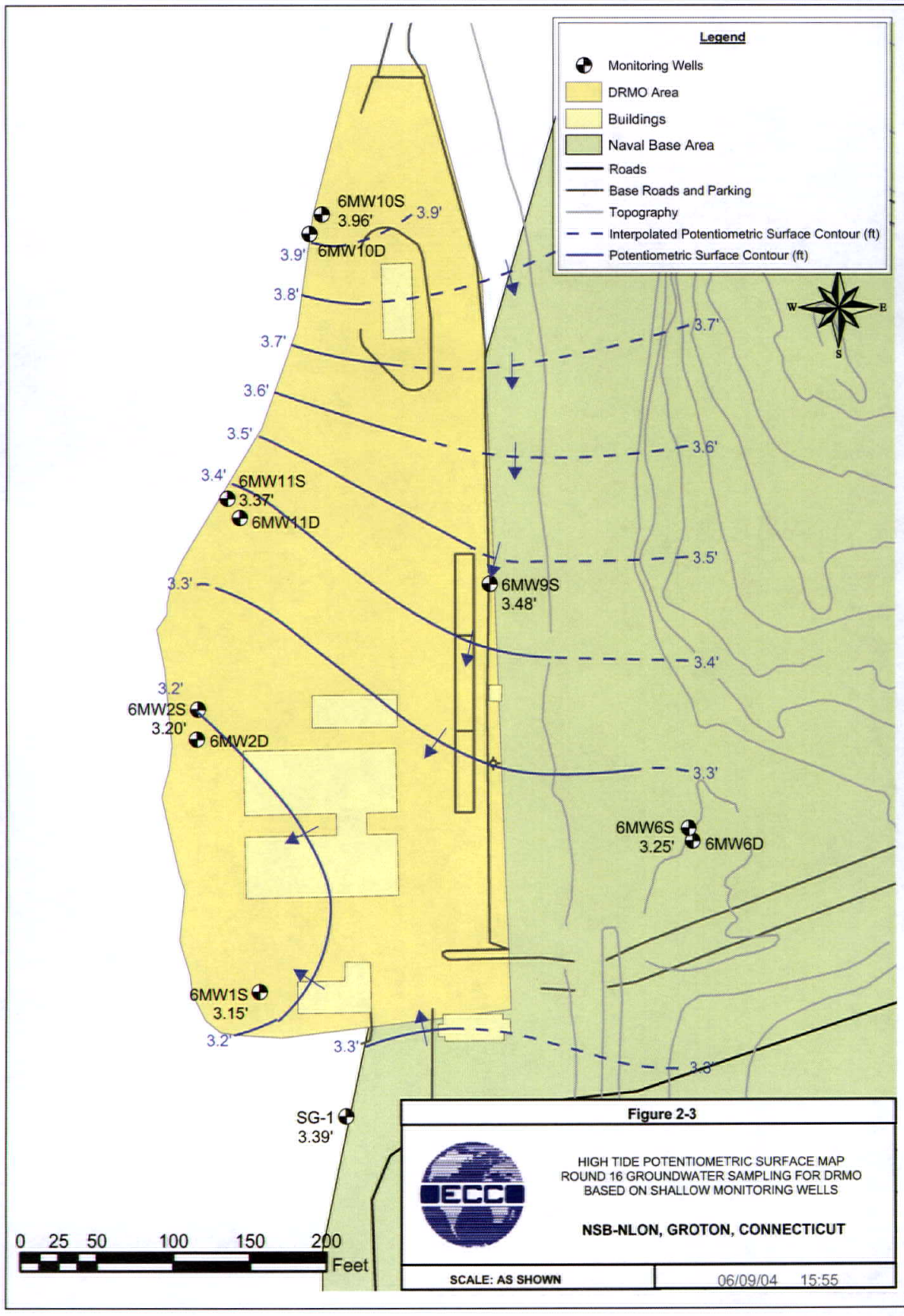

Figure 2-3

HIGH TIDE POTENTIOMETRIC SURFACE MAP
ROUND 16 GROUNDWATER SAMPLING FOR DRMO
BASED ON SHALLOW MONITORING WELLS

NSB-NLON, GROTON, CONNECTICUT

SCALE: AS SHOWN

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H:\NAVY\New London_NSB\DRMO\2004\Figures\DRMO GIS\GIS Maps\Figure 2-3 (High Tide)

3.0 MONITORING RESULTS

One round (Round 16) of groundwater samples was collected from seven monitoring wells as part of the sixth year of monitoring in accordance with the *Operation and Maintenance Manual for Installation Restoration Program Sites at Naval Submarine Base New London, Volume II – Groundwater Monitoring Plan* (GMP) (TtNUS 2003c). One field duplicate sample was also collected during the monitoring. The analytical results are summarized in Table 3-1. The data validation letters for the Round 16 data are provided in Appendix E.

As described in the GMR (B&R Environmental, 1997b), the Connecticut Remediation Standard Regulations (RSRs) require that all groundwater plumes be remediated to attain either a.) the SWPCs and Volatilization Criteria, or b.) the background concentration for each substance in the plume (CTDEP, January 1996). Accordingly, in each of the table, the results are compared to primary and secondary groundwater criterion set forth in Tables 2-9 and 2-10 of the Operations and Maintenance Manual for the Goss Cove landfill prepared by TtNUS in 2003 (TtNUS, 2003c). The inorganic results are also compared to NSB-NLON background groundwater concentrations established in the Basewide Groundwater OU RI (TtNUS, 2003c).

A comparison of the analytical data against the primary and secondary criteria and background concentrations is provided in Table 3-1. Figure 3-1 depicts the chemicals that were detected at concentrations in excess of monitoring criteria for each well in the monitoring network. The following data discussion is limited to only those compounds designated as organic and inorganic chemicals of potential concern (COPCs), as identified in the GMP (TtNUS 2002b).

These COPCs include:

- 1,1,2,2- Tetrachloroethene
- 1,2-Dichloroethane
- Cis-1,2- Dichloroethene
- Trans-1,2- Dichloroethene
- Trichloroethene
- Vinyl Chloride
- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Benzoic Acid
- Bis(2-ethylhexyl)phthalate (BEHP)
- Fluoranthene
- Fluorene

- Napthalene
- Phenanthrene
- Pyrene
- 4,4-DDD
- Aroclor-1254
- Aroclor-1260
- Heptachlor Epoxide
- Arsenic
- Barium
- Cadmium
- Chromium
- Copper
- Lead
- Silver
- Zinc

A complete set of analytical results and data valadation can be found in Appendix E. The results are summarized in Table 3-1 and as follows:

- **Cis-1,2- Dichloroethene** was detected in monitoring wells 6MW10S, 6MW11S and 6MW6D but primary monitoring criterion are not established for this analyte.

- **Trichloroethene** was detected in monitoring wells 6MW1S, 6MW2S, and 6MW6D but the concentrations did not exceed the primary or secondary monitoring criteria.

- **Vinyl Chloride** was detected in monitoring wells 6MW10S and 6MW11S but the concentrations did not exceed the primary or secondary monitoring criteria.

- **1,1,2,2- Tetrachloroethene**, **1,2-Dichloroethane**, and **trans-1,2-Dichloroethene** were not detected in any wells.

- **Benzo(a)anthracene** was detected in wells 6MW6D and 6MW6S at concentrations of 0.076 J µg/L and 0.14 J µg/L, respectively. Both sample concentrations were below both the primary monitoring criteria of 270 µg/L and the secondary criteria of 0.49 µg/L.

- **BEHP** was detected at concentrations of 9 J µg/L, 22 µg/L, and 10 µg/L in monitoring wells 6MW1S, 6MW2S, and 6MW6D, respectively. These values were below the primary monitoring criterion of 3,250 µg/L but exceeded the secondary monitoring criterion of 5.9 µg/L. The laboratory reporting limits also exceed the secondary monitoring criterion for BEHP.

- **Fluoranthene** was detected in monitoring wells 6MW10S, 6MW11S, and 6MW6S but the concentrations did not exceed the primary or secondary monitoring criteria.

- **Pyrene** was detected in monitoring wells 6MW10S, 6MW11S, and 6MW6S but the concentrations did not exceed the primary or secondary monitoring criteria.

- **Benzo(a)pyrene**, **Benzo(b)fluoranthene**, **Benzo(k)fluoranthene**, **Benzoic Acid**, **Flourene**, **Napthalene** and **Phenanthrene** were not detected in any wells.

- **4,4-DDD**, **Aroclors-1254** & **-1260** and **Heptachlor Epoxide** were not detected in any wells.

- **Arsenic** was detected in well 6MW2S at a concentration of 3.78 J µg/L. This concentration is above the seondary criteria of 0.021 µg/L and the background concentration of 1.92 µg/L, but below the primary monitoring criteria of 11.6 µg/L. The laboratory reporting limits also exceed the secondary monitoring criteria and background concentration for arsenic.

- **Barium** was detected in all the monitoring wells (6MW1S, 6MW2S, 6MW10S, 6MW11S, 6MW6D, 6MW6S, 6MW9S and 6MW9S (DUP)) but the concentrations did not exceed the background concentration.

- **Cadmium** was detected in monitoring well 6MW11S but the concentration did not exceed the primary or secondary monitoring criteria.

- **Chromium** was detected in monitoring wells 6MW2S and 6MW10S but the concentrations did not exceed the primary, secondary or background concentration monitoring criteria.

- **Copper** was detected at concentrations of 20 µg/L, 20 µg/L, 10 µg/L, 4.4 J µg/L and 4 J µg/L in monitoring wells 6MW2S, 6MW10S, 6MW11S, 6MW9S and 6MW9S (DUP) respectively. These values were below the primary monitoring criterion of 1,710 µg/L and the background concentration of 107 µg/L but exceeded the secondary monitoring criterion of 3.1 µg/L. Copper was also detected in wells 6MW1S and 6MW6S but the concentrations were below all monitoring concentrations. The laboratory reporting limit is 10 µg/L which also exceeds the secondary monitoring criterion but is below the primary and background criterion stated above.

- **Lead** was detected in monitoring well 6MW2S at a concentration of 7.92 J µg/L, exceeding the background concentration of 6.63 µg/L. However, the sample concentration did not exceed the primary (460 µg/L) or secondary (8.1 µg/L) monitoring criteria. The laboratory reporting limit is 50 µg/L which also exceeds the secondary monitoring and background criterion but is below the primary criterion.

- **Silver** was detected in monitoring well 6MW2S at a concentration of 2.08 J µg/L, exceeding the secondary monitroing criteria. However, the sample concentration did not exceed the primary monitoring criteria. Silver was also detected in upgradient wells 6MW6S and 6MW9S but the concentrations did not exceed any of the monitoring criteria.The laboratory reporting limit for silver is 7 µg/L which exceeds the secondary monitoring criterion of 1.9 µg/L but is below the primary monitoring criterion of 59,200,000 µg/L.

- **Zinc** was detected in all of the wells. Zinc was detected wells 6MW11S, 6MW9S and 6MW9S (DUP) at concentrations of 380 µg/L, 110 µg/L and 110 µg/L, respectively. These values were below the primary monitoring criterion of 44,600 µg/L but exceeded the secondary monitoring criterion of 81 µg/L. Well 6MW11S also exceeded the background concentration for zinc is 131 µg/L. Zinc was also detected in monitoring wells 6MW1S, 6MW2S, 6MW10S, 6MW6D and 6MW6S but concentrations were below the primary and secondary monitoring criteria and the background concentration.

These results are statistically analyzed in Section 4.0.

TABLE 3-1
ROUND 16 - ANALYTICAL RESULTS SUMMARY
YEAR 6 ANNUAL GROUNDWATER MONITORING REPORT
DRMO, NSB-NLON, GROTON, CONNECTICUT

Chemical	Primary Monitoring Criteria [1]	Secondary Monitoring Criteria [3]	NSB-NLON Background Concentration [7]	DOWNGRADIENT WELLS				UPGRADIENT WELLS			
				6-GW1S Round 16 6/9/2004	6-GW2S Round 16 6/9/2004	6-GW10S Round 16 6/9/2004	6-GW11S Round 16 6/9/2004	6-GW6D Round 16 6/8/2004	6-GW6S Round 16 6/8/2004	6-GW9S Round 16 6/9/2004	6-GW9S (DUP) Round 16 6/9/2004
VOCs (µg/L)											
1,1,2,2-TETRACHLOROETHANE	100[2]	11	--	0 5 U	0 5 U	0 5 U	0 5 U	0 5 U	0 5 U	0 5 U	0 5 U
1,2-DICHLOROETHANE	90[2]	99	--	0 5 U	0 5 U	0 5 U	0 5 U	0 5 U	0 5 U	0 5 U	0 5 U
CIS-1,2-DICHLOROETHENE	NA	NA	--	0 5 U	0 5 U	**0 75**	**0.83**	**4.7**	0 5 U	0 5 U	0 5 U
TRANS-1,2-DICHLOROETHENE	NA	NA	--	0 75 U	0 75 U	0 75 U	0 75 U	0 75 U	0 75 U	0 75 U	0 75 U
TRICHLOROETHENE	540[2]	81	--	**0.37 J**	**0.53**	0 5 U	0 5 U	**7.3**	0 5 U	0 5 U	0 5 U
VINYL CHLORIDE	2[2]	525	--	1 U	1 U	**0.52 J**	**1.1**	1 U	1 U	1 U	1 U
SVOCs (µg/L)											
BENZO(A)ANTHRACENE	270	0 49[8]	--	0 2 U	0 2 U	0 2 U	0 2 U	**0.076 J**	**0.14 J**	0 2 U	0 2 U
BENZO(A)PYRENE	27	0 049[8]	--	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U
BENZO(B)FLUORANTHENE	270	0 49[8]	--	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U
BENZO(K)FLUORANTHENE	270	0 49[8]	--	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U
BENZOIC ACID	NA	NA		50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
BIS(2-ETHYLHEXYL)PHTHALATE	3,250	5 9	--	**9 J**	**22**	10 U	10 U	**10**	10 U	**2.6 J**	**3.7 J**
FLUORANTHENE	704	1 28[4]	--	0 2 U	0 2 U	**0 14 J**	**0.19 J**	0 2 U	**0.076 J**	0 2 U	0 2 U
FLUORENE	27,100	49 2[4]		0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U
NAPTHALENE	11,300,000	20,513[4]		0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U
PHENANTHRENE	27,000	49 17[4]	--	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U	0 2 U
PYRENE	27,000	49 17[4]	--	0 2 U	0 2 U	**0.2**	**0.19 J**	0 2 U	**0.092 J**	0 2 U	0 2 U
Pesticides/PCBs (µg/L)											
4,4-DDD	2 2	0 00084[8]	--	0 04 U	0 04 U	0 04 U	0 04 U	0 04 U	0 04 U	0 04 U	0 04 U
AROCLOR-1254	0 45	0 00017[8]	--	0 5 U	0 5 U	0 5 U	0.5 U	0 5 U	0 5 U	0 5 U	0.5 U
AROCLOR-1260	0 45	0 00017[8]	--	0 5 U	0 5 U	0 5 U	0 5 U	0 5 U	0 5 U	0 5 U	0 5 U
HEPTACHLOR EPOXIDE	0 29	0 00011[8]	--	0 02 U	0 02 U	0 02 U	0 02 U	0 02 U	0 02 U	0 02 U	0 02 U
Inorganics (total) (µg/L)											
ARSENIC	11 6	0 021[4][8]	1 92[9]	4 U	**3.78 J**	4 U	4 U	4 U	4 U	4 U	4 U
BARIUM	NA	NA	227	**10**	**30**	**50**	**50**	**50**	**30**	**20**	**20**
CADMIUM	5,120	8 8[5]	ND	5 U	5 U	5 U	**0.87 J**	5 U	5 U	5 U	5 U
CHROMIUM	26,500	50[5]	49 9	10 U	**1.7 J**	**1.6 J**	10 U	10 U	10 U	10 U	10 U
COPPER	1,710	3 1[5][8]	107	**1.8 J**	**20**	**20**	**10**	10 U	**1.9 J**	**4.4 J**	**4 J**
LEAD	4,460	8 1[5]	6 63[9]	50 U	**7.92 J**	50 U	50 U	50 U	50 U	50 U	50 U
SILVER	59,200,000	1 9[5][8]	ND	7 U	**2.08 J**	7 U	7 U	**0.83 J**	7 U	**0.71 J**	7 UJ
ZINC	44,600	81[5]	131	**15 J**	**60**	**31 J**	**380**	**6.1 J**	**5.7 J**	**110**	**110**

NOTES,

DUP = Field duplicate sample, J = Estimated Value, U = Undetected Value, NA = Not available, ND = Not Detected in background samples, -- = Not analyzed for in background samples

Bold type denotes analyte detection

Shaded boxes denote exceedances of primary or secondary monitoring criterion and/or background groundwater concentrations

Primary and Secondary Monitoring Criteria shown in table are from the New London O&M plan dated March 2003

1 Surface Water Protection Criteria for Substances in Groundwater, using a site specific dilution factor (TtNUS 2003)
2 Industrial/commercial volatilization criteria in groundwater (CTDEP 1996)
3 National Recommended Water Quality Criteria for the Protection of human health from the consumption of organisms (USEPA, 1999)
4 Connecticut Water Quality Standards for the protection of Human Health for the consumption of organisms (CTDEP 1997)
5 National Recommended Water Quality Criteria for the Protection of aquatic life (continuous, saltwater) (USEPA, 1999)
6 Connecticut Water Quality Standards for the protection of Human Health for aquatic life (chronic saltwater) (CTDEP 1997)
7 Background Concentrations taken from the Basewide Groundwater Operable Unit Remedial Investigation Report (TtNUS, 2002a)
8 The reporting limit from the laboratory exceeds the secondary monitoring criterion for this compound
9 The reporting limit from the laboratory exceeds the background concentration for this compound

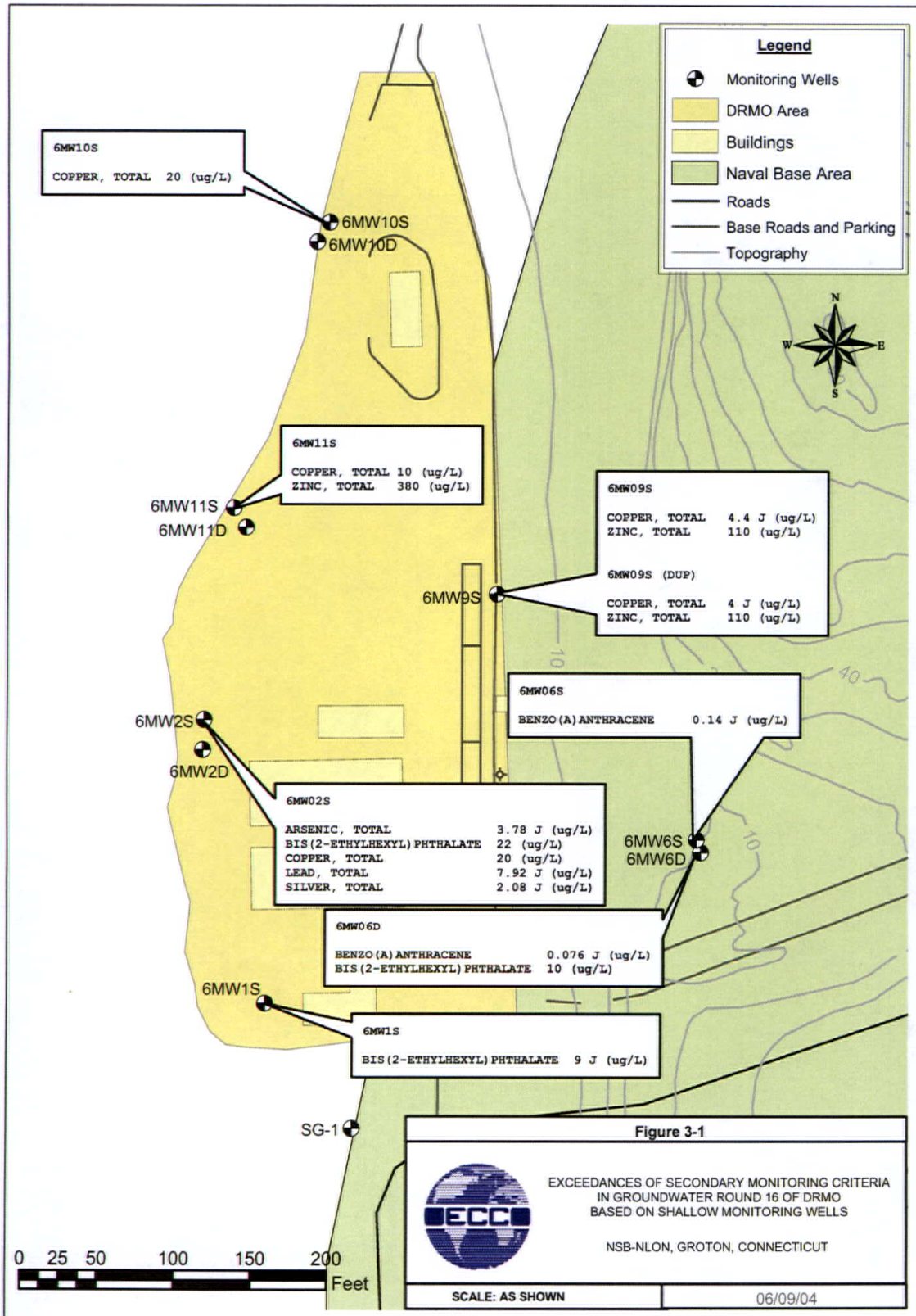


Figure 3-1

EXCEEDANCES OF SECONDARY MONITORING CRITERIA
IN GROUNDWATER ROUND 16 OF DRMO
BASED ON SHALLOW MONITORING WELLS

NSB-NLON, GROTON, CONNECTICUT

SCALE: AS SHOWN | 06/09/04

H:\NAVY\New London_NSB\DRMO\2004\Figures\DRMO GIS\GIS Maps\Figure 3-1 (Exceedances)

4.0 STATISTICAL ANALYSIS

A statistical analysis was performed on the results presented in Section 3.0 in an effort to determine whether COPCs are having an impact on groundwater at the Site. In the analysis, four downgradient wells (6MW1S, 6MW2S, 6MW10S and 6MW11S) and three upgradient wells (6MW6D, 6MW6S and 6MW9S) were compared using various statistical methods. Analysis was performed in accordance with the Year 4 Annual Report (TtNUS, 2003) and is summarized in the following sections and detailed in Appendix F.

4.1 Statistical Analysis Methodology

Statistical analysis of the data was performed in order to:

- Summarize contaminant concentrations for each COPC with detection frequency, range and average values; and
- Compare COPC detections in downgradient wells to detections in upgradient wells.

4.1.1 Summary Statistics

For each COPC the frequency of detection was tabulated for both upgradient and downgradient wells. Analytes which were identified but the associated numerical value was an approximate concentration, denoted with "J" during validation, were include as a positive detection. The range of data and average values were tabulated for all detected analytes. Averaging for detected analytes was performed using two different methods. The first method averaged detected and estimated "J" values only and did not account for non-detects. The second method replaced non-detects with a value equal to half of the laboratory reporting limit prior to averaging all results.

4.1.2 Comparison of Downgradient Wells to Upgradient Wells

The comparison of downgradient and upgradient data sets for the DRMO site is summarized in Table 4-1. The statistical method employed for each COPC, determined by the number of detections, distribution and variance for each of the data sets, is summarized below.

Number of detections was determined for both the downgradient and upgradient data sets for each analyte. If there were no detections in either data set, no statistical analysis was performed and downgradient and upgradient concentrations were considered statistically similar. In cases where there were detections in the downgradient wells but none in the upgradient wells, no statistical analysis was performed and downgradient results were considered statistically higher

than upgradient concentrations for that analyte. In cases where there were detections in the upgradient wells but none in the downgradient wells, no statistical analysis was performed and downgradient results were not considered statistically higher than upgradient concentrations for that analyte. When non-detects exceeded 50% of either data set a Two-Sample Test of Proportions was used in accordance with USEPA guidance (USEPA, 1992).

The Analysis of Variance (ANOVA) technique is the preferred method to compare data from upgradient and downgradient monitoring well locations. The ANOVA technique is used to test whether there is statistically significant evidence of contamination. There are parametric and non-parametric ANOVA techniques. The parametric ANOVA method assumes that both the upgradient and the downgradient data sets are normally (or log-normally) distributed and that group variances of the upgradient and downgradient data sets are homogeneous. These two assumptions can be checked by performing the Shapiro-Wilk Test of Normality and Levene's Test of Homogeneity of Variance, respectively. If the results of the two tests indicated that either of these assumptions were violated a non-parametric ANOVA techniques was conducted that compares ranks of the observations rather that the observations themselves. For the DRMO site non-parametric ANOVA consisted of a Modified Wilcoxon Rank Sum Test, appropriate when the data set has less than twelve observations.

Chart 4-1 illustrates the decision process employed for selecting the appropriate statistical method to compare downgradient and upgradient data for each COPC at the DRMO site. Once the appropriate method was determined, it was performed in accordance with USEPA guidance and the Year 4 Annual Monitoring Report (TtNUS 2003). Details of computation are included in Appendix F for all of the tests employed:

- Two-Sample Test of Proportions
- Shapiro-Wilk Test of Normality
- Levene's Test of Homogeneity of Variance
- Parametric ANOVA
- Modified Wilcoxon Rank Sum Test

4.2 Statistical Analysis Results

Results of downgradient and upgradient data set comparisons are summarized in Table 4-1. A total of fifteen COPCs were detected. For each of these fifteen COPCs the number of detections, distribution and variance were evaluated for both upgradient and downgradient data sets. No

statistical analysis was required for five of the fifteen COPCs because the upgradient well data set consisted entirely of non-detects. Two of the samples had downgradient detections that were less than the detection limit for the upgradient wells; therefore statistical analysis was not required. One other well did not require statistical analysis because there were no detections in the downgradient wells. Two-Sample Tests of Proportions were performed on three COPCs. Non-parametric ANOVA was performed on one COPC and parametric ANOVA was performed on three COPCs. Results of these statistical analyses are summarized in Table 4-1 and each test is detailed in Appendix F. Analysis of data indicated that two of these eleven COPCs (vinyl chloride and copper) had downgradient results statistically higher than upgradient concentrations. Analysis of the remaining COPCs indicated that downgradient results were not statistically higher than upgradient concentrations.

Five COPCs, with downgradient detections, had upgradient well data sets consisting entirely of non-detects. These COPCs included vinyl chloride, arsenic, cadmium, chromium, and lead. In cases where there are detections in the downgradient wells but none in the upgradient wells, no statistical analysis is performed and downgradient results are normally considered statistically higher than upgradient concentrations for that analyte. Arsenic, cadmium, chromium and lead downgradient detections were not indicative of downgradient results being statistically higher that upgradient results. These COPCs' detections were detected at values lower than laboratory reporting limits. Arsenic had one downgradient detection of 3.78 J μg/L compared to a laboratory reporting limit of 4 μg/L. Cadmium had one downgradient detection of 0.87 J μg/L compared to a laboratory reporting limit of 5 μg/L. Chromium had two downgradient detections of 1.7 J μg/L and 1.6 J μg/L compared to a laboratory reporting limit of 10 μg/L. Lead had one downgradient detection of 7.92 J μg/L compared to a laboratory reporting limit of 50 μg/L. As a result downgradient and upgradient data sets for arsenic, cadmium, chromium and lead were considered statistically similar.

The other COPC with upgradient data sets consiting entirely of non-detects was vinyl chloride. Vinyl chloride was detected in two out of four downgradient wells (average of 0.655 μg/L) and no upgradient wells but detections and average (0.81 μg/L) in downgradient wells were below the primary monitoring criterion of 2 μg/L and the secondary monitoring criterion of 525 μg/L.

Two of the other COPCs, fluoranthene and silver, did not need statistical analysis, even though there were detections in both the upgradient and downgradient well, because the detections in the downgradient wells were below the reporting limit of the upgradient wells. Fluoranthene was detected in two downgradient wells at an average of 0.133 μg/L and in one upgradient well at an average of 0.092 μg/L. All sample concentrations and averages were below the reporting limit of 0.2 μg/L. Silver was detected in one downgradient well at an average of 3.15 μg/L and in two

upgradient well at an average concentration of 2.15 µg/L. All individual concentrations and averages were below the reporting limit of 7 µg/L. As a result of all the concentrations being below the respective reporting limits, the downgradient and upgradient data sets for fluoranthene and silver were considered statistically similar.

One COPC, benzo(a)anthracene, had two detections in the upgradient wells and no detection in the downgradient. Therefore, the downgradient wells were not declared statistically higher than the upgradient wells.

Copper was detected in four out of four downgradient wells (average 12.95 µg/L) and two out of three upgradient wells (average 3.15 µg/L). A non-parametric ANOVA Test indicated that downgradient results were statistically higher than upgradient concentrations for copper. All detections and averages for both upgradient and downgradient wells were below the primary monitoring criterion of 1,710 µg/L, exceeded the secondary monitoring criterion of 3.1 µg/L but were below the NSB-NLON background criteria of 107 µg/L.. Results below this background number indicate that detections are not attributable to migration from the DRMO.

The six other statistical analysis performed indicated that downgradient results were not statistically higher than upgradient concentrations. Cis-1,2- Dichloroethene was detected in two out of four downgradient wells (average 0.52 µg/L) and one out of three upgradient wells (average 1.73 µg/L). A Two-Sample Test of Proportions indicated that downgradient results were not statistically higher than upgradient concentrations for cis-1,2-dichloroethene. Trichloroethene was detected in two out of four downgradient wells (average 0.35 µg/L) and one out of three upgradient wells (average 2.68 µg/L). A Two-Sample Test of Proportions indicated that downgradient results were not statistically higher than upgradient concentrations for trichloroethene. BEHP was detected in two out of four downgradient wells (average 10.25 µg/L) and two out of three upgradient wells (average 6.05 µg/L)., Although the downgradient average was slighlty higher than the upgradient average, parametric ANOVA indicated that downgradient results were not statistically higher than upgradient concentrations for BEHP. Pyrene was detected in two out of four downgradient wells (average 0.148 µg/L) and one out of three upgradient wells (average 0.097 µg/L). Although the downgradient average was slighlty higher than the upgradient average, a two sample test of proportions indicated that downgradient results were not statistically higher than upgradient concentrations for pyrene. Barium was detected in four out of four downgradient wells (average 35 µg/L) and three out of three upgradient wells (average 33.3 µg/L). Although the downgradient average was slighlty higher than the upgradient average, parametric ANOVA indicated that downgradient results were not statistically higher than upgradient concentrations for Barium. Zinc was detected in four out of four downgradient wells (average 121.5 µg/L) and three out of three upgradient wells (average

40.6 µg/L). Although the downgradient average was higher than the upgradient average, parametric ANOVA indicated that downgradient results were not statistically higher than upgradient concentrations for zinc. However, it should be noted that both the detections and average in downgradient and upgradients wells were below the primary monitoring criterion of 44,600 µg/L, but the downgradient average exceeded the secondary monitoring criterion of 81 µg/L but was below the background concentraion of 131 µg/L.

There were no detections in either upgradient or downgradient wells and concentrations are considered statistically similar for the following analytes:

- 1,1,2,2- Tetrachloroethene
- 1,2-Dichloroethane
- Trans-1,2- Dichloroethene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Benzoic Acid
- Flourene
- Napthalene
- Phenanthrene
- 4,4-DDD
- Aroclor-1254
- Aroclor-1260
- Heptachlor Epoxide

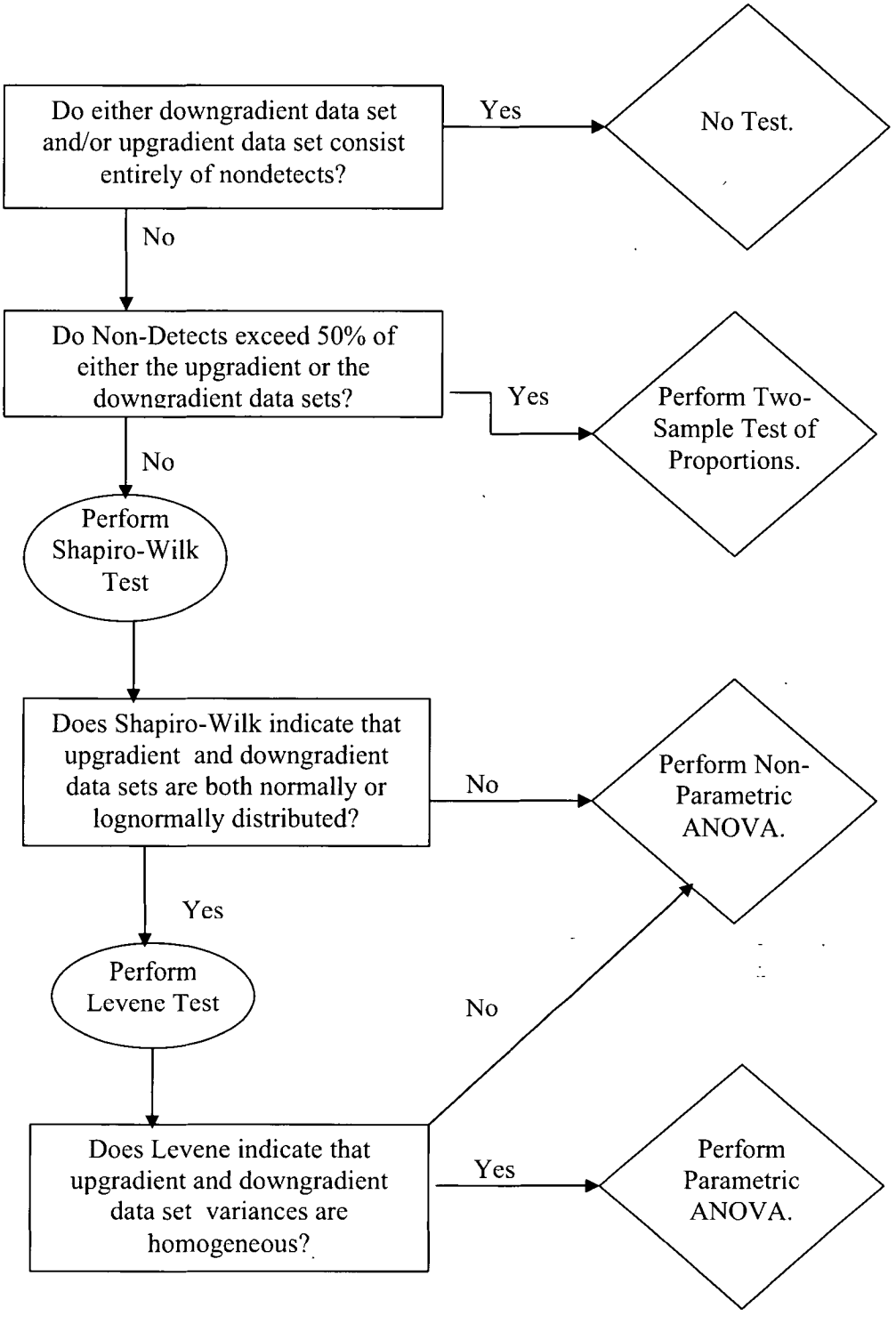
As detailed above, statistical analysis of the data indicated that downgradient results were statistically higher than upgradient results for just two COPCs (vinyl chloride and copper). Of these detections, vinyl chloride results were below primary and secondary monitoring criteria and were of the same magnitude as laboratory reporting limits. Copper statistical analysis indicated that downgradient results were statistically higher than upgradient concentrations but all detections and averages for both upgradient and downgradient wells were below the NSB-NLON background criteria of 107 µg/L. Results below this background number indicate that detections are not attributable to migration from the DRMO.

TABLE 4-1
ROUND 16 STATISTICAL ANALYSIS SUMMARY
YEAR 6 ANNUAL GROUNDWATER MONITORING REPORT
DRMO, NSB-NLON, GROTON, CONNECTICUT

	DOWNGRADIENT WELLS				UPGRADIENT WELLS					
Chemical	Frequency of Detection	Range of Detections	Average of Detections	Average of All Results [1]	Frequency of Detection	Range of Detections	Average of Detections	Average of All Results [1]	Statistical Analysis Method	Result of Analysis downgradient higher than upgradient?
VOCs (µg/L)										
1,1,2,2-TETRACHLOROETHENE	0 / 4	-	--	0.25	0 / 3	-	--	--	None	**NO[4]**
1,2-DICHLOROETHANE	0 / 4	-	--	0.25	0 / 3	-	--	--	None	**NO[4]**
CIS-1,2-DICHLOROETHENE	2 / 4	0.75 - 0.83	0.79	0.52	1 / 3	- 4.7	4.7	1.73	Two-Sample Test	**NO**
TRANS-1,2-DICHLOROETHENE	0 / 4	-	--	0.375	0 / 3	-	--	--	None	**NO[4]**
TRICHLOROETHENE	2 / 4	0.37 - 0.53	0.45	0.35	1 / 3	- 7.3	7.3	2.68	Two-Sample Test	**NO**
VINYL CHLORIDE	2 / 4	0.52 - 1.1	0.81	0.655	0 / 3	-	--	--	None	**YES[5]**
SVOCs (µg/L)										
BENZO(A)ANTHRACENE	0 / 4	-	--	0.1	2 / 3	0.076 - 0.14	0.108	0.105	None	**NO[4]**
BENZO(A)PYRENE	0 / 4	-	--	0.1	0 / 3	-	--	--	None	**NO[4]**
BENZO(B)FLUORANTHENE	0 / 4	-	--	0.1	0 / 3	-	--	--	None	**NO[4]**
BENZO(K)FLUORANTHENE	0 / 4	-	--	0.1	0 / 3	-	--	--	None	**NO[4]**
BENZOIC ACID	0 / 4	-	--	25	0 / 3	-	--	--	None	**NO[4]**
BIS(2-ETHYLHEXYL)PHTHALATE	2 / 4	9 - 22	15.5	10.25	2 / 3	2.6 - 10	6.3	6.05	Parametric ANOVA	**NO**
FLUORANTHENE	2 / 4	0.14 - 0.19	0.165	0.1325	1 / 3	0.076 -	0.076	0.092	None	**NO[6]**
FLUORENE	0 / 4	-	--	0.1	0 / 3	-	--	--	None	**NO[4]**
NAPTHALENE	0 / 4	-	--	0.1	0 / 3	-	--	--	None	**NO[4]**
PHENANTHRENE	0 / 4	-	--	0.1	0 / 3	-	--	--	None	**NO[4]**
PYRENE	2 / 4	0.19 - 0.2	0.195	0.1475	1 / 3	0.092 - 0.2	0.092	0.097	Two-Sample Test	**NO**
Pesticides/PCBs (µg/L)										
4,4-DDD	0 / 4	-	--	0.02	0 / 3	-	--	--	None	**NO[4]**
AROCLOR-1254	0 / 4	-	--	0.25	0 / 3	-	--	--	None	**NO[4]**
AROCLOR-1260	0 / 4	-	--	0.25	0 / 3	-	--	--	None	**NO[4]**
HEPTACHLOR EPOXIDE	0 / 4	-	--	0.01	0 / 3	-	--	--	None	**NO[4]**
Inorganics (total) (µg/L)										
ARSENIC	1 / 4	3.78 -	3.78	2.445	0 / 3	-	--	--	None	**NO[6]**
BARIUM	4 / 4	10 - 50	35	35	3 / 3	20 - 50	33.3	33.3	Parametric ANOVA	**NO**
CADMIUM	1 / 4	0.87 -	0.87	0.405	0 / 3	-	--	--	None	**NO[6]**
CHROMIUM	2 / 4	1.6 - 1.7	1.65	3.325	0 / 3	-	--	--	None	**NO[6]**
COPPER	4 / 4	1.8 - 20	12.95	12.95	2 / 3	1.9 - 4.4	3.15	3.7	Non-Parametric ANOVA	**YES**
LEAD	1 / 4	7.92 -	7.92	20.73	0 / 3	-	--	--	None	**NO[6]**
SILVER	1 / 4	2.08 -	2.08	3.145	2 / 3	0.71 - 0.83	0.77	2.15	None	**NO[6]**
ZINC	4 / 4	15 - 380	121.5	121.5	3 / 3	5.7 - 110	40.6	40.6	Parametric ANOVA	**NO**

NOTES:
1 For non-detect occurances, half of the reporting limit was used in calculating the average.
2 Grey highlighting denotes detection in upgradient and downgradient wells.
3 Modified Wilcoxon Rank Sum Test used for Non-Parametric ANOVA because sample data set < 12
4 When there were no detections in downgradient wells, downgradient results were autmatically declared not statistically higher.
5 When detection in downgradient wells only, downgradient results are declared statistically higher without analysis.
6 Detections in downgradient wells were less than or equal to the reporting limit for upgradient wells, not declared statistically higher.

CHART 4-1
DECISION CHART FOR APPROPIATE STATISTICAL METHOD
TO COMPARE ANALYTE UPGRADIENT AND DOWNGRADIENT RESULTS



5.0 CONCLUSION

This Year 6 Annual GMR summarizes Round 16 of groundwater analytical data collected from selected monitoring wells installed at the DRMO. The results of the monitoring program are being used to evaluate the success of the interim remedial action (i.e., soil removal action and installation of an asphalt/GCL cap) at minimizing contaminant migration from the DRMO. The evaluation included the following:

- Gauging of ten monitoring wells and one staff gauge. Groundwater potentiometric surface plans for readings at both high and low tide were prepared and indicated groundwater flow consistent with past analyses.

- Sampling and analyses of groundwater from seven monitoring wells using low-flow purging and sampling techniques. Fifteen of the twenty-one COPC's were detected during analysis.

- Completion of a general screen of analytical data to current primary and secondary monitoring criteria and background concentrations to identify exceedances in both upgradient and downgradient wells. There were no exceedances of any COPC primary monitoring criteria. Detections of benzo(a)anthracene, BEHP, arsenic, copper, silver, and zinc exceeded secondary monitoring criteria.

- Performance of a statistical comparison of the complete analytical data set from downgradient and upgradient monitoring wells to determine significant differences. Analysis of data indicated that two of the COPCs (vinyl chloride and copper) had downgradient results statistically higher than upgradient concentrations. Concentrations of vinyl chloride were below primary and secondary monitoring criteria and were only slightly above lab reporting levels. And levels of copper were below the NSB-NLON background concentration.

The analytical results for the sixth year of groundwater monitoring at the DRMO showed no exceedances of the primary monitoring criteria and only six contaminants in excess of the secondary monitoring criteria. Two COPCs were detected in downgradient wells at concentrations that were statistically higher than concentrations in upgradient wells. However, the levels and history of these COPCs do not indicate significant concentrations of COPCs are migrating from the DRMO site. The results for vinyl chloride are generally similar to the results of past two years of groundwater monitoring, as vinyl chloride was not analyzed before 2002. The results for copper are generally similar to the results of the first five years of groundwater

monitoring. These results are indicative that the interim remedial action at the site removed sufficient contaminant source material and reduced infiltration of precipitation through any remaining source material so that significant contaminant migration from the site to the Thames River is not occurring. Therefore, as was recommended in the Year 5 report, the current interim ROD for the DRMO should be amended and a final ROD should be prepared for the site. In addition, the following recommendations are made based on the results of the four years of monitoring at the DRMO.

- The sampling frequency should continue on an annual basis with the next sample round scheduled for summer 2005. This recommendation is justified because there have been no exceedances of primary monitoring criteria and no significant increasing contaminant trends have been noted in the downgradient wells in over 6 years. The recommendation to maintain the sampling frequency on a yearly basis was also made in the Year 3 GMR and was agreed to by the USEPA. The CTDEP did not provide any comments on the Year 3 GMR.

- The sampling frequency should be re-evaluated after the next sampling round (Year 7). This recommendation was also made in the Year 3 GMR and agreed to by the USEPA.

- The future monitoring program should include the same seven monitoring wells that were sampled in Round 16. Those wells include 6MW6S, 6MW6D, and 6MW9S as upgradient monitoring wells and 6MW1S, 6MW2S, 6MW10S, and 6MW11S as downgradient monitoring wells.

- Analyses for pesticides and PCBs should be discontinued because none of the identified COPCs have been detected in downgradient monitoring wells during the 16 rounds of monitoring. This recommendation was also made in the Year 5 GMR, but no comments were provided.

- Routine maintenance should be conducted on the remaining monitoring wells included in the monitoring program to facilitate monitoring activities into the future.

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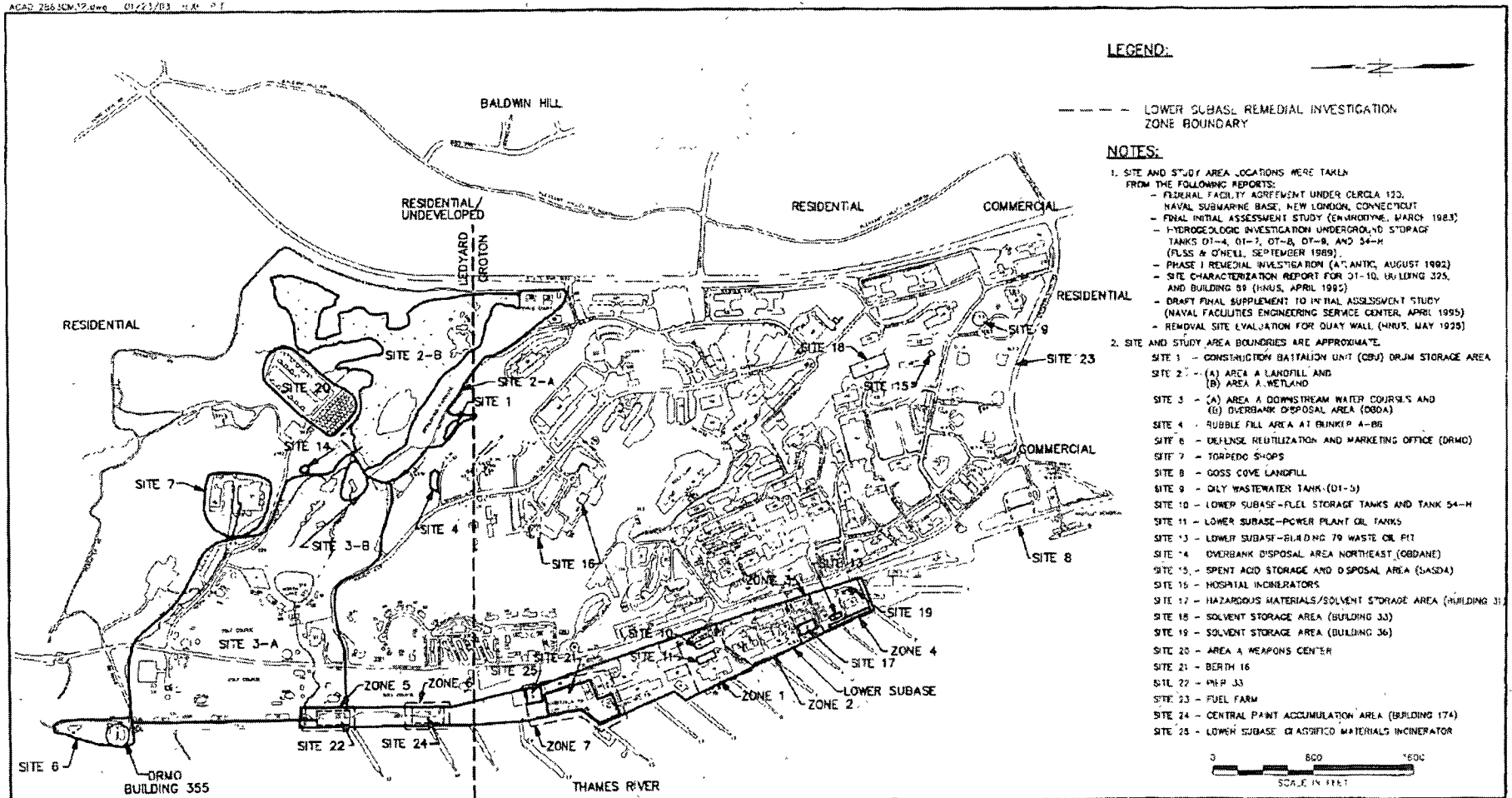
APPENDIX A

SITE FIGURES: COPIES FROM YEAR 4 ANNUAL REPORT



LEGEND:

— — — — LOWER SUBASE REMEDIAL INVESTIGATION ZONE BOUNDARY

NOTES:

1. SITE AND STUDY AREA LOCATIONS WERE TAKEN FROM THE FOLLOWING REPORTS:
   - FEDERAL FACILITY AGREEMENT UNDER CERCLA 120, NAVAL SUBMARINE BASE, NEW LONDON, CONNECTICUT
   - FINAL INITIAL ASSESSMENT STUDY (ENVIRODYNE, MARCH 1983)
   - HYDROGEOLOGIC INVESTIGATION UNDERGROUND STORAGE TANKS OT-4, OT-7, OT-8, OT-9, AND 54-H (FLISS & O'NEILL, SEPTEMBER 1989)
   - PHASE I REMEDIAL INVESTIGATION (ATLANTIC, AUGUST 1992)
   - SITE CHARACTERIZATION REPORT FOR OT-10, BUILDING 325, AND BUILDING 89 (HNUS, APRIL 1995)
   - DRAFT FINAL SUPPLEMENT TO INITIAL ASSESSMENT STUDY (NAVAL FACILITIES ENGINEERING SERVICE CENTER, APRIL 1995)
   - REMOVAL SITE EVALUATION FOR QUAY WALL (HNUS, MAY 1995)
2. SITE AND STUDY AREA BOUNDRIES ARE APPROXIMATE.

SITE 1 - CONSTRUCTION BATTALION UNIT (CBU) DRUM STORAGE AREA
SITE 2 - (A) AREA A LANDFILL AND (B) AREA A WETLAND
SITE 3 - (A) AREA A DOWNSTREAM WATER COURSES AND (B) OVERBANK DISPOSAL AREA (OBDA)
SITE 4 - RUBBLE FILL AREA AT BUNKER A-86
SITE 6 - DEFENSE REUTILIZATION AND MARKETING OFFICE (DRMO)
SITE 7 - TORPEDO SHOPS
SITE 8 - GOSS COVE LANDFILL
SITE 9 - OILY WASTEWATER TANK (OT-5)
SITE 10 - LOWER SUBASE-FUEL STORAGE TANKS AND TANK 54-H
SITE 11 - LOWER SUBASE-POWER PLANT OIL TANKS
SITE 13 - LOWER SUBASE-BUILDING 79 WASTE OIL PIT
SITE 14 - OVERBANK DISPOSAL AREA NORTHEAST (OBDANE)
SITE 15 - SPENT ACID STORAGE AND DISPOSAL AREA (SASDA)
SITE 16 - HOSPITAL INCINERATORS
SITE 17 - HAZARDOUS MATERIALS/SOLVENT STORAGE AREA (BUILDING 31)
SITE 18 - SOLVENT STORAGE AREA (BUILDING 33)
SITE 19 - SOLVENT STORAGE AREA (BUILDING 36)
SITE 20 - AREA A WEAPONS CENTER
SITE 21 - BERTH 16
SITE 22 - PIER 33
SITE 23 - FUEL FARM
SITE 24 - CENTRAL PAINT ACCUMULATION AREA (BUILDING 174)
SITE 25 - LOWER SUBASE CLASSIFIED MATERIALS INCINERATOR

0 800 1600
SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY DM DATE 10/24/02
CHECKED BY DATE 1-31-03
COST/SCHED-AREA
SCALE AS NOTED

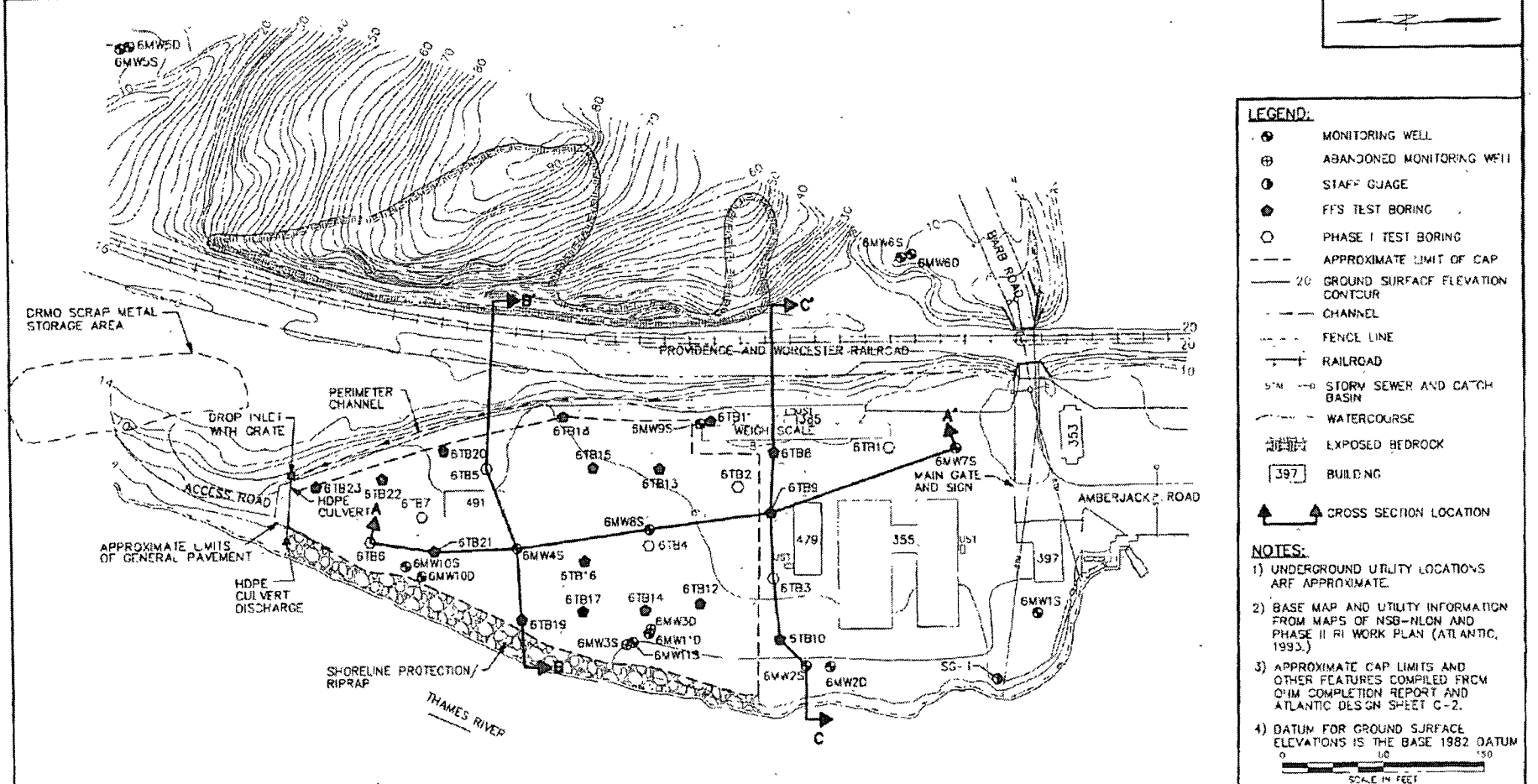
Tetra Tech NUS, Inc.

SITE LOCATION MAP
NSB-NLON
GROTON, CONNECTICUT

CONTRACT NO. 2863 | OWNER NO. C816
APPROVED BY CAR DATE 1/31/03
APPROVED BY DATE
DRAWING NO FIGURE 2-2 | REV 0

FORM 6A38 NO. 3HNUS_SH.DGN - REV 3 - 1/28/98

ACAD 2863CFC5.dwg 02/03/03 HJB PIT



LEGEND:

- MONITORING WELL
- ABANDONED MONITORING WELL
- STAFF GUAGE
- FFS TEST BORING
- PHASE I TEST BORING
- APPROXIMATE LIMIT OF CAP
- 20 GROUND SURFACE ELEVATION CONTOUR
- CHANNEL
- FENCE LINE
- RAILROAD
- STM STORM SEWER AND CATCH BASIN
- WATERCOURSE
- EXPOSED BEDROCK
- 397 BUILDING
- CROSS SECTION LOCATION

NOTES:

1) UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.
2) BASE MAP AND UTILITY INFORMATION FROM MAPS OF NSB-NLON AND PHASE II RI WORK PLAN (ATLANTIC, 1993.)
3) APPROXIMATE CAP LIMITS AND OTHER FEATURES COMPILED FROM OHM COMPLETION REPORT AND ATLANTIC DESIGN SHEET C-2.
4) DATUM FOR GROUND SURFACE ELEVATIONS IS THE BASE 1982 DATUM

0 60 120
SCALE IN FEET

NO	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

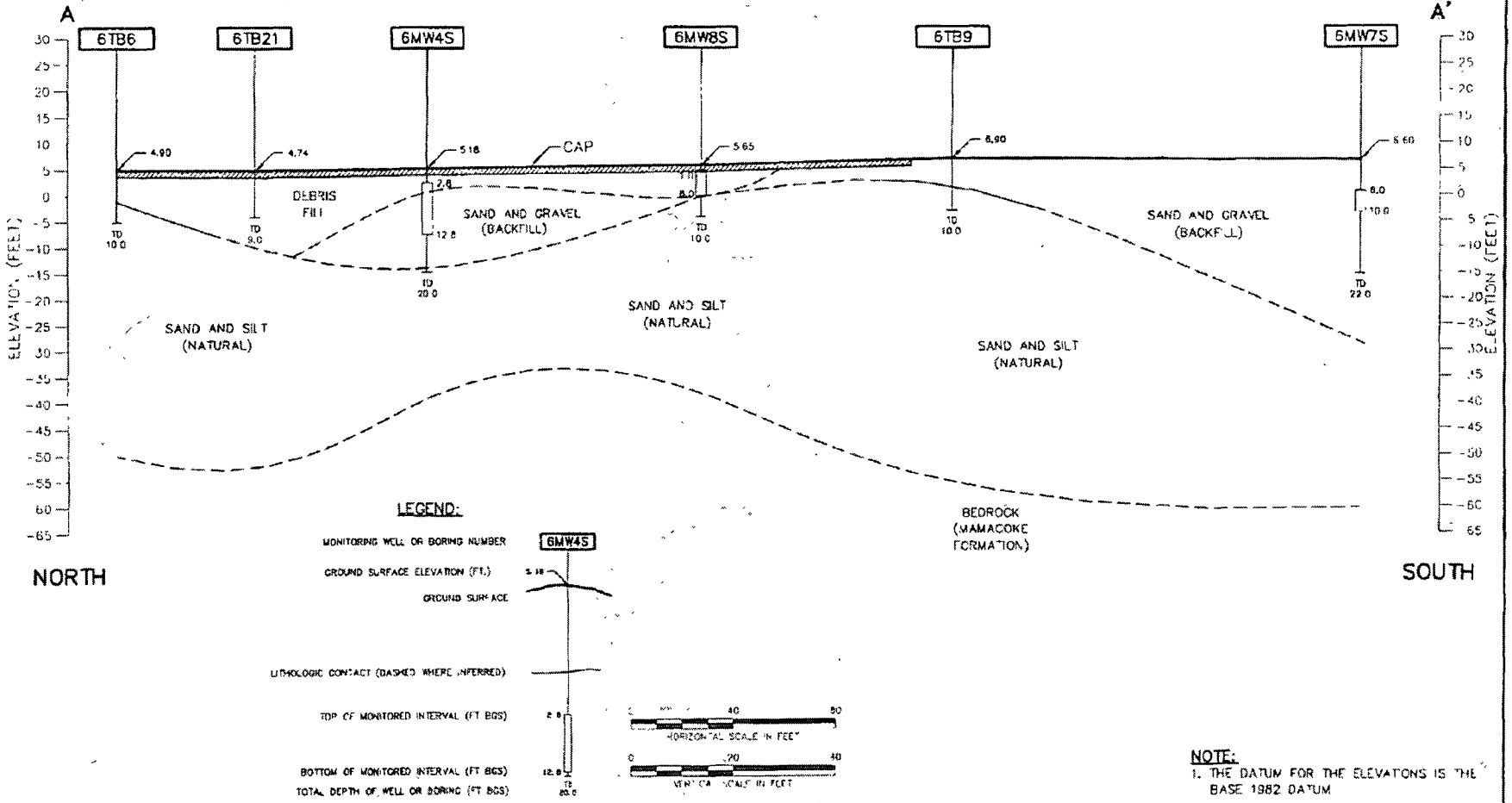
DRAWN BY HJB DATE 1/23/03
CHECKED BY MJC DATE 2/3/03
COST/SCHED-AREA
SCALE AS NOTED

Tetra Tech NUS, Inc.

GENERAL SITE FEATURES
DRMO
NSB-NLON, GROTON, CONNECTICUT

CONTRACT NO. 2863
OWNER NO 0816
APPROVED BY CAR DATE 2/3/03
APPROVED BY DATE
DRAWING NO FIGURE 2 3
REV 0

FORM CADD NO 3NUS_BH DGN - REV 0 - /20/93



NOTE:
1. THE DATUM FOR THE ELEVATIONS IS THE BASE 1982 DATUM

NO	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

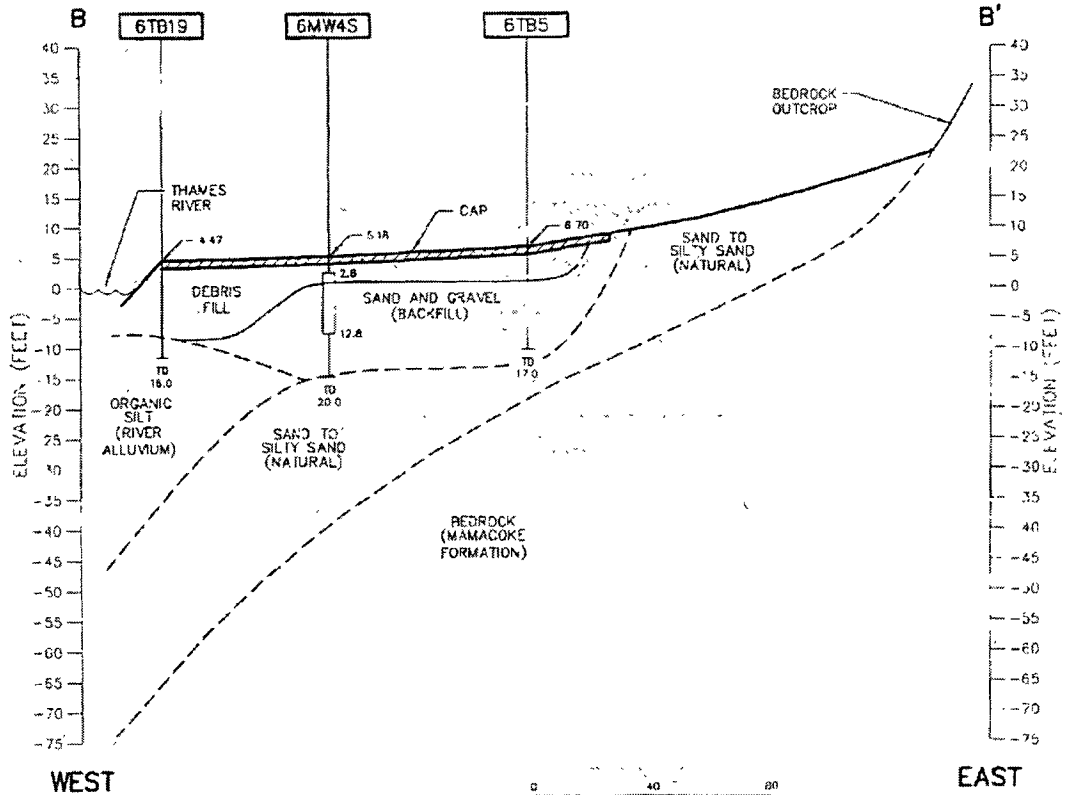
DRAWN BY HJB DATE 1/23/03
CHECKED BY DATE 1-31-03
COST/SCHED-AREA
SCALE AS NOTED

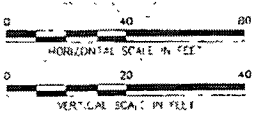
Tetra Tech NUS, Inc.

GENERALIZED GEOLOGIC CROSS-SECTION A – A'
DRMO
NSB–NLON, GROTON, CONNECTICUT

CONTRACT NO. 2863
OWNER NO. 0816
APPROVED BY CAR DATE 1/31/03
APPROVED BY DATE
DRAWING NO FIGURE 2-4
REV. 0

FORM PAGE NO. 10010_RN.DGN – REV. 0 – 10/18/97





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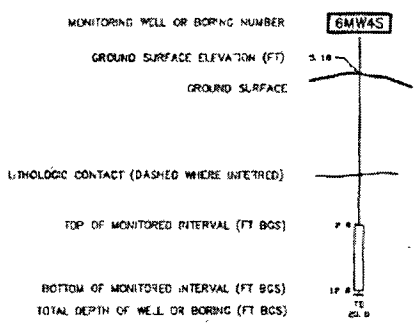


NOTE:

1. THE DATUM FOR THE ELEVATIONS IS THE BASE 1982 DATUM.

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

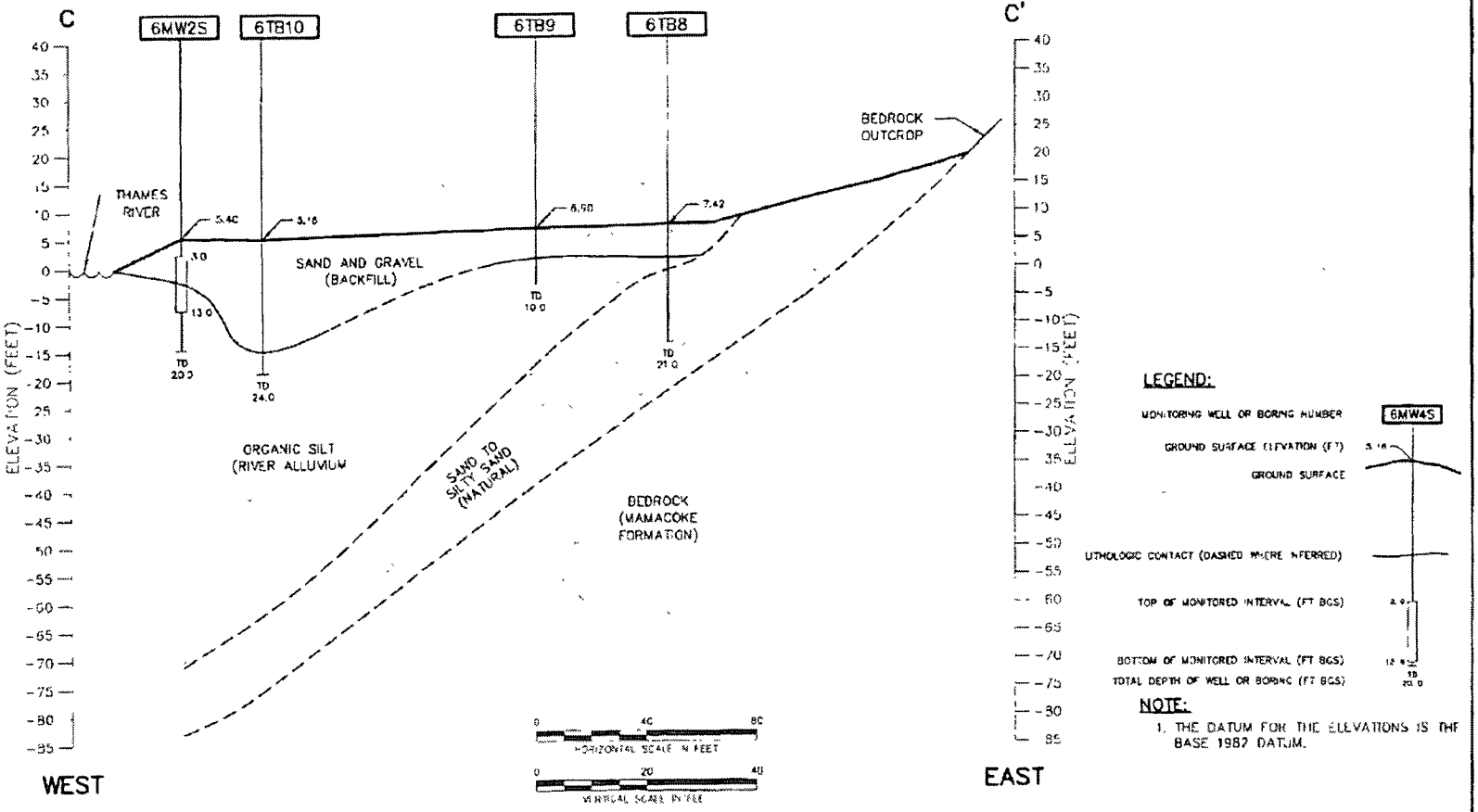
DRAWN BY HJB DATE 1/23/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

Tetra Tech NUS, Inc.

GENERALIZED GEOLOGIC CROSS SECTION B – B'
DRMO
NSB–NLON, GROTON, CONNECTICUT

CONTRACT NO. 2863
OWNER NO. C816
APPROVED BY CAR DATE 1/31/03
APPROVED BY DATE
DRAWING NO. FIGURE 2-5 REV. 0

FORM CADD NO. SOUTH_WIDGN • REV 3 • 02/01/97



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY HJB DATE 1/23/03
CHECKED BY DATE 1-21-03
COST/SCHED-AREA
SCALE AS NOTED

Tetra Tech NUS, Inc.

GENERALIZED GEOLOGIC CROSS SECTION C – C'
DRMO
NSB–NLON, GROTON, CONNECTICUT

CONTRACT NO. 2863
OWNER NO. 0816
APPROVED BY
DATE 1/31/03
APPROVED BY
DATE
DRAWING NO. FIGURE 2-6
REV 0

APPENDIX B

MONITORING WELL INSPECTIONS SHEETS

MONITORING WELL INSPECTION SHEET

WELL ID: 6MW15 **DATE:** 6/9/04

INSPECTOR'S NAME: David C. **TIME:** 1550

INSPECTION ITEM	TYPES OF PROBLEMS	STATUS		OBSERVATION
		S	U	
Well Tag	Is it in place, legible?	X		
Well Security	Condition of protective case, cap and lock.	X		
Well Pad	Concrete or gravel & condition	X		cracked
Well Seal	Condition of.....	X		
Area immediately around well pad.	Record any evidence of /or standing water in area of well	X		
Dedicated sampling equipment	Condition.....	X		
PVC Riser	Condition of riser & survey reference point	X		

Comments:

Signature: [signature]

S = satisfactory, U = unsatisfactory
Check one, if unsatisfactory please explain

MONITORING WELL INSPECTION SHEET

WELL ID: 6MW2D

DATE: 6/9/04

INSPECTOR'S NAME: David C.

TIME: 1554

INSPECTION ITEM	TYPES OF PROBLEMS	STATUS		OBSERVATION
		S	U	
Well Tag	Is it in place, legible?	X		
Well Security	Condition of protective case, cap and lock.	X		
Well Pad	Concrete or gravel & condition	X		
Well Seal	Condition of.....	X		
Area immediately around well pad.	Record any evidence of /or standing water in area of well	X		
Dedicated sampling equipment	Condition.....	X		
PVC Riser	Condition of riser & survey reference point	X		

Comments:

Signature:

S = satisfactory, U = unsatisfactory
Check one, if unsatisfactory please explain

MONITORING WELL INSPECTION SHEET

WELL ID: 6MW 2S

DATE: 6/9/04

INSPECTOR'S NAME: David C.

TIME: 1555

INSPECTION ITEM	TYPES OF PROBLEMS	STATUS		OBSERVATION
		S	U	
Well Tag	Is it in place, legible?	X		
Well Security	Condition of protective case, cap and lock.	X		
Well Pad	Concrete or gravel & condition	X		
Well Seal	Condition of.....	X		
Area immediately around well pad.	Record any evidence of /or standing water in area of well	X		
Dedicated sampling equipment	Condition.....	X		
PVC Riser	Condition of riser & survey reference point	X		

Comments:

Signature:

S = satisfactory, U = unsatisfactory
Check one, if unsatisfactory please explain

MONITORING WELL INSPECTION SHEET

WELL ID: 6MW6D

DATE: 6/9/04

INSPECTOR'S NAME: David C.

TIME: 1604

INSPECTION ITEM	TYPES OF PROBLEMS	STATUS		OBSERVATION
		S	U	
Well Tag	Is it in place, legible?	X		
Well Security	Condition of protective case, cap and lock.	X		
Well Pad	Concrete or gravel & condition	X		cracked
Well Seal	Condition of.....	X		
Area immediately around well pad.	Record any evidence of /or standing water in area of well	X		
Dedicated sampling equipment	Condition.....	X		
PVC Riser	Condition of riser & survey reference point	X		

Comments:

Signature:

S = satisfactory, U = unsatisfactory
Check one, if unsatisfactory please explain

MONITORING WELL INSPECTION SHEET

WELL ID: 6MW65

DATE: 6/9/04

INSPECTOR'S NAME: David C.

TIME: 1605

INSPECTION ITEM	TYPES OF PROBLEMS	STATUS		OBSERVATION
		S	U	
Well Tag	Is it in place, legible?	X		
Well Security	Condition of protective case, cap and lock.	X		
Well Pad	Concrete or gravel & condition	X		
Well Seal	Condition of.....	X		
Area immediately around well pad.	Record any evidence of /or standing water in area of well	X		
Dedicated sampling equipment	Condition.....	X		
PVC Riser	Condition of riser & survey reference point	X		

Comments:

Signature:

S = satisfactory, U = unsatisfactory
Check one, if unsatisfactory please explain

MONITORING WELL INSPECTION SHEET

WELL ID: 6MW95

DATE: 6/9/04

INSPECTOR'S NAME: [illegible]

TIME: 1602

INSPECTION ITEM	TYPES OF PROBLEMS	STATUS		OBSERVATION
		S	U	
Well Tag	Is it in place, legible?	X		
Well Security	Condition of protective case, cap and lock.	X		
Well Pad	Concrete or gravel & condition	X		
Well Seal	Condition of.....	X		
Area immediately around well pad.	Record any evidence of /or standing water in area of well	X		
Dedicated sampling equipment	Condition.....	X		
PVC Riser	Condition of riser & survey reference point	X		

Comments:

Signature: [illegible]

S = satisfactory, U = unsatisfactory
Check one, if unsatisfactory please explain

MONITORING WELL INSPECTION SHEET

WELL ID: GMW10D

DATE: 6/9/04

INSPECTOR'S NAME: David C.

TIME: 1558

INSPECTION ITEM	TYPES OF PROBLEMS	STATUS		OBSERVATION
		S	U	
Well Tag	Is it in place, legible?	X		
Well Security	Condition of protective case, cap and lock.	X		
Well Pad	Concrete or gravel & condition	X		cracked
Well Seal	Condition of.....	X		
Area immediately around well pad.	Record any evidence of /or standing water in area of well	X		
Dedicated sampling equipment	Condition.....	X		
PVC Riser	Condition of riser & survey reference point	X		

Comments:

Signature: [signature]

S = satisfactory, U = unsatisfactory
Check one, if unsatisfactory please explain

MONITORING WELL INSPECTION SHEET

WELL ID: 6MW105

DATE: 6/9/04

INSPECTOR'S NAME: David C.

TIME: 1600

INSPECTION ITEM	TYPES OF PROBLEMS	STATUS		OBSERVATION
		S	U	
Well Tag	Is it in place, legible?	X		
Well Security	Condition of protective case, cap and lock.	X		
Well Pad	Concrete or gravel & condition	X		
Well Seal	Condition of.....	X		
Area immediately around well pad.	Record any evidence of /or standing water in area of well	X		
Dedicated sampling equipment	Condition.....	X		
PVC Riser	Condition of riser & survey reference point	X		

Comments:

Signature: [signature]

S = satisfactory, U = unsatisfactory
Check one, if unsatisfactory please explain

MONITORING WELL INSPECTION SHEET

WELL ID: 6MW11D

DATE: 6/9/04

INSPECTOR'S NAME: David C.

TIME: 1556

INSPECTION ITEM	TYPES OF PROBLEMS	STATUS		OBSERVATION
		S	U	
Well Tag	Is it in place, legible?	X		
Well Security	Condition of protective case, cap and lock.		X	Broken
Well Pad	Concrete or gravel & condition		X	cracked / sloping
Well Seal	Condition of.....		X	Broken
Area immediately around well pad.	Record any evidence of /or standing water in area of well	X		
Dedicated sampling equipment	Condition.....		X	None
PVC Riser	Condition of riser & survey reference point		X	Broken

Comments:

Signature: [signature]

S = satisfactory, U = unsatisfactory
Check one, if unsatisfactory please explain

MONITORING WELL INSPECTION SHEET

WELL ID: 6MW11S

DATE: 6/9/04

INSPECTOR'S NAME: David C.

TIME: 1557

INSPECTION ITEM	TYPES OF PROBLEMS	STATUS		OBSERVATION
		S	U	
Well Tag	Is it in place, legible?	X		
Well Security	Condition of protective case, cap and lock.	X		
Well Pad	Concrete or gravel & condition	X		
Well Seal	Condition of.....	X		
Area immediately around well pad.	Record any evidence of /or standing water in area of well	X		
Dedicated sampling equipment	Condition.....	X		
PVC Riser	Condition of riser & survey reference point	X		

Comments:

Signature:

S = satisfactory, U = unsatisfactory
Check one, if unsatisfactory please explain

APPENDIX C

GROUNDWATER LEVEL MEASUREMENTS

Groundwater Level Measurement Sheet

Project Site: *NSB-NLON*

Location: *DRMO-SITE 6*

Date: 6/9/04

High Tide: 3.55 pm

Water Level Meter: Solinst 35670

Weather: 80°, sunny

Field Crew: David C.

Low Tide: —

Well ID	Time	Depth to Water (FT)	PID Reading (ppm)	Comments
6MW1S	1550	5.48		
SG-1	1552	2.28		
6MW2D	1554	4.52		
6MW2S	1555	4.10		
6MW11D	1556	0.88		
6MW11S	1557	1.55		
6MW10D	1558	1.26		
6MW10S	1600	1.23		
6MW9S	1602	4.04		
6MW6D	1604	9.16		
6MW6S	1605	8.91		

Groundwater Level Measurement Sheet

Project Site: NSB-NLON

Location: DRMO-SITE 6

Date: 6/10/04

High Tide: —

Water Level Meter: Solinst

Weather: Cloudy 70°

Field Crew: Fred S

Low Tide: 1050

Well ID	Time	Depth to Water (FT)	PID Reading (ppm)	Comments
6MW1S	1040	7.62	0	
SG-1	1042	4.73	0	
6MW2D	1045	5.61	0	
6MW2S	1045	6.15	0	
6MW11D	1050	2.07	0	
6MW11S	1050	3.55	0	
6MW10D	1055	2.59	0	
6MW10S	1055	3.85	0	
6MW9S	1100	4.48	0	
6MW6D	1105	9.19	0	
6MW6S	1105	8.87	0	

APPENDIX D

GROUNDWATER FIELD FORMS

Environmental Chemical Corporation

Low Flow/Low Stress Groundwater Sampling Log

Project: DRMO
Location: New London, CT
Well ID: MW 1S

Date: 6.9.04
Sampler: Suzanne Whiteside
PID Reading: 0.0

Start Time: 8:51 **End Time:** 9:53
Well Construction: 2" PVC
Depth to water: 7.40
Well Depth: 9.39
Water Column: 1.99
Total Volume Removed (L) 6.1

Field Testing Equipment

Make	Model	Serial #
YSI	650 MDS	01B0583 AB
YSI	600 XLM	99K1014 AB
LaMotte turbidimeter		4079.1103
micropurge MP10		1578
Solinst water level		34650

Time	volume removed (liters)	Flow Rate (ml/min)	drawdown (ft)	Temp (celsius)	pH (STD)	SPC mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Salinity (ppt)	color
8:52	.1	100	7.54	22.60	6.58	4.479	9.93	53.1	7.4	2.41	clear
9:02	1	100	7.62	17.07	6.12	6.729	9.27	40.1	3.7	3.71	clear
9:12	1	100	7.73	18.68	5.87	6.942	9.45	54.7	2.2	3.83	clear
9:22	1	100	7.78	17.20	5.70	6.872	9.30	66.2	2.0	3.78	clear
9:32	1	100	7.83	17.56	5.69	6.751	8.33	74.1	1.8	3.70	clear
9:37	.5	100	7.87	16.56	5.59	6.580	7.80	83.7	1.5	3.62	clear
9:42	.5	100	7.89	16.55	5.58	6.569	7.3	85.2	1.2	3.60	clear
9:47	.5	100	7.91	16.53	5.58	6.512	7.2	87.6	1.0	3.58	clear
9:52	.5	100	7.93	16.50	5.57	6.493	7.0	88.5	1	3.56	clear
Acceptance Criteria:			< 0.3 ft	3%	± 0.1	3%	10%	±10mv	10%		

2" screen volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
9:53	6.GW1S.02	40 ml vial	2	HCL	8260
9:53	6.GW1S.02	500 ml poly	1	HNO_3	total metals
9:53	6.GW1S.02	1 L Amber	6	None	SVOCs, PCB, Pest, PAH

Comments
low tide sample

Suzanne Whiteside
Signature

6.9.04
Date

Environmental Chemical Corporation

Low Flow/Low Stress Groundwater Sampling Log

Project: ~~Goose Cove~~ DRMO
Location: New London, CT
Well ID: MW-2S

Date: 6/9/04
Sampler: M. Martin
PID Reading: 1.5

Start Time: 0905 End Time: 0953
Well Construction: 2" PVC
Depth to water: 6.03
Well Depth: 7.2
Water Column: 1.17
Total Volume Removed (L) 4.7

Field Testing Equipment

Make	Model	Serial #
YSI		02F0329AF
Sonde		01D1093AB
QED	MP10	1208
Lamotte	Turbidimeter	4042-4103

Time	volume removed (liters)	Flow Rate (ml/min)	drawdown (ft)	Temp (celsius)	pH (STD)	SPC mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Salinity (ppt)	color
0910	0.5	100	6.1	16.65	5.46	14.33	3.57	40.2	11	8.3	clear
0920	1.0		6.15	15.32	5.66	14.33	2.52	88.9	5.7	8.31	
0930	"		6.22	15.48	5.85	14.39	2.59	152.9	4	8.32	
0935	0.5		6.27	15.63	5.96	14.32	2.66	198.9	3.4		
0940	"		6.32	15.94	6.02	14.41	2.74	220.9	2.8		
0943	0.3		6.33	16.19	6.1	14.42	2.85	238.1	2.5		
0946			6.34	16.5	6.21	14.43	2.83	254.9	2	8.31	
0949			6.34	16.69	6.23	14.53	2.84	256.9	2	8.35	
0952	0.3	100	6.35	16.98	6.23	14.54	2.82	264.1	1.9	8.37	
Acceptance Criteria:			< 0.3 ft	3%	± 0.1	3%	10%	±10mv	10%		

2" screen volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
0953	6-GW2S-02	40mL voa	2	HCl	VOC
		1L amber	6	—	PCB/Pest/PAH/SVOC
		500mL poly	1	HNO_3	Total Metals

Comments

Signature

6/9/04
Date

Environmental Chemical Corporation

Low Flow/Low Stress Groundwater Sampling Log

Project: DRMO
Location: New London, CT
Well ID: MW-6D

Date: 6/8/04
Sampler: M. Martin
PID Reading:

Start Time: 1320 **End Time:** 1447
Well Construction:
Depth to water: 9.11
Well Depth: 45.36
Water Column: 36.25
Total Volume Removed (L) 26.6

Field Testing Equipment

Make	Model	Serial #
YSI		00L176AB
Solo		04C3884 AB
QED	MP10	1327
Lamotte Turbidimeter		4079-1105

Time	volume removed (liters)	Flow Rate (ml/min)	drawdown (ft)	Temp (celsius)	pH (STD)	SPC mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Salinity (ppt)	color
1330	~~5~~ 2	~~500~~ 200	9.12	15.25	7.56	5.0	9.18	-115.0	20	2.67	clear
1340	5	500	9.12	15.45	6.19	4.285	5.36	-48.4	22	2.29	"
1350	5	500	9.12	16.60	6.14	4.319	5.2	-38.8	22	2.31	"
1400	5	500	9.13	13.29	6.09	4.224	4.33	-18.6	29	2.26	brownish
1410	5	500	9.13	13.84	6.06	4.244	3.66	-5.6	~~29~~ 085	2.27	"
1420	2	200	9.12	14.72	6.04	4.214	3.39	6.9	55	2.25	less brown
1430	1	100	9.12	15.03	6.02	4.244	2.98	17.7	48	2.27	"
1440	1	100	9.12	15.33	6.02	2.241	2.7	21.8	45	2.27	"
1443	0.3	100	9.12	15.39	6.02	2.24	2.68	23.0	45	2.27	"
1446	0.3	100	9.12	15.29	6.02	2.245	2.59	23.6	45	2.27	"
Acceptance Criteria:			< 0.3 ft	3%	± 0.1	3%	10%	±10mv	10%		

2" screen volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
1447	6-GW6D-02	40ml voa	2	HCl	VOC
		1 L amber	6	—	Pest, PCB, PAH, SVOC
		500ml poly	1	HNO_3	Metals, Total

Comments

M. M.
Signature

6/8/04
Date

Environmental Chemical Corporation

Low Flow/Low Stress Groundwater Sampling Log

Project: DRMO
Location: New London, CT
Well ID: 6MW6S

Date: 6/8/04
Sampler: David C.
PID Reading: 0.0ppm

Start Time: 1327 **End Time:** 1420
Well Construction: 2" QED Bladder
Depth to water: 8.88'
Well Depth: 9.69'
Water Column: 0.81'
Total Volume Removed (L) 7.42

Field Testing Equipment

Make	Model	Serial #
YSI	650MDS	02F0869 AB
YSI	600XLM	98G0508 AA
Lamotte	Turbidimeter	4079-1103
QED	controller	MP10-1578

Time	volume removed (liters)	Flow Rate (ml/min)	drawdown (ft)	Temp (celsius)	pH (STD)	SPC mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Salinity (ppt)	color
1330	0.42	140	8.88	16.87	6.29	0.392	10.17	208.5	11	0.18	clear
1340	1.4	140	8.88	14.67	4.08	0.332	8.80	367.1	3	0.16	clear
1350	1.4	140	8.88	14.15	3.74	0.329	8.47	424.1	1	0.16	clear
1400	1.4	140	8.88	14.10	3.56	0.328	8.38	449.5	1	0.16	clear
1405	0.7	140	8.88	13.93	3.42	0.326	8.37	465.6	1	0.16	clear
1410	0.7	140	8.88	13.62	3.38	0.326	8.36	479.5	1	0.16	clear
1415	0.7	140	8.88	13.55	3.30	0.325	8.31	483.5	1	0.16	clear
1420	0.7	140	8.88	13.52	3.28	0.326	8.30	489.2	1	0.16	clear
Acceptance Criteria:			< 0.3 ft	3%	± 0.1	3%	10%	±10mv	10%		

2" screen volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
1420	6-GW6S-02	40ml vial	2	HCl	VOC
1420	6-GW6S-02	1 L amber	6	NONE	PAH, SVOC, PEST, PCB
1420	6-GW6S-02	500ml poly	1	HNO3	Inorganics

Comments

Signature

6/8/04
Date

Environmental Chemical Corporation

Low Flow/Low Stress Groundwater Sampling Log

Project: DRMO
Location: New London, CT
Well ID: 6MW 9S

Date: 6·9·04
Sampler: Suzanne Whiteside
PID Reading: 0.0

Start Time: 10:41 **End Time:** 11:43
Well Construction:
Depth to water: 4.52
Well Depth: 6.32
Water Column: 1.89
Total Volume Removed (L) 6.1

Field Testing Equipment

Make	Model	Serial #
YSI	650 MDS	0180583 AB
YSI	600 XLM	99K1014 AB
Micropurge	MP10	1578
LaMotte turbidimeter		4079·1103
Solinst water level		34650

Time	volume removed (liters)	Flow Rate (ml/min)	drawdown (ft)	Temp (celsius)	pH (STD)	SPC mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Salinity (ppt)	color
10:42	.1	100	4.52	14.28	6.73	0.281	4.99	1.6	7.5	0.13	clear
10:52	1	100	4.52	13.94	4.73	0.049	1.10	0.3	3.5	0.02	clear
11:02	1	100	4.52	15.12	4.65	0.047	0.98	12.4	3.1	0.02	clear
11:12	1	100	4.52	16.49	4.61	0.044	1.01	27.7	3.4	0.02	clear
11:22	1	100	4.52	17.05	4.67	0.038	1.06	36.4	3.3	0.02	clear
11:27	.5	100	4.52	15.02	4.62	0.044	1.09	39.2	3.1	0.02	clear
11:32	.5	100	4.52	14.71	4.57	0.044	1.09	42.0	3.2	0.02	clear
11:37	.5	100	4.52	14.58	4.52	0.044	1.07	44.7	3	0.02	clear
11:42	.5	100	4.52	14.44	4.47	0.044	1.05	41.7	3	0.02	clear
Acceptance Criteria:			< 0.3 ft	3%	± 0.1	3%	10%	±10mv	10%		

2" screen volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
11:43	6·GW9S·02	40 ml vial	2	HCL	8260
11:43	6·GW9S·02	500 ml poly	1	HNO_3	Total Metals
11:43	6·GW9S·02	1 L Amber	6	None	SVOCs PAH, PCB, Pest
11:43	6·GW9S·02 MS/MSD	Same as above			
0:00	060904				

Comments low tide sample

Suzanne Whiteside
Signature

6·9·04
Date

Environmental Chemical Corporation

Low Flow/Low Stress Groundwater Sampling Log

Project: DRMO
Location: New London, CT
Well ID: 6MW10S

Date: 6/9/04
Sampler: David C.
PID Reading: 0.0 ppm

Start Time: 8:50 **End Time:** 9:53
Well Construction: 2" PVC QED Bladder
Depth to water: 3.70'
Well Depth: 5.37'
Water Column: 1.67'
Total Volume Removed (L) 6.3

Field Testing Equipment

Make	Model	Serial #
YSI	650MDS	00L1176 AB
YSI	600XL	04C3884 AB
Lamotte	Turbidimeter	0996-4098
QED	controller	MP10-1327

Time	volume removed (liters)	Flow Rate (ml/min)	drawdown (ft)	Temp (celsius)	pH (STD)	SPC mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Salinity (ppt)	color
8:55	0.5	100	3.76	16.34	7.10	5.699	3.13	-176.6	4	3.09	clear
9:05	1.0	100	3.84	16.67	7.33	5.529	0.43	-279.9	2	3.01	clear
9:15	1.0	100	3.91	16.12	7.41	5.585	0.22	-318.1	2	3.04	clear
9:25	1.0	100	3.99	16.03	7.44	5.504	0.17	-328.8	2	2.99	clear
9:35	1.0	100	4.01	15.87	7.44	5.393	0.17	-333.8	2	2.93	clear
9:40	0.5	100	4.04	15.77	7.44	5.340	0.17	-336.9	2	2.90	clear
9:45	0.5	100	4.09	15.86	7.44	5.274	0.18	-339.3	2	2.86	clear
9:50	0.5	100	4.12	15.79	7.43	5.266	0.18	-341.2	2	2.85	clear
Acceptance Criteria:			< 0.3 ft	3%	± 0.1	3%	10%	±10mv	10%		

2" screen volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
9:53	6-GW10S-02	40ml vial	2	HCl	VOC
9:53	6-GW10S-02	1 L amber	6	None	PAH, SVOC, Pest, PCB
9:53	6-GW10S-02	500ml Poly	1	HNO_3	Inorganics

Comments

Signature

6/9/04
Date

Environmental Chemical Corporation

Low Flow/Low Stress Groundwater Sampling Log

Project: DRMO
Location: New London, CT
Well ID: MW-11S

Date: 6/9/04
Sampler: Fred Santos
PID Reading: 0.0

Start Time: 0855 **End Time:**
Well Construction: 2" PVC
Depth to water: 3.35
Well Depth: 7.20
Water Column: 4.65
Total Volume Removed (L)

Field Testing Equipment

Make	Model	Serial #

Time	volume removed (liters)	Flow Rate (ml/min)	drawdown (ft)	Temp (celsius)	pH (STD)	SPC mS/cm	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Salinity (ppt)	color
0900	1.0	100	3.45	19.04	7.39	5.3	0.51	-172	8	2.88	Clear
0910	1.0	100	3.49	18.01	7.56	5.5	0.23	-228	6	3.04	Clear
0920	1.0	100	3.51	18.05	7.58	5.5	0.18	-207	5	3.04	Clear
0930	1.0	100	3.55	18.04	7.59	5.5	0.17	-224	5	3.04	Clear
0940	1.0	100	3.57	17.88	7.58	5.6	0.16	-235	3	3.06	Clear
0945	0.5	100	3.59	17.91	7.58	5.6	0.17	-233	2	3.05	Clear
0950	0.5	100	3.60	17.89	7.59	5.6	0.16	-234	2	3.06	Clear
0953	0.3	100	3.61	17.89	7.59	5.6	0.15	-233	2	3.07	
Acceptance Criteria:			< 0.3 ft	3%	± 0.1	3%	10%	±10mv	10%		

2" screen volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
0953	G-GW113-03	1 L Amber	6	None	PAH, SVOC, PCB, Pest
↓	↓	500 ml Poly	1	HNO_3	Total Metals
↓	↓	40 ml VOAs	2	HCL	VOC

Comments

Signature

6/9/04
Date

APPENDIX E

DATA VALIDATION MEMOS AND LABORATORY ANALYTICAL RESULTS

DATA VALIDATION MEMORANDUM - DRMO
O&M MONITORING SITES – NEW LONDON NSB
JUNE 2004 SAMPLING ROUND 16 (SDG 0406201 ALPHA LAB)

TO: ENGINEERING FIELD ACTIVITY NORTHEAST

FROM: JACKSON KIKER, ECC SENIOR CHEMIST, MARLBOROUGH, MA.

SUBJECT: NEW LONDON NSB DRMO – IRP O&M MONITORING SITES - SAMPLING ROUND-16, JUNE '04

DATE: 11/12/2004

Project data were validated using the following Validation Functional Guideline, as modified for non-CLP methods.

1. Region I, EPA-NE Data Validation Functional Guidelines for Evaluation of Environmental Analyses (Dec, 1996).

2. Operations and Maintenance Manual for Installation Restoration Program at Naval Submarine Base New London (Nov, 2002).

The validation guideline exceedences are assessed and documented on the method specific data validation worksheet. On the data validation worksheet, the data quality acceptance criteria are presented, analytes requiring qualification based on laboratory historical control limits and/or validation guidance criteria exceedences are listed, assigned qualifiers, qualifying rationale is documented, and any potential bias noted. The overall evaluation of the data generated is presented in the data validation worksheet.

Standard EPA Region I data qualifiers are used to denote the assessment of data quality. The final and ranking assigned data qualifier for an analyte is presented in the data summary table. Ancillary qualifiers are noted on the data validation worksheets.

As an exception to the USEPA Region I data validation guidance, non-target ketone VOC data with response factors (RFs) less than the 0.05 were not qualified, as the Tier guidance allows for exceptions to the RF guidance.

The USEPA Region I Organic Regional Data Assessment (ORDA) sheet displays the summarized results of the data validation assessment for all analytical methods reported in the SDG.

Region I, EPA-NE ORGANIC REGIONAL DATA ASSESSMENT

LAB NAME: Alpha Lab
SDG #: 0406201
EPA-NE DV TIER LEVEL: II
SITE NAME: DRMO New London NSB – O&M

# of SAMPLES/MATRIX: 8-GW & 1-TB(VOC)
VALIDATION CONTRACTOR: ECC
VALIDATOR'S NAME: Guruprasad Ranganathan
DV Completion Date: July 14, 2004
Date Sampled 08 & 09 June, 2004

ANALYTICAL DATA QUALITY SUMMARY

		VOC	SVOC	PAH	Pesticide	PCB	Metals
1	Preservation and HT	O	O	O	O	O	O
2	Instrument Performance Check	O	O	O	O	-	O
3	Initial Calibration:	O	O	O	M	O	O
4	Continuing Calibration:	M	O	O	M	M	O
5	Blanks:	O	O	O	O	O	M
6	Surrogate Compounds:	O	O	O	O	O	-
7	Internal Standards	O	O	O	O	O	-
8	Matrix Spike/Matrix Spike Duplicate:	M	O	M	M	O	O
9	Sensitivity Check:	O	O	O	O	O	O
10	PE Samples- Accuracy Check	O	O	O	O	O	O
11	Target Compound Identification:	O	O	O	O	O	O
12	Compound Quantitation and Reported QLs	O	O	O	O	O	O
13	Tentatively Identified Compounds:	-	-	-	-	-	-
14	Semivolatile/Pesticide/PCB Cleanup:	-	-	-	-	-	-
15	Data Completeness	O	O	O	O	O	O
16	Overall Evaluation of Data:	O	O	O	O	O	O

O = Data had no problems or were qualified due to minor contractual problems; M = Data were qualified due to major/systemic MPC exceedences: Z = Data were rejected as unusable due to major contractual problems.

ACTION ITEMS: (Z items): _

AREAS OF CONCERN: (M items): _.

VOC: MS/MSD recoveries outside MPC limits for acetone and 2-hexanone. CCV recovery outside MPC limits for bromomethane, in the CCV run that is associated with trip blanks and QC samples.

SVOC: None.

PAH: High MS/MSD recovery for fluoranthene – samples 01, 05 & 06 qualified J.

Pesticide: Low MS/MSD recoveries for alpha-BHC – all alpha-BHC results qualified UJ. Endrin results qualified UJ due to high %D in ICV and endosulfan sulfate results qualified UJ in samples 04-08 due to high %D in CCV.

PCB: Aroclor 1248 results qualified UJ due to high %D in CCV.

Metals: Mo results qualified U due to ICB/CCB contamination.

ECC Region I Data Review Worksheet (rv 2)
Project: New London DRMO ECC Job No. 5700

Total Metals 6010B/6020A/7470A
Review Criteria: Region I Tier II Guidance & OM Manual(2002)

Data Validation Level	Matrix	Preservation	Temperature Sample Receipt	Laboratory	SDG Number
Tier II	Aqueous	HNO3	6-coolers 4.2, 5.0, 1.4, 4.0, 4.1 & 1.6 °C	Alpha Laboratory Westborough, MA	0406201

Field Identification of Samples Evaluated:

Field ID	Lab Sample Number
6-GW6S-02	L0406201-01
6-GW6D-02	L0406201-02
6-GW9S-02	L0406201-03
FD-060904-02	L0406201-04
6-GW11S-02	L0406201-05
6-GW10S-02	L0406201-06
6-GW2S-02	L0406201-07
6-GW1S-02	L0406201-08

Note: Samples are described below in the data worksheets by reference to the last two digits of the Lab Sample Number.

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
COC, Sample Delivery Group Form.	1)Unbroken custody (accept or if broken R) 2) Temp≤6° (Soil-J detects, R -nondetects preserved per method (amber bottles, temperature, HCl (aq), MeOH/NAHSO4 (soils) (J, UJ, or R (function of HT and compound)	Cooler temperatures < 6 °C in all the coolers. Sample preservation using ice adequate. Sample custody transferred from Field Team Leader to lab sample courier in person. Unbroken Chain of Custody. No samples qualified.	X	-	
Holding Time	1) 180 days (6010), Hg 28 Days to analysis 2) J –detects, UJ or R –nondetects (function of time)	Sent on: June 8 & 9, 2004. Extracted on: June 10, 2004. Analyzed on: June 20 & 22, 2004. Hg analyzed on June 15, 2004. Samples analyzed within holding time. No samples qualified.	X	-	
Lab Duplicate	1) RPD < 20% 1) If both values > PQL 2) Qualify samples in batch: detects J, NDs UJ	Native sample – sample 03. For some elements, one of the sample-duplicate pair was a detected result and other was a non-detect. But all RPD's are within MPC limits. No qualifications necessary.	X	-	
LCS Recovery	1) once per sample batch 2) 75-125% water, soil, QAPP limits. 3) <LCL% Reject 4) >UCL% detects J	LCS %R's acceptable. No samples qualified.	X	-	
Field Dup RPD	1) RPD ≤ 50% water & soil for Results > X PQL (FD pair only) J-detects (both > X PQL) 2) If one >X PQL, other ND, J-detections, UJ non-detect	Sample-duplicate pair: samples 03/04. RPDs outside MPC limits for Fe (high RPD) and Ag (detect in one and non-detect in the other). Results in the native sample and duplicate (03 & 04) are qualified J for detects and UJ for non-detects.	X	Fe and Ag results in samples 03 & 04 qualified J for detects and UJ for non-detects.	

ECC Region I Data Review Worksheet (rv 2)
Project: New London DRMO ECC Job No. 5700

Total Metals 6010B/6020A/7470A
Review Criteria: Region I Tier II Guidance & OM Manual(2002)

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
% Solids Check (SOLIDS)	30%<Solids: if no sample weight adjustment made 1) <10% R entire sample 2) 10%.> and <30%; J-detects, NDs -R	Not applicable	-	-	
Results > Cal Range or <Cal Range	1) >Upper Cal Range J-detects - ensure instrument blank performed 2) <PQL but >MDL – J –detects (estimated)	Results less than the method reporting limits and greater than the method detection limit are qualified J. See data summary table.	X	J qualify results < PQL and > MDL.	
Lab Blanks (method blank or p reparation blank)	1) Once per sample batch 2) Results> QL; sample results <5X ; sample result U (nd) 3) Sample results >5X blank level; no action	No detections in the prep blank. No sample qualifications.	X	-	
MS Recovery	1) 75-125% GFAA/ICP if MS > 4X native levels) Qualification of MS sample: 2) <30% J detects, R NDs 3) 30%--74%, detects J, NDs UJ >125% J detects	Native sample – sample 03. MS %R's within MPC limits. No samples qualified.	X	-	
Sensitivity*	1) MDL study – 7 replicates (40 CFR) 2) Surrogates %R 80-120%, 1) %R <10 ND- (R) , J- detects 2) 10%> but <80% , judgement 3) %R>120% J-detects 4) %RSD < 20% 5) MDL< MQL (3x less ideal) 6) Lab fortitied blank (see VOA/SV Part II – section X). 7) *Check and recalculate %RSDs and %R fir three compounds (with 10% of lab)	MRL> OM RL but MDL < OM RL for Zn. MDL & MRL < OM RL for Pb. Lab RL less than lowest groundwater criterion for all metals..	X	-	
Equip Blank	< 5x contaminants for aq samples – for soil indicate EB (X rules don't apply)	Equipment blank not collected/analyzed with this SDG.	-	-	
Negative blanks	If negative values are reported for an analyte with absolute value >DL and sample value is <5X the absolute value of the blank or is nondetect Qualify detects as estimated (J) Nondetects as estimated (UJ)	No analyte detections for target metals. All negative blanks <DL. No samples qualified.	X	-	
Initial Calibration Blanks	1) Ical blank after Ical 2) Results > QL; sample results <5X ; sample result U (nd) 3) Sample results >5X blank level; no action	(All results below in mg/L) Mo detected at 0.00191, all results < 0.00955 qualified U – all samples qualified U. V detected at 0.00093, all results < 0.00465 qualified U – no qualifications.	X	All Mo results qualified U.	

ECC Region I Data Review Worksheet (rv 2)
Project: New London DRMO ECC Job No. 5700

Total Metals 6010B/6020A/7470A
Review Criteria: Region I Tier II Guidance & OM Manual(2002)

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
Continuing Calibration Blanks	1) CCB every 10 samples end of run 2) Results > QL; sample results <5X ; sample result U (nd) 3) Sample results >5X blank level; no action	(all results in mg/L) Sb detected at 0.00201, but all sample results for Sb are non-detects – so no qualifications. Mo detected in CCB but sample results have already been qualified due to ICB contamination. Se detected at 0.00288, but all sample results are non-detects, so no qualifications. V detected at 0.0008, all results < 0.004 are qualified U – no qualifications necessary.	X	-	
Serial Dilution	1) once per digestion batch 2) Meets method limits (RPD 10%). 3) Metal results >50X MDL levels.	SD on native sample 03. Serial dilution has been performed only on Mn and not for other metals.	X	-	
Interelement checks ICS-A, ICS-AB Instrument performance check	1) start of sequence 2) 80-120% target analytes 3) >120% ; detects J (ICS-AB) 4) 50%-79% R ICS-AB; detects J, NDs – UJ 5) <50% R – reject data 6) ICS-A response > DL and samples have <5X ICS-A response: detects J	ICS's %R's within MPC limits for COC elements. No samples qualified.	X	-	
Initial Cal Multipoint	1) 6010: 1 std and blank and low-level check at MQL – check std 20% 2) 3 stds and a blank- R = 0.995	ICAL performed according to method. Two point calibration and check standards. The pre-analysis check standard was within limits.	X	-	
2nd Source ICV	1) following calibration 2) 90- 110% Recovery (6010/7000) 3) 75%-89% R – detects J, NDs – UJ 4) 111-125% R – detects J 5) outside 75-125% R – reject data (R)	Within limits of MPC. No samples qualified.	X	-	
CCV	1) every 10 samples and end of run 2) 90- 110% Recovery (6010) Hg; 80-120% 3) 6010: 75%-89% R Hg, 65-79% R; – detects J, NDs – UJ. 4) 6010: 111-125%, Hg: 121-135% detects J 5) 6010: outside 75-125%, Hg; outside 65-135%; R – reject data (R)	Within limits of MPC. No samples qualified.	X	-	
Post Digestion Spike	1) 75- 125% R	PDS not performed as MS %R's within MPC limits for Site COCs.	X	-	
*MDL Study	1) *In accordance with 40CFR – seven replicates %RSD < 20% 2) * IS and retention times within method requirements 3) * performed annually 4) *MDL is at least ½ of PQL *tgt and surrogate 80-120% R	NA	-	-	
*System Performance	1)* evaluate PES, MS//MSD, cal STDs, MDS study, and surrogates for systemic bias – high or low and access system accuracy 3) *Matrix effects- MS/MSD, surrogated, PDS. 4) *overall system contamination-review all	NA	-	-	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
	blanks for systemic or sporadic contamination				
*Single Blind PE	1) Qualify associated samples in PES batch PES = ND, Detects J – ND PE analytes in samples, NDs – R 5) PES > acceptance criteria – Detects in samples J, 6) PES<acceptance criteria – Detects J, NDs –R 7) VOA/SV-XI14 other criteria 8) *% of PES sample above and below criteria *Recalculate concentrations for one tgt compound per PES (10% of lab)	NA	-	-	
Overall Evaluation of Data	1) Appropriate method 2) Evaluate any analytical problems 3) Evaluate sampling errors – field contamination, sample hold times	Laboratory accuracy and precision is acceptable. Accuracy is shown by the LCS being within MPC limits. The ICS-A, and ICS-AB were within limits for all elements. Lab duplicates RPDs within MPC limits. Prep blanks and negative blanks non-detect for all metals. ICB contamination necessitated U qualifiers to be assigned to Mo results. No further qualifications due to CCB contamination. ICAL; 2-point calibration. ICV: within MPC limits. CCV: within MPC limits. Serial dilution: within MPC limits. Matrix spike %R within MPC limits. No apparent matrix bias. Field duplicate RPDs outside MPC limits for Ag and Fe – native sample and duplicate sample results qualified with J for detects and UJ for non-detects. Sample results are usable for project decision making.	X	-	

*TIER III DATA VALIDATION ONLY Completeness Check: Inventory Check Sheet___X_Sample Quantitation Calculations (TIER III DATA VALIDATION ONLY):

ECC Region I Data Review Worksheet (rv 2)
Project: New London DRMO ECC Job No. 5700

PCB 8082
Review Criteria: Region I Tier II Guidance & OM Manual(2002)

Data Validation Level	Matrix	Preservation	Temperature Sample Receipt	Laboratory	SDG Number
Tier II	**Aqueous**	-	**6-coolers 4.2, 5.0, 1.4, 4.0, 4.1 & 1.6 °C**	**Alpha Laboratory Westborough, MA**	**0402219**

Field Identification of Samples Evaluated:

Field ID	Lab Sample Number
6-GW6S-02	L0406201-01
6-GW6D-02	L0406201-02
6-GW9S-02	L0406201-03
FD-060904-02	L0406201-04
6-GW11S-02	L0406201-05
6-GW10S-02	L0406201-06
6-GW2S-02	L0406201-07
6-GW1S-02	L0406201-08

Note: Samples are described below in the data worksheets by reference to the last two digits of the Lab Sample Number.

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
COC, Sample Delivery Group Form.	1)Unbroken custody (accept or if broken R) 2) Temp≤6° (Soil-J detects, R -nondetects preserved per method (amber bottles, temperature, HCl (aq), MeOH/NAHSO4 (soils) (J, UJ, or R (function of HT and compound)	Cooler temperatures < 6 °C in all the coolers. Sample preservation using ice adequate. Sample custody transferred from Field Team Leader to lab sample courier in person. Unbroken Chain of Custody. No samples qualified.	X	-	
Holding Time	1) 7 to extract, 40 Days to analysis 2) J –detects, UJ or R –nondetects (function of time) 3) *check transcription errors	Sent on: June 8 & 9, 2004. Extracted on: June 11, 2004. Analyzed on: June 20 & 22, 2004. Sample prepared/analyzed within holding times. No samples qualified.	X	-	
Lab Duplicate	1) RPD < 20% 1) If both values > PQL 2) Qualify samples in batch: detects J, NDs UJ	Not analyzed, as MS/MSD was analyzed.	-	-	
Results > Cal Range or <Cal Range	1) >Upper Cal Range J-detects - ensure instrument blank performed 2) <PQL but >MDL – J –detects (estimated)	All results were non-detects. No results exceeded calibration range.	X	-	
Sensitivity	1) MDL study – 7 replicates (40 CFR) 2) Surrogates %R 80-120%, 1) %R <10 ND- (R) , J- detects 2) 10%> but <80% , judgement 3) %R>120% J-detects 4) QC, RRT meet criteria, 5) %RSD < 20% 6) MDL< MQL (3x less ideal) 7) Lab fortified blank (see VOA/SV Part II – section X). *Check and recalculate %RSDs and %R for three compounds (with 10% of lab)	MDL < 1/3 RDL. Acceptable sensitivity for all compounds. No sample qualifications.	X	-	
Compound Quantitation	1) Check sensitivy (MDL< 1/3 PQL or per QAPP 2) %D <25% primary and secondary column	All aroclors non-detect on both columns. No samples qualified.	X	-	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
	identification and quantitation 3) *Recalculate one detection and quantitation limit 4) *verify concentrations have been adjusted to account for DW, DF, 5) *verify correct RRFs were used				
% Solids Check (SOLIDS)	30%<Solids: if no sample weight adjustment made (no USACE) 1) <10% R entire sample 2) 10%.> and <30%; J-detects, NDs -R	Not applicable	X	-	
Lab Blanks (method blanks)	1) < 5x contaminants – U 2) analytes <lab PQL (contract lab) 3) if linear range is exceeded, verify if a instrument blank was performed 4) *verify accurate transcription of times, Ids, are reported on forms 5) *verify from the raw data if the instrument blank was performed in the same vessel 6) *verify, RRT, and surrogate %R 7) *check 10% of raw chromatograms for false +/-, check for transcription errors recalculate surrogate recovery (10% of them)	No COCs detected in the method blank. No samples qualified.	X	-	
Equip Blank	< 5x (<10x common) contaminants for aq samples for soil indicate EB (X rules don't apply)	Not applicable. Equipment blank not analyzed/collected with this SDG.	-		
Surrogates	Surrogate acceptance limits DCB –Navy limits. 40% -135% DCB (aq) TCX 40-135% Qualification: >UCL J –detects, %R<10% J –detects, R –NDs, %R >10% but <60% J-detects, UJ NDs	Surrogate %R's are within method limits for all field samples. No samples qualified.	X	-	
Internal Standards	Meet method criteria.	All internal standards are within MPC limits. No samples qualified.	X	-	
LCS Recovery	8) arochlors 1016/1260 9) QAPP limits 10% and <LCL% J detects, UJ -NDs >UCL% J detects <10% R NDs, J-detects 4) *Recalculate the concentrations for one compound in the LCS 5) * Recalculate the %R (within 10% of lab) Note: Tier guidance as a zero blind	LCS %R's with MPC limits. No samples qualified.	X	-	
MS/MSD Recovery	1) Lab limits- 30-150%; (if MS > 4X native levels) Qualification of MS sample. <10% J detects, R NDs >10% and <LCL% J detects, UJ -NDs >UCL - J detects 6) *Recalculate the concentration for one compound in the MS/MSD * Recalculate the %R (within 10% of lab)	Native sample is sample 03. MS/MSD %R within laboratory limits. No samples qualified.	X	-	
*MS/MSD/un spiked sample RSD	1)For unspiked compounds if reported, Non- MS spike compounds <50% RSD calculated from MS/MSD/Unspiked Qualification: >50% RSD J-detects 2)*recalculate the RPD (within 10% of lab)	NA	-	-	

ECC Region I Data Review Worksheet (rv 2)
New London ECC Job No. 5700

PCB 8082
Review Criteria: Region I Tier II Guidance & OM Manual

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
MS/MSD RPD	RPD ≤30%, 40% for concentrated extracts J – detects in MS sample UJ-non detects *recalculate one RPD	MS/MSD RPD within MPC limits. Laboratory precision is acceptable.	X	-	
Field Dup RPD	1) RPD ≤ 100% water & 50% soil for 2) Results > PQL (FD pair only) J-detects (both > PQL) 2) If one > PQL, other ND, J-detections, UJ non-detect 3) Other conditions use judgement 7) *Recalculate the concentrations for one compound and the PQL	Sample-duplicate pair: samples 03/04. All results are non-detects in both samples. Acceptable sampling precision. No qualifications necessary.	X	-	
*MDL Study	1) *In accordance with 40CFR – seven replicates %RSD < 20% 2) * retention times within method requirements 4) * performed annually 5) *MDL is at least ½ of PQL or QAPP limits 6) *tgt and surrogate 80-120% R *check and recalculate %RSD and %R for one arochlor for 10% of them (criteria within 10% of lab)	NA	-	-	
*System Performance	1)* evaluate PES, MS//MSD, cal STDs, MDS study, and surrogates for systemic bias – high or low and access system accuracy 3) *Matrix effects- MS/MSD, surrogated, PDS. 4) *System chromatography- evaluate RRTs, peaks shapes, system impacts on data, baseline shifts. 5) *overall system contamination-review all blanks for systemic or sporadic contamination	NA	-	-	
*TGT Compound Identification	1) *Within 0.06 (30 sec) of CCV RRT 2) * calculate %RPD 1 and 2 columns	NA	-	-	
Single Blind PE	1) Qualify associated samples in PES batch PES = ND, Detects J – ND PE analytes in samples, NDs – R 6) PES > acceptance criteria – Detects in samples J, 7) PES<acceptance criteria – Detects J, NDs –R 8) VOA/SV-XI14 other criteria 9) *% of PES sample above and below criteria *Recalculate concentrations for one tgt compound per PES (10% of lab)	NA	-	-	
Initial Cal Multipoint (instrument evaluation)	1) correct calibration stds 2) *recalculate one tgt compound associated. Recalculated values within 10% 3) *option-review preparation logs to ensure cal stds are traceable to NIST stds. 4) *option-recalculate cal std concentration of one std. Must agree within 10% of lab (option if information is in data package)	Instrument Id: Pest8 Date: 19 June 2004 at 09:47 (end time). Acceptable calibration standards. No samples qualified.	X	-	

ECC Region I Data Review Worksheet (rv 2) **PCB 8082**
New London ECC Job No. 5700 **Review Criteria: Region I Tier II Guidance & OM Manual**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
Initial Cal (Linearity)	%RSD < 20% use average RF for calibration %RSD> 20% use least squares COD (r2) > 0.990 or correlation coefficient r> 0.995 or alternatively mean %RSD <20 for all target analytes, with no analyte %RSD>30% or %RSD<30% each target analyte	Instrument calibrations for both columns are linear for all PCBs. All %RSDs within MPC limits. No samples qualified.	X	-	
2nd Source ICV	%R (between ICV and Ical) analytes 80%--120% (USACE) %D ≤ 15%, (+ or -) once per 5 pt cal Qualification: J detects, R or UJ NDs *Calculate %D ICV/ICAL	Instrument Id: Pest8 Date: 19 June 2004. %D > 15 once in 5 pt. calibration for a few compounds in one of the columns, but average < 15%. No samples qualified.	X	-	
CCV	1) QAPP: 15% of initial calib. curve 2) Qualification-J detects, R or UJ NDs 3) *verify same instrument and parameters 4) *Recalculate RRF for one tgt cmpd (within 10%) 5) *Recalculate %D for one tgt cmpd (within 10%) 6) *option-review preparation logs to ensure cal stds are traceable to NIST stds. 7) *option-recalculate cal std concentration of one std. Must agree within 10% of lab (option if information is in data package)	Instrument Id: Pest8 CCV Date: 19 & 20 June 2004. %D > 15 in a few cases but average %D within MPC limits for all compounds in both columns except for aroclor 1248. Results for aroclor 1248 – all non-detects – are qualified UJ.	X	All aroclor 1248 results are qualified UJ.	
Overall Evaluation of Data	1) Appropriate method 2) Evaluate any analytical problems 3) Evaluate sampling errors – field contamination, sample hold times	Laboratory accuracy is acceptable Laboratory precision is acceptable. All surrogate, LCS and MS/MSD recoveries within MPC limits. The sample results are usable for making project decisions. No apparent sample bias. ICAL: Linear, ICV: within MPC limits CCV: Within MPC limits except for aroclor 1248.. Sampling error- all results are non-detects for both field sample and its field duplicate. Acceptable sampling precision .	X	-	

(*asterisk sections Tier III only) Completeness Check: Inventory Check Sheet__X
Sample Quantitation Calculations attached (TIER III ONLY).

ECC Region I Data Review Worksheet (rv 2) **Pesticide 8081A**
Project: New London DRMO ECC Job No. 5700 **Review Criteria: Region I Tier II Guidance & OM Manual (2002)**

Data Validation Level	Matrix	Preservation	Temperature Sample Receipt	Laboratory	SDG Number
Tier II	Aqueous	-	6-coolers 4.2, 5.0, 1.4, 4.0, 4.1 & 1.6 °C	Alpha Laboratory Westboroug h, MA	0406201

Field Identification of Samples Evaluated:

Field ID	Lab Sample Number
6-GW6S-02	L0406201-01
6-GW6D-02	L0406201-02
6-GW9S-02	L0406201-03
FD-060904-02	L0406201-04
6-GW11S-02	L0406201-05
6-GW10S-02	L0406201-06
6-GW2S-02	L0406201-07
6-GW1S-02	L0406201-08

Note: Samples are described below in the data worksheets by reference to the last two digits of the Lab Sample Number.

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
COC, Sample Delivery Group Form.	1)Unbroken custody (accept or if broken R) 2) Temp≤6° (Soil-J detects, R -nondetects preserved per method (amber bottles, temperature, HCl (aq), MeOH/NAHSO4 (soils) (J, UJ, or R (function of HT and compound)	Cooler temperatures < 6 °C in all the coolers. Sample preservation using ice adequate. Sample custody transferred from Field Team Leader to lab sample courier in person. Unbroken Chain of Custody. No samples qualified.	X	-	
Holding Time	1) 7 to extract, 40 Days to analysis 2) J –detects, UJ or R –nondetects (function of time) 3) *check transcription errors	Sent on: June 8 & 9, 2004. Extracted on. June 11, 2004. Analyzed on: June 18, 2004. Sample prepared/analyzed within holding times. No samples qualified.	X	-	
Results > Cal Range or <Cal Range	1) >Upper Cal Range J-detects - ensure instrument blank performed 2) <PQL but >MDL – J –detects (estimated)	No result outside the calibration range for field samples. No samples qualified.	X	-	
Internal Stds	1) IS are –50% to 200% of CCV 1) RRT<0.06 (30 sec) 2) IS>100% J-detects 3) IS<20%CCV NDs – R 4) IS>20%CCV <50%CCV NDs – UJ 5) *check for IS transcription errors	Internal standards are within MPC limits. No samples qualified.	X	-	
Compound Quantitation	1) Check sensitivy (MDL< 1/3 PQL or per QAPP 2) %D <25% primary and secondary column identification and quantitation 3) *Recalculate one detection and quantitation limit 4) *verify concentrations have been adjusted to account for DW, DF, 5) *verify correct RRFs were used	No detected result in any of the columns. %D<25% between columns with detection criteria met. No samples qualified.	X	-	

ECC Region I Data Review Worksheet (rv 2) **Pesticide 8081A**
Project: New London DRMO ECC Job No. 5700 **Review Criteria: Region I Tier II Guidance & OM Manual (2002)**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
% Solids Check (SOLIDS)	30%<Solids: if no sample weight adjustment made (no USACE) 1) <10% R entire sample 2) 10%.> and <30%; J-detects, NDs -R	Not applicable	-	-	
Lab Blanks (method blanks)	1) < 5x contaminants – U 2) analytes <lab PQL (contract lab) 3) if linear range is exceeded, verify if a instrument blank was performed 4) *verify accurate transcription of times, Ids, are reported on forms 5) *verify from the raw data if the instrument blank was performed in the same vessel 6) *verify, RRT, and surrogate %R 7) *check 10% of raw chromatograms for false +/-, check for transcription errors recalculate surrogate recovery (10% of them)	No COCs detected in the MB. No samples qualified.	X	-	
Equip Blank	< 5x (<10x common) contaminants for aq samples – for soil indicate EB (X rules don't apply)	Not applicable. Not collected/analyzed with this SDG.	-	-	
Surrogates	Surrogate acceptance limits DCB&TCX – Lab limits. Qualification: >UCL J –detects, %R<10% J –detects, R –NDs, %R >10% but <60% J-detects, UJ NDs	All surrogate recoveries within MPC limits. No samples qualified.	X	-	
LCS Recovery	1) arochlors 1016/1260 2) QAPP limits 10% and <LCL% J detects, UJ -NDs >UCL% J detects <10% R NDs, J-detects 4) *Recalculate the concentrations for one compound in the LCS 5) * Recalculate the %R (within 10% of lab) Note: Tier guidance as a zero blind	LCS %R's for all compounds within MPC limits. No sample qualifications.	X	-	
MS/MSD Recovery	1) Lab limits –(30-150%); (if MS > 4X native levels) Qualification of MS sample: <10% J detects, R NDs >10% and <70% J detects, UJ -NDs >UCL - J detects 6) *Recalculate the concentration for one compound in the MS/MSD * Recalculate the %R (within 10% of lab)	Native sample is sample 03 MS/MSD %R's within MPCs except alpha-BHC – MS %R is marginally below LCL. No apparent matrix bias for all other compounds. Results of alpha-BHC – all non-detects – are qualified UJ.	X	Alpha-BHC qualified UJ for all samples.	
MS/MSD RPD	RPD ≤30%, 40% for concentrated extracts J – detects in MS sample UJ-non detects *recalculate one RPD	Native sample is sample 03. All RPDs <30%. No samples qualified.	X	-	
Field Dup RPD	• RPD ≤ 100% water & 50% soil for – Results > PQL (FD pair only) J-detects (both > PQL) 2) If one > PQL, other ND, J-detections, UJ non-detect 3) Other conditions use judgement *Recalculate the concentrations for one compound and the PQL	Sample-duplicate pair: samples 03/04. All results are non-detects in both samples. Acceptable sampling precision. No qualifications necessary.	X	-	

ECC Region I Data Review Worksheet (rv 2) **Pesticide 8081A**
Project: New London DRMO ECC Job No. 5700 **Review Criteria: Region I Tier II Guidance & OM Manual (2002)**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
*MDL Study	6) *In accordance with 40CFR – seven replicates %RSD < 20% 7) * retention times within method requirements 4) * performed annually 5) *MDL is at least ½ of PQL or QAPP limits 6) *tgt and surrogate 80-120% R *check and recalculate %RSD and %R for one arochlor for 10% of them (criteria within 10% of lab)	NA	-	-	
Sensitivity	1) MDL study – 7 replicates (40 CFR) 2) Surrogates %R 80-120%, 3) %R <10 ND- (R) , J- detects 4) 10%> but <80% , judgement 5) %R>120% J-detects 6) QC, RRT meet criteria, 7) %RSD < 20% 8) MDL< MQL (3x less ideal) 9) Lab fortified blank (see VOA/SV Part II – section X). *Check and recalculate %RSDs and %R for three compounds (with 10% of lab)	Sensitivity acceptable, no sample qualifications.	X	-	
*System Performance	1)* evaluate PES, MS//MSD, cal STDs, MDS study, and surrogates for systemic bias – high or low and access system accuracy 3) *Matrix effects- MS/MSD, surrogated, PDS. 4) *System chromatography- evaluate RRTs, peaks shapes, system impacts on data, baseline shifts. 5) *overall system contamination-review all blanks for systemic or sporadic contamination	NA	-	-	
*TGT Compound Identification	1) *Within 0.06 (30 sec) of CCV RRT 2) * calculate %RPD 1 and 2 columns	RPDs between two columns for detections within limits. No samples qualified.	-	-	
Single Blind PE	1) Qualify associated samples in PES batch PES = ND, Detects J – ND PE analytes in samples, NDs – R 6) PES > acceptance criteria – Detects in samples J, 7) PES<acceptance criteria – Detects J, NDs –R 8) VOA/SV-XI14 other criteria 9) *% of PES sample above and below criteria *Recalculate concentrations for one tgt compound per PES (10% of lab)	NA	-	-	
Initial Cal Multipoint (instrument evaluation)	1) correct calibration stds 2) *recalculate one tgt compound associated. Recalculated values within 10% 3) *option-review preparation logs to ensure cal stds are traceable to NIST stds. 4) *option-recalculate cal std concentration of one std. Must agree within 10% of lab (option if information is in data package)	Instrument Id: Pest6 Date: 18 June 2004 at 00:32 (end time). Acceptable calibration standards.	X	-	

ECC Region I Data Review Worksheet (rv 2) **Pesticide 8081A**
Project: New London DRMO ECC Job No. 5700 **Review Criteria: Region I Tier II Guidance & OM Manual (2002)**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
Initial Cal (Linearity)	%RSD < 20% use average RF for calibration %RSD> 20% use least squares COD (r2) > 0 990 or correlation coefficient r> 0.995 or alternatively mean %RSD <20 for all target analytes, with no analyte %RSD>30% or %RSD<30% each target analyte	Instrument Id: Pest6 Date: 18 June 2004 at 00:32 (end time). Calibration linear. %RSD criteria met for both columns for all compounds of concern. No samples qualified.	X	-	
2nd Source ICV	%R (between ICV and Ical) analytes 80%--120% (USACE) %D ≤ 15%, (+ or -) once per 5 pt cal Qualification: J detects, R or UJ NDs *Calculate %D ICV/ICAL	Instrument ID. Pest 6 Date: 18 June 2004 at 01:29 (inj. time). %D outside MPC limits for Endrin in both columns. Endrin results – all non-detects – qualified UJ.	X	All endrin results qualified UJ.	
Degradation Check	<20% DDT breakdown.	Breakdown within limits. No samples qualified.	X	-	
CCV	1) 15% of initial calib. curve 2) Qualification-J detects, R or UJ NDs 3) *verify same instrument and parameters 4) *Recalculate RRF for one tgt cmpd (within 10%) 5) *Recalculate %D for one tgt cmpd (within 10%) 6) *option-review preparation logs to ensure cal stds are traceable to NIST stds. 7) *option-recalculate cal std concentration of one std. Must agree within 10% of lab (option if information is in data package)	Instrument: Pest 6, 18 June, 2004. Column a: 2 runs – first at 15.22 – applies to 01, 02 & 03 - %D outside MPC limits for endrin, endrin ketone and endosulfan sulfate; second at 20:40 – applies to all other samples - %D outside MPC limits for endrin and endosulfan sulfate. Column b: 2 runs – first at 15:22 – applies to 01, 02 & 03 - %D outside MPC limits for endrin; second at 20:40 – applies to all other samples - %D outside MPC limits for endrin and endosulfan sulfate. All endrin results have already been qualified due to high %D in ICV – no further action taken for endrin results. Endosulfan sulfate results - all non-detects - qualified UJ for samples 04-08.	X	Endosulfan sulfate results qualified UJ in samples 04-08.	
Overall Evaluation of Data	1) Appropriate method 2) Evaluate any analytical problems 3) Evaluate sampling errors – field contamination, sample hold times	Laboratory precision and accuracy are acceptable. Sample results, as qualified, are usable for making project decisions. No apparent matrix bias. Alpha-BHC has low MS/MSD recovery. MS.MSD RPDs are within MPC limits. LCS and surrogate recoveries are within MPC limits. ICAL: within MPC limits. CCV: Within MPC limits, except for endrin and endosulfan sulfate in samples 04-08. ICV: within MPC limits except for endrin. Sampling error – all results are non-detects for both the native sample and its field duplicate – acceptable sampling precision.	X	-	

(*asterisk sections Tier III only) Completeness Check: Inventory Check Sheet__X

Sample Quantitation Calculations on attached sheet (TIER III ONLY):

ECC Region I Data Review Worksheet (rv 2) **VOCs 8260B**
Project: New London DRMO ECC Job No. 5700 **Review Criteria: Region I Tier II Guidance & OM Manual (2002)**

Data Validation Level	Matrix	Preservation	Temp Sample Receipt	Laboratory	SDG Number
Tier II	Aqueous	HCl	6-coolers 4.2, 5.0, 1.4, 4.0, 4.1 & 1.6 °C	Alpha Laboratory Westborough, MA	0406201

Field Identification and Laboratory Number of Samples Evaluated:

Field ID	Lab Sample Number
6-GW6S-02	L0406201-01
6-GW6D-02	L0406201-02
6-GW9S-02	L0406201-03
FD-060904-02	L0406201-04
6-GW11S-02	L0406201-05
6-GW10S-02	L0406201-06
6-GW2S-02	L0406201-07
6-GW1S-02	L0406201-08
6-TB01-02	L0406201-09

Note: Samples are described below in the data worksheets by reference to the last two digits of the Lab Sample Number.

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inventory	QUAL	BIAS
COC, Sample Delivery Group Form.	1)Unbroken custody (accept or if broken R) 2) Temp≤6° (Soil-J detects, R -nondetects 3) preserved per method (amber bottles, temperature, HCl (aq), MeOH/NAHSO4 (soils) (J, UJ, or R (function of HT and compound)	Cooler temperatures < 6 °C in all the coolers. Sample preservation using ice adequate. Sample custody transferred from Field Team Leader to lab sample courier in person. Unbroken Chain of Custody. No samples qualified.	X	-	
Holding Time	1) 14 Days to analysis, if preserved 2) J –detects, UJ or R –nondetects (function of time) 3) *transcription errors	Sent on: 08 & 09 June, 2004 Analyzed on: 16 & 17 June, 2004 All samples analyzed within holding times. No samples qualified.	X	-	
% Solids Check (SOLIDS)	30%<Solids: if no sample weight adjustment made. 1) <10% R entire sample 2) 10%.> and <30%; J-detects, NDs -R	Not applicable (NA)	X	-	
Trip Blank	1) < 5x (<10x common) contaminants for aq samples- 2) TGT analytes <Lab QL (contact lab) -for soils indicate TB (X rules apply to raw data) 4) MeCl & Acetone < 5 5) >RL report sample level U 6) <RL report PQL as U	8-TB01 (Lab sample 09) is the associated tripblank. Tripblank is non-detect for all reported analytes – no samples qualified.	X	-	
Equip Blank	1) < 5x (<10x common) contaminants for aq samples- 2) TGT analytes <Lab QL (contact lab) -for soils indicate TB (X rules don't apply) 3) MeCl & Acetone < 5 *Check IS area (10% of them) * recalculate surrogate (%R – 10 %,of them)	Not collected/analyzed with this SDG. Equipment is dedicated.	-	-	

ECC Region I Data Review Worksheet (rv 2) **VOCs 8260B**
Project: New London DRMO ECC Job No. 5700 **Review Criteria: Region I Tier II Guidance & OM Manual (2002)**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
Results > Cal Range or <Cal Range	1) >Upper Cal Range J-detects - ensure instrument blank performed 2) <PQL but >MDL – J –detects (estimated) listed on data summary sheet.	The results <PQL but >MDL are qualified as estimated (J). Please see attached data summary tables for all such results.	X	All results <PQL/MRL but > MDL that are qualified J.	
*TICs (if reported)	1) *verify library search for samples and blanks 2) verify TICs were not misreported compounds (different fraction or miss in search) 3) All TICs – J estimated 4) * verify blanks do not contain TIC peaks 5) * check TIC assignment spectra to STD spectra 6) *review blank and Samples for common lab contaminants	None Reported/not evaluated	-	-	
Surrogates	1,2-Dichloroethane-d4 70-120% Toluene-d8 75%-120% 4-BFB 75%-120% *check raw data for surrogated (recalculate 10% of them). *Transcription errors Qualification: >UCL J –detects, %R<10% J –detects, R –NDs, %R >10% but <70% J-detects, UJ NDs	All surrogate recoveries within MPC limits. No samples qualified	X	-	
Lab Blanks (method blanks)	1) < 5x (<10x common) contaminants for aq samples- 3) TGT analytes <Lab QL 4) MeCl & Acetone, 2-butanone, 4M-2Pentaone, and 2-hexanone < 5 (25 ml purge) 5) if linear range is exceeded, verify if a instrument blank was performed 6) *verify accurate transcription of times, Ids, are reported on forms 7) *verify from the raw data if the instrument blank was performed in the same vessel 8) *verify IS, RRT, and surrogate %R *check 10% of raw chromotgrams for false +/-, check for transcription errors	2 method blank samples analyzed – WG173582-4 (applies to samples 01-08) & WG173582-6 (applies to sample 09). WG-173582-4 is detected with hexachlorobutadiene at 0.6 µg/L, all results < 3.0 µg/L are qualified U for this compound in samples 01-08, but all results for this compound are non-detects – so no further action taken. WG173582-6 is detected with dichlorodifluoromethane at 0.3 µg/L and hexachlorobutadiene at 0.54 µg/L. But all results are non-detects in sample 09 – so no qualifications.	X	-	
LCS Recovery	1) benzene 79-119%, toluene 75-123%, chlorobenzene 81-123%, 1,1 DCE 69-126%, TCE 79-118%. 2) 10% and <LCL% J detec ts, UJ –Nods 3) >UCL% J detects <10% R NDs, J-detects 7) *Recalculate the concentrations for one compound in the LCS 8) * Recalculate the %R (within 10% of lab) Note: Tier guidance as a zero blind	2 LCS samples were analyzed. All LCS %R's are within MPC limits. No samples qualified.	X	-	

ECC Region I Data Review Worksheet (rv 2) **VOCs 8260B**
Project: New London DRMO ECC Job No. 5700 **Review Criteria: Region I Tier II Guidance & OM Manual (2002)**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
MS/MSD Recovery	1) benzene 80-120%, toluene 75-120%, chlorobenzene 80-120%, 1,1 DCE 70-130%, TCE 70-1258%. 2) 80-120% (if MS > 4X native levels) Qualification of MS sample: <10% J detects, R NDs >10% and <LCL% J detects, UJ -NDs >UCL% J detects 3) *Recalculate the concentrations for one compound in the MS/MSD * Recalculate the %R (within 10% of lab)	Native sample; lab sample 03. MS/MSD recoveries outside MPC limits for acetone and 2-hexanone. Sample results for these 2 compounds – all non-detects - are qualified UJ.	X	Results for acetone and 2-hexanone qualified UJ.	
MS/MSD RPD	RPD ≤30% (aq) J –detects in MS sample UJ-non detects * recalculate RPD	Native sample – lab sample 03. All RPDs within MPC limits. Laboratory precision is acceptable for all VOCs. No samples qualified.	X	-	
Field Dup RPD	1) RPD ≤ 30%, <40% gaseous VOCs water; ≤ 50 soil for Results > PQL (FD pair only) J-detects (both > PQL) 2) If one >PQL, other ND, J-detections, UJ non-detect 3) Other conditions use judgement 4) Determine RPD for detects only. 4) *Recalculate the concentrations for one compound and the PQL	Sample-duplicate pair: samples 03/04. All results are non-detects in both samples. Acceptable sampling precision. No qualifications necessary.	X	-	
*MDL Study	1) *In accordance with 40CFR – seven replicates %RSD < 20% 2) * IS and retention times within method requirements 5) * performed annually 6) *MDL is at least ½ of PQL 7) *tgt and surrogate 80-120% R 8) *VOA/SV-X11 (recalcuate %RSD and %R for three compounds (10% of them).	NA	-	-	
Internal Stds	1) IS are –50% to 200% of last Ical, or CCV 3) RRT<0.06 (30 sec) 4) IS>100% J-detects 5) IS<20%CCV NDs – R 6) IS>20%CCV <50%CCV NDs – UJ 7) *check for IS transcription errors	All IS %R and RTs are within Method limits.	X	-	
Sensitivity	1) MDL study – 7 replicates (40 CFR) 2) Surrogates %in control limits. 3) %R <10 ND- (R) , J- detects 4) 10%> but <LCL% , judgement 5) %R>UCL% J-detects 5) QC, IS, RRT meet criteria, 6) %RSD < 20% 7) MDL< MQL (3x less ideal) 8) Lab fortified blank (see VOA/SV Part II – section X). 9) *Check and recalculate %RSDs and %R for three compounds (with 10% of lab) <u>Dilution factors for samples – impacts to sensitivity</u>	No diluted samples. No samples qualified.	X	-	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
*Compound Quantitation (completed as part of other steps)	1) Check sensitivy (MDL< 1/3 PQL) 2) *Recalculate one detection and quantitation limit 3) *verify concentrations have been adjusted to account for DW, DF, 4) *verifiy correct IS and RRF were used	NA	-	-	
*System Performance	1)* evaluate PES, MS//MSD, cal STDs, MDS study, and surrogates for systemic bias – high or low and access system accuracy 9) *Matrix effects- MS/MSD, surrogated, PDS. 10) *System chromatography- evaluate RRTs, peaks shapes, system impacts on data, baseline shifts. 11) *overall system contamination-review all blanks for systemic or sporadic contamination	NA	-	-	
*TGT Compound Identification	1) *Within 0.06 (30 sec) of CCV RRT 2) * compare sample Mass spectra to standard spectra; a) all ions in std spectra (with 10% rel intensity) presnent in sample spectra. B) sample ion abundance within 20% of standard spectra. 3) *chromatogram: all peaks greater than 10% of nearest IS identified.	NA	-	-	
Single Blind PE	1) Qualify associated samples in PES batch PES = ND, Detects J – ND PE analytes in samples, NDs – R 12) PES > acceptance criteria – Detects in samples J, 13) PES<acceptance criteria – Detects J, NDs –R 14) VOA/SV-XI14 other criteria 15) *% of PES sample above and below criteria 16) *Recalculate concentrations for one tgt compound per PES (10% of lab)	NA	-	-	
Tune check	1) ion abundance with method limits 2) *check for co-elution /proper background subtratction 3) *compare reported data to raw data	All tunes passed method criteria.	X	-	
Initial Cal Multipoint (instrument evaluation)	1) correct calibration stds 2) within 12 hours of the tune check 3) CCCs %RSD: <30% (1,1 DCA, chloroform, 1,2dichloropropane, Toluene, EB, VC (J –detects, R or UJ NDs all samples associated with Ical) 4) SPCCs Average RRF: SPCCs Chloromethane >0.10, 1,1 DCA>0.10, bromoform >0.10, chlorobenzene>0.3, 1122TCA>0..3 (J –detects, R NDs) 5) RRF>0.05 all compounds 6) RRT < 0.06 units (all stds within 30 sec) 7) *RRF exclusions surrogates, acetone, MeCL, chloroethane/methane, CS, 1,2*	Instrument: Elaine.i ICAL: June 15, 2004 at 13:06 (end time). RRF>0.05, %RSD<15% and/or COD>0.99 for all compounds.	X	-	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
	DCA, 2-butanone, 1,2 dichloropropane, 2-hexanone (IV-8) / 8) *verify that instrument parameters met method and that Ical and analysis used the same parameters 9) *recalculate RRF one tgt compound associated with each IS. Recalculated values within 10% of lab values. 10) *recalculate one tgt compound associated with each IS. Recalculated values within 10% 11) *option-review preparation logs to ensure cal stds are traceable to NIST stds. 12) *option-recalculate cal std concentration of one std. Must agree within 10% of lab (option if information is in data package)				
Initial Cal (Linearity)	%RSD < 15% use average RF for calibration %RSD> 15% use least squares COD (r2) > 0.990 or correlation coefficient r> 0.995 or alternatively mean %RSD <15% for all target analytes, with no analyte %RSD>30% or %RSD<30% each target analyte Qualification for compounds with %RSD>30% (see VOA/SVIII-5)	Instrument: Elaine.i ICAL: June 15, 2004 at 13:06 (end time). Ical acceptable per method requirements. Calibration results for all compounds are linear. No samples qualified.	X	-	
2nd Source ICV	**%D<25%.** %R (between ICV and Ical) analytes 80%--120% (+ or -) once per 5 pt cal Qualification: J detects, R or UJ NDs	Instrument: Elaine.i ICV: June 16, 2004. Instrument: Elaine - %D<25% for all reported VOCs of potential concern.	X	-	
CCV	1) SPCCs Average RRF: SPCCs Chloromethane >0.10, 1,1 DCA>0.10, bromoform >0.10, chlorobenzene>0..3, 1122TCA>0..3 2) RRF all compounds > 0.05 *3)* CCC: (1,1 DCA, chloroform, 1,2dichloropropane, Toluene, EB, VC) **%D<20% (or** all analytes if no CCCs reported). *4)* Lab method limits for non SPCC/CCC's. *5)* *RRF exclusions surrogates, acetone, MeCL, chloroethane/methane, CS, 1,2 DCA, 2-butanone, 1,2 dichloropropane, 2-hexanone (IV-8)./* 6) Qualification-J detects, R or UJ NDs 7) *verify same instrument and parameters 8) *Recalculate RRF for one tgt cmpd associated with each IS. (within 10%) 9) *Recalculate %D for one tgt cmpd associated with each IS (within 10%) 10) *IS RRT<0.06 units (30 sec) 11) * IS area -50 % to 100 % of last ICAL 12) *option-review preparation logs to ensure cal stds are traceable to NIST stds. 13) *option-recalculate cal std concentration of one std. Must agree within 10% of lab (option if information is in data package)	Instrument Elaine - CCVs on 16 & 17 June, 2004. All %Ds within MPC limits for the run performed on June 16. %D for bromomethane outside MPC limits for the run on June 17. Bromomethane result for sample 09 (trip blank) qualified UJ.	X	Bromomethane result for sample 09 qualified UJ.	

ECC Region I Data Review Worksheet (rv 2) **VOCs 8260B**
Project: New London DRMO ECC Job No. 5700 **Review Criteria: Region I Tier II Guidance & OM Manual (2002)**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
Overall Evaluation of Data	1) Appropriate method 2) Evaluate any analytical problems 3) Evaluate sampling errors – field contamination, sample hold times	Laboratory precision and accuracy acceptable and no apparent sample bias for site constituents of concern. Sample results usable for project decisions, as qualified. All surrogate recoveries within MPC limits. LCS recoveries within MPC limits. MS/MSD recoveries outside MPC limits for acetone and 2-hexanone. MS/MSD RPDs within MPC limits for all compounds. Calibration: ICAL linear for all compounds. ICV's - I Cal confirmed. CCV: within MPC limits except for bromomethane in the CCV that applies to trip blank and QC samples. Tripblanks non-detect for all VOCs. Method blanks show detections of hexachlorobutadiene and dichlorodifluoromethane but no apparent cross-contamination as sample results for these compounds are non-detects. All results are non-detects in the samples consisting of the sample-field duplicate pair. Sampling precison is acceptable. Results > MDL but < RDL are qualified J. Please see attached data summary tables for all such results.	X	-	

* Tier III review items only.

Completeness Check: Inventory Check Sheet_____X__. Sample Quantitation Calculations (TIER III only):

ECC Region I Data Review Worksheet (rv 2) **PAH 8270C - SIM**
Project:New London - DRMO ECC Job No. 5700 **Review Criteria: Region I Tier II Guidance & OM Manual(2002)**

Data Validation Level	Matrix	Preservation	Temperature Sample Receipt	Laboratory	SDG Number
Tier II	Aqueous	-	6-coolers 4.2, 5.0, 1.4, 4.0, 4.1 & 1.6 °C	Alpha Laboratory Westborough, MA	0406201

Field Identification of Samples Evaluated:

Field ID	Lab Sample Number
6-GW6S-02	L0406201-01
6-GW6D-02	L0406201-02
6-GW9S-02	L0406201-03
FD-060904-02	L0406201-04
6-GW11S-02	L0406201-05
6-GW10S-02	L0406201-06
6-GW2S-02	L0406201-07
6-GW1S-02	L0406201-08

Note: Samples are described below in the data worksheets by reference to the last two digits of the Lab Sample Number.

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED	Inven-tory	QUAL	BIAS
COC, Sample Delivery Group Form.	1)Unbroken custody (accept or if broken R) 2) Temp≤6° (Soil-J detects, R -nondetects preserved per method (amber bottles, temperature, HCl (aq), MeOH/NAHSO4 (soils) (J, UJ, or R (function of HT and compound)	Cooler temperatures < 6 °C in all the coolers. Sample preservation using ice adequate. Sample custody transferred from Field Team Leader to lab sample courier in person. Unbroken Chain of Custody. No samples qualified.	X	-	
Holding Time	1) 7 Days water, 40 to analysis 2) J –detects, UJ or R –nondetects (function of time)	Sent on: June 8 & 9, 2004. Extracted on: June 11, 2004. Analyzed on: June 15 & 16, 2004. Sample prepared/analyzed within holding times. No samples qualified.	X	-	
% Solids Check (SOLIDS)	30%<Solids: if no sample weight adjustment made (no USACE) 1) <10% R entire sample 2) 10%.> and <30%; J-detects, NDs -R	Not applicable	-	-	
Results > Cal Range or <Cal Range	1) >Upper Cal Range J-detects - ensure instrument blank performed 2) <PQL but >MDL – J –detects (estimated)	Sample results < MRL but > MDL are qualified as estimated (J). Please see attached data summary tables for all such results.	X	All results <MRL and >MDL are qualified J.	
Equip Blank	< 5x (<10x common) contaminants for aq samples – for soil indicate EB (X rules don't apply)	Not applicable. Equipment blank not collected/analyzed with this SDG.	-	-	
Surrogates	1) Surrogate acceptance limits Nitrobenzene-d5, 2-Fluorobiphenyl & p-Terphenly-d14 within QAPP limits. Qualification: >UCL J –detects, %R<10% J –detects, R –NDs, %R >10% but <60% J-detects, UJ NDs	All surrogate recoveries within MPC limits. No samples qualified.	X	-	
Lab Blanks (method blanks)	1) < 5x (<10x common) contaminants – U 2) analytes <lab PQL (contract lab)	All method blanks were non-detects for PAHs. No samples qualified.	X	-	

ECC Region I Data Review Worksheet (rv 2) **PAH 8270C - SIM**
Project:New London - DRMO ECC Job No. 5700 **Review Criteria: Region I Tier II Guidance & OM Manual(2002)**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED	Inven-tory	QUAL	BIAS
LCS Recovery	1) QAPP limits 10% and <LCL% J detects, UJ -NDs >UCL% J detects <10% R NDs, J-detects	LCS %R within MPC limits. No samples qualified	X	-	
MS/MSD Recovery	1) QAPP limits (if MS > 4X native levels) Qualification of MS sample: <10% J detects, R NDs >10% and <70% J detects, UJ -NDs >130% J detects	Native sample – sample 03. MS/MSD %R's outside MPC limits for fluoranthene - %R > UCL – all detections for this compound qualified J.	X	Fluoranthe ne results in samples 01, 05 & 06 qualified J.	
MS/MSD RPD	RPD ≤30% solid, 30%. J –detects in MS sample UJ-non detects	MS/MSD RPDs within MPC limits. Laboratory precision acceptable. No samples qualified.	X		
Cleanup Performance Check (if performed)	%R< 10% NDs-R detections J %R>10% <LCL (80%GPC) –detections J, NDs UJ %R>UCL (120%) – detections J Retention Time shift <5%, symmetrical peakshape. GPC check with interferants.	NA	-	-	
Retention times	Within 3X standard deviation for each analyte from 72-hour study Exceeds: R qualify data	Retention times within limits.	X	-	
Field Dup RPD	1) RPD ≤ 100% water & soil for Results > X PQL (FD pair only) J-detects (both > X PQL) 2) If one >X PQL, other ND, J-detections, UJ non-detect 3) Other conditions use judgement	Sample-duplicate pair: samples 03/04. All results are non-detects in both samples. Acceptable sampling precision. No qualifications necessary.	-		
Initial Cal (Linearity)	Correct calibration stds %RSD < 15% use average RF for calibration %RSD> 15% use least squares COD (r2) > 0.990 or correlation coefficient r> 0.995 or alternatively mean %RSD <20% for all target analytes, with no analyte %RSD>40% Resolution check mix –valley 60% hgt of shortest peak (CLP criteria only) Performance check mix - >90% (PEM) (CLP criteria only) SW-846 PEM –endirn/DDT breakdown evaluation. Blank and Performance Evaluation Mix (PEM) at start, and blank and midpoint Individual Standard Mix A (ISMA) and ISMB at end or samples(CLP only)	16 April 2004 at 15:34 (end time). Instrument – Mindy %RSD<20% ICAl linear. No samples qualified RRF>0.05	X	-	
2nd Source ICV	%R (between ICV and Ical) analytes %D ≤ 15%, (+ or -) once per 5 pt cal Qualification: J detects, R or UJ NDs	16 April 2004 at 16:18 (injection time). Instrument – Mindy ICV %D within MPC limits. No samples qualified.	X	-	
CCV	1) 15% of initial calib. Curve (85%-115%) If low re-calibrate per method. If high no recalibration needed. J qualify data. 2) 15% D Qualification-J detects, R or UJ NDs	Date: 15 & 16 June, 2004 (only one batch) %D<15% for all compounds. No qualifications.	X	-	

ECC Region I Data Review Worksheet (rv 2) **PAH 8270C - SIM**
Project:New London - DRMO ECC Job No. 5700 **Review Criteria: Region I Tier II Guidance & OM Manual(2002)**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED	Inven-tory	QUAL	BIAS
Tune Check	Tune check within method parameters for DFTPP	Ical tune check within limits. And CCV tune check within limits. Raw data was used to check the tunes. No samples qualified. Degradation checks associated with sample analysis and ICAL tune checks with limits.	X	-	
Internal Stds	1) IS are –50% to 200% of CCV 1) RRT<0.06 (30 sec) 2) IS>100% J-detects 3) IS<20%CCV NDs – R 4) IS>20%CCV <50%CCV NDs – UJ 5) *check for IS transcription errors	Internal standards are within MPC limits. No samples qualified.	X	-	
Sensitivity	1) MDL study – 7 replicates (40 CFR) 2) Surrogates %R 80-120%, 2) %R <10 ND- (R) , J- detects 3) 10%> but <80% , judgement 4) %R>120% J-detects 5) QC, RRT meet criteria, 6) %RSD < 20% 7) MDL< MQL (3x less ideal) 8) Lab fortified blank (see VOA/SV Part II –section X). *Check and recalculate %RSDs and %R for three compounds (with 10% of lab)	Reporting limit is less than the primary monitoring criterion for all compounds.	x	-	
Compound Quantitation	1) Check sensitivy (MDL< 1/3 PQL or per QAPP	RDL> Project Reporting Limit but well below the groundwater criterion for all compounds. All MDLs well below PRL. Acceptable sensitivity for all compounds. No samples qualified.	X	-	
Overall Evaluation of Data	1) Appropriate method 2) Evaluate any analytical problems 3) Evaluate sampling errors – field contamination, sample hold times	The laboratory accuracy and precision are acceptable. No apparent sample bias. Data are usable for project decisions as qualified. All surrogate and LCS recoveries within MPC limits. MS recoveries outside MPC limits (high) for fluoranthene – results for samples 01, 05 & 06 qualified J. MS/MSD RPDs within MPC limits. ICAL is linear. ICV: within MPC limits. CCV; within MPC limits. All results are non-detects in both samples of the sample-duplicate pair – acceptable sampling precision.	X	-	

(*Tier III criteria)

Completeness Check: Inventory Check Sheet_____X__ Sample Quantitation Calculations (TIER III ONLY):

ECC Region I Data Review Worksheet (rv 2) **SVOCs 8270C**
Project:New London DRMO ECC Job No. 5700 **Review Criteria: Region I Tier II Guidance & OM Manual (2002)**

Data Validation Level	Matrix	Preservation	Temperature Sample Receipt	Laboratory	SDG Number
Tier II	**Aqueous**	**-**	**6-coolers 4.2, 5.0, 1.4, 4.0, 4.1 & 1.6 °C**	**Alpha Laboratory Westborough, MA**	**0406201**

Field Identification of Samples Evaluated:

Field ID	Lab Sample Number
6-GW6S-02	L0406201-01
6-GW6D-02	L0406201-02
6-GW9S-02	L0406201-03
FD-060904-02	L0406201-04
6-GW11S-02	L0406201-05
6-GW10S-02	L0406201-06
6-GW2S-02	L0406201-07
6-GW1S-02	L0406201-08

Note: Samples are described below in the data worksheets by reference to the last two digits of the Lab Sample Number.

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inve n-tory	QUAL	BIAS
COC, Sample Delivery Group Form.	1)Unbroken custody (accept or if broken R) 2) Temp≤6° (Soil-J detects, R -nondetects 3) preserved per method (amber bottles, temperature, HCl (aq), MeOH/NAHSO4 (soils) (J, UJ, or R (function of HT and compound)	Cooler temperatures < 6 °C in all the coolers. Sample preservation using ice adequate. Sample custody transferred from Field Team Leader to lab sample courier in person. Unbroken Chain of Custody. No samples qualified.	X	-	
Holding Time	1) 7 Days aqueous – 14 days soil (extract 40 days) 2) J –detects, UJ or R –nondetects (function of time)	Sent on: June 8 & 9, 2004. Extracted on: June 11, 2004. Analyzed on: June 15 & 16, 2004. Sample prepared/analyzed within holding times. No samples qualified.	X	-	
% Solids Check (SOLIDS)	30%<Solids: if no sample weight adjustment made (no USACE) 1) <10% R entire sample 2) 10%.> and <30%; J-detects, NDs -R	Not applicable	-	-	
Results > Cal Range or <Cal Range	1) >Upper Cal Range J-detects - ensure instrument blank performed 2) <PQL but >MDL – J –detects (estimated)	Data reported between the MDL and the MRL or exceeding upper calibration range are qualified as estimated (J). 2-BEHP results for samples 03, 04 & 08 are qualified J as they are >MDL and < MRL.	X	2-BEHP results for samples 03, 04 & 08 qualified J.	
TICs (if reported)	1) *verify library search for samples and blanks 2) verify TICs were not misreported compounds (different fraction or miss in search) 3) All TICs – J estimated 4) * verify blanks do not contain TIC peaks 5) * check TIC assignment spectra to STD spectra 6) *review blank and Samples for common lab contaminants	None Reported	X	-	

ECC Region I Data Review Worksheet (rv 2) **SVOCs 8270C**
Project:New London DRMO ECC Job No. 5700 **Review Criteria: Region I Tier II Guidance & OM Manual (2002)**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inve n-tory	QUAL	BIA S
Internal Stds	1) IS are –50% to 200% of CCV 1) RRT<0.06 (30 sec) 2) IS>100% J-detects 3) IS<20%CCV NDs – R 4) IS>20%CCV <50%CCV NDs – UJ 5) *check for IS transcription errors	Internal standard areas and RTs are within MPC limits. No samples qualified.	X	-	
Equip Blank	< 5x (<10x common) contaminants for aq samples – for soil indicate EB (X rules don't apply)	Dedicated equipment – hence not collected/analyzed with this SDG	X	-	
Surrogates	Within historical laboratory limits Qualification: >UCL J –detects, %R<10% J –detects, R –NDs, %R >10% but <LCL% J-detects, UJ NDs	All surrogate recoveries within MPC limits. Phenol-d6 has very low recovery criterion but there are no Navy limits for this surrogate. No sample qualifications.	X	-	
Lab Blanks (method blanks)	1) < 5x (<10x common) contaminants – U 2) analytes <lab PQL (contract lab) 3) no phthalates >5X QL (QAPP)	Lab blank is non-detect for all reported SVOCs. No samples qualified.	X	-	
LCS Recovery	1) Within historical laboratory limits listed in (QAPP) 10% and <LCL% J detects, UJ –NDs >UCL% J detects <10% R NDs, J-detects	All LCS recoveries within MPC limits. No samples qualified.	X	-	
MS/MSD Recovery	1) Within historical laboratory limits (QAPP) (if MS > 4X native levels) Qualification of MS sample: <10% J detects, R NDs >10% and <70% J detects, UJ -NDs >130% J detects	Native sample is sample 03. All MS/MSD recoveries within MPC limits. No samples qualified.	X	-	
Cleanup Performance Check (if performed)	%R< 10% NDs-R detections J %R>10% <LCL (80%GPC) –detections J, NDs UJ %R>UCL (120%) – detections J Retention Time shift <5%, symmetrical peakshape. GPC check with interferants. Good surrogate recovery, GPC blank check – no carryover.(VOA/SV-IX-I6). Sulfur and High MW compounds removed. Symetrical peaks for all compounds,	NA	-	-	
MS/MSD RPD	RPD ≤30% aq, <50% (S) J –detects in MS sample UJ-non detects	All MS/MSD RPDs are within MPC limits for all compounds. No samples qualified.	X	-	
Tune Check	Tune check within method parameters for DFTPP	The raw data sheets were used for validation. CCV tune check within limits.	X	-	
DDT degradation Instrument performance check	1) Breakdown <20% DDT 2) benzidine and pentachlorophenol at normal response - no peak trailing (<3.0 benz. , <5.0 penta.) Detections – J	Degradation checks performed with associated tune checks are all within MPC limits.	X	-	
Field Dup RPD	1) RPD ≤ 100% water; ≤ 100% soil for Results > PQL (FD pair only) J-detects (both > PQL) 2) If one > PQL, other ND, J-detections, UJ non-detect Other conditions use judgement	Sample-duplicate pair: samples 03/04. 2-BEHP is the only detection in both the samples – RPD's within MPC limits. Acceptable sampling precision. No sample qualifications.	X	-	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inve n-tory	QUAL	BIA S
Initial Cal (Linearity)	Correct calibration stds %RSD < 15% use average RF for calibration %RSD> 15% use least squares COD (r2) > 0.990 or correlation coefficient r> 0.995 or alternatively mean %RSD <15% for all target analytes, with no analyte %RSD>30% or %RSD<30% each target analyte 1) CCCs %RSD: <30% (acenatphthene, 1,4 dichlorobenzene, hexachlorobutadiene, dipheynlamin, di-n-octyl phthalate, fluoranthene, benzo(a)pyrene, 4-chloro-3-methylphenol, 2,4, dichlorophenol, 2-nitrophenol, phenol, pentachlorophenol, 2,4,6 trichlorophenol) J –detects, R or UJ NDs all samples associated with Ical) 2) SPCCs Average RRF > 0.05: SPCCs n-nitroso-di-n-propylamine, hexachlorcyclopentdiene, 2,4 dinitrophenol, 4-nitrophenol. (J –detects, R NDs) 3) RRF>0.05 all target compounds RRT < 0.06 units (all stds within 30 sec) 4) *verify that instrument parameters met method and that Ical and analysis used the same parameters 5) *recalculate RRF one tgt compound associated with each IS. Recalculated values within 10% of lab values. 6) *recalculate one tgt compound associated with each IS. Recalculated values within 10% 7) *option-review preparation logs to ensure cal stds are traceable to NIST stds. 8) *option-recalculate cal std concentration of one std. Must agree within 10% of lab (option if information is in data package)	Instrument: Buffy End date: 11 June '04 at 02:04. RRF>0.05 all SVOCs. RSD<15% and/or COD>0.99 criteria used for linearity of SVOC Ical. Acceptable linearity. No samples qualified based on ICAL.	X	-	
2nd Source ICV	%R (between ICV and Ical) analytes 80%--120% (USACE) %D ≤ 25%, (+ or -) once per 5 pt cal Qualification: J detects, R or UJ NDs	Instrument: Buffy End date: 11 June '04 at 02:29 (injection time). All %Ds within MPC limits for all compounds of concern. No samples qualified.	X		

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inve n-tory	QUAL	BIAS
CCV	1) SPCCs Average RRF: SPCCs n-nitroso-di-n-propylamine, hexachlorcyclopentdiene, 2,4 dinitrophenol, 4-nitrophenol. 2) RRF all compounds > 0.05 3) CCC: (acenatphthene, 1,4 dichlorobenzene, hexachlorobutadiene, dipheynlamin, di-n-octyl phthalate, fluoranthene, benzo(a)pyrene, 4-chloro-3-methylphenol, 2,4, dichlorophenol, 2-nitrophenol, phenol, pentachlorophenol, 2,4,6 trichlorophenol) 4) %D<20%. CCCs (QAPP -except surrogates). 5) Qualification-J detects, R or UJ Nods 6) %D<25% all compounds (Tier I). 7) RRF exclusions: surrogates, 8) *verify same instrument and parameters 9) *Recalculate RRF for one tgt cmpd associated with each IS. (within 10%) 10) *Recalculate %D for one tgt cmpd associated with each IS (within 10%) 11) *IS RRT<0.06 units (30 sec) 12) * IS area -50 % to 100 % of last ICAL 13) *option-review preparation logs to ensure cal stds are traceable to NIST stds. 14) *option-recalculate cal std concentration of one std. Must agree within 10% of lab (option if information is in data package)	CCV on 15 June 2004. %D within MPC limits for all compounds. No samples qualified.	X	-	
Compound Quantitation	1) Check sensitivy (MDL< 1/3 PQL or per QAPP)	For target SVOCs the MDL< 1/3 PQL. Analytical sensitivity is adequate. Reporting limits are below the monitoring criteria for all compounds.	X	-	
Overall Evaluation of Data	1) Appropriate method 2) Evaluate any analytical problems 3) Evaluate sampling errors – field contamination, sample hold times	The laboratory accuracy and precision are acceptable and no apparent sample bias. Results are usable for making project decisions as qualified. MS/MSD recoveries and RPDs: within MPC limits. LCS recoveries: within MPC limits. Surrogate recoveries within MPC limits. ICAL; linear. ICV: within MPC limits for all SVOCs. CCV: within MPC limits. Method blank; non-detect for all SVOCs. 2-BEHP is the only detection in the field sample and field duplicate. RPD within MPC limits. Acceptable sampling precision. 2-BEHP results for samples 03, 04 & 08 qualified J as they are < RDL but > MDL.	X	-	

*Tier III criteria.

Completeness Check: Inventory Check Sheet_____X__ Sample Quantitation Calculations (TIER III ONLY):

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA

Eight Walk Up Drive Westborough, MA 01581
TEL. 508-898-9220 FAX 508-898-9193

Date Rec'd in Lab: 6/8/04

ALPHA Job #: L0406201

Client Information

Client: Environmental Chemical Corporation
Address: 50 D'ANGELO DRIVE
MARLBOROUGH, MA 01752
Phone: 508-229-2270
Fax:
Email:

☒ These samples have been Previously analyzed by Alpha

Project Information

Project Name: DRMO
Project Location: NEW LONDON, CT
Project #:
Project Manager:
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: 6/23/04 Time:

Report Information

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Data Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program Criteria

MCP PRESUMPTIVE CERTAINTY-THESE QUESTIONS MUST BE ANSWERED

☐ Yes	☐ No	Are MCP Analytical Methods Required?
☐ Yes	☐ No	Are Drinking Water Samples Submitted?
☐ Yes	☐ No	Have you met minimum field QC requirements?

Other Project Specific Requirements/Comments/Detection Limits:
Dissolved metals are field filtered.

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	SVOC-8270C	PAH-8270C SIM	TOTAL METALS	PEST	VOC	PCB	Sample Specific Comments
06201 1	6-GW06S-02	6/8/04	1420	GW		X	X	X	X	X	X	
2	6-GW06D-02	6/8/04	1447	GW		X	X	X	X	X	X	
Container Type						-	-		-	-	-	
Preservative						-	-		-	-	-	

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT **MCP?**

Relinquished By	Date/Time	Received By	Date/Time
[illegible]	6/8/04 1542	[illegible]	6/8/04 1542
[illegible]	6/8/04 1235	[illegible]	6/8/04 1235

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

FORM NO. 01 01 Internal

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL LABS

Eight Walk Up Drive Westborough, MA 01581
TEL 508-898-9220 FAX 508-898-9193

Date Rec'd in Lab. 6/9/04

ALPHA J b #: L0406201

Client Information

Client: Environmental Chemical Corporation
Address: 50 D'ANGELO DRIVE
MARLBOROUGH, MA 01752
Phone: 508-229-2270
Fax:
Email:

☒ These samples have been Previously analyzed by Alpha

Project Information

Project Name: DRMO
Project Location: NEW LONDON, CT
Project #:
Project Manager:
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: 6/23/04 Time:

Report Information Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #

Regulatory Requirements/Report Limits

State/Fed Program | Criteria

MCP PRESUMPTIVE CERTAINTY-THESE QUESTIONS MUST BE ANSWERED

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Are Drinking Water Samples Submitted?
☐ Yes ☐ No Have you met minimum field QC requirements?

Other Project Specific Requirements/Comments/Detection Limits:

~~Dissolved metals are field filtered.~~ FS

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☐ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	SVOC-8270C	PAH-8270C SIM	TOTAL METALS	PEST	VOC	PCB							Sample Specific Comments
06201. 3	6-GW09S-02	6/9/04	1143	GW		X	X	X	X	X	X							MS/MSD
4	FD 060904-02	6/9/04	0000	GW		X	X	X	X	X	X							
5 FS	6-GW11S-02	6/9/04	0953	GW		X	X	X	X	X	X							
6	6-GW10S-02	6/9/04	0953	GW		X	X	X	X	X	X							TB
7	6-GW02S-02	6/9/04	0953	GW		X	X	X	X	X	X							TB
8	6-GW01S-02	6/9/04	0953	GW		X	X	X	X	X	X							
9	6-TB01-02	6/9/04	0800	W						X								
					Container Type	-	-	-	-	-	-	-	-	-	-	-	-	
					Preservation	-	-	-	-	-	-	-	-	-	-	-	-	

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT MCP?

Relinquished By	Date/Time	Received By	Date/Time
[illegible]	6/9/04 1530	[illegible]	1336 6/9
[illegible]	6/9/04 1720	[illegible]	6/9/04 1720

Please print clearly, legi and completely. Sample not be logged in and turnaround time clock w start until any ambiguitie resolved. All samples submitted are subject to Alpha's Payment Terms

FORM EC 01-01 Internal

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW6S-02	8-Jun-04	L0406201-01	6010B	ALUMINUM, TOTAL	0 034	J	mg/l	y	0 1	0 017	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	ANTIMONY, TOTAL		U	mg/l	n	0 05	0 002	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	ARSENIC, TOTAL		U	mg/l	n	0 004	0 0034	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	BARIUM, TOTAL	0 03		mg/l	y	0 01	0 0004	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	BERYLLIUM, TOTAL		U	mg/l	n	0 005	0 0006	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	CADMIUM, TOTAL		U	mg/l	n	0 005	0 0004	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	CALCIUM, TOTAL	13		mg/l	y	0 1	0.015	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	CHROMIUM, TOTAL		U	mg/l	n	0 01	0 0008	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	COBALT, TOTAL		U	mg/l	n	0 02	0 0005	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	COPPER, TOTAL	0 0019	J	mg/l	y	0 01	0 0018	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	IRON, TOTAL	0 026	J	mg/l	y	0 05	0 014	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	LEAD, TOTAL		U	mg/l	n	0 05	0 0048	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	MAGNESIUM, TOTAL	3		mg/l	y	0 1	0 014	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	MANGANESE, TOTAL	0 0013	J	mg/l	y	0 01	0 0005	1
6-GW6S-02	8-Jun-04	L0406201-01	7470A	MERCURY, TOTAL		U	mg/l	n	0 0002	0 000012	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	MOLYBDENUM, TOTAL	0 0047	U	mg/l	n	0 05	0 0013	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	NICKEL, TOTAL		U	mg/l	n	0 025	0 0018	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	POTASSIUM, TOTAL	2 9		mg/l	y	2 5	0 094	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	SELENIUM, TOTAL		U	mg/l	n	0 005	0 0025	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	SILVER, TOTAL		U	mg/l	n	0 007	0 0007	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	SODIUM, TOTAL	34		mg/l	y	10	1 6	5
6-GW6S-02	8-Jun-04	L0406201-01	6010B	THALLIUM, TOTAL		U	mg/l	n	0 005	0 0035	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	VANADIUM, TOTAL		U	mg/l	n	0 01	0 0008	1
6-GW6S-02	8-Jun-04	L0406201-01	6010B	ZINC, TOTAL	0 0057	J	mg/l	y	0 05	0 0022	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	METHYLENE CHLORIDE		U	ug/l	n	5	0 37	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,1-DICHLOROETHANE		U	ug/l	n	0 75	0 19	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	CHLOROFORM		U	ug/l	n	0 75	0 14	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	CARBON TETRACHLORIDE		U	ug/l	n	0 5	0 38	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,2-DICHLOROPROPANE		U	ug/l	n	1 8	0 24	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	DIBROMOCHLOROMETHANE		U	ug/l	n	0 5	0 19	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,1,2-TRICHLOROETHANE		U	ug/l	n	0 75	0 16	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	TETRACHLOROETHENE	0 57		ug/l	y	0 5	0 43	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	CHLOROBENZENE		U	ug/l	n	0 5	0 32	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	TRICHLOROFLUOROMETHANE		U	ug/l	n	2 5	0 29	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,2-DICHLOROETHANE		U	ug/l	n	0 5	0 14	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,1,1-TRICHLOROETHANE		U	ug/l	n	0 5	0 25	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	BROMODICHLOROMETHANE		U	ug/l	n	0 5	0 24	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	TRANS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 24	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	CIS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 13	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,1-DICHLOROPROPENE		U	ug/l	n	2 5	0 34	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	BROMOFORM		U	ug/l	n	2	1 1	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,1,2,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 29	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	BENZENE		U	ug/l	n	0 5	0 29	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	TOLUENE		U	ug/l	n	0 75	0 31	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	ETHYLBENZENE		U	ug/l	n	0 5	0 28	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	CHLOROMETHANE		U	ug/l	n	2 5	0 12	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	BROMOMETHANE		U	ug/l	n	1	0 36	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	VINYL CHLORIDE		U	ug/l	n	1	0 27	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	CHLOROETHANE		U	ug/l	n	1	0 36	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,1-DICHLOROETHENE		U	ug/l	n	0 5	0 38	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	TRANS-1,2-DICHLOROETHENE		U	ug/l	n	0 75	0 34	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	TRICHLOROETHENE		U	ug/l	n	0 5	0 34	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,2-DICHLOROBENZENE		U	ug/l	n	2 5	0 15	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,3-DICHLOROBENZENE		U	ug/l	n	2 5	0 2	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,4-DICHLOROBENZENE		U	ug/l	n	2 5	0 23	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	METHYL TERT BUTYL ETHER		U	ug/l	n	1	0 12	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	P/M-XYLENE		U	ug/l	n	0 5	0 39	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	O-XYLENE		U	ug/l	n	0 5	0.3	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,2,3-TRICHLOROPROPANE		U	ug/l	n	5	0 23	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW6S-02	8-Jun-04	L0406201-01	8260B	STYRENE		U	ug/l	n	0 5	0 44	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	DICHLORODIFLUOROMETHANE		U	ug/l	n	5	0 3	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	ACETONE		UJ	ug/l	n	5	1 5	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	CARBON DISULFIDE		U	ug/l	n	5	0 27	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	2-BUTANONE		U	ug/l	n	5	1 7	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	4-METHYL-2-PENTANONE		U	ug/l	n	5	0 4	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	2-HEXANONE		UJ	ug/l	n	5	1 8	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	BROMOCHLOROMETHANE		U	ug/l	n	2 5	0 19	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	2,2-DICHLOROPROPANE		U	ug/l	n	2 5	0 63	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,2-DIBROMOETHANE		U	ug/l	n	2	0 23	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,3-DICHLOROPROPANE		U	ug/l	n	2 5	0 17	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,1,1,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 31	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	BROMOBENZENE		U	ug/l	n	2 5	0 15	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	N-BUTYLBENZENE		U	ug/l	n	0 5	0 41	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	SEC-BUTYLBENZENE		U	ug/l	n	0 5	0 4	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	CIS-1,2-DICHLOROETHENE		U	ug/l	n	0 5	0 18	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	DIBROMOMETHANE		U	ug/l	n	5	0 19	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	TERT-BUTYLBENZENE		U	ug/l	n	2 5	0 29	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	O-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	P-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,2-DIBROMO-3-CHLOROPROPANE		U	ug/l	n	2 5	1 6	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	HEXACHLOROBUTADIENE		U	ug/l	n	1	0 43	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	ISOPROPYLBENZENE		U	ug/l	n	0 5	0 26	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	P-ISOPROPYLTOLUENE		U	ug/l	n	0 5	0 33	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	NAPHTHALENE		U	ug/l	n	2 5	0 41	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	N-PROPYLBENZENE		U	ug/l	n	0 5	0 32	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,2,3-TRICHLOROBENZENE		U	ug/l	n	2 5	0 38	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,2,4-TRICHLOROBENZENE		U	ug/l	n	2 5	0.28	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,3,5-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 27	1
6-GW6S-02	8-Jun-04	L0406201-01	8260B	1,2,4-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 25	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	1,2,4-TRICHLOROBENZENE		U	ug/l	n	5	1 3	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	HEXACHLOROBENZENE		U	ug/l	n	5	1 6	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	BIS(2-CHLOROETHYL)ETHER		U	ug/l	n	5	1 3	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	1,2-DICHLOROBENZENE		U	ug/l	n	5	1 1	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	1,3-DICHLOROBENZENE		U	ug/l	n	5	1	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	1,4-DICHLOROBENZENE		U	ug/l	n	5	0 96	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	3,3'-DICHLOROBENZIDINE		U	ug/l	n	50	2 6	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	2,4-DINITROTOLUENE		U	ug/l	n	6	0 48	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	2,6-DINITROTOLUENE		U	ug/l	n	5	0 96	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	4-CHLOROPHENYL PHENYL ETHER		U	ug/l	n	5	0 96	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	4-BROMOPHENYL PHENYL ETHER		U	ug/l	n	5	0 99	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	BIS(2-CHLOROISOPROPYL)ETHER		U	ug/l	n	5	2 2	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	BIS(2-CHLOROETHOXY)METHANE		U	ug/l	n	5	1 6	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	HEXACHLOROBUTADIENE		U	ug/l	n	10	2 1	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	HEXACHLOROETHANE		U	ug/l	n	5	0 97	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	ISOPHORONE		U	ug/l	n	5	1 6	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	NITROBENZENE		U	ug/l	n	5	1 6	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	NITROSODIPHENYLAMINE(NDPA)/DPA		U	ug/l	n	15	4 2	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	N-NITROSODI-N-PROPYLAMINE		U	ug/l	n	5	1 6	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	BIS(2-ETHYLHEXYL)PHTHALATE		U	ug/l	n	10	1 6	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	BUTYL BENZYL PHTHALATE		U	ug/l	n	5	0 67	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	DI-N-BUTYLPHTHALATE		U	ug/l	n	5	0 5	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	DI-N-OCTYLPHTHALATE		U	ug/l	n	5	0 54	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	DIETHYL PHTHALATE		U	ug/l	n	5	1 6	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	DIMETHYL PHTHALATE		U	ug/l	n	5	1 6	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	4-CHLOROANILINE		U	ug/l	n	5	1 4	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	2-NITROANILINE		U	ug/l	n	5	1 1	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	3-NITROANILINE		U	ug/l	n	5	1 1	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	4-NITROANILINE		U	ug/l	n	7	1 3	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW6S-02	8-Jun-04	L0406201-01	8270C	DIBENZOFURAN		U	ug/l	n	5	0 92	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	2,4,6-TRICHLOROPHENOL		U	ug/l	n	5	1 2	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	P-CHLORO-M-CRESOL		U	ug/l	n	5	1 5	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	2-CHLOROPHENOL		U	ug/l	n	6	1 8	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	2,4-DICHLOROPHENOL		U	ug/l	n	10	2.1	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	2,4-DIMETHYLPHENOL		U	ug/l	n	10	3 1	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	2-NITROPHENOL		U	ug/l	n	20	2 3	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	4-NITROPHENOL		U	ug/l	n	10	1 6	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	2,4-DINITROPHENOL		U	ug/l	n	20	1	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	4,6-DINITRO-O-CRESOL		U	ug/l	n	20	1.4	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	PENTACHLOROPHENOL		U	ug/l	n	20	1 6	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	PHENOL		U	ug/l	n	7	1 2	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	2-METHYLPHENOL		U	ug/l	n	6	1 5	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	3-METHYLPHENOL/4-METHYLPHENOL		U	ug/l	n	6	1 6	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	2,4,5-TRICHLOROPHENOL		U	ug/l	n	5	0 96	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	BENZOIC ACID		U	ug/l	n	50	0 99	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C	CARBAZOLE		U	ug/l	n	5	1 6	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	ACENAPHTHENE		U	ug/l	n	0 2	0 036	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	2-CHLORONAPHTHALENE		U	ug/l	n	0 2	0 042	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	FLUORANTHENE	0 076	J	ug/l	y	0 2	0 04	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	NAPHTHALENE		U	ug/l	n	0 2	0 031	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	BENZO(A)ANTHRACENE	0 14	J	ug/l	y	0 2	0 038	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	BENZO(A)PYRENE		U	ug/l	n	0 2	0 04	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	BENZO(B)FLUORANTHENE		U	ug/l	n	0 2	0 05	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	BENZO(K)FLUORANTHENE		U	ug/l	n	0 2	0 036	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	CHRYSENE	0 14	J	ug/l	y	0 2	0 024	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	ACENAPHTHYLENE		U	ug/l	n	0 2	0 03	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	ANTHRACENE		U	ug/l	n	0 2	0 049	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	BENZO(GHI)PERYLENE		U	ug/l	n	0 25	0 025	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	FLUORENE		U	ug/l	n	0 2	0 024	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	PHENANTHRENE		U	ug/l	n	0 2	0 031	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	DIBENZO(A,H)ANTHRACENE		U	ug/l	n	0 2	0 017	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	INDENO(1,2,3-CD)PYRENE		U	ug/l	n	0 2	0.026	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	PYRENE	0 092	J	ug/l	y	0 2	0 046	1
6-GW6S-02	8-Jun-04	L0406201-01	8270C-SIM	2-METHYLNAPHTHALENE		U	ug/l	n	0 2	0 036	1
6-GW6S-02	8-Jun-04	L0406201-01	8082	AROCLOR 1221		U	ug/l	n	0 5	0 07	1
6-GW6S-02	8-Jun-04	L0406201-01	8082	AROCLOR 1232		U	ug/l	n	0 5	0 15	1
6-GW6S-02	8-Jun-04	L0406201-01	8082	AROCLOR 1242/1016		U	ug/l	n	0 5	0 05	1
6-GW6S-02	8-Jun-04	L0406201-01	8082	AROCLOR 1248		UJ	ug/l	n	0 5	0.12	1
6-GW6S-02	8-Jun-04	L0406201-01	8082	AROCLOR 1254		U	ug/l	n	0 5	0 06	1
6-GW6S-02	8-Jun-04	L0406201-01	8082	AROCLOR 1260		U	ug/l	n	0 5	0 02	1
6-GW6S-02	8-Jun-04	L0406201-01	8082	AROCLOR 1268		U	ug/l	n	0 5	0 05	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	DELTA-BHC		U	ug/l	n	0 02	0 002	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	LINDANE		U	ug/l	n	0 02	0 003	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	ALPHA-BHC		UJ	ug/l	n	0 02	0 003	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	BETA-BHC		U	ug/l	n	0 02	0 005	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	HEPTACHLOR		U	ug/l	n	0 02	0 004	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	ALDRIN		U	ug/l	n	0.02	0 004	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	HEPTACHLOR EPOXIDE		U	ug/l	n	0 02	0.004	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	ENDRIN		UJ	ug/l	n	0 04	0 01	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	ENDRIN ALDEHYDE		U	ug/l	n	0 04	0 009	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	ENDRIN KETONE		U	ug/l	n	0 04	0 007	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	DIELDRIN		U	ug/l	n	0 04	0.008	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	4,4'-DDE		U	ug/l	n	0 04	0 007	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	4,4'-DDD		U	ug/l	n	0 04	0.014	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	4,4'-DDT		U	ug/l	n	0.04	0 007	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	ENDOSULFAN I		U	ug/l	n	0 02	0 005	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	ENDOSULFAN II		U	ug/l	n	0 04	0 014	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	ENDOSULFAN SULFATE		U	ug/l	n	0 04	0 009	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW6S-02	8-Jun-04	L0406201-01	8081A	METHOXYCHLOR		U	ug/l	n	0 2	0 04	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	TOXAPHENE		U	ug/l	n	0 5	0 075	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	HEXACHLOROBENZENE		U	ug/l	n	0 2	0 002	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	CIS-CHLORDANE		U	ug/l	n	0 02	0 004	1
6-GW6S-02	8-Jun-04	L0406201-01	8081A	TRANS-CHLORDANE		U	ug/l	n	0 02	0 004	1
6-GW6D-02	8-Jun-04	L0406201-02	8082	AROCLOR 1221		U	ug/l	n	0 5	0 07	1
6-GW6D-02	8-Jun-04	L0406201-02	8082	AROCLOR 1232		U	ug/l	n	0 5	0 15	1
6-GW6D-02	8-Jun-04	L0406201-02	8082	AROCLOR 1242/1016		U	ug/l	n	0 5	0 05	1
6-GW6D-02	8-Jun-04	L0406201-02	8082	AROCLOR 1248		UJ	ug/l	n	0 5	0 12	1
6-GW6D-02	8-Jun-04	L0406201-02	8082	AROCLOR 1254		U	ug/l	n	0 5	0 06	1
6-GW6D-02	8-Jun-04	L0406201-02	8082	AROCLOR 1260		U	ug/l	n	0 5	0 02	1
6-GW6D-02	8-Jun-04	L0406201-02	8082	AROCLOR 1268		U	ug/l	n	0 5	0 05	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	DELTA-BHC		U	ug/l	n	0 02	0 002	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	LINDANE		U	ug/l	n	0 02	0 003	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	ALPHA-BHC		UJ	ug/l	n	0 02	0 003	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	BETA-BHC		U	ug/l	n	0 02	0 005	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	HEPTACHLOR		U	ug/l	n	0.02	0 004	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	ALDRIN		U	ug/l	n	0 02	0 004	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	HEPTACHLOR EPOXIDE		U	ug/l	n	0 02	0 004	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	ENDRIN		UJ	ug/l	n	0 04	0 01	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	ENDRIN ALDEHYDE		U	ug/l	n	0 04	0 009	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	ENDRIN KETONE		U	ug/l	n	0 04	0 007	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	DIELDRIN		U	ug/l	n	0 04	0 008	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	4,4'-DDE		U	ug/l	n	0 04	0 007	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	4,4'-DDD		U	ug/l	n	0 04	0 014	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	4,4'-DDT		U	ug/l	n	0.04	0 007	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	ENDOSULFAN I		U	ug/l	n	0.02	0 005	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	ENDOSULFAN II		U	ug/l	n	0 04	0 014	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	ENDOSULFAN SULFATE		U	ug/l	n	0 04	0 009	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	METHOXYCHLOR		U	ug/l	n	0 2	0 04	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	TOXAPHENE		U	ug/l	n	0 5	0 075	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	HEXACHLOROBENZENE		U	ug/l	n	0 2	0 002	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	CIS-CHLORDANE		U	ug/l	n	0 02	0 004	1
6-GW6D-02	8-Jun-04	L0406201-02	8081A	TRANS-CHLORDANE		U	ug/l	n	0 02	0 004	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	ALUMINUM, TOTAL		U	mg/l	n	0 1	0 017	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	ANTIMONY, TOTAL		U	mg/l	n	0 05	0 002	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	ARSENIC, TOTAL		U	mg/l	n	0 004	0 0034	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	BARIUM, TOTAL	0 05		mg/l	y	0 01	0 0004	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	BERYLLIUM, TOTAL		U	mg/l	n	0 005	0 0006	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	CADMIUM, TOTAL		U	mg/l	n	0 005	0 0004	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	CALCIUM, TOTAL	72		mg/l	y	0 1	0 015	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	CHROMIUM, TOTAL		U	mg/l	n	0 01	0 0008	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	COBALT, TOTAL	0 0014	J	mg/l	y	0 02	0 0005	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	COPPER, TOTAL		U	mg/l	n	0 01	0 0018	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	IRON, TOTAL	7 6		mg/l	y	0 05	0 014	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	LEAD, TOTAL		U	mg/l	n	0 05	0 0048	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	MAGNESIUM, TOTAL	61		mg/l	y	0 1	0 014	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	MANGANESE, TOTAL	2.6		mg/l	y	0 01	0 0005	1
6-GW6D-02	8-Jun-04	L0406201-02	7470A	MERCURY, TOTAL		U	mg/l	n	0 0002	0 000012	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	MOLYBDENUM, TOTAL	0 0051	U	mg/l	n	0 05	0 0013	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	NICKEL, TOTAL	0 00424	J	mg/l	y	0 025	0 0018	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	POTASSIUM, TOTAL	39		mg/l	y	2 5	0 094	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	SELENIUM, TOTAL		U	mg/l	n	0 005	0 0025	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	SILVER, TOTAL	0 00083	J	mg/l	y	0 007	0 0007	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	SODIUM, TOTAL	580		mg/l	y	100	16	50
6-GW6D-02	8-Jun-04	L0406201-02	6010B	THALLIUM, TOTAL	0 00466	J	mg/l	y	0 005	0 0035	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	VANADIUM, TOTAL		U	mg/l	n	0 01	0 0008	1
6-GW6D-02	8-Jun-04	L0406201-02	6010B	ZINC, TOTAL	0 0061	J	mg/l	y	0 05	0 0022	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	METHYLENE CHLORIDE		U	ug/l	n	5	0 37	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,1-DICHLOROETHANE		U	ug/l	n	0 75	0 19	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	CHLOROFORM		U	ug/l	n	0 75	0 14	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	CARBON TETRACHLORIDE		U	ug/l	n	0 5	0 38	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,2-DICHLOROPROPANE		U	ug/l	n	1 8	0 24	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	DIBROMOCHLOROMETHANE		U	ug/l	n	0 5	0 19	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,1,2-TRICHLOROETHANE		U	ug/l	n	0 75	0 16	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	TETRACHLOROETHENE		U	ug/l	n	0 5	0 43	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	CHLOROBENZENE		U	ug/l	n	0 5	0 32	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	TRICHLOROFLUOROMETHANE		U	ug/l	n	2 5	0 29	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,2-DICHLOROETHANE		U	ug/l	n	0 5	0 14	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,1,1-TRICHLOROETHANE		U	ug/l	n	0 5	0 25	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	BROMODICHLOROMETHANE		U	ug/l	n	0 5	0 24	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	TRANS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 24	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	CIS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 13	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,1-DICHLOROPROPENE		U	ug/l	n	2 5	0 34	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	BROMOFORM		U	ug/l	n	2	1 1	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,1,2,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 29	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	BENZENE		U	ug/l	n	0 5	0 29	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	TOLUENE		U	ug/l	n	0 75	0 31	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	ETHYLBENZENE		U	ug/l	n	0 5	0 28	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	CHLOROMETHANE		U	ug/l	n	2 5	0 12	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	BROMOMETHANE		U	ug/l	n	1	0 36	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	VINYL CHLORIDE		U	ug/l	n	1	0 27	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	CHLOROETHANE		U	ug/l	n	1	0 36	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,1-DICHLOROETHENE		U	ug/l	n	0 5	0 38	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	TRANS-1,2-DICHLOROETHENE		U	ug/l	n	0 75	0 34	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	TRICHLOROETHENE	7 3		ug/l	y	0 5	0 34	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,2-DICHLOROBENZENE		U	ug/l	n	2 5	0 15	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,3-DICHLOROBENZENE		U	ug/l	n	2 5	0 2	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,4-DICHLOROBENZENE		U	ug/l	n	2 5	0 23	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	METHYL TERT BUTYL ETHER		U	ug/l	n	1	0 12	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	P/M-XYLENE		U	ug/l	n	0 5	0 39	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	O-XYLENE		U	ug/l	n	0 5	0 3	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	CIS-1,2-DICHLOROETHENE	4 7		ug/l	y	0 5	0 18	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	DIBROMOMETHANE		U	ug/l	n	5	0 19	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,2,3-TRICHLOROPROPANE		U	ug/l	n	5	0 23	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	STYRENE		U	ug/l	n	0 5	0 44	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	DICHLORODIFLUOROMETHANE		U	ug/l	n	5	0 3	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	ACETONE		UJ	ug/l	n	5	1 5	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	CARBON DISULFIDE		U	ug/l	n	5	0 27	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	2-BUTANONE		U	ug/l	n	5	1 7	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	4-METHYL-2-PENTANONE		U	ug/l	n	5	0 4	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	2-HEXANONE		UJ	ug/l	n	5	1 8	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	BROMOCHLOROMETHANE		U	ug/l	n	2 5	0 19	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	2,2-DICHLOROPROPANE		U	ug/l	n	2 5	0 63	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,2-DIBROMOETHANE		U	ug/l	n	2	0 23	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,3-DICHLOROPROPANE		U	ug/l	n	2 5	0 17	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,1,1,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 31	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	BROMOBENZENE		U	ug/l	n	2 5	0 15	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	N-BUTYLBENZENE		U	ug/l	n	0 5	0 41	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	SEC-BUTYLBENZENE		U	ug/l	n	0 5	0 4	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	TERT-BUTYLBENZENE		U	ug/l	n	2 5	0 29	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	O-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	P-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,2-DIBROMO-3-CHLOROPROPANE		U	ug/l	n	2 5	1 6	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	HEXACHLOROBUTADIENE		U	ug/l	n	1	0 43	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	ISOPROPYLBENZENE		U	ug/l	n	0 5	0 26	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	P-ISOPROPYLTOLUENE		U	ug/l	n	0 5	0 33	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	NAPHTHALENE		U	ug/l	n	2 5	0 41	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW6D-02	8-Jun-04	L0406201-02	8260B	N-PROPYLBENZENE		U	ug/l	n	0 5	0 32	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,2,3-TRICHLOROBENZENE		U	ug/l	n	2 5	0 38	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,2,4-TRICHLOROBENZENE		U	ug/l	n	2 5	0 28	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,3,5-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 27	1
6-GW6D-02	8-Jun-04	L0406201-02	8260B	1,2,4-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 25	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	1,2,4-TRICHLOROBENZENE		U	ug/l	n	5	1 3	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	HEXACHLOROBENZENE		U	ug/l	n	5	1 6	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	BIS(2-CHLOROETHYL)ETHER		U	ug/l	n	5	1 3	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	1,2-DICHLOROBENZENE		U	ug/l	n	5	1 1	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	1,3-DICHLOROBENZENE		U	ug/l	n	5	1	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	1,4-DICHLOROBENZENE		U	ug/l	n	5	0 96	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	3,3'-DICHLOROBENZIDINE		U	ug/l	n	50	2 6	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	2,4-DINITROTOLUENE		U	ug/l	n	6	0 48	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	2,6-DINITROTOLUENE		U	ug/l	n	5	0 96	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	4-CHLOROPHENYL PHENYL ETHER		U	ug/l	n	5	0 96	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	4-BROMOPHENYL PHENYL ETHER		U	ug/l	n	5	0 99	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	BIS(2-CHLOROISOPROPYL)ETHER		U	ug/l	n	5	2 2	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	BIS(2-CHLOROETHOXY)METHANE		U	ug/l	n	5	1 6	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	HEXACHLOROBUTADIENE		U	ug/l	n	10	2 1	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	HEXACHLOROETHANE		U	ug/l	n	5	0 97	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	ISOPHORONE		U	ug/l	n	5	1 6	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	NITROBENZENE		U	ug/l	n	5	1 6	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	NITROSODIPHENYLAMINE(NDPA)/DPA		U	ug/l	n	15	4 2	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	N-NITROSODI-N-PROPYLAMINE		U	ug/l	n	5	1 6	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	BIS(2-ETHYLHEXYL)PHTHALATE	10		ug/l	y	10	1 6	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	BUTYL BENZYL PHTHALATE		U	ug/l	n	5	0 67	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	DI-N-BUTYLPHTHALATE		U	ug/l	n	5	0 5	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	DI-N-OCTYLPHTHALATE		U	ug/l	n	5	0 54	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	DIETHYL PHTHALATE		U	ug/l	n	5	1 6	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	DIMETHYL PHTHALATE		U	ug/l	n	5	1 6	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	4-CHLOROANILINE		U	ug/l	n	5	1 4	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	2-NITROANILINE		U	ug/l	n	5	1 1	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	3-NITROANILINE		U	ug/l	n	5	1 1	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	4-NITROANILINE		U	ug/l	n	7	1 3	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	DIBENZOFURAN		U	ug/l	n	5	0 92	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	2,4,6-TRICHLOROPHENOL		U	ug/l	n	5	1 2	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	P-CHLORO-M-CRESOL		U	ug/l	n	5	1 5	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	2-CHLOROPHENOL		U	ug/l	n	6	1 8	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	2,4-DICHLOROPHENOL		U	ug/l	n	10	2 1	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	2,4-DIMETHYLPHENOL		U	ug/l	n	10	3 1	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	2-NITROPHENOL		U	ug/l	n	20	2 3	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	4-NITROPHENOL		U	ug/l	n	10	1 6	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	2,4-DINITROPHENOL		U	ug/l	n	20	1	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	4,6-DINITRO-O-CRESOL		U	ug/l	n	20	1 4	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	PENTACHLOROPHENOL		U	ug/l	n	20	1 6	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	PHENOL		U	ug/l	n	7	1 2	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	2-METHYLPHENOL		U	ug/l	n	6	1 5	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	3-METHYLPHENOL/4-METHYLPHENOL		U	ug/l	n	6	1 6	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	2,4,5-TRICHLOROPHENOL		U	ug/l	n	5	0 96	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	BENZOIC ACID		U	ug/l	n	50	0 99	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C	CARBAZOLE		U	ug/l	n	5	1 6	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	ACENAPHTHENE		U	ug/l	n	0 2	0 036	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	2-CHLORONAPHTHALENE		U	ug/l	n	0 2	0 042	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	FLUORANTHENE		U	ug/l	n	0 2	0 04	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	NAPHTHALENE		U	ug/l	n	0 2	0 031	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	BENZO(A)ANTHRACENE	0 076	J	ug/l	y	0 2	0 038	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	BENZO(A)PYRENE		U	ug/l	n	0 2	0 04	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	BENZO(B)FLUORANTHENE		U	ug/l	n	0 2	0 05	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	BENZO(K)FLUORANTHENE		U	ug/l	n	0 2	0 036	1

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	CHRYSENE	0 072	J	ug/l	y	0 2	0 024	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	ACENAPHTHYLENE		U	ug/l	n	0 2	0 03	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	ANTHRACENE		U	ug/l	n	0 2	0 049	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	BENZO(GHI)PERYLENE		U	ug/l	n	0 25	0 025	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	FLUORENE		U	ug/l	n	0.2	0 024	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	PHENANTHRENE		U	ug/l	n	0 2	0 031	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	DIBENZO(A,H)ANTHRACENE		U	ug/l	n	0 2	0 017	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	INDENO(1,2,3-CD)PYRENE		U	ug/l	n	0.2	0 026	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	PYRENE		U	ug/l	n	0 2	0 046	1
6-GW6D-02	8-Jun-04	L0406201-02	8270C-SIM	2-METHYLNAPHTHALENE		U	ug/l	n	0 2	0 036	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	ALUMINUM, TOTAL	0 32		mg/l	y	0 1	0 017	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	ANTIMONY, TOTAL		U	mg/l	n	0.05	0 002	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	ARSENIC, TOTAL		U	mg/l	n	0.004	0 0034	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	BARIUM, TOTAL	0 02		mg/l	y	0.01	0 0004	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	BERYLLIUM, TOTAL		U	mg/l	n	0 005	0 0006	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	CADMIUM, TOTAL		U	mg/l	n	0 005	0 0004	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	CALCIUM, TOTAL	2 5		mg/l	y	0 1	0.015	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	CHROMIUM, TOTAL		U	mg/l	n	0 01	0 0008	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	COBALT, TOTAL	0 0024	J	mg/l	y	0 02	0.0005	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	COPPER, TOTAL	0 0044	J	mg/l	y	0 01	0 0018	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	IRON, TOTAL	0 039	J	mg/l	y	0 05	0 014	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	LEAD, TOTAL		U	mg/l	n	0 05	0 0048	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	MAGNESIUM, TOTAL	0 64		mg/l	y	0.1	0 014	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	MANGANESE, TOTAL	0 17		mg/l	y	0 01	0 0005	1
6-GW9S-02	9-Jun-04	L0406201-03	7470A	MERCURY, TOTAL		U	mg/l	n	0 0002	0 000012	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	MOLYBDENUM, TOTAL	0 0013	U	mg/l	n	0 05	0 0013	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	NICKEL, TOTAL	0 00296	J	mg/l	y	0 025	0 0018	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	POTASSIUM, TOTAL	0 68	J	mg/l	y	2 5	0 094	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	SELENIUM, TOTAL		U	mg/l	n	0 005	0 0025	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	SILVER, TOTAL	0 00071	J	mg/l	y	0 007	0 0007	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	SODIUM, TOTAL	2 4		mg/l	y	2	0 31	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	THALLIUM, TOTAL		U	mg/l	n	0 005	0 0035	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	VANADIUM, TOTAL		U	mg/l	n	0.01	0 0008	1
6-GW9S-02	9-Jun-04	L0406201-03	6010B	ZINC, TOTAL	0 11		mg/l	y	0 05	0 0022	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	METHYLENE CHLORIDE		U	ug/l	n	5	0 37	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,1-DICHLOROETHANE		U	ug/l	n	0 75	0 19	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	CHLOROFORM		U	ug/l	n	0 75	0 14	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	CARBON TETRACHLORIDE		U	ug/l	n	0 5	0 38	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,2-DICHLOROPROPANE		U	ug/l	n	1 8	0 24	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	DIBROMOCHLOROMETHANE		U	ug/l	n	0 5	0 19	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,1,2-TRICHLOROETHANE		U	ug/l	n	0 75	0 16	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	TETRACHLOROETHENE		U	ug/l	n	0 5	0 43	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	CHLOROBENZENE		U	ug/l	n	0.5	0 32	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	TRICHLOROFLUOROMETHANE		U	ug/l	n	2 5	0 29	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,2-DICHLOROETHANE		U	ug/l	n	0 5	0 14	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,1,1-TRICHLOROETHANE		U	ug/l	n	0 5	0 25	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	BROMODICHLOROMETHANE		U	ug/l	n	0 5	0 24	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	TRANS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 24	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	CIS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 13	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,1-DICHLOROPROPENE		U	ug/l	n	2 5	0 34	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	BROMOFORM		U	ug/l	n	2	1 1	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,1,2,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 29	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	BENZENE		U	ug/l	n	0 5	0 29	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	TOLUENE		U	ug/l	n	0 75	0 31	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	ETHYLBENZENE		U	ug/l	n	0 5	0 28	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	CHLOROMETHANE		U	ug/l	n	2 5	0 12	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	BROMOMETHANE		U	ug/l	n	1	0 36	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	VINYL CHLORIDE		U	ug/l	n	1	0 27	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	CHLOROETHANE		U	ug/l	n	1	0 36	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,1-DICHLOROETHENE		U	ug/l	n	0 5	0 38	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	TRANS-1,2-DICHLOROETHENE		U	ug/l	n	0 75	0 34	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	TRICHLOROETHENE		U	ug/l	n	0 5	0 34	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,2-DICHLOROBENZENE		U	ug/l	n	2 5	0 15	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,3-DICHLOROBENZENE		U	ug/l	n	2.5	0 2	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,4-DICHLOROBENZENE		U	ug/l	n	2 5	0 23	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	METHYL TERT BUTYL ETHER		U	ug/l	n	1	0 12	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	P/M-XYLENE		U	ug/l	n	0 5	0 39	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	O-XYLENE		U	ug/l	n	0 5	0 3	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	CIS-1,2-DICHLOROETHENE		U	ug/l	n	0 5	0 18	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	DIBROMOMETHANE		U	ug/l	n	5	0 19	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,2,3-TRICHLOROPROPANE		U	ug/l	n	5	0 23	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	STYRENE		U	ug/l	n	0 5	0 44	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	DICHLORODIFLUOROMETHANE		U	ug/l	n	5	0 3	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	ACETONE		UJ	ug/l	n	5	1 5	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	CARBON DISULFIDE		U	ug/l	n	5	0 27	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	2-BUTANONE		U	ug/l	n	5	1 7	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	4-METHYL-2-PENTANONE		U	ug/l	n	5	0 4	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	2-HEXANONE		UJ	ug/l	n	5	1 8	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	BROMOCHLOROMETHANE		U	ug/l	n	2 5	0 19	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	2,2-DICHLOROPROPANE		U	ug/l	n	2 5	0 63	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,2-DIBROMOETHANE		U	ug/l	n	2	0 23	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,3-DICHLOROPROPANE		U	ug/l	n	2 5	0 17	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,1,1,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 31	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	BROMOBENZENE		U	ug/l	n	2 5	0 15	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	N-BUTYLBENZENE		U	ug/l	n	0 5	0 41	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	SEC-BUTYLBENZENE		U	ug/l	n	0 5	0 4	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	TERT-BUTYLBENZENE		U	ug/l	n	2.5	0.29	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	O-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	P-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,2-DIBROMO-3-CHLOROPROPANE		U	ug/l	n	2 5	1 6	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	HEXACHLOROBUTADIENE		U	ug/l	n	1	0 43	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	ISOPROPYLBENZENE		U	ug/l	n	0 5	0 26	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	P-ISOPROPYLTOLUENE		U	ug/l	n	0 5	0 33	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	NAPHTHALENE		U	ug/l	n	2 5	0.41	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	N-PROPYLBENZENE		U	ug/l	n	0 5	0 32	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,2,3-TRICHLOROBENZENE		U	ug/l	n	2 5	0 38	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,2,4-TRICHLOROBENZENE		U	ug/l	n	2 5	0 28	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,3,5-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 27	1
6-GW9S-02	9-Jun-04	L0406201-03	8260B	1,2,4-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 25	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	1,2,4-TRICHLOROBENZENE		U	ug/l	n	5	1 3	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	HEXACHLOROBENZENE		U	ug/l	n	5	1 6	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	BIS(2-CHLOROETHYL)ETHER		U	ug/l	n	5	1 3	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	1,2-DICHLOROBENZENE		U	ug/l	n	5	1 1	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	1,3-DICHLOROBENZENE		U	ug/l	n	5	1	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	1,4-DICHLOROBENZENE		U	ug/l	n	5	0 96	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	3,3'-DICHLOROBENZIDINE		U	ug/l	n	50	2 6	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	2,4-DINITROTOLUENE		U	ug/l	n	6	0 48	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	2,6-DINITROTOLUENE		U	ug/l	n	5	0 96	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	4-CHLOROPHENYL PHENYL ETHER		U	ug/l	n	5	0 96	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	4-BROMOPHENYL PHENYL ETHER		U	ug/l	n	5	0 99	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	BIS(2-CHLOROISOPROPYL)ETHER		U	ug/l	n	5	2 2	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	BIS(2-CHLOROETHOXY)METHANE		U	ug/l	n	5	1 6	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	HEXACHLOROBUTADIENE		U	ug/l	n	10	2 1	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	HEXACHLOROETHANE		U	ug/l	n	5	0 97	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	ISOPHORONE		U	ug/l	n	5	1 6	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	NITROBENZENE		U	ug/l	n	5	1 6	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	NITROSODIPHENYLAMINE(NDPA)/DPA		U	ug/l	n	15	4 2	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	N-NITROSODI-N-PROPYLAMINE		U	ug/l	n	5	1 6	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW9S-02	9-Jun-04	L0406201-03	8270C	BIS(2-ETHYLHEXYL)PHTHALATE	2 6	J	ug/l	y	10	1 6	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	BUTYL BENZYL PHTHALATE		U	ug/l	n	5	0 67	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	DI-N-BUTYLPHTHALATE		U	ug/l	n	5	0 5	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	DI-N-OCTYLPHTHALATE		U	ug/l	n	5	0 54	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	DIETHYL PHTHALATE		U	ug/l	n	5	1 6	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	DIMETHYL PHTHALATE		U	ug/l	n	5	1 6	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	4-CHLOROANILINE		U	ug/l	n	5	1 4	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	2-NITROANILINE		U	ug/l	n	5	1 1	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	3-NITROANILINE		U	ug/l	n	5	1 1	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	4-NITROANILINE		U	ug/l	n	7	1 3	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	DIBENZOFURAN		U	ug/l	n	5	0 92	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	2,4,6-TRICHLOROPHENOL		U	ug/l	n	5	1 2	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	P-CHLORO-M-CRESOL		U	ug/l	n	5	1 5	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	2-CHLOROPHENOL		U	ug/l	n	6	1 8	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	2,4-DICHLOROPHENOL		U	ug/l	n	10	2 1	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	2,4-DIMETHYLPHENOL		U	ug/l	n	10	3 1	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	2-NITROPHENOL		U	ug/l	n	20	2 3	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	4-NITROPHENOL		U	ug/l	n	10	1 6	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	2,4-DINITROPHENOL		U	ug/l	n	20	1	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	4,6-DINITRO-O-CRESOL		U	ug/l	n	20	1 4	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	PENTACHLOROPHENOL		U	ug/l	n	20	1 6	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	PHENOL		U	ug/l	n	7	1 2	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	2-METHYLPHENOL		U	ug/l	n	6	1 5	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	3-METHYLPHENOL/4-METHYLPHENOL		U	ug/l	n	6	1 6	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	2,4,5-TRICHLOROPHENOL		U	ug/l	n	5	0 96	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	BENZOIC ACID		U	ug/l	n	50	0 99	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C	CARBAZOLE		U	ug/l	n	5	1 6	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	ACENAPHTHENE		U	ug/l	n	0 2	0.036	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	2-CHLORONAPHTHALENE		U	ug/l	n	0 2	0 042	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	FLUORANTHENE		U	ug/l	n	0 2	0 04	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	NAPHTHALENE		U	ug/l	n	0 2	0 031	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	BENZO(A)ANTHRACENE		U	ug/l	n	0 2	0 038	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	BENZO(A)PYRENE		U	ug/l	n	0 2	0 04	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	BENZO(B)FLUORANTHENE		U	ug/l	n	0 2	0 05	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	BENZO(K)FLUORANTHENE		U	ug/l	n	0 2	0 036	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	CHRYSENE		U	ug/l	n	0 2	0 024	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	ACENAPHTHYLENE		U	ug/l	n	0 2	0 03	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	ANTHRACENE		U	ug/l	n	0 2	0 049	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	BENZO(GHI)PERYLENE		U	ug/l	n	0 25	0 025	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	FLUORENE		U	ug/l	n	0 2	0 024	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	PHENANTHRENE		U	ug/l	n	0 2	0 031	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	DIBENZO(A,H)ANTHRACENE		U	ug/l	n	0 2	0 017	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	INDENO(1,2,3-CD)PYRENE		U	ug/l	n	0 2	0 026	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	PYRENE		U	ug/l	n	0 2	0 046	1
6-GW9S-02	9-Jun-04	L0406201-03	8270C-SIM	2-METHYLNAPHTHALENE		U	ug/l	n	0 2	0 036	1
6-GW9S-02	9-Jun-04	L0406201-03	8082	AROCLOR 1221		U	ug/l	n	0 5	0 07	1
6-GW9S-02	9-Jun-04	L0406201-03	8082	AROCLOR 1232		U	ug/l	n	0 5	0 15	1
6-GW9S-02	9-Jun-04	L0406201-03	8082	AROCLOR 1242/1016		U	ug/l	n	0 5	0 05	1
6-GW9S-02	9-Jun-04	L0406201-03	8082	AROCLOR 1248		UJ	ug/l	n	0 5	0 12	1
6-GW9S-02	9-Jun-04	L0406201-03	8082	AROCLOR 1254		U	ug/l	n	0 5	0 06	1
6-GW9S-02	9-Jun-04	L0406201-03	8082	AROCLOR 1260		U	ug/l	n	0 5	0 02	1
6-GW9S-02	9-Jun-04	L0406201-03	8082	AROCLOR 1268		U	ug/l	n	0 5	0 05	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	DELTA-BHC		U	ug/l	n	0 02	0 002	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	LINDANE		U	ug/l	n	0 02	0 003	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	ALPHA-BHC		UJ	ug/l	n	0 02	0 003	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	BETA-BHC		U	ug/l	n	0 02	0 005	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	HEPTACHLOR		U	ug/l	n	0 02	0 004	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	ALDRIN		U	ug/l	n	0 02	0 004	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	HEPTACHLOR EPOXIDE		U	ug/l	n	0 02	0 004	1

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW9S-02	9-Jun-04	L0406201-03	8081A	ENDRIN		UJ	ug/l	n	0 04	0 01	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	ENDRIN ALDEHYDE		U	ug/l	n	0 04	0 009	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	ENDRIN KETONE		U	ug/l	n	0 04	0 007	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	DIELDRIN		U	ug/l	n	0 04	0 008	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	4,4'-DDE		U	ug/l	n	0.04	0 007	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	4,4'-DDD		U	ug/l	n	0 04	0 014	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	4,4'-DDT		U	ug/l	n	0 04	0 007	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	ENDOSULFAN I		U	ug/l	n	0 02	0 005	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	ENDOSULFAN II		U	ug/l	n	0 04	0 014	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	ENDOSULFAN SULFATE		U	ug/l	n	0 04	0 009	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	METHOXYCHLOR		U	ug/l	n	0 2	0 04	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	TOXAPHENE		U	ug/l	n	0 5	0.075	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	HEXACHLOROBENZENE		U	ug/l	n	0 2	0 002	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	CIS-CHLORDANE		U	ug/l	n	0 02	0 004	1
6-GW9S-02	9-Jun-04	L0406201-03	8081A	TRANS-CHLORDANE		U	ug/l	n	0.02	0 004	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	ACENAPHTHENE		U	ug/l	n	0.2	0 036	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	2-CHLORONAPHTHALENE		U	ug/l	n	0.2	0 042	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	FLUORANTHENE		U	ug/l	n	0 2	0 04	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	NAPHTHALENE		U	ug/l	n	0 2	0 031	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	BENZO(A)ANTHRACENE		U	ug/l	n	0 2	0 038	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	BENZO(A)PYRENE		U	ug/l	n	0 2	0 04	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	BENZO(B)FLUORANTHENE		U	ug/l	n	0 2	0 05	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	BENZO(K)FLUORANTHENE		U	ug/l	n	0 2	0 036	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	CHRYSENE		U	ug/l	n	0 2	0 024	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	ACENAPHTHYLENE		U	ug/l	n	0 2	0 03	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	ANTHRACENE		U	ug/l	n	0 2	0 049	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	BENZO(GHI)PERYLENE		U	ug/l	n	0 25	0 025	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	FLUORENE		U	ug/l	n	0 2	0 024	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	PHENANTHRENE		U	ug/l	n	0 2	0 031	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	DIBENZO(A,H)ANTHRACENE		U	ug/l	n	0 2	0 017	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	INDENO(1,2,3-CD)PYRENE		U	ug/l	n	0 2	0 026	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	PYRENE		U	ug/l	n	0 2	0 046	1
FD-060904-02	9-Jun-04	L0406201-04	8270C-SIM	2-METHYLNAPHTHALENE		U	ug/l	n	0 2	0 036	1
FD-060904-02	9-Jun-04	L0406201-04	8082	AROCLOR 1221		U	ug/l	n	0 5	0.07	1
FD-060904-02	9-Jun-04	L0406201-04	8082	AROCLOR 1232		U	ug/l	n	0 5	0 15	1
FD-060904-02	9-Jun-04	L0406201-04	8082	AROCLOR 1242/1016		U	ug/l	n	0 5	0.05	1
FD-060904-02	9-Jun-04	L0406201-04	8082	AROCLOR 1248		UJ	ug/l	n	0 5	0 12	1
FD-060904-02	9-Jun-04	L0406201-04	8082	AROCLOR 1254		U	ug/l	n	0 5	0 06	1
FD-060904-02	9-Jun-04	L0406201-04	8082	AROCLOR 1260		U	ug/l	n	0 5	0.02	1
FD-060904-02	9-Jun-04	L0406201-04	8082	AROCLOR 1268		U	ug/l	n	0 5	0 05	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	DELTA-BHC		U	ug/l	n	0 02	0 002	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	LINDANE		U	ug/l	n	0 02	0 003	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	ALPHA-BHC		UJ	ug/l	n	0 02	0 003	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	BETA-BHC		U	ug/l	n	0 02	0 005	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	HEPTACHLOR		U	ug/l	n	0 02	0 004	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	ALDRIN		U	ug/l	n	0 02	0 004	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	HEPTACHLOR EPOXIDE		U	ug/l	n	0 02	0 004	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	ENDRIN		UJ	ug/l	n	0 04	0 01	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	ENDRIN ALDEHYDE		U	ug/l	n	0 04	0 009	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	ENDRIN KETONE		U	ug/l	n	0 04	0 007	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	DIELDRIN		U	ug/l	n	0 04	0 008	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	4,4'-DDE		U	ug/l	n	0 04	0 007	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	4,4'-DDD		U	ug/l	n	0 04	0 014	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	4,4'-DDT		U	ug/l	n	0 04	0 007	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	ENDOSULFAN I		U	ug/l	n	0 02	0 005	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	ENDOSULFAN II		U	ug/l	n	0 04	0 014	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	ENDOSULFAN SULFATE		UJ	ug/l	n	0 04	0 009	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	METHOXYCHLOR		U	ug/l	n	0 2	0 04	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	TOXAPHENE		U	ug/l	n	0 5	0 075	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
FD-060904-02	9-Jun-04	L0406201-04	8081A	HEXACHLOROBENZENE		U	ug/l	n	0 2	0 002	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	CIS-CHLORDANE		U	ug/l	n	0 02	0 004	1
FD-060904-02	9-Jun-04	L0406201-04	8081A	TRANS-CHLORDANE		U	ug/l	n	0 02	0 004	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	ALUMINUM, TOTAL	0 34		mg/l	y	0 1	0 017	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	ANTIMONY, TOTAL		U	mg/l	n	0 05	0 002	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	ARSENIC, TOTAL		U	mg/l	n	0 004	0 0034	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	BARIUM, TOTAL	0 02		mg/l	y	0 01	0 0004	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	BERYLLIUM, TOTAL		U	mg/l	n	0 005	0 0006	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	CADMIUM, TOTAL		U	mg/l	n	0.005	0 0004	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	CALCIUM, TOTAL	2 4		mg/l	y	0 1	0 015	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	CHROMIUM, TOTAL		U	mg/l	n	0 01	0 0008	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	COBALT, TOTAL	0 0025	J	mg/l	y	0 02	0 0005	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	COPPER, TOTAL	0 004	J	mg/l	y	0.01	0 0018	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	IRON, TOTAL	0 08	J	mg/l	y	0.05	0 014	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	LEAD, TOTAL		U	mg/l	n	0 05	0 0048	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	MAGNESIUM, TOTAL	0 64		mg/l	y	0 1	0 014	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	MANGANESE, TOTAL	0 17		mg/l	y	0 01	0 0005	1
FD-060904-02	9-Jun-04	L0406201-04	7470A	MERCURY, TOTAL		U	mg/l	n	0.0002	0 000012	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	MOLYBDENUM, TOTAL	0 0018	U	mg/l	n	0.05	0 0013	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	NICKEL, TOTAL	0 00234	J	mg/l	y	0 025	0 0018	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	POTASSIUM, TOTAL	0 64	J	mg/l	y	2 5	0 094	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	SELENIUM, TOTAL		U	mg/l	n	0 005	0 0025	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	SILVER, TOTAL		UJ	mg/l	n	0 007	0 0007	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	SODIUM, TOTAL	2 2		mg/l	y	2	0 31	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	THALLIUM, TOTAL		U	mg/l	n	0 005	0 0035	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	VANADIUM, TOTAL		U	mg/l	n	0 01	0 0008	1
FD-060904-02	9-Jun-04	L0406201-04	6010B	ZINC, TOTAL	0 11		mg/l	y	0 05	0 0022	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	METHYLENE CHLORIDE		U	ug/l	n	5	0 37	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,1-DICHLOROETHANE		U	ug/l	n	0 75	0 19	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	CHLOROFORM		U	ug/l	n	0 75	0 14	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	CARBON TETRACHLORIDE		U	ug/l	n	0 5	0 38	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,2-DICHLOROPROPANE		U	ug/l	n	1 8	0 24	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	DIBROMOCHLOROMETHANE		U	ug/l	n	0 5	0 19	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,1,2-TRICHLOROETHANE		U	ug/l	n	0 75	0 16	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	TETRACHLOROETHENE		U	ug/l	n	0 5	0 43	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	CHLOROBENZENE		U	ug/l	n	0 5	0 32	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	TRICHLOROFLUOROMETHANE		U	ug/l	n	2 5	0 29	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,2-DICHLOROETHANE		U	ug/l	n	0 5	0 14	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,1,1-TRICHLOROETHANE		U	ug/l	n	0 5	0 25	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	BROMODICHLOROMETHANE		U	ug/l	n	0 5	0 24	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	TRANS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 24	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	CIS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 13	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,1-DICHLOROPROPENE		U	ug/l	n	2 5	0 34	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	BROMOFORM		U	ug/l	n	2	1 1	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,1,2,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 29	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	BENZENE		U	ug/l	n	0 5	0 29	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	TOLUENE		U	ug/l	n	0 75	0 31	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	ETHYLBENZENE		U	ug/l	n	0 5	0 28	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	CHLOROMETHANE		U	ug/l	n	2 5	0 12	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	BROMOMETHANE		U	ug/l	n	1	0 36	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	VINYL CHLORIDE		U	ug/l	n	1	0 27	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	CHLOROETHANE		U	ug/l	n	1	0 36	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,1-DICHLOROETHENE		U	ug/l	n	0 5	0 38	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	TRANS-1,2-DICHLOROETHENE		U	ug/l	n	0 75	0 34	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	TRICHLOROETHENE		U	ug/l	n	0 5	0 34	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,2-DICHLOROBENZENE		U	ug/l	n	2 5	0 15	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,3-DICHLOROBENZENE		U	ug/l	n	2 5	0 2	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,4-DICHLOROBENZENE		U	ug/l	n	2 5	0 23	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	METHYL TERT BUTYL ETHER		U	ug/l	n	1	0 12	1

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
FD-060904-02	9-Jun-04	L0406201-04	8260B	P/M-XYLENE		U	ug/l	n	0 5	0 39	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	O-XYLENE		U	ug/l	n	0 5	0 3	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	CIS-1,2-DICHLOROETHENE		U	ug/l	n	0 5	0 18	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	DIBROMOMETHANE		U	ug/l	n	5	0 19	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,2,3-TRICHLOROPROPANE		U	ug/l	n	5	0 23	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	STYRENE		U	ug/l	n	0.5	0 44	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	DICHLORODIFLUOROMETHANE		U	ug/l	n	5	0 3	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	ACETONE		UJ	ug/l	n	5	1 5	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	CARBON DISULFIDE		U	ug/l	n	5	0 27	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	2-BUTANONE		U	ug/l	n	5	1 7	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	4-METHYL-2-PENTANONE		U	ug/l	n	5	0 4	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	2-HEXANONE		UJ	ug/l	n	5	1 8	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	BROMOCHLOROMETHANE		U	ug/l	n	2 5	0 19	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	2,2-DICHLOROPROPANE		U	ug/l	n	2 5	0 63	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,2-DIBROMOETHANE		U	ug/l	n	2	0 23	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,3-DICHLOROPROPANE		U	ug/l	n	2 5	0 17	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,1,1,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 31	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	BROMOBENZENE		U	ug/l	n	2 5	0 15	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	N-BUTYLBENZENE		U	ug/l	n	0 5	0 41	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	SEC-BUTYLBENZENE		U	ug/l	n	0 5	0 4	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	TERT-BUTYLBENZENE		U	ug/l	n	2 5	0 29	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	O-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	P-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,2-DIBROMO-3-CHLOROPROPANE		U	ug/l	n	2 5	1 6	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	HEXACHLOROBUTADIENE		U	ug/l	n	1	0 43	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	ISOPROPYLBENZENE		U	ug/l	n	0 5	0 26	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	P-ISOPROPYLTOLUENE		U	ug/l	n	0 5	0 33	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	NAPHTHALENE		U	ug/l	n	2 5	0 41	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	N-PROPYLBENZENE		U	ug/l	n	0 5	0 32	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,2,3-TRICHLOROBENZENE		U	ug/l	n	2 5	0 38	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,2,4-TRICHLOROBENZENE		U	ug/l	n	2 5	0 28	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,3,5-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 27	1
FD-060904-02	9-Jun-04	L0406201-04	8260B	1,2,4-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 25	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	1,2,4-TRICHLOROBENZENE		U	ug/l	n	5	1 3	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	HEXACHLOROBENZENE		U	ug/l	n	5	1 6	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	BIS(2-CHLOROETHYL)ETHER		U	ug/l	n	5	1 3	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	1,2-DICHLOROBENZENE		U	ug/l	n	5	1 1	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	1,3-DICHLOROBENZENE		U	ug/l	n	5	1	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	1,4-DICHLOROBENZENE		U	ug/l	n	5	0 96	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	3,3'-DICHLOROBENZIDINE		U	ug/l	n	50	2 6	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	2,4-DINITROTOLUENE		U	ug/l	n	6	0 48	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	2,6-DINITROTOLUENE		U	ug/l	n	5	0 96	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	4-CHLOROPHENYL PHENYL ETHER		U	ug/l	n	5	0 96	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	4-BROMOPHENYL PHENYL ETHER		U	ug/l	n	5	0 99	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	BIS(2-CHLOROISOPROPYL)ETHER		U	ug/l	n	5	2 2	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	BIS(2-CHLOROETHOXY)METHANE		U	ug/l	n	5	1 6	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	HEXACHLOROBUTADIENE		U	ug/l	n	10	2 1	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	HEXACHLOROETHANE		U	ug/l	n	5	0 97	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	ISOPHORONE		U	ug/l	n	5	1 6	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	NITROBENZENE		U	ug/l	n	5	1 6	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	NITROSODIPHENYLAMINE(NDPA)/DPA		U	ug/l	n	15	4 2	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	N-NITROSODI-N-PROPYLAMINE		U	ug/l	n	5	1 6	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	BIS(2-ETHYLHEXYL)PHTHALATE	3 7	J	ug/l	y	10	1 6	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	BUTYL BENZYL PHTHALATE		U	ug/l	n	5	0 67	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	DI-N-BUTYLPHTHALATE		U	ug/l	n	5	0 5	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	DI-N-OCTYLPHTHALATE		U	ug/l	n	5	0 54	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	DIETHYL PHTHALATE		U	ug/l	n	5	1 6	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	DIMETHYL PHTHALATE		U	ug/l	n	5	1 6	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	4-CHLOROANILINE		U	ug/l	n	5	1 4	1

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
FD-060904-02	9-Jun-04	L0406201-04	8270C	2-NITROANILINE		U	ug/l	n	5	1 1	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	3-NITROANILINE		U	ug/l	n	5	1 1	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	4-NITROANILINE		U	ug/l	n	7	1 3	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	DIBENZOFURAN		U	ug/l	n	5	0 92	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	2,4,6-TRICHLOROPHENOL		U	ug/l	n	5	1 2	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	P-CHLORO-M-CRESOL		U	ug/l	n	5	1 5	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	2-CHLOROPHENOL		U	ug/l	n	6	1 8	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	2,4-DICHLOROPHENOL		U	ug/l	n	10	2 1	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	2,4-DIMETHYLPHENOL		U	ug/l	n	10	3 1	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	2-NITROPHENOL		U	ug/l	n	20	2 3	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	4-NITROPHENOL		U	ug/l	n	10	1 6	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	2,4-DINITROPHENOL		U	ug/l	n	20	1	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	4,6-DINITRO-O-CRESOL		U	ug/l	n	20	1 4	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	PENTACHLOROPHENOL		U	ug/l	n	20	1 6	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	PHENOL		U	ug/l	n	7	1 2	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	2-METHYLPHENOL		U	ug/l	n	6	1 5	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	3-METHYLPHENOL/4-METHYLPHENOL		U	ug/l	n	6	1 6	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	2,4,5-TRICHLOROPHENOL		U	ug/l	n	5	0 96	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	BENZOIC ACID		U	ug/l	n	50	0 99	1
FD-060904-02	9-Jun-04	L0406201-04	8270C	CARBAZOLE		U	ug/l	n	5	1 6	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	ALUMINUM, TOTAL	0 12		mg/l	y	0 1	0 017	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	ANTIMONY, TOTAL		U	mg/l	n	0 05	0 002	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	ARSENIC, TOTAL		U	mg/l	n	0 004	0 0034	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	BARIUM, TOTAL	0 05		mg/l	y	0 01	0 0004	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	BERYLLIUM, TOTAL		U	mg/l	n	0 005	0.0006	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	CADMIUM, TOTAL	0 00087	J	mg/l	y	0 005	0 0004	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	CALCIUM, TOTAL	49		mg/l	y	0 1	0 015	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	CHROMIUM, TOTAL		U	mg/l	n	0 01	0 0008	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	COBALT, TOTAL		U	mg/l	n	0 02	0 0005	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	COPPER, TOTAL	0 01		mg/l	y	0 01	0 0018	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	IRON, TOTAL	0 15		mg/l	y	0 05	0 014	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	LEAD, TOTAL		U	mg/l	n	0 05	0 0048	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	MAGNESIUM, TOTAL	100		mg/l	y	0.1	0 014	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	MANGANESE, TOTAL	0.14		mg/l	y	0 01	0 0005	1
6-GW11S-02	9-Jun-04	L0406201-05	7470A	MERCURY, TOTAL		U	mg/l	n	0 0002	0 000012	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	MOLYBDENUM, TOTAL	0 0026	U	mg/l	n	0 05	0.0013	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	NICKEL, TOTAL		U	mg/l	n	0 025	0 0018	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	POTASSIUM, TOTAL	74		mg/l	y	2 5	0 094	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	SELENIUM, TOTAL		U	mg/l	n	0 005	0 0025	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	SILVER, TOTAL		U	mg/l	n	0 007	0 0007	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	SODIUM, TOTAL	930		mg/l	y	200	31	100
6-GW11S-02	9-Jun-04	L0406201-05	6010B	THALLIUM, TOTAL	0 00416	J	mg/l	y	0 005	0 0035	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	VANADIUM, TOTAL	0 02		mg/l	y	0 01	0 0008	1
6-GW11S-02	9-Jun-04	L0406201-05	6010B	ZINC, TOTAL	0 38		mg/l	y	0 05	0 0022	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	METHYLENE CHLORIDE		U	ug/l	n	5	0 37	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,1-DICHLOROETHANE	0 59	J	ug/l	y	0 75	0 19	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	CHLOROFORM		U	ug/l	n	0 75	0 14	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	CARBON TETRACHLORIDE		U	ug/l	n	0 5	0 38	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,2-DICHLOROPROPANE		U	ug/l	n	1 8	0 24	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	DIBROMOCHLOROMETHANE		U	ug/l	n	0 5	0 19	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,1,2-TRICHLOROETHANE		U	ug/l	n	0 75	0 16	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	TETRACHLOROETHENE		U	ug/l	n	0 5	0 43	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	CHLOROBENZENE		U	ug/l	n	0 5	0 32	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	TRICHLOROFLUOROMETHANE		U	ug/l	n	2 5	0 29	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,2-DICHLOROETHANE		U	ug/l	n	0 5	0 14	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,1,1-TRICHLOROETHANE		U	ug/l	n	0 5	0 25	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	BROMODICHLOROMETHANE		U	ug/l	n	0 5	0 24	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	TRANS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 24	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	CIS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 13	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,1-DICHLOROPROPENE		U	ug/l	n	2 5	0 34	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	BROMOFORM		U	ug/l	n	2	1 1	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,1,2,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 29	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	BENZENE		U	ug/l	n	0 5	0 29	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	TOLUENE		U	ug/l	n	0 75	0 31	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	ETHYLBENZENE		U	ug/l	n	0 5	0 28	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	CHLOROMETHANE		U	ug/l	n	2 5	0 12	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	BROMOMETHANE		U	ug/l	n	1	0.36	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	VINYL CHLORIDE	1 1		ug/l	y	1	0 27	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	CHLOROETHANE		U	ug/l	n	1	0 36	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,1-DICHLOROETHENE		U	ug/l	n	0 5	0 38	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	TRANS-1,2-DICHLOROETHENE		U	ug/l	n	0 75	0 34	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	TRICHLOROETHENE		U	ug/l	n	0 5	0 34	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,2-DICHLOROBENZENE		U	ug/l	n	2 5	0 15	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,3-DICHLOROBENZENE		U	ug/l	n	2 5	0 2	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,4-DICHLOROBENZENE		U	ug/l	n	2 5	0 23	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	METHYL TERT BUTYL ETHER		U	ug/l	n	1	0 12	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	P/M-XYLENE		U	ug/l	n	0 5	0 39	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	O-XYLENE		U	ug/l	n	0 5	0 3	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	CIS-1,2-DICHLOROETHENE	0 83		ug/l	y	0 5	0 18	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	DIBROMOMETHANE		U	ug/l	n	5	0 19	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,2,3-TRICHLOROPROPANE		U	ug/l	n	5	0 23	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	STYRENE		U	ug/l	n	0 5	0 44	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	DICHLORODIFLUOROMETHANE		U	ug/l	n	5	0 3	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	ACETONE		UJ	ug/l	n	5	1 5	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	CARBON DISULFIDE		U	ug/l	n	5	0 27	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	2-BUTANONE		U	ug/l	n	5	1 7	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	4-METHYL-2-PENTANONE		U	ug/l	n	5	0 4	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	2-HEXANONE		UJ	ug/l	n	5	1.8	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	BROMOCHLOROMETHANE		U	ug/l	n	2 5	0 19	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	2,2-DICHLOROPROPANE		U	ug/l	n	2 5	0 63	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,2-DIBROMOETHANE		U	ug/l	n	2	0 23	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,3-DICHLOROPROPANE		U	ug/l	n	2 5	0 17	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,1,1,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 31	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	BROMOBENZENE		U	ug/l	n	2 5	0 15	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	N-BUTYLBENZENE		U	ug/l	n	0 5	0 41	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	SEC-BUTYLBENZENE		U	ug/l	n	0 5	0 4	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	TERT-BUTYLBENZENE		U	ug/l	n	2 5	0 29	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	O-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	P-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,2-DIBROMO-3-CHLOROPROPANE		U	ug/l	n	2 5	1 6	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	HEXACHLOROBUTADIENE		U	ug/l	n	1	0 43	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	ISOPROPYLBENZENE		U	ug/l	n	0 5	0 26	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	P-ISOPROPYLTOLUENE		U	ug/l	n	0 5	0 33	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	NAPHTHALENE		U	ug/l	n	2 5	0 41	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	N-PROPYLBENZENE		U	ug/l	n	0 5	0 32	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,2,3-TRICHLOROBENZENE		U	ug/l	n	2 5	0 38	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,2,4-TRICHLOROBENZENE		U	ug/l	n	2 5	0 28	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,3,5-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 27	1
6-GW11S-02	9-Jun-04	L0406201-05	8260B	1,2,4-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 25	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	1,2,4-TRICHLOROBENZENE		U	ug/l	n	5	1 3	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	HEXACHLOROBENZENE		U	ug/l	n	5	1 6	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	BIS(2-CHLOROETHYL)ETHER		U	ug/l	n	5	1 3	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	1,2-DICHLOROBENZENE		U	ug/l	n	5	1 1	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	1,3-DICHLOROBENZENE		U	ug/l	n	5	1	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	1,4-DICHLOROBENZENE		U	ug/l	n	5	0 96	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	3,3'-DICHLOROBENZIDINE		U	ug/l	n	50	2 6	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	2,4-DINITROTOLUENE		U	ug/l	n	6	0 48	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	2,6-DINITROTOLUENE		U	ug/l	n	5	0 96	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW11S-02	9-Jun-04	L0406201-05	8270C	4-CHLOROPHENYL PHENYL ETHER		U	ug/l	n	5	0 96	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	4-BROMOPHENYL PHENYL ETHER		U	ug/l	n	5	0 99	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	BIS(2-CHLOROISOPROPYL)ETHER		U	ug/l	n	5	2 2	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	BIS(2-CHLOROETHOXY)METHANE		U	ug/l	n	5	1 6	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	HEXACHLOROBUTADIENE		U	ug/l	n	10	2.1	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	HEXACHLOROETHANE		U	ug/l	n	5	0 97	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	ISOPHORONE		U	ug/l	n	5	1 6	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	NITROBENZENE		U	ug/l	n	5	1 6	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	NITROSODIPHENYLAMINE(NDPA)/DPA		U	ug/l	n	15	4 2	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	N-NITROSODI-N-PROPYLAMINE		U	ug/l	n	5	1 6	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	BIS(2-ETHYLHEXYL)PHTHALATE		U	ug/l	n	10	1 6	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	BUTYL BENZYL PHTHALATE		U	ug/l	n	5	0 67	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	DI-N-BUTYLPHTHALATE		U	ug/l	n	5	0 5	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	DI-N-OCTYLPHTHALATE		U	ug/l	n	5	0 54	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	DIETHYL PHTHALATE		U	ug/l	n	5	1 6	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	DIMETHYL PHTHALATE		U	ug/l	n	5	1 6	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	4-CHLOROANILINE		U	ug/l	n	5	1.4	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	2-NITROANILINE		U	ug/l	n	5	1 1	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	3-NITROANILINE		U	ug/l	n	5	1 1	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	4-NITROANILINE		U	ug/l	n	7	1 3	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	DIBENZOFURAN		U	ug/l	n	5	0 92	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	2,4,6-TRICHLOROPHENOL		U	ug/l	n	5	1 2	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	P-CHLORO-M-CRESOL		U	ug/l	n	5	1 5	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	2-CHLOROPHENOL		U	ug/l	n	6	1 8	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	2,4-DICHLOROPHENOL		U	ug/l	n	10	2.1	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	2,4-DIMETHYLPHENOL		U	ug/l	n	10	3 1	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	2-NITROPHENOL		U	ug/l	n	20	2 3	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	4-NITROPHENOL		U	ug/l	n	10	1 6	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	2,4-DINITROPHENOL		U	ug/l	n	20	1	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	4,6-DINITRO-O-CRESOL		U	ug/l	n	20	1 4	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	PENTACHLOROPHENOL		U	ug/l	n	20	1 6	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	PHENOL		U	ug/l	n	7	1 2	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	2-METHYLPHENOL		U	ug/l	n	6	1 5	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	3-METHYLPHENOL/4-METHYLPHENOL		U	ug/l	n	6	1 6	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	2,4,5-TRICHLOROPHENOL		U	ug/l	n	5	0 96	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	BENZOIC ACID		U	ug/l	n	50	0 99	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C	CARBAZOLE		U	ug/l	n	5	1 6	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	ACENAPHTHENE		U	ug/l	n	0 2	0 036	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	2-CHLORONAPHTHALENE		U	ug/l	n	0 2	0 042	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	FLUORANTHENE	0 19	J	ug/l	y	0 2	0 04	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	NAPHTHALENE		U	ug/l	n	0 2	0 031	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	BENZO(A)ANTHRACENE		U	ug/l	n	0 2	0 038	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	BENZO(A)PYRENE		U	ug/l	n	0 2	0 04	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	BENZO(B)FLUORANTHENE		U	ug/l	n	0 2	0 05	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	BENZO(K)FLUORANTHENE		U	ug/l	n	0 2	0 036	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	CHRYSENE		U	ug/l	n	0 2	0 024	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	ACENAPHTHYLENE		U	ug/l	n	0 2	0 03	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	ANTHRACENE		U	ug/l	n	0 2	0 049	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	BENZO(GHI)PERYLENE		U	ug/l	n	0 25	0 025	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	FLUORENE		U	ug/l	n	0 2	0 024	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	PHENANTHRENE		U	ug/l	n	0 2	0 031	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	DIBENZO(A,H)ANTHRACENE		U	ug/l	n	0 2	0 017	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	INDENO(1,2,3-CD)PYRENE		U	ug/l	n	0 2	0 026	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	PYRENE	0 19	J	ug/l	y	0 2	0 046	1
6-GW11S-02	9-Jun-04	L0406201-05	8270C-SIM	2-METHYLNAPHTHALENE		U	ug/l	n	0 2	0 036	1
6-GW11S-02	9-Jun-04	L0406201-05	8082	AROCLOR 1221		U	ug/l	n	0 5	0 07	1
6-GW11S-02	9-Jun-04	L0406201-05	8082	AROCLOR 1232		U	ug/l	n	0 5	0.15	1
6-GW11S-02	9-Jun-04	L0406201-05	8082	AROCLOR 1242/1016		U	ug/l	n	0 5	0 05	1
6-GW11S-02	9-Jun-04	L0406201-05	8082	AROCLOR 1248		UJ	ug/l	n	0 5	0 12	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW11S-02	9-Jun-04	L0406201-05	8082	AROCLOR 1254		U	ug/l	n	0 5	0 06	1
6-GW11S-02	9-Jun-04	L0406201-05	8082	AROCLOR 1260		U	ug/l	n	0 5	0 02	1
6-GW11S-02	9-Jun-04	L0406201-05	8082	AROCLOR 1268		U	ug/l	n	0 5	0 05	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	DELTA-BHC		U	ug/l	n	0 02	0 002	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	LINDANE		U	ug/l	n	0 02	0 003	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	ALPHA-BHC		UJ	ug/l	n	0 02	0 003	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	BETA-BHC		U	ug/l	n	0 02	0 005	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	HEPTACHLOR		U	ug/l	n	0 02	0 004	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	ALDRIN		U	ug/l	n	0 02	0 004	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	HEPTACHLOR EPOXIDE		U	ug/l	n	0 02	0 004	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	ENDRIN		UJ	ug/l	n	0 04	0 01	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	ENDRIN ALDEHYDE		U	ug/l	n	0 04	0 009	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	ENDRIN KETONE		U	ug/l	n	0 04	0 007	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	DIELDRIN		U	ug/l	n	0 04	0 008	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	4,4'-DDE		U	ug/l	n	0.04	0 007	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	4,4'-DDD		U	ug/l	n	0 04	0 014	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	4,4'-DDT		U	ug/l	n	0 04	0 007	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	ENDOSULFAN I		U	ug/l	n	0 02	0 005	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	ENDOSULFAN II		U	ug/l	n	0 04	0 014	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	ENDOSULFAN SULFATE		UJ	ug/l	n	0 04	0 009	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	METHOXYCHLOR		U	ug/l	n	0 2	0 04	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	TOXAPHENE		U	ug/l	n	0 5	0 075	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	HEXACHLOROBENZENE		U	ug/l	n	0 2	0 002	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	CIS-CHLORDANE		U	ug/l	n	0 02	0 004	1
6-GW11S-02	9-Jun-04	L0406201-05	8081A	TRANS-CHLORDANE		U	ug/l	n	0 02	0 004	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	DIMETHYL PHTHALATE		U	ug/l	n	5	1.6	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	4-CHLOROANILINE		U	ug/l	n	5	1 4	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	2-NITROANILINE		U	ug/l	n	5	1 1	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	3-NITROANILINE		U	ug/l	n	5	1 1	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	4-NITROANILINE		U	ug/l	n	7	1 3	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	DIBENZOFURAN		U	ug/l	n	5	0 92	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	2,4,6-TRICHLOROPHENOL		U	ug/l	n	5	1 2	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	P-CHLORO-M-CRESOL		U	ug/l	n	5	1 5	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	2-CHLOROPHENOL		U	ug/l	n	6	1 8	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	2,4-DICHLOROPHENOL		U	ug/l	n	10	2 1	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	2,4-DIMETHYLPHENOL		U	ug/l	n	10	3 1	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	2-NITROPHENOL		U	ug/l	n	20	2 3	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	4-NITROPHENOL		U	ug/l	n	10	1 6	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	DI-N-OCTYLPHTHALATE		U	ug/l	n	5	0 54	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	DIETHYL PHTHALATE		U	ug/l	n	5	1 6	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	2,4-DINITROPHENOL		U	ug/l	n	20	1	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	4,6-DINITRO-O-CRESOL		U	ug/l	n	20	1 4	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	PENTACHLOROPHENOL		U	ug/l	n	20	1 6	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	PHENOL		U	ug/l	n	7	1 2	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	2-METHYLPHENOL		U	ug/l	n	6	1 5	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	3-METHYLPHENOL/4-METHYLPHENOL		U	ug/l	n	6	1 6	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	2,4,5-TRICHLOROPHENOL		U	ug/l	n	5	0 96	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	BENZOIC ACID		U	ug/l	n	50	0 99	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	ACENAPHTHENE		U	ug/l	n	0 2	0 036	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	2-CHLORONAPHTHALENE		U	ug/l	n	0 2	0 042	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	FLUORANTHENE	0 14	J	ug/l	y	0 2	0 04	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	NAPHTHALENE		U	ug/l	n	0 2	0 031	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	BENZO(A)ANTHRACENE		U	ug/l	n	0 2	0 038	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	BENZO(A)PYRENE		U	ug/l	n	0 2	0 04	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	BENZO(B)FLUORANTHENE		U	ug/l	n	0 2	0 05	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	BENZO(K)FLUORANTHENE		U	ug/l	n	0 2	0 036	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	CHRYSENE		U	ug/l	n	0 2	0 024	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	ACENAPHTHYLENE		U	ug/l	n	0.2	0 03	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	ANTHRACENE		U	ug/l	n	0 2	0 049	1

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	BENZO(GHI)PERYLENE		U	ug/l	n	0 25	0 025	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	FLUORENE		U	ug/l	n	0 2	0 024	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	PHENANTHRENE		U	ug/l	n	0 2	0 031	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	DIBENZO(A,H)ANTHRACENE		U	ug/l	n	0 2	0 017	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	INDENO(1,2,3-CD)PYRENE		U	ug/l	n	0 2	0 026	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	CARBAZOLE		U	ug/l	n	5	1 6	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	PYRENE	0 2		ug/l	y	0 2	0 046	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C-SIM	2-METHYLNAPHTHALENE		U	ug/l	n	0 2	0 036	1
6-GW10S-02	9-Jun-04	L0406201-06	8082	AROCLOR 1221		U	ug/l	n	0 5	0 07	1
6-GW10S-02	9-Jun-04	L0406201-06	8082	AROCLOR 1232		U	ug/l	n	0 5	0.15	1
6-GW10S-02	9-Jun-04	L0406201-06	8082	AROCLOR 1242/1016		U	ug/l	n	0 5	0 05	1
6-GW10S-02	9-Jun-04	L0406201-06	8082	AROCLOR 1248		UJ	ug/l	n	0.5	0 12	1
6-GW10S-02	9-Jun-04	L0406201-06	8082	AROCLOR 1254		U	ug/l	n	0 5	0 06	1
6-GW10S-02	9-Jun-04	L0406201-06	8082	AROCLOR 1260		U	ug/l	n	0.5	0 02	1
6-GW10S-02	9-Jun-04	L0406201-06	8082	AROCLOR 1268		U	ug/l	n	0 5	0 05	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	DELTA-BHC		U	ug/l	n	0 02	0 002	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	LINDANE		U	ug/l	n	0 02	0.003	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	ALPHA-BHC		UJ	ug/l	n	0 02	0 003	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	BETA-BHC		U	ug/l	n	0 02	0 005	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	HEPTACHLOR		U	ug/l	n	0 02	0 004	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	ALDRIN		U	ug/l	n	0 02	0 004	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	HEPTACHLOR EPOXIDE		U	ug/l	n	0 02	0.004	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	ENDRIN		UJ	ug/l	n	0 04	0 01	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	ENDRIN ALDEHYDE		U	ug/l	n	0 04	0 009	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	ENDRIN KETONE		U	ug/l	n	0 04	0 007	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	DIELDRIN		U	ug/l	n	0 04	0 008	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	4,4'-DDE		U	ug/l	n	0 04	0 007	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	4,4'-DDD		U	ug/l	n	0 04	0 014	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	4,4'-DDT		U	ug/l	n	0 04	0 007	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	ENDOSULFAN I		U	ug/l	n	0 02	0 005	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	ENDOSULFAN II		U	ug/l	n	0 04	0 014	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	ENDOSULFAN SULFATE		UJ	ug/l	n	0 04	0 009	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	METHOXYCHLOR		U	ug/l	n	0 2	0 04	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	TOXAPHENE		U	ug/l	n	0 5	0 075	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	HEXACHLOROBENZENE		U	ug/l	n	0 2	0 002	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	CIS-CHLORDANE		U	ug/l	n	0 02	0.004	1
6-GW10S-02	9-Jun-04	L0406201-06	8081A	TRANS-CHLORDANE		U	ug/l	n	0 02	0 004	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	ALUMINUM, TOTAL	0 024	J	mg/l	y	0 1	0 017	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	ANTIMONY, TOTAL		U	mg/l	n	0 05	0 002	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	ARSENIC, TOTAL		U	mg/l	n	0 004	0 0034	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	BARIUM, TOTAL	0 05		mg/l	y	0 01	0 0004	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	BERYLLIUM, TOTAL		U	mg/l	n	0 005	0 0006	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	CADMIUM, TOTAL		U	mg/l	n	0 005	0 0004	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	CALCIUM, TOTAL	53		mg/l	y	0 1	0 015	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	CHROMIUM, TOTAL	0 0016	J	mg/l	y	0 01	0 0008	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	COBALT, TOTAL		U	mg/l	n	0 02	0 0005	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	COPPER, TOTAL	0 02		mg/l	y	0 01	0 0018	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	IRON, TOTAL	0 22		mg/l	y	0 05	0 014	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	LEAD, TOTAL		U	mg/l	n	0 05	0 0048	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	MAGNESIUM, TOTAL	97		mg/l	y	0 1	0 014	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	MANGANESE, TOTAL	0 14		mg/l	y	0 01	0 0005	1
6-GW10S-02	9-Jun-04	L0406201-06	7470A	MERCURY, TOTAL		U	mg/l	n	0 0002	0 000012	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	MOLYBDENUM, TOTAL	0 0025	U	mg/l	n	0 05	0 0013	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	NICKEL, TOTAL	0 00246	J	mg/l	y	0 025	0 0018	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	POTASSIUM, TOTAL	72		mg/l	y	2 5	0 094	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	SELENIUM, TOTAL		U	mg/l	n	0 005	0 0025	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	SILVER, TOTAL		U	mg/l	n	0 007	0 0007	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	SODIUM, TOTAL	880		mg/l	y	200	31	100
6-GW10S-02	9-Jun-04	L0406201-06	6010B	THALLIUM, TOTAL		U	mg/l	n	0 005	0 0035	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW10S-02	9-Jun-04	L0406201-06	6010B	VANADIUM, TOTAL	0 03		mg/l	y	0 01	0 0008	1
6-GW10S-02	9-Jun-04	L0406201-06	6010B	ZINC, TOTAL	0 031	J	mg/l	y	0 05	0 0022	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	METHYLENE CHLORIDE		U	ug/l	n	5	0 37	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,1-DICHLOROETHANE	0 7	J	ug/l	y	0 75	0 19	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	CHLOROFORM		U	ug/l	n	0 75	0 14	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	CARBON TETRACHLORIDE		U	ug/l	n	0 5	0 38	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,2-DICHLOROPROPANE		U	ug/l	n	1 8	0 24	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	DIBROMOCHLOROMETHANE		U	ug/l	n	0 5	0 19	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,1,2-TRICHLOROETHANE		U	ug/l	n	0 75	0 16	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	TETRACHLOROETHENE		U	ug/l	n	0 5	0 43	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	CHLOROBENZENE		U	ug/l	n	0 5	0 32	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	TRICHLOROFLUOROMETHANE		U	ug/l	n	2 5	0 29	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,2-DICHLOROETHANE		U	ug/l	n	0 5	0 14	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,1,1-TRICHLOROETHANE		U	ug/l	n	0 5	0 25	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	BROMODICHLOROMETHANE		U	ug/l	n	0 5	0 24	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	TRANS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 24	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	CIS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 13	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,1-DICHLOROPROPENE		U	ug/l	n	2 5	0 34	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	BROMOFORM		U	ug/l	n	2	1 1	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,1,2,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 29	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	BENZENE		U	ug/l	n	0 5	0 29	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	TOLUENE		U	ug/l	n	0.75	0 31	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	ETHYLBENZENE		U	ug/l	n	0 5	0 28	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	VINYL CHLORIDE	0 52	J	ug/l	y	1	0 27	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	CHLOROETHANE		U	ug/l	n	1	0 36	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,1-DICHLOROETHENE		U	ug/l	n	0 5	0 38	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	TRANS-1,2-DICHLOROETHENE		U	ug/l	n	0 75	0 34	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	TRICHLOROETHENE		U	ug/l	n	0 5	0 34	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,2-DICHLOROBENZENE		U	ug/l	n	2 5	0 15	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,3-DICHLOROBENZENE		U	ug/l	n	2 5	0 2	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,4-DICHLOROBENZENE		U	ug/l	n	2 5	0 23	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	METHYL TERT BUTYL ETHER		U	ug/l	n	1	0.12	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	P/M-XYLENE		U	ug/l	n	0 5	0 39	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	O-XYLENE		U	ug/l	n	0 5	0 3	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	CIS-1,2-DICHLOROETHENE	0 75		ug/l	y	0 5	0 18	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	DIBROMOMETHANE		U	ug/l	n	5	0 19	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,2,3-TRICHLOROPROPANE		U	ug/l	n	5	0 23	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	STYRENE		U	ug/l	n	0 5	0 44	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	DICHLORODIFLUOROMETHANE		U	ug/l	n	5	0 3	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	ACETONE		UJ	ug/l	n	5	1 5	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	CARBON DISULFIDE		U	ug/l	n	5	0 27	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	2-BUTANONE		U	ug/l	n	5	1 7	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	4-METHYL-2-PENTANONE		U	ug/l	n	5	0 4	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	2-HEXANONE		UJ	ug/l	n	5	1 8	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	BROMOCHLOROMETHANE		U	ug/l	n	2 5	0 19	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	CHLOROMETHANE		U	ug/l	n	2 5	0 12	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	BROMOMETHANE		U	ug/l	n	1	0 36	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	2,2-DICHLOROPROPANE		U	ug/l	n	2 5	0 63	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,2-DIBROMOETHANE		U	ug/l	n	2	0 23	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,3-DICHLOROPROPANE		U	ug/l	n	2 5	0 17	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,1,1,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 31	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	BROMOBENZENE		U	ug/l	n	2 5	0 15	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	N-BUTYLBENZENE		U	ug/l	n	0.5	0 41	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	SEC-BUTYLBENZENE		U	ug/l	n	0 5	0 4	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	TERT-BUTYLBENZENE		U	ug/l	n	2 5	0 29	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	O-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	P-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,2-DIBROMO-3-CHLOROPROPANE		U	ug/l	n	2 5	1 6	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	HEXACHLOROBUTADIENE		U	ug/l	n	1	0 43	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW10S-02	9-Jun-04	L0406201-06	8260B	ISOPROPYLBENZENE		U	ug/l	n	0 5	0 26	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	P-ISOPROPYLTOLUENE		U	ug/l	n	0 5	0 33	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	NAPHTHALENE		U	ug/l	n	2 5	0 41	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	N-PROPYLBENZENE		U	ug/l	n	0 5	0 32	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,2,3-TRICHLOROBENZENE		U	ug/l	n	2 5	0 38	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,2,4-TRICHLOROBENZENE		U	ug/l	n	2 5	0 28	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,3,5-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 27	1
6-GW10S-02	9-Jun-04	L0406201-06	8260B	1,2,4-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 25	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	1,2,4-TRICHLOROBENZENE		U	ug/l	n	5	1 3	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	HEXACHLOROBENZENE		U	ug/l	n	5	1 6	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	BIS(2-CHLOROETHYL)ETHER		U	ug/l	n	5	1 3	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	1,2-DICHLOROBENZENE		U	ug/l	n	5	1 1	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	1,3-DICHLOROBENZENE		U	ug/l	n	5	1	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	1,4-DICHLOROBENZENE		U	ug/l	n	5	0 96	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	3,3'-DICHLOROBENZIDINE		U	ug/l	n	50	2 6	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	2,4-DINITROTOLUENE		U	ug/l	n	6	0 48	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	2,6-DINITROTOLUENE		U	ug/l	n	5	0 96	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	4-CHLOROPHENYL PHENYL ETHER		U	ug/l	n	5	0 96	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	4-BROMOPHENYL PHENYL ETHER		U	ug/l	n	5	0 99	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	BIS(2-CHLOROISOPROPYL)ETHER		U	ug/l	n	5	2 2	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	BIS(2-CHLOROETHOXY)METHANE		U	ug/l	n	5	1 6	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	HEXACHLOROBUTADIENE		U	ug/l	n	10	2 1	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	HEXACHLOROETHANE		U	ug/l	n	5	0 97	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	ISOPHORONE		U	ug/l	n	5	1 6	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	NITROBENZENE		U	ug/l	n	5	1 6	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	NITROSODIPHENYLAMINE(NDPA)/DPA		U	ug/l	n	15	4 2	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	N-NITROSODI-N-PROPYLAMINE		U	ug/l	n	5	1 6	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	BIS(2-ETHYLHEXYL)PHTHALATE		U	ug/l	n	10	1 6	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	BUTYL BENZYL PHTHALATE		U	ug/l	n	5	0 67	1
6-GW10S-02	9-Jun-04	L0406201-06	8270C	DI-N-BUTYLPHTHALATE		U	ug/l	n	5	0 5	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	ALUMINUM, TOTAL	0.85		mg/l	y	0 1	0 017	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	ANTIMONY, TOTAL		U	mg/l	n	0 05	0 002	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	ARSENIC, TOTAL	0 00378	J	mg/l	y	0 004	0 0034	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	BARIUM, TOTAL	0 03		mg/l	y	0 01	0 0004	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	BERYLLIUM, TOTAL		U	mg/l	n	0 005	0 0006	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	CADMIUM, TOTAL		U	mg/l	n	0 005	0 0004	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	CALCIUM, TOTAL	110		mg/l	y	1	0 15	10
6-GW2S-02	9-Jun-04	L0406201-07	6010B	CHROMIUM, TOTAL	0 0017	J	mg/l	y	0 01	0 0008	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	COBALT, TOTAL	0 0012	J	mg/l	y	0 02	0 0005	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	COPPER, TOTAL	0 02		mg/l	y	0 01	0 0018	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	IRON, TOTAL	1 2		mg/l	y	0 05	0 014	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	LEAD, TOTAL	0 00792	J	mg/l	y	0 05	0 0048	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	MAGNESIUM, TOTAL	330		mg/l	y	1	0 14	10
6-GW2S-02	9-Jun-04	L0406201-07	6010B	MANGANESE, TOTAL	0 03		mg/l	y	0 01	0.0005	1
6-GW2S-02	9-Jun-04	L0406201-07	7470A	MERCURY, TOTAL		U	mg/l	n	0 0002	0 000012	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	MOLYBDENUM, TOTAL	0 0039	U	mg/l	n	0 05	0 0013	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	NICKEL, TOTAL	0 00229	J	mg/l	y	0 025	0 0018	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	POTASSIUM, TOTAL	180		mg/l	y	25	0 94	10
6-GW2S-02	9-Jun-04	L0406201-07	6010B	SELENIUM, TOTAL		U	mg/l	n	0 005	0 0025	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	SILVER, TOTAL	0 00208	J	mg/l	y	0 007	0 0007	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	SODIUM, TOTAL	2800		mg/l	y	400	63	200
6-GW2S-02	9-Jun-04	L0406201-07	6010B	THALLIUM, TOTAL		U	mg/l	n	0 005	0 0035	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	VANADIUM, TOTAL	0 0059	J	mg/l	y	0 01	0 0008	1
6-GW2S-02	9-Jun-04	L0406201-07	6010B	ZINC, TOTAL	0 06		mg/l	y	0 05	0.0022	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	METHYLENE CHLORIDE		U	ug/l	n	5	0 37	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,1-DICHLOROETHANE		U	ug/l	n	0 75	0 19	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	CHLOROFORM		U	ug/l	n	0 75	0 14	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	CARBON TETRACHLORIDE		U	ug/l	n	0 5	0 38	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,2-DICHLOROPROPANE		U	ug/l	n	1 8	0 24	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW2S-02	9-Jun-04	L0406201-07	8260B	DIBROMOCHLOROMETHANE		U	ug/l	n	0 5	0 19	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,1,2-TRICHLOROETHANE		U	ug/l	n	0 75	0 16	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	TETRACHLOROETHENE		U	ug/l	n	0 5	0 43	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	CHLOROBENZENE		U	ug/l	n	0 5	0 32	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	TRICHLOROFLUOROMETHANE		U	ug/l	n	2 5	0 29	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,2-DICHLOROETHANE		U	ug/l	n	0 5	0 14	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,1,1-TRICHLOROETHANE		U	ug/l	n	0 5	0 25	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	BROMODICHLOROMETHANE		U	ug/l	n	0 5	0 24	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	TRANS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 24	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	CIS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 13	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,1-DICHLOROPROPENE		U	ug/l	n	2 5	0 34	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	BROMOFORM		U	ug/l	n	2	1 1	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,1,2,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 29	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	BENZENE		U	ug/l	n	0 5	0 29	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	TOLUENE		U	ug/l	n	0 75	0 31	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	ETHYLBENZENE		U	ug/l	n	0 5	0 28	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	CHLOROMETHANE		U	ug/l	n	2 5	0 12	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	BROMOMETHANE		U	ug/l	n	1	0 36	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	VINYL CHLORIDE		U	ug/l	n	1	0 27	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	CHLOROETHANE		U	ug/l	n	1	0 36	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,1-DICHLOROETHENE		U	ug/l	n	0 5	0 38	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	TRANS-1,2-DICHLOROETHENE		U	ug/l	n	0 75	0 34	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	TRICHLOROETHENE	0 53		ug/l	y	0 5	0 34	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,2-DICHLOROBENZENE		U	ug/l	n	2.5	0 15	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,3-DICHLOROBENZENE		U	ug/l	n	2 5	0 2	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,4-DICHLOROBENZENE		U	ug/l	n	2 5	0 23	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	METHYL TERT BUTYL ETHER		U	ug/l	n	1	0.12	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	P/M-XYLENE		U	ug/l	n	0 5	0 39	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	O-XYLENE		U	ug/l	n	0 5	0 3	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	CIS-1,2-DICHLOROETHENE		U	ug/l	n	0 5	0 18	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	DIBROMOMETHANE		U	ug/l	n	5	0 19	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,2,3-TRICHLOROPROPANE		U	ug/l	n	5	0 23	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	STYRENE		U	ug/l	n	0 5	0 44	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	DICHLORODIFLUOROMETHANE		U	ug/l	n	5	0 3	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	ACETONE		UJ	ug/l	n	5	1 5	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	CARBON DISULFIDE		U	ug/l	n	5	0 27	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	2-BUTANONE		U	ug/l	n	5	1 7	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	4-METHYL-2-PENTANONE		U	ug/l	n	5	0 4	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	2-HEXANONE		UJ	ug/l	n	5	1 8	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	BROMOCHLOROMETHANE		U	ug/l	n	2 5	0 19	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	2,2-DICHLOROPROPANE		U	ug/l	n	2 5	0 63	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,2-DIBROMOETHANE		U	ug/l	n	2	0 23	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,3-DICHLOROPROPANE		U	ug/l	n	2 5	0 17	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,1,1,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 31	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	BROMOBENZENE		U	ug/l	n	2 5	0 15	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	N-BUTYLBENZENE		U	ug/l	n	0.5	0.41	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	SEC-BUTYLBENZENE		U	ug/l	n	0 5	0 4	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	TERT-BUTYLBENZENE		U	ug/l	n	2 5	0 29	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	O-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	P-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,2-DIBROMO-3-CHLOROPROPANE		U	ug/l	n	2 5	1 6	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	HEXACHLOROBUTADIENE		U	ug/l	n	1	0 43	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	ISOPROPYLBENZENE		U	ug/l	n	0 5	0 26	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	P-ISOPROPYLTOLUENE		U	ug/l	n	0.5	0 33	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	NAPHTHALENE		U	ug/l	n	2.5	0 41	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	N-PROPYLBENZENE		U	ug/l	n	0 5	0 32	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,2,3-TRICHLOROBENZENE		U	ug/l	n	2 5	0 38	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,2,4-TRICHLOROBENZENE		U	ug/l	n	2 5	0 28	1
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,3,5-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 27	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW2S-02	9-Jun-04	L0406201-07	8260B	1,2,4-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 25	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	1,2,4-TRICHLOROBENZENE		U	ug/l	n	5	1 3	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	HEXACHLOROBENZENE		U	ug/l	n	5	1 6	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	BIS(2-CHLOROETHYL)ETHER		U	ug/l	n	5	1 3	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	1,2-DICHLOROBENZENE		U	ug/l	n	5	1 1	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	1,3-DICHLOROBENZENE		U	ug/l	n	5	1	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	1,4-DICHLOROBENZENE		U	ug/l	n	5	0 96	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	3,3'-DICHLOROBENZIDINE		U	ug/l	n	50	2 6	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	2,4-DINITROTOLUENE		U	ug/l	n	6	0 48	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	2,6-DINITROTOLUENE		U	ug/l	n	5	0 96	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	4-CHLOROPHENYL PHENYL ETHER		U	ug/l	n	5	0 96	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	4-BROMOPHENYL PHENYL ETHER		U	ug/l	n	5	0 99	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	BIS(2-CHLOROISOPROPYL)ETHER		U	ug/l	n	5	2 2	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	BIS(2-CHLOROETHOXY)METHANE		U	ug/l	n	5	1 6	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	HEXACHLOROBUTADIENE		U	ug/l	n	10	2 1	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	HEXACHLOROETHANE		U	ug/l	n	5	0 97	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	ISOPHORONE		U	ug/l	n	5	1 6	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	NITROBENZENE		U	ug/l	n	5	1 6	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	NITROSODIPHENYLAMINE(NDPA)/DPA		U	ug/l	n	15	4 2	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	N-NITROSODI-N-PROPYLAMINE		U	ug/l	n	5	1 6	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	BIS(2-ETHYLHEXYL)PHTHALATE	22		ug/l	y	10	1 6	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	BUTYL BENZYL PHTHALATE		U	ug/l	n	5	0 67	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	DI-N-BUTYLPHTHALATE		U	ug/l	n	5	0 5	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	DI-N-OCTYLPHTHALATE		U	ug/l	n	5	0 54	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	DIETHYL PHTHALATE		U	ug/l	n	5	1 6	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	DIMETHYL PHTHALATE		U	ug/l	n	5	1 6	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	4-CHLOROANILINE		U	ug/l	n	5	1 4	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	2-NITROANILINE		U	ug/l	n	5	1 1	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	3-NITROANILINE		U	ug/l	n	5	1 1	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	4-NITROANILINE		U	ug/l	n	7	1 3	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	DIBENZOFURAN		U	ug/l	n	5	0 92	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	2,4,6-TRICHLOROPHENOL		U	ug/l	n	5	1 2	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	P-CHLORO-M-CRESOL		U	ug/l	n	5	1 5	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	2-CHLOROPHENOL		U	ug/l	n	6	1 8	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	2,4-DICHLOROPHENOL		U	ug/l	n	10	2 1	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	2,4-DIMETHYLPHENOL		U	ug/l	n	10	3 1	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	2-NITROPHENOL		U	ug/l	n	20	2 3	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	4-NITROPHENOL		U	ug/l	n	10	1 6	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	2,4-DINITROPHENOL		U	ug/l	n	20	1	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	4,6-DINITRO-O-CRESOL		U	ug/l	n	20	1 4	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	PENTACHLOROPHENOL		U	ug/l	n	20	1 6	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	PHENOL		U	ug/l	n	7	1 2	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	2-METHYLPHENOL		U	ug/l	n	6	1 5	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	3-METHYLPHENOL/4-METHYLPHENOL		U	ug/l	n	6	1 6	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	2,4,5-TRICHLOROPHENOL		U	ug/l	n	5	0 96	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	BENZOIC ACID		U	ug/l	n	50	0 99	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C	CARBAZOLE		U	ug/l	n	5	1 6	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	ACENAPHTHENE		U	ug/l	n	0 2	0 036	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	2-CHLORONAPHTHALENE		U	ug/l	n	0 2	0 042	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	FLUORANTHENE		U	ug/l	n	0 2	0 04	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	NAPHTHALENE		U	ug/l	n	0 2	0 031	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	BENZO(A)ANTHRACENE		U	ug/l	n	0 2	0 038	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	BENZO(A)PYRENE		U	ug/l	n	0 2	0 04	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	BENZO(B)FLUORANTHENE		U	ug/l	n	0 2	0 05	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	BENZO(K)FLUORANTHENE		U	ug/l	n	0 2	0 036	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	CHRYSENE		U	ug/l	n	0 2	0 024	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	ACENAPHTHYLENE		U	ug/l	n	0 2	0 03	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	ANTHRACENE		U	ug/l	n	0 2	0 049	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	BENZO(GHI)PERYLENE		U	ug/l	n	0 25	0 025	1

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	FLUORENE		U	ug/l	n	0 2	0 024	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	PHENANTHRENE		U	ug/l	n	0 2	0 031	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	DIBENZO(A,H)ANTHRACENE		U	ug/l	n	0 2	0 017	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	INDENO(1,2,3-CD)PYRENE		U	ug/l	n	0 2	0 026	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	PYRENE		U	ug/l	n	0 2	0 046	1
6-GW2S-02	9-Jun-04	L0406201-07	8270C-SIM	2-METHYLNAPHTHALENE		U	ug/l	n	0 2	0 036	1
6-GW2S-02	9-Jun-04	L0406201-07	8082	AROCLOR 1221		U	ug/l	n	0 5	0 07	1
6-GW2S-02	9-Jun-04	L0406201-07	8082	AROCLOR 1232		U	ug/l	n	0 5	0 15	1
6-GW2S-02	9-Jun-04	L0406201-07	8082	AROCLOR 1242/1016		U	ug/l	n	0 5	0 05	1
6-GW2S-02	9-Jun-04	L0406201-07	8082	AROCLOR 1248		UJ	ug/l	n	0 5	0 12	1
6-GW2S-02	9-Jun-04	L0406201-07	8082	AROCLOR 1254		U	ug/l	n	0 5	0 06	1
6-GW2S-02	9-Jun-04	L0406201-07	8082	AROCLOR 1260		U	ug/l	n	0 5	0 02	1
6-GW2S-02	9-Jun-04	L0406201-07	8082	AROCLOR 1268		U	ug/l	n	0 5	0 05	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	DELTA-BHC		U	ug/l	n	0 02	0 002	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	LINDANE		U	ug/l	n	0 02	0 003	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	ALPHA-BHC		UJ	ug/l	n	0 02	0 003	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	BETA-BHC		U	ug/l	n	0 02	0 005	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	HEPTACHLOR		U	ug/l	n	0 02	0 004	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	ALDRIN		U	ug/l	n	0 02	0 004	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	HEPTACHLOR EPOXIDE		U	ug/l	n	0 02	0 004	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	ENDRIN		UJ	ug/l	n	0 04	0 01	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	ENDRIN ALDEHYDE		U	ug/l	n	0 04	0 009	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	ENDRIN KETONE		U	ug/l	n	0 04	0 007	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	DIELDRIN		U	ug/l	n	0 04	0 008	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	4,4'-DDE		U	ug/l	n	0 04	0 007	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	4,4'-DDD		U	ug/l	n	0 04	0 014	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	4,4'-DDT		U	ug/l	n	0 04	0 007	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	ENDOSULFAN I		U	ug/l	n	0 02	0 005	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	ENDOSULFAN II		U	ug/l	n	0 04	0 014	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	ENDOSULFAN SULFATE		UJ	ug/l	n	0 04	0 009	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	METHOXYCHLOR		U	ug/l	n	0 2	0 04	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	TOXAPHENE		U	ug/l	n	0 5	0 075	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	HEXACHLOROBENZENE		U	ug/l	n	0 2	0 002	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	CIS-CHLORDANE		U	ug/l	n	0 02	0 004	1
6-GW2S-02	9-Jun-04	L0406201-07	8081A	TRANS-CHLORDANE		U	ug/l	n	0 02	0 004	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	HEXACHLOROBENZENE		U	ug/l	n	5	1 6	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	BIS(2-CHLOROETHYL)ETHER		U	ug/l	n	5	1 3	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	1,2-DICHLOROBENZENE		U	ug/l	n	5	1 1	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	1,3-DICHLOROBENZENE		U	ug/l	n	5	1	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	1,4-DICHLOROBENZENE		U	ug/l	n	5	0 96	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	3,3'-DICHLOROBENZIDINE		U	ug/l	n	50	2 6	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	2,4-DINITROTOLUENE		U	ug/l	n	6	0 48	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	2,6-DINITROTOLUENE		U	ug/l	n	5	0 96	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	4-CHLOROPHENYL PHENYL ETHER		U	ug/l	n	5	0 96	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	4-BROMOPHENYL PHENYL ETHER		U	ug/l	n	5	0 99	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	BIS(2-CHLOROISOPROPYL)ETHER		U	ug/l	n	5	2 2	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	BIS(2-CHLOROETHOXY)METHANE		U	ug/l	n	5	1 6	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	HEXACHLOROBUTADIENE		U	ug/l	n	10	2 1	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	HEXACHLOROETHANE		U	ug/l	n	5	0 97	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	ISOPHORONE		U	ug/l	n	5	1 6	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	NITROBENZENE		U	ug/l	n	5	1 6	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	NITROSODIPHENYLAMINE(NDPA)/DPA		U	ug/l	n	15	4 2	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	N-NITROSODI-N-PROPYLAMINE		U	ug/l	n	5	1 6	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	BIS(2-ETHYLHEXYL)PHTHALATE	9	J	ug/l	y	10	1 6	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	BUTYL BENZYL PHTHALATE		U	ug/l	n	5	0 67	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	DI-N-BUTYLPHTHALATE		U	ug/l	n	5	0 5	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	DI-N-OCTYLPHTHALATE		U	ug/l	n	5	0 54	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	DIETHYL PHTHALATE		U	ug/l	n	5	1 6	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	DIMETHYL PHTHALATE		U	ug/l	n	5	1 6	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW1S-02	9-Jun-04	L0406201-08	8270C	4-CHLOROANILINE		U	ug/l	n	5	1 4	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	2-NITROANILINE		U	ug/l	n	5	1 1	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	3-NITROANILINE		U	ug/l	n	5	1 1	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	4-NITROANILINE		U	ug/l	n	7	1 3	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	DIBENZOFURAN		U	ug/l	n	5	0 92	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	2,4,6-TRICHLOROPHENOL		U	ug/l	n	5	1.2	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	P-CHLORO-M-CRESOL		U	ug/l	n	5	1 5	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	2-CHLOROPHENOL		U	ug/l	n	6	1 8	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	2,4-DICHLOROPHENOL		U	ug/l	n	10	2 1	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	2,4-DIMETHYLPHENOL		U	ug/l	n	10	3 1	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	2-NITROPHENOL		U	ug/l	n	20	2 3	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	4-NITROPHENOL		U	ug/l	n	10	1 6	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	2,4-DINITROPHENOL		U	ug/l	n	20	1	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	4,6-DINITRO-O-CRESOL		U	ug/l	n	20	1 4	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	PENTACHLOROPHENOL		U	ug/l	n	20	1 6	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	PHENOL		U	ug/l	n	7	1 2	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	2-METHYLPHENOL		U	ug/l	n	6	1 5	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	3-METHYLPHENOL/4-METHYLPHENOL		U	ug/l	n	6	1 6	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	2,4,5-TRICHLOROPHENOL		U	ug/l	n	5	0 96	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	BENZOIC ACID		U	ug/l	n	50	0 99	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	CARBAZOLE		U	ug/l	n	5	1 6	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	ACENAPHTHENE		U	ug/l	n	0 2	0.036	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	2-CHLORONAPHTHALENE		U	ug/l	n	0 2	0 042	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	FLUORANTHENE		U	ug/l	n	0 2	0 04	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	NAPHTHALENE		U	ug/l	n	0 2	0 031	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	BENZO(A)ANTHRACENE		U	ug/l	n	0 2	0 038	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	BENZO(A)PYRENE		U	ug/l	n	0 2	0 04	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	BENZO(B)FLUORANTHENE		U	ug/l	n	0 2	0 05	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	BENZO(K)FLUORANTHENE		U	ug/l	n	0 2	0 036	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	CHRYSENE		U	ug/l	n	0 2	0 024	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	ACENAPHTHYLENE		U	ug/l	n	0 2	0 03	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	ANTHRACENE		U	ug/l	n	0.2	0 049	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	BENZO(GHI)PERYLENE		U	ug/l	n	0 25	0 025	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	FLUORENE		U	ug/l	n	0 2	0 024	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	PHENANTHRENE		U	ug/l	n	0 2	0 031	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	DIBENZO(A,H)ANTHRACENE		U	ug/l	n	0 2	0 017	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	INDENO(1,2,3-CD)PYRENE		U	ug/l	n	0 2	0 026	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	PYRENE		U	ug/l	n	0 2	0 046	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C-SIM	2-METHYLNAPHTHALENE		U	ug/l	n	0 2	0 036	1
6-GW1S-02	9-Jun-04	L0406201-08	8082	AROCLOR 1221		U	ug/l	n	0 5	0 07	1
6-GW1S-02	9-Jun-04	L0406201-08	8082	AROCLOR 1232		U	ug/l	n	0 5	0 15	1
6-GW1S-02	9-Jun-04	L0406201-08	8082	AROCLOR 1242/1016		U	ug/l	n	0 5	0 05	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	ALUMINUM, TOTAL	0 035	J	mg/l	y	0 1	0 017	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	ANTIMONY, TOTAL		U	mg/l	n	0 05	0 002	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	ARSENIC, TOTAL		U	mg/l	n	0 004	0.0034	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	BARIUM, TOTAL	0 01		mg/l	y	0 01	0 0004	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	BERYLLIUM, TOTAL		U	mg/l	n	0 005	0.0006	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	CADMIUM, TOTAL		U	mg/l	n	0 005	0 0004	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	CALCIUM, TOTAL	42		mg/l	y	0 1	0 015	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	CHROMIUM, TOTAL		U	mg/l	n	0 01	0 0008	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	COBALT, TOTAL		U	mg/l	n	0 02	0 0005	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	COPPER, TOTAL	0 0018	J	mg/l	y	0 01	0 0018	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	IRON, TOTAL	0 06		mg/l	y	0 05	0 014	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	LEAD, TOTAL		U	mg/l	n	0 05	0 0048	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	MAGNESIUM, TOTAL	110		mg/l	y	0 1	0 014	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	MANGANESE, TOTAL	0 0026	J	mg/l	y	0 01	0 0005	1
6-GW1S-02	9-Jun-04	L0406201-08	7470A	MERCURY, TOTAL		U	mg/l	n	0 0002	0 000012	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	MOLYBDENUM, TOTAL	0 0023	U	mg/l	n	0 05	0.0013	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	NICKEL, TOTAL		U	mg/l	n	0 025	0 0018	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW1S-02	9-Jun-04	L0406201-08	6010B	POTASSIUM, TOTAL	74		mg/l	y	2 5	0 094	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	SELENIUM, TOTAL		U	mg/l	n	0 005	0 0025	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	SILVER, TOTAL		U	mg/l	n	0 007	0 0007	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	SODIUM, TOTAL	940		mg/l	y	200	31	100
6-GW1S-02	9-Jun-04	L0406201-08	6010B	THALLIUM, TOTAL		U	mg/l	n	0 005	0 0035	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	VANADIUM, TOTAL		U	mg/l	n	0 01	0 0008	1
6-GW1S-02	9-Jun-04	L0406201-08	8082	AROCLOR 1248		UJ	ug/l	n	0 5	0 12	1
6-GW1S-02	9-Jun-04	L0406201-08	8082	AROCLOR 1254		U	ug/l	n	0 5	0 06	1
6-GW1S-02	9-Jun-04	L0406201-08	8082	AROCLOR 1260		U	ug/l	n	0 5	0 02	1
6-GW1S-02	9-Jun-04	L0406201-08	8082	AROCLOR 1268		U	ug/l	n	0 5	0 05	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	DELTA-BHC		U	ug/l	n	0 02	0 002	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	LINDANE		U	ug/l	n	0 02	0 003	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	ALPHA-BHC		UJ	ug/l	n	0 02	0 003	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	BETA-BHC		U	ug/l	n	0 02	0 005	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	HEPTACHLOR		U	ug/l	n	0 02	0 004	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	ALDRIN		U	ug/l	n	0 02	0 004	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	HEPTACHLOR EPOXIDE		U	ug/l	n	0 02	0 004	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	ENDRIN		UJ	ug/l	n	0 04	0 01	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	ENDRIN ALDEHYDE		U	ug/l	n	0 04	0 009	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	ENDRIN KETONE		U	ug/l	n	0 04	0 007	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	DIELDRIN		U	ug/l	n	0 04	0 008	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	4,4'-DDE		U	ug/l	n	0 04	0 007	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	4,4'-DDD		U	ug/l	n	0 04	0 014	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	4,4'-DDT		U	ug/l	n	0 04	0 007	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	ENDOSULFAN I		U	ug/l	n	0 02	0 005	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	ENDOSULFAN II		U	ug/l	n	0 04	0 014	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	ENDOSULFAN SULFATE		UJ	ug/l	n	0 04	0 009	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	METHOXYCHLOR		U	ug/l	n	0 2	0.04	1
6-GW1S-02	9-Jun-04	L0406201-08	6010B	ZINC, TOTAL	0.015	J	mg/l	y	0 05	0 0022	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	METHYLENE CHLORIDE		U	ug/l	n	5	0 37	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,1-DICHLOROETHANE		U	ug/l	n	0 75	0 19	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	CHLOROFORM		U	ug/l	n	0 75	0 14	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	CARBON TETRACHLORIDE		U	ug/l	n	0 5	0 38	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,2-DICHLOROPROPANE		U	ug/l	n	1 8	0 24	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	DIBROMOCHLOROMETHANE		U	ug/l	n	0 5	0 19	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,1,2-TRICHLOROETHANE		U	ug/l	n	0 75	0 16	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	TETRACHLOROETHENE		U	ug/l	n	0 5	0 43	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	CHLOROBENZENE		U	ug/l	n	0 5	0 32	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	TRICHLOROFLUOROMETHANE		U	ug/l	n	2 5	0 29	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,2-DICHLOROETHANE		U	ug/l	n	0 5	0 14	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,1,1-TRICHLOROETHANE		U	ug/l	n	0 5	0 25	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	BROMODICHLOROMETHANE		U	ug/l	n	0.5	0.24	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	TRANS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 24	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	CIS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 13	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,1-DICHLOROPROPENE		U	ug/l	n	2 5	0 34	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	BROMOFORM		U	ug/l	n	2	1 1	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,1,2,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 29	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	BENZENE		U	ug/l	n	0 5	0.29	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	TOLUENE		U	ug/l	n	0 75	0 31	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	ETHYLBENZENE		U	ug/l	n	0 5	0 28	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	CHLOROMETHANE		U	ug/l	n	2 5	0 12	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	BROMOMETHANE		U	ug/l	n	1	0 36	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	TOXAPHENE		U	ug/l	n	0 5	0 075	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	HEXACHLOROBENZENE		U	ug/l	n	0 2	0 002	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	CIS-CHLORDANE		U	ug/l	n	0 02	0 004	1
6-GW1S-02	9-Jun-04	L0406201-08	8081A	TRANS-CHLORDANE		U	ug/l	n	0 02	0 004	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	VINYL CHLORIDE		U	ug/l	n	1	0 27	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	CHLOROETHANE		U	ug/l	n	1	0 36	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,1-DICHLOROETHENE		U	ug/l	n	0 5	0 38	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-GW1S-02	9-Jun-04	L0406201-08	8260B	TRANS-1,2-DICHLOROETHENE		U	ug/l	n	0 75	0 34	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	TRICHLOROETHENE	0 37	J	ug/l	y	0 5	0 34	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,2-DICHLOROBENZENE		U	ug/l	n	2 5	0 15	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,3-DICHLOROBENZENE		U	ug/l	n	2 5	0 2	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,4-DICHLOROBENZENE		U	ug/l	n	2 5	0 23	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	METHYL TERT BUTYL ETHER		U	ug/l	n	1	0 12	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	P/M-XYLENE		U	ug/l	n	0 5	0 39	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	O-XYLENE		U	ug/l	n	0 5	0 3	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	CIS-1,2-DICHLOROETHENE		U	ug/l	n	0 5	0 18	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	DIBROMOMETHANE		U	ug/l	n	5	0 19	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,2,3-TRICHLOROPROPANE		U	ug/l	n	5	0.23	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	STYRENE		U	ug/l	n	0 5	0 44	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	DICHLORODIFLUOROMETHANE		U	ug/l	n	5	0 3	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	ACETONE		UJ	ug/l	n	5	1 5	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	CARBON DISULFIDE		U	ug/l	n	5	0 27	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	2-BUTANONE		U	ug/l	n	5	1 7	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	4-METHYL-2-PENTANONE		U	ug/l	n	5	0 4	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	2-HEXANONE		UJ	ug/l	n	5	1 8	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	BROMOCHLOROMETHANE		U	ug/l	n	2 5	0 19	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	2,2-DICHLOROPROPANE		U	ug/l	n	2 5	0 63	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,2-DIBROMOETHANE		U	ug/l	n	2	0 23	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,3-DICHLOROPROPANE		U	ug/l	n	2 5	0 17	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,1,1,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 31	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	BROMOBENZENE		U	ug/l	n	2 5	0 15	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	N-BUTYLBENZENE		U	ug/l	n	0 5	0 41	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	SEC-BUTYLBENZENE		U	ug/l	n	0 5	0 4	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	TERT-BUTYLBENZENE		U	ug/l	n	2 5	0 29	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	O-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	P-CHLOROTOLUENE		U	ug/l	n	2.5	0 24	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,2-DIBROMO-3-CHLOROPROPANE		U	ug/l	n	2 5	1 6	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	HEXACHLOROBUTADIENE		U	ug/l	n	1	0 43	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	ISOPROPYLBENZENE		U	ug/l	n	0 5	0 26	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	P-ISOPROPYLTOLUENE		U	ug/l	n	0 5	0 33	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	NAPHTHALENE		U	ug/l	n	2 5	0 41	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	N-PROPYLBENZENE		U	ug/l	n	0 5	0 32	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,2,3-TRICHLOROBENZENE		U	ug/l	n	2 5	0 38	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,2,4-TRICHLOROBENZENE		U	ug/l	n	2 5	0 28	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,3,5-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 27	1
6-GW1S-02	9-Jun-04	L0406201-08	8260B	1,2,4-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 25	1
6-GW1S-02	9-Jun-04	L0406201-08	8270C	1,2,4-TRICHLOROBENZENE		U	ug/l	n	5	1 3	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,2,4-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 25	1
6-TB01-02	26-May-04	L0406201-09	8260B	METHYLENE CHLORIDE		U	ug/l	n	5	0.37	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,1-DICHLOROETHANE		U	ug/l	n	0 75	0 19	1
6-TB01-02	26-May-04	L0406201-09	8260B	CHLOROFORM		U	ug/l	n	0 75	0 14	1
6-TB01-02	26-May-04	L0406201-09	8260B	CARBON TETRACHLORIDE		U	ug/l	n	0 5	0 38	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,2-DICHLOROPROPANE		U	ug/l	n	1 8	0 24	1
6-TB01-02	26-May-04	L0406201-09	8260B	DIBROMOCHLOROMETHANE		U	ug/l	n	0 5	0 19	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,1,2-TRICHLOROETHANE		U	ug/l	n	0 75	0 16	1
6-TB01-02	26-May-04	L0406201-09	8260B	TETRACHLOROETHENE		U	ug/l	n	0 5	0 43	1
6-TB01-02	26-May-04	L0406201-09	8260B	CHLOROBENZENE		U	ug/l	n	0 5	0 32	1
6-TB01-02	26-May-04	L0406201-09	8260B	TRICHLOROFLUOROMETHANE		U	ug/l	n	2 5	0 29	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,2-DICHLOROETHANE		U	ug/l	n	0 5	0 14	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,1,1-TRICHLOROETHANE		U	ug/l	n	0 5	0 25	1
6-TB01-02	26-May-04	L0406201-09	8260B	BROMODICHLOROMETHANE		U	ug/l	n	0 5	0 24	1
6-TB01-02	26-May-04	L0406201-09	8260B	TRANS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 24	1
6-TB01-02	26-May-04	L0406201-09	8260B	CIS-1,3-DICHLOROPROPENE		U	ug/l	n	0 5	0 13	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,1-DICHLOROPROPENE		U	ug/l	n	2 5	0 34	1
6-TB01-02	26-May-04	L0406201-09	8260B	BROMOFORM		U	ug/l	n	2	1 1	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,1,2,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 29	1

Data Summary Table - Round 16 - June 2004, DRMO - SDG 0406201

Sample name	Sample Date	Lab Sample Name	Analytical Method	Analyte Name	Result Value	Data Qualifier	Units	Detect Flag	Reporting Limit	Method Detection Limit	Dilution Factor
6-TB01-02	26-May-04	L0406201-09	8260B	BENZENE		U	ug/l	n	0 5	0 29	1
6-TB01-02	26-May-04	L0406201-09	8260B	TOLUENE		U	ug/l	n	0 75	0 31	1
6-TB01-02	26-May-04	L0406201-09	8260B	ETHYLBENZENE		U	ug/l	n	0 5	0 28	1
6-TB01-02	26-May-04	L0406201-09	8260B	CHLOROMETHANE		U	ug/l	n	2 5	0 12	1
6-TB01-02	26-May-04	L0406201-09	8260B	BROMOMETHANE		UJ	ug/l	n	1	0 36	1
6-TB01-02	26-May-04	L0406201-09	8260B	VINYL CHLORIDE		U	ug/l	n	1	0 27	1
6-TB01-02	26-May-04	L0406201-09	8260B	CHLOROETHANE		U	ug/l	n	1	0 36	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,1-DICHLOROETHENE		U	ug/l	n	0 5	0 38	1
6-TB01-02	26-May-04	L0406201-09	8260B	TRANS-1,2-DICHLOROETHENE		U	ug/l	n	0 75	0 34	1
6-TB01-02	26-May-04	L0406201-09	8260B	TRICHLOROETHENE		U	ug/l	n	0 5	0 34	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,2-DICHLOROBENZENE		U	ug/l	n	2 5	0 15	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,3-DICHLOROBENZENE		U	ug/l	n	2 5	0 2	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,4-DICHLOROBENZENE		U	ug/l	n	2 5	0 23	1
6-TB01-02	26-May-04	L0406201-09	8260B	METHYL TERT BUTYL ETHER		U	ug/l	n	1	0 12	1
6-TB01-02	26-May-04	L0406201-09	8260B	P/M-XYLENE		U	ug/l	n	0 5	0 39	1
6-TB01-02	26-May-04	L0406201-09	8260B	O-XYLENE		U	ug/l	n	0 5	0 3	1
6-TB01-02	26-May-04	L0406201-09	8260B	CIS-1,2-DICHLOROETHENE		U	ug/l	n	0 5	0 18	1
6-TB01-02	26-May-04	L0406201-09	8260B	DIBROMOMETHANE		U	ug/l	n	5	0 19	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,2,3-TRICHLOROPROPANE		U	ug/l	n	5	0 23	1
6-TB01-02	26-May-04	L0406201-09	8260B	STYRENE		U	ug/l	n	0 5	0 44	1
6-TB01-02	26-May-04	L0406201-09	8260B	DICHLORODIFLUOROMETHANE		U	ug/l	n	5	0 3	1
6-TB01-02	26-May-04	L0406201-09	8260B	ACETONE		UJ	ug/l	n	5	1 5	1
6-TB01-02	26-May-04	L0406201-09	8260B	CARBON DISULFIDE		U	ug/l	n	5	0 27	1
6-TB01-02	26-May-04	L0406201-09	8260B	2-BUTANONE		U	ug/l	n	5	1 7	1
6-TB01-02	26-May-04	L0406201-09	8260B	4-METHYL-2-PENTANONE		U	ug/l	n	5	0 4	1
6-TB01-02	26-May-04	L0406201-09	8260B	2-HEXANONE		UJ	ug/l	n	5	1 8	1
6-TB01-02	26-May-04	L0406201-09	8260B	BROMOCHLOROMETHANE		U	ug/l	n	2 5	0.19	1
6-TB01-02	26-May-04	L0406201-09	8260B	2,2-DICHLOROPROPANE		U	ug/l	n	2 5	0 63	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,2-DIBROMOETHANE		U	ug/l	n	2	0 23	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,3-DICHLOROPROPANE		U	ug/l	n	2 5	0 17	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,1,1,2-TETRACHLOROETHANE		U	ug/l	n	0 5	0 31	1
6-TB01-02	26-May-04	L0406201-09	8260B	BROMOBENZENE		U	ug/l	n	2 5	0 15	1
6-TB01-02	26-May-04	L0406201-09	8260B	N-BUTYLBENZENE		U	ug/l	n	0 5	0 41	1
6-TB01-02	26-May-04	L0406201-09	8260B	SEC-BUTYLBENZENE		U	ug/l	n	0 5	0 4	1
6-TB01-02	26-May-04	L0406201-09	8260B	TERT-BUTYLBENZENE		U	ug/l	n	2 5	0 29	1
6-TB01-02	26-May-04	L0406201-09	8260B	O-CHLOROTOLUENE		U	ug/l	n	2 5	0.24	1
6-TB01-02	26-May-04	L0406201-09	8260B	P-CHLOROTOLUENE		U	ug/l	n	2 5	0 24	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,2-DIBROMO-3-CHLOROPROPANE		U	ug/l	n	2 5	1 6	1
6-TB01-02	26-May-04	L0406201-09	8260B	HEXACHLOROBUTADIENE		U	ug/l	n	1	0 43	1
6-TB01-02	26-May-04	L0406201-09	8260B	ISOPROPYLBENZENE		U	ug/l	n	0 5	0 26	1
6-TB01-02	26-May-04	L0406201-09	8260B	P-ISOPROPYLTOLUENE		U	ug/l	n	0 5	0 33	1
6-TB01-02	26-May-04	L0406201-09	8260B	NAPHTHALENE		U	ug/l	n	2 5	0 41	1
6-TB01-02	26-May-04	L0406201-09	8260B	N-PROPYLBENZENE		U	ug/l	n	0 5	0 32	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,2,3-TRICHLOROBENZENE		U	ug/l	n	2 5	0 38	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,2,4-TRICHLOROBENZENE		U	ug/l	n	2 5	0 28	1
6-TB01-02	26-May-04	L0406201-09	8260B	1,3,5-TRIMETHYLBENZENE		U	ug/l	n	2 5	0 27	1

APPENDIX F

STATISTICAL ANALYSIS

APPENDIX F

1.0 STATISTICAL ANALYSIS

A statistical analysis was performed on the results from the groundwater monitoring effort to determine if contaminants associated with past activities at the Area A Landfill are having an impact on groundwater at the site. This groundwater monitoring program employed two upgradient wells (2LMW20S and 4MW1S) and twelve downgradient wells [2WMW38DS, 2WMW39DS, 2WMW40DS, 2WMW41DS, 2WMW42DS, 2WMW43DS, 2WMW44DS, 2WMW45DS, 2WMW46DS, 2WMW47DS, 3MW12D (Round 11 only), and 3MW37S] sampled over two semi-annual rounds. Well 2WMW21S was used as a reference well. Wells 3MW37S and 3MW12D are hydrologically downgradient of the site but they are not completed in dredge spoils like the rest of the downgradient wells.

The specific tests performed on data collected at the Area A Landfill are identified and described in the next section.

The statistical methods used to evaluate the groundwater data are employed in order to:

- Develop summary statistics that describe environmental contaminant concentrations at the Area A Landfill.

- Allow comparisons of COPC concentrations in wells upgradient of the Area A Landfill to those detected in downgradient wells (i.e., samples collected in downgradient areas potentially impacted by contaminant migration from the landfill).

1.1 Comparison of Downgradient Wells to Upgradient Wells

Figure 4-1 is a flow diagram taken from the GMP (TtNUS, 1999). It presents the approach to determine if statistically significant contaminant migration is occurring. Downgradient data was compared to upgradient data using various statistical methods. No correction for seasonal variability was required since wells at the facility should be affected similarly. The statistical methods described in the following paragraphs were used to determine if parameter concentrations detected in downgradient wells are significantly greater than those detected in samples from the upgradient wells.

If all the observations from upgradient and downgradient wells were nondetects, no statistical analysis was performed and downgradient and upgradient concentrations were declared statistically similar. In cases where there were detections in the downgradient wells but all upgradient results were nondetects

for an analyte, no statistical analysis was performed but downgradient concentrations were declared statistically higher than upgradient concentrations.

The Analysis of Variance (ANOVA) technique is the preferred method to compare data from upgradient and downgradient monitoring well locations. The ANOVA technique is used to test whether there is statistically significant evidence of contamination. There are two types of ANOVA tests: parametric and non-parametric. The parametric ANOVA method makes two important assumptions: 1) the upgradient and downgradient data sets are both normally (or both lognormally) distributed and 2) the group variances of the upgradient and downgradient data sets are homogeneous. These assumptions can be checked using the Shapiro-Wilk Test of Normality and Levene's test of Homogeneity of Variance, respectively. If the analysis of the data demonstrated that these assumptions critical to the parametric ANOVA were violated, non-parametric ANOVA techniques were conducted using the ranks of the observations rather than the observations themselves. The Wilcoxon Rank-Sum test (also known as the Mann-Whitney U test) was employed as the non-parametric ANOVA for comparing the downgradient results to the upgradient results.

According to USEPA guidance (USEPA, 1992), parametric ANOVAs should not be used in the event that nondetects exceed 50% of the data set. In addition, for analyses using the Wilcoxon Rank-Sum Test, several environmental statistics guidance documents limit the percent of nondetects allowable in the test data sets to 50% (Navy, 1998) or even 40% [United States Department of Defense (USDOD), United States Department of Energy (USDOE), USEPA, and United States Nuclear Regulatory Commission (USNRC), 2000]. Therefore, a Two-Sample Test of Proportions was performed on all data where nondetects exceed 50% of the data set.

1.2 Detection Limit

During the chemical analysis of environmental samples, some analytes may be present at concentrations that are below the sample quantitation limit (SQL) for the analytical procedure. The results are generally reported as not detected (rather than zero), and the appropriate detection limit is given. The amount of data that are below the detection limit play an important role in selecting the statistical method of addressing the detection limit problem. The nondetects found at the Area A Landfill were replaced with the SQL, divided by two, prior to the statistical analysis. In addition, results from each field duplicate pair were averaged and counted as one sample for use in the statistical analysis.

1.3 Parametric and Non-Parametric Analysis of Variance (ANOVA)

ANOVA is widely used in the examination of environmental data sets. A one-way classification ANOVA is used to determine whether or not the difference between average concentrations of a parameter detected

in downgradient wells and upgradient wells is statistically significant. Since only two means are compared, an ANOVA test will give the same result as the t-test for independent samples. The parametric ANOVA method makes two key assumptions: 1) the data are both normally (or both lognormally) distributed and 2) the group variances are homogeneous. If either of these two assumptions is not met then the non-parametric ANOVA method should be used.

1.3.1 The Shapiro-Wilk "W-test" of Normality (n =50)

As stated above, the data must be analyzed to determine whether they were drawn from an underlying normal or lognormal distribution. A number of statistical evaluations may be used to determine which, if either, of the distributions is exhibited by a given data set. As recommended by the EPA, the Shapiro-Wilk "W-test" (for sample sets < 50) and the Shapiro-Francia "W-test" (for sample sets >50) will be used to determine whether the data are normally or lognormally distributed (USEPA, 1992). For the analysis performed on the results from the groundwater monitoring effort at the Area A Landfill, only the Shapiro-Wilk "W-test" was used (all sample sets < 50).

The Shapiro-Wilk W-test (Gilbert, 1987) is an effective method for determining whether a data set has been drawn from an underlying normal (or lognormal) distribution. By conducting the Shapiro-Wilk W-test on the log-transformed data, the test may be used to determine whether the data have been drawn from an underlying lognormal distribution. The null hypothesis (H_0) that is tested is:

H_O - The population has a normal (or lognormal when the data is log-transformed) distribution.

The alternate hypothesis (H_A) is:

H_A - The population does not have a normal (or lognormal when the data is log-transformed) distribution.

A 'W' statistic (W_{calc}) is computed for a data set and compared to a test statistic (W_{test}). If $W_{calc} < W_{test}$, then the null hypothesis is rejected, H_A is accepted, the data are assumed to not be normally distributed. If $W_{calc} = W_{test}$, then the null hypothesis is not rejected, the data is assumed to be normally distributed. Another 'W' statistic is computed for the log-transformed data set and compared to the test statistic as described above. If both the normal and lognormal W_{calc} are greater than or equal to the W_{test} then the underlying distribution is considered to be the one producing the highest W_{calc} value. If neither of the 'W' statistics is greater than or equal to the test statistic, the underlying distribution can be defaulted to lognormal. This is because "EPA's experience with environmental concentration data, and groundwater data in particular, suggests that the Lognormal distribution is generally more appropriate as a default statistical model than the Normal distribution..." (USEPA, 1992).

The following equations present a step-by-step procedure for conducting the Shapiro-Wilk W-test:

- Step 1. Combine all of the data from each of the individual (k) wells.

- Step 2. Order the n results from least to greatest:

$$x_1 \leq x_2 \leq x_3 \leq \cdots \leq x_n$$

- Step 3. Compute the standard deviation by:

$$S_x = \sqrt{\sum_{i=1}^{n} \frac{(X_i - \bar{X})^2}{(n-1)}}$$

- Step 4. Determine the coefficients a_1, a_2, a_3 ,..., a_k for the sample size n using Table J-1 in Appendix J, where:

$$k = \frac{n}{2} \text{ if n is even ; And}$$

$$k = \frac{n1}{2} \text{ if n is odd}$$

- Step 5. Determine b by the formula:

$$b = \sum_{i=1}^{k} a_i \left(X_{[n-i+1]} - X_i\right) = \sum_{i=1}^{k} b_i$$

- Step 6. Calculate W_{calc} using b from above, where:

$$W_{calc} = \left[\frac{b}{S_x \sqrt{n-1}}\right]^2$$

- Step 7. Determine W_{test} at the 5% significance level from Table J-2.

- Step 8. Reject H_O at the 5% significance level if W_{calc} is less than W_{test}.

To test the null hypothesis for a data set drawn from an underlying lognormal distribution, transform the data to $y_{1j}, y_{2j}, y_{3j}, \ldots, y_{km}$ where $y_{ij} = ln\ X_{ij}$. Repeat steps 1 through 8 as described in the preceding paragraphs.

1.3.2 Homogeneity of Variance

An important assumption in ANOVA is that the variances in the different groups are equal (homogeneous). A powerful and commonly used test of this assumption is the Levene test. This test has practically replaced the older and less robust Bartlett's test and Chi-square test.

Levene's test (homogeneity of variances): For each dependent variable, an analysis of variance is performed on the absolute deviations of values from the respective group means. If the Levene test is statistically significant, then the hypothesis of homogeneous variances should be rejected

To conduct Levene's test first compute the absolute value of the residuals:

$$Zij = \left| Xij - \overline{Xi} \right|$$

where Xij represents the jth value from the ith location. Then run a standard one-way ANOVA on the variable Zij (see section 4.4.3.3). If the F test is significant, reject the hypothesis of equal group variances. Otherwise, proceed with the analysis as planned.

1.3.3 Parametric ANOVA

Assume that a site has k wells and that n_i data points (analyte concentrations) are available for the ith well. The following presents a step-by-step procedure for conducting the parametric ANOVA.

- Step 1. Compute the sums and means of each well (i) using the following equations as follows:

$$X_i = \sum_{j=1}^{n_i} X_{ij}\ ,\ \sum \text{ of all } n_i \text{ observatio ns at well i}$$

$$\overline{X}_i = \frac{X_i}{n_i}\ ,\ \text{average of all } n_i \text{ observatio ns at well i}$$

$$X = \sum_{i=1}^{k} \sum_{j=1}^{n_i} X_{ij}\ ,\ \text{grand total of all } n_i \text{ observatio ns}$$

$$N = \sum^{k} n_i\ ,\ \text{total number of observatio ns}$$

$$\overline{X} = \frac{X}{N}\ ,\ \text{grand mean of all observatio ns}$$

- Step 2. Compute the sum of squares of differences between the individual well means and the grand mean by the formula:

$$SS_{wells} = \sum_{i=1}^{k} n_i \left(\overline{X}_i - \overline{X}\right)^2 = \sum_{i=1}^{k} \left[\frac{X_i^2}{n_i}\right] - \frac{X^2}{N}$$

This sum of squares has (*k-1*) degrees of freedom associated with it and is a measure of the variability between wells.

- Step 3. Compute the corrected total sum of squares by the formula:

$$SS_{total} = \sum_{i=1}^{k} \sum_{j=1}^{n_i} \left(X_{ij} - \overline{X}\right)^2 = \sum_{i=1}^{k} \sum_{j=1}^{n_i} \left[\left(X_{ij}\right)^2\right] - \frac{X^2}{N}$$

This sum of squares has (*N-1*) degrees of freedom associated with it and is a measure of variability in the whole data set.

- Step 4. Compute the sum of squares of differences of observations within wells from the well means. This value is the sum of squares due to error and is obtained by simple subtraction:

$$SS_{Error} = SS_{Total} - SS_{Wells}$$

The sum of squares due to error has associated with it (*N-k*) degrees of freedom and is a measure of the variability within wells.

- Step 5. Set up an ANOVA table as shown below. The sums of squares and their degree of freedom were obtained from Steps 2 through 4. The mean square quantities are simply obtained by dividing each sum of squares by its corresponding degrees of freedom.

ONE-WAY PARAMETRIC ANOVA TABLE

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Squares	F
Between Wells	SS_{Well}	k-1	$MS_{Well}=SS_{Well}/(k-1)$	$F=MS_{Well} / MS_{Error}$
Error (within Wells)	SS_{Error}	N-k	$MS_{Error}=SS_{Error}/(N-k)$	
Total	SS_{Total}	N-1		

- Step 6. To test the hypothesis of equal means for all k wells, compute $F = MS_{well} / MS_{Error}$ (last column in above table). Compare this statistic to the tabulated F statistic with $(k-1)$ and $(N-k)$ degrees of freedom (Table J-3) at a 5% significance level. If the calculated F value does not exceed the tabulated value, conclude that there is no significant difference between the concentrations of the k wells. If the calculated F value exceeds the tabulated value, reject the hypothesis of equal well means. Check the downgradient mean concentration relative to the upgradient mean concentration. If the downgradient mean is less than the upgradient mean, there is no evidence of contamination. If the downgradient mean is greater than the upgradient mean, the downgradient concentration is identified as statistically greater than the upgradient concentration at a 95% confidence level.

1.3.4 Non-Parametric ANOVA

The parametric ANOVA technique is the preferred approach for comparing environmental measurements from downgradient monitoring wells to upgradient well data. However, parametric ANOVA methods make two key assumptions: 1) the data are both normally (or both lognormally) distributed and 2) the group variances are homogeneous. If these assumptions are violated, non-parametric tests (i.e. Kruskal-Wallis or Wilcoxon Rank-Sum tests) may be used to determine if constituent concentrations present in the downgradient areas significantly exceed those present in the upgradient wells.

The Kruskal-Wallis (USEPA, 1989) test should be employed when comparing three or more data sets. However, it is not amenable to two data set comparisons. In these situations, the Wilcoxon Rank-Sum test (USEPA, 1992) (also known as the Mann-Whitney U test) should be employed.

Non-parametric tests are conducted using the ranks of the analytical results rather than the analytical results themselves. Therefore, the data sets need to be inspected for extremely high values that may be underestimated as a result of the ranking process.

1.3.5 The Wilcoxon Rank-Sum Test

The Wilcoxon Rank-Sum test is described in the following paragraphs.

- Step 1. Combine the upgradient and downgradient data and rank the ordered values from 1 to N.

  Assume there are n downgradient samples and m upgradient samples so that $N = m + n$.

- Step 2. Compute the Wilcoxon statistic *W* for the downgradient wells:

$$W = \sum_{i=1}^{n} E_i - \frac{1}{2} n(n+1)$$

where E_i are the ranks of the downgradient samples. Large values of the statistic *W* give evidence of contamination in downgradient wells.

- Step 3. Compute an approximate *Z-score*. To find the critical value of *W*, a normal approximation to its distribution is used. The expected value and standard deviation of *W* under the null hypothesis (i.e., no contamination exists) are given by the formulas

$$E(W) = \frac{1}{2} mn; \qquad SD(W) = \sqrt{\frac{1}{12} mn(N+1)}$$

An approximate *Z-score* for the Wilcoxon Rank-Sum test may be calculated by the following equations:

$$Z = \frac{W - E(W) - \frac{1}{2}}{SD(W)}$$

The factor of 1/2 in the numerator serves as a continuity correction since the discrete distribution of the statistic W is being approximated by the continuous normal distribution. If *n, m* > 10 and ties are present; an adjustment to the approximate *Z-score* must be made as follows:

$$Z_{RS} = \frac{W - E(W) - \frac{1}{2}}{S'D(W)}$$

where: $$SD' \quad (W) = \left(\frac{mn}{12} \left[N + 1 - \frac{\sum_{j=1}^{g} t_j (t_j^2 - 1)}{N(N-1)} \right] \right)^{\frac{1}{2}}$$

g = the number of tied groups and t_j is the number of tied data in the jth group.

- Step 4. For a one-tailed 0.05 significance level test for H_0 versus H_A (i.e. the measurements from population 1 tend to exceed those from population 2), reject H_0 and accept H_A if: $Z_{RS} > Z_{0.95} = +1.645$.

1.4 Two-Sample Test of Proportions

When more than 50% of the data for a constituent are nondetects, it is difficult to conduct a valid statistical test of whether the average downgradient concentration is significantly higher than the average upgradient concentration. The Two-Sample Test of Proportions is suitable for this situation.

The null and alternative hypotheses are:

$$H_0: P_d \leq P_u$$
$$H_A: P_d > P_u$$

Where P_d and P_u are the true proportions of the downgradient and upgradient measurements, respectively, that exceed a specified concentration C. The value of the concentration C should be just slightly greater than the largest upgradient nondetect value. The following is a step-by-step procedure to conduct the Two-Sample Test of Proportions:

- Step 1. Let K_d and K_u be the number of downgradient and upgradient measurements that exceed C.
- Step 2. Compute $P_d = K_d / n$ and $P_u = K_u / m$ where there are n downgradient samples and m upgradient samples so that $N = m + n$.
- Step 3. Compute $P = (K_d + K_u) / N$.
- Step 4. Compute the Test Statistic: $Z_p = (P_d - P_u) / [P(1-P)(1/n+1/m)]^{1/2}$
- Step 5. At 95% confidence, reject H_0 and accept H_A if $Z_p > Z_{0.95} = +1.645$.

COEFFICIENTS A_i FOR W TEST OF NORMALITY FOR N=2 to 50

i/n	2	3	4	5	6	7	8	9	10
1	0.7071	0.7071	0.6872	0.6646	0.6431	0.6233	0 6052	0 5888	0 5739
2			0 1677	0.2413	0.2806	0.3031	0.3164	0 3244	0.3291
3					0 0875	0.1401	0 1743	0 1976	0 2141
4							0 0561	0 0947	0 1224
5									0.0399

i/n	11	12	13	14	15	16	17	18	19	20
1	0.5601	0.5475	0.5359	0.5251	0.5150	0.5056	0.4968	0.4886	0.4808	0.4734
2	0.3315	0.3325	0.3325	0.3318	0.3306	0 3290	0.3273	0 3253	0.3232	0.3211
3	0 2260	0.2347	0.2412	0.2460	0.2495	0.2521	0 2540	0 2553	0.2561	0.2565
4	0.1429	0.1586	0.1707	0.1802	0.1878	0.1939	0.1988	0.2027	0.2059	0.2085
5	0.0695	0.0922	0.1099	0 1240	0.1353	0.1447	0 1524	0.1587	0.1641	0.1686
6		0.0303	0.0539	0.0727	0.0880	0.1005	0 1109	0 1197	0.1271	0.1334
7				0 0240	0.0433	0.0593	0 0725	0.0837	0.0932	0.1013
8						0 0196	0 0359	0.0496	0.0612	0.0711
9								0 0163	0.0303	0.0422
10										0.0140

i/n	21	22	23	24	25	26	27	28	29	30
1	0 4643	0 4590	0 4542	0.4493	0.4450	0.4407	0.4366	0.4328	0.4291	0.4254
2	0.3185	0.3156	0 3126	0 3098	0.3069	0.3043	0.3018	0 2992	0.2968	0.2944
3	0.2578	0.2571	0 2563	0.2554	0.2543	0.2533	0.2522	0 2510	0 2499	0 2487
4	0.2119	0.2131	0.2139	0.2145	0 2148	0.2151	0 2152	0.2151	0 2150	0.2148
5	0.1736	0.1764	0 1787	0.1807	0.1822	0.1836	0.1848	0 1857	0 1864	0 1870
6	0.1399	0.1443	0.1480	0.1512	0 1539	0 1563	0 1584	0.1601	0.1616	0.1630
7	0 1092	0.1150	0 1201	0.1245	0.1283	0.1316	0.1346	0.1372	0.1395	0.1415
8	0.0804	0.0878	0.0941	0 0997	0 1046	0 1089	0 1128	0.1162	0 1192	0 1219
9	0 0530	0.0618	0.0696	0.0764	0.0823	0.0876	0.0923	0.0965	0.1002	0 1036
10	0.0263	0.0368	0.0459	0 0539	0 0610	0 0672	0 0728	0.0778	0 0822	0.0862
11		0.0122	0.0228	0 0321	0 0403	0 0476	0 0540	0.0598	0 0650	0.0697
12				0 0107	0 0200	0 0284	0 0358	0.0424	0 0483	0 0537
13						0.0094	0.0178	0 0253	0 0320	0.0381
14								0 0084	0 0159	0.0227
15										0.0076

i/n	31	32	33	34	35	36	37	38	39	40
1	0.4220	0.4188	0.4156	0.4127	0.4096	0.4068	0.4040	0 4015	0.9689	0.3964
2	0.2921	0.2898	0.2876	0.2854	0 2834	0 2813	0.2794	0 2774	0 2755	0.2737
3	0 2475	0 2463	0.2451	0.2439	0.2427	0 2415	0.2403	0 2391	0 2380	0 2368
4	0 2145	0 2141	0.2137	0.2132	0.2127	0.2121	0.2116	0.2110	0.2104	0.2098
5	0.1874	0.1878	0.1880	0 1882	0.1883	0.1883	0.1883	0 1881	0.1880	0 1878
6	0 1641	0 1651	0.1660	0.1667	0.1673	0.1678	0.1683	0.1686	0.1689	0.1691
7	0 1433	0 1449	0.1463	0.1475	0.1487	0.1496	0.1503	0.1513	0.1520	0.1526
8	0.1243	0 1265	0.1284	0.1301	0.1317	0.1331	0.1344	0 1356	0.1366	0 1376
9	0.1066	0.1093	0.1118	0.1140	0.1160	0.1179	0.1196	0 1211	0 1225	0.1237
10	0.0899	0 0931	0 0961	0.0988	0.1013	0.1036	0.1056	0.1075	0.1092	0.1108
11	0.0739	0 0777	0.0821	0.0844	0.0873	0.0900	0.0924	0 0947	0 0967	0.0986
12	0.0585	0 0629	0 0669	0.0706	0.0739	0.0770	0.0798	0.0824	0 0848	0.0870
13	0 0435	0 0485	0 0530	0.0572	0.0610	0.0645	0.0677	0.0706	0.0733	0.0759
14	0.0289	0.0344	0.0395	0.0441	0 0484	0 0523	0 0559	0.0592	0 0622	0 0651
15	0 0144	0 0206	0.0262	0.0314	0 0361	0.0404	0.0444	0.0481	0.0515	0.0546
16		0 0068	0 0131	0.0187	0 0239	0 0287	0 0331	0.0372	0 0409	0.0444
17				0.0062	0.0119	0.0172	0 0220	0.0264	0 0305	0.0343
18						0.0057	0.0110	0.0158	0.0203	0.0244
19								0.0053	0 0101	0.0146
20										0.0049

i/n	41	42	43	44	45	46	47	48	49	50
1	0 3940	0 3917	0.3894	0.3872	0.3850	0.3830	0.3808	0.3789	0.3770	0.3751
2	0 2719	0.2701	0.2684	0.2667	0.2651	0.2635	0.2620	0.2604	0 2589	0.2574
3	0.2357	0 2345	0.2334	0.2323	0.2313	0.2302	0.2291	0.2281	0.2271	0.2260
4	0 2091	0.2085	0.2078	0.2072	0.2065	0.2058	0.2052	0.2045	0 2038	0 2032
5	0.1876	0.1874	0.1871	0.1868	0.1865	0.1862	0.1859	0.1855	0 1851	0 1847
6	0 1693	0 1694	0 1695	0 1695	0.1695	0.1695	0.1695	0.1693	0 1692	0 1691
7	0.1531	0.1535	0.1539	0 1542	0.1545	0.1548	0.1550	0 1551	0 1553	0.1554
8	0 1384	0 1392	0 1398	0 1405	0.1410	0.1415	0.1420	0.1423	0.1427	0.1430
9	0.1249	0 1259	0 1269	0.1278	0.1286	0.1293	0.1300	0 1306	0 1312	0 1317
10	0.1123	0 1136	0 1149	0.1160	0.1170	0 1180	0.1189	0 1197	0 1205	0 1212
11	0 1004	0 1020	0.1035	0.1049	0 1062	0 1073	0.1085	0 1095	0 1105	0 1113
12	0.0891	0.0909	0.0927	0.0943	0 0959	0.0972	0 0986	0.0998	0.1010	0 1020
13	0.0782	0.0804	0 0824	0.0842	0 0860	0 0876	0.0892	0.0906	0.0919	0 0932
14	0.0677	0 0701	0 0724	0.0745	0 0775	0 0785	0 0801	0.0817	0.0832	0 0846
15	0.0575	0.0602	0.0628	0.0651	0 0673	0 0694	0.0713	0 0731	0.0748	0.0764
16	0.0476	0 0506	0 0534	0 0560	0 0584	0 0607	0 0628	0 0648	0 0667	0.0685
17	0.0379	0.0411	0.0442	0.0471	0.0497	0.0522	0.0546	0.0568	0.0588	0.0608
18	0 0283	0 0318	0 0352	0 0383	0 0412	0.0439	0.0465	0.0489	0 0511	0 0532
19	0.0188	0.0227	0.0263	0.0296	0.0328	0.0357	0.0385	0.0411	0 0436	0.0459
20	0 0094	0.0136	0.0175	0 0211	0.0245	0.0277	0.0307	0 0335	0 0361	0 0386
21		0.0045	0.0087	0 0126	0.0163	0.0197	0.0229	0 0259	0.0288	0 0314
22				0.0042	0.0081	0.0188	0.0153	0.0185	0.0215	0.0244
23						0 0039	0.0076	0 0111	0.0143	0 0174
24								0.0037	0.0071	0 0104
25										0 0350

PERCENTAGE POINTS OF THE W TEST FOR N=3 to 50

n	0.01	0.05
3	0.753	0.767
4	0.687	0.748
5	0.686	0.762
6	0.713	0.788
7	0.730	0.803
8	0.749	0.818
9	0.764	0.829
10	0.781	0.842
11	0.792	0.850
12	0.805	0.859
13	0.814	0.866
14	0.825	0.874
15	0.835	0.881
16	0.844	0.887
17	0.851	0.892
18	0.858	0.897
19	0.863	0.901
20	0.868	0.905
21	0.873	0.908
22	0.878	0.911
23	0.881	0.914
24	0.884	0.916
25	0.888	0.918
26	0.891	0.920
27	0.894	0.923
28	0.896	0.924
29	0.898	0.926
30	0.900	0.927

n	0.01	0.05
31	0.902	0.929
32	0.904	0.930
33	0.906	0.931
34	0.908	0.933
35	0.910	0.934
36	0.912	0.935
37	0.914	0.936
38	0.916	0.938
39	0.917	0.939
40	0.919	0.940
41	0.920	0.941
42	0.922	0.942
43	0.923	0.943
44	0.924	0.944
45	0.926	0.945
46	0.927	0.945
47	0.928	0.946
48	0.929	0.947
49	0.929	0.947
50	0.930	0.947

95th PERCENTILES OF F-DISTRIBUTION WITH v_1 and v_2 DEGREES OF FREEDOM

v_2/v_1	1	2	3	4	5	6	7	8	9	10	12	15	20	24	30	39	40	60	120
1	161.4	199.5	215.7	224.6	230.2	234.0	236.8	238.9	240.5	241.9	243 9	245.9	248.0	249.1	250.1	251.0	251.1	252.2	253.3
2	18.51	19.00	19.16	19.25	19.30	19.33	19.35	19.37	19.38	19.40	19.41	19.43	19.45	19.45	19.46	19.47	19.47	19.48	19.49
3	10.13	9.55	9.28	9.12	9.01	8.94	8.89	8.85	8.81	8.79	8.74	8.70	8.66	8.64	8.62	8.59	8.59	8.57	8.55
4	7.71	6.94	6.59	6.39	6.26	6.16	6.09	6.04	6.00	5.96	5.91	5.86	5.80	5.77	5.75	5.72	5.72	5.69	5.66
5	6.61	5.79	5.41	5.19	5.05	4.95	4.88	4.82	4.77	4.74	4.68	4.62	4.56	4.53	4.50	4.46	4.46	4.43	4.40
6	5.99	5.14	4.76	4.53	4.39	4.28	4.21	4.15	4.10	4.06	4.00	3.94	3.87	3.84	3.81	3.77	3.77	3.74	3.70
7	5 59	4.74	4.35	4.12	3.97	3.87	3.79	3.73	3.68	3.64	3.57	3.51	3.44	3.41	3.38	3.34	3.34	3.30	3.27
8	5.32	4.46	4.07	3.84	3.69	3.58	3.50	3.44	3.39	3.35	3.28	3.22	3.15	3.12	3.08	3.04	3.04	3.01	2.97
9	5.12	4.26	3.86	3.63	3.48	3.37	3.29	3.23	3.18	3.14	3.07	3.01	2.94	2.90	2.86	2.83	2.83	2.79	2.72
10	4.96	4.10	3.71	3.48	3.33	3.22	3.14	3.07	3.02	2.98	2.91	2.85	2.77	2.74	2.70	2.66	2.66	2.62	2.58
11	4.84	3.98	3.59	3.36	3.20	3.09	3.01	2.95	2.90	2.85	2.79	2.72	2.65	2.61	2.57	2.53	2.53	2.49	2.45
12	4.75	3.89	3.49	3.26	3.11	3.00	2.91	2.85	2.80	2.75	2.69	2.62	2.54	2.51	2.47	2.43	2.43	2.38	2.34
13	4.67	3.81	3.41	3.18	3 03	2.92	2.83	2.77	2.71	2.67	2 60	2.53	2.46	2.42	2.38	2.34	2.34	2.30	2.25
14	4.60	3.74	3.34	3.11	2.96	2 85	2.76	2.70	2.65	2.60	2 53	2.46	2.39	2.35	2.31	2.27	2.27	2.22	2.18
15	4.54	3.68	3.29	3.06	2.90	2 79	2.71	2.64	2.59	2.54	2.48	2.40	2.33	2.29	2.25	2.21	2.20	2.16	2.11
16	4.49	3.63	3.24	3.01	2.85	2 74	2.66	2.59	2.54	2.49	2.42	2.35	2 28	2.24	2.19	2.15	2.15	2.11	2.06
17	4 45	3.59	3.20	2.96	2.81	2.70	2.61	2.55	2.49	2.45	2.38	2.31	2.23	2.19	2.15	2.11	2.10	2.06	2.01
18	4.41	3.55	3.16	2.93	2.77	2.66	2.58	2.51	2.46	2.41	2.34	2.27	2.19	2.15	2.11	2.07	2.06	2.02	1.97
19	4.38	3.52	3.13	2.90	2.74	2.63	2.54	2.48	2.42	2.38	2.31	2.23	2.16	2.11	2.07	2.03	2.03	1.98	1.93
20	4.35	3.49	3.10	2.87	2.71	2.60	2.51	2.45	2.39	2.35	2.28	2.20	2.12	2.08	2.04	2.00	1.99	1.95	1.90
21	4.32	3.47	3.07	2.84	2.68	2.57	2.49	2.42	2.37	2.32	2.25	2.18	2.10	2.05	2.01	1.97	1.96	1.92	1.87
22	4.30	3.44	3.05	2.82	2.66	2.55	2.46	2.40	2.34	2.30	2.23	2.15	2.07	2.03	1.98	1.94	1.94	1.89	1.84
23	4.28	3.42	3.03	2.80	2.64	2.53	2.44	2.37	2.32	2.27	2.20	2.13	2.05	2.01	1.96	1.92	1.91	1.86	1.81
24	4.26	3.40	3.01	2.78	2.62	2.51	2.42	2.36	2.30	2.25	2.18	2.11	2.03	1.98	1.94	1.90	1.89	1.84	1.79
25	4.24	3.39	2.99	2.76	2.60	2.49	2.40	2.34	2.28	2.24	2.16	2.09	2.01	1.96	1.92	1.88	1.87	1.82	1.77
26	4.23	3.37	2.98	2.74	2.59	2.47	2.39	2.32	2.27	2.22	2.15	2.07	1.99	1.95	1.90	1.86	1.85	1.80	1.75
27	4.21	3.35	2.96	2.73	2.57	2.46	2.37	2.31	2.25	2.20	2.13	2.06	1.97	1.93	1.88	1.84	1.84	1.79	1.73
28	4.20	3.34	2.95	2.71	2.56	2.45	2.36	2.29	2.24	2.19	2.12	2.04	1.96	1.91	1.87	1.83	1.82	1.77	1.71
29	4.18	3.33	2.93	2.70	2.55	2.43	2.35	2.28	2.22	2.18	2.10	2.03	1.94	1.90	1.85	1.81	1.81	1.75	1.70
30	4.17	3.32	2.92	2.69	2.53	2.42	2.33	2.27	2.21	2.16	2.09	2.01	1.93	1.89	1.84	1.80	1.79	1.74	1.68
40	4.08	3.23	2.84	2.61	2.45	2.34	2.25	2.18	2.12	2.08	2.00	1.92	1.84	1.79	1.74	1.70	1.69	1.64	1.58
60	4.00	3.15	2.76	2.53	2.37	2.25	2.17	2.10	2.04	1.99	1.92	1.84	1.75	1.70	1.65	1.60	1.59	1.53	1.47
120	3.92	3.07	2.68	2.45	2.29	2.17	2.09	2.02	1.96	1.91	1.83	1.75	1.66	1.61	1.55	1.51	1.50	1.43	1.35

NOTE: v_1: Degrees of Freedom for numerator (horizontal axis)
v_2: Degrees of freedom for denominator (vertical axis)

CIS-1,2-DICHLOROETHENE
ROUND 16 STATISTICAL ANALYSIS CALCULATION-
TWO SAMPLE TEST OF PROPORTIONS
YEAR 6 ANNUAL GROUNDWATER MONITORING REPORT

CIS-1,2-DICHLOROETHENE

DOWNGRADIENT				**UPGRADIENT**			
FREQUENCY OF DETECTION	2	/	4	FREQUENCY OF DETECTION	1	/	3
GREATER THAN 50% NON-DETECTS?	NO	*		GREATER THAN 50% NON-DETECTS?	YES	*	

* If YES a Two Sample Test of Proportions should be conducted.

RANGE	0.75	-	0.83	RANGE	4.7	-	4.7
AVERAGE ALL	0.520			AVERAGE ALL	1.733		
AVERAGE DETECTS	0.790			AVERAGE DETECTS	4.7		

TWO SAMPLE TEST OF PROPORTIONS

Value of C	0.2501	Largest upgradient non-detect value plus 0.0001
K_d	2	Downgradient measurements that exceed C
K_u	1	Upgradient measurements that exceed C
n	4	Number of Downgradient Results
m	3	Number of Upgradient Results
p_d	0.500	Proportion of Downgradient samples that exceed C
p_u	0.333	Proportion of Upgradient samples that exceed C
p	0.429	Proportion of samples that exceed C
Z_p	0.441	Test Statistic
Downgradient > Upgradient?	NO	YES if downgradients results statistically exceed upgradient when Z_p>1.645

TRICHLOROETHENE
ROUND 16 STATISTICAL ANALYSIS CALCULATION-
TWO SAMPLE TEST OF PROPORTIONS
YEAR 6 ANNUAL GROUNDWATER MONITORING REPORT

TRICHLOROETHENE

DOWNGRADIENT				**UPGRADIENT**			
FREQUENCY OF DETECTION	2	/	4	FREQUENCY OF DETECTION	1	/	3
GREATER THAN 50% NON-DETECTS?	NO	*		GREATER THAN 50% NON-DETECTS?	YES	*	

* If YES a Two Sample Test of Proportions should be conducted.

RANGE	0.37	-	0.53	RANGE	7.3	-	7.3
AVERAGE ALL	0.350			AVERAGE ALL	2.600		
AVERAGE DETECTS	0.450			AVERAGE DETECTS	7.3		

TWO SAMPLE TEST OF PROPORTIONS

Value of C	0.2501	Largest upgradient non-detect value plus 0.0001
K_d	2	Downgradient measurements that exceed C
K_u	1	Upgradient measurements that exceed C
n	4	Number of Downgradient Results
m	3	Number of Upgradient Results
p_d	0.500	Proportion of Downgradient samples that exceed C
p_u	0.333	Proportion of Upgradient samples that exceed C
p	0.429	Proportion of samples that exceed C
Z_p	0.441	Test Statistic
Downgradient > Upgradient?	NO	YES if downgradients results statistically exceed upgradient when Z_p>1.645

BEHP
ROUND 16 STATISTICAL ANALYSIS CALCULATION
PARAMETRIC ANOVA
YEAR 6 ANNUAL GROUNDWATER MONITORING REPORT

BIS(2-ETHYLHEXYL)PHTHALATE

DOWNGRADIENT		UPGRADIENT	
FREQUENCY OF DETECTION	2 / 4	FREQUENCY OF DETECTION	2 / 3
GREATER THAN 50% NON-DETECTS?	NO *	GREATER THAN 50% NON-DETECTS?	NO *

* If YES a Two Sample Test of Proportions should be conducted.

RANGE	9 - 22	RANGE	3.15 - 10
AVERAGE ALL	10 250	AVERAGE ALL	6.05
AVERAGE DETECTS	15 500	AVERAGE DETECTS	6.575
STANDARD DEVIATION	8 0571	STANDARD DEVIATION	3 5437
SHAPIRO WILK NORMAL	0.7836	SHAPIRO WILK NORMAL	0.9341
LOGNORMAL STANDARD DEVIATION	0.3040	LOGNORMAL STANDARD DEVIATION	0.2525
SHAPIRO WILK LOGNORMAL	0.8483	SHAPIRO WILK LOGNORMAL	0.9868
SHAPIRO WILK W TEST	0.7480	SHAPIRO WILK W TEST	0.767
DISTRIBUTION	LOGNORMAL	DISTRIBUTION	LOGNORMAL
PASS SHAPIRO WILK TEST?	PASS	PASS SHAPIRO WILK TEST?	PASS

LEVENE P-VALUE 0.27855
PASS LEVENE TEST? PASS

If PASS Levene Test and/or Shapiro Wilk Test - PARAMETRIC ANOVA
If FAIL Levene Test and/or Shapiro Wilk Test - NON-PARAMETRIC ANOVA,

PARAMETRIC ANOVA
SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Column 1	4	41	10.25	64.9
Column 2	3	18.15	6.05	12.6

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	30.24	1	30.24	0.69	0.444722	6.607877
Within Groups	219.865	5	43.973			
Total	250.105	6				

Downgradient > Upgradient? NO F exceeds F critical AND downgradient average > upgradient average.

PYRENE
ROUND 16 STATISTICAL ANALYSIS CALCULATION
TWO SAMPLE TEST OF PROPORTIONS
YEAR 6 ANNUAL GROUNDWATER MONITORING REPORT

PYRENE

DOWNGRADIENT			**UPGRADIENT**		
FREQUENCY OF DETECTION	2 / 4		FREQUENCY OF DETECTION	1 / 3	
GREATER THAN 50% NON-DETECTS?	NO	*	GREATER THAN 50% NON-DETECTS?	YES	*

* If YES a Two Sample Test of Proportions should be conducted.

RANGE	0.19 - 0.2		RANGE	0.092 - 0.092	
AVERAGE ALL	0.15		AVERAGE ALL	0.10	
AVERAGE DETECTS	0.20		AVERAGE DETECTS	0.092	

TWO SAMPLE TEST OF PROPORTIONS

Value of C	0.1001	Largest upgradient non-detect value plus 0.0001
K_d	2	Downgradient measurements that exceed C
K_u	0	Upgradient measurements that exceed C
n	4	Number of Downgradient Results
m	3	Number of Upgradient Results
p_d	0.500	Proportion of Downgradient samples that exceed C
p_u	0.000	Proportion of Upgradient samples that exceed C
p	0.286	Proportion of samples that exceed C
Z_p	1.449	Test Statistic
Downgradient > Upgradient?	NO	YES if downgradients results statistically exceed upgradient when Z_p>1.645

BARIUM
ROUND 16 STATISTICAL ANALYSIS CALCULATION
PARAMETRIC ANOVA
YEAR 6 ANNUAL GROUNDWATER MONITORING REPORT

BARIUM

DOWNGRADIENT				**UPGRADIENT**			
FREQUENCY OF DETECTION	4	/	4	FREQUENCY OF DETECTION	3	/	3
GREATER THAN 50% NON-DETECTS?	NO	*		GREATER THAN 50% NON-DETECTS?	NO	*	

* If YES a Two Sample Test of Proportions should be conducted.

RANGE	10	-	50	RANGE	20	-	50
AVERAGE ALL	35.00			AVERAGE ALL	33.33		
AVERAGE DETECTS	35.00			AVERAGE DETECTS	33.33		
STANDARD DEVIATION	19.15			STANDARD DEVIATION	15.28		
SHAPIRO WILK NORMAL	0.8648			SHAPIRO WILK NORMAL	0.9643		
LOGNORMAL STANDARD DEVIATION	0.3295			LOGNORMAL STANDARD DEVIATION	0.1994		
SHAPIRO WILK LOGNORMAL	0 8221			SHAPIRO WILK LOGNORMAL	0.9956		
SHAPIRO WILK W TEST	0.748			SHAPIRO WILK W TEST	0.767		
DISTRIBUTION	NORMAL			DISTRIBUTION	LOGNORMAL		
PASS SHAPIRO WILK TEST?	PASS			PASS SHAPIRO WILK TEST?	PASS		

LEVENE P-VALUE 0.5376
PASS LEVENE TEST? PASS

If PASS Levene Test and/or Shapiro Wilk Test - PARAMETRIC ANOVA
If FAIL Levene Test and/or Shapiro Wilk Test - NON-PARAMETRIC ANOVA,

PARAMETRIC ANOVA
SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Column 1	4	140	35	366.7
Column 2	3	100	33.3333333	233.3

ANOVA

Source of Variati	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Grou	4.761905	1	4.76190476	0.015	0.906689	6.607877
Within Group:	1566.667	5	313.333333			
Total	1571.429	6				

Downgradient > Upgradient? NO Yes, if F exceeds F critical AND downgradient average > upgradient average.

COPPER
ROUND 16 STATISTICAL ANALYSIS CALCULATION
NON PARAMETRIC ANOVA
YEAR 6 ANNUAL GROUNDWATER MONITORING REPORT

COPPER

DOWNGRADIENT				**UPGRADIENT**			
FREQUENCY OF DETECTION	4	/	4	FREQUENCY OF DETECTION	2	/	3
GREATER THAN 50% NON-DETECTS?	NO	*		GREATER THAN 50% NON-DETECTS?	NO	*	

* If YES a Two Sample Test of Proportions should be conducted.

RANGE	1.8	-	20	RANGE	1.9	-	4.2
AVERAGE ALL	12.950			AVERAGE ALL	3.7		
AVERAGE DETECTS	12.950			AVERAGE DETECTS	3.05		
STANDARD DEVIATION	8.8021			STANDARD DEVIATION	1.609		
SHAPIRO WILK NORMAL	0.8656			SHAPIRO WILK NORMAL	0.9276		
LOGNORMAL STANDARD DEVIATION	0.4935			LOGNORMAL STANDARD DEVIATION	0.2240		
SHAPIRO WILK LOGNORMAL	0.8095			SHAPIRO WILK LOGNORMAL	0.0286		
SHAPIRO WILK W TEST	0.7480			SHAPIRO WILK W TEST	0.767		
DISTRIBUTION	NORMAL			DISTRIBUTION	NORMAL		
PASS SHAPIRO WILK TEST?	PASS			PASS SHAPIRO WILK TEST?	PASS		

LEVENE P-VALUE	0.033139
PASS LEVENE TEST?	FAIL

If PASS Levene Test and/or Shapiro Wilk Test - PARAMETRIC ANOVA
If FAIL Levene Test and/or Shapiro Wilk Test - NON-PARAMETRIC ANOVA,

NON-PARAMETRIC ANOVA
Modified Wilcoxon Rank Sum Test used because sample data set < 12

95%UTL NORMAL	21.312	95%UTL NORMAL	5.22888
95%UTL LOGNORMAL	--	95%UTL LOGNORMAL	--
MAXIMUM POSITIVE DETECTION	20	MAXIMUM POSITIVE DETECTION	4.2
EPC	20.000	EPC	4.200

Downgradient > Upgradient? YES YES if maximum downgradient well hit exceeds the upgradient UTL.

EPC os defined as the Exposure Point Concentration and is the lesser of the distribution-appropiate 95% UCL

ZINC
ROUND 16 STATISTICAL ANALYSIS CALCULATION
PARAMETRIC ANOVA
YEAR 6 ANNUAL GROUNDWATER MONITORING REPORT

ZINC

DOWNGRADIENT				**UPGRADIENT**			
FREQUENCY OF DETECTION	4	/	4	FREQUENCY OF DETECTION	3	/	3
GREATER THAN 50% NON-DETECTS?	NO	*		GREATER THAN 50% NON-DETECTS?	NO	*	

* If YES a Two Sample Test of Proportions should be conducted.

RANGE	15	-	380	RANGE	5.7	-	110
AVERAGE ALL	121.50			AVERAGE ALL	40.60		
AVERAGE DETECTS	121.50			AVERAGE DETECTS	40.60		
STANDARD DEVIATION	173.34			STANDARD DEVIATION	60.10		
SHAPIRO WILK NORMAL	0.7253			SHAPIRO WILK NORMAL	0.7529		
LOGNORMAL STANDARD DEVIATION	0.6015			LOGNORMAL STANDARD DEVIATION	0 7338		
SHAPIRO WILK LOGNORMAL	0.9449			SHAPIRO WILK LOGNORMAL	0.7672		
SHAPIRO WILK W TEST	0.7480			SHAPIRO WILK W TEST	0.767		
DISTRIBUTION	LOGNORMAL			DISTRIBUTION	LOGNORMAL		
PASS SHAPIRO WILK TEST?	PASS			PASS SHAPIRO WILK TEST?	PASS		

LEVENE P-VALUE 0.178491
PASS LEVENE TEST? PASS

If PASS Levene Test and/or Shapiro Wilk Test - PARAMETRIC ANOVA
If FAIL Levene Test and/or Shapiro Wilk Test - NON-PARAMETRIC ANOVA,

PARAMETRIC ANOVA
SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Column 1	4	486	121.5	30046
Column 2	3	121.8	40.6	3612.3

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	11219.67	1	11219.67	0.5762	0.482042	6.607877
Within Groups	97361.62	5	19472.32			
Total	108581.3	6				

Downgradient > Upgradient? NO Yes, if F exceeds F critical AND downgradient average > upgradient average.

APPENDIX G

RESPONSE TO COMMENTS

RESPONSE TO COMMENTS
2004 Annual Monitoring Report
DRMO, New London, CT

No.	Page	Comment	Response	Agree, Disagree, NA
--	--	The Year 5 Groundwater Monitoring Report recommended reevaluation of sampling frequency after Round 16. Additional recommendations included the discontinuation of analyses for pesticides and PCBs, as none have been detected in the 15 rounds reported by the end of Year 5. EPA recommends consideration of extending the interval between monitoring events to two years (at a minimum), due to the consistently low levels of detected COPCs and relatively few exceedances of monitoring criteria (none above NSBNL background). Also, EPA concurs with the recommendation to discontinue analyses for pesticides and PCBs.	Monitoring will be reduced to bi-annually. PCBs and Pesticides will be removed from the list of analytes to be monitored.	Agree.
1	1-1 & Table 3-1	The text on page 1-1 states that sampling and analyses were performed in accordance with the Operation and Maintenance Manual for Installation Restoration Program Sites at Naval Submarine Base New London, Volume II - Groundwater Monitoring Plan (TtNUS, 2002) "along with approved modifications based on previous sampling events." If these modifications are incorporated in Operation and Maintenance Manual for Installation Restoration Program Sites at Naval Submarine Base New London, Volume II - Groundwater Monitoring Plan (TtNUS, 2003), please use the latter as the appropriate reference for the Round 16 sampling and analysis (as is suggested in the text on page 3-1). The Primary and Secondary Monitoring Criteria against which Round 16 groundwater data are compared are taken from Tables 2-9 and 2-10 in the 2003 document. Please note that the Primary Monitoring Criterion for lead is given in Table 2-9 as 4460 micrograms per liter, while the Primary Monitoring Criterion for Pb in the Round 16 report (Table 3-1) is given as 460 micrograms per liter, with the 2003 document as the reference. Please edit as necessary.	Document & Table updated.	Agree

RESPONSE TO COMMENTS
2004 Annual Monitoring Report
DRMO, New London, CT

No.	Page	Comment	Response	Agree, Disagree, NA
2	Table 2-2	The field parameters in Table 2-2 report a pH of 3.28 for monitoring well 6MW6S. This well, on the upgradient slope above the DRMO, also reports the highest dissolved oxygen (DO = 8.3 mg/L), the highest ORP (489.2 mV) and the second lowest salinity (0.16 ppt). Similarly, upgradient monitoring well 6MW9S also reports low pH (4.47) and low salinity (0.02 ppt), although DO and ORP are not as high as in 6MW6S (1.05 mg/L and 47.7 mV, respectively). Together, these data suggest that groundwater chemistry at these locations may be dominated by well-oxygenated, low-pH, low-salinity water characteristic of meteoric infiltration. However, previous sampling rounds report pH values from these wells that are generally consistently higher than those from Round 16; if the Navy can provide an explanation, particularly for the pH of 3.28 in 6MW6S, please add this information, especially if pH values in 6MW6S and 6MW9S remain unusually low in the next sampling round (summer 2005).	ECC cannot provide any explanation to this phenomenon. However, these wells will be closely monitored in the next round to see if similar criteria to the 2004 YSI readings persist.	NA
3	4-3	One downgradient detection of arsenic is reported, at 3.78J micrograms per liter. The text on page 4-3 (second paragraph in this section) indicates that the laboratory reporting limit for arsenic was 10 micrograms per liter, while the data in Table 3-1 suggest that the reporting limit was 4 micrograms per liter. Please check for consistency and edit as appropriate.	Document updated.	Agree

RESPONSE TO COMMENTS
2004 Annual Monitoring Report
DRMO, New London, CT

No.	Page	Comment	Response	Agree, Disagree, NA
4	4-5	The average of the zinc concentrations in the downgradient wells is 121.5 micrograms per liter (page 4-4). This average exceeds the secondary monitoring criterion of 81 micrograms per liter but is below the background concentration of 131 micrograms per liter, in contradiction to the statement in the last sentence in the incomplete paragraph at the top of page 4-5. Please edit as necessary.	Documented updated.	Agree
5	Appendix E	The data review worksheets, containing all pertinent data validation information, are provided in Appendix E (Data Validation Memos and Laboratory Analytical Results). However, the lab sheets with the analytical results do not appear to have been included. Therefore it is not possible to verify individual monitoring results (summarized in Table 3-1) or to confirm apparent exceedances (*e.g.*, of the secondary monitoring criterion for copper). For completeness, please ensure that these sheets are appended to the annual monitoring reports.	Documents added to Appendix E.	Agree.

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STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAWN R GALLAGHER
COMMISSIONER

October 22, 2003

Mr. Orlando Monaco
Department of Navy
Engineering Field Activity-Northeast
Code 1823/OM
10 Industrial Highway, Mailstop 82
Lester, PA 19113-2090

Re: Monitored Natural Attenuation Analyte List-Eastern Plume
Naval Air Station, Brunswick, Maine

Dear Mr. Monaco:

The Maine Department of Environmental Protection (MEDEP) has reviewed the letter report entitled Recommended Monitored Natural Attenuation Analyte List, dated August 14, 2003, prepared by EA Engineering, Science and Technology. Based on that review MEDEP has the following comments.

General Comments:

1. MEDEP concurs with the USEPA's comments emailed October 1, 2003 on the monitored natural attenuation proposal.

2. MEDEP is pleased that the Navy is going to start collecting information for an evaluation MNA within the Eastern Plume, however MEDEP feels that it will be an number of years before the Eastern Plume is at a point where MNA would be an appropriate remedy. Until that time the current remedy, pump and treat, needs to be assessed in order to be optimize the system to remove as much of the contamination as possible.

   It is MEDEP's understanding that of the 5 extraction wells, EW 1 is plugged, EW-2A has reduced pumping due to fouling but VOC concentrations are still high, EW-3 is non-functioning, EW-4 is pumping mostly clean water, and EW-5A is operating normally and pumping high VOC concentrations. MEDEP is looking forward to discussing the optimization of the pump and treat system at the upcoming technical meeting.

3. Additionally, MEDEP cautions that in evaluating the potential of monitored natural attenuation (MNA), the presence of breakdown daughter-products of chlorinated solvents at the Eastern Plume be carefully interpreted. Historical information documents that petroleum hydrocarbon plumes emanating from the fire training area once existed in the upper sand layer, and remedial pumping extraction water has contained low concentrations of BTEX compounds. It is likely that these fuel compounds have served as electron donors in support of reductive dechlorination of PCE and TCE in the upper sand, and perhaps deeper. The

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 764-1507

web site: www.state.me.us/dep

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monitoring event data have shown a gradual disappearance of the BTEX compounds in Eastern Plume groundwater. A logical extrapolation of the current absence of significant mass of petroleum hydrocarbons is that reductive dechlorination rates have, or will, decrease. However, the solvent daughter-products may continue to persist and migrate for years. To further complicate matters, many of the long-term observation wells that have daughter-products present in their laboratory analyses have not shown any sustained decreasing or increasing trends in concentrations. However, in the last year or so, a few wells on the plume's leading edge have shown an appearance of daughter-products, which could represent an arrival of a daughter-product "plume" resulting from past BTEX plumes. While new MNA analyte data are essential to collect, the chemical history of the Eastern Plume must be integrated in the overall evaluation.

3. As the Navy presumably is aware, the evaluation of MNA remediation potential requires that physical and hydraulic properties of the aquifer be quantitatively known in the horizontal and vertical dimensions. Methods are available to assess whether contaminants with various half-lives will accumulate (increase in concentration) in the plume footprint or disappear without accumulation. Such determinations are important to complete judgement on the viability of MNA and provide supporting evidence. MEDEP may accept that the physical groundwater system (geologic definition) is adequate, but is concerned that the rate of groundwater movement was not defined in enough detail in the remedial investigation (RI) to support MNA evaluations. There is a lack of adequate hydraulic conductivity data coverage for the deeper strata, particularly near the leading edge. The Navy should plan to verify and augment the existing RI groundwater flow rates, including vertical movement.

Thank you for the opportunity to review this report. If you have any questions or comments please call me at (207) 287-7713.

Respectfully,

Claudia Sait

Claudia Sait
Project Manager-Federal Facilities
Bureau of Remediation & Waste Management

Cf: File
Larry Dearborn-DEP
Anthony Williams-BNAS
Christine Williams-EPA
Carolyn Lepage-Lepage Environmental
Al Easterday-EA
Ed Benedikt