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Round 13 Groundwater Monitoring Report

for

Defense Reutilization and Marketing Office

Naval Submarine Base New London

Groton, Connecticut

Engineering Field Activity Northeast
Naval Facilities Engineering Command

Contract Number N62476-94-D-0888

Contract Task Order 0816

December 2001

TETRA TECH NUS, INC.

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ROUND 13 GROUNDWATER MONITORING REPORT
FOR
DEFENSE REUTILIZATION AND MARKETING OFFICE

NAVAL SUBMARINE BASE - NEW LONDON
GROTON, CONNECTICUT

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

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1.0 INTRODUCTION

This Round 13 Groundwater Monitoring Report for the Defense Reutilization and Marketing Office (DRMO) at the Naval Submarine Base New London (NSB-NLON) in Groton, Connecticut was prepared for the U.S. Department of the Navy (Navy) by Tetra Tech NUS, Inc. (TtNUS) under the Comprehensive Long-Term Environmental Action Navy (CLEAN), Contract Number N62476-94-D-0888, Contract Task Order (CTO) 0816.

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

1.1 BACKGROUND INFORMATION

1.1.1 Base Description

NSB-NLON is located in southeastern Connecticut in the Towns of Ledyard and Groton. It encompasses approximately 576 acres and lies on the east bank of the Thames River, approximately 6 miles north of Long Island Sound. NSB-NLON is bounded to the east by Connecticut Route 12, to the south by Crystal Lake Road, and to the west by the Thames River. The northern border is a low, east-southeast trending ridge extending from the Thames River to Baldwin Hill.

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

1.1.2 Site Description and History

The DRMO is adjacent to the Thames River in the northwestern section of NSB-NLON. The DRMO is the storage and collection facility for items to be sold at auctions and sales held periodically throughout the year. Figure 1-1 shows the site location within NSB-NLON, and Figure 1-2 shows the general site plan.

The DRMO was used as a major base landfill and burning ground from 1950 to 1969. The materials burned and landfilled included construction materials, combustible scrap, and other non-salvageable waste items. These materials were burned on the Thames River shoreline adjacent to the current location of the DRMO. The residue was pushed to the shoreline and partially covered.

Atlantic Environmental Service, Inc. (Atlantic) personnel reviewed archived aerial photographs of the DRMO areas as part of the Phase I Remedial Investigation (RI) (Atlantic, 1992). The 1934 photographs show fill in the southern portion of the site. Fill for bulkheads and docks south of the DRMO did not exist at that time. Aerial photographs from 1951 show the land in its present configuration, except for the northwest portion, which was not filled at that time.

Atlantic personnel inspected the site on September 30, 1988. Metal and wood products were stored throughout most of the site. Buildings 479 and 355 are located within the paved area to the south and are primarily used for storage. Building 491, located in the unpaved area to the north, is used for miscellaneous storage, including batteries. Metal baling operations were performed adjacent to Building 491 on a gravel surface. Based on an inspection of the building plans, Atlantic personnel identified the presence of a former battery acid handling facility at the north section of the site, within Building 491. A large scrap yard was located north of Building 479. Submarine batteries were stored in the southeast portion of the site adjacent to the railroad tracks; no leakage was observed.

Prior to 1995, the southern half of the DRMO was covered with asphalt, most of which had deteriorated, while the northern portion was unpaved and had a gravel surface. A Time-Critical Removal Action was performed at the DRMO by OHM Remediation Services Corporation. Construction aspects of the removal action were completed in January 1995. The removal action focused on the removal of soil contaminated with lead, polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs) from the northern half of the DRMO. The spent acid tank was also removed. The site was subsequently remediated and a composite cap was placed over a majority of the central and northern portions of the site (OHM, September 1995). The cap consisted of a woven geotextile liner, a geosynthetic clay liner (GCL), and a nonwoven geotextile liner. Bituminous concrete pavement was then placed over the entire area of the composite cap. The paved (southern) portion of the site was upgraded with an additional asphalt layer.

1.1.3 Previous Investigations

1.1.3.1 Phase I RI

The Phase I RI (Atlantic, 1992) at this site included test borings and monitoring well installation, as well as, soil, surface water, and groundwater sampling. Twelve shallow surface soil samples and 12 subsurface soil samples were collected from 7 test borings and 5 monitoring well borings. Four surface soil samples were collected and analyzed. Six groundwater samples were collected from five shallow wells and one deep well. Additionally, one surface water sample was collected from the Thames River at the northern end of this site (B&R Environmental, March 1997).

Concentrations of Volatile Organic Compounds (VOCs) in the soil were generally low. Semivolatile Organic Compounds (SVOCs) were present in most soil samples collected in the former landfill area. They were predominately comprised of PAHs, many of which were detected at elevated levels. A PCB, Aroclor 1260, was detected at almost all soil sample locations. Pesticides were detected in one soil sample at elevated concentrations.

Trichloroethene and 1,2-dichloroethene were detected in groundwater at three shallow downgradient wells. SVOCs (including PAHs), pesticides, petroleum hydrocarbons, or PCBs were not detected in any wells at the DRMO site. The inorganic groundwater analysis results indicated that selenium exceeded the primary drinking water standards for three wells. No VOCs, SVOCs, pesticides, or PCBs were detected in the upgradient surface water sample. Comparison of the inorganic results for this sample with the downgradient water sample (Goss Cove) did not suggest any detectable impact on the Thames River from the DRMO based on this limited data set.

1.1.3.2 Draft Focused Feasibility Study Field Investigation

A field investigation in support of the draft Focused Feasibility Study (FFS) was performed at the DRMO site in October 1993 to better define the extent of soil contamination. Twelve surface soil samples and twelve subsurface soil samples were collected. One surface and two subsurface field duplicates were also collected. One of the borings was completed as a monitoring well (6MW8S) (B&R Environmental, March 1997).

The highest concentrations of VOCs were present in soil samples west of Building 491. SVOCs, predominately PAHs, were detected in soil across the site. PCBs (Aroclor 1254, Aroclor 1260, and Aroclor 1242) were detected at nearly all boring locations at low to high concentrations. Pesticides (DDE, DDD, and DDT) were detected at many locations across the site, primarily at low concentrations; however, several locations were found to have elevated levels. Concentrations of inorganic compounds were above background at all locations. Of primary concern at the site were the high levels of lead.

1.1.3.3 Phase II RI

Five new groundwater monitoring wells (two shallow and three deep) were installed and sampled during the Phase II RI. Additionally, 4 previously installed shallow wells were sampled. Two rounds of groundwater sampling were completed and ten samples were collected during each sampling round. Three subsurface soil samples were collected during the installation of three of the new wells (B&R Environmental, March 1997).

Relatively high concentrations of multiple organic and inorganic compounds were detected in the soil matrix at the DRMO. Organic chemicals detected at high concentrations include various halogenated aliphatic compounds, PAHs, phthalate esters, Aroclor-1254, and Aroclor-1260.

The results of the Phase II RI suggested that, in spite of the fact that relatively high concentrations of some VOCs were detected in the subsurface soil, it did not appear that substantial impact on the groundwater had occurred to date. In addition to the various organic chemicals detected in soil at the DRMO, relatively high concentrations of lead still remained in soil after the Time-Critical Removal Action was conducted during the course of the Phase II RI. Surface and subsurface soil concentrations of lead ranged as high as 4,980 mg/kg and 2,140 mg/kg, respectively. In spite of the high lead concentrations in soil, only limited lead migration to the water table is evidenced by the groundwater analytical results. Additionally, the results indicated that the cap effectively minimized precipitation infiltration to the groundwater (B&R Environmental, March 1997).

1.1.3.4 Time-Critical Removal Action

A Time-Critical Removal Action was performed at the DRMO by OHM Remediation Services Corporation during the course of the Phase II RI. Construction aspects of the removal action were completed in January 1995. The removal action focused on the removal of soil contaminated with lead, PAHs, and PCBs from the northern half of the DRMO.

First, a total of 73 soil samples and two pavement samples were collected from the scrap yard area north of Building 479. Then, soil was excavated to a depth of approximately 3 feet (or to the water table if the depth to water was less than 3 feet). Approximately 4,700 tons of soil was removed. Confirmation sampling was initiated when excavation operations were approximately 75% complete. Some further excavation was subsequently performed. Residual contamination above the PRGs remained in the soil after excavation was complete due to the excavation being limited to 3 feet by the shallow water table and exceedances of the allotted time for the project (B&R Environmental, March 1997).

After the completion of removal activities, the area was backfilled with clean borrow material. A cap consisting of a woven geotextile liner, a geosynthetic clay liner (GCL), and a nonwoven geotextile liner was installed. Approximately 12 inches of crushed stone and 3 inches of asphalt were placed over the clay/geotextile cover. The remaining (paved) portion of the DRMO was also upgraded via placement of an additional asphalt layer.

1.2 SCOPE AND OBJECTIVE

The objective of this Round 13 Groundwater Monitoring Report is to present and evaluate the results of the thirteenth round of long-term groundwater monitoring at the DRMO site. This monitoring is being conducted to verify the effectiveness of the cap installed as part of the Time-Critical Removal Action to reduce precipitation infiltration and leaching of contaminants and to confirm that contamination is not migrating through the soil, into the groundwater, and ultimately discharging to the Thames River. This groundwater monitoring is part of the post-closure associated with the DRMO cap.

To meet this objective, five Phase I and Phase II RI monitoring wells and five monitoring wells installed during Rounds 1 and 2 of the DRMO Groundwater Monitoring Program were sampled and analyzed for a suite of analytes based on an evaluation of site history and previous analytical results. Sampling and analyses were performed in accordance to the Groundwater Monitoring Plan (GMP) prepared for the DRMO (B&R Environmental, February 1998).

Because this is an interim report for the thirteenth round of groundwater monitoring, evaluation of monitoring results is limited to a comparison of these results to the criteria identified in the DRMO GMP (B&R Environmental, February 1998).

The recommendations of the draft Year 3 Annual Groundwater Monitoring Report (TtNUS, November 2001) are not incorporated into this report. The recommendations were made after the Round 13 field work was complete. The recommendations will be implemented during the next round of groundwater monitoring at the DRMO.

1.3 REPORT ORGANIZATION

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

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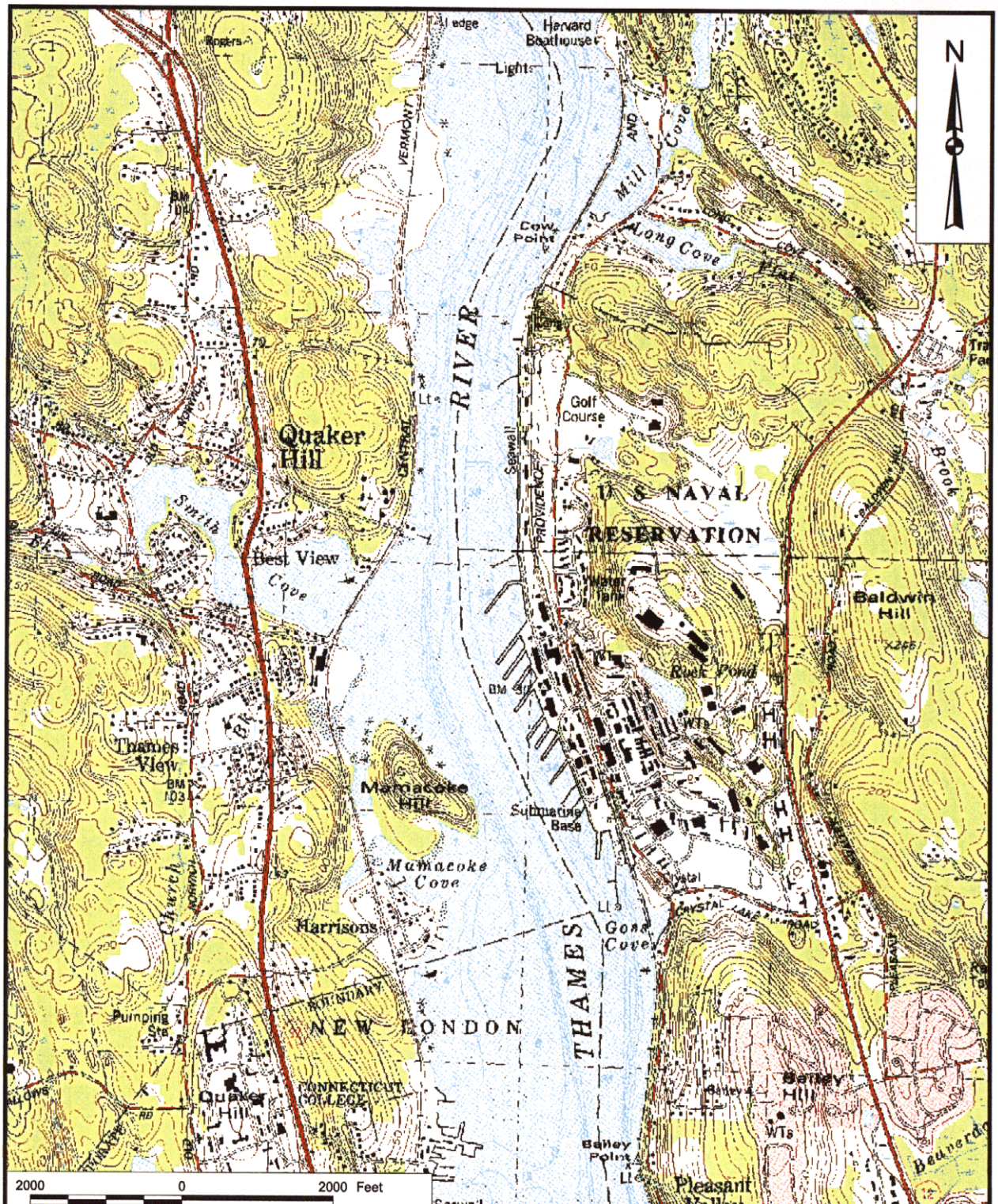
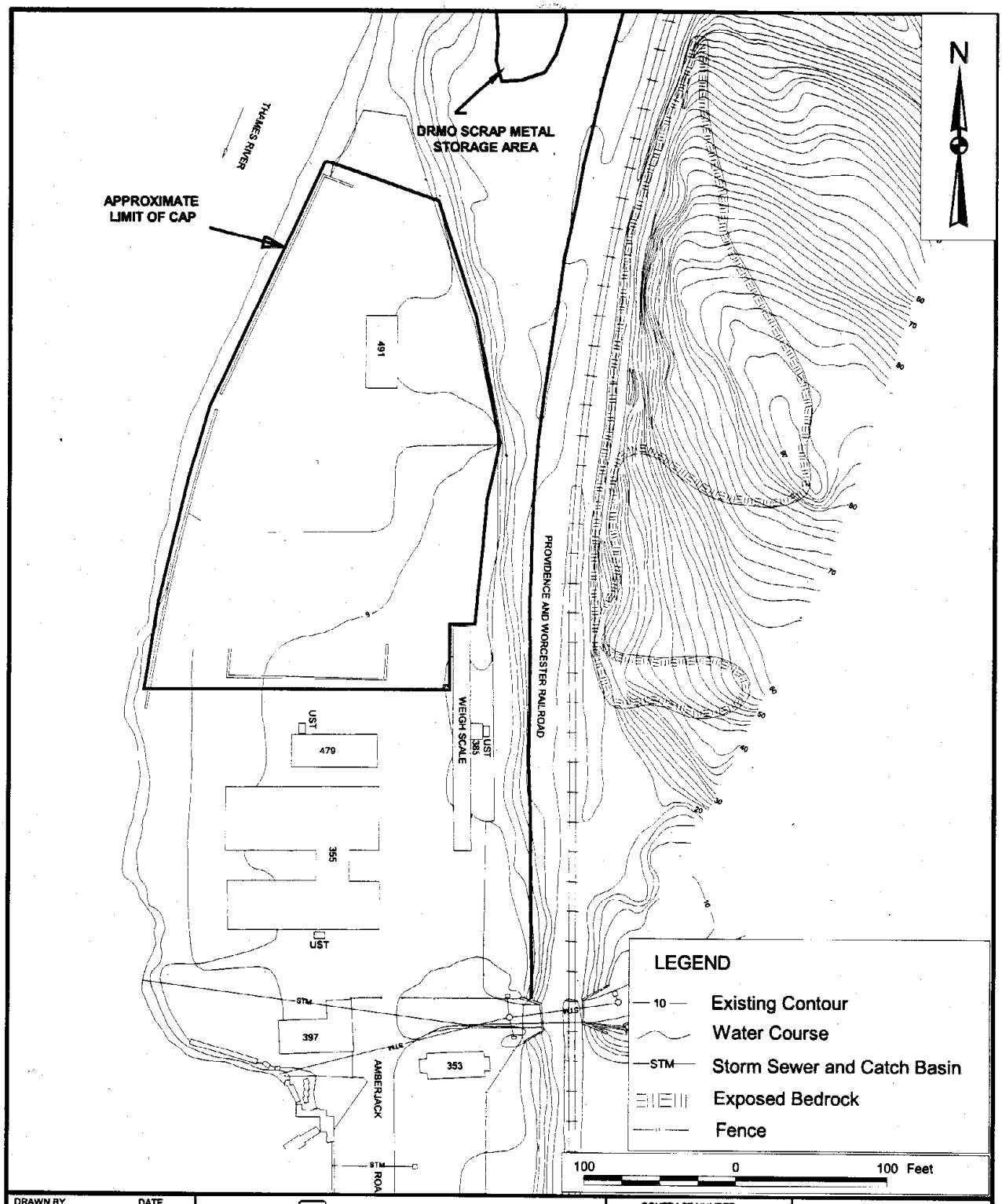


DRAWN BY J. BELLONE	DATE 10/1/99	Tetra Tech NUS, Inc.	CONTRACT NUMBER 7363	OWNER NO. 816
CHECKED BY	DATE	LOCATION MAP NSB - NLON GROTON, CONNECTICUT	APPROVED BY C. RICH	DATE 12/19/01
COST/SCHEDULE-AREA			APPROVED BY —	DATE —
SCALE AS NOTED			DRAWING NO. FIGURE 1-1	REV 0

P:\GIS\NLON\7363ANNUAL.APR 10/1/99 JCB LOCATION MAP LAYOUT



DRAWN BY J. BELLONE — DATE 10/1/99	Tetra Tech NUS, Inc.	CONTRACT NUMBER 7363	OWNER NO. 816
CHECKED BY — DATE	DRMO SITE PLAN NSB - NLON GROTON, CONNECTICUT	APPROVED BY C. RICH	DATE 12/19/01
COST/SCHEDULE-AREA		APPROVED BY	DATE
SCALE AS NOTED		DRAWING NO. FIGURE 1-2	REV 0

P:\GIS\NLON\7363ANNUAL.APR DRMO SITE PLAN LAYOUT 3-5-01 MGS

2.0 FIELD INVESTIGATION ACTIVITIES

Field investigation completed activities as part of the thirteenth round of groundwater monitoring included two rounds of groundwater level measurements and groundwater sampling of 10 monitoring wells. Monitoring well locations are shown on Figure 2-1. These activities were performed in accordance with the procedures and methodologies described in Section 3.0: Groundwater Monitoring System Installation and Section 4.0: Sampling and Analyses of the DRMO GMP (B&R Environmental, February 1998). A copy of the field activity log book is provided as Appendix A.

2.1 WATER LEVEL MEASUREMENTS

Water levels were measured in ten monitoring wells and one staff gauge (in the Thames River). The staff gauge was located at the outside edge of the storm sewer outfall leading to the Thames River, west of Building 397. For low tide, the measurements were collected on September 18, 2001 between 5:10 and 5:55 pm, and the predicted low tide was 5:33 pm for Smith Cove (opposite the DRMO on the Thames River). For high tide, the measurements were collected on September 24, 2001 between 4:00 and 4:26 p.m., and the predicted high tide was 4:19 p.m. for Smith Cove. Tide tables are provided in Appendix B. Table 2-1 summarizes the groundwater measurements, and Figures 2-2 and 2-3 illustrate the potentiometric surface maps for the groundwater in the shallow aquifer during low tide and high tide, respectively. Groundwater level measurement sheets can be found in Appendix C.

2.2 GROUNDWATER SAMPLING

Ten monitoring wells were sampled during the thirteenth round of groundwater monitoring using low-flow purging and sampling techniques, in accordance with USEPA Region I Low-Flow Purging and Sampling Procedure GW-001. Figures 2-4 through 2-6 are photographs taken during the sampling of 6MW9S.

The wells were purged prior to sampling using the dedicated bladder pumps with bottled nitrogen gas as the power source. Groundwater quality parameters, including pH, specific conductivity, temperature, dissolved oxygen, salinity, and Eh were measured during purging at 5 to 10 minute intervals using a YSI 610 DM datalogger and 6820 multi-parameter water quality monitor equipped with a flow-through cell. Turbidity was also measured using a LaMotte 2020 Turbidimeter. Calibration log sheets are found in Appendix D. Water levels were also measured during purging at 5 to 10-minute intervals. Purging continued until the above parameters stabilized. Copies of the low-flow purge data sheets are provided in Appendix E.

Following purging, samples were collected directly from the discharge end of the Teflon®-lined pump tubing. The groundwater samples were collected and analyzed for VOCs, SVOCs, PAH, pesticides and PCBs, and total metals. Analytical results for the samples are discussed in Section 3.0. Copies of the sample log sheets are provided in Appendix E, and chain-of-custody records are provided in Appendix F.

2.3 DECONTAMINATION AND INVESTIGATION-DERIVED WASTE

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

Liquid Investigation-Derived Waste (IDW) generated during monitoring of groundwater wells at the DRMO was tested for COCs during the initial two years of quarterly monitoring. The waste water generated from the monitoring wells was determined to be non-hazardous. The IDW generated during the Round 13 field effort was disposed directly to the OT-10 wastewater processing facility in compliance with the SUBASENLON Pre-Treatment Permit from the Connecticut Department of Environmental Protection.

TABLE 2-1

GROUNDWATER LEVEL MEASUREMENTS AND ELEVATIONS
GROUNDWATER MONITORING REPORT
DRMO, NSB-NLON, GROTON, CONNECTICUT

Well Number	Reference Elevation[1] (feet msl)	Depth to Water[2] (feet) LOW TIDE	Depth to Water[2] (feet) HIGH TIDE	Groundwater Elevation (feet msl) LOW TIDE	Groundwater Elevation (feet msl) HIGH TIDE	Well Screen Depth[3]
6MW1S	8.63	7.96	4.80	0.67	3.83	Shallow
6MW2S	7.30	6.38	3.53	0.92	3.77	Shallow
6MW2D	7.85	5.83	4.33	2.02	3.52	Deep
6MW6S	12.16	8.97	8.70	3.19	3.46	Shallow
6MW6D	12.50	9.18	9.12	3.32	3.38	Bedrock
6MW9S	7.52	4.60	3.81	2.92	3.71	Shallow
6MW10S	5.19	1.87	1.32	3.32	3.87	Shallow
6MW10D	5.01	2.72	0.74	2.29	4.27	Deep
6MW11S	4.92	3.77	0.99	1.15	3.93	Shallow
6MW11D	5.31	2.41	0.72	2.90	4.59	Deep
SG-01	5.67	5.25	1.88	0.42	3.79	NA

msl: mean sea level (1982 Base Traverse System)
NA Not Applicable

NOTES:

1 Reference elevation is top of well casing (1982 Base Traverse System)
2 Depth to water is from top of well casing. Measured September 18, 2001 for low tide and September 24, 2001 for high tide.
3 Well screen depths designated as shallow unconfined, deep unconfined, and bedrock groundwater.

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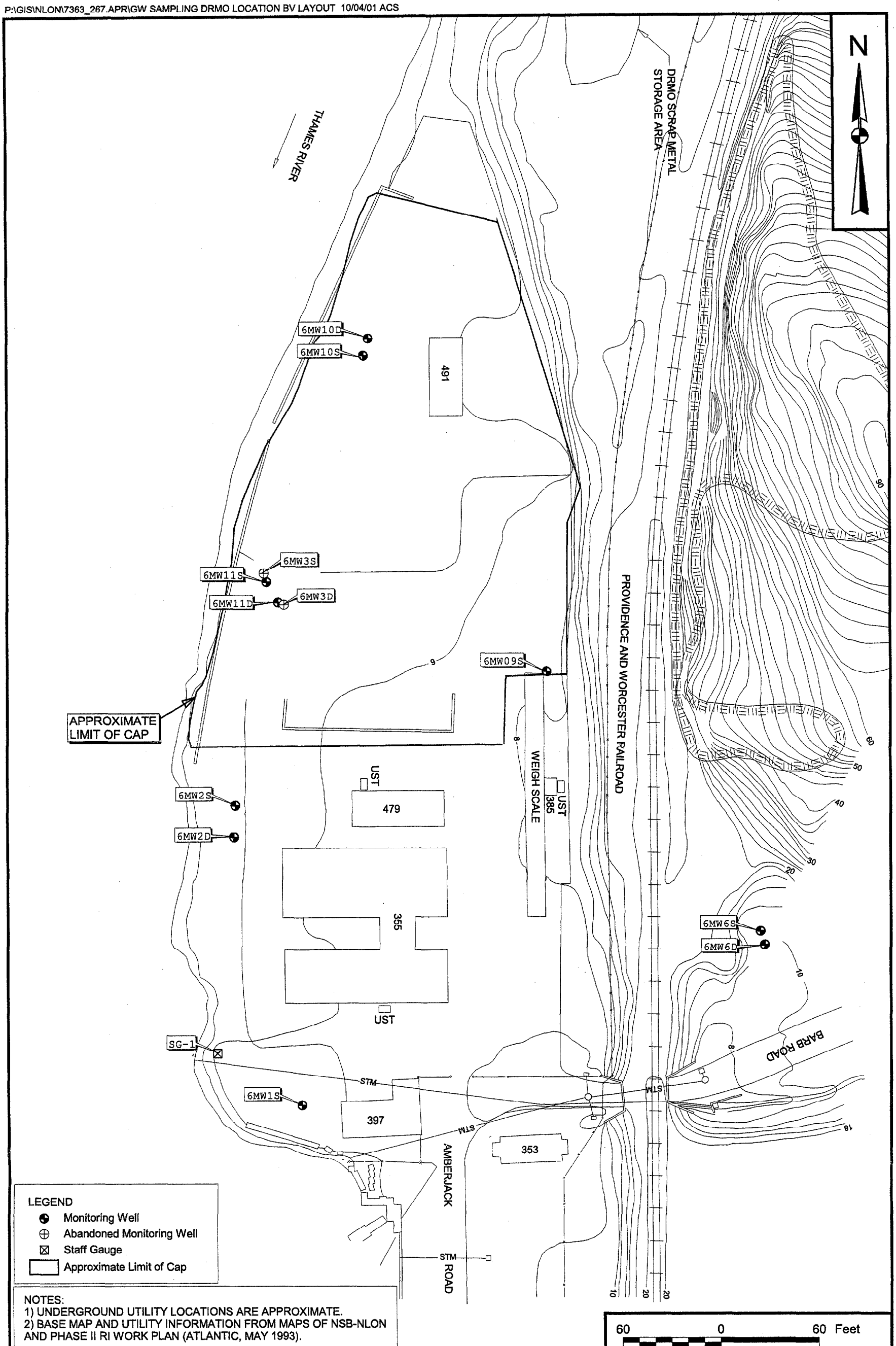
P:\GIS\NLON\7363_267.APR\GW SAMPLING DRMO LOCATION BV LAYOUT 10/04/01 ACS



DRAWN BY M. Spangenberg	DATE 2-28-01	Tetra Tech NUS, Inc.	CONTRACT NUMBER 7091	OWNER NUMBER 816
CHECKED BY	DATE	MONITORING WELL LOCATIONS ROUND 13 GROUNDWATER SAMPLING FOR DRMO NSB-NLON, GROTON, CONNECTICUT	APPROVED BY C. Rich	DATE 12/19/01
COST/SCHEDULE-AREA			APPROVED BY	DATE
SCALE AS NOTED			DRAWING NO. FIGURE 2-1	REV 0

DRAFT

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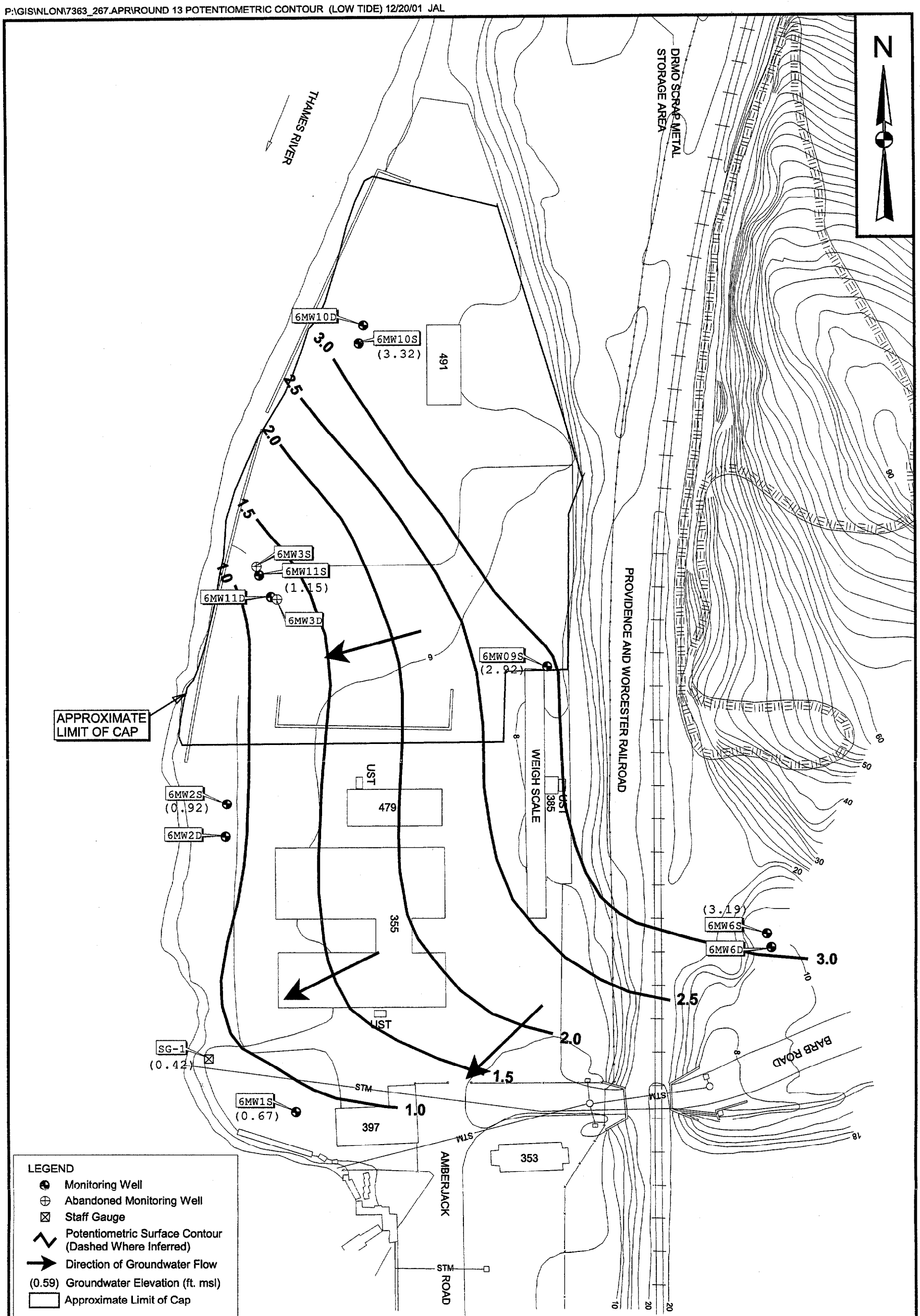
P:\GIS\NLON\7363_267.APR\ROUND 13 POTENTIOMETRIC CONTOUR (LOW TIDE) 12/20/01 JAL



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, MAY 1993).

DRAWN BY J. LAMEY	DATE 12/13/01	Tetra Tech NUS, Inc.	CONTRACT NUMBER 7091 / OWNER NUMBER 816
CHECKED BY	DATE	LOW TIDE POTENTIOMETRIC SURFACE MAP ROUND 13 GROUNDWATER SAMPLING FOR DRMO NSB-NLON, GROTON, CONNECTICUT	APPROVED BY C. Rich / DATE 12/20/01
COST/SCHEDULE-AREA			APPROVED BY / DATE
SCALE AS NOTED			DRAWING NO. FIGURE 2-2 / REV 0

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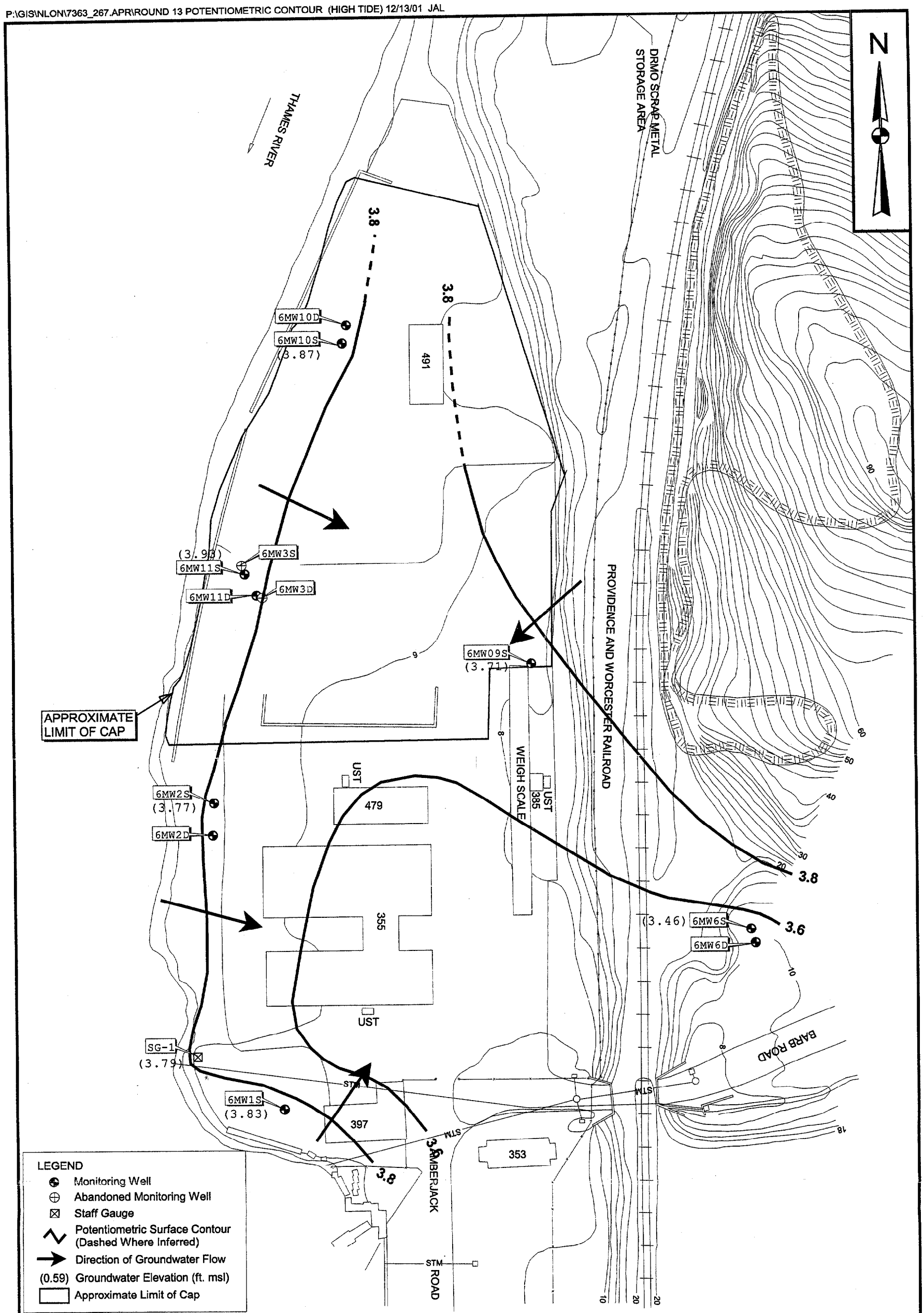
P:\GIS\NLON\7363_267.APR\ROUND 13 POTENTIOMETRIC CONTOUR (HIGH TIDE) 12/13/01 JAL



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, MAY 1993).

DRAWN BY J. LAMEY	DATE 12/13/01	Tetra Tech NUS, Inc.	CONTRACT NUMBER 7091 / OWNER NUMBER 816
CHECKED BY	DATE	HIGH TIDE POTENTIOMETRIC SURFACE MAP ROUND 13 GROUNDWATER SAMPLING FOR DRMO NSB-NLON, GROTON, CONNECTICUT	APPROVED BY C. RICH / DATE 12/19/01
COST/SCHEDULE-AREA			APPROVED BY / DATE
SCALE AS NOTED			DRAWING NO. FIGURE 2-3 / REV 0

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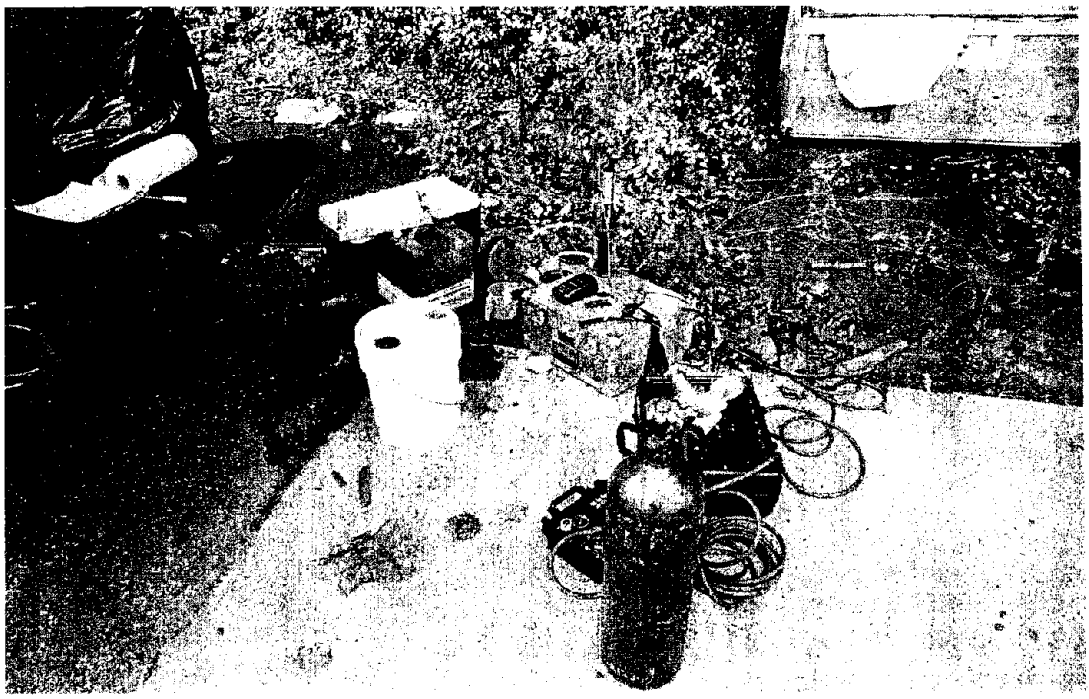

Figure 2-4 - Sampling Equipment Set-up at Monitoring Well 6MW9S.

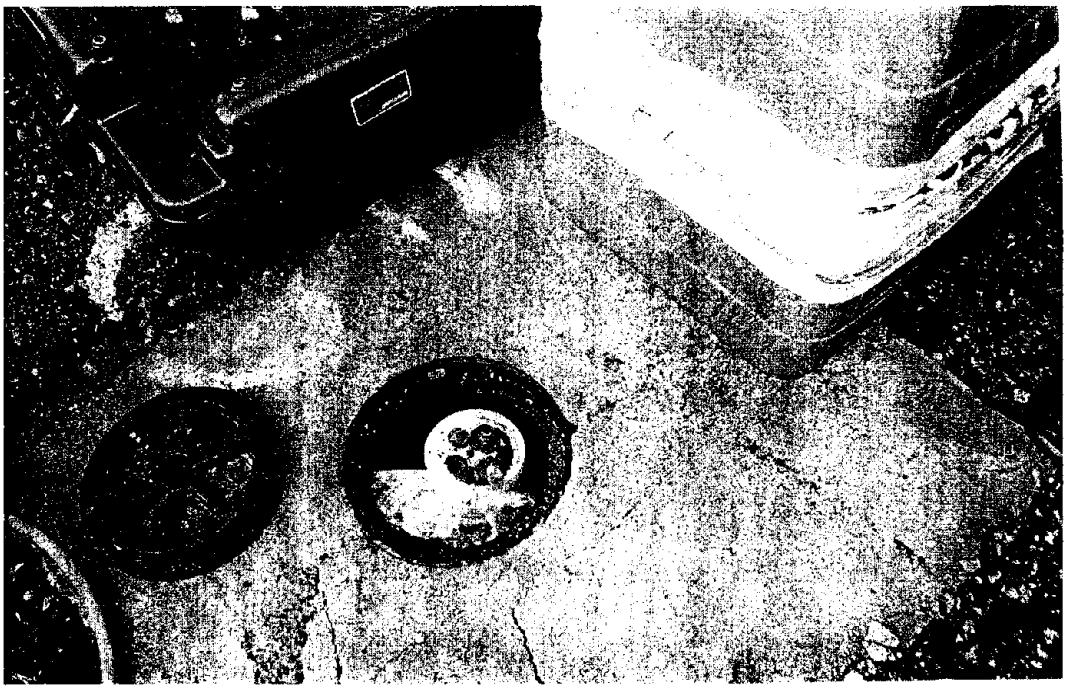

Figure 2-5 - Top of Dedicated Sampling Equipment

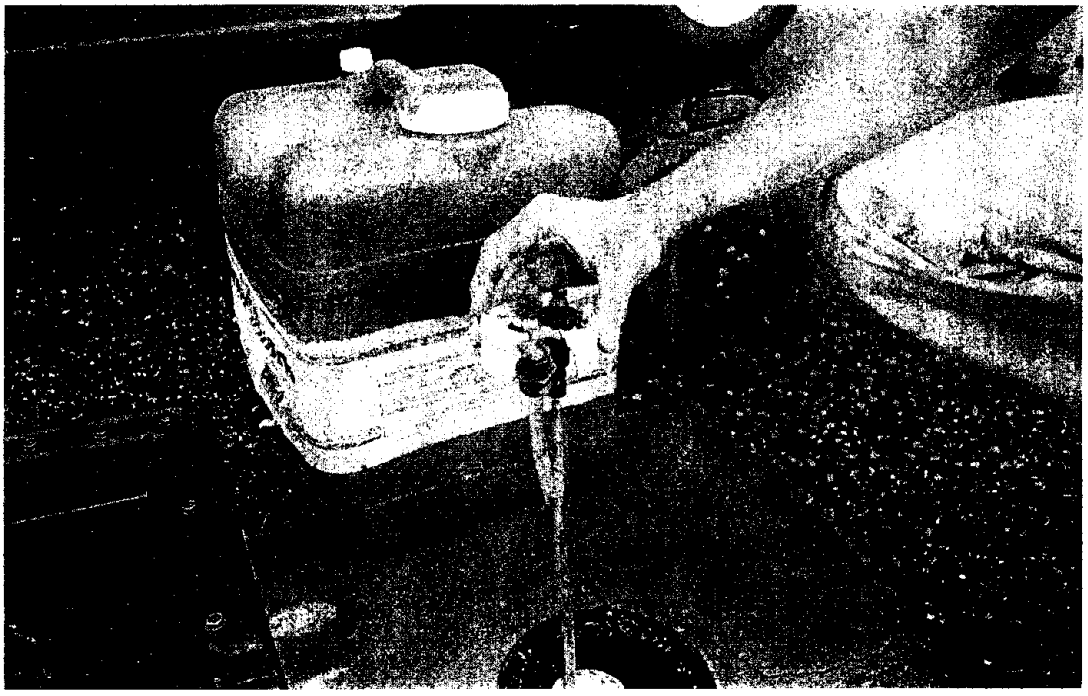

Figure 2-6 - Condition of Dedicated Sampling Equipment

3.0 MONITORING RESULTS

The groundwater samples collected from monitoring wells 6MW1S, 6MW2S, 6MW2D, 6MW6S, 6MW6D, 6MW9S, 6MW10S, 6MW10D, 6MW11S, and 6MW11D were analyzed for Target Compound List (TCL) organic chemicals and Target Analyte List (TAL) inorganic chemicals. Monitoring focused on the following organic and inorganic chemicals of potential concern, as identified in the GMP Monitoring Plan (B&R Environmental, February 1998):

- 1,1,2,2-Tetrachloroethane
- 1,2-Dichloroethane
- 1,2-Dichloroethene (total)
- Trichloroethene
- Vinyl Chloride
- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Benzoic Acid
- Bis(2-ethylhexyl)phthalate
- Fluoranthene
- Fluorene
- Naphthalene
- Phenantrene
- Pyrene
- Heptachlor Epoxide
- Aroclors 1254 & 1260
- Hexachlorobiphenyl
- 4,4'-DDD
- Arsenic
- Barium
- Cadmium
- Chromium
- Copper
- Lead
- Silver
- Zinc

The contaminants listed were detected in soil either at concentrations that could result in exceedances of site-specific Surface Water Protection Criteria (SWPCs) or at concentrations that exceed Connecticut's Pollutant Mobility Criteria for GB groundwater.

Analytical results are summarized on Table 3-1 and the positive COC detections are shown on Figure 3-1. Table 3-1 also compares the analytical results with the primary and secondary monitoring criteria, as established in the GMP (B&R Environmental, February 1998). Chemicals exceeding either primary or secondary monitoring criteria are noted by shading. The results of this comparison may be summarized as follows:

- There were no exceedances of the primary monitoring criteria which were site-specific SWPCs using a dilution factor of 100, in any of the organic or inorganic sample results.

- The semivolatile organic; bis(2-ethylhexyl)phthalate was detected in six samples at concentrations that exceeded the secondary criteria: 6MW1S (130 µg/L), 6MW2S (21 µg/L), 6MW2D (53 µg/L), 6MW10D (45 µg/L), 6MW11S (66 µg/L), and 6MW11D (76 µg/L). The secondary monitoring criteria (AWQC and WQS for protection of human health from consumption of aquatic organisms) is 5.9 µg/L for bis(2-ethylhexyl)phthalate.

- Copper was detected in nine samples at concentrations that exceeded the secondary criterion: 6MW1S (9.8 µg/L), 6MW6S (4.8 J µg/L), the duplicate at 6MW6S (4 J µg/L), 6MW6D (3.2 J µg/L), 6MW9S (7.7 µg/L), 6MW10S (3.3 J µg/L), 6MW10D (5.5 J µg/L), 6MW11S (5.4 µg/L), and 6MW11D (9.5 µg/L). The secondary monitoring criterion (Federal AWQC for protection of aquatic life [chronic, saltwater)] is 2.4 µg/L for copper.

- Silver was detected in one sample at a concentration that exceeded the secondary criterion: 6MW11D (2.5 J µg/L). The secondary monitoring criterion [Federal AWQC for protection of aquatic life (chronic, saltwater)] is 1.9 µg/L for silver

- Zinc was detected in three samples at concentrations that exceeded the secondary criterion: 6MW9S (133 µg/L), 6MW10D (278 µg/L), and 6MW11S (81.2 µg/L). The secondary monitoring criterion (Federal AWQC for protection of aquatic life (chronic, saltwater)) is 81 µg/L for zinc.

- No other exceedances of secondary monitoring criteria were noted.

As discussed in Section 1.2, because this is only an interim report for the thirteenth round of groundwater monitoring, the evaluation of the analytical results is limited to the above comparison. No conclusions or recommendations are drawn from this comparison. Conclusions and recommendations have been discussed in the Year 1, Year 2, and Year 3 Summary Reports. Additional conclusions and recommendations will be noted upon the completion of the fourth year of sampling.

Data validation letters and laboratory data sheets are attached to this report as Appendix G.

TABLE 3-1

ROUND 13 ANALYTICAL RESULTS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
DRMO, NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 3

Chemical	Primary Monitoring Criterion [1]	Secondary Monitoring Criterion	6MW1S ROUND 13 9/24/01	6MW2S ROUND 13 9/23/01	6MW2D ROUND 13 9/23/01
VOCs (ug/L)					
1,1,2,2-TETRACHLOROETHANE	100 [2]	11 [4][5]	1 U	1 U	1 U
1,2-DICHLOROETHANE	90 [2]	99 [4][5]	1 U	1 UJ	1 UJ
CIS-1,2-DICHLOROETHENE	NA	NA	1 U	1 U	1 U
TRANS-1,2-DICHLOROETHENE	NA	NA	1 U	1 U	1 U
TRICHLOROETHENE	540 [2]	81 [4][5]	1 U	1 U	1 U
VINYL CHLORIDE	2 [2]	525 [4][5]	1 U	1 U	1 U
SVOCs (ug/L)					
BENZO(A)ANTHRACENE	3.0	0.049 [4]	0.012 UJ	0.012 UJ	0.012 UJ
BENZO(A)PYRENE	3.0	0.049 [4]	0.021 U	0.021 U	0.021 U
BENZO(B)FLUORANTHENE	3.0	0.049 [4]	0.02 U	0.02 UJ	0.02 UJ
BENZO(K)FLUORANTHENE	3.0	0.049 [4]	0.02 U	0.02 U	0.02 U
BENZOIC ACID	NA	NA	5 U	5.1 U	5 U
BIS(2-ETHYLHEXYL)PHTHALATE	590	5.9 [4][5]	130	21	53
FLUORANTHENE	37,000	370 [4][5]	0.009 UJ	0.009 UJ	0.009 UJ
FLUORENE	1,400,000	14,000 [4][5]	0.007 U	0.007 UJ	0.007 UJ
NAPHTHALENE	NA	NA	0.008 U	0.008 U	0.008 U
PHENANTHRENE	0.77	NA	0.19	0.004 UJ	0.004 UJ
PYRENE	1,100,000	11,000 [4][5]	0.55	0.008 UJ	0.008 UJ
Pesticides/PCBs (ug/L)					
4,4'-DDD	NA	0.00084 [4][5]	0.02 U	0.02 U	0.02 U
AROCLOR-1254	5.0	0.00017 [4]	0.2 U	0.2 UJ	0.2 UJ
AROCLOR-1260	5.0	0.00017 [4]	0.2 U	0.2 UJ	0.2 UJ
HEPTACHLOR EPOXIDE	0.5	0.00011 [4][5]	0.01 U	0.01 U	0.01 U
Inorganics (total) (ug/L)					
ARSENIC	40	0.14 [4][5]	5 U	4 U	4 U
BARIUM	NA	NA	9.1 J	28.7	144
CADMIUM	60	9.3 [3]	3 U	0.3 UJ	0.3 UJ
CHROMIUM	1,100	50 [3]	5 U	1 U	7.9
COPPER	480	2.4 [3]	9.8	3 U	3 U
LEAD	130	8.1 [3]	3 U	3 U	3 U
SILVER	120	1.9 [3]	5 U	1 UR	1 UR
ZINC	1,230	81 [3]	48 J	4.5 J	4 U

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TABLE 3-1

ROUND 13 ANALYTICAL RESULTS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
DRMO, NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 3

Chemical	Primary Monitoring Criterion [1]	Secondary Monitoring Criterion	6MW6S ROUND 13 9/20/01	6MW6S (DUP) ROUND 13 9/20/01	6MW6D ROUND 13 9/20/01	6MW9S ROUND 13 9/24/01
VOCs (ug/L)						
1,1,2,2-TETRACHLOROETHANE	100 [2]	11 [4][5]	1 UJ	1 UJ	1 UJ	1 U
1,2-DICHLOROETHANE	90 [2]	99 [4][5]	1 U	1 U	1 U	1 U
CIS-1,2-DICHLOROETHENE	NA	NA	1 U	1 U	4.7	1 U
TRANS-1,2-DICHLOROETHENE	NA	NA	1 U	1 U	1 U	1 U
TRICHLOROETHENE	540 [2]	81 [4][5]	1 U	0.6 J	7.2 J	1 U
VINYL CHLORIDE	2 [2]	525 [4][5]	1 U	1 U	1 U	1 U
SVOCs (ug/L)						
BENZO(A)ANTHRACENE	3.0	0.049 [4]	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ
BENZO(A)PYRENE	3.0	0.049 [4]	0.021 U	0.021 U	0.021 U	0.021 U
BENZO(B)FLUORANTHENE	3.0	0.049 [4]	0.02 U	0.02 U	0.02 U	0.02 U
BENZO(K)FLUORANTHENE	3.0	0.049 [4]	0.02 U	0.02 U	0.02 U	0.02 U
BENZOIC ACID	NA	NA	5 UJ	5 UJ	5 UR	5 U
BIS(2-ETHYLHEXYL)PHTHALATE	590	5.9 [4][5]	5 UJ	5 UJ	5.9 J	1.3 J
FLUORANTHENE	37,000	370 [4][5]	0.15 J	0.14 J	0.13 J	0.009 UJ
FLUORENE	1,400,000	14,000 [4][5]	0.007 UJ	0.007 UJ	0.007 UJ	0.007 U
NAPHTHALENE	NA	NA	0.008 U	0.008 U	0.008 U	0.008 U
PHENANTHRENE	0.77	NA	0.004 UJ	0.004 UJ	0.004 UJ	0.004 U
PYRENE	1,100,000	11,000 [4][5]	0.008 U	0.008 UJ	0.008 U	0.008 U
Pesticides/PCBs (ug/L)						
4,4'-DDD	NA	0.00084 [4][5]	0.02 U	0.02 U	0.02 U	0.02 U
AROCLOR-1254	5.0	0.00017 [4]	0.2 UJ	0.2 UJ	0.2 UJ	0.2 U
AROCLOR-1260	5.0	0.00017 [4]	0.2 UJ	0.2 UJ	0.2 UJ	0.2 U
HEPTACHLOR EPOXIDE	0.5	0.00011 [4][5]	0.01 U	0.01 U	0.01 U	0.01 U
Inorganics (total) (ug/L)						
ARSENIC	40	0.14 [4][5]	4 U	4 U	4 U	5 U
BARIUM	NA	NA	42.3	41.5	45.1	18.5
CADMIUM	60	9.3 [3]	0.3 U	0.3 U	0.3 U	3 U
CHROMIUM	1,100	50 [3]	1.6 J	1.9 J	1.1 J	5 U
COPPER	480	2.4 [3]	4.8 J	4 J	3.2 J	7.7
LEAD	130	8.1 [3]	3 UJ	4.7 J	3 U	3.3 J
SILVER	120	1.9 [3]	1 U	1 U	1 U	5 U
ZINC	1,230	81 [3]	28.1	27.8	33.7	133

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TABLE 3-1

ROUND 13 ANALYTICAL RESULTS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
DRMO, NSB-NLON, GROTON, CONNECTICUT
PAGE 3 OF 3

Chemical	Primary Monitoring Criterion [1]	Secondary Monitoring Criterion	6MW10S ROUND 13 9/21/01	6MW10D ROUND 13 9/21/01	6MW11S ROUND 13 9/22/01	6MW11D ROUND 13 9/22/01
VOCs (ug/L)						
1,1,2,2-TETRACHLOROETHANE	100 [2]	11 [4][5]	1 U	1 U	1 U	1 U
1,2-DICHLOROETHANE	90 [2]	99 [4][5]	1 U	1 U	1 UJ	1 UJ
CIS-1,2-DICHLOROETHENE	NA	NA	1.6	5.7	1.3	1.8
TRANS-1,2-DICHLOROETHENE	NA	NA	1 U	1 U	1 U	1 U
TRICHLOROETHENE	540 [2]	81 [4][5]	1 U	1.4	0.7 J	1 U
VINYL CHLORIDE	2 [2]	525 [4][5]	0.6 J	1 U	0.8 J	1 U
SVOCs (ug/L)						
BENZO(A)ANTHRACENE	3.0	0.049 [4]	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ
BENZO(A)PYRENE	3.0	0.049 [4]	0.021 U	0.021 U	0.021 U	0.021 U
BENZO(B)FLUORANTHENE	3.0	0.049 [4]	0.02 UJ	0.02 UJ	0.02 UJ	0.02 UJ
BENZO(K)FLUORANTHENE	3.0	0.049 [4]	0.02 U	0.02 U	0.02 U	0.02 U
BENZOIC ACID	NA	NA	5 U	5.1 U	5 U	5 U
BIS(2-ETHYLHEXYL)PHTHALATE	590	5.9 [4][5]	2.9 J	45	66	76
FLUORANTHENE	37,000	370 [4][5]	0.009 UJ	0.009 UJ	0.009 UJ	0.009 UJ
FLUORENE	1,400,000	14,000 [4][5]	0.007 UJ	0.007 UJ	0.007 UJ	0.007 UJ
NAPHTHALENE	NA	NA	0.008 U	0.008 U	0.008 U	0.008 U
PHENANTHRENE	0.77	NA	0.004 UJ	0.004 UJ	0.004 UJ	0.004 UJ
PYRENE	1,100,000	11,000 [4][5]	0.008 UJ	0.008 UJ	0.008 UJ	0.008 UJ
Pesticides/PCBs (ug/L)						
4,4'-DDD	NA	0.00084 [4][5]	0.02 U	0.02 U	0.02 U	0.02 U
AROCLOR-1254	5.0	0.00017 [4]	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ
AROCLOR-1260	5.0	0.00017 [4]	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ
HEPTACHLOR EPOXIDE	0.5	0.00011 [4][5]	0.01 U	0.01 U	0.01 U	0.01 U
Inorganics (total) (ug/L)						
ARSENIC	40	0.14 [4][5]	4 U	4 U	4 U	11.4 U
BARIUM	NA	NA	149	2.1	142	205
CADMIUM	60	9.3 [3]	0.3 UJ	0.3 U	0.38 J	0.3 UJ
CHROMIUM	1,100	50 [3]	5.6	1 U	1 U	1 U
COPPER	480	2.4 [3]	3.3 J	5.5 J	5.4 J	9.5
LEAD	130	8.1 [3]	3 U	3.3 J	3 U	5 J
SILVER	120	1.9 [3]	1 UR	1 UR	1 UR	2.5 J
ZINC	1,230	81 [3]	20.5	278	81.2	15.4

NOTES:
Bold numbers denote exceedance of secondary monitoring criterion. There are no exceedances of primary monitoring criteria.
1 Surface Water Protection Criteria for substances in groundwater, using a site-specific dilution factor of 100, except as noted.
2 Connecticut Volatilization Criteria
3 Federal Ambient Water Quality Criteria for protection of aquatic life (chronic, saltwater).
4 Federal Ambient Water Quality Criteria for protection of human health from consumption of organisms.
5 Connecticut Water Quality Criteria for protection of human health from consumption of organisms.
J Estimated Value
R Rejected Value
U Undetected
NA Not Available

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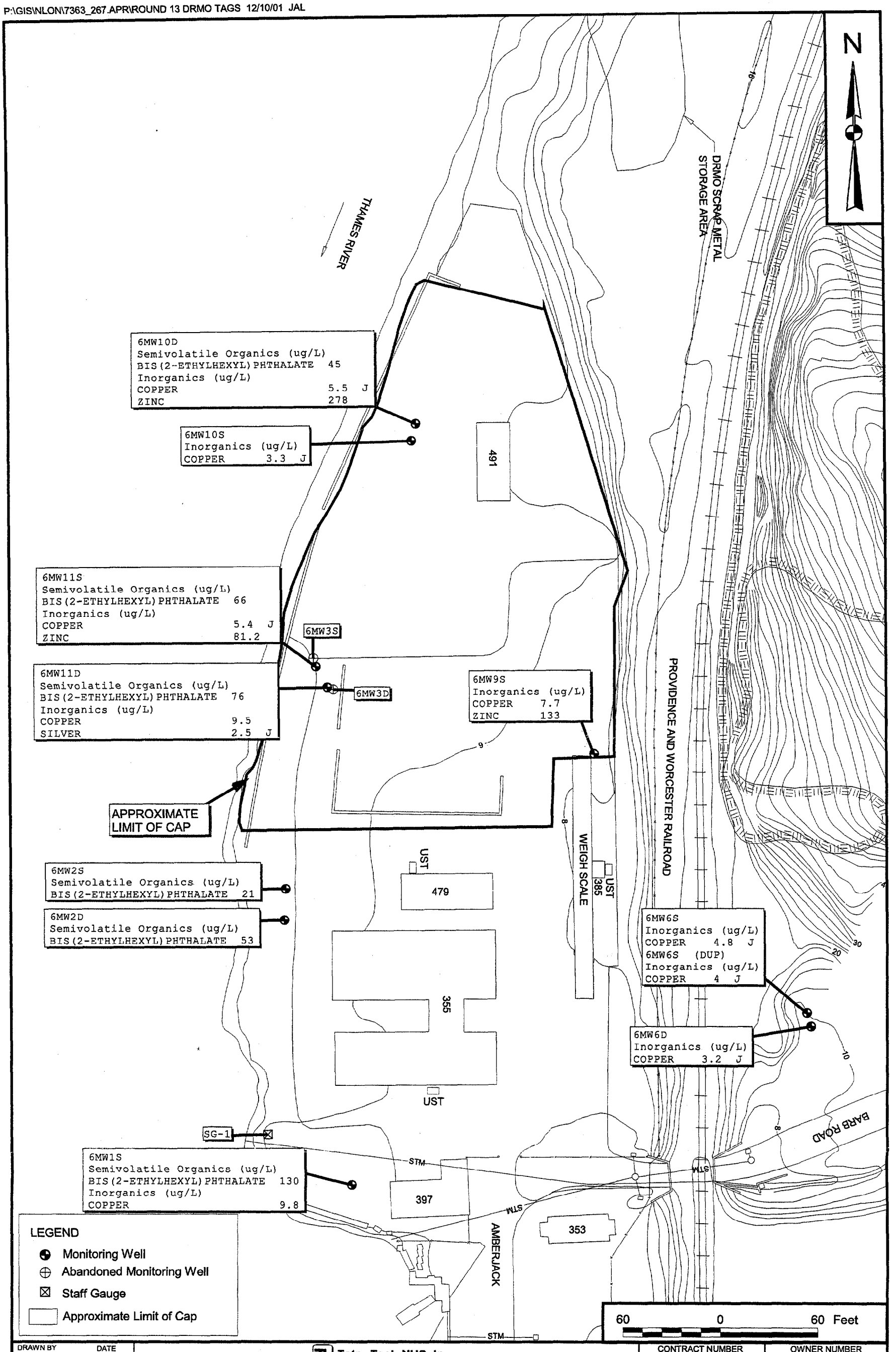
P:\GIS\NLON\7363_267.APR\ROUND 13 DRMO TAGS 12/10/01 JAL



DRAWN BY J. LAMEY	DATE 12/10/01	Tetra Tech NUS, Inc.	CONTRACT NUMBER 7091	OWNER NUMBER 257
CHECKED BY	DATE	ROUND 13 GROUNDWATER SAMPLING DRMO NSB-NLON, GROTON, CONNECTICUT	APPROVED BY C. RICH	DATE 12/19/01
COST/SCHEDULE-AREA			APPROVED BY	DATE
SCALE AS NOTED			DRAWING NO. FIGURE 3-1	REV 0

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120107/P

3-7

CTO 0816

1127C03Z

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(SCS, 1983): Soil Survey of New London County Connecticut. Soil Conversation Service.

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(USGS, 1967): Bedrock Geologic Map of the Uncasville Quadrangle, New London County, Connecticut. United States Geological Survey.

APPENDIX A

FIELD ACTIVITIES LOG BOOK

VOID
SJC 9/18/01

NOTE: ① SEVERAL WELLS AT DRMO DO NOT HAVE DISCHARGE TUBING INSIDE THE WELL PROTECTIVE CASING. NOT SURE WHAT HAPPENED TO IT.

② ALSO ALL SG LOCATIONS AT AREA A ARE DRY, EXCEPT 1, BUT HAS VERY LITTLE WATER TO SAMPLE. WILL TALK TO CORY ABOUT THIS.

SJC
9/18/01

NSBNLON QUART SAMPLING 2863
TUES SEPT 18 2001 1244

AT SITE: SJC / DW Tt NUS

AM: SUNNY COOL TO WARM
PM: SUNNY WARM.

0600 AT PGH AIRPORT FOR 0745 FLT. MET W/ DW.

0930 ARR PROVEDENCE. DW LUGGAGE NOT HERE.

1030 PICKED UP EQUIP AT US ENV. MEETING PLACE.

1200 ARRIVE AT MOTEL, CHECK IN. GO OVER DAYS ACTIVITIES W/ DW.

1300 HEAD TO BASE, LINE OF TRAFFIC DUE TO INCR SECUR.

1400 ARRIVE @ PASS & ID - GET PASSES.

1415 MET W/ D. CONANT - TOOK US ON TOUR. END UP AT DRMO - TALK TO DAN ABOUT STAYING LATE SO WE COULD GET LO TIDE WL/ HE SAYS OK

1520 START WL AREA A - SEE WL SHEETS - HAVING SOME TROUBLE FINDING DUE TO OVERGROWTH.

1700 GO TO DRMO - NOT DONE AT AREA A. SIGN IN.

1710 TAKE WL AT DRMO (10 WELLS + SG1) SEE PG 180

1800 RETURN TO AREA A FIND OTHER WELLS - TAKE WL.

1900 RETURN TO BLDG 166 - PUT BATERIES ON CHARGE

1930 LV BASE.

Work continued to Page

SIGNATURE SJ Conti DATE 9/18/01

DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

WED (CONT)

1730 DONE PURGING @ 46DS / 47DS - PACK UP VEHICLES
GO TO 1660, WILL SAMPLE TOMORROW.
MADE UP BOTTLE SETS FOR DRMO.

1830 LV SITE. WORK ON NOTES IN ROOM.

VOID SJC 9/19/01

Work continued from page AT SITE: SJC/DW.

AM: SUNNY COOL TO WARM
PM: SUNNY, WARM. LO TO MID 70°F

0630 WAIT FOR TRAFFIC AT GATE.

0700 AT BLDG 1666 — CALIBRATE HORIBA U-22S — LOAD EQUIP INTO CAR & VAN. SORT OUT BOTTLES, ETC AT BLDG 166 — CANT USE CONF ROOM UNTIL AFTER NOON.

0900 MOVE TO 2W MW 21S (PERIMETER ROAD)

0930 START PURGING — WELL MAKE WATER, BUT TURBIDITY KEEPS INCR: SPENT 2 HR ± ON PURGING.

1125 TOOK SAMPLE [2W GW 21S-08] ALSO TOOK DUP HERE GWFD-091901-01 — COC NSB 091901-1. AB# S280740271 72.

1245 QUICK LUNCH, WENT TO BOC TO GET NITROGEN CYLINDERS. DISCOVERED THAT US ENV. DID NOT GIVE ME REGULATORS. HAD TO CALL AND HAVE THEM SENT.

1330 DUMP WATER AT OT-10 - GO TO BLDG 166. GET BOTTLE SETS FOR 46DS & 47DS.

1500 CALL FED EX, CALL CORY R GAVE HIM PROGRESS.

1530 GO TO/SET UP AT 46DS & 47DS. ≈ 1600 START PURGING. BOTH WELLS GO DRY (SEE SLS)

Work continued to Page 176

SIGNATURE SJ Conti DATE 9-19-01
DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

1700 GO TO 1666 – PACK SAMPLES, GET ICE
PREPARE FOR FRI.

1745 SJC TAKES SAMPLES TO FED EX – 2 COOLERS
COC # NSB 092001-02 AB#

1810 ARR FED EX.

1900 BACK AT SITE – COMPLETE PAPERWORK.

1930 LV SITE – FINISH WORK IN ROOM.

THURS SUMMARY.

— SAMPLED 5 WELLS 46DS
47DS
4MW01S – DUP
6MW06S – DUP
6MW06D – MS/MSD

— PICKED UP REGULATOR & TUBING

— 2 SHIPMENTS (1 PICK UP & 1 DELIVERED)
4 COOLERS TOTAL.

— AS OF THURS TODAY – 6 WELLS DONE.

		AREA A	DRMO		TOTAL	MISC
9-19-01	W	1	–		1	DUP
9-20-01	Th	3	2		5	2 DUP + MS/MSD
9-21-01	F	1	2		3	PURGED 2/ MS/MSD "A"
9-22-01	Sa	2	2		4	+ RES. WELL – PURGED 2
9-23-01	Su	2	2	(17)	4	+ PURGED 4 IN AFT.
9-24-01	M	4	2	(23)	6	
9-25-01	T	1 + 4SW	–		6	
		14 + 4SW + 1 SEEP	10		29	TOTAL

SCIENTIFIC BINDERY PRODUCTS CHICAGO 60611 MADE IN USA

Work continued from page AT SITE: SJC/DW TtNUS.

AM: SUNNY TO CLOUDY, WARM
PM: CLOUDY WARM - LT DRIZZLE LATE AFT.

0645 IN TRAFFIC AT BASE - WAITING FOR GUARDS TO CHECK II

0730 AT BLDG 166. GET BATTERY PACKS. TAKE TB 01

0800 BEGIN TO SAMPLE [46DS & 47DS] (PURGED ON 9/19/01.)

0930 GO GET KEY FROM CARMEN (BLDG 562) FOR BUNKER A-86. PREPARE TO PURGE AT 4MW01S.

1040 START TO SAMPLE @ [4MW01S] ALSO TOOK DUP HERE [GWFD-092001-01]. SJC WENT AFTER MORE TUBING AND PICKED UP REGULATORS FOR THE HYDROGEN.

1230 TOOK LUNCH

1300 BACK ON BASE - DUMP PURGE WATER AT OT-10. DW GET ICE, SJC WENT TO BLDG 166 TO PREPARE SAMPLES TAKEN THIS MORN @ AREA "A". (3 WELLS + DUP)

1400 SAMPLES (COC NSB 092001-1) READY FOR PICKUP. 2 COOLERS AB # 828074027253.

1430
~~1500~~ SJC GO TO DRMO - SET UP ON 6MW6S, 6MW6D - USING QED CONTROLLERS - MP-10. START TO PURGE @ ~~1600~~ 1445.

1525 SAMPLE 6MW6D + MS/MSD

1610 SAMPLE 6MW6S + DUP (GWFD-092001-02) (178)

Work continued to Page 178

SIGNATURE SJ Conti DATE 9-20-01

DISCLOSED TO AND UNDERSTOOD BY | DATE | WITNESS | DATE

WATERS LEVELS DRMO LO TIDE. (DID NOT HAVE WL SHEETS AT THE TIME)

GMW1S	7.96	1710
SG1	5.25	1715
GMW2D	5.83	1720
GMW2S	6.38	1723
GMW6S	8.97	1755
GMW6D	9.18	1753
GMW11S	3.77	1735
GMW11D	2.41	1730
GMW10S	1.87	1742 ← HAD TROUBLE GETTING GOOD READING. W/ M SCOPE.
GMW10D	2.72	1738
GMW9S	4.60	1745

SC 9/21/01
VOID

SCIENTIFIC BINDERY PRODUCTS CHICAGO 60611 MADE IN USA

TITLE: NSB NLON
FRI SEPT 21 2001

PROJECT NO: 2863
PAGE NO: 1244

WORK CONTINUED FROM PAGE

AT SITE : SJC / DW TtNUS

AM: CLOUDY W/ RAIN.
PM: BECOMES CLEAR.

1. SAMPLED TWO WELLS AT DRMO (10S & 10D) (SEE COC NSB 092101-01.) (RAINING HARD)

2. SAMPLED (1) WELL 2LGW20S AT AREA A- HAD TO PURGE THIS WELL LONGER DUE TO SOME RAIN WATER THAT ENTERED THE WELL (SEE COC 092101-2)

3 PURGED WELL 2W MW 39DS LATE IN THE DAY.

4 SJC DELIVERED COOLERS OF SAMPLES TO FED EX FOR SAT DELIVERY. SJC CALLED CHEMTECH TO ALERT THEM.

5 SJC PURGED WELL 2W MW 38DS- WENT AFTER 15 MIN @ 200 mL/MIN - ONLY 4' OF WATER IN WELL.

Work continued to Page

SIGNATURE SJ Conn

DATE

DISCLOSED TO AND UNDERSTOOD BY | DATE | WITNESS | DATE

RES. WELL

- SAMPLED FROM TAP AFTER 20 MIN OF FLOW.
- NO AERATOR
- BYPASSED SEDIMENT FILTER.
- WELL IS ≈ 200' DEEP (PER OWNER)
- " " " 15 YRS OLD (PER OWNER)

WE TOOK TOTAL TAL METALS + HARDNESS
DISS METALS.

1400 SJC BACK AT 166 TO FILTER RES SAMPLE.

1500 BEGIN TO PURGE 2MW40DS - WENT DRY AFTER ABOUT 50 MIN @ 200 ML/MIN. DW PURGED 2MW41DS. ALSO WENT DRY.

1700 BACK AT BLDG 166, GET MORE ICE, GET BOTTLE SETS READY FOR SUNDAY.

1800 LV SITE - FINISH PAPERWORK AT MOTEL.

VOID
SJC 9-22-01

TITLE NSB NLON
SAT SEPT 22 2001

PROJECT NO 2863
EDP NO 1244

Work continued from page AT SITE: SJC/DW TH NVS.

AM: MOSTLY SUNNY WARM.
PM: " " WARMER.

0700 AT SITE - GET BOTTLE SETS.

0730 TAKE TRIP BLANK GO TO DRMO - DAN OPENS GATE. SET UP TO PURGE WELLS 6MW11S & 11D.

0845 SAMPLES WELLS 6MW11S & 11 D USING BLADDER PUMPS & CONTROLLERS.

1015 SJC BEGINS TO PURGE 3MW37S, WHILE DW SAMPLES 2W MW39DS. @ 1040 HRS.

1110 SJC SAMPLES 3MW37S (PERISTALTIC) SJC CALLS Ms. PACIOREK ABOUT RES. WELL - SAYS OK TO SAMPLE. I WILL CALL HER WHEN READY TO SAMPLE RETURN TO BLDG 166

1200 GET, ICE, AND PLACE w/ SAMPLES. MAKE MORE BOTTLE SETS.

1230 LUNCH

1300 CALL MS PACIOREK - WILL GET TO HER RES ABOUT 1300.

1325 - SAMPLE RES WELL RW-092201-01
SEE PG 182. 01-F

Work continued to Page 182

SIGNATURE SJ Conte
DATE 9/22/01
DISCLOSED TO AND UNDERSTOOD BY
DATE
WITNESS
DATE

SUN SUMMARY

1. SAMPLED (4) WELLS 2@DRMO, 2@ AREA A
2. PURGED (4) WELLS AT AREA A.
3. ICED UP SAMPLES THAT ARE AT BLDG 166.

VOID
9/23/01
SJC

SCIENTIFIC BINDERY PRODUCTS CHICAGO

Work continued from Page AT SITE: SJC / DW & NUS

AM: SUNNY, WARM.
PM: " "

0700 AT SITE - LOAD VEHICLES - GET BATTERY PACKS @ BLG 166. GO TO WELLS 40DS, 41DS (AREA A)

0715 SJC SAMPLES 2WMW 40DS - BUT WENT DRY AFTER ABOUT 3L, WILL HAVE TO GO BACK. DW SAMPLES 41DS AT ABOUT THE SAME TIME.

0830 AT DEMO - SIGN IN (JOE) GO TO 6MW 2S, 2D

0850 START PURGING BOTH WELLS USING BLADDER PUMPS.

0940 SAMPLE 6MW2D, DW SAMPLES 6MW2S AT 0925.

1030 TAKE SAMPLES TO BLDG 166 AND PUT ON ICE. GET SAMPLE SETS READY, UP DATE COC FORMS

1200 LUNCH

1230 AT BLDG 166 - PLACE MORE ICE WITH SAMPLES AND PREPARE TO PURGE WELLS AT AREA "A".

FROM ABOUT 1400 TO 1730 SJC / DW PURGED WELLS 42DS, 43DS, 44DS, 45DS - ALL WELLS WERE PUMPED DRY AFTER ≈ 1HR. SEE LOW FLOW PURGE SHEETS

1730 WENT BACK TO 40DS - BUT STILL WENT DRY BEFORE ALL SAMPLES WERE TAKEN.

1830 AT BLDG 166 - CLEAN OFF EQUIP ETC.

1930 LV SITE.

Work continued to Page

SIGNATURE S J Conte DATE 9/23/01

DISCLOSED TO AND UNDERSTOOD BY | DATE | WITNESS | DATE

MON (CONT)

1445 SJC TO BLD 1666 - BEGINS TO PACK SAMPLES
DW FINISHES HIS WELL - GETS ICE.
1500 SJC CALLS FED EX FOR P/U.
1545 SAMPLES READY FOR P/U
1600 GO TO DRMO FOR HI TIDE WL. (SEE WL SHEETS)
1700 RETURN TO 1666 - SAMPLES HAVE BEEN PICKED UP. SECOND AB# FOR TODAY IS 828074027210. CLEAN UP ROOM WE ARE USING AND COMPLETE PAPERWORK.
1800 LV SITE - FINISH NOTES IN MOTEL.

MON: SUMMARY:

1. SAMPLED 6 WELLS 4@ "A" 2@ DRMO.
2. TOK HI TIDE WATER LEVELS @ DRMO.
3. SHIPPED OUT 7 COOLERS TO CHEMTECH.
4. DONE @ DRMO.

9/24/01
SJC
YOID

SCIENTIFIC BINDERY PRODUCTS CHICAGO 60610 MADE IN U.S.A.

Work continued from Page AT SITE: SJC/DW T+-NUS.

AM: MOSTLY CLDY. WARM
PM: " " WARM.

0645 AT SITE. GO TO BLDG 166. DW GOES AND OBTAINS REST OF SAMPLE FROM 40DS. SJC BEGINS TO PACK COOLERS AND RE FRESH W/ ICE - PACKS 4 COOLERS - AB# 828074027209 - AND COC'S NSB 092201-01 AND NSB 092201-02.

0900 CALL FED EX FOR P/U. TALK TO TO CORY AND DICK C. VIA CONF PHONE- SEEP TO SAMPLE IS THE SEEP APPROX MIDDLE OF DIKE AND IS FLOWING AT A HIGH VOLUME- WILL TRY TO SAMPLE ON TUES.

0915 GO TO DRMO TO SAMPLE IS AND 9S USING BLADDER PUMPS

1035 DW SAMPLES 6MW1S

1045 SJC " 6MW 9S.

1200 QUICK LUNCH / DW GOES TO 42DS.

1230 TOOK TB 092401-02 GO TO AREA "A"

1245 DW SAMPLES 42DS
1300 SJC " 44DS
1350 DW " 43DS
1400 SJC " 45 DS.

SEE COC NSB 092401-02

Work continued to Page 186

SIGNATURE SJ Conti DATE 9/24/01
DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

ITEMS TO DO TUES:

1. TAKE NITROGEN BACK
2. GET CLEAR STRAPPING TAPE
3. INVENTORY (IF RAINING)
4. DO SEEP
5. DO SW (@SG)
6. SAMPLE 38DS.

PU/# 67

9/26/01

AB# 8280740027106 – CHEMTECH (3) Extra Bottles

8280740027139 – TtTech (1) Paperwork

8280740027128 – US ENV. (5) Rental Eq.

VOID
JC 9/26/01

SCIENTIFIC BINDERY PRODUCTS CHICAGO 60625 MADE IN USA

WORK CONTINUED FROM PAGE AT SITE: SJC/DW.

AM: CLOUDY - W/ RAIN.
PM: " " "

0650 AT SITE - GO TO BLDG 166 - GET BATTERY GO TO 2WMW38DS TO SAMPLE.

0730 SAMPLED 38DS - THIS WELL WAS PURGED ON 9/21/01 AND STILL ONLY ABLE TO GET ≈ 3L, ie 1L AMBER FOR TAL SVOC AND TAL METALS (TOT & DISS) WILL GO BACK LATER (ALSO PAHS)

0745 TO 0930 SJC/DW SAMPLED (4) SURFACE WATERS @ SGS 18, 19, 20 & 21

1100 SAMPLED THE SEEP 3MSP01 - AT THE LOCATION BELOW THE CENTER OF THE DIKE WHERE THE FLOW IS QUITE RAPID. WENT TO 166 - ICED ALL SAMPLES

1200 LUNCH - GO GET 3 VOAS 38DS - THEN WENT DRY AGAIN.

1230 GET MORE ICE, DUMP PURGE WATER @ OT-10

1330 BEGIN TO PACK SAMPLES, PREPARED AND SHIPPED 3 COOLERS TO CHEMTECH - SEE COC NSB 092501-01 FOR DETAILS.

1500 CALLED FED EX FOR P/U.

1530 BEGIN TO UNLOAD VEHICLES AND PACK EQUIP.

1700 FEX EX PICKS UP 3 SAMPLE COOLERS.

1800 LV SITE - WRITE UP NOTES, ETC.

Work continued to Page

SIGNATURE S. Conti DATE 9/25/01
DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

VOID
SJE 9/26/01

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

TITLE NSB NLON
WED SEPT 26 2001

PROJECT NO 2863
BOOK NO 1244

Work continued from Page AT SITE: SJC/DW Tt-NUS

AM: SUNNY COOL TO WARM
PM: " WARM.

0730 AT SITE (45 MIN TRAFFIC JAM TO GET TO GATE)
GO TO 1666 PROCEED TO CLEAN UP AND
PACKAGE EQUIPMENT.

0900 SJC/DW INVENTORY OF "DUNGEON" JUST
UPDATED OLD INVENTORY.

1000 DISCARD ALL GARBAGE, INCLUDING SOME TRASH
FROM THE DUNGEON. DW LEAVES SITE SJC
TO STAY AND FINISH PACKING AND SHIPING.

1200 LUNCH.

1230 TOOK SOME PHOTOS OF SITE- ESP WELL LOCATIONS
AND FLUSH MOUNTS.

1500 FINISH CLEANING UP DUNGEON AND CONF. ROOM

1600 FED EX PICKS UP PACKAGES.

1700 LU SITE

Work continued to Page

SIGNATURE SJ Conti
DATE 9/26/01

DISCLOSED TO AND UNDERSTOOD BY | DATE | WITNESS | DATE

APPENDIX B

TIDE TABLES

31	F	249am	L	0.4	833am	H	2.6	258pm	L	0.6	852pm H 3.0

New London, Connecticut
Tide Predictions (High and Low Waters) September, 2001
NOAA, National Ocean Service

Daylight Saving Time

Day	Time	Ht.	Time	Ht.	Time	Ht.	Time	Ht.
1 Sa	327am L	0.4	913am H	2.7	338pm L	0.5	932pm H	3.0
2 Su	402am L	0.3	954am H	2.8	417pm L	0.5	1011pm H	3.0
3 M	437am L	0.3	1034am H	2.9	455pm L	0.4	1050pm H	2.9
4 Tu	511am L	0.3	1115am H	2.9	534pm L	0.4	1129pm H	2.9
5 W	545am L	0.4	1154am H	3.0	615pm L	0.5		
6 Th	1209am H	2.8	622am L	0.4	1233pm H	3.0	700pm L	0.5
7 F	1248am H	2.6	701am L	0.5	111pm H	3.0	750pm L	0.5
8 Sa	129am H	2.5	745am L	0.6	150pm H	2.9	844pm L	0.5
9 Su	214am H	2.4	835am L	0.7	236pm H	2.9	940pm L	0.5
10 M	308am H	2.3	931am L	0.8	333pm H	3.0	1038pm L	0.5
11 Tu	411am H	2.3	1029am L	0.7	439pm H	3.0	1135pm L	0.4
12 W	516am H	2.3	1130am L	0.6	544pm H	3.2		
13 Th	1231am L	0.2	615am H	2.5	1230pm L	0.4	642pm H	3.3
14 F	125am L	0.1	708am H	2.7	130pm L	0.2	734pm H	3.5
15 Sa	217am L	-0.1	758am H	3.0	227pm L	0.0	824pm H	3.5
16 Su	306am L	-0.2	847am H	3.2	322pm L	-0.2	914pm H	3.5
17 M	353am L	-0.3	937am H	3.4	415pm L	-0.3	1003pm H	3.5
18 Tu	440am L	-0.3	1028am H	3.6	507pm L	-0.3	1054pm H	3.3
19 W	527am L	-0.2	1120am H	3.6	601pm L	-0.2	1145pm H	3.1
20 Th	615am L	-0.1	(1212pm H)	3.6	656pm L	-0.1		
21 F	1238am H	2.9	707am L	0.2	We 106pm H	3.5	754pm L	0.1
22 Sa	133am H	2.7	803am L	0.4	201pm H	3.3	855pm L	0.3
23 Su	232am H	2.5	903am L	0.6	301pm H	3.1	956pm L	0.4
24 M	336am H	2.3	1005am L	0.7	406pm H	2.9	1056pm L	0.5
25 Tu	444am H	2.3	1107am L	0.8	513pm H	2.8	1153pm L	0.5
26 W	549am H	2.4	1206pm L	0.8	613pm H	2.8		
27 Th	1245am L	0.5	643am H	2.5	101pm L	0.7	703pm H	2.8
28 F	133am L	0.5	728am H	2.6	150pm L	0.6	747pm H	2.9
29 Sa	214am L	0.5	808am H	2.7	234pm L	0.5	827pm H	2.9
30 Su	251am L	0.4	847am H	2.9	313pm L	0.5	905pm H	2.9

ADD 25 MIN TO LC
" 13 " TO H

New London, Connecticut
Tide Predictions (High and Low Waters) October, 2001
NOAA, National Ocean Service

Day	Time	Ht.	Time	Ht.	Time	Ht.	Time	Ht.
1 M	326am L	0.4	925am H	3.0	351pm L	0.4	943pm H	2.9
2 Tu	400am L	0.3	1003am H	3.1	429pm L	0.3	1020pm H	2.8
3 W	434am L	0.3	1040am H	3.1	508pm L	0.3	1059pm H	2.8
4 Th	509am L	0.4	1116am H	3.1	549pm L	0.3	1138pm H	2.7
5 F	546am L	0.5	1152am H	3.1	633pm L	0.3		
6 Sa	1218am H	2.6	626am L	0.6	1229pm H	3.1	723pm L	0.3
7 Su	101am H	2.5	712am L	0.7	111pm H	3.1	818pm L	0.4
8 M	148am H	2.4	807am L	0.7	201pm H	3.0	916pm L	0.4
9 Tu	244am H	2.3	909am L	0.7	304pm H	3.0	1014pm L	0.3
10 W	349am H	2.3	1013am L	0.7	415pm H	3.0	1111pm L	0.3
11 Th	456am H	2.4	1116am L	0.5	524pm H	3.1		
12 F	1207am L	0.2	557am H	2.6	1218pm L	0.4	624pm H	3.2
13 Sa	100am L	0.0	651am H	2.9	117pm L	0.1	717pm H	3.2
14 Su	151am L	-0.1	741am H	3.2	214pm L	-0.1	806pm H	3.3
15 M	240am L	-0.2	829am H	3.4	309pm L	-0.2	854pm H	3.2
16 Tu	328am L	-0.2	916am H	3.6	400pm L	-0.3	942pm H	3.1
17 W	414am L	-0.2	1005am H	3.7	451pm L	-0.3	1031pm H	3.0
18 Th	500am L	-0.1	1054am H	3.7	541pm L	-0.3	1122pm H	2.9
19 F	548am L	0.1	1144am H	3.6	633pm L	-0.1		
20 Sa	1214am H	2.7	638am L	0.3	1236pm H	3.4	728pm L	0.1
21 Su	108am H	2.5	733am L	0.5	130pm H	3.2	825pm L	0.3
22 M	204am H	2.4	834am L	0.7	228pm H	3.0	923pm L	0.4
23 Tu	305am H	2.3	936am L	0.8	331pm H	2.8	1020pm L	0.5
24 W	411am H	2.3	1038am L	0.8	436pm H	2.6	1115pm L	0.6
25 Th	515am H	2.4	1137am L	0.8	537pm H	2.6		
26 F	1205am L	0.6	611am H	2.5	1231pm L	0.7	630pm H	2.6
27 Sa	1250am L	0.5	657am H	2.7	120pm L	0.6	715pm H	2.6

Standard Time begins at 0200

28	Su	132am	L	0.5	639am	H	2.8	104pm	L	0.5	656pm H 2.7
29	M	111am	L	0.4	717am	H	3.0	145pm	L	0.4	734pm H 2.7
30	Tu	148am	L	0.4	754am	H	3.1	224pm	L	0.2	812pm H 2.7

APPENDIX C

GROUNDWATER LEVEL MEASUREMENT SHEETS

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NSBNLON -DRMO
Project No.: CTO 816 # 0510
Location: Groton, CT.
Personnel: SJC & DW
Weather Conditions: SUNNY, WARM
Measuring Device: SLOPE IND.
Tidally Influenced: Yes ___ No ___
Remarks: LOW TIDE

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)*	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
6MW1S	9/18/01	1710	8.63	15.68	7.96		0.67	
6MW2S	"	1723	7.3	13.63	6.38		0.92	
6MW2D	"	1720	7.85	88.84	5.83		2.02	
6MW6S	"	1755	12.16	18.58	8.97		3.19	
6MW6D	"	1753	12.5	46	9.18		3.32	
6MW9S	"	1745	7.52	11.75	4.60		2.92	
6MW10S	"	1742	5.19	13.31	1.87		3.32	
6MW10D	"	1738	5.01	54.06	2.72		2.29	
6MW11S	"	1735	4.92	13.5	3.77		1.15	
6MW11D	"	1730	5.31	85	2.41		2.90	
SG1	"	1715	5.67		5.25		0.42	

* All measurements to the nearest 0.01 foot

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NSBNLON -DRMO
Project No.: CTO 816 # 0510
Location: Groton, CT.
Personnel: SJC & DW
Weather Conditions: CLOUDY, WARM
Measuring Device: SLOPE IND
Tidally Influenced: Yes ___ No ___
Remarks: HIGH TIDE

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)*	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
6MW1S	9/24	1600	8.63	15.68	4.80		3.83	LID HARD TO REPLACE
6MW2S	"	1606	7.3	13.83	3.53		3.77	.6 OUTER CAS 10 PVC CAP.
6MW2D	"	1605	7.85	88.84	4.33		3.52	
6MW6S	"	1626	12.16	18.58	8.70		3.46	TO TOP OF CAP .19 " " " TO
6MW6D	"	1625	12.5	46	9.12		3.38	TO MARK ON CASING
6MW9S	"	1620	7.52	11.75	3.81		3.71	.48 CAP TO GS
6MW10S	"	1616	5.19	13.31	1.32		3.87	≈.2 CAP TO GS.
6MW10D	"	1617	5.01	54.06	0.74		4.27	.35' CAP TO GS.
6MW11S	"	1612	4.92	13.5	0.99 ~~0.89~~		3.93	TOP OF PVC CAP
6MW11D	"	1610	5.31	85	0.72		CAP IS BROKEN. 4.59	TOP OF PVC CAP.
SG1	"	1602	5.67		1.88		3.79	

* All measurements to the nearest 0.01 foot

APPENDIX D

MONITORING INSTRUMENT CALIBRATION LOGS

Tetra Tech NUS, Inc.

EQUIPMENT CALIBRATION LOG

PROJECT NAME : NSBNLON

INSTRUMENT NAME/MODEL: TURBIDITY METER - 2020

SITE NAME: Groton CT.

MANUFACTURER: LAMOTTE.

PROJECT No.: CTO 816

SERIAL NUMBER: 1728-1600

Date of Calibration	Instrument I.D. Number	Person Performing Calibration	Instrument Settings		Instrument Readings		Calibration Standard (Lot No.)	Remarks and Comments
			Pre-calibration	Post-calibration	Pre-calibration	Post-calibration		
9/19/01	1728-1600	SJC	AS PER MANUFACTURER.				NA	1 = 1.1 10 = 10
9/20/01	"	"			"		↓	1 = 1.0 10 = 10
9/21/01	"	"			"			" "
9/22/01	"	"			"			" "
9/23/01	"	"			"			" "
9/24/01	"	"			"			" "
9/25/01	"	"			"			" "

Tetra Tech NUS, Inc.

EQUIPMENT CALIBRATION LOG

PROJECT NAME : NSBNLON

INSTRUMENT NAME/MODEL: TURBIDITY METER 2020

SITE NAME: Groton CT.

MANUFACTURER: LAMOTTE

PROJECT No.: CTO 816

SERIAL NUMBER: 1758 - 1800

Date of Calibration	Instrument I.D. Number	Person Performing Calibration	Instrument Settings		Instrument Readings		Calibration Standard (Lot No.)	Remarks and Comments	
			Pre-calibration	Post-calibration	Pre-calibration	Post-calibration			
9/19/01	1758-1800	SJC	AS PER MANUFACTURER				NA	1=1	10=10
9/20/01	"	"		"			"	"	"
9/21/01	"	"		"			"	"	"
9/22/01	"	"		"			"	"	"
9/23/01	"	"		"			"	"	"
9/24/01	"	"		"			"	"	"
9/25/01	"	"		"			"	"	"

Tetra Tech NUS, Inc.

EQUIPMENT CALIBRATION LOG

PROJECT NAME : NSBNLON

INSTRUMENT NAME/MODEL: HORIBA - U22

SITE NAME: Groton CT.

MANUFACTURER: HORIBA

PROJECT No.: CTO 816

SERIAL NUMBER: T-0062021

Date of Calibration	Instrument I.D. Number	Person Performing Calibration	Instrument Settings		Instrument Readings		Calibration Standard (Lot No.)	Remarks and Comments
			Pre-calibration	Post-calibration	Pre-calibration	Post-calibration		
9/19/01	T-0062021	SJC	AS PER MANUFACTURER				AUTO	pH = 4.00 SC = 4.49
9/20/01	"	"			"		"	" "
9/21/01	"	"			"		"	" "
9/22/01	"	"			"		"	" "
9/23/01	"	"			"		"	pH = 3.98 SC = 4.49
9/24/01	"	"			"		"	pH = 4.00 "
9/25/01	"	"			"		"	" "

Tetra Tech NUS, Inc.

EQUIPMENT CALIBRATION LOG

PROJECT NAME : NSBNLON

INSTRUMENT NAME/MODEL: HORIBA-U-22

SITE NAME: Groton CT.

MANUFACTURER: HORIBA.

PROJECT No.: CTO 816

SERIAL NUMBER: 9012039

Date of Calibration	Instrument I.D. Number	Person Performing Calibration	Instrument Settings		Instrument Readings		Calibration Standard (Lot No.)	Remarks and Comments
			Pre-calibration	Post-calibration	Pre-calibration	Post-calibration		
9/19/01	9012039	SJC	AS PER MANUFACTURER				AUTO	pH=3.99, SC=4.49
9/20/01	"	"		"				pH=4.00, " "
9/21/01	"	"		"				pH=3.98 SC=4.48
9/22/01	"	"		"				pH=4.00 SC=4.49
9/23/01	"	"		"				" "
9/24/01	"	"		"				" "
9/25/01	"	"		"				" "

APPENDIX E

GROUNDWATER SAMPLE LOGSHEETS AND LOW-FLOW PURGE DATA SHEETS

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / DRMO
Project No.: CTO 816 # 0510

[ ] Domestic Well Data
[x] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: DRMO- 6MW01SGW13
Sample Location: 6MW1S
Sampled By: SJC & DW
C.O.C. No.: NSB- 092401-01
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ~~ppt~~ %
Date: 9/24/01 Time: 1035 Method: Low Flow/Bladder Pump	CLEAR	6.53	15.0	14.0	0.00	5.77	101	0.9

PURGE DATA:

Date: 9/24/01
Method: Low Flow/Bladder Pump
Monitor Reading (ppm): –
Well Casing Diameter & Material Type: 2" PVC
Total Well Depth (TD): 15.7
Static Water Level (WL): 6.67
One Casing Volume(gal):
Start Purge (hrs): 935
End Purge (hrs): 1035
Total Purge Time (min): 60
Total Vol. Purged (gal):

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION:

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

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON DRMO ROUND 13
PROJECT NUMBER: CTO 816 # 0510

WELL ID.: GMW15
DATE: 09-24-01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh mV	Sal. ppt	Comments
0935	6.67	200	-	-	-	-	-	-	-	SOME REDISH BROWN FLOCS
0945	6.87	200	6.43	16.4	6.82	6.83	19.1	111	1.0	
0955	6.90	175	6.50.	16.4	2.18	6.30	19.0	105	1.0	
1005	6.94	175	6.52	16.1	0.00	6.06	19.0	100	0.9	
1015	6.95	~	6.52	15.7	0.00	5.92	19.1	100	0.9	
1025	6.95	~	6.53	15.3	0.37	5.81	19.1	101	0.9	
1035	6.96		6.53	15.0	0.00	5.77	19.0	101	0.9	

SIGNATURE(S): [illegible]

PAGE 1 OF 1

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / DRMO
Project No.: CTO 816 # 0510

[ ] Domestic Well Data
[x] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: DRMO- GMW2S-GW-13
Sample Location: GMW2S
Sampled By: SJC & DW
C.O.C. No.: NSB-092301-01
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Date: 9/23/01	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	~~ppt~~ %
Time: 0925								
Method: Low Flow/Bladder Pump	clear	7.37	39.1	22.1	4.4	3.33	-276	2.5

PURGE DATA:

Date: 9/23/01	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Low Flow/Bladder Pump	
Monitor Reading (ppm):	
Well Casing Diameter & Material Type: PVC 2"	
Total Well Depth (TD): 13.6	
Static Water Level (WL): 5.99	
One Casing Volume(gal):	
Start Purge (hrs): 0843	
End Purge (hrs): 0923	
Total Purge Time (min): 40	
Total Vol. Purged (gal):	

SAMPLE COLLECTION INFORMATION:

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

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON DRMO ROUND 13
PROJECT NUMBER: CTO 816 # 0510

WELL ID.: GMW 25
DATE: 09-23-01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh mV	Sal. ~~ppt%~~	Comments
0843	5.99	700	–	–	–	–	–	–	–	↓ THROTTLE
0853	5.99	150	7.27	38.0	6.5	4.50	21.4	-244	2.4	
0903	6.01	150	7.36	38.5	4.4	3.88	21.5	-252	2.5	
0913	6.02	↓	7.38	38.7	4.2	3.60	21.4	-267	2.5	
0923	6.01		7.37	39.0	4.6	3.41	21.9	-274	2.5	
0933	6.01		7.37	39.1	4.4	3.33	22.1	-276	2.5	

SIGNATURE(S):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / DRMO
Project No.: CTO 816 # 0510

[ ] Domestic Well Data
[x] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: DRMO- 6GW2D-GW 13
Sample Location: 6MW2D
Sampled By: SJC & DW
C.O.C. No.: NSB-092201-01
Type of Sample:
[X] Low Concentration
[ ] High Concentration
Horiba - TDS = 219/1

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ~~ppt~~ %
Date: 9/23/01 Time: 0940 Method: Low Flow/Bladder Pump	CLEAR	7.02	34.1	15.79	6.95	3.32	-395	2.1

PURGE DATA:

Date: 9/23/01
Method: Low Flow/Bladder Pump
Monitor Reading (ppm):
Well Casing Diameter & Material
Type: 2" Φ PVC
Total Well Depth (TD): 78.80
Static Water Level (WL): 5.65
One Casing Volume(gal):
Start Purge (hrs): ~~0845~~ 0850
End Purge (hrs): 0940
Total Purge Time (min): 50 x 200 =
Total Vol. Purged (~~gal~~): 10 L

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements		Collected
TCL VOLATILES (LOW-LEVEL)	HCL / 4° C	3	40 ml Vial	✓
TCL SEMIVOLATILES	4° C	1 ~~2~~	Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2	Qt. Amber Glass	✓
TCL PAH	4° C	1	Qt. Amber Glass	✓
TAL METALS (TOTAL)	HNO_3 / 4° C	1/8	L PE	✓

OBSERVATIONS / NOTES:

200
50
150

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s): SJ Conti

Lo TIDE ≈ 0930

LOW FLOW PURGE DATA SHEET

Sample ID

PROJECT SITE NAME: NSB-NLON DRMO ROUND 13
PROJECT NUMBER: CTO 816 # 0510

WELL ID.: 6MW2D / 6GW2D-6W13
DATE: 09-23-01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh mV	Sal. % ~~ppt~~	Comments
0850	5.65	—	—	—	—	—	—	—	—	
0900	5.93	200	7.46	34.3	9.49	5.41	18.88	-243	2.2	CLEAR
0910	5.98	200	6.85	34.0	7.85	4.11	16.64	-226	2.1	"
0920	5.97	200	6.92	33.8	7.11	3.54	16.23	-253	2.1	TDS-21g/l
0930	5.98	200	7.00	34.2	7.62	3.29	15.91	-289	2.1	" 21g/l
0940	6.00	200	7.02	34.1	6.95	3.32	15.79	-295	2.1	21g/l

SIGNATURE(S): SJConte

PAGE 2 OF ___

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / DRMO
Project No.: CTO 816 # 0510

[ ] Domestic Well Data
[x] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: DRMO- 6MW65-GW-13
Sample Location: 6MW65
Sampled By: SJC & DW
C.O.C. No.: NSB 092001-2
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ~~ppt~~ %
Date: 9/20/01 Time: 1610 Method: Low Flow/Bladder Pump	CLEAR	5.68	.318	13.40	5.0	6.97	179	0.0

PURGE DATA:

Date: 9/20/01
Method: Low Flow/Bladder Pump
Monitor Reading (ppm):
Well Casing Diameter & Material
Type: 2" ϕ PVC
Total Well Depth (TD): 18.56
Static Water Level (WL): 8.65
One Casing Volume(gal):
Start Purge (hrs): 1445
End Purge (hrs): 1605
Total Purge Time (min): 80
Total Vol. Purged (gal):

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements		Collected
TCL VOLATILES (LOW-LEVEL)	HCL / 4° C	3	40 ml Vial	✓
TCL SEMIVOLATILES	4° C	12	Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2	Qt. Amber Glass	✓
TCL PAH	4° C	1	Qt. Amber Glass	✓
TAL METALS (TOTAL)	HNO_3 / 4° C	1	L PE	✓
		18		

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD

Duplicate ID No.: GWFD-092001-02

Signature(s): SJ Conti

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON DRMO ROUND 13
PROJECT NUMBER: CTO 816 # 0510

WELL ID.: GMW 6S
DATE: 09-20-01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh mV	Sal. ppt	Comments
1445	8.65	200	—	—	—	—	—	—	—	
1455	8.66	200	5.64	.342	52.4	8.24	13.59	176	0.0	CLEAR SL TURBID
1505	8.67	200	5.65	.330	31.9	7.42	13.86	170	0.0	" "
1515	8.68	200	5.64	.323	25.3	7.26	13.79	172	0.0	" "
1525	8.68	200	5.62	.322	—	7.14	13.65	175	0.0	" "
1535	8.70	200	5.62	.320	16.2	7.03	13.64	174	0.0	" "
1545	8.71	200	5.64	.318	15.7	7.03	13.57	176	0.0	" NON TURBID
1555	8.72	200	5.67	.318	9.6	6.99	13.42	178	0.0	" " "
1605	8.72	200	5.68	.318	5.0	6.97	13.40	179	0.0	" " "
1610	SAMPLE									
										THROTTLE MP-100 @ 20PSI
										4 CPM = 200± ML/MIN

SIGNATURE(S): SJ Conti

PAGE___OF___

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / DRMO
Project No.: CTO 816 # 0510

[ ] Domestic Well Data
[x] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: DRMO- GMW6D-GW-13
Sample Location: GMW6D
Sampled By: SJC & DW
C.O.C. No.: NSB-092001-2
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Date: 9/20/01	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	~~ppt~~ %
Time: 1525								
Method: Low Flow/Bladder Pump	CLEAR	6.07	3.95	12.2	34	4.81	1	0.2

PURGE DATA:

Date: 9/20/01
Method: Low Flow/Bladder Pump
Monitor Reading (ppm): ~
Well Casing Diameter & Material Type:
Total Well Depth (TD): ~~49~~ 45.4
Static Water Level (WL): 9.93
One Casing Volume(gal):
Start Purge (hrs): 1420
End Purge (hrs): 1520
Total Purge Time (min): 60
Total Vol. Purged (gal):

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION:

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

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

INITIAL THROTTLE PRES. ~~40~~ 40 psi
" " @ 1435 30 psi
" " @ 1500 22 psi

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON DRMO ROUND 13
PROJECT NUMBER: CTO 816 # 0510

WELL ID.: 6MW6D
DATE: 09-20-01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh mV	Sal. ppt	Comments
1420	9.93	400	–	–	–	–	–	–	–	START PURGE
1430	9.17	400	6.07	3.96	55	7.65	13.3	14	0.2	↓ THROTTLE PRESSURE
1440	9.19	350	6.09	3.95	90	6.07	12.5	3	0.2	
1450	9.15	350	6.09	4.02	38	5.60	13.3	-1	0.2	↓ THROTTLE PRES
1500	9.15	250	6.10	3.94	37	5.34	12.8	-2	0.2	
1510	9.14	270	6.09	3.96	33	5.09	12.3	-2	0.2	
1520	9.18	270	6.07	3.95	34	4.81	12.2	1	0.2	

SIGNATURE(S): [illegible]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / DRMO
Project No.: CTO 816 # 0510

[ ] Domestic Well Data
[x] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: DRMO- 6MW09S GW-13
Sample Location: 6MW9S
Sampled By: SJC & DW
C.O.C. No.: NSB- 092401-01
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 9/24/01	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Time: 1045	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	~~ppt~~ %
Method:Low Flow/Bladder Pump	CLEAR	4.76	.088	17.20	0.40	2.75	249	0.0

PURGE DATA:

Date: 9/24/01	See Attached Low Flow Purge Data Sheet for Purge Data
Method:Low Flow/Bladder Pump	
Monitor Reading (ppm):	
Well Casing Diameter & Material Type: 2"Φ PVC	
Total Well Depth (TD): 11.80	
Static Water Level (WL): 4.20	
One Casing Volume(gal):	
Start Purge (hrs): 0940	
End Purge (hrs): 1040	
Total Purge Time (min): 60	
Total Vol. Purged ~~(gal)~~: 18 L ±	

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements		Collected
TCL VOLATILES (LOW-LEVEL)	HCL / 4° C	3	40 ml Vial	✓
TCL SEMIVOLATILES	4° C	1 ~~2~~	Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2	Qt. Amber Glass	✓
TCL PAH	4° C	1	Qt. Amber Glass	✓
TAL METALS (TOTAL)	HNO_3 / 4° C	1/8	L PE	✓

OBSERVATIONS / NOTES:

300
60
18000

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): SJ Conti

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON DRMO ROUND 13
PROJECT NUMBER: CTO 816 # 0510

WELL ID.: 6MW9S
DATE: 09-24-01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh mV	Sal. ppt	Comments
0940	4.20	300	—	—	—	—	—	—	—	CLEAR NON TURBID
0950	4.20	300	6.24	.163	4.11	4.06	17.35	169	0.0	" " "
1000	4.21	300	5.24	.118	1.64	3.31	17.52	211	0.07	" " "
1010	4.21	300	4.91	.090	1.68	3.05	17.24	236	0.0	" " "
1020	4.21	300	4.80	.086	0.74	2.96	17.17	245	0.0	TDS=.06g/l
1030	4.21	300	4.78	.087	0.48	2.87	17.21	247	0.0	TDS .06g/l
1040	4.22	300	4.76	.088	0.40	2.75	17.20	249	0.0	CLEAR - NON TURBID
	SAMPLE AT	1045								
	SEE SHEET	1.								
										PUMP (THROTTLE PRESS)
										MP-10 = 12-15 PSI
										4 GPM
										TRAIN STOPPED - FOR
										INSPECTION - HEAVY
										DIESEL ODOR AT WELL
										LOCATION (9S)
										(DURING PURGING)
										1000 → HRS

SIGNATURE(S): SJ Conte

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / DRMO
Project No.: CTO 816 # 0510

[ ] Domestic Well Data
[x] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: DRMO- GMW10S GW- 13
Sample Location: GMW10S
Sampled By: SJC & DW
C.O.C. No.: NSB-092101-1
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Date: 9/21/01	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	ppt %
Time: 0825								
Method: Low Flow/Bladder Pump	CLEAR	7.33	6.07	~~10.9~~ 21.35	.10	2.75	-310	0.3

PURGE DATA:

Date: 9/21/01
Method: Low Flow/Bladder Pump
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 13.50
Static Water Level (WL): 3.49
One Casing Volume(gal):
Start Purge (hrs): 0730
End Purge (hrs): 0820
Total Purge Time (min): 50
Total Vol. Purged (gal):

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements		Collected
TCL VOLATILES (LOW-LEVEL)	HCL / 4° C	3	40 ml Vial	✓
TCL SEMIVOLATILES	4° C	1 ~~2~~	Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2	Qt. Amber Glass	✓
TCL PAH	4° C	1	Qt. Amber Glass	✓
TAL METALS (TOTAL)	HNO_3 / 4° C	1	L PE	✓
		8		

OBSERVATIONS / NOTES:

RAINED DURING SAMPLING - TOOK SAMPLE AS CLOSE TO LOW TIDE AS POSSIBLE.

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): SJConti

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON DRMO ROUND 13
PROJECT NUMBER: CTO 816 # 0510

WELL ID.: 6MW10S
DATE: 09-21-01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh mV	Sal. ppt	Comments
0730	3.49	200	—	—	—	—	—	—	—	
0740		200	7.23	6.25	—	3.59	21.33	-268	0.3	CLEAR
0750	3.47	300	7.28	6.13	.42	3.29	21.34	-279	0.3	"
0800		300	7.32	6.09	.25	2.96	21.33	-296	0.3	"
0810	3.63	300	7.33	6.07	.12	2.79	21.35	-304	0.3	"
0820	3.70	300	7.33	6.07	.10	1.75	21.35	-310	0.3	"
SAMPLE @ 0825 HRS										
										RAINED DURING
										SAMPLING.
										TOOK SAMPLE AS
										CLOSE TO LOW
										TIDE AS POSSIBLE.

SIGNATURE(S): [illegible]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / DRMO
Project No.: CTO 816 # 0510

[ ] Domestic Well Data
[x] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: DRMO- GMW10D-GW 13
Sample Location: GMW10D
Sampled By: SJC & DW
C.O.C. No.: NSB-092101-1
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt %
Date: 9/21/01								
Time: 0825								
Method: Low Flow/Bladder Pump	CLEAR	7.28	16.09	17.6	.24	3.84	-200	1.0

PURGE DATA:

Date: 9/21/01
Method: Low Flow/Bladder Pump
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 54.10
Static Water Level (WL): 2.49
One Casing Volume(gal):
Start Purge (hrs): 0730
End Purge (hrs): 0820
Total Purge Time (min): 50
Total Vol. Purged (gal):

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements		Collected
TCL VOLATILES (LOW-LEVEL)	HCL / 4° C	3	40 ml Vial	✓
TCL SEMIVOLATILES	4° C	1 2	Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2	Qt. Amber Glass	✓
TCL PAH	4° C	1	Qt. Amber Glass	✓
TAL METALS (TOTAL)	HNO_3 / 4° C	1	L PE	✓
		8		

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): SJConti

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON DRMO ROUND 13
PROJECT NUMBER: CTO 816 # 0510

WELL ID.: 6MW10D
DATE: 09-21-01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh mV	Sal. ppt	Comments
0730	02.49	350	–	–	–	~~5.07~~	~~16.5~~	~~-192~~	~~1.2~~	CLEAR
0740	02.45	350	7.22	20.1	2.63	5.07	16.5	-192	1.2	"
0750	2.40	350	7.27	19.9	.81	4.44	16.3	-198	1.2	"
0800	—	350	7.19	14.4	.80	4.20	18.0	-195	.8	"
0810	2.10	350	7.25	16.10	.33	3.96	17.6	-202	.9	"
0820	1.80	350	7.28	16.09	.24	3.84	17.6	-200	1.0	"
SAMPLE @ 0825										

SIGNATURE(S): [illegible]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / DRMO
Project No.: CTO 816 # 0510

[ ] Domestic Well Data
[x] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: DRMO- GMW 11S GW13
Sample Location: GMW 11S
Sampled By: SJC & DW
C.O.C. No.: NSB- 092201-01
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Date: 9122/01	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	ppt %
Time: 0845								
Method: Low Flow/Bladder Pump	CLEAR	7.45	19.2	22.26	1.00	3.19	-326	1.1

PURGE DATA:

Date: 9122/01
Method: Low Flow/Bladder Pump
Monitor Reading (ppm):
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD):
Static Water Level (WL): 3.27
One Casing Volume(gal):
Start Purge (hrs): 0750
End Purge (hrs): 0840
Total Purge Time (min): 50
Total Vol. Purged (~~gal~~): 15 L

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements		Collected
TCL VOLATILES (LOW-LEVEL)	HCL / 4° C	3	40 ml Vial	✓
TCL SEMIVOLATILES	4° C	1 ~~2~~	Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2	Qt. Amber Glass	✓
TCL PAH	4° C	1	Qt. Amber Glass	✓
TAL METALS (TOTAL)	HNO_3 / 4° C	1	L PE	✓
		1/8		

OBSERVATIONS / NOTES:

50
300
15000

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON DRMO ROUND 13
PROJECT NUMBER: CTO 816 # 0510

WELL ID.: GMW 11S
DATE: 09-22-01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh mV	Sal. ppt	Comments
0750	3.27	300	—	—	—	—	—	—	—	
0800	3.30	300	7.36	18.9	3.58	5.97	22.12	-283	1.1	CLEAR - SL TURBID BLACK SPECS
0810	3.35	300	7.44	19.2	2.23	3.99	22.15	-306	1.1	
0820	3.40	300	7.45	19.2	2.26	3.48	22.20	-317	1.1	"
0830	3.45	300	7.45	19.2	2.01	3.26	22.23	-322	1.1	"
0840	3.50	300	7.45	19.2	1.00	3.19	22.26	-326	1.1	"

SIGNATURE(S): D Conte

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / DRMO
Project No.: CTO 816 # 0510

[ ] Domestic Well Data
[x] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: DRMO- GMW11D-GW-13
Sample Location: GMW11D
Sampled By: SJC & DW
C.O.C. No.: NSB-092201-01
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Date: 9/22/01								
Time: 0845	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	~~ppt~~ %
Method: Low Flow/Bladder Pump	CLEAR	7.05	33.6	16.5	3.2	3.80	-169	2.1

PURGE DATA:

Date: 9/22/01
Method: Low Flow/Bladder Pump
Monitor Reading (ppm):
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 85'
Static Water Level (WL): 1.94
One Casing Volume(gal):
Start Purge (hrs): 0753
End Purge (hrs): 0843
Total Purge Time (min): 50
Total Vol. Purged (gal):

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements		Collected
TCL VOLATILES (LOW-LEVEL)	HCL / 4° C	3	40 ml Vial	✓
TCL SEMIVOLATILES	4° C	1 ~~2~~	Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2	Qt. Amber Glass	✓
TCL PAH	4° C	1	Qt. Amber Glass	✓
TAL METALS (TOTAL)	HNO_3 / 4° C	1	L PE	✓
		1/8		

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

(*) PVC CAP IS BROKEN (CRACKED) - IN NEED OF REPAIR

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON DRMO ROUND 13
PROJECT NUMBER: CTO 816 # 0510

WELL ID.: GMW11D
DATE: 09-22-01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh mV	Sal. ~~ppt~~ %	Comments
0753	1.94	150	-	-	-	-	-	-	-	↑ THROTTLE PRES (*)
0803	1.99	225	7.08	33.1	2.5	4.40	18.8	14 (1)	2.1	
0813	2.00		7.04	33.3	4.5	4.17	17.0	15 (1)	2.1	SOME BLACK FINES
0823	1.97		7.04	33.4	5.6	4.01	16.8	-171	2.1	
0833	1.87		7.04	33.5	6.2	3.93	16.7	-170	2.1	
0843	1.85		7.05	33.6	3.2	3.80	16.5	-169	2.1	

SIGNATURE(S): [illegible]

(1) MAY HAVE INADVERTANTLY READ TDS ON HORIBA INSTEAD OF EC

PAGE 1 OF 1

APPENDIX F

CHAIN OF CUSTODY RECORDS

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER NSB-092401-01 | PAGE 1 OF 1

PROJECT NO: CTO 816 2863	SITE NAME: NSB NLON
PROJECT MANAGER AND PHONE NUMBER: CORY RICH 412 921 8984	LABORATORY NAME AND CONTACT: CHEMTECH / K HUMMLER
FIELD OPERATIONS LEADER AND PHONE NUMBER: SJ CONTI 412 921 8422	ADDRESS
CARRIER/WAYBILL NUMBER: FED EX AB# 828074027210	CITY, STATE: MOUNTAINSIDE, NJ
SAMPLERS (SIGNATURE): SJ Conti	

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

DATE YEAR 2001	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TCL VOC (40ml)	TCL SVOC	TCL PEST/PCB	TCL PAH	TAL MET (TOT)				COMMENTS
					CONTAINER TYPE PLASTIC (P) or GLASS (G)	G	G	G	G	P				
					PRESERVATIVE USED	HCL	/	/	/	HNO3				
		DRMO ROUND (13)			TYPE OF ANALYSIS									
9/24	0700	TB-092401-01	AQ	G	2	2								
"	1045	DRMO-GMW95-GW13	GW	G	8	3	1	2	1	1				
"	1035	DRMO-GMW15-GW13	GW	G	8	3	1	2	1	1				

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY SJ Conti	9/24/01	1600	1. RECEIVED BY FED EX.		
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

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

3/99
FORM NO. TtNUS-001

SAT/SUN

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER NSB 092201-01 | PAGE 1 OF 1

PROJECT NO: CTO 816 2863	SITE NAME: NSB NLON	PROJECT MANAGER AND PHONE NUMBER: CORY RICH 412 921 8984	LABORATORY NAME AND CONTACT: CHEMTECH / KURT H.
SAMPLERS (SIGNATURE): SJ Conti		FIELD OPERATIONS LEADER AND PHONE NUMBER: SJ CONTI 412 921 8422	ADDRESS:
		CARRIER/WAYBILL NUMBER: FED EX AB# 828074027209	CITY, STATE: MOUNTAINSIDE, NJ

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

DATE YEAR 2001	TIME	SAMPLE ID: DRMO (13)	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TCL VOC (40ml)	TCL SVOC (1L Amber)	TCL PEST/PCB (1L Amber)	TCL PAH (1L Amber)	TAL METALS (TOT) (1L)				COMMENTS
CONTAINER TYPE PLASTIC (P) or GLASS (G)						G	G	G	G	P				
PRESERVATIVE USED						HCL	-	-	-	HNO3				
9/22	0730	TB-092201-01	AQ	G	2	2								
"	0845	DRMO-6MW11S-GW13	GW	G	8	3	1	2	1	1				
"	0845	DRMO-6MW11D-GW13	GW	G	8	3	1	2	1	1				
9/23	0940	DRMO-6MW2D-GW13	GW	G	8	3	1	2	1	1				
9/23	0925	DRMO-6MW2S-GW13	GW	G	8	3	1	2	1	1				

1. RELINQUISHED BY: SJ Conti	DATE: 9/24/01	TIME: 1300	1. RECEIVED BY: FED EX	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: 2 COOLERS (DRMO)

DISTRIBUTION: W... (ACC... NIES PLE) YI W (FIE DPY) PINK (FILE COPY)

3/99
FORM NO. ...US-0...

TETRA TECH NUS, INC. (FEI) CHAIN OF CUSTODY | NUMBER NSB 092101-1 | PAGE 1 OF 1

PROJECT NO:	SITE NAME:	PROJECT MANAGER AND PHONE NUMBER	LABORATORY NAME AND CONTACT:
CTO 816 2863	NSB NLON	CORY RICH 412 921 8984	CHEMTECH / KURT H
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER AND PHONE NUMBER: SJ CONTI 412 921 8422	ADDRESS
SJ Conti		CARRIER/WAYBILL NUMBER: FED EX AB# 828074027194	CITY, STATE: MOUNTAINSIDE, NJ

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

DRMO (13)

DATE YEAR 2001	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TCL VOC (40ml)	TCL SVOC (1L) Amber	TCL PEST/PCB 1L Amber	TCL PAH 1L Amber	TAL METALS (TOT) 1L				COMMENTS
CONTAINER TYPE PLASTIC (P) or GLASS (G)						G	G	G	G	P				
PRESERVATIVE USED						HCL	–	–	–	HNO3				
9/21	0700	TB-092101-01	AQ	G	2	2								
"	0825	DRMO-GMW10S-GW13	GW	"	8	3	1	2	1	1				
"	0825	DRMO-GMW10D-GW13	GW	"	8	3	1	2	1	1				

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY SJ Conti	9/21/01	1830	1. RECEIVED BY FED EX		
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS

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

3/99
FORM NO. TtNUS-001

THURS.

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER NSB 092001-2 | PAGE 1 OF 1

PROJECT NO:	SITE NAME:	PROJECT MANAGER AND PHONE NUMBER	LABORATORY NAME AND CONTACT:
CTO 816 2863	NSB NLON	CORY RICH 412 921 8984	CHEMTECH / KURT HUMMLER
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER AND PHONE NUMBER: SJ CONTI 412 921 8422	ADDRESS
SJ Conti		CARRIER/WAYBILL NUMBER: FED EX AB #	CITY, STATE: MOUNTAINSIDE, NJ.

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

DRMO (13)

DATE YEAR 2001	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TCL VOC (40ml)	TCL SVOC (1L Amber)	TCL PEST/PCB (1L Amber)	TCL PAH (1L Amber)	TAL METALS (TOT) 1L				COMMENTS
CONTAINER TYPE PLASTIC (P) or GLASS (G)						G	G	G	G	P				
PRESERVATIVE USED						HCL	–	–	–	HNO3				
9/20	1400	TB-092001-02	AQ	G	2	2								
"	1610	DRMO-6MW6S-GW-13	GW	G	8	3	~~3~~ 1	2	1	1				
"	1525	DRMO-6MW6D-GW-13	GW	G	24	9	3	6	3	3				DO MS/MSD
"	0000	GW FD-092001-02	GW	G	8	3	1	2	1	1				DUP OF 6MW6S

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY SJ Conti	9/20/01	1800	1. RECEIVED BY FED EX		
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS

DISTRIBUTION: W... ACC... NIES PLE) YE (FIE OPY) INK (FIE COPY)

3/99
FORM NO. TTNUS-001

APPENDIX G

DATA VALIDATION LETTERS AND LABORATORY DATA SHEETS

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**C. RICH**	**DATE:**	**NOVEMBER 12, 2001**
FROM:	**ERIN M. FAUST**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS AND MISCELLANEOUS PARAMETERS**
CTO-816 NSB NEW LONDON
SAMPLE DELIVERY GROUP (SDG) – 5986

SAMPLES: 12/Aqueous/

2WGW44DS-08	2WGW38DS-08	2WGW42DS-08
2WGW43DS-08	2WGW45DS-08	DRMO-6MW1S-GW13
3MSP01-08	SWSG18-08	DRMO-6MW9S-GW13
SWSG19-08	SWSG20-08	SWSG21-08

Overview

The sample set for CTO 816, NSB New London, SDG 5986, consists of twelve (12) aqueous environmental samples.

All samples were analyzed for hardness, total organic carbon (TOC), chemical oxygen demand (COD), alkalinity, chloride, sulfate, total dissolved solids (TDS) and total and dissolved target analyte list (TAL) metals, with the exception of samples DRMO-6MW9S-GW13 and DRMO-6MW1S-GW13, which are analyzed for total TAL metals only. Samples designated –F were analyzed for dissolved metals. The samples were collected by TetraTech NUS on September 24 and 25, 2001 and analyzed by Chemtech Consulting Group under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses, with the exception of mercury, were conducted using Contract Laboratory Program (CLP) method ILM04.1. Mercury analyses were conducted using EPA method 245.1. Results for hardness were calculated using Standard Methods 18th ed. Method 2340B. Analyses for COD were conducted using the Hach 8000 Method. Analyses for TOC, alkalinity, chloride, sulfate and TDS were conducted using EPA methods 415.1, 310.1, 325.3, 375.4 and 160.1, respectively.

Metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA).

These data were evaluated based on the following parameters:

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

- Sample Quantitation
* • Detection Limits

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

Calibration Recoveries

The contract required detection limit (CRDL) percent recovery for zinc was >120% quality control limit, affecting all samples except SWSG21-08-F, SWSG18-08-F and 3MSP01-08-F. Positive results less than three times the CRDL reported for zinc in the affected samples were qualified as estimated, "J".

The CRDL percent recoveries for selenium and vanadium were < 80% quality control limit, affecting all dissolved metals samples and samples SWSG21-08, SWSG18-08 and 3MSP01-08. Positive results less than three times the CRDL reported for vanadium in the affected samples were qualified as estimated, "J". Nondetected results reported for selenium and vanadium in the affected samples were qualified as estimated, "UJ".

Laboratory Blank Analyses

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

Analyte	Maximum Concentration	Action Level
Aluminum	52.4 µg/L	262 µg/L
Barium[1]	5.035 µg/L	25.175 µg/L
Beryllium	2.1 µg/L	10.5 µg/L
Calcium	37.0 µg/L	185 µg/L
Iron	-30.0 µg/L	150 µg/L
Magnesium	38.5 µg/L	192.5 µg/L
Manganese	-1.2 µg/L	6.0 µg/L
Potassium	-466 µg/L	2330 µg/L
Zinc	-4.2 µg/L	21.0 µg/L

[1] Maximum concentration present in an aqueous preparation blank, affecting the dissolved metals matrix.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. Positive results less than the action level reported for aluminum, barium and beryllium were qualified "U" as a result of laboratory blank contamination.

Negative results greater than two times the IDL were reported in laboratory method blanks for iron, manganese, potassium and zinc. Positive results less than the action level reported for iron, potassium and zinc were qualified as estimated, "J" and may be biased low. Nondetected results reported for iron and manganese were qualified as estimated, "UJ" and may be biased low.

ICP Interference Check Sample Results

The interfering analyte magnesium was present in samples 2WGW43DS-08 and 2WGW43DS-08-F at concentrations that were comparable to the level of magnesium in the Interference Check Sample (ICS) solution. Several analytes namely beryllium, manganese, potassium and zinc were present in the ICS solution at concentrations that exceeded 2X the absolute value of the

Instrument Detection Limit (IDL). Interference affects exist for zinc in the affected samples. The positive results reported for zinc were qualified as estimated, "J".

Laboratory Duplicate Results

Laboratory duplicate imprecision (difference > CRDL) was noted for lead, affecting the total metals matrix. Positive results reported for lead in the affected samples were qualified as estimated, "J".

ICP Serial Dilution Results

The ICP serial dilution percent difference for potassium was > 15% quality control limit, affecting the dissolved metals matrix. Positive results reported for potassium in the affected samples were qualified as estimated, "J". A direction of bias could not be determined.

Sample Quantitation

Due to uncertainty near the IDL, positive results less than two times the IDL reported for arsenic, cobalt, copper, iron, lead, nickel, thallium and vanadium were qualified as estimated, "J".

Notes

The interfering analyte magnesium was present in sample DRMO-6MW1S-GW13 at a concentration that was comparable to the level of magnesium in the Interference Check Sample (ICS) solution. Several analytes namely beryllium, manganese, potassium and zinc were present in the ICS solution at concentrations that exceeded 2X the absolute value of the Instrument Detection Limit (IDL). No validation action was necessary because no interference affects exist in this sample.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method/preparation blanks. Selenium, vanadium and zinc were qualified due to calibration noncompliance. Laboratory duplicate imprecision was noted for lead, affecting the total metals matrix.

Other Factors Affecting Data Quality: Potassium was qualified due to ICP serial dilution noncompliance, affecting the dissolved metals matrix. Arsenic, cobalt, copper, iron, lead, nickel, thallium and vanadium were qualified due to uncertainty near the IDL. The interfering analyte magnesium was present in several samples.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", February 1989 and the NFESC document entitled "Navy IRCDQM" (September 1999).

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

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

Erin M Faust

Tetra Tech NUS
Erin M. Faust
Environmental Scientist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

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

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

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

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW38DS-08			2WGW38DS-08-F			2WGW42DS-08			2WGW42DS-08-F		
SAMPLE DATE:	09/25/01			09/25/01			09/24/01			09/24/01		
LABORATORY ID:	N5986-14			N5986-15			N5986-08			N5986-09		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	131	U	A	41.1	U	A	4890			10.7	U	
ANTIMONY	9.2	U		9.2	U		9.2	U		9.2	U	
ARSENIC	5.0	U		5.0	U		16.4			5.0	U	
BARIUM	12.9			8.7	U	A	77.3			54.9		
BERYLLIUM	1.3	U	A	0.41	U	A	1.4	U	A	0.30	U	A
CADMIUM	3.0	U		3.0	U		3.0	U		3.0	U	
CALCIUM	48100			46000			106000			92000		
CHROMIUM	5.0	U		5.0	U		24.7			5.0	U	
COBALT	5.0	U		5.0	U		5.2	J	P	5.0	U	
COPPER	10.1			9.8			10.7			2.4	U	
IRON	420			8.8	J	AP	38300			3220		
LEAD	3.0	U		3.0	U		12.4	J	F	3.0	U	
MAGNESIUM	18500			17700			164000			142000		
MANGANESE	19.8			15.1			742			569		
MERCURY	0.20	U		0.20	U		0.20	U		0.20	U	
NICKEL	4.0	U		4.0	U		4.0	J	P	4.0	U	
POTASSIUM	22300			20400	J	I	114000			99000	J	I
SELENIUM	5.0	U		5.0	UJ	C	5.0	U		5.0	UJ	C
SILVER	5.0	U		5.0	U		5.0	U		5.0	U	
SODIUM	215000			200000			2020000			1860000		
THALLIUM	7.2	U		7.2	U		7.2	U		7.2	U	
VANADIUM	10.4			8.4	J	C	26.5			2.6	UJ	C
ZINC	39.5	J	C	47.2	J	C	369			17.7	J	AC

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW43DS-08			2WGW43DS-08-F			2WGW44DS-08			2WGW44DS-08-F		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	N5986-06			N5986-07			N5986-02			N5986-03		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	10.7	U		10.7	U		82.4	U	A	44.2	U	A
ANTIMONY	9.2	U		9.2	U		9.2	U		9.2	U	
ARSENIC	8.1	J	P	6.8	J	P	5.0	U		5.0	U	
BARIUM	89.5			82.6			22.0			31.5		
BERYLLIUM	0.57	U	A	0.10	U		1.1	U	A	0.24	U	A
CADMIUM	3.0	U		3.0	U		3.0	U		3.0	U	
CALCIUM	210000			202000			78800			77300		
CHROMIUM	5.0	U		5.0	U		5.0	U		5.0	U	
COBALT	5.0	U		5.0	U		5.0	U		5.0	U	
COPPER	2.4	U		2.4	U		4.1	J	P	7.9		
IRON	6190			1170			5150			12300		
LEAD	3.0	U		3.0	U		3.0	U		3.6	J	P
MAGNESIUM	706000			668000			134000			98700		
MANGANESE	182			216			369			528		
MERCURY	0.20	U		0.20	U		0.20	U		0.20	U	
NICKEL	4.0	U		4.0	U		4.0	U		4.0	U	
POTASSIUM	390000			371000	J	I	90300			64800	J	I
SELENIUM	5.0	U		5.0	UJ	C	5.0	U		5.0	UJ	C
SILVER	5.0	U		5.0	U		5.0	U		5.0	U	
SODIUM	7310000			8400000			1630000			1180000		
THALLIUM	7.2	U		7.2	U		7.2	U		7.2	U	
VANADIUM	14.3			8.5	J	C	3.7	J	P	2.9	J	CP
ZINC	17.4	J	ACK	19.0	J	ACK	31.9	J	C	41.2	J	C

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW45DS-08			2WGW45DS-08-F			3MSP01-08			3MSP01-08-F		
SAMPLE DATE:	09/24/01			09/24/01			09/25/01			09/25/01		
LABORATORY ID:	N5986-04			N5986-05			N5986-24			N5986-25		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	54.5	U	A	48.9	U	A	99.0	U	A	25.8	U	A
ANTIMONY	9.2	U		9.2	U		9.2	U		9.2	U	
ARSENIC	14.7			10.7			6.1	J	P	5.0	U	
BARIUM	11.9			9.8	U	A	67.9			69.0		
BERYLLIUM	1.2	U	A	0.14	U	A	0.17	U	A	1.3	U	A
CADMIUM	3.0	U		3.0	U		3.0	U		3.0	U	
CALCIUM	45400			50600			25200			25500		
CHROMIUM	5.0	U		5.0	U		5.0	U		5.0	U	
COBALT	5.0	U		5.0	U		5.0	U		5.0	U	
COPPER	4.1	J	P	2.7	J	P	6.3			2.4	U	
IRON	32100			34300			11000			9370		
LEAD	3.4	J	FP	3.0	U		3.0	U		3.0	U	
MAGNESIUM	95600			108000			8920			9060		
MANGANESE	300			327			873			884		
MERCURY	0.20	U		0.20	U		0.20	U		0.20	U	
NICKEL	4.0	U		4.0	U		4.0	U		4.0	U	
POTASSIUM	74400			78900	J	I	5910			10600	J	I
SELENIUM	5.0	U		5.0	UJ	C	5.0	UJ	C	5.0	UJ	C
SILVER	5.0	U		5.0	U		5.0	U		5.0	U	
SODIUM	1300000			1430000			115000			119000		
THALLIUM	7.6	J	P	7.2	U		7.2	U		7.2	U	
VANADIUM	7.5			2.8	J	CP	2.6	UJ	C	2.6	UJ	C
ZINC	29.0	J	C	40.9	J	C	66.4			61.8		

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	DRMO-6MW1S-GW13			DRMO-6MW9S-GW13			SWSG18-08			SWSG18-08-F		
SAMPLE DATE:	09/24/01			09/24/01			09/25/01			09/25/01		
LABORATORY ID:	N5986-12			N5986-11			N5986-22			N5986-23		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	10.7	U		191	U	A	2180			46.5	U	A
ANTIMONY	9.2	U		9.2	U		9.2	U		9.2	U	
ARSENIC	5.0	U		5.0	U		7.7			5.0	U	
BARIUM	9.1	J	P	18.5			82.6			66.9		
BERYLLIUM	0.10	U		1.3	U	A	0.38	U	A	1.3	U	A
CADMIUM	3.0	U		3.0	U		3.0	U		3.0	U	
CALCIUM	89600			3090			19100			20000		
CHROMIUM	5.0	U		5.0	U		5.0	U		5.0	U	
COBALT	5.0	U		5.0	U		5.0	U		5.0	U	
COPPER	9.8			7.7			17.2			4.6	J	P
IRON	7.0	UJ	A	32.7	J	A	20700			12300		
LEAD	3.0	U		3.3	J	FP	8.2	J	F	3.0	U	
MAGNESIUM	276000			982			3740			3410		
MANGANESE	0.50	UJ	A	203			566			561		
MERCURY	0.20	U		0.20	U		0.20	U		0.20	U	
NICKEL	4.0	U		4.0	U		4.3	J	P	4.0	U	
POTASSIUM	13800			635	J	A	2070	J	A	7720	J	I
SELENIUM	5.0	U		5.0	U		5.0	UJ	C	5.0	UJ	C
SILVER	5.0	U		5.0	U		5.0	U		5.0	U	
SODIUM	2950000			5560			37800			41500		
THALLIUM	7.2	U		7.2	U		7.2	U		7.2	U	
VANADIUM	2.6	U		2.6	U		19.7	J	C	2.6	UJ	C
ZINC	48.0	J	C	133			263			102		

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	SWSG19-08			SWSG19-08-F			SWSG20-08			SWSG20-08-F		
SAMPLE DATE:	09/25/01			09/25/01			09/25/01			09/25/01		
LABORATORY ID:	N5986-16			N5986-17			N5986-18			N5986-19		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	163	U	A	65.3	U	A	437			78.1	U	A
ANTIMONY	9.2	U		9.2	U		9.2	U		9.2	U	
ARSENIC	9.1	J	P	5.0	U		7.2	J	P	5.6	J	P
BARIUM	63.9			70.4			26.7			19.0	U	A
BERYLLIUM	0.10	U		0.42	U	A	0.10	U		0.46	U	A
CADMIUM	3.0	U		3.0	U		3.0	U		3.0	U	
CALCIUM	28000			27900			11200			9230		
CHROMIUM	5.0	U		5.0	U		5.0	U		5.0	U	
COBALT	5.0	U		5.0	U		5.0	U		5.0	U	
COPPER	16.0			4.7	J	P	18.4			2.4	U	
IRON	25200			17500			5610			2020		
LEAD	3.0	U		3.0	U		3.8	J	FP	3.0	U	
MAGNESIUM	4890			4510			3230			2710		
MANGANESE	518			473			263			204		
MERCURY	0.20	U		0.20	U		0.20	U		0.20	U	
NICKEL	4.0	U		4.0	U		4.0	U		4.0	U	
POTASSIUM	4020			4070	J	I	2470			1810	J	AI
SELENIUM	5.0	U		5.0	UJ	C	5.0	U		5.0	UJ	C
SILVER	5.0	U		5.0	U		5.0	U		5.0	U	
SODIUM	60600			62800			38800			35700		
THALLIUM	7.2	U		7.2	U		7.2	U		7.2	U	
VANADIUM	14.2			6.2	J	C	5.1	J	P	2.6	UJ	C
ZINC	109			86.1			121			51.2	J	C

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	SWSG21-08	SWSG21-08-F		
SAMPLE DATE:	09/25/01	09/25/01	/ /	/ /
LABORATORY ID:	N5986-20	N5986-21		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	UG/L	UG/L		
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	78.0	U	A	31.4	U	A						
ANTIMONY	9.2	U		9.2	U							
ARSENIC	5.0	U		5.0	U							
BARIUM	38.2			37.8								
BERYLLIUM	0.13	U	A	1.3	U	A						
CADMIUM	3.0	U		3.0	U							
CALCIUM	17500			17700								
CHROMIUM	5.0	U		5.0	U							
COBALT	5.0	U		5.0	U							
COPPER	5.7			3.2	J	P						
IRON	7330			3180								
LEAD	3.0	U		3.0	U							
MAGNESIUM	4750			4870								
MANGANESE	315			320								
MERCURY	0.20	U		0.20	U							
NICKEL	4.0	U		4.0	U							
POTASSIUM	4530			5900	J	I						
SELENIUM	5.0	UJ	C	5.0	UJ	C						
SILVER	5.0	U		5.0	U							
SODIUM	51100			52700								
THALLIUM	7.2	U		7.2	U							
VANADIUM	2.6	UJ	C	2.6	UJ	C						
ZINC	55.3	J	C	50.1								

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW38DS-08			2WGW42DS-08			2WGW43DS-08			2WGW44DS-08		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	N5986-14			N5986-08			N5986-06			N5986-02		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)				640			2100			650		
CHEMICAL OXYGEN DEMAND(MG/L)				92			920			46		
CHLORIDE(MG/L)				2700			19000			2800		
HARDNESS(MG/L)	200			940			3400			750		
SULFATE(MG/L)				83			530			36		
TOTAL DISSOLVED SOLIDS(MG/L)				5800			24000			4900		
TOTAL ORGANIC CARBON(MG/L)				20			33			8		

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW45DS-08	3MSP01-08	SWSG18-08	SWSG19-08
SAMPLE DATE:	09/24/01	09/25/01	09/25/01	09/25/01
LABORATORY ID:	N5986-04	N5986-24	N5986-22	N5986-16
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)	460			80			55			85		
CHEMICAL OXYGEN DEMAND(MG/L)	56			9			100			43		
CHLORIDE(MG/L)	2500			180			70			100		
HARDNESS(MG/L)	510			99			63			90		
SULFATE(MG/L)	49			8			1	U		1	U	
TOTAL DISSOLVED SOLIDS(MG/L)	4400			460			430			320		
TOTAL ORGANIC CARBON(MG/L)	20			6.4			16			15		

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	SWSG20-08	SWSG21-08	/ /	/ /
SAMPLE DATE:	09/25/01	09/25/01		
LABORATORY ID:	N5986-18	N5986-20		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)	25			57								
CHEMICAL OXYGEN DEMAND(MG/L)	75			23								
CHLORIDE(MG/L)	70			90								
HARDNESS(MG/L)	41			63								
SULFATE(MG/L)	1	U		2								
TOTAL DISSOLVED SOLIDS(MG/L)	280			250								
TOTAL ORGANIC CARBON(MG/L)	14			10								

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**C. RICH**	**DATE:**	**NOVEMBER 14, 2001**
FROM:	**ERIN M. FAUST**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS AND MISCELLANEOUS PARAMETERS**
CTO-816 NSB NEW LONDON
SAMPLE DELIVERY GROUP (SDG) – 5965

SAMPLES: 11/Aqueous/

2LGW20S-08
2W-GW40DS-08
3GW37S-08
DRMO-6MW10S-GW13
DRMO-6MW11S-GW13
DRMO-6MW2S-GW13
2W-GW39DS-08
2W-GW41DS-08
DRMO-6MW10D-GW13
DRMO-6MW11D-GW13
DRMO-6MW2D-GW13

Overview

The sample set for CTO 816, NSB New London, SDG 5965, consists of eleven (11) aqueous environmental samples.

All samples were analyzed for hardness, total organic carbon (TOC), chemical oxygen demand (COD), alkalinity, chloride, sulfate, total dissolved solids (TDS) and total and dissolved target analyte list (TAL) metals, with the exception of samples DRMO-6MW10D-GW13, DRMO-6MW10S-GW13, DRMO-6MW11D-GW13, DRMO-6MW11S-GW13, DRMO-6MW2D-GW13 and DRMO-6MW2S-GW13, which are analyzed for total TAL metals only. Samples designated –F were analyzed for dissolved metals. The samples were collected by TetraTech NUS from September 21-23, 2001 and analyzed by Chemtech Consulting Group under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses, with the exception of mercury, were conducted using Contract Laboratory Program (CLP) method ILM04.1. Mercury analyses were conducted using EPA method 245.1. Results for hardness were calculated using Standard Methods 18th ed. Method 2340B. Analyses for COD were conducted using the Hach 8000 Method. Analyses for TOC, alkalinity, chloride, sulfate and TDS were conducted using EPA methods 415.1, 310.1, 325.3, 375.4 and 160.1, respectively.

Metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA).

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
* • Laboratory Control Sample Results
• ICP Interference Check Sample Results

- Matrix Spike Results
- * Laboratory Duplicate Results
- ICP Serial Dilution Results
- Sample Quantitation
- * Detection Limits

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

Laboratory Blank Analyses

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

Analyte	Maximum Concentration	Action Level
Aluminum	-47.1 µg/L	235.5 µg/L
Arsenic	4.5 µg/L	22.5 µg/L
Iron	17.6 µg/L	88.0 µg/L
Mercury	0.20 µg/L	1.0 µg/L
Thallium	5.5 µg/L	27.5 µg/L

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. Positive results less than the action level reported for arsenic, iron, mercury and thallium were qualified "U" as a result of laboratory blank contamination.

Negative results greater than two times the IDL were reported in laboratory method blanks for aluminum. Positive results less than the action level and nondetected results reported for aluminum were qualified as estimated, "J" and "UJ", respectively, and may be biased low.

ICP Interference Check Sample Results

The interfering analyte magnesium was present in samples 2W-GW40DS-08, 2W-GW40DS-08-F, 2W-GW41DS-08-F, DRMO-6MW10S-GW13, DRMO-6MW2D-GW13 and DRMO-6MW2S-GW13 at concentrations that were comparable to the level of magnesium in the Interference Check Sample (ICS) solution. Several analytes namely cadmium, silver and thallium were present in the ICS solution at concentrations that exceeded 2X the absolute value of the Instrument Detection Limit (IDL). Interference affects exist for cadmium in the affected samples. The nondetected results reported for cadmium were qualified as estimated, "UJ".

The interfering analyte magnesium was present in samples 2W-GW41DS-08 and DRMO-6MW11D-GW13 at concentrations that were comparable to the level of magnesium in the Interference Check Sample (ICS) solution. Several analytes namely cadmium, silver and thallium were present in the ICS solution at concentrations that exceeded 2X the absolute value of the Instrument Detection Limit (IDL). Interference affects exist for cadmium and silver in the affected samples. The nondetected results reported for cadmium were qualified as estimated, "UJ". The positive results reported for silver were qualified as estimated, "J".

The interfering analyte magnesium was present in sample DRMO-6MW11S-GW13 at a concentration that was comparable to the level of magnesium in the Interference Check Sample (ICS) solution. Several analytes namely cadmium, silver and thallium were present in the ICS solution at concentrations that exceeded 2X the absolute value of the Instrument Detection Limit (IDL). Interference affects exist for cadmium in the affected sample. The positive result reported for cadmium was qualified as estimated, "J".

Matrix Spike Results

The Matrix Spike (MS) percent recovery for silver was < 30% quality control limit, affecting the total metals matrix. Positive results reported for silver in the affected samples were qualified as estimated, "J". Nondetected results reported for silver in the affected samples were qualified as unusable, "UR".

ICP Serial Dilution Results

The ICP serial dilution percent differences for potassium and sodium were > 15% quality control limit, affecting the both the total and dissolved metals matrices. Positive results reported for potassium and sodium in the affected samples were qualified as estimated, "J". A direction of bias could not be determined.

Sample Quantitation

Due to uncertainty near the IDL, positive results less than two times the IDL reported for cadmium, chromium, cobalt, copper, lead, silver, vanadium and zinc were qualified as estimated, "J".

Notes

The contract required detection limit (CRDL) percent recovery for selenium was >120% quality control limit, affecting the dissolved metals matrix with the exception of sample 2LGW20S-08-F. No validation action was necessary because all of the results for selenium in the affected samples were reported by the laboratory as nondetected.

Results for samples RW-092201-01 and RW-092201-01-F were reported in this SDG. These samples did not require validation and were removed from this SDG as per the project manager.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method blanks.

Other Factors Affecting Data Quality: Potassium and sodium qualified due to ICP serial dilution noncompliance, affecting both the total and dissolved metals matrices. Silver was qualified due to MS noncompliance, affecting the total metals matrix. Cadmium, chromium, cobalt, copper, lead, silver, vanadium and zinc were qualified due to uncertainty near the IDL. The interfering analyte magnesium was present in several samples.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", February 1989 and the NFESC document entitled "Navy IRCDQM" (September 1999).

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

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

Erin M Faust

Tetra Tech NUS
Erin M. Faust
Environmental Scientist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

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

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

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

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	2LGW20S-08			2LGW20S-08-F			2WGW39DS-08			2WGW39DS-08-F		
SAMPLE DATE:	09/21/01			09/21/01			09/22/01			09/22/01		
LABORATORY ID:	N5965-05			N5965-08			N5965-14			N5965-15		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	63.1	J	A	30.0	UJ	A	30.0	UJ	A	30.0	UJ	A
ANTIMONY	5.0	U		5.0	U		5.0	U		5.0	U	
ARSENIC	8.9	U	A	6.4	U	A	5.0	U	A	4.7	U	A
BARIUM	51.6			54.4			85.5			139		
BERYLLIUM	1.0	U		1.0	U		1.0	U		1.0	U	
CADMIUM	0.30	U		0.30	U		0.30	U		0.30	U	
CALCIUM	22000			23000			41300			40800		
CHROMIUM	1.0	U		1.1	J	P	1.2	J	P	1.0	U	
COBALT	5.0	U		5.0	U		5.0	U		5.0	U	
COPPER	4.4	J	P	3.0	U		3.6	J	P	3.0	U	
IRON	10200			9800			8290			10800		
LEAD	3.0	U		3.0	U		5.0	J	P	3.0	U	
MAGNESIUM	4500			4870			8210			7260		
MANGANESE	625			638			877			959		
MERCURY	0.15	U	A	0.15	U	A	0.21	U	A	0.17	U	A
NICKEL	10.0	U		10.0	U		10.0	U		10.0	U	
POTASSIUM	4630	J	I	5840	J	I	13800	J	I	13900	J	I
SELENIUM	5.0	U		5.0	U		5.0	U		5.0	U	
SILVER	1.0	UR	D	1.0	U		1.0	UR	D	1.0	U	
SODIUM	48700	J	I	62300	J	I	284000	J	I	322000	J	I
THALLIUM	2.0	U		2.0	U		2.0	U		3.7	U	A
VANADIUM	7.4	U		7.4	U		7.4	U		7.4	U	
ZINC	41.1			33.0			27.8			33.0		

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	2WGW40DS-08			2WGW40DS-08-F			2WGW41DS-08			2WGW41DS-08-F		
SAMPLE DATE:	09/23/01			09/23/01			09/23/01			09/23/01		
LABORATORY ID:	N5965-18			N5965-19			N5965-20			N5965-21		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	30.0	UJ	A	30.0	UJ	A	203	J	A	30.0	UJ	A
ANTIMONY	5.0	U		5.0	U		5.0	U		5.0	U	
ARSENIC	15.1	U	A	8.5	U	A	11.3	U	A	13.1	U	A
BARIUM	68.7			69.8			38.9			56.3		
BERYLLIUM	1.0	U		1.0	U		1.0	U		1.0	U	
CADMIUM	0.30	UJ	K	0.30	UJ	K	0.30	UJ	K	0.30	UJ	K
CALCIUM	175000			169000			143000			173000		
CHROMIUM	3.5			2.2			6.7			16.2		
COBALT	5.0	U		5.0	U		5.0	U		5.0	U	
COPPER	3.0	U		3.0	U		3.0	U		3.0	U	
IRON	387			60.3	U	A	14000			142		
LEAD	3.0	U		3.0	U		3.0	U		3.0	U	
MAGNESIUM	622000			586000			475000			587000		
MANGANESE	103			125			333			190		
MERCURY	0.41	U	A	0.26	U	A	0.31	U	A	0.18	U	A
NICKEL	10.0	U		10.0	U		10.0	U		10.0	U	
POTASSIUM	363000	J	I	366000	J	I	289000	J	I	391000	J	I
SELENIUM	5.0	U		5.0	U		5.0	U		5.0	U	
SILVER	1.0	UR	D	1.0	U		1.4	J	DKP	1.0	U	
SODIUM	8360000	J	I	8200000	J	I	6540000	J	I	8730000	J	I
THALLIUM	2.1	U	A	2.7	U	A	6.0	U	A	2.0	UJ	K
VANADIUM	7.4	U		7.4	U		8.0	J	P	10.5	J	P
ZINC	4.8	J	P	4.0	U		9.3			4.0	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	3GW37S-08			3GW37S-08-F			DRMO-6MW10D-GW13			DRMO-6MW10S-GW13		
SAMPLE DATE:	09/22/01			09/22/01			09/21/01			09/21/01		
LABORATORY ID:	N5965-12			N5965-13			N5965-03			N5965-02		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	30.0	UJ	A	30.0	UJ	A	30.0	UJ	A	30.0	UJ	A
ANTIMONY	5.0	U		5.0	U		5.0	U		5.0	U	
ARSENIC	4.0	U		5.2	U	A	4.0	U		4.0	U	
BARIUM	117			117			2.1			149		
BERYLLIUM	1.0	U		1.0	U		1.0	U		1.0	U	
CADMIUM	0.30	U		0.30	U		0.30	U		0.30	UJ	K
CALCIUM	39700			35400			825			123000		
CHROMIUM	1.5	J	P	1.0	U		1.0	U		5.6		
COBALT	8.6	J	P	7.6	J	P	5.0	U		5.0	U	
COPPER	3.9	J	P	3.0	U		5.5	J	P	3.3	J	P
IRON	1140			1030			150			1580		
LEAD	3.0	U		3.0	U		3.3	J	P	3.0	U	
MAGNESIUM	15100			13700			960			257000		
MANGANESE	2390			2120			11.5			581		
MERCURY	0.20	U	A	0.19	U	A	0.17	U	A	0.18	U	A
NICKEL	10.0	U		10.0	U		10.0	U		10.0	U	
POTASSIUM	9330	J	I	10200	J	I	1080	J	I	155000	J	I
SELENIUM	5.0	U		5.0	U		5.0	U		5.0	U	
SILVER	1.0	UR	D	1.2	J	P	1.0	UR	D	1.0	UR	D
SODIUM	190000	J	I	206000	J	I	11200	J	I	3390000	J	I
THALLIUM	2.6	U	A	3.8	U	A	2.0	U		3.1	U	A
VANADIUM	7.4	U		7.4	U		10.6	J	P	15.8		
ZINC	29.3			18.3			278			20.5		

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	DRMO-6MW11D-GW13			DRMO-6MW11S-GW13			DRMO-6MW2D-GW13			DRMO-6MW2S-GW13		
SAMPLE DATE:	09/22/01			09/22/01			09/23/01			09/23/01		
LABORATORY ID:	N5965-24			N5965-23			N5965-25			N5965-26		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	107	J	A	30.0	UJ	A	175	J	A	30.0	UJ	A
ANTIMONY	5.0	U		5.0	U		5.0	U		5.0	U	
ARSENIC	11.4	U	A	4.0	U		4.0	U		4.0	U	
BARIUM	205			142			144			28.7		
BERYLLIUM	1.0	U		1.0	U		1.0	U		1.0	U	
CADMIUM	0.30	UJ	K	0.38	J	KP	0.30	UJ	K	0.30	UJ	K
CALCIUM	203000			130000			211000			197000		
CHROMIUM	1.0	U		1.0	U		7.9			1.0	U	
COBALT	5.0	U		5.0	U		5.0	U		5.0	U	
COPPER	9.5			5.4	J	P	3.0	U		3.0	U	
IRON	5600			219			2360			166		
LEAD	5.0	J	P	3.0	U		3.0	U		3.0	U	
MAGNESIUM	566000			329000			649000			656000		
MANGANESE	1110			347			567			63.3		
MERCURY	0.33	U	A	0.25	U	A	0.32	U	A	0.17	U	A
NICKEL	10.0	U		10.0	U		10.0	U		10.0	U	
POTASSIUM	306000	J	I	191000	J	I	369000	J	I	378000	J	I
SELENIUM	5.0	U		5.0	U		5.0	U		5.0	U	
SILVER	2.5	J	DK	1.0	UR	D	1.0	UR	D	1.0	UR	D
SODIUM	7380000	J	I	4370000	J	I	8540000	J	I	8870000	J	I
THALLIUM	4.6	U	A	2.3	U	A	2.1	U	A	2.4	U	A
VANADIUM	7.4	U		20.0			7.4	U		7.4	U	
ZINC	15.4			81.2			4.0	U		4.5	J	P

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	2LGW20S-08	2WGW39DS-08	2WGW40DS-08	2WGW41DS-08
SAMPLE DATE:	09/21/01	09/22/01	09/23/01	09/23/01
LABORATORY ID:	N5965-05	N5965-14	N5965-18	N5965-20
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)	70			160			1200			2000		
CHEMICAL OXYGEN DEMAND(MG/L)	5.0	U		5.0	U		660			540		
CHLORIDE(MG/L)	83			300			19000			15000		
HARDNESS(MG/L)	74			140			3000			2300		
SULFATE(MG/L)	2.0			1.0	U		980			230		
TOTAL DISSOLVED SOLIDS(MG/L)	240			690			22000			20000		
TOTAL ORGANIC CARBON(MG/L)	10			9.9			42			41		

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**C. RICH**	**DATE:**	**NOVEMBER 15, 2001**
FROM:	**ERIN M. FAUST**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS AND MISCELLANEOUS PARAMETERS**
CTO-816 NSB NEW LONDON
SAMPLE DELIVERY GROUP (SDG) – 5932

SAMPLES: 9/Aqueous/

2W-GW21S-08	2W-GW46DS-08	DRMO-6MW6D-GW-13
2W-GW47DS-08	4-GW01S-08	DRMO-6MW6S-GW-13
GWFD-091901-01	GWFD-092001-01	GWFD-092001-02

Overview

The sample set for CTO 816, NSB New London, SDG 5932, consists of nine (9) aqueous environmental samples. Five (5) field duplicate pairs (GWFD-091901-01 / 2W-GW21S-08, GWFD-091901-01-F / 2W-GW21S08-F, GWFD-092001-01 / 4-GW01S-08, GWFD-092001-01-F / 4-GW01S-08-F and GWFD-092001-02 / DRMO-6MW6S-GW-13) are included within this SDG.

All samples were analyzed for hardness, total organic carbon (TOC), chemical oxygen demand (COD), alkalinity, chloride, sulfate, total dissolved solids (TDS) and total and dissolved target analyte list (TAL) metals, with the exception of samples DRMO-6MW6D-GW-13 and DRMO-6MW6S-GW-13, which are analyzed for total TAL metals only. Samples designated –F were analyzed for dissolved metals. The samples were collected by TetraTech NUS on September 19 and 20, 2001 and analyzed by Chemtech Consulting Group under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses, with the exception of mercury, were conducted using Contract Laboratory Program (CLP) method ILM04.1. Mercury analyses were conducted using EPA method 245.1. Results for hardness were calculated using Standard Methods 18th ed. Method 2340B. Analyses for COD were conducted using the Hach 8000 Method. Analyses for TOC, alkalinity, chloride, sulfate and TDS were conducted using EPA methods 415.1, 310.1, 325.3, 375.4 and 160.1, respectively.

Metals analyses, with the exception of mercury, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA).

These data were evaluated based on the following parameters:

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

- ICP Serial Dilution Results
- Field Duplicate Results
- Sample Quantitation
- * Detection Limits

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

Laboratory Blank Analyses

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

Analyte	Maximum Concentration	Action Level
Aluminum	45.7 µg/L	228.5 µg/L
Antimony	5.9 µg/L	29.5 µg/L
Cadmium	0.50 µg/L	2.5 µg/L
Calcium	55.6 µg/L	278 µg/L
Iron	34.0 µg/L	170 µg/L
Magnesium	48.7 µg/L	243.5 µg/L
Mercury	0.20 µg/L	1.0 µg/L
Sodium	300.4 µg/L	1502 µg/L
Thallium	4.3 µg/L	21.5 µg/L

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. Positive results less than the action level reported for aluminum, antimony, iron and mercury were qualified "U" as a result of laboratory blank contamination.

ICP Interference Check Sample Results

The interfering analyte magnesium was present in samples 2W-GW21S-08, 2W-GW21S-08-F, 2W-GW46DS-08 and GWFD-091901-01-F at concentrations that were comparable to the level of magnesium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, cadmium and thallium were present in the ICS solution at concentrations that exceeded 2X the absolute value of the Instrument Detection Limit (IDL). Interference affects exist for antimony, cadmium and thallium in the affected samples. The nondetected results reported for these analytes were qualified as estimated, "UJ".

The interfering analyte magnesium was present in samples 2W-GW46DS-08-F and GWFD-091901-01 at concentrations that were comparable to the level of magnesium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, cadmium and thallium were present in the ICS solution at concentrations that exceeded 2X the absolute value of the Instrument Detection Limit (IDL). Interference affects exist for cadmium and thallium in the affected samples. The nondetected results reported for these analytes were qualified as estimated, "UJ".

Laboratory Duplicate Results

Laboratory duplicate imprecision (RPD>20%) was noted for sulfate. Positive results reported for sulfate were qualified as estimated, "J".

Laboratory duplicate imprecision (difference > CRDL) was noted for lead, affecting the dissolved metals matrix. Positive results reported for lead in the affected samples were qualified as estimated, "J".

ICP Serial Dilution Results

The ICP serial dilution percent differences for potassium and sodium were > 15% quality control limit, affecting the total metals matrix. Positive results reported for potassium and sodium in the affected samples were qualified as estimated, "J". A direction of bias could not be determined.

Field Duplicate Results

Field duplicate imprecision (RPD>30%) was noted for COD in the GWFD-091901-01 / 2WGW21S-08 sample pair. Positive results reported for COD in this sample pair only were qualified as estimated, "J".

Field duplicate imprecision (difference > CRDL) was noted for iron in the GWFD-091901-01-F / 2WGW21S-08-F sample pair. Positive results reported for iron in this sample pair only were qualified as estimated, "J".

Field duplicate imprecision (difference > CRDL) was noted for lead in the GWFD-092001-01 / 4-GW01S-08, GWFD-092001-01-F / 4-GW01S-08-F and GWFD-092001-02 / DRMO-6MW6S-GW-13 sample pairs. Positive and nondetected results reported for lead in these sample pairs only were qualified as estimated, "J" and "UJ", respectively.

Sample Quantitation

Due to uncertainty near the IDL, positive results less than two times the IDL reported for arsenic, chromium, cobalt, copper, lead, vanadium and zinc were qualified as estimated, "J".

Notes

The contract required detection limit (CRDL) percent recovery for thallium was >120% quality control limit, affecting the total metals matrix with the exception of sample GWFD-092001-02. No validation action was necessary because all of the results for thallium in the affected samples were reported by the laboratory as nondetected.

Hardness results for samples 4-GW01S-08 and 2W-GW47DS-08 were reported incorrectly by the laboratory. The data reviewer corrected the results to be entered into the database.

The Matrix Spike (MS) percent recovery for mercury was >125% quality control limit, affecting both the total and dissolved metals matrices. No validation action was necessary because all results for mercury were either reported as nondetected by the laboratory or were qualified "U" as a result of laboratory blank contamination.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method blanks. Laboratory duplicate imprecision was noted for sulfate and lead. The laboratory reported incorrect results for hardness in two samples.

Other Factors Affecting Data Quality: Potassium and sodium qualified due to ICP serial dilution noncompliance, affecting the total metals matrix. Arsenic, chromium, cobalt, copper, lead, vanadium and zinc were qualified due to uncertainty near the IDL. The interfering analyte magnesium was present in several samples. Field duplicate imprecision was noted for COD, iron and lead.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", February 1989 and the NFESC document entitled "Navy IRCDQM" (September 1999).

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

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

Tetra Tech NUS
Erin M. Faust
Environmental Scientist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

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

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

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

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	2WGW21S-08			2WGW21S-08-F			2WGW46DS-08			2WGW46DS-08-F		
SAMPLE DATE:	09/19/01			09/19/01			09/20/01			09/20/01		
LABORATORY ID:	N5932-02			N5932-03			N5932-07			N5932-08		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	46.3	U	A	30.0	U		30.0	U		30.0	U	
ANTIMONY	5.0	UJ	K	5.0	UJ	K	5.0	UJ	K	5.6	U	A
ARSENIC	5.5	J	P	4.0	U		10.1			29.8		
BARIUM	37.0			42.5			83.1			94.8		
BERYLLIUM	1.0	U		1.0	U		1.0	U		1.0	U	
CADMIUM	0.30	UJ	K	0.30	UJ	K	0.30	UJ	K	0.30	UJ	K
CALCIUM	119000			135000			232000			233000		
CHROMIUM	5.8			6.1			5.1			6.0		
COBALT	5.0	U		5.0	U		5.0	U		5.0	U	
COPPER	3.0	U		3.0	U		3.0	U		3.0	U	
IRON	9300			548	J	G	900			12.0	U	
LEAD	3.0	U		3.0	U		3.0	U		3.0	U	
MAGNESIUM	370000			423000			798000			804000		
MANGANESE	280			295			106			56.3		
MERCURY	0.08	U		0.08	U		0.08	U		0.16	U	A
NICKEL	10.0	U		10.0	U		10.0	U		10.0	U	
POTASSIUM	208000	J	I	234000			387000	J	I	398000		
SELENIUM	5.0	U		5.0	U		5.0	U		5.0	U	
SILVER	1.0	U		1.0	U		1.0	U		1.0	U	
SODIUM	4890000	J	I	5500000			9400000	J	I	9600000		
THALLIUM	2.0	UJ	K	2.0	UJ	K	2.0	UJ	K	2.0	UJ	K
VANADIUM	7.4	U		7.4	U		7.4	U		7.4	U	
ZINC	10.4			14.2			15.8			6.2	J	P

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	2WGW47DS-08			2WGW47DS-08-F			4GW01S-08			4GW01S-08-F		
SAMPLE DATE:	09/20/01			09/20/01			09/20/01			09/20/01		
LABORATORY ID:	N5932-09			N5932-10			N5932-11			N5932-12		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	235			30.5	U	A	63.7	U	A	81.2	U	A
ANTIMONY	5.0	U		5.3	U	A	5.0	U		5.0	U	
ARSENIC	10.7			11.0			4.0	U		4.0	U	
BARIUM	182			330			48.8			49.0		
BERYLLIUM	1.0	U		1.0	U		1.0	U		1.0	U	
CADMIUM	0.30	U		0.30	U		0.30	U		0.30	U	
CALCIUM	42500			42200			22400			22200		
CHROMIUM	2.9			1.6	J	P	1.1	J	P	1.1	J	P
COBALT	7.0	J	P	8.4	J	P	5.0	U		5.0	U	
COPPER	4.6	J	P	4.1	J	P	4.5	J	P	3.8	J	P
IRON	38200			46500			40.5	U	A	20.3	U	A
LEAD	3.0	U		3.7	J	FP	4.5	J	GP	3.0	UJ	G
MAGNESIUM	62800			55200			3100			3080		
MANGANESE	3460			4200			6.8			6.8		
MERCURY	0.09	U	A	0.08	U		0.08	U		0.17	U	A
NICKEL	10.0	U		10.0	U		10.0	U		10.0	U	
POTASSIUM	92100	J	I	83700			2970	J	I	3000		
SELENIUM	5.0	U		5.0	U		5.0	U		5.0	U	
SILVER	1.0	U		1.0	U		1.0	U		1.0	U	
SODIUM	1330000	J	I	1230000			31900	J	I	32100		
THALLIUM	2.0	U		2.0	U		2.0	U		2.0	U	
VANADIUM	7.4	U		7.4	U		7.4	U		7.4	U	
ZINC	26.8			35.0			39.2			40.1		

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	DRMO-6MW6D-GW13	DRMO-6MW6S-GW13	GWFD-091901-01	GWFD-091901-01-F
SAMPLE DATE:	09/20/01	09/20/01	09/19/01	09/19/01
LABORATORY ID:	N5932-17	N5932-16	N5932-04	N5932-05
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
UNITS:	UG/L	UG/L	UG/L	UG/L
FIELD DUPLICATE OF:			2WGW21S-08	2WGW21S-08-F

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	30.0	U		481			57.3	U	A	30.0	U	
ANTIMONY	5.0	U		5.0	U		5.4	U	A	5.0	UJ	K
ARSENIC	4.0	U		4.0	U		6.9	J	P	7.5	J	P
BARIUM	45.1			42.3			44.0			42.3		
BERYLLIUM	1.0	U		1.0	U		1.0	U		1.0	U	
CADMIUM	0.30	U		0.30	U		0.30	UJ	K	0.30	UJ	K
CALCIUM	66000			16300			141000			134000		
CHROMIUM	1.1	J	P	1.6	J	P	6.7			5.6		
COBALT	5.0	U		5.0	U		5.0	U		5.0	U	
COPPER	3.2	J	P	4.8	J	P	3.0	U		3.0	U	
IRON	3800			661			10200			175	J	G
LEAD	3.0	U		3.0	UJ	G	3.0	U		3.0	U	
MAGNESIUM	54200			3490			442000			420000		
MANGANESE	2530			12.7			325			290		
MERCURY	0.20	U	A	0.08	U	A	0.08	U		0.16	U	A
NICKEL	10.0	U		10.0	U		10.0	U		10.0	U	
POTASSIUM	32000	J	I	2910	J	I	254000	J	I	231000		
SELENIUM	5.0	U		5.0	U		5.0	U		5.0	U	
SILVER	1.0	U		1.0	U		1.0	U		1.0	U	
SODIUM	703000	J	I	40300	J	I	5950000	J	I	5400000		
THALLIUM	2.0	U		2.0	U		2.0	UJ	K	2.0	UJ	K
VANADIUM	7.4	U		7.4	U		8.1	J	P	7.4	U	
ZINC	33.7			28.1			13.6			19.1		

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	GWFD-092001-01			GWFD-092001-01-F			GWFD-092001-02					
SAMPLE DATE:	09/20/01			09/20/01			09/20/01			/ /		
LABORATORY ID:	N5932-13			N5932-14			N5932-20					
QC_TYPE:	NORMAL			NORMAL			NORMAL					
% SOLIDS:	0.0 %			0.0 %			0.0 %			100.0 %		
UNITS:	UG/L			UG/L			UG/L					
FIELD DUPLICATE OF:	4GW01S-08			4GW01S-08-F			DRMO-6MW6S-GW13					
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	59.1	U	A	63.1	U	A	411					
ANTIMONY	5.9	U	A	5.0	U		5.0	U				
ARSENIC	4.0	U		4.0	U		4.0	U				
BARIUM	47.7			49.0			41.5					
BERYLLIUM	1.0	U		1.0	U		1.0	U				
CADMIUM	0.30	U		0.30	U		0.30	U				
CALCIUM	21800			22100			16000					
CHROMIUM	6.5			1.1	J	P	1.9	J	P			
COBALT	5.0	U		5.0	U		5.0	U				
COPPER	4.4	J	P	5.6	J	P	4.0	J	P			
IRON	46.0	U	A	39.6	U	A	580					
LEAD	10.6	J	G	4.1	J	FGP	4.7	J	GP			
MAGNESIUM	3010			3070			3420					
MANGANESE	6.7			6.6			12.4					
MERCURY	0.08	U	A	0.14	U	A	0.18	U	A			
NICKEL	10.0	U		10.0	U		10.0	U				
POTASSIUM	2850	J	I	3040			2900	J	I			
SELENIUM	5.0	U		5.0	U		5.0	U				
SILVER	1.0	U		1.0	U		1.0	U				
SODIUM	30500	J	I	32100			40300	J	I			
THALLIUM	2.0	U		2.0	U		2.0	U				
VANADIUM	7.4	U		7.4	U		7.4	U				
ZINC	37.5			41.4			27.8					

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	2WGW21S-08	GWFD-091901-01	2WGW46DS-08	2WGW47DS-08
SAMPLE DATE:	09/19/01	09/19/01	09/20/01	09/20/01
LABORATORY ID:	N5932-02	N5932-04	N5932-07	N5932-09
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
FIELD DUPLICATE OF:		2WGW21S-08		

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)	1400			1500			1900			320		
CHEMICAL OXYGEN DEMAND(MG/L)	620	J	G	410	J	G	1400			43		
CHLORIDE(MG/L)	8800			8200			26000			1800		
HARDNESS(MG/L)	1800			2200			3900			360		
SULFATE(MG/L)	55	J	F	52	J	F	840	J	F	6	J	F
TOTAL DISSOLVED SOLIDS(MG/L)	15000			14000			30000			3000		
TOTAL ORGANIC CARBON(MG/L)	98			74			26			12		

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	4GW01S-08	GWFD-092001-01		
SAMPLE DATE:	09/20/01	09/20/01	/ /	/ /
LABORATORY ID:	N5932-11	N5932-13		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
FIELD DUPLICATE OF:		4GW01S-08		

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)	25			25								
CHEMICAL OXYGEN DEMAND(MG/L)	5.0	U		5.0	U							
CHLORIDE(MG/L)	34			36								
HARDNESS(MG/L)	69			67								
SULFATE(MG/L)	44	J	F	41	J	F						
TOTAL DISSOLVED SOLIDS(MG/L)	180			190								
TOTAL ORGANIC CARBON(MG/L)	3.9			4.3								

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **COREY RICH** **DATE: NOVEMBER 30, 2001**

FROM: **DOUGLAS SCHLOER** **COPIES: DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION: VOA / SVOA / PAH / PEST / PCB**
CTO: 816, NSB NEW LONDON
SDG: 5932

SAMPLES: 3 / Aqueous / VOA

TB-091901-01 TB-092001-01 TB-092001-02

9 / Aqueous / VOA / SVOA / PAH / PEST / PCB

2W-GW21S-08	2WGW46DS-08	2WGW47DS-08
4-GW01S-08	DRMO-6MW6D-GW-13	DRMO-6MW6S-GW-13
GWFD-091901-01	GWFD-092001-01	GWFD-092001-02

Overview

The sample set for the CTO 816, NSB New London, SDG 5932 consists of nine (9) groundwater environmental samples and three (3) aqueous field quality control samples. The field quality control samples were analyzed for TCL volatile organic compounds (VOC) only. All environmental samples were analyzed for volatile, semivolatile (SVOC), polynuclear aromatic hydrocarbons (PAHs), pesticides (PEST), and polychlorinated biphenyl (PCB) organic compounds. Three field duplicate pairs were included in this SDG: 2W-GW21S-08 and GWFD-091901-01; 4-GW01S-08 and GWFD-092001-01; DRMO-6MW6S-GW-13 and GWFD-092001-02.

The samples were collected by TetraTech NUS on September 19th and 20th, 2001 and were analyzed by Chemtech Analytical Services. Analyses were conducted using the Contract Laboratory Program (CLP) Statement of Work (SOW) OLC02.1 (volatile, semivolatile, pesticide and PCB), and the U.S. EPA Test Methods for Evaluating Solid Wastes (SW-846) Methods 8310 analytical and reporting protocols.

The data were evaluated based on the following parameters:

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

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

HOLDING TIMES

Sample extraction for the semivolatile fraction was conducted one and two days beyond the seven-day holding time requirement. Positive and nondetected results for all semivolatile compounds were qualified as estimated (J) and (UJ), respectively, in all samples.

Sample extraction for the PCB fraction was conducted one day beyond the seven-day holding time requirement. Only nondetected results were reported for all PCBs and these were qualified as estimated (UJ) in all samples.

CALIBRATIONS

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

Compound	IC 10/3/01	CC 10/3/01;17:37
Acetone	R	R
2-Butanone	R	R
2-Hexanone	RD	R
4-Methyl-2-pentanone	R	R
Chloroethane		RX
Methylene chloride		X
1,2-dichloropropane		X
1,2-Dibromo-3-chloropropane	R	RX
1,1,2,2-tetrachloroethane		X
Associated Samples:	All	2W-GW46DS-08
		2W-GW47DS-08
		4-GW01S-08
		DRMO-6MW6D-GW-13
		DRMO-6MW6S-GW-13
		GWFD-092001-01
		GWFD-092001-02
		TB-092001-01
		TB-092001-02

Compound	CC 10/4/01;17:15
2,2'-oxybis(1-chloropropane)	X
3&4-Methylphenol	X
4-Chloroaniline	X
2-Nitroaniline	X
3-Nitroaniline	X
4-Nitrophenol	X
4-Nitroaniline	X
Carbazole	X
3,3'-Dichlrobenzidine	X
Associated Samples:	GWFD-090901-01
	GWFD-092001-02
	2W-GW21S-08
	2W-GW46DS-08
	2W-GW47DS-08
	DRMO-6MW6D-GW-13

Compound	ICAL 10/2/01	CC 10/5/01;18:11	CC 10/6/01;10:47	CC 10/9/01;10:55	CC 10/9/01;16:51
Acenaphthene	D	X			
Fluorene		X	X	X	X
Phenanthrene		X			X
2-Methylnaphthalene		X			X
Fluoranthene			X	X	
Benzo(a)anthracene			X		
Chrysene			X		X
Pyrene					X
Associated Samples:	All	2WGW21S-08	2WGW21S-08	GWFD-092001-02	GWFD-092001-02
		2WGW46DS-08	2WGW46DS-08		
		2WGW47DS-08	2WGW47DS-08		
		4GW01S-08	4GW01S-08		
		DRMO-6MW6D-GW-13	DRMO-6MW6D-GW-13		
		DRMO-6MW6S-GW-13	DRMO-6MW6S-GW-13		
		GWFD-091901-01	GWFD-091901-01		
		GWFD-092001-01	GWFD-092001-01		

Calibration Actions:

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

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

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

BLANKS

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

Compound	Maximum Concentration	Action Level
Methylene chloride	0.9 µg/L	9 µg/L

Samples Affected: All
Blank Actions:

- Value < Contract Required Quantitation Limit (CRQL); report CRQL followed by a U.
- Value > CRQL and < action level; report value followed by a U.
- Value > CRQL and > action level; report value unqualified.

An action level of 10X the blank concentration was used to evaluate contamination for methylene chloride. Dilution factors and sample aliquots were taken into consideration prior to the application of all action levels. Field quality control blanks were not qualified due to method blank contamination or contamination in other field quality control blanks. Only nondetected results were reported for methylene chloride and these did not require qualification based on this noncompliance.

SURROGATE RECOVERY

Recovery of the base/neutral and acid surrogates nitrobenzene-d5, 2-fluorobiphenyl, phenol-d5, 2-fluorophenol, terphenyl-d14 and 2,4,6-tribromophenol fell below quality control limits (and were < 10%) for the analysis of sample DRMO-6MW6D-GW-13. Positive results were qualified as estimated (J) and nondetected results were rejected (R) for all base/neutral and acid fraction compounds.

Recovery of the base/neutral and acid surrogates nitrobenzene-d5, 2-fluorobiphenyl, phenol-d5, 2-fluorophenol, terphenyl-d14 and 2,4,6-tribromophenol fell below quality control limits (and were < 10%) for the MS analysis of sample DRMO-6MW6D-GW-13. No action was taken for the MS sample.

Recovery of the acid fraction surrogates phenol-d5, 2-fluorophenol and 2,4,6-tribromophenol fell below quality control limits (and were < 10%) for the MSD analysis of sample DRMO-6MW6D-GW-13. No action was taken for the MSD sample.

Recovery of the PAH surrogate Decachlorobiphenyl (DCB) exceeded the 10%-150% quality control limit for the analysis of sample 2WGW46DS-08. Positive and nondetected results were qualified as estimated (J) and (UJ), respectively.

Recovery of the pesticide surrogate Tetrachloro-m-xylene (TCX) exceeded the 60%-150% quality control limit on one analytical column (RTX-50) for the analysis of sample 2W-GW21S-08. However, since a 10X dilution was required for the analysis of this sample, no action was taken based on this noncompliance.

Recovery of the pesticide surrogate TCX exceeded the 60%-150% quality control limit on one analytical column (RTX-1701) for the analysis of sample 2S-GW46DS-08. No action was taken since the TCX recovery was complaint on the RTX-50 analytical column.

Recovery of the pesticide surrogate TCX exceeded the 60%-150% quality control limit on both analytical columns for the analysis of sample 2W-GW47DS-08. Only nondetected results were reported for all pesticide compounds and these were qualified as estimated (UJ).

Recovery of the pesticide surrogate TCX exceeded the 60%-150% quality control limit on both analytical columns for the analysis of sample GWFD-091901-01. Recovery of DCB also exceeded the 60%-150% quality control limit on one analytical column (RTX-1701). No action was taken since this sample required a 10X dilution for analysis.

Recovery of the pesticide surrogates TCX and/or Decachlorobiphenyl (DCB) exceeded the 60%-150% quality control limit on one or both analytical columns for the MS/MSD analysis of sample DRMO-6MW6D-GW-13. No action was taken based on this noncompliance.

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

The Relative Percent Difference (RPD) for trichloroethene exceeded the 14% quality control limit for the Matrix Spike / Matrix Spike Duplicate (MS/MSD) analysis of sample DRMO-6MW6D-GW-13. A positive result was reported for trichloroethene and this was qualified as estimated (J) in the unspiked sample DRMO-6MW6D-GW-13 only.

Recovery of phenol, 4-chloro-3-methylphenol, 4-nitrophenol and pentachlorophenol fell below quality control limits (and were < 10%) for the MS/MSD analysis of sample DRMO-6MW6D-GW-13. Recovery of 2-chlorophenol fell below quality control limits for the MS/MSD analysis of sample DRMO-6MW6D-GW-13. All matrix spike acid fraction compounds fell below quality control limits and/or 10%. In the professional judgement of the data reviewer, sample matrix interference has affected the recovery of the acid fraction compounds. Therefore, nondetected results for all acid fraction compounds were rejected in the unspiked sample DRMO-6MW6D-GW-13.

Recovery of fluorene fell below the 50%-150% quality control limit for the MS analysis of sample DRMO-6MW6D-GW-13. Only nondetected results were reported for fluorene and this was qualified as estimated (UJ) in the unspiked sample only.

The RPD for phenanthrene exceeded the 20% quality control limit for the MS/MSD analysis of sample DRMO-6MW6D-GW-13. Only nondetected results were reported for phenanthrene and this was qualified as estimated (UJ) in the unspiked sample only.

Recovery of the pesticide target compound Endosulfan Sulfate fell below the 50%-120% quality control limit for the MS/MSD analysis of sample DRMO-6MW6D-GW-13. Only nondetected results were reported for Endosulfan Sulfate and these were qualified as estimated (UJ) in the unspiked sample only.

FIELD DUPLICATE PRECISION

Field duplicate precision was evaluated for the duplicate pairs: 2W-GW21S-08 and GWFD-091901-01; 4-GW01S-08 and GWFD-092001-01; DRMO-6MW6S-GW-13 and GWFD-092001-02, by evaluating the RPD between positive results. The RPD exceeded the 20% quality control limit for positive results reported for carbon disulfide and these were qualified as estimated (J), the field duplicate pair 2W-GW21S-08 and GWFD-091901-01, due to field duplicate imprecision.

The RPD exceeded the 20% quality control limit for positive results reported for trichloroethene and these were qualified as estimated (J) in the field duplicate pair DRMO-6MW6S-GW-13 and GWFD-092001-02 due to field duplicate imprecision.

The RPD exceeded the 20% quality control limit for positive results reported for bis(2-ethylhexyl)phthalate and these were qualified as estimated (J) in the field duplicate pair 4-GW01S-08 and GWFD-092001-01, due to field duplicate imprecision.

COMPOUND QUANTITATION

Due to the presence of acenaphthene, pyrene and 2-methylnaphthalene at concentrations that exceeded the linear range of the instrument calibration, sample 2WGW46DS-08 was re-analyzed at a 1000X dilution. Positive results for the aforementioned compounds were transposed onto the Electronic Data Deliverable (EDD) from the 1000X dilution and the remaining compounds were reported from the undiluted sample analysis.

The pesticide fraction of samples 2W-GW21S-08 and GWFD-091901-01 were analyzed and reported at a 10X dilution. The laboratory did not analyze the samples undiluted. This account for the elevated reporting limits for these samples.

The percent Difference (%D) between analytical columns exceeded 25% for positive results reported in the samples outlined in the table that follows. Positive results were qualified as estimated (UJ) for %Ds that exceeded 25% and were rejected (R) if %Ds exceeded 100%.

Sample	Compound	%D	Qual
2W-GW47DS-08	4,4'-DDD	154.5	R
GWFD-091901-01	4,4'-DDE	109.3	R

TENTATIVELY INDENTIFIED COMPOUNDS

Sulfur dioxide and several unknown compounds were tentatively identified in the volatile fraction samples.

Numerous TICs were identified in the semivolatile fraction of all samples (see Table 2).

ADDITIONAL COMMENTS

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

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

The OLC02.1 volatile compounds 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene and 1,4-dichlorobenzene were reported in the semivolatile fraction of this SDG. Since these compounds are on the CLP OLC02.1 volatile target compound list, they were removed from the semivolatile database.

Nondetected results for the PAH and pesticide fractions were reported by the laboratory at the method detection limit "MDL". However, after correspondence with laboratory chemists at Chemtech Inc., it was determined that the value reported on the sample Form Is is actually the sample reporting limit (RL). The reviewer requested that the laboratory resubmit corrected sample Form Is.

Transcription errors were observed for sample identifications between the EDDs and Form Is. Several data completeness issues were noted.

OVERALL ASSESSMENT

Laboratory Performance: Initial and continuing calibration of several volatile, semivolatile and PAH compounds failed to meet quality control criteria, resulting in the qualification of analytical data. Transcription errors were observed for sample identifications between EDDs and Form Is. Several data completeness issues were noted. The %D between analytical columns exceeded the quality control criteria for several positive pesticide results, resulting in the rejection of analytical data.

Other Factors Affecting Data Quality: Noncompliances (% recoveries and %RPDs) were observed for the MS/MSD analysis of sample DRMO-6MW6D-GW-13, resulting in the qualification of analytical data.

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

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

TetraTech NUS

Douglas S. Schloer
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

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

NEW LONDON NSB

SDG 5986

TABLE I. Summary of Tentatively Identified Volatile Compounds

TIC	2W-GW21S-08	2W-GW46DS-08	2W-GW47DS-08	4-GW01S-08	DRMO-6MW6D-GW-13	DRMO-6MW6S-GW-13
Unknown				X	X	
Sulfur dioxide	X	X	X			X
	GWFD-091901-01	GWFD-092001-01				
Unknown						
Sulfur dioxide	X	X				
Methane, chlorofluoro						

NEW LONDON NSB

SDG 5986

TABLE II. Summary of Tentatively Identified Semivolatile Compounds

TIC	2W-GW21S-08	2W-GW46DS-08	2W-GW47DS-08	4-GW01S-08	DRMO-6MW6D-GW-13	DRMO-6MW6S-GW-13
Lenthionine		X				
Hexthiepane		X				
1,4-Cyclohexanedione					X	
Unknown			X		X	
Sulfur,mol(S8)		X	X			
(3H,6H)Thieno[3,4-c]isoxaol					X	
Sulfur	X	X	X			
4-Fluoro-3-nitrophenol					X	
2-Norbornanone					X	
Tetradecanoic acid				X	X	
3-Hexadecanol						X
3-Hexadecanol					X	X
Decanoic acid						X

TIC	GWFD-091901-01	GWFD-092001-01	GWFD-092001-02
Propane,1,1-dimethoxy-2-meth		X	
1,2-Benzenedicarboxylic acid		X	
3-Hexadecanol			X
Unknown	X		X
Tetratetracontane			X
N,N'-bis(pentamethylene)thiu	X		
Sulfur	X		
ACP		X	X
Nonadecane			X
Tetradecanoic acid		X	X
Hexadecane			X
Butyl hexadecanoate			X

Decanoic acid		X			X
Carotene,7,7',8					
3-Tetradecanol					
Lenthionine					
Cyclopentadecanone,2-hydrox	X				
14-Pentadecanoic acid			X		
Hexadecanamide					
Dodecanamide					
Tetradecane					
4-Nonylphenol					
Glycine,N-methyl-n-(1-oxodo					
1,2-Benzenedicarboxylic acid					
3-Eicosane					
1-Octadecanol					X
Ethane,1,1,2,2-tetrachloro	X	X	X		
Benzaldehyde	X	X			
Methane,dibromodichloro	X				
Hexadecanoic acid,bis(2-ethy	X				
Methyl(Z)-5,11,14,17-eicosa		X		X	
10-Methylnonadecane			X		
9-Octadedenamide	X				

NSB NEW LONDON-CTO816
FIELD DUPLICATE EVALUATION

SDG		5932	5932		5932	5932	
FRACTION	COMPOUND	2W-GW21S-08 RESULT ug/L	GWFD-091901-01 RESULT ug/L	RPD	4-GW-01S-08 RESULT ug/L	GWFD-092001-01 RESULT ug/L	RPD
VOA							
	Carbon Disulfide	4.7	1.7	93.8	ND	ND	NC
	Trichloroethene	1.3	ND	NC	ND	0.9	NC
	Cis-1,2-dichloroethene	ND	ND	NC	ND	ND	NC
SVOA							
	Bis-(2-ethylhexyl)phthalate	2.1 J	ND	NC	3 J	7.9	89.9
PAH							
	Anthracene	ND	ND	NC	0.13	ND	NC
	Fluoranthene	ND	ND	NC	0.19	ND	NC
	Acenaphthylene	ND	ND	NC	ND	ND	NC
	Fluoranthene	ND	ND	NC	ND	ND	NC
PEST/PCB							
	4,4'-DDD	2.7	2.4	11.8	ND	ND	NC

ND = Compound not detected.
NC = RPD not calculated.
J = amount is estimated.
Shading indicates that the RPD exceeded the 20% quality control limit.

NSB NEW LONDON-CTO816
FIELD DUPLICATE EVALUATION

SDG		5932	5932	
FRACTION	COMPOUND	DRMO-6MW6S-GW-13 RESULT ug/L	GWFD-092001-02 RESULT ug/L	RPD
VOA				
	Carbon Disulfide	0.8 J	0.7 J	NC
	Trichloroethene	7.2	0.6 J	169.2
	Cis-1,2-dichloroethene	4.7	ND	NC
SVOA				
	Bis-(2-ethylhexyl)phthalate	5.9	ND	NC
PAH				
	Anthracene	ND	ND	NC
	Fluoranthene	ND	ND	NC
	Acenaphthylene	0.02	ND	NC
	Fluoranthene	0.13	0.14	7.4
PEST/PCB				
	4,4'-DDD	ND	ND	NC

ND = Compound not detected.
NC = RPD not calculated.
J = amount is estimated.
Shading indicates that the RPD exceeded the 20%

APPENDIX A

QUALIFIED LABORATORY RESULTS

Qualifier Codes:

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

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	2WGW21S-08			2WGW46DS-08			2WGW47DS-08			4GW01S-08		
SAMPLE DATE:	09/19/01			09/20/01			09/20/01			09/20/01		
LABORATORY ID:	N5932-02			N5932-07			N5932-09			N5932-11		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	1	U		1	UJ	C	1	UJ	C	1	UJ	C
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHENE	1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C	1	UR	C	1	UR	C	1	UR	C
1,2-DIBROMOETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE	1	U		1	UJ	C	1	UJ	C	1	UJ	C
1,3-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
2-BUTANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
2-HEXANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
4-METHYL-2-PENTANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
ACETONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
BENZENE	1	U		1	U		1	U		1	U	
BROMOCHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMOFORM	1	U		1	U		1	U		1	U	
BROMOMETHANE	1	U		1	U		1	U		1	U	
CARBON DISULFIDE	4.7	J	G	2.5			1			1	U	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	U		1	UR	C	1	UR	C	1	UR	C
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	2WGW21S-08			2WGW46DS-08			2WGW47DS-08			4GW01S-08		
SAMPLE DATE:	09/19/01			09/20/01			09/20/01			09/20/01		
LABORATORY ID:	N5932-02			N5932-07			N5932-09			N5932-11		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
M+P-XYLENES	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		2	UJ	C	2	UJ	C	2	UJ	C
O-XYLENE	1	U		1	U		1	U		1	U	
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		1	U	
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	1.3			1	U		1	U		1	U	
VINYL CHLORIDE	1	U		1	U		1	U		1	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	DRMO-6MW6D-GW13			DRMO-6MW6S-GW13			GWFD-091901-01			GWFD-092001-01		
SAMPLE DATE:	09/20/01			09/20/01			09/19/01			09/20/01		
LABORATORY ID:	N5932-17			N5932-16			N5932-04			N5932-13		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:							2W-GW21S-08			4-GW21S-08		
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	1	UJ	C	1	UJ	C	1	U		1	UJ	C
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHENE	1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C	1	UR	C	1	UR		1	UR	C
1,2-DIBROMOETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE	1	UJ	C	1	UJ	C	1	U		1	UJ	C
1,3-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
2-BUTANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
2-HEXANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
4-METHYL-2-PENTANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
ACETONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
BENZENE	1	U		1	U		1	U		1	U	
BROMOCHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMOFORM	1	U		1	U		1	U		1	U	
BROMOMETHANE	1	U		1	U		1	U		1	U	
CARBON DISULFIDE	0.8	J	P	0.7	J	P	1.7	J	G	1	U	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	UR	C	1	UR	C	1	U		1	UR	C
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	4.7			1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	DRMO-6MW6D-GW13			DRMO-6MW6S-GW13			GWFD-091901-01			GWFD-092001-01		
SAMPLE DATE:	09/20/01			09/20/01			09/19/01			09/20/01		
LABORATORY ID:	N5932-17			N5932-16			N5932-04			N5932-13		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:							2W-GW21S-08			4-GW21S-08		
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
M+P-XYLENES	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	UJ	C	2	UJ	C	2	U		2	UJ	C
O-XYLENE	1	U		1	U		1	U		1	U	
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		1	U	
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	7.2	J	DG	1	U		1	U		0.9	J	P
VINYL CHLORIDE	1	U		1	U		1	U		1	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	GWFD-092001-02			TB-091901-01			TB-092001-01			TB-092001-02		
SAMPLE DATE:	09/20/01			09/19/01			09/20/01			09/20/01		
LABORATORY ID:	N5932-20			N5932-01			N5932-06			N5932-15		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:	DRMO-6MW6S-GW13											
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	1	UJ	C	1	U		1	UJ	C	1	UJ	C
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHENE	1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C	1	UR	C	1	UR	C	1	UR	C
1,2-DIBROMOETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE	1	UJ	C	1	U		1	UJ	C	1	UJ	C
1,3-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
2-BUTANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
2-HEXANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
4-METHYL-2-PENTANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
ACETONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
BENZENE	1	U		1	U		1	U		1	U	
BROMOCHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMOFORM	1	U		1	U		1	U		1	U	
BROMOMETHANE	1	U		1	U		1	U		1	U	
CARBON DISULFIDE	0.7	J	P	1	U		1	U		1	U	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	UR	C	1	U		1	UR	C	1	UR	C
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	GWFD-092001-02			TB-091901-01			TB-092001-01			TB-092001-02		
SAMPLE DATE:	09/20/01			09/19/01			09/20/01			09/20/01		
LABORATORY ID:	N5932-20			N5932-01			N5932-06			N5932-15		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:	DRMO-6MW6S-GW13											
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
M+P-XYLENES	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	UJ	C	2	U		0.9	J	CP	2	UJ	C
O-XYLENE	1	U		1	U		1	U		1	U	
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		1	U	
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	0.6	J	GP	1	U		1	U		1	U	
VINYL CHLORIDE	1	U		1	U		1	U		1	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	2WGW21S-08			2WGW46DS-08			2WGW47DS-08			4GW01S-08		
SAMPLE DATE:	09/19/01			09/20/01			09/20/01			09/20/01		
LABORATORY ID:	N5932-02			N5932-07			N5932-09			N5932-11		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
2,2'-OXYBIS(1-CHLOROPROPANE)	5	UJ	CH	5.1	UJ	CH	5	UJ	CH	5	UJ	H
2,4,5-TRICHLOROPHENOL	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
2,4,6-TRICHLOROPHENOL	20	UJ	H	20	UJ	H	20	UJ	H	20	UJ	H
2,4-DICHLOROPHENOL	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
2,4-DIMETHYLPHENOL	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
2,4-DINITROPHENOL	20	UJ	H	20	UJ	H	20	UJ	H	20	UJ	H
2,4-DINITROTOLUENE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
2,6-DINITROTOLUENE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
2-CHLORONAPHTHALENE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
2-CHLOROPHENOL	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
2-METHYLPHENOL	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
2-NITROANILINE	20	UJ	CH	20	UJ	CH	20	UJ	CH	20	UJ	H
2-NITROPHENOL	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
3&4-METHYLPHENOL	5	UJ	CH	5.1	UJ	CH	5	UJ	CH	5	UJ	H
3,3'-DICHLOROBENZIDINE	5	UJ	CH	5.1	UJ	CH	5	UJ	CH	5	UJ	H
3-NITROANILINE	20	UJ	CH	20	UJ	CH	20	UJ	CH	20	UJ	H
4,6-DINITRO-2-METHYLPHENOL	20	UJ	H	20	UJ	H	20	UJ	H	20	UJ	H
4-BROMOPHENYL PHENYL ETHER	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
4-CHLORO-3-METHYLPHENOL	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
4-CHLOROANILINE	5	UJ	CH	5.1	UJ	CH	5	UJ	CH	5	UJ	H
4-CHLOROPHENYL PHENYL ETHER	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
4-NITROANILINE	20	UJ	CH	20	UJ	CH	20	UJ	CH	20	UJ	H
4-NITROPHENOL	20	UJ	CH	20	UJ	CH	20	UJ	CH	20	UJ	H
BENZOIC ACID	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
BIS(2-CHLOROETHOXY)METHANE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
BIS(2-CHLOROETHYL)ETHER	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
BIS(2-ETHYLHEXYL)PHTHALATE	2.1	J	HP	5.1	UJ	H	6.3	J	H	3	J	GHP
BUTYL BENZYL PHTHALATE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
CARBAZOLE	5	UJ	CH	5.1	UJ	CH	5	UJ	CH	5	UJ	H
DI-N-BUTYL PHTHALATE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
DI-N-OCTYL PHTHALATE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
DIBENZOFURAN	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	2WGW21S-08			2WGW46DS-08			2WGW47DS-08			4GW01S-08		
SAMPLE DATE:	09/19/01			09/20/01			09/20/01			09/20/01		
LABORATORY ID:	N5932-02			N5932-07			N5932-09			N5932-11		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
DIETHYL PHTHALATE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
DIMETHYL PHTHALATE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
HEXACHLOROBENZENE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
HEXACHLOROBUTADIENE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
HEXACHLOROCYCLOPENTADIENE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
HEXACHLOROETHANE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
ISOPHORONE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
N-NITROSO-DI-N-PROPYLAMINE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
N-NITROSODIPHENYLAMINE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
NITROBENZENE	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H
PENTACHLOROPHENOL	20	UJ	H	20	UJ	H	20	UJ	H	20	UJ	H
PHENOL	5	UJ	H	5.1	UJ	H	5	UJ	H	5	UJ	H

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	DRMO-6MW6D-GW13			DRMO-6MW6S-GW13			GWFD-091901-01			GWFD-092001-01		
SAMPLE DATE:	09/20/01			09/20/01			09/19/01			09/20/01		
LABORATORY ID:	N5932-17			N5932-16			N5932-04			N5932-13		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:							2W-GW21S-08			4-GW21S-08		
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
2,2'-OXYBIS(1-CHLOROPROPANE)	5	UR	R	5	UJ	H	5	UJ	CH	5	UJ	H
2,4,5-TRICHLOROPHENOL	5	UR	DR	5	UJ	H	5	UJ	H	5	UJ	H
2,4,6-TRICHLOROPHENOL	20	UR	DR	20	UJ	H	20	UJ	H	20	UJ	H
2,4-DICHLOROPHENOL	5	UR	DR	5	UJ	H	5	UJ	H	5	UJ	H
2,4-DIMETHYLPHENOL	5	UR	DR	5	UJ	H	5	UJ	H	5	UJ	H
2,4-DINITROPHENOL	20	UR	DR	20	UJ	H	20	UJ	H	20	UJ	H
2,4-DINITROTOLUENE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
2,6-DINITROTOLUENE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
2-CHLORONAPHTHALENE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
2-CHLOROPHENOL	5	UR	DR	5	UJ	H	5	UJ	H	5	UJ	H
2-METHYLPHENOL	5	UR	DR	5	UJ	H	5	UJ	H	5	UJ	H
2-NITROANILINE	20	UR	R	20	UJ	H	20	UJ	CH	20	UJ	H
2-NITROPHENOL	5	UR	DR	5	UJ	H	5	UJ	H	5	UJ	H
3&4-METHYLPHENOL	5	UR	R	5	UJ	H	5	UJ	CH	5	UJ	H
3,3'-DICHLOROBENZIDINE	5	UR	R	5	UJ	H	5	UJ	CH	5	UJ	H
3-NITROANILINE	20	UR	R	20	UJ	H	20	UJ	CH	20	UJ	H
4,6-DINITRO-2-METHYLPHENOL	20	UR	DR	20	UJ	H	20	UJ	H	20	UJ	H
4-BROMOPHENYL PHENYL ETHER	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
4-CHLORO-3-METHYLPHENOL	5	UR	DR	5	UJ	H	5	UJ	H	5	UJ	H
4-CHLOROANILINE	5	UR	R	5	UJ	H	5	UJ	CH	5	UJ	H
4-CHLOROPHENYL PHENYL ETHER	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
4-NITROANILINE	20	UR	DR	20	UJ	H	20	UJ	CH	20	UJ	H
4-NITROPHENOL	20	UR	R	20	UJ	H	20	UJ	CH	20	UJ	H
BENZOIC ACID	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
BIS(2-CHLOROETHOXY)METHANE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
BIS(2-CHLOROETHYL)ETHER	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
BIS(2-ETHYLHEXYL)PHTHALATE	5.9	J	R	5	UJ	H	5	UJ	H	7.9	J	GH
BUTYL BENZYL PHTHALATE	5	UR	H	5	UJ	H	5	UJ	H	5	UJ	H
CARBAZOLE	5	UR	R	5	UJ	H	5	UJ	CH	5	UJ	H
DI-N-BUTYL PHTHALATE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
DI-N-OCTYL PHTHALATE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
DIBENZOFURAN	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H

SAMPLE NUMBER:	DRMO-6MW6D-GW13			DRMO-6MW6S-GW13			GWFD-091901-01			GWFD-092001-01		
SAMPLE DATE:	09/20/01			09/20/01			09/19/01			09/20/01		
LABORATORY ID:	N5932-17			N5932-16			N5932-04			N5932-13		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:							2W-GW21S-08			4-GW21S-08		
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
DIETHYL PHTHALATE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
DIMETHYL PHTHALATE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
HEXACHLOROBENZENE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
HEXACHLOROBUTADIENE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
HEXACHLOROCYCLOPENTADIENE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
HEXACHLOROETHANE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
ISOPHORONE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
N-NITROSO-DI-N-PROPYLAMINE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
N-NITROSODIPHENYLAMINE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
NITROBENZENE	5	UR	R	5	UJ	H	5	UJ	H	5	UJ	H
PENTACHLOROPHENOL	20	UR	DR	20	UJ	H	20	UJ	H	20	UJ	H
PHENOL	5	UR	DR	5	UJ	H	5	UJ	H	5	UJ	H

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CHEMTECH CONSULTING GROUP
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SAMPLE NUMBER:	GWFD-092001-02											
SAMPLE DATE:	09/20/01			/ /			/ /			/ /		
LABORATORY ID:	N5932-20											
QC_TYPE:	NORMAL											
% SOLIDS:	0.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	UG/L											
FIELD DUPLICATE OF:	DRMO-6MW6S-GW13											
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
2,2'-OXYBIS(1-CHLOROPROPANE)	5	UJ	CH									
2,4,5-TRICHLOROPHENOL	5	UJ	H									
2,4,6-TRICHLOROPHENOL	20	UJ	H									
2,4-DICHLOROPHENOL	5	UJ	H									
2,4-DIMETHYLPHENOL	5	UJ	H									
2,4-DINITROPHENOL	20	UJ	H									
2,4-DINITROTOLUENE	5	UJ	H									
2,6-DINITROTOLUENE	5	UJ	H									
2-CHLORONAPHTHALENE	5	UJ	H									
2-CHLOROPHENOL	5	UJ	H									
2-METHYLPHENOL	5	UJ	H									
2-NITROANILINE	20	UJ	CH									
2-NITROPHENOL	5	UJ	H									
3&4-METHYLPHENOL	5	UJ	CH									
3,3'-DICHLOROBENZIDINE	5	UJ	CH									
3-NITROANILINE	20	UJ	CH									
4,6-DINITRO-2-METHYLPHENOL	20	UJ	H									
4-BROMOPHENYL PHENYL ETHER	5	UJ	H									
4-CHLORO-3-METHYLPHENOL	5	UJ	H									
4-CHLOROANILINE	5	UJ	CH									
4-CHLOROPHENYL PHENYL ETHER	5	UJ	H									
4-NITROANILINE	20	UJ	CH									
4-NITROPHENOL	20	UJ	CH									
BENZOIC ACID	5	UJ	H									
BIS(2-CHLOROETHOXY)METHANE	5	UJ	H									
BIS(2-CHLOROETHYL)ETHER	5	UJ	H									
BIS(2-ETHYLHEXYL)PHTHALATE	5	UJ	H									
BUTYL BENZYL PHTHALATE	5	UJ	H									
CARBAZOLE	5	UJ	CH									
DI-N-BUTYL PHTHALATE	5	UJ	H									
DI-N-OCTYL PHTHALATE	5	UJ	H									
DIBENZOFURAN	5	UJ	H									

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WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	GWFD-092001-02											
SAMPLE DATE:	09/20/01			/ /			/ /			/ /		
LABORATORY ID:	N5932-20											
QC_TYPE:	NORMAL											
% SOLIDS:	0.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	UG/L											
FIELD DUPLICATE OF:	DRMO-6MW6S-GW13											
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
DIETHYL PHTHALATE	5	UJ	H									
DIMETHYL PHTHALATE	5	UJ	H									
HEXACHLOROBENZENE	5	UJ	H									
HEXACHLOROBUTADIENE	5	UJ	H									
HEXACHLOROCYCLOPENTADIENE	5	UJ	H									
HEXACHLOROETHANE	5	UJ	H									
ISOPHORONE	5	UJ	H									
N-NITROSO-DI-N-PROPYLAMINE	5	UJ	H									
N-NITROSODIPHENYLAMINE	5	UJ	H									
NITROBENZENE	5	UJ	H									
PENTACHLOROPHENOL	20	UJ	H									
PHENOL	5	UJ	H									

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CHEMTECH CONSULTING GROUP
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SAMPLE NUMBER:	2WGW21S-08			2WGW46DS-08			2WGW47DS-08			4GW01S-08		
SAMPLE DATE:	09/19/01			09/20/01			09/20/01			09/20/01		
LABORATORY ID:	N5932-02			N5932-07			N5932-09			N5932-11		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	0.5	U		0.5	UJ	R	0.5	U		0.5	U	
2-METHYLNAPHTHALENE	0.5	UJ	C	180	J	CR	0.5	UJ	C	0.5	UJ	C
ACENAPHTHENE	0.016	UJ	C	82	J	CR	0.016	UJ	C	0.016	UJ	C
ACENAPHTHYLENE	0.013	U		2.7	J	R	0.013	U		0.013	U	
ANTHRACENE	0.03	U		0.03	UJ	R	0.03	U		0.13		
BENZO(A)ANTHRACENE	0.012	UJ	C	0.012	UJ	CR	0.012	UJ	C	0.012	UJ	C
BENZO(A)PYRENE	0.021	U		0.021	UJ	R	0.021	U		0.021	U	
BENZO(B)FLUORANTHENE	0.02	U		0.02	UJ	R	0.02	U		0.02	U	
BENZO(G,H,I)PERYLENE	0.009	U		0.009	UJ	R	0.009	U		0.009	U	
BENZO(K)FLUORANTHENE	0.02	U		0.02	UJ	R	0.02	U		0.02	U	
CHRYSENE	0.012	UJ	C	0.012	UJ	CR	0.012	UJ	C	0.012	UJ	C
DIBENZO(A,H)ANTHRACENE	0.014	U		0.014	UJ	R	0.014	U		0.014	U	
FLUORANTHENE	0.009	UJ	C	0.009	UJ	CR	0.009	UJ	C	0.19	J	C
FLUORENE	0.007	UJ	C	0.007	UJ	CR	0.007	UJ	C	0.007	UJ	C
INDENO(1,2,3-CD)PYRENE	0.008	U		0.008	UJ	R	0.008	U		0.008	U	
NAPHTHALENE	0.008	U		0.008	UJ	R	0.008	U		0.008	U	
PHENANTHRENE	0.004	UJ	C	0.004	UJ	CR	0.004	UJ	C	0.004	UJ	C
PYRENE	0.008	U		400	J	R	0.008	U		0.008	U	

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WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	DRMO-6MW6D-GW13			DRMO-6MW6S-GW13			GWFD-091901-01			GWFD-092001-01		
SAMPLE DATE:	09/20/01			09/20/01			09/19/01			09/20/01		
LABORATORY ID:	N5932-17			N5932-16			N5932-04			N5932-13		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:							2W-GW21S-08			4-GW21S-08		
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	0.5	U		0.5	U		0.5	U		0.5	U	
2-METHYLNAPHTHALENE	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C
ACENAPHTHENE	0.016	UJ	C	0.016	UJ	C	0.016	U		0.016	U	
ACENAPHTHYLENE	0.02			0.013	U		0.013	U		0.013	U	
ANTHRACENE	0.03	U		0.03	U		0.03	U		0.14		
BENZO(A)ANTHRACENE	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C
BENZO(A)PYRENE	0.021	U		0.021	U		0.021	U		0.021	U	
BENZO(B)FLUORANTHENE	0.02	U		0.02	U		0.02	U		0.02	U	
BENZO(G,H,I)PERYLENE	0.009	U		0.009	U		0.009	U		0.009	U	
BENZO(K)FLUORANTHENE	0.02	U		0.02	U		0.02	U		0.02	U	
CHRYSENE	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C
DIBENZO(A,H)ANTHRACENE	0.014	U		0.014	U		0.014	U		0.014	U	
FLUORANTHENE	0.13	J	C	0.15	J	C	0.009	UJ	C	0.009	UJ	C
FLUORENE	0.007	UJ	CD	0.007	UJ	CD	0.007	UJ	C	0.007	UJ	C
INDENO(1,2,3-CD)PYRENE	0.008	U		0.008	U		0.008	U		0.008	U	
NAPHTHALENE	0.008	U		0.008	U		0.008	U		0.008	U	
PHENANTHRENE	0.004	UJ	CD	0.004	UJ	CD	0.004	UJ	C	0.004	UJ	C
PYRENE	0.008	U		0.008	U		0.008	U		0.008	U	

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WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	GWFD-092001-02											
SAMPLE DATE:	09/20/01			/ /			/ /			/ /		
LABORATORY ID:	N5932-20											
QC_TYPE:	NORMAL											
% SOLIDS:	0.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	UG/L											
FIELD DUPLICATE OF:	DRMO-6MW6S-GW13											
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	0.5	U										
2-METHYLNAPHTHALENE	0.5	UJ	C									
ACENAPHTHENE	0.016	U										
ACENAPHTHYLENE	0.013	U										
ANTHRACENE	0.03	U										
BENZO(A)ANTHRACENE	0.012	UJ	C									
BENZO(A)PYRENE	0.021	U										
BENZO(B)FLUORANTHENE	0.02	U										
BENZO(G,H,I)PERYLENE	0.009	U										
BENZO(K)FLUORANTHENE	0.02	U										
CHRYSENE	0.012	UJ	C									
DIBENZO(A,H)ANTHRACENE	0.014	U										
FLUORANTHENE	0.14	J	C									
FLUORENE	0.007	UJ	C									
INDENO(1,2,3-CD)PYRENE	0.008	U										
NAPHTHALENE	0.008	U										
PHENANTHRENE	0.004	UJ	C									
PYRENE	0.008	UJ	C									

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WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	2WGW21S-08			2WGW46DS-08			2WGW47DS-08			4GW01S-08		
SAMPLE DATE:	09/19/01			09/20/01			09/20/01			09/20/01		
LABORATORY ID:	N5932-02			N5932-07			N5932-09			N5932-11		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	2.7			0.020	U		0.011	R	U	0.020	U	
4,4'-DDE	0.20	U		0.020	U		0.020	UJ	R	0.020	U	
4,4'-DDT	0.20	U		0.020	U		0.020	UJ	R	0.020	U	
ALDRIN	0.10	U		0.010	U		0.010	UJ	R	0.010	U	
ALPHA-BHC	0.10	U		0.010	U		0.010	UJ	R	0.010	U	
ALPHA-CHLORDANE	0.10	U		0.010	U		0.010	UJ	R	0.010	U	
AROCLOR-1016	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1221	0.40	UJ	H	0.40	UJ	H	0.40	UJ	H	0.40	UJ	H
AROCLOR-1232	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1242	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1248	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1254	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1260	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
BETA-BHC	0.10	U		0.010	U		0.010	UJ	R	0.010	U	
DELTA-BHC	0.10	U		0.010	U		0.010	UJ	R	0.010	U	
DIELDRIN	0.20	U		0.020	U		0.020	UJ	R	0.020	U	
ENDOSULFAN I	0.10	U		0.010	U		0.010	UJ	R	0.010	U	
ENDOSULFAN II	0.20	U		0.020	U		0.020	UJ	R	0.020	U	
ENDOSULFAN SULFATE	0.20	U		0.020	U		0.020	UJ	R	0.020	U	
ENDRIN	0.20	U		0.020	U		0.020	UJ	R	0.020	U	
ENDRIN ALDEHYDE	0.20	U		0.020	U		0.020	UJ	R	0.020	U	
ENDRIN KETONE	0.20	U		0.020	U		0.020	UJ	R	0.020	U	
GAMMA-BHC (LINDANE)	0.10	U		0.010	U		0.010	UJ	R	0.010	U	
GAMMA-CHLORDANE	0.10	U		0.010	U		0.010	UJ	R	0.010	U	
HEPTACHLOR	0.10	U		0.010	U		0.010	UJ	R	0.010	U	
HEPTACHLOR EPOXIDE	0.10	U		0.010	U		0.010	UJ	R	0.010	U	
METHOXYCHLOR	0.10	U		0.10	U		0.10	UJ	R	0.10	U	
TOXAPHENE	10	U		1.0	U		1.0	UJ	R	1.0	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5932

SAMPLE NUMBER:	DRMO-6MW6D-GW13			DRMO-6MW6S-GW13			GWFD-091901-01			GWFD-092001-01		
SAMPLE DATE:	09/20/01			09/20/01			09/19/01			09/20/01		
LABORATORY ID:	N5932-17			N5932-16			N5932-04			N5932-13		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:							2W-GW21S-08			4-GW21S-08		
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	0.020	U		0.020	U		2.4			0.020	U	
4,4'-DDE	0.020	U		0.020	U		0.043	R	U	0.020	U	
4,4'-DDT	0.020	U		0.020	U		0.20	U		0.020	U	
ALDRIN	0.010	U		0.010	U		0.10	U		0.010	U	
ALPHA-BHC	0.010	U		0.010	U		0.10	U		0.010	U	
ALPHA-CHLORDANE	0.010	U		0.010	U		0.10	U		0.010	U	
AROCLOR-1016	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1221	0.40	UJ	H	0.40	UJ	H	0.40	UJ	H	0.40	UJ	H
AROCLOR-1232	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1242	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1248	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1254	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1260	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
BETA-BHC	0.010	U		0.010	U		0.10	U		0.010	U	
DELTA-BHC	0.010	U		0.010	U		0.10	U		0.010	U	
DIELDRIN	0.020	U		0.020	U		0.20	U		0.020	U	
ENDOSULFAN I	0.010	U		0.010	U		0.10	U		0.010	U	
ENDOSULFAN II	0.020	U		0.020	U		0.20	U		0.020	U	
ENDOSULFAN SULFATE	0.020	U		0.020	U		0.20	U		0.020	U	
ENDRIN	0.020	U		0.020	U		0.20	U		0.020	U	
ENDRIN ALDEHYDE	0.020	U		0.020	U		0.20	U		0.020	U	
ENDRIN KETONE	0.020	U		0.020	U		0.20	U		0.020	U	
GAMMA-BHC (LINDANE)	0.010	U		0.010	U		0.10	U		0.010	U	
GAMMA-CHLORDANE	0.010	U		0.010	U		0.10	U		0.010	U	
HEPTACHLOR	0.010	U		0.010	U		0.10	U		0.010	U	
HEPTACHLOR EPOXIDE	0.010	U		0.010	U		0.10	U		0.010	U	
METHOXYCHLOR	0.10	U		0.10	U		0.10	U		0.10	U	
TOXAPHENE	1.0	U		1.0	U		10	U		1.0	U	

CTO816-NSB NEW LONDON
WATER DATA
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SAMPLE NUMBER:	GWFD-092001-02											
SAMPLE DATE:	09/20/01			/ /			/ /			/ /		
LABORATORY ID:	N5932-20											
QC_TYPE:	NORMAL											
% SOLIDS:	0.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	UG/L											
FIELD DUPLICATE OF:	DRMO-6MW6S-GW13											
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	0.020	U										
4,4'-DDE	0.020	U										
4,4'-DDT	0.020	U										
ALDRIN	0.010	U										
ALPHA-BHC	0.010	U										
ALPHA-CHLORDANE	0.010	U										
AROCLOR-1016	0.20	UJ	H									
AROCLOR-1221	0.40	UJ	H									
AROCLOR-1232	0.20	UJ	H									
AROCLOR-1242	0.20	UJ	H									
AROCLOR-1248	0.20	UJ	H									
AROCLOR-1254	0.20	UJ	H									
AROCLOR-1260	0.20	UJ	H									
BETA-BHC	0.010	U										
DELTA-BHC	0.010	U										
DIELDRIN	0.020	U										
ENDOSULFAN I	0.010	U										
ENDOSULFAN II	0.020	U										
ENDOSULFAN SULFATE	0.020	U										
ENDRIN	0.020	U										
ENDRIN ALDEHYDE	0.020	U										
ENDRIN KETONE	0.020	U										
GAMMA-BHC (LINDANE)	0.010	U										
GAMMA-CHLORDANE	0.010	U										
HEPTACHLOR	0.010	U										
HEPTACHLOR EPOXIDE	0.010	U										
METHOXYCHLOR	0.10	U										
TOXAPHENE	1.0	U										

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **COREY RICH** **DATE: NOVEMBER 26, 2001**

FROM: **DOUGLAS SCHLOER** **COPIES: DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION: VOA / SVOA / PAH / PEST / PCB**
CTO: 816, NSB NEW LONDON
SDG: 5965

SAMPLES: 4 / Aqueous / VOA

TB-092101-01 TB-092101-02 TB-092201-01 TB092202-02

11 / Aqueous / VOA / SVOA / PAH / PEST / PCB

2LGW20S-08	2W-GW39DS-08	2W-GW40DS-08
2W-GW41DS-08	3GW37S-08	DRMO-6MW10D-GW13
DRMO-6MW10S-GW13	DRMO-6MW11D-GW13	DRMO-6MW11S-GW13
DRMO-6MW2D-GW13	DRMO-6MW2S-GW13	

Overview

The sample set for the CTO 816, NSB New London, SDG 5965 consists of eleven (11) groundwater environmental samples and four (4) aqueous field quality control samples. The aqueous field quality control samples were analyzed for TCL volatile organic compounds (VOC) only. All environmental samples were analyzed for volatile, semivolatile (SVOC), polynuclear aromatic hydrocarbons (PAHs), pesticides (PEST), and polychlorinated biphenyl (PCB) organic compounds. One field duplicate pair was included in this SDG: GWFD-092001 and

The samples were collected by TetraTech NUS on September 21st through 23rd, 2001 and were analyzed by Chemtech Analytical Services. Analyses were conducted using the Contract Laboratory Program (CLP) Statement of Work (SOW) OLC02.1 (volatile, semivolatile, pesticide and PCB), and the U.S. EPA Test Methods for Evaluating Solid Wastes (SW-846) Method 8310 analytical and reporting protocols.

The data were evaluated based on the following parameters:

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

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

HOLDING TIMES

Extraction of the PAH fraction samples occurred one to six days beyond the seven day holding time. All nondetected results reported for the Aroclors were qualified as estimated (UJ) in all aqueous environmental samples.

CALIBRATIONS

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

Compound	IC 10/3/01	CC 10/5/01;12:50	CC 10/6/01;08:16
Acetone	R	R	R
2-Butanone	R	R	RX
2-Hexanone	RD	RX	R
4-Methyl-2-pentanone	R	R	D
1,2-Dibromo-3-chloropropane	R	RX	R
Benzene			D
1,2-Dichloroethane			D
1,2-Dichlorobenzene			D
1,3-Dichlorobenzene			D
Associated Samples:	All	TB-092101-01	TB-0922-01
		TB-092102-02	DRMO-6MW11S-GW13
		TB-092201-02	DRMO-6MW11D-GW13
		DRMO-6MW10S-GW13	DRMO-6MW2D-GW13
		DRMO-6MW10D-GW13	DRMO-6MW2S-GW13
		2LGW20S-08	
		3GW37S-08	
		2W-GW39DS-08	
		2W-GW40DS-08	
		2W-GW41DS-08	

Compound	CC 10/5/01;14:46	CC 10/6/01;02:59
Bis(2-chloroethyl)ether	X	X
Associated Samples:	DRMO-6MW10S-GW13	DRMO-6MW10D-GW13
	DRMO-6MW2S-GW13	DRMO-6MW11D-GW13
	2LGW20S-08	2W-GW41DS-08

Compound	IC 10/2/01	CC 10/9/01;16:51	CC 10/10/01;04:43	CC 10/10/01;16:35
Acenaphthene	D			
Fluorene		X	X	X
Phenanthrene		X	X	X
Pyrene		X	X	
Chrysene		X	X	X
Fluoranthene			X	
Benzo(a)anthracene			X	X
Benzo(b)fluoranthene			X	
Benzo(k)fluoranthene			X	
Associated Samples:	All	2WGW39DS-08 3GW37S-08 DRMO-6MW10D-GW13 DRMO-6MW10S-GW13 2LGW20S-08	All	2W-GW40DS-08 2W-GW41DS-08 DRMO-6MW11D-GW13 DRMO-6MW11S-GW13 DRMO-6MW2D-GW13 DRMO-6MW2S-GW13

Calibration Actions:

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

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

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

BLANKS

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

Compound	Maximum Concentration	Action Level
Methylene chloride	0.8 µg/L	8 µg/L

Samples Affected: All
Blank Actions:

- Value < Contract Required Quantitation Limit (CRQL); report CRQL followed by a U.
- Value > CRQL and < action level; report value followed by a U.
- Value > CRQL and > action level; report value unqualified.

An action level of 10X the blank concentration was used to evaluate contamination for methylene chloride. Dilution factors and sample aliquots were taken into consideration prior to the application of all action levels. Positive results for methylene chloride were qualified due to blank contamination. Field quality control blanks were not qualified due to method blank contamination or contamination in other field quality control blanks.

SURROGATE RECOVERY

The laboratory failed to report recoveries for the PAH surrogate decafluorobiphenyl in sample DRMO-6MW2D-GW13. The reviewer contacted the laboratory and requested the surrogate recovery for the aforementioned sample.

Recovery of the pesticide surrogate tetrachloro-m-xylene (TCX) exceeded the 50%-150% quality control limit and recovery of decachlorobiphenyl (DCB) fell below the 50%-150% quality control limit on one analytical column only for the analysis of sample 2W-GW40DS-08. No action was taken based on this noncompliance.

Recovery of the pesticide surrogate TCX exceeded the 50%-150% quality control limit on both analytical columns for the analysis of sample 2W-GW41DS-08. Only nondetected results were reported and these were not qualified based on this noncompliance.

Recovery of the pesticide surrogate TCX exceeded the 50%-150% quality control limit on one analytical column for the analysis of samples DRMO-6MW11S-GW-13 and DRMO-6MW2S-GW13. No action was taken based on these noncompliances.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Relative Percent Differences (RPDs) exceeded quality control limits for the following compounds: 1,1-dichloroethene, benzene and trichloroethene. Only nondetected results were reported for the aforementioned compounds and these were qualified as estimated (UJ) in the native sample, 2LGW205-08 only.

MS recovery of naphthalene fell below the 50%-150% quality control limit and MSD recovery of naphthalene fell below 10% for the analysis of sample 2LGW20S-08. In addition, the RPD for naphthalene exceeded the 20% quality control limit. The nondetected result reported for naphthalene was rejected (R) in the native sample only.

MS recovery of phenanthrene and fluoranthene fell below the 50%-150% quality control limit for the analysis of sample 2LGW20S-08. In addition, the RPD for phenanthrene exceeded the 20% quality control limit. The nondetected results reported in for phenanthrene and fluoranthene were qualified as estimated (UJ) in the native sample only.

The RPD for Aroclor-1260 exceeded the 20% quality control limit for the MS/MSD analysis of sample 2LGW20S-08. The nondetected result reported for Aroclor-1260 was qualified as estimated (UJ) in the native sample 2LGW20S-08 only.

COMPOUND QUANTITATION

Poor chromatography was observed for the analysis of sample 2W-GW40DS-08. Review of sample chromatography reveal evidence of extraneous non-target compound peaks and/or sample matrix interference on both analytical columns between the chromatographic retention times of approximately 3.39 minutes to approximately 15.75 minutes. It should also be noted that there were surrogate recovery noncompliances for the analysis of this sample. The laboratory did not re-analyze the sample to confirm sample matrix interference. Several target compounds elute within the above retention time range and in the professional judgement of the reviewer, data quality is compromised. Therefore, the nondetected results reported for Alpha-BHC, Beta-BHC, Gamma-BHC, Delta-BHC, Aldrin, and Heptachlor were qualified as estimated (UJ) due to chromatographic interference.

TENTATIVELY INDENTIFIED COMPOUNDS

1,2-Dichloro-1,1,2trifluoroethane, 1,1,2-trichloro-1,2-difluoroethane, dimethyl ether, sulfur dioxide and several unknown compounds were tentatively identified in the volatile fraction samples.

Numerous TICs were identified in the semivolatile fraction of all samples (see Table 2).

ADDITIONAL COMMENTS

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

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

The OLC02.1 volatile compounds 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene and 1,4-dichlorobenzene were reported in the semivolatile fraction of this SDG. Since these compounds are on the CLP OLC02.1 volatile target compound list, they were removed from the semivolatile database.

The Form I for sample 2LGW40S-08 was incorrectly identified by the laboratory as DRMO-6MW10D-GW13. The reviewer manually updated the sample Form I to reflect the correct identification (2LGW40S-08).

Nondetected results for the PAH and pesticide fractions were reported by the laboratory at the method detection limit "MDL". However, the value reported on the sample Form Is is actually the sample reporting limit (RL). The reviewer contacted the laboratory and requested that sample Form Is be corrected and re-submitted accordingly

OVERALL ASSESSMENT

Laboratory Performance: Several compounds were detected in the laboratory blank and/or field quality control blanks. The laboratory was unable to obtain acceptable percent differences between initial and continuing calibration response factors for several volatile, semivolatile and PAH compounds. The laboratory was unable to obtain acceptable relative response factors for several volatile compounds. Several transcription errors were observed between results reported on the EDD and sample Form Is.

Other Factors Affecting Data Quality: Several recovery and RPD noncompliances were observed for the MS/MSD analysis of sample 2LGW20S-08. Nondetected results for the PAH and pesticide fractions were reported by the laboratory at the method detection limit "MDL". However, the value reported on the sample Form Is is actually the sample reporting limit (RL).

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

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

TetraTech NUS

Douglas S. Schloer
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

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

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TABLE I. Summary of Tentatively Identified Volatile Compounds

TIC	TB-092101-01	TB-092201-01	2W-GW39DS-08	2W-GW40DS-08	2W-GW41DS-08
1,2-Dichloro-1,1,2t ethane					
1,1,2-trichloro-1,2-ethane					
dimethyl ether	X				
sulfur dioxide		X		X	X
Unknown			X		

	DRMO-6MW10D-GW13	DRMO-6MW10S-GW13	DRMO-6MW11D-GW13	DRMO-6MW11S-GW13	DRMO-6MW2D-GW13	DRMO-6MW2S-GW13
1,2-Dichloro-1,1,2t ethane						
1,1,2-trichloro-1,2-ethane	X		X			
dimethyl ether	X					
sulfur dioxide						
Unknown				X	X	X
		X				

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SDG 200621

TABLE II. Summary of Tentatively Identified Semivolatile Compounds

TIC	2LGW20S-08	2W-GW39DS-08	2W-GW40DS-08	2W-GW41DS-08	3GW37S-08	DRMO-6MW10D-GW13
Oleic acid	X		X			
Hexadecanoic acid	X		X			X
cyclohexane	X					
9-Octadecenamide(z)	X					
ACP		X			X	
Unknown		X	X			
Pentanoic acid,2-methyl		X				
Hexanoic acid		X				
2-Butene,1chloro-3-methyl		X				
Benzenepropanoic acid		X				
Diethyltoluamide		X				
Glycine,N-methyl-N-(1oxodo)			X			
Eicosane			X			
Tetradecanoic acid			X			
Phenol,5-methyl-2-(1-methyl)			X			
Isopropyl myristate			X			
9-Hexadecanoic acid			X			
Cyclopentanecarboxylic acid			X			
Octadecanoic acid			X			
Butyl hexadecanoate			X			
Butyl tetradecanoate			X			
3-Hexadecanol			X			
Dodecanamide			X			
2,6,10-dodecatrien-1-ol,3,7			X			
Sulfur,mol(S8)				X		
Heptanamide,4-ethyl-5-methyl				X		X

	DRMO-6MW10S-GW13	DRMO-6MW11D-GW13	DRMO-6MW11S-GW13	DRMO-6MW2D-GW13	DRMO-6MW2S-GW13
Hexadecanoic acid	X				X
9-Octadecenamide(z)	X	X			X
2,6,10-dodecatrien-1-ol,3,7	X				
Pentadecanoic acid		X			
Propylhexadrine		X			
Unknown		X	X	X	
1-Hexadecanol,2-methyl		X			
1-Octadecanthiol		X			
1-Heptacosanol		X			
1-Octadecene		X			
ACP			X		
Sulfur				X	
Sulfur,Mol(S8)				X	
Butyl hexadecanoate					X
Butyl tetradecanoate					X
Cyclohexane					X
Eicosane					X
4-Pentene,2-ol,2-methyl					X
Hexatriacontane					X
Tetradecane					X
Pentacosane					X
tetratetracontane					X
Pentatriacontane					X
3,7,11=Tridecatrienenitrile					X

APPENDIX A

QUALIFIED LABORATORY RESULTS

Qualifier Codes:

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

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	2LGW20S-08			2WGW39DS-08			2WGW40DS-08			2WGW41DS-08		
SAMPLE DATE:	09/21/01			09/22/01			09/23/01			09/23/01		
LABORATORY ID:	N5965-05			N5965-14			N5965-18			N5965-20		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHENE	1	UJ	D	1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C	1	UR	C	1	UR	C	1	UR	C
1,2-DIBROMOETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE	1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
2-BUTANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
2-HEXANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
4-METHYL-2-PENTANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
ACETONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
BENZENE	1	UJ	D	1	U		1	U		1	U	
BROMOCHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMOFORM	1	U		1	U		1	U		1	U	
BROMOMETHANE	1	U		1	U		1	U		1	U	
CARBON DISULFIDE	1	U		1	U		4			1.6		
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	U		1	U		1	U		1	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	2LGW20S-08			2WGW39DS-08			2WGW40DS-08			2WGW41DS-08		
SAMPLE DATE:	09/21/01			09/22/01			09/23/01			09/23/01		
LABORATORY ID:	N5965-05			N5965-14			N5965-18			N5965-20		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
M+P-XYLENES	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		2	U		2	U		2	U	
O-XYLENE	1	U		1	U		1	U		1	U	
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		1	U	
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	1	UJ	D	1.2			1	U		1	U	
VINYL CHLORIDE	1	U		1	U		1	U		1	U	

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SAMPLE NUMBER:	3GW37S-08			DRMO-6MW10D-GW13			DRMO-6MW10S-GW13			DRMO-6MW11D-GW13		
SAMPLE DATE:	09/22/01			09/21/01			09/21/01			09/22/01		
LABORATORY ID:	N5965-12			N5965-03			N5965-02			N5965-24		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE	1	U		1	U		0.9	J	P	1	U	
1,1-DICHLOROETHENE	1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C	1	UR	C	1	UR	C	1	UR	C
1,2-DIBROMOETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE	1	U		1	U		1	U		1	UJ	C
1,2-DICHLOROETHANE	1	U		1	U		1	U		1	UJ	C
1,2-DICHLOROPROPANE	1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE	1	U		1	U		1	U		1	UJ	C
1,4-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
2-BUTANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
2-HEXANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
4-METHYL-2-PENTANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
ACETONE	5	UR	C	5	UR	C	26	J	C	5	UR	C
BENZENE	1	U		1	U		1	U		1	UJ	C
BROMOCHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMOFORM	1	U		1	U		1	U		1	U	
BROMOMETHANE	1	U		1	U		1	U		1	U	
CARBON DISULFIDE	2.2			1	U		1	U		1	U	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	U		1	U		1	U		1	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	1	U		5.7			1.6			1.8		
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	

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CHEMTECH CONSULTING GROUP
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SAMPLE NUMBER:	3GW37S-08			DRMO-6MW10D-GW13			DRMO-6MW10S-GW13			DRMO-6MW11D-GW13		
SAMPLE DATE:	09/22/01			09/21/01			09/21/01			09/22/01		
LABORATORY ID:	N5965-12			N5965-03			N5965-02			N5965-24		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
M+P-XYLENES	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U	B	2	U		2	U		2	U	
O-XYLENE	1	U		1	U		1	U		1	U	
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		1	U	
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	1.1			1.4			1	U		1	U	
VINYL CHLORIDE	1	U		1	U		0.6	J	P	1	U	

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CHEMTECH CONSULTING GROUP
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SAMPLE NUMBER:	DRMO-6MW11S-GW13			DRMO-6MW2D-GW13			DRMO-6MW2S-GW13			TB-092101-01		
SAMPLE DATE:	09/22/01			09/23/01			09/23/01			09/21/01		
LABORATORY ID:	N5965-23			N5965-25			N5965-26			N5965-01		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE	0.6	J	P	1	U		1	U		1	U	
1,1-DICHLOROETHENE	1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C	1	UR	C	1	UR	C	1	UR	C
1,2-DIBROMOETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE	1	UJ	C	1	UJ	C	1	UJ	C	1	U	
1,2-DICHLOROETHANE	1	UJ	C	1	UJ	C	1	UJ	C	1	U	
1,2-DICHLOROPROPANE	1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE	1	UJ	C	1	UJ	C	1	UJ	C	1	U	
1,4-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
2-BUTANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
2-HEXANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
4-METHYL-2-PENTANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
ACETONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
BENZENE	1	UJ	C	1	UJ	C	1	UJ	C	1	U	
BROMOCHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMOFORM	1	U		1	U		1	U		1	U	
BROMOMETHANE	1	U		1	U		1	U		1	U	
CARBON DISULFIDE	1	U		1	U		2.5			1	U	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	U		1	U		1	U		1	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	1.3			1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	

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CHEMTECH CONSULTING GROUP
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SAMPLE NUMBER:	DRMO-6MW11S-GW13			DRMO-6MW2D-GW13			DRMO-6MW2S-GW13			TB-092101-01		
SAMPLE DATE:	09/22/01			09/23/01			09/23/01			09/21/01		
LABORATORY ID:	N5965-23			N5965-25			N5965-26			N5965-01		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
M+P-XYLENES	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		2	U		2	U		2	U	
O-XYLENE	1	U		1	U		1	U		1	U	
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		1	U	
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	0.7	J	P	1	U		1	U		1	U	
VINYL CHLORIDE	0.8	J	P	1	U		1	U		1	U	

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CHEMTECH CONSULTING GROUP
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SAMPLE NUMBER:	TB-092101-02			TB-092201-01			TB-092201-02					
SAMPLE DATE:	09/21/01			09/22/01			09/22/01			/ /		
LABORATORY ID:	N5965-04			N5965-22			N5965-11					
QC_TYPE:	NORMAL			NORMAL			NORMAL					
% SOLIDS:	0.0 %			0.0 %			0.0 %			100.0 %		
UNITS:	UG/L			UG/L			UG/L					
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U				
1,1,2,2-TETRACHLOROETHANE	1	U		1	U		1	U				
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U				
1,1-DICHLOROETHANE	1	U		1	U		1	U				
1,1-DICHLOROETHENE	1	U		1	U		1	U				
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U				
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C	1	UR	C	1	UR	C			
1,2-DIBROMOETHANE	1	U		1	U		1	U				
1,2-DICHLOROBENZENE	1	U		1	UJ	C	1	U				
1,2-DICHLOROETHANE	1	U		1	UJ	C	1	U				
1,2-DICHLOROPROPANE	1	U		1	U		1	U				
1,3-DICHLOROBENZENE	1	U		1	UJ	C	1	U				
1,4-DICHLOROBENZENE	1	U		1	U		1	U				
2-BUTANONE	5	UR	C	5	UR	C	5	UR	C			
2-HEXANONE	5	UR	C	5	UR	C	5	UR	C			
4-METHYL-2-PENTANONE	5	UR	C	5	UR	C	5	UR	C			
ACETONE	5	UR	C	5	UR	C	5	UR	C			
BENZENE	1	U		1	UJ	C	1	U				
BROMOCHLOROMETHANE	1	U		1	U		1	U				
BROMODICHLOROMETHANE	1	U		1	U		1	U				
BROMOFORM	1	U		1	U		1	U				
BROMOMETHANE	1	U		1	U		1	U				
CARBON DISULFIDE	1	U		1	U		1	U				
CARBON TETRACHLORIDE	1	U		1	U		1	U				
CHLOROBENZENE	1	U		1	U		1	U				
CHLORODIBROMOMETHANE	1	U		1	U		1	U				
CHLOROETHANE	1	U		1	U		1	U				
CHLOROFORM	1	U		1	U		1	U				
CHLOROMETHANE	1	U		1	U		1	U				
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U				
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U				
ETHYLBENZENE	1	U		1	U		1	U				

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CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	TB-092101-02			TB-092201-01			TB-092201-02					
SAMPLE DATE:	09/21/01			09/22/01			09/22/01			/ /		
LABORATORY ID:	N5965-04			N5965-22			N5965-11					
QC_TYPE:	NORMAL			NORMAL			NORMAL					
% SOLIDS:	0.0 %			0.0 %			0.0 %			100.0 %		
UNITS:	UG/L			UG/L			UG/L					
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
M+P-XYLENES	1	U		1	U		1	U				
METHYLENE CHLORIDE	2	U		0.8	J	P	2	U				
O-XYLENE	1	U		1	U		1	U				
STYRENE	1	U		1	U		1	U				
TETRACHLOROETHENE	1	U		1	U		1	U				
TOLUENE	1	U		1	U		1	U				
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U				
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U				
TRICHLOROETHENE	1	U		1	U		1	U				
VINYL CHLORIDE	1	U		1	U		1	U				

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CHEMTECH CONSULTING GROUP
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SAMPLE NUMBER:	2LGW20S-08			2WGW39DS-08			2WGW40DS-08			2WGW41DS-08		
SAMPLE DATE:	09/21/01			09/22/01			09/23/01			09/23/01		
LABORATORY ID:	N5965-05			N5965-14			N5965-18			N5965-20		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
2,2'-OXYBIS(1-CHLOROPROPANE)	5.2	U		5.2	U		5.1	U		5	U	
2,4,5-TRICHLOROPHENOL	5.2	U		5.2	U		5.1	U		5	U	
2,4,6-TRICHLOROPHENOL	21	U		21	U		20	U		20	U	
2,4-DICHLOROPHENOL	5.2	U		5.2	U		5.1	U		5	U	
2,4-DIMETHYLPHENOL	5.2	U		5.2	U		5.1	U		5	U	
2,4-DINITROPHENOL	21	U		21	U		20	U		20	U	
2,4-DINITROTOLUENE	5.2	U		5.2	U		5.1	U		5	U	
2,6-DINITROTOLUENE	5.2	U		5.2	U		5.1	U		5	U	
2-CHLORONAPHTHALENE	5.2	U		5.2	U		5.1	U		5	U	
2-CHLOROPHENOL	5.2	U		5.2	U		5.1	U		5	U	
2-METHYLPHENOL	5.2	U		5.2	U		5.1	U		5	U	
2-NITROANILINE	21	U		21	U		20	U		20	U	
2-NITROPHENOL	5.2	U		5.2	U		5.1	U		5	U	
3&4-METHYLPHENOL	5.2	U		1.7	J	P	5.1	U		5	U	
3,3'-DICHLOROBENZIDINE	5.2	U		5.2	U		5.1	U		5	U	
3-NITROANILINE	21	U		21	U		20	U		20	U	
4,6-DINITRO-2-METHYLPHENOL	21	U		21	U		20	U		20	U	
4-BROMOPHENYL PHENYL ETHER	5.2	U		5.2	U		5.1	U		5	U	
4-CHLORO-3-METHYLPHENOL	5.2	U		5.2	U		5.1	U		5	U	
4-CHLOROANILINE	5.2	U		5.2	U		5.1	U		5	U	
4-CHLOROPHENYL PHENYL ETHER	5.2	U		5.2	U		5.1	U		5	U	
4-NITROANILINE	21	U		21	U		20	U		20	U	
4-NITROPHENOL	21	U		21	U		20	U		20	U	
BENZOIC ACID	5.2	U		5.2	U		5.1	U		5	U	
BIS(2-CHLOROETHOXY)METHANE	5.2	UJ	C	5.2	U		5.1	U		5	U	
BIS(2-CHLOROETHYL)ETHER	5.2	U		5.2	U		5.1	UJ	C	5	UJ	C
BIS(2-ETHYLHEXYL)PHTHALATE	15			3.3	J	P	1.9	J	P	2.5	J	P
BUTYL BENZYL PHTHALATE	5.2	U		5.2	U		5.1	U		5	U	
CARBAZOLE	5.2	U		5.2	U		5.1	U		5	U	
DI-N-BUTYL PHTHALATE	5.2	U		5.2	U		1.5	J	P	5	U	
DI-N-OCTYL PHTHALATE	5.2	U		5.2	U		5.1	U		5	U	
DIBENZOFURAN	5.2	U		5.2	U		5.1	U		5	U	

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SAMPLE NUMBER:	2LGW20S-08	2WGW39DS-08	2WGW40DS-08	2WGW41DS-08
SAMPLE DATE:	09/21/01	09/22/01	09/23/01	09/23/01
LABORATORY ID:	N5965-05	N5965-14	N5965-18	N5965-20
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
UNITS:	UG/L	UG/L	UG/L	UG/L
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
DIETHYL PHTHALATE	5.2	U		5.2	U		5.1	U		5	U	
DIMETHYL PHTHALATE	5.2	U		5.2	U		5.1	U		5	U	
HEXACHLOROBENZENE	5.2	U		5.2	U		5.1	U		5	U	
HEXACHLOROBUTADIENE	5.2	U		5.2	U		5.1	U		5	U	
HEXACHLOROCYCLOPENTADIENE	5.2	U		5.2	U		5.1	U		5	U	
HEXACHLOROETHANE	5.2	U		5.2	U		5.1	U		5	U	
ISOPHORONE	5.2	U		5.2	U		5.1	U		5	U	
N-NITROSO-DI-N-PROPYLAMINE	5.2	U		5.2	U		5.1	U		5	U	
N-NITROSODIPHENYLAMINE	5.2	U		5.2	U		5.1	U		5	U	
NITROBENZENE	5.2	U		5.2	U		5.1	U		5	U	
PENTACHLOROPHENOL	21	U		21	U		20	U		20	U	
PHENOL	5.2	U		5.2	U		5.1	U		5	U	

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CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	3GW37S-08			DRMO-6MW10D-GW13			DRMO-6MW10S-GW13			DRMO-6MW11D-GW13		
SAMPLE DATE:	09/22/01			09/21/01			09/21/01			09/22/01		
LABORATORY ID:	N5965-12			N5965-03			N5965-02			N5965-24		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
2,2'-OXYBIS(1-CHLOROPROPANE)	5.2	U		5.1	U		5	U		5	U	
2,4,5-TRICHLOROPHENOL	5.2	U		5.1	U		5	U		5	U	
2,4,6-TRICHLOROPHENOL	21	U		20	U		20	U		20	U	
2,4-DICHLOROPHENOL	5.2	U		5.1	U		5	U		5	U	
2,4-DIMETHYLPHENOL	5.2	U		5.1	U		5	U		5	U	
2,4-DINITROPHENOL	21	U		20	U		20	U		20	U	
2,4-DINITROTOLUENE	5.2	U		5.1	U		5	U		5	U	
2,6-DINITROTOLUENE	5.2	U		5.1	U		5	U		5	U	
2-CHLORONAPHTHALENE	5.2	U		5.1	U		5	U		5	U	
2-CHLOROPHENOL	5.2	U		5.1	U		5	U		5	U	
2-METHYLPHENOL	5.2	U		5.1	U		5	U		5	U	
2-NITROANILINE	21	U		20	U		20	U		20	U	
2-NITROPHENOL	5.2	U		5.1	U		5	U		5	U	
3&4-METHYLPHENOL	5.2	U		5.1	U		5	U		5	U	
3,3'-DICHLOROBENZIDINE	5.2	U		5.1	U		5	U		5	U	
3-NITROANILINE	21	U		20	U		20	U		20	U	
4,6-DINITRO-2-METHYLPHENOL	21	U		20	U		20	U		20	U	
4-BROMOPHENYL PHENYL ETHER	5.2	U		5.1	U		5	U		5	U	
4-CHLORO-3-METHYLPHENOL	5.2	U		5.1	U		5	U		5	U	
4-CHLOROANILINE	5.2	U		5.1	U		5	U		5	U	
4-CHLOROPHENYL PHENYL ETHER	5.2	U		5.1	U		5	U		5	U	
4-NITROANILINE	21	U		20	U		20	U		20	U	
4-NITROPHENOL	21	U		20	U		20	U		20	U	
BENZOIC ACID	5.2	U		5.1	U		5	U		5	U	
BIS(2-CHLOROETHOXY)METHANE	5.2	U		5.1	U		5	U		5	U	
BIS(2-CHLOROETHYL)ETHER	5.2	U		5.1	UJ	C	5	UJ	C	5	UJ	C
BIS(2-ETHYLHEXYL)PHTHALATE	5.2	U		45			2.9	J	P	76		
BUTYL BENZYL PHTHALATE	5.2	U		5.1	U		5	U		5	U	
CARBAZOLE	5.2	U		5.1	U		5	U		5	U	
DI-N-BUTYL PHTHALATE	5.2	U		5.1	U		5	U		5	U	
DI-N-OCTYL PHTHALATE	5.2	U		5.1	U		5	U		5	U	
DIBENZOFURAN	5.2	U		5.1	U		5	U		5	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	3GW37S-08			DRMO-6MW10D-GW13			DRMO-6MW10S-GW13			DRMO-6MW11D-GW13		
SAMPLE DATE:	09/22/01			09/21/01			09/21/01			09/22/01		
LABORATORY ID:	N5965-12			N5965-03			N5965-02			N5965-24		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
DIETHYL PHTHALATE	5.2	U		5.1	U		5	U		5	U	
DIMETHYL PHTHALATE	5.2	U		5.1	U		5	U		5	U	
HEXACHLOROBENZENE	5.2	U		5.1	U		5	U		5	U	
HEXACHLOROBUTADIENE	5.2	U		5.1	U		5	U		5	U	
HEXACHLOROCYCLOPENTADIENE	5.2	U		5.1	U		5	U		5	U	
HEXACHLOROETHANE	5.2	U		5.1	U		5	U		5	U	
ISOPHORONE	5.2	U		5.1	U		5	U		5	U	
N-NITROSO-DI-N-PROPYLAMINE	5.2	U		5.1	U		5	U		5	U	
N-NITROSODIPHENYLAMINE	5.2	U		5.1	U		5	U		5	U	
NITROBENZENE	5.2	U		5.1	U		5	U		5	U	
PENTACHLOROPHENOL	21	U		20	U		20	U		20	U	
PHENOL	5.2	U		5.1	U		5	U		5	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	DRMO-6MW11S-GW13			DRMO-6MW2D-GW13			DRMO-6MW2S-GW13					
SAMPLE DATE:	09/22/01			09/23/01			09/23/01			/ /		
LABORATORY ID:	N5965-23			N5965-25			N5965-26					
QC_TYPE:	NORMAL			NORMAL			NORMAL					
% SOLIDS:	0.0 %			0.0 %			0.0 %			100.0 %		
UNITS:	UG/L			UG/L			UG/L					
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U		5	U		5.1	U				
2,4,5-TRICHLOROPHENOL	5	U		5	U		5.1	U				
2,4,6-TRICHLOROPHENOL	20	U		20	U		20	U				
2,4-DICHLOROPHENOL	5	U		5	U		5.1	U				
2,4-DIMETHYLPHENOL	5	U		5	U		5.1	U				
2,4-DINITROPHENOL	20	U		20	U		20	U				
2,4-DINITROTOLUENE	5	U		5	U		5.1	U				
2,6-DINITROTOLUENE	5	U		5	U		5.1	U				
2-CHLORONAPHTHALENE	5	U		5	U		5.1	U				
2-CHLOROPHENOL	5	U		5	U		5.1	U				
2-METHYLPHENOL	5	U		5	U		5.1	U				
2-NITROANILINE	20	U		20	U		20	U				
2-NITROPHENOL	5	U		5	U		5.1	U				
3&4-METHYLPHENOL	5	U		5	U		5.1	U				
3,3'-DICHLOROBENZIDINE	5	U		5	U		5.1	U				
3-NITROANILINE	20	U		20	U		20	U				
4,6-DINITRO-2-METHYLPHENOL	20	U		20	U		20	U				
4-BROMOPHENYL PHENYL ETHER	5	U		5	U		5.1	U				
4-CHLORO-3-METHYLPHENOL	5	U		5	U		5.1	U				
4-CHLOROANILINE	5	U		5	U		5.1	U				
4-CHLOROPHENYL PHENYL ETHER	5	U		5	U		5.1	U				
4-NITROANILINE	20	U		20	U		20	U				
4-NITROPHENOL	20	U		20	U		20	U				
BENZOIC ACID	5	U		5	U		5.1	U				
BIS(2-CHLOROETHOXY)METHANE	5	U		5	U		5.1	U				
BIS(2-CHLOROETHYL)ETHER	5	U		5	UJ	C	5.1	U				
BIS(2-ETHYLHEXYL)PHTHALATE	66			53			21					
BUTYL BENZYL PHTHALATE	5	U		5	U		5.1	U				
CARBAZOLE	5	U		5	U		5.1	U				
DI-N-BUTYL PHTHALATE	5	U		5	U		5.1	U				
DI-N-OCTYL PHTHALATE	5	U		5	U		5.1	U				
DIBENZOFURAN	5	U		5	U		5.1	U				

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	DRMO-6MW11S-GW13	DRMO-6MW2D-GW13	DRMO-6MW2S-GW13	
SAMPLE DATE:	09/22/01	09/23/01	09/23/01	/ /
LABORATORY ID:	N5965-23	N5965-25	N5965-26	
QC_TYPE:	NORMAL	NORMAL	NORMAL	
% SOLIDS:	0.0 %	0.0 %	0.0 %	100.0 %
UNITS:	UG/L	UG/L	UG/L	
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
DIETHYL PHTHALATE	5	U		5	U		5.1	U				
DIMETHYL PHTHALATE	5	U		5	U		5.1	U				
HEXACHLOROBENZENE	5	U		5	U		5.1	U				
HEXACHLOROBUTADIENE	5	U		5	U		5.1	U				
HEXACHLOROCYCLOPENTADIENE	5	U		5	U		5.1	U				
HEXACHLOROETHANE	5	U		5	U		5.1	U				
ISOPHORONE	5	U		5	U		5.1	U				
N-NITROSO-DI-N-PROPYLAMINE	5	U		5	U		5.1	U				
N-NITROSODIPHENYLAMINE	5	U		5	U		5.1	U				
NITROBENZENE	5	U		5	U		5.1	U				
PENTACHLOROPHENOL	20	U		20	U		20	U				
PHENOL	5	U		5	U		5.1	U				

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	2LGW20S-08			2WGW39DS-08			2WGW40DS-08			2WGW41DS-08		
SAMPLE DATE:	09/21/01			09/22/01			09/23/01			09/23/01		
LABORATORY ID:	N5965-05			N5965-14			N5965-18			N5965-20		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	0.020	U		0.020	U		0.020	U		0.020	U	
4,4'-DDE	0.020	U		0.020	U		0.020	U		0.020	U	
4,4'-DDT	0.020	U		0.020	U		0.020	U		0.020	U	
ALDRIN	0.010	U		0.010	U		0.010	UJ	Q	0.010	U	
ALPHA-BHC	0.010	U		0.010	U		0.010	UJ	Q	0.010	U	
ALPHA-CHLORDANE	0.010	U		0.010	U		0.010	U		0.010	U	
AROCLOR-1016	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1221	0.40	UJ	H	0.40	UJ	H	0.40	UJ	H	0.40	UJ	H
AROCLOR-1232	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1242	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1248	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1254	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1260	0.20	UJ	DH	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
BETA-BHC	0.010	U		0.010	U		0.010	UJ	Q	0.010	U	
DELTA-BHC	0.010	U		0.010	U		0.010	UJ	Q	0.010	U	
DIELDRIN	0.020	U		0.020	U		0.020	U		0.020	U	
ENDOSULFAN I	0.010	U		0.010	U		0.010	U		0.010	U	
ENDOSULFAN II	0.020	U		0.020	U		0.020	U		0.020	U	
ENDOSULFAN SULFATE	0.020	U		0.020	U		0.020	U		0.020	U	
ENDRIN	0.020	U		0.020	U		0.020	U		0.020	U	
ENDRIN ALDEHYDE	0.020	U		0.020	U		0.020	U		0.020	U	
ENDRIN KETONE	0.020	U		0.020	U		0.020	U		0.020	U	
GAMMA-BHC (LINDANE)	0.010	U		0.010	U		0.010	UJ	Q	0.010	U	
GAMMA-CHLORDANE	0.010	U		0.010	U		0.010	U		0.010	U	
HEPTACHLOR	0.010	U		0.010	U		0.010	UJ	Q	0.010	U	
HEPTACHLOR EPOXIDE	0.010	U		0.010	U		0.010	U		0.010	U	
METHOXYCHLOR	0.10	U		0.10	U		0.10	U		0.10	U	
TOXAPHENE	1.0	U		1.0	U		1.0	U		1.0	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	3GW37S-08			DRMO-6MW10D-GW13			DRMO-6MW10S-GW13			DRMO-6MW11D-GW13		
SAMPLE DATE:	09/22/01			09/21/01			09/21/01			09/22/01		
LABORATORY ID:	N5965-12			N5965-03			N5965-02			N5965-24		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	0.020	U		0.020	U		0.020	U		0.020	U	
4,4'-DDE	0.020	U		0.020	U		0.020	U		0.020	U	
4,4'-DDT	0.020	U		0.020	U		0.020	U		0.020	U	
ALDRIN	0.010	U		0.010	U		0.010	U		0.010	U	
ALPHA-BHC	0.010	U		0.010	U		0.010	U		0.010	U	
ALPHA-CHLORDANE	0.010	U		0.010	U		0.010	U		0.010	U	
AROCLOR-1016	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1221	0.40	UJ	H	0.40	UJ	H	0.40	UJ	H	0.40	UJ	H
AROCLOR-1232	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1242	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1248	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1254	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
AROCLOR-1260	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H
BETA-BHC	0.010	U		0.010	U		0.010	U		0.010	U	
DELTA-BHC	0.010	U		0.010	U		0.010	U		0.010	U	
DIELDRIN	0.020	U		0.020	U		0.020	U		0.020	U	
ENDOSULFAN I	0.010	U		0.010	U		0.010	U		0.010	U	
ENDOSULFAN II	0.020	U		0.020	U		0.020	U		0.020	U	
ENDOSULFAN SULFATE	0.020	U		0.020	U		0.020	U		0.020	U	
ENDRIN	0.020	U		0.020	U		0.020	U		0.020	U	
ENDRIN ALDEHYDE	0.020	U		0.020	U		0.020	U		0.020	U	
ENDRIN KETONE	0.020	U		0.020	U		0.020	U		0.020	U	
GAMMA-BHC (LINDANE)	0.010	U		0.010	U		0.010	U		0.010	U	
GAMMA-CHLORDANE	0.010	U		0.010	U		0.010	U		0.010	U	
HEPTACHLOR	0.010	U		0.010	U		0.010	U		0.010	U	
HEPTACHLOR EPOXIDE	0.010	U		0.010	U		0.010	U		0.010	U	
METHOXYCHLOR	0.10	U		0.10	U		0.10	U		0.10	U	
TOXAPHENE	1.0	U		1.0	U		1.0	U		1.0	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	DRMO-6MW11S-GW13			DRMO-6MW2D-GW13			DRMO-6MW2S-GW13					
SAMPLE DATE:	09/22/01			09/23/01			09/23/01			/ /		
LABORATORY ID:	N5965-23			N5965-25			N5965-26					
QC_TYPE:	NORMAL			NORMAL			NORMAL					
% SOLIDS:	0.0 %			0.0 %			0.0 %			100.0 %		
UNITS:	UG/L			UG/L			UG/L					
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	0.020	U		0.020	U		0.020	U				
4,4'-DDE	0.020	U		0.020	U		0.020	U				
4,4'-DDT	0.020	U		0.020	U		0.020	U				
ALDRIN	0.010	U		0.010	U		0.010	U				
ALPHA-BHC	0.010	U		0.010	U		0.010	U				
ALPHA-CHLORDANE	0.010	U		0.010	U		0.010	U				
AROCLOR-1016	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H			
AROCLOR-1221	0.40	UJ	H	0.40	UJ	H	0.40	UJ	H			
AROCLOR-1232	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H			
AROCLOR-1242	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H			
AROCLOR-1248	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H			
AROCLOR-1254	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H			
AROCLOR-1260	0.20	UJ	H	0.20	UJ	H	0.20	UJ	H			
BETA-BHC	0.010	U		0.010	U		0.010	U				
DELTA-BHC	0.010	U		0.010	U		0.010	U				
DIELDRIN	0.020	U		0.020	U		0.020	U				
ENDOSULFAN I	0.010	U		0.010	U		0.010	U				
ENDOSULFAN II	0.020	U		0.020	U		0.020	U				
ENDOSULFAN SULFATE	0.020	U		0.020	U		0.020	U				
ENDRIN	0.020	U		0.020	U		0.020	U				
ENDRIN ALDEHYDE	0.020	U		0.020	U		0.020	U				
ENDRIN KETONE	0.020	U		0.020	U		0.020	U				
GAMMA-BHC (LINDANE)	0.010	U		0.010	U		0.010	U				
GAMMA-CHLORDANE	0.010	U		0.010	U		0.010	U				
HEPTACHLOR	0.010	U		0.010	U		0.010	U				
HEPTACHLOR EPOXIDE	0.010	U		0.010	U		0.010	U				
METHOXYCHLOR	0.10	U		0.10	U		0.10	U				
TOXAPHENE	1.0	U		1.0	U		1.0	U				

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	2LGW20S-08			2WGW39DS-08			2WGW40DS-08			2WGW41DS-08		
SAMPLE DATE:	09/21/01			09/22/01			09/23/01			09/23/01		
LABORATORY ID:	N5965-05			N5965-14			N5965-18			N5965-20		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	0.5	U		0.5	U		0.5	U		0.5	U	
2-METHYLNAPHTHALENE	0.5	U		0.5	U		0.5	U		0.5	U	
ACENAPHTHENE	0.016	UJ	C	0.016	UJ	C	0.016	UJ	C	0.56	J	C
ACENAPHTHYLENE	0.013	U		0.013	U		0.013	U		0.013	U	
ANTHRACENE	0.35			0.03	U		0.03	U		0.07		
BENZO(A)ANTHRACENE	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C
BENZO(A)PYRENE	0.021	U		0.021	U		0.021	U		0.021	U	
BENZO(B)FLUORANTHENE	0.02	UJ	C	0.02	UJ	C	0.02	UJ	C	0.02	UJ	C
BENZO(G,H,I)PERYLENE	0.009	U		0.009	U		0.009	U		0.009	U	
BENZO(K)FLUORANTHENE	0.02	U		0.02	U		0.02	U		0.02	U	
CHRYSENE	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C	0.6	J	C
DIBENZO(A,H)ANTHRACENE	0.014	U		0.014	U		0.014	U		0.014	U	
FLUORANTHENE	0.009	UJ	CD	0.009	UJ	C	0.009	UJ	C	0.06	J	C
FLUORENE	0.007	UJ	C	0.007	UJ	C	0.007	UJ	C	0.007	UJ	C
INDENO(1,2,3-CD)PYRENE	0.008	U		0.008	U		0.008	U		0.008	U	
NAPHTHALENE	0.008	UR	D	0.008	U		0.008	U		0.008	U	
PHENANTHRENE	0.004	UJ	CD	0.004	UJ	C	0.004	UJ	C	0.004	UJ	C
PYRENE	0.008	UJ	C	0.008	UJ	C	0.008	UJ	C	0.21	J	C

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	3GW37S-08			DRMO-6MW10D-GW13			DRMO-6MW10S-GW13			DRMO-6MW11D-GW13		
SAMPLE DATE:	09/22/01			09/21/01			09/21/01			09/22/01		
LABORATORY ID:	N5965-12			N5965-03			N5965-02			N5965-24		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	500	U		0.5	U		0.5	U		0.5	U	
2-METHYLNAPHTHALENE	500	U		0.5	U		0.5	U		0.5	U	
ACENAPHTHENE	16	UJ	C	0.016	UJ	C	0.016	UJ	C	0.016	UJ	C
ACENAPHTHYLENE	13	U		0.013	U		0.013	U		0.013	U	
ANTHRACENE	30	U		0.03	U		0.03	U		0.03	U	
BENZO(A)ANTHRACENE	12	UJ	C	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C
BENZO(A)PYRENE	21	U		0.021	U		0.021	U		0.021	U	
BENZO(B)FLUORANTHENE	20	UJ	C	0.02	UJ	C	0.02	UJ	C	0.02	UJ	C
BENZO(G,H,I)PERYLENE	9	U		0.009	U		0.009	U		0.009	U	
BENZO(K)FLUORANTHENE	20	U		0.02	U		0.02	U		0.02	U	
CHRYSENE	12	UJ	C	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C
DIBENZO(A,H)ANTHRACENE	14	U		0.014	U		0.014	U		0.014	U	
FLUORANTHENE	9	UJ	C	0.009	UJ	C	0.009	UJ	C	0.009	UJ	C
FLUORENE	7	UJ	C	0.007	UJ	C	0.007	UJ	C	0.007	UJ	C
INDENO(1,2,3-CD)PYRENE	8	U		0.008	U		0.008	U		0.008	U	
NAPHTHALENE	8	U		0.008	U		0.008	U		0.008	U	
PHENANTHRENE	4	UJ	C	0.004	UJ	C	0.004	UJ	C	0.004	UJ	C
PYRENE	8	UJ	C	0.008	UJ	C	0.008	UJ	C	0.008	UJ	C

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5965

SAMPLE NUMBER:	DRMO-6MW11S-GW13			DRMO-6MW2D-GW13			DRMO-6MW2S-GW13					
SAMPLE DATE:	09/22/01			09/23/01			09/23/01			/ /		
LABORATORY ID:	N5965-23			N5965-25			N5965-26					
QC_TYPE:	NORMAL			NORMAL			NORMAL					
% SOLIDS:	0.0 %			0.0 %			0.0 %			100.0 %		
UNITS:	UG/L			UG/L			UG/L					
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	0.5	U		0.5	U		0.5	U				
2-METHYLNAPHTHALENE	0.5	U		0.5	U		0.5	U				
ACENAPHTHENE	0.016	UJ	C	0.016	UJ	C	0.016	UJ	C			
ACENAPHTHYLENE	0.013	U		0.013	U		0.013	U				
ANTHRACENE	0.03	U		0.03	U		0.03	U				
BENZO(A)ANTHRACENE	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C			
BENZO(A)PYRENE	0.021	U		0.021	U		0.021	U				
BENZO(B)FLUORANTHENE	0.02	UJ	C	0.02	UJ	C	0.02	UJ	C			
BENZO(G,H,I)PERYLENE	0.009	U		0.009	U		0.009	U				
BENZO(K)FLUORANTHENE	0.02	U		0.02	U		0.02	U				
CHRYSENE	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C			
DIBENZO(A,H)ANTHRACENE	0.014	U		0.014	U		0.014	U				
FLUORANTHENE	0.009	UJ	C	0.009	UJ	C	0.009	UJ	C			
FLUORENE	0.007	UJ	C	0.007	UJ	C	0.007	UJ	C			
INDENO(1,2,3-CD)PYRENE	0.008	U		0.008	U		0.008	U				
NAPHTHALENE	0.008	U		0.008	U		0.008	U				
PHENANTHRENE	0.004	UJ	C	0.004	UJ	C	0.004	UJ	C			
PYRENE	0.008	UJ	C	0.008	UJ	C	0.008	UJ	C			

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **COREY RICH** **DATE: NOVEMBER 28, 2001**

FROM: **DOUGLAS SCHLOER** **COPIES: DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION: VOA / SVOA / PAH / PEST / PCB**
CTO: 816, NSB NEW LONDON
SDG: 5986

SAMPLES: 3 / Aqueous / VOA

TB-092401-01 TB-092401-02 TB-092501-01

1 / Aqueous / VOA / SVOA / PAH

2WGW38DS-08

11 / Aqueous / VOA / SVOA / PAH / PEST / PCB

2LGW44DS-08	2W-GW42DS-08	2W-GW43DS-08
3GW45DS-08	3MSP01-08	DRMO-6MW1S-GW13
DRMO-6MW9S-GW13	SWSG18-08	SWSG19-08
SWSG20-08	SWSG21-08	

Overview

The sample set for the CTO 816, NSB New London, SDG 5986 consists of twelve (12) groundwater environmental samples and three (3) aqueous field quality control samples. The aqueous field quality control samples were analyzed for TCL volatile organic compounds (VOC) only. All environmental samples were analyzed for volatile, semivolatile (SVOC), polynuclear aromatic hydrocarbons (PAHs), pesticides (PEST), and polychlorinated biphenyl (PCB) organic compounds. No field duplicate pairs were included in this SDG.

The samples were collected by TetraTech NUS on September 24th and 25th, 2001 and were analyzed by Chemtech Analytical Services. Analyses were conducted using the Contract Laboratory Program (CLP) Statement of Work (SOW) OLC02.1, and the U.S. EPA Test Methods for Evaluating Solid Wastes (SW-846) Methods 8270B, 8310 and 8082 analytical and reporting protocols.

The data were evaluated based on the following parameters:

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

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

CALIBRATIONS

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

Compound	IC 10/7/01	CC 10/7/01;20:19
Acetone	RD	R
2-Butanone	RD	R
2-Hexanone	RD	R
1,2-dibromoethane	D	RX
1,2-Dibromo-3-chloropropane	R	RX
Vinyl chloride		X
1,2-Dichloroethane		X

Associated Samples:	All	2WGW45DS-08
		2WGW43DS-08
		2WGW28DS-08
		SWSG20-08
		SWSG21-08
		SWSG19-08
		SWSG18-08
		2WGW42DS-08

Compound	CC 10/12/01;13:07	CC 10/3/01;00:16
2,2'-oxybis(1-chloropropane)		
N-nitroso-di-n-propylamine		
4-chloroaniline		
2-nitroaniline		
3-nitroaniline		
4-nitrophenol		
4-nitroaniline		
Carbazole		
3,3'-dichlorobenzidine		
2,4-dinitrophenol		
Hexachlorocyclopentadiene		

Associated Samples:

DRMO-6MW1S-GW13
2WGW45DS-08
3MSP01-08
2WGW38DS-08
DRMO-6MW9S-GW13
SWSG19-08
2WG44DS-08
2WGW43DS-08
2WGW42DS-08
SWSG20-08
SWSG18-08
SWSG21-08

Compound	CC 10/14/01;15:42	CC 10/15/01;07:07	CC 10/15/01;14:14
Fluoranthene	X		
Benzo(a)anthracene	X	X	X
2-Methylnaphthalene	X	X	X
Chrysene			X
Associated Samples:	2WG44DS-08 2WGW38DS-08 2WGW42DS-08 2WGW43DS-08 2WGW45DS-08 DRMO-6MW1S-GW13 DRMO-6MW9S-GW13 SWSG19-08	All	3MSP01-08 SWSG18-08 SWSG20-08 SWSG21-08

Calibration Actions:

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

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

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

BLANKS

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

Compound	Maximum Concentration	Action Level
Methylene chloride	1 µg/L	10 µg/L

Samples Affected: All
Blank Actions:

- Value < Contract Required Quantitation Limit (CRQL); report CRQL followed by a U.
- Value > CRQL and < action level; report value followed by a U.
- Value > CRQL and > action level; report value unqualified.

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

SURROGATE RECOVERY

Recovery of the semivolatile acid fraction surrogate 2-fluorophenol fell below the 21%-100% quality control limit for the analysis of samples DRMO-6MW1S-GW13 and 3MSP01-08. No action was taken based on this noncompliance.

Recovery of the semivolatile acid fraction surrogate 2,4,6-tribromophenol exceeded the 10%-123% quality control limit for the analysis of sample 2WGW42DS-08. No action was taken based on this noncompliance.

Recovery of the semivolatile base/neutral fraction surrogate 2-fluorobiphenyl fell below the 43%-126% quality control limit for the analysis of sample 2WGW43DS-08. No action was taken based on this noncompliance.

Recovery of the pesticide surrogate tetrachloro-m-xylene (TCX) exceeded the 60%-150% quality control limit on both analytical columns for the analysis of samples 2WGW44DS-08 and 2WGW42DS-08. In addition, review of sample chromatography shows evidence of significant matrix interference. In the professional judgement of the reviewer, this interference resulted in the noncompliant surrogate recoveries. Therefore, nondetected results for all pesticides were qualified as estimated (UJ) in samples 2WGW44DS-08 and 2WGW42DS-08.

Recovery of the pesticide surrogate TCX exceeded the 60%-150% quality control limit one analytical column (RTX-1701) for the analysis of sample 2WGW43DS-08. Surrogate recovery was compliant on the other analytical column (RTX-50). No action was taken based on this noncompliance.

COMPOUND QUANTITATION

Poor chromatography was observed for the pesticide analysis of samples 2WGW44DS-08 and 2WGW43DS-08. Review of sample chromatography shows evidence of sample matrix interference on both analytical columns, resulting in retention time shifting for TCX on the RTX-1701 analytical column. TCX retention times did not shift on the RTX-50 analytical column. It should also be noted that there were surrogate recovery noncompliances for the analysis of these samples. The laboratory did not re-analyze the sample to confirm sample matrix interference. Therefore, nondetected results for all pesticide compounds were qualified as estimated (UJ) due to chromatographic interference.

TENTATIVELY INDENTIFIED COMPOUNDS

Chlorofluoro methane, sulfur dioxide and several unknown compounds were tentatively identified in the volatile fraction samples.

Numerous TICs were identified in the semivolatile fraction of all samples (see Table 2).

ADDITIONAL COMMENTS

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

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

The compound 1,2,4-trichlorobenzene was reported in the volatile and semivolatile fractions of this SDG. However, as per the Statement Of Work (SOW), 1,2,4-trichlorobenzene was requested to be reported in the semivolatile fraction of this SDG. The reviewer removed this compound from the volatile fraction database since it was not part of the volatile target compound list.

Nondetected results for the PAH and pesticide fractions were reported by the laboratory at the method detection limit "MDL". However, after correspondence with laboratory chemists at Chemtech Inc., it was determined that the value reported on the sample Form Is is actually the sample reporting limit (RL). The reviewer requested that the laboratory resubmit corrected sample Form Is.

The laboratory incorrectly identified sample DRMO-6MW1S-GW13 as DRMO-6MW9S-GW13. The reviewer corrected the Form I to reflect the correct sample identification.

Results for sample 2WGW42DS-08 were not reported on a Form I in the hardcopy data package deliverable. The reviewer contacted the laboratory and requested a Form I for the aforementioned sample.

OVERALL ASSESSMENT

Laboratory Performance: Initial and continuing calibration of several volatile, semivolatile and PAH compounds failed to meet quality control criteria, resulting in the qualification of analytical data. Transcription errors were observed for sample identifications on Form Is and reporting limits for several semivolatile compounds. Data completeness issues were noted.

Other Factors Affecting Data Quality: Poor chromatography was observed for the pesticide analysis of several samples, resulting in the qualification of analytical data.

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

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

TetraTech NUS

Douglas S. Schloer
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

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

NEW LONDON NSB

SDG 5986

TABLE I. Summary of Tentatively Identified Volatile Compounds

TIC	2WG44DS-08	SWSG20-08	2WGW38DS-08	2WGW42DS-08	2WGW43DS-08	2WGW45DS-08
Unknown	X					
Sulfur dioxide	X	X	X	X	X	X

	SWSG18-08	SWGW19-08	SWSG21-08
Unknown		X	
Sulfur dioxide			X
Methane, chlorofluoro	X	X	X

NEW LONDON NSB

SDG 5986

TABLE II. Summary of Tentatively Identified Semivolatile Compounds

TIC	2WG44DS-08	2WGW38DS-08	2WGW42DS-08	2WGW43DS-08	2WGW45DS-08	3MSP01-08	DRMO-6MW1S-GW13
1,2,4-Trithiolane	X		X	X			
1,2,4,5-tetrathiane	X		X				
Lenthionine	X						
Unknown	X	X	X	X	X	X	X
Sulfur,mol(S8)	X		X	X			
Hexthiepane	X						
Sulfur	X		X				
ACP					X		x
Phenol,4-(1,1,3,3-tetrameth		X			X	X	X
Cyclododecanemethanol		X					
Tetradecanoic acid		X		X	X	X	
Heptadecanoic acid		X					
9-Octadenamide,(Z)-		X					
Carotene,7,7',8		X			X	X	
3-Tetradecanol		X				X	
Lenthionine			X	X			
Cyclopentadecanone,2-hydrox					X	X	
14-Pentadecanoic acid					X		
Hexadecanamide					X		
Dodecanamide						X	
Tetradecane							X
4-Nonylphenol							X
Glycine,N-methyl-n-(1-oxodo							X
1,2-Benzenedicarboxylic acid							X
3-Eicosane							X
9-Octadedenamide							X

TIC	SWSG18-08	SWSG19-08	SWSG20-08	SWSG21-08	DRMO-6MW9S-GW13
Phosphonic acid,dioctadecyl				X	
Pentadecanoic acid				X	
Lenthionine					
Unknown	X	X	X		
Sulfur,mol(S8)					
Hexthiepane					
Sulfur					
ACP	X	X	X	X	X
Phenol,4-(1,1,3,3-tetrameth					
Cyclododecanemethanol					
Tetradecanoic acid	X	X	X		X
Heptadecanoic acid		X	X		
9-Octadenamide,(Z)-		X			X
Carotene,7,7',8					
3-Tetradecanol					
Lenthionine					
Cyclopentadecanone,2-hydrox	X				
14-Pentadecanoic acid			X		
Hexadecanamide					
Dodecanamide					
Tetradecane					
4-Nonylphenol					
Glycine,N-methyl-n-(1-oxodo					
1,2-Benzenedicarboxylic acid					
3-Eicosane					
1-Octadecanol					X
Ethane,1,1,2,2-tetrachloro	X	X	X		
Benzaldehyde	X	X			
Methane,dibromodichloro	X				
Hexadecanoic acid,bis(2-ethy	X				
Methyl(Z)-5,11,14,17-eicosa		X		X	
10-Methylnonadecane			X		
9-Octadedenamide	X				

APPENDIX A

QUALIFIED LABORATORY RESULTS

Qualifier Codes:

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

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW38DS-08			2WGW42DS-08			2WGW43DS-08			2WGW44DS-08		
SAMPLE DATE:	09/25/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	N5986-14			N5986-08			N5986-06			N5986-02		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHENE	1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C	1	UR	C	1	UR	C	1	UR	C
1,2-DIBROMOETHANE	1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
1,2-DICHLOROBENZENE	1	UJ	C	1	UJ	C	1	UJ	C	1	U	
1,2-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE	1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
2-BUTANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
2-HEXANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
4-METHYL-2-PENTANONE	5	U		5	U		5	U		5	U	
ACETONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
BENZENE	1	U		1	U		1	U		1	U	
BROMOCHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMOFORM	1	U		1	U		1	U		1	U	
BROMOMETHANE	1	U		1	U		1	U		1	U	
CARBON DISULFIDE	1	U		3.5			1.7			6.3		
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	U		1	U		1	U		1	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW38DS-08			2WGW42DS-08			2WGW43DS-08			2WGW44DS-08		
SAMPLE DATE:	09/25/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	N5986-14			N5986-08			N5986-06			N5986-02		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
M+P-XYLENES	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		2	U		2	U		2	U	
O-XYLENE	1	U		1	U		1	U		1	U	
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		1	U	
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	1	U		1	U		1	U		1	U	
VINYL CHLORIDE	1	UJ	C	1	UJ	C	1	UJ	C	1	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW45DS-08			3MSP01-08			DRMO-6MW1S-GW13			DRMO-6MW9S-GW13		
SAMPLE DATE:	09/24/01			09/25/01			09/24/01			09/24/01		
LABORATORY ID:	N5986-04			N5986-24			N5986-12			N5986-11		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHENE	1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C	1	UR	C	1	UR	C	1	UR	C
1,2-DIBROMOETHANE	1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
1,2-DICHLOROBENZENE	1	UJ	C	1	U		1	U		1	U	
1,2-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE	1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
2-BUTANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
2-HEXANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
4-METHYL-2-PENTANONE	5	U		5	U		5	U		5	U	
ACETONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
BENZENE	1	U		1	U		1	U		1	U	
BROMOCHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMOFORM	1	U		1	U		1	U		1	U	
BROMOMETHANE	1	U		1	U		1	U		1	U	
CARBON DISULFIDE	2.6			1	U		1	U		1	U	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	U		1	U		1	U		1	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW45DS-08			3MSP01-08			DRMO-6MW1S-GW13			DRMO-6MW9S-GW13		
SAMPLE DATE:	09/24/01			09/25/01			09/24/01			09/24/01		
LABORATORY ID:	N5986-04			N5986-24			N5986-12			N5986-11		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
M+P-XYLENES	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		2	U		2	U		2	U	
O-XYLENE	1	U		1	U		1	U		1	U	
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		1	U	
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	1	U		1	U		1	U		1	U	
VINYL CHLORIDE	1	UJ	C	1	U		1	U		1	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	SWSG18-08			SWSG19-08			SWSG20-08			SWSG21-08		
SAMPLE DATE:	09/25/01			09/25/01			09/25/01			09/25/01		
LABORATORY ID:	N5986-22			N5986-16			N5986-18			N5986-20		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	1	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,1-DICHLOROETHENE	1	U		1	U		1	U		1	U	
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C	1	UR	C	1	UR	C	1	UR	C
1,2-DIBROMOETHANE	1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
1,2-DICHLOROBENZENE	1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
1,2-DICHLOROETHANE	1	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE	1	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE	1	U		1	U		1	U		1	U	
2-BUTANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
2-HEXANONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
4-METHYL-2-PENTANONE	5	U		5	U		5	U		5	U	
ACETONE	5	UR	C	5	UR	C	5	UR	C	5	UR	C
BENZENE	1	U		1	U		1	U		1	U	
BROMOCHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	1	U		1	U		1	U		1	U	
BROMOFORM	1	U		1	U		1	U		1	U	
BROMOMETHANE	1	U		1	U		1	U		1	U	
CARBON DISULFIDE	1	U		1	U		1	U		1	U	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	U		1	U		1	U		1	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	SWSG18-08			SWSG19-08			SWSG20-08			SWSG21-08		
SAMPLE DATE:	09/25/01			09/25/01			09/25/01			09/25/01		
LABORATORY ID:	N5986-22			N5986-16			N5986-18			N5986-20		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
M+P-XYLENES	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		2	U		2	U		2	U	
O-XYLENE	1	U		1	U		1	U		1	U	
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1.3			0.9	J	P	0.9	J	P	0.7	J	P
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
TRICHLOROETHENE	1	U		1	U		1	U		1	U	
VINYL CHLORIDE	1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	TB-092401-01			TB-092401-02			TB-092501-01					
SAMPLE DATE:	09/24/01			09/24/01			09/25/01			/ /		
LABORATORY ID:	N5986-10			N5986-01			N5986-13					
QC_TYPE:	NORMAL			NORMAL			NORMAL					
% SOLIDS:	0.0 %			0.0 %			0.0 %			100.0 %		
UNITS:	UG/L			UG/L			UG/L					
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U		1	U				
1,1,2,2-TETRACHLOROETHANE	1	U		1	U		1	U				
1,1,2-TRICHLOROETHANE	1	U		1	U		1	U				
1,1-DICHLOROETHANE	1	U		1	U		1	U				
1,1-DICHLOROETHENE	1	U		1	U		1	U				
1,2,4-TRICHLOROBENZENE	1	U		1	U		1	U				
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C	1	UR	C	1	UR	C			
1,2-DIBROMOETHANE	1	UJ	C	1	UJ	C	1	UJ	C			
1,2-DICHLOROBENZENE	1	U		1	U		1	U				
1,2-DICHLOROETHANE	1	U		1	U		1	U				
1,2-DICHLOROPROPANE	1	U		1	U		1	U				
1,3-DICHLOROBENZENE	1	U		1	U		1	U				
1,4-DICHLOROBENZENE	1	U		1	U		1	U				
2-BUTANONE	5	UR	C	5	UR	C	5	UR	C			
2-HEXANONE	5	UR	C	5	UR	C	5	UR	C			
4-METHYL-2-PENTANONE	5	U		5	U		5	U				
ACETONE	5	UR	C	5	UR	C	5	UR	C			
BENZENE	1	U		1	U		1	U				
BROMOCHLOROMETHANE	1	U		1	U		1	U				
BROMODICHLOROMETHANE	1	U		1	U		1	U				
BROMOFORM	1	U		1	U		1	U				
BROMOMETHANE	1	U		1	U		1	U				
CARBON DISULFIDE	1	U		1	U		1	U				
CARBON TETRACHLORIDE	1	U		1	U		1	U				
CHLOROBENZENE	1	U		1	U		1	U				
CHLORODIBROMOMETHANE	1	U		1	U		1	U				
CHLOROETHANE	1	U		1	U		1	U				
CHLOROFORM	1	U		1	U		1	U				
CHLOROMETHANE	1	U		1	U		1	U				
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U				
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U				
ETHYLBENZENE	1	U		1	U		1	U				

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	TB-092401-01			TB-092401-02			TB-092501-01					
SAMPLE DATE:	09/24/01			09/24/01			09/25/01			/ /		
LABORATORY ID:	N5986-10			N5986-01			N5986-13					
QC_TYPE:	NORMAL			NORMAL			NORMAL					
% SOLIDS:	0.0 %			0.0 %			0.0 %			100.0 %		
UNITS:	UG/L			UG/L			UG/L					
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
M+P-XYLENES	1	U		1	U		1	U				
METHYLENE CHLORIDE	0.9	J	P	2	U		1	J	P			
O-XYLENE	1	U		1	U		1	U				
STYRENE	1	U		1	U		1	U				
TETRACHLOROETHENE	1	U		1	U		1	U				
TOLUENE	1	U		1	U		1	U				
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U				
TRANS-1,3-DICHLOROPROPENE	1	U		1	U		1	U				
TRICHLOROETHENE	1	U		1	U		1	U				
VINYL CHLORIDE	1	U		1	U		1	U				

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW38DS-08			2WGW42DS-08			2WGW43DS-08			2WGW44DS-08		
SAMPLE DATE:	09/25/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	N5986-14			N5986-08			N5986-06			N5986-02		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
2,2'-OXYBIS(1-CHLOROPROPANE)	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
2,4,5-TRICHLOROPHENOL	5	U		5	U		5	U		5	U	
2,4,6-TRICHLOROPHENOL	20	U		20	U		20	U		20	U	
2,4-DICHLOROPHENOL	5	U		5	U		5	U		5	U	
2,4-DIMETHYLPHENOL	5	U		5	U		5	U		5	U	
2,4-DINITROPHENOL	20	U		20	UJ	C	20	U		20	UJ	C
2,4-DINITROTOLUENE	5	U		5	U		5	U		5	U	
2,6-DINITROTOLUENE	5	U		5	U		5	U		5	U	
2-CHLORONAPHTHALENE	5	U		5	U		5	U		5	U	
2-CHLOROPHENOL	5	U		5	U		5	U		5	U	
2-METHYLPHENOL	5	U		5	U		5	U		5	U	
2-NITROANILINE	20	UJ	C	20	UJ	C	20	UJ	C	20	UJ	C
2-NITROPHENOL	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
3&4-METHYLPHENOL	5	U		5	U		5	U		5	U	
3,3'-DICHLOROBENZIDINE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
3-NITROANILINE	20	UJ	C	20	UJ	C	20	UJ	C	20	UJ	C
4,6-DINITRO-2-METHYLPHENOL	20	U		20	U		20	U		20	U	
4-BROMOPHENYL PHENYL ETHER	5	U		5	U		5	U		5	U	
4-CHLORO-3-METHYLPHENOL	5	U		5	U		5	U		5	U	
4-CHLOROANILINE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
4-CHLOROPHENYL PHENYL ETHER	5	U		5	U		5	U		5	U	
4-NITROANILINE	20	UJ	C	20	UJ	C	20	UJ	C	20	UJ	C
4-NITROPHENOL	20	U		20	U		20	U		20	U	
BENZOIC ACID	5	U		5	U		5	U		5	U	
BIS(2-CHLOROETHOXY)METHANE	5	U		5	U		5	U		5	U	
BIS(2-CHLOROETHYL)ETHER	5	U		5	U		5	U		5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	6.9			27			40			1.2	J	P
BUTYL BENZYL PHTHALATE	5	U		5	U		5	U		5	U	
CARBAZOLE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
DI-N-BUTYL PHTHALATE	5	U		5	U		5	U		5	U	
DI-N-OCTYL PHTHALATE	5	U		5	U		5	U		5	U	
DIBENZOFURAN	5	U		5	U		5	U		5	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW38DS-08			2WGW42DS-08			2WGW43DS-08			2WGW44DS-08		
SAMPLE DATE:	09/25/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	N5986-14			N5986-08			N5986-06			N5986-02		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
DIETHYL PHTHALATE	5	U		5	U		5	U		5	U	
DIMETHYL PHTHALATE	5	U		5	U		5	U		5	U	
HEXACHLOROBENZENE	5	U		5	U		5	U		5	U	
HEXACHLOROBUTADIENE	5	U		5	U		5	U		5	U	
HEXACHLOROCYCLOPENTADIENE	5	U		5	UJ	C	5	U		5	U	
HEXACHLOROETHANE	5	U		5	U		5	U		5	U	
ISOPHORONE	5	U		5	U		5	U		5	U	
N-NITROSO-DI-N-PROPYLAMINE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
N-NITROSODIPHENYLAMINE	5	U		5	U		5	U		5	U	
NITROBENZENE	5	U		5	U		5	U		5	U	
PENTACHLOROPHENOL	20	U		20	U		20	U		20	U	
PHENOL	5	U		5	U		5	U		5	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW45DS-08			3MSP01-08			DRMO-6MW1S-GW13			DRMO-6MW9S-GW13		
SAMPLE DATE:	09/24/01			09/25/01			09/24/01			09/24/01		
LABORATORY ID:	N5986-04			N5986-24			N5986-12			N5986-11		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
2,2'-OXYBIS(1-CHLOROPROPANE)	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
2,4,5-TRICHLOROPHENOL	5	U		5	U		5	U		5	U	
2,4,6-TRICHLOROPHENOL	20	U		20	U		20	U		20	U	
2,4-DICHLOROPHENOL	5	U		5	U		5	U		5	U	
2,4-DIMETHYLPHENOL	5	U		5	U		5	U		5	U	
2,4-DINITROPHENOL	20	U		20	U		20	U		20	U	
2,4-DINITROTOLUENE	5	U		5	U		5	U		5	U	
2,6-DINITROTOLUENE	5	U		5	U		5	U		5	U	
2-CHLORONAPHTHALENE	5	U		5	U		5	U		5	U	
2-CHLOROPHENOL	5	U		5	U		5	U		5	U	
2-METHYLPHENOL	5	U		5	U		5	U		5	U	
2-NITROANILINE	20	UJ	C	20	UJ	C	20	UJ	C	20	UJ	C
2-NITROPHENOL	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
3&4-METHYLPHENOL	5	U		5	U		5	U		5	U	
3,3'-DICHLOROBENZIDINE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
3-NITROANILINE	20	UJ	C	20	UJ	C	20	UJ	C	20	UJ	C
4,6-DINITRO-2-METHYLPHENOL	20	U		20	U		20	U		20	U	
4-BROMOPHENYL PHENYL ETHER	5	U		5	U		5	U		5	U	
4-CHLORO-3-METHYLPHENOL	5	U		5	U		5	U		5	U	
4-CHLOROANILINE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
4-CHLOROPHENYL PHENYL ETHER	5	U		5	U		5	U		5	U	
4-NITROANILINE	20	UJ	C	20	UJ	C	20	UJ	C	20	UJ	C
4-NITROPHENOL	20	U		20	U		20	U		20	U	
BENZOIC ACID	5	U		5	U		5	U		5	U	
BIS(2-CHLOROETHOXY)METHANE	5	U		5	U		5	U		5	U	
BIS(2-CHLOROETHYL)ETHER	5	U		5	U		5	U		5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	1.1	J	P	5.4			130			1.3	J	P
BUTYL BENZYL PHTHALATE	5	U		5	U		5	U		5	U	
CARBAZOLE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
DI-N-BUTYL PHTHALATE	5	U		5	U		5	U		5	U	
DI-N-OCTYL PHTHALATE	5	U		5	U		5	U		5	U	
DIBENZOFURAN	5	U		5	U		5	U		5	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW45DS-08			3MSP01-08			DRMO-6MW1S-GW13			DRMO-6MW9S-GW13		
SAMPLE DATE:	09/24/01			09/25/01			09/24/01			09/24/01		
LABORATORY ID:	N5986-04			N5986-24			N5986-12			N5986-11		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
DIETHYL PHTHALATE	5	U		5	U		5	U		5	U	
DIMETHYL PHTHALATE	5	U		5	U		5	U		5	U	
HEXACHLOROBENZENE	5	U		5	U		5	U		5	U	
HEXACHLOROBUTADIENE	5	U		5	U		5	U		5	U	
HEXACHLOROCYCLOPENTADIENE	5	U		5	U		5	U		5	U	
HEXACHLOROETHANE	5	U		5	U		5	U		5	U	
ISOPHORONE	5	U		5	U		5	U		5	U	
N-NITROSO-DI-N-PROPYLAMINE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
N-NITROSODIPHENYLAMINE	5	U		5	U		5	U		5	U	
NITROBENZENE	5	U		5	U		5	U		5	U	
PENTACHLOROPHENOL	20	U		20	U		20	U		20	U	
PHENOL	5	U		5	U		5	U		5	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	SWSG18-08			SWSG19-08			SWSG20-08			SWSG21-08		
SAMPLE DATE:	09/25/01			09/25/01			09/25/01			09/25/01		
LABORATORY ID:	N5986-22			N5986-16			N5986-18			N5986-20		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
2,2'-OXYBIS(1-CHLOROPROPANE)	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
2,4,5-TRICHLOROPHENOL	5	U		5	U		5	U		5	U	
2,4,6-TRICHLOROPHENOL	20	U		20	U		20	U		20	U	
2,4-DICHLOROPHENOL	5	U		5	U		5	U		5	U	
2,4-DIMETHYLPHENOL	5	U		5	U		5	U		5	U	
2,4-DINITROPHENOL	20	UJ	C	20	U		20	UJ	C	20	UJ	C
2,4-DINITROTOLUENE	5	U		5	U		5	U		5	U	
2,6-DINITROTOLUENE	5	U		5	U		5	U		5	U	
2-CHLORONAPHTHALENE	5	U		5	U		5	U		5	U	
2-CHLOROPHENOL	5	U		5	U		5	U		5	U	
2-METHYLPHENOL	5	U		5	U		5	U		5	U	
2-NITROANILINE	20	UJ	C	20	UJ	C	20	UJ	C	20	UJ	C
2-NITROPHENOL	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
3&4-METHYLPHENOL	5	U		5	U		5	U		5	U	
3,3'-DICHLOROBENZIDINE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
3-NITROANILINE	20	UJ	C	20	UJ	C	20	UJ	C	20	UJ	C
4,6-DINITRO-2-METHYLPHENOL	20	U		20	U		20	U		20	U	
4-BROMOPHENYL PHENYL ETHER	5	U		5	U		5	U		5	U	
4-CHLORO-3-METHYLPHENOL	5	U		5	U		5	U		5	U	
4-CHLOROANILINE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
4-CHLOROPHENYL PHENYL ETHER	5	U		5	U		5	U		5	U	
4-NITROANILINE	20	UJ	C	20	UJ	C	20	UJ	C	20	UJ	C
4-NITROPHENOL	20	U		20	U		20	U		20	U	
BENZOIC ACID	5	U		5	U		5	U		5	U	
BIS(2-CHLOROETHOXY)METHANE	5	U		5	U		5	U		5	U	
BIS(2-CHLOROETHYL)ETHER	5	U		5	U		5	U		5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	5	U		1.3	J	P	5	U		4.1	J	P
BUTYL BENZYL PHTHALATE	5	U		5	U		5	U		5	U	
CARBAZOLE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
DI-N-BUTYL PHTHALATE	5	U		5	U		5	U		5	U	
DI-N-OCTYL PHTHALATE	5	U		5	U		5	U		2.3	J	P
DIBENZOFURAN	5	U		5	U		5	U		5	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	SWSG18-08			SWSG19-08			SWSG20-08			SWSG21-08		
SAMPLE DATE:	09/25/01			09/25/01			09/25/01			09/25/01		
LABORATORY ID:	N5986-22			N5986-16			N5986-18			N5986-20		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
DIETHYL PHTHALATE	5	U		5	U		5	U		5	U	
DIMETHYL PHTHALATE	5	U		5	U		5	U		5	U	
HEXACHLOROBENZENE	5	U		5	U		5	U		5	U	
HEXACHLOROBUTADIENE	5	U		5	U		5	U		5	U	
HEXACHLOROCYCLOPENTADIENE	5	UJ	C	5	U		5	UJ	C	5	UJ	C
HEXACHLOROETHANE	5	U		5	U		5	U		5	U	
ISOPHORONE	5	U		5	U		5	U		5	U	
N-NITROSO-DI-N-PROPYLAMINE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
N-NITROSODIPHENYLAMINE	5	U		5	U		5	U		5	U	
NITROBENZENE	5	U		5	U		5	U		5	U	
PENTACHLOROPHENOL	20	U		20	U		20	U		20	U	
PHENOL	5	U		5	U		5	U		5	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW38DS-08			2WGW42DS-08			2WGW43DS-08			2WGW44DS-08		
SAMPLE DATE:	09/25/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	N5986-14			N5986-08			N5986-06			N5986-02		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	0.5	U		0.5	U		0.5	U		0.5	U	
2-METHYLNAPHTHALENE	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C
ACENAPHTHENE	0.016	U		0.016	U		0.016	U		0.016	U	
ACENAPHTHYLENE	0.013	U		0.013	U		0.013	U		0.013	U	
ANTHRACENE	0.03	U		0.03	U		0.03	U		0.03	U	
BENZO(A)ANTHRACENE	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C
BENZO(A)PYRENE	0.021	U		0.021	U		1.2			0.021	U	
BENZO(B)FLUORANTHENE	0.02	U		0.02	U		0.02	U		0.02	U	
BENZO(G,H,I)PERYLENE	0.009	U		0.009	U		0.009	U		0.009	U	
BENZO(K)FLUORANTHENE	0.02	U		0.02	U		0.02	U		0.02	U	
CHRYSENE	0.012	U		0.012	U		0.012	U		0.012	UJ	C
DIBENZO(A,H)ANTHRACENE	0.014	U		0.014	U		0.014	U		0.014	U	
FLUORANTHENE	0.009	UJ	C	0.009	UJ	C	0.009	UJ	C	0.009	UJ	C
FLUORENE	0.007	U		0.53			0.007	U		0.007	U	
INDENO(1,2,3-CD)PYRENE	0.008	U		0.008	U		0.008	U		0.008	U	
NAPHTHALENE	0.008	U		0.008	U		0.008	U		0.008	U	
PHENANTHRENE	0.004	U		0.004	U		0.5			0.004	U	
PYRENE	0.18			0.008	U		0.3			0.008	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW45DS-08			3MSP01-08			DRMO-6MW1S-GW13			DRMO-6MW9S-GW13		
SAMPLE DATE:	09/24/01			09/25/01			09/24/01			09/24/01		
LABORATORY ID:	N5986-04			N5986-24			N5986-12			N5986-11		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	0.5	U		0.5	U		0.5	U		0.5	U	
2-METHYLNAPHTHALENE	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C
ACENAPHTHENE	0.016	U		0.016	U		0.016	U		0.016	U	
ACENAPHTHYLENE	0.013	U		0.3			0.013	U		0.013	U	
ANTHRACENE	0.03	U		0.03	U		0.03	U		0.03	U	
BENZO(A)ANTHRACENE	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C
BENZO(A)PYRENE	0.021	U		0.021	U		0.021	U		0.021	U	
BENZO(B)FLUORANTHENE	0.02	U		0.02	U		0.02	U		0.02	U	
BENZO(G,H,I)PERYLENE	0.009	U		0.009	U		0.009	U		0.009	U	
BENZO(K)FLUORANTHENE	0.02	U		0.02	U		0.02	U		0.02	U	
CHRYSENE	0.012	U		0.012	UJ	C	0.012	U		0.012	U	
DIBENZO(A,H)ANTHRACENE	0.014	U		0.014	U		0.014	U		0.014	U	
FLUORANTHENE	0.009	UJ	C	0.009	U		0.009	UJ	C	0.009	UJ	C
FLUORENE	0.007	U		0.13			0.007	U		0.007	U	
INDENO(1,2,3-CD)PYRENE	0.008	U		0.008	U		0.008	U		0.008	U	
NAPHTHALENE	0.008	U		0.008	U		0.008	U		0.008	U	
PHENANTHRENE	0.004	U		0.004	U		0.19			0.004	U	
PYRENE	0.008	U		0.008	U		0.55			0.008	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	SWSG18-08			SWSG19-08			SWSG20-08			SWSG21-08		
SAMPLE DATE:	09/25/01			09/25/01			09/25/01			09/25/01		
LABORATORY ID:	N5986-22			N5986-16			N5986-18			N5986-20		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	0.5	U		0.5	U		0.5	U		0.5	U	
2-METHYLNAPHTHALENE	0.5	UJ	C	0.5	UJ	C	0.5	UJ	C	0.06	J	C
ACENAPHTHENE	0.016	U		0.016	U		0.016	U		0.016	U	
ACENAPHTHYLENE	0.013	U		0.013	U		0.013	U		0.2		
ANTHRACENE	0.03	U		0.03	U		0.03	U		0.03	U	
BENZO(A)ANTHRACENE	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C	0.012	UJ	C
BENZO(A)PYRENE	0.021	U		0.021	U		0.021	U		0.021	U	
BENZO(B)FLUORANTHENE	0.02	U		0.02	U		0.02	U		0.02	U	
BENZO(G,H,I)PERYLENE	0.009	U		0.009	U		0.009	U		0.009	U	
BENZO(K)FLUORANTHENE	0.02	U		0.02	U		0.02	U		0.02	U	
CHRYSENE	0.012	UJ	C	0.012	U		0.012	UJ	C	0.012	UJ	C
DIBENZO(A,H)ANTHRACENE	0.014	U		0.014	U		0.014	U		0.014	U	
FLUORANTHENE	0.009	U		0.009	UJ	C	0.009	U		0.009	U	
FLUORENE	0.007	U		0.25			0.007	U		0.36		
INDENO(1,2,3-CD)PYRENE	0.008	U		0.008	U		0.008	U		0.008	U	
NAPHTHALENE	0.008	U		0.008	U		0.008	U		0.008	U	
PHENANTHRENE	0.004	U		0.004	U		0.004	U		0.004	U	
PYRENE	0.008	U		0.23			0.19			0.008	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	2WGW42DS-08			2WGW43DS-08			2WGW44DS-08			2WGW45DS-08		
SAMPLE DATE:	09/24/01			09/24/01			09/24/01			09/24/01		
LABORATORY ID:	N5986-08			N5986-06			N5986-02			N5986-04		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	0.020	UJ	QR	0.020	U		0.020	UJ	QR	0.020	U	
4,4'-DDE	0.020	UJ	QR	0.020	U		0.020	UJ	QR	0.020	U	
4,4'-DDT	0.020	UJ	QR	0.020	U		0.020	UJ	QR	0.020	U	
ALDRIN	0.010	UJ	QR	0.010	U		0.010	UJ	QR	0.010	U	
ALPHA-BHC	0.010	UJ	QR	0.010	U		0.010	UJ	QR	0.010	U	
ALPHA-CHLORDANE	0.010	UJ	QR	0.010	U		0.010	UJ	QR	0.010	U	
AROCLOR-1016	0.20	U		0.20	U		0.20	U		0.20	U	
AROCLOR-1221	0.40	U		0.40	U		0.40	U		0.40	U	
AROCLOR-1232	0.20	U		0.20	U		0.20	U		0.20	U	
AROCLOR-1242	0.20	U		0.20	U		0.20	U		0.20	U	
AROCLOR-1248	0.20	U		0.20	U		0.20	U		0.20	U	
AROCLOR-1254	0.20	U		0.20	U		0.20	U		0.20	U	
AROCLOR-1260	0.20	U		0.20	U		0.20	U		0.20	U	
BETA-BHC	0.010	UJ	QR	0.010	U		0.010	UJ	QR	0.010	U	
DELTA-BHC	0.010	UJ	QR	0.010	U		0.010	UJ	QR	0.010	U	
DIELDRIN	0.020	UJ	QR	0.020	U		0.020	UJ	QR	0.020	U	
ENDOSULFAN I	0.010	UJ	QR	0.010	U		0.010	UJ	QR	0.010	U	
ENDOSULFAN II	0.020	UJ	QR	0.020	U		0.020	UJ	QR	0.020	U	
ENDOSULFAN SULFATE	0.020	UJ	QR	0.020	U		0.020	UJ	QR	0.020	U	
ENDRIN	0.020	UJ	QR	0.020	U		0.020	UJ	QR	0.020	U	
ENDRIN ALDEHYDE	0.020	UJ	QR	0.020	U		0.020	UJ	QR	0.020	U	
ENDRIN KETONE	0.020	UJ	QR	0.020	U		0.020	UJ	QR	0.020	U	
GAMMA-BHC (LINDANE)	0.010	UJ	QR	0.010	U		0.010	UJ	QR	0.010	U	
GAMMA-CHLORDANE	0.010	UJ	QR	0.010	U		0.010	UJ	QR	0.010	U	
HEPTACHLOR	0.010	UJ	QR	0.010	U		0.010	UJ	QR	0.010	U	
HEPTACHLOR EPOXIDE	0.010	UJ	QR	0.010	U		0.010	UJ	QR	0.010	U	
METHOXYCHLOR	0.10	UJ	QR	0.10	U		0.10	UJ	QR	0.10	U	
TOXAPHENE	1.0	UJ	QR	1.0	U		1.0	UJ	QR	1.0	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	3MSP01-08			DRMO-6MW1S-GW13			DRMO-6MW9S-GW13			SWSG18-08		
SAMPLE DATE:	09/25/01			09/24/01			09/24/01			09/25/01		
LABORATORY ID:	N5986-24			N5986-12			N5986-11			N5986-22		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	0.020	U		0.020	U		0.020	U		0.020	U	
4,4'-DDE	0.020	U		0.020	U		0.020	U		0.020	U	
4,4'-DDT	0.020	U		0.020	U		0.020	U		0.020	U	
ALDRIN	0.010	U		0.010	U		0.010	U		0.010	U	
ALPHA-BHC	0.010	U		0.010	U		0.010	U		0.010	U	
ALPHA-CHLORDANE	0.010	U		0.010	U		0.010	U		0.010	U	
AROCLOR-1016	0.20	U		0.20	U		0.20	U		0.20	U	
AROCLOR-1221	0.40	U		0.40	U		0.40	U		0.40	U	
AROCLOR-1232	0.20	U		0.20	U		0.20	U		0.20	U	
AROCLOR-1242	0.20	U		0.20	U		0.20	U		0.20	U	
AROCLOR-1248	0.20	U		0.20	U		0.20	U		0.20	U	
AROCLOR-1254	0.20	U		0.20	U		0.20	U		0.20	U	
AROCLOR-1260	0.20	U		0.20	U		0.20	U		0.20	U	
BETA-BHC	0.010	U		0.010	U		0.010	U		0.010	U	
DELTA-BHC	0.010	U		0.010	U		0.010	U		0.010	U	
DIELDRIN	0.020	U		0.020	U		0.020	U		0.020	U	
ENDOSULFAN I	0.010	U		0.010	U		0.010	U		0.010	U	
ENDOSULFAN II	0.020	U		0.020	U		0.020	U		0.020	U	
ENDOSULFAN SULFATE	0.020	U		0.020	U		0.020	U		0.020	U	
ENDRIN	0.020	U		0.020	U		0.020	U		0.020	U	
ENDRIN ALDEHYDE	0.020	U		0.020	U		0.020	U		0.020	U	
ENDRIN KETONE	0.020	U		0.020	U		0.020	U		0.020	U	
GAMMA-BHC (LINDANE)	0.010	U		0.010	U		0.010	U		0.010	U	
GAMMA-CHLORDANE	0.010	U		0.010	U		0.010	U		0.010	U	
HEPTACHLOR	0.010	U		0.010	U		0.010	U		0.010	U	
HEPTACHLOR EPOXIDE	0.010	U		0.010	U		0.010	U		0.010	U	
METHOXYCHLOR	0.10	U		0.10	U		0.10	U		0.10	U	
TOXAPHENE	1.0	U		1.0	U		1.0	U		1.0	U	

CTO816-NSB NEW LONDON
WATER DATA
CHEMTECH CONSULTING GROUP
SDG: 5986

SAMPLE NUMBER:	SWSG19-08	SWSG20-08	SWSG21-08	
SAMPLE DATE:	09/25/01	09/25/01	09/25/01	/ /
LABORATORY ID:	N5986-16	N5986-18	N5986-20	
QC_TYPE:	NORMAL	NORMAL	NORMAL	
% SOLIDS:	0.0 %	0.0 %	0.0 %	100.0 %
UNITS:	UG/L	UG/L	UG/L	
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
4,4'-DDD	0.020	U		0.020	U		0.020	U				
4,4'-DDE	0.020	U		0.020	U		0.020	U				
4,4'-DDT	0.020	U		0.020	U		0.020	U				
ALDRIN	0.010	U		0.010	U		0.010	U				
ALPHA-BHC	0.010	U		0.010	U		0.010	U				
ALPHA-CHLORDANE	0.010	U		0.010	U		0.010	U				
AROCLOR-1016	0.20	U		0.20	U		0.20	U				
AROCLOR-1221	0.40	U		0.40	U		0.40	U				
AROCLOR-1232	0.20	U		0.20	U		0.20	U				
AROCLOR-1242	0.20	U		0.20	U		0.20	U				
AROCLOR-1248	0.20	U		0.20	U		0.20	U				
AROCLOR-1254	0.20	U		0.20	U		0.20	U				
AROCLOR-1260	0.20	U		0.20	U		0.20	U				
BETA-BHC	0.010	U		0.010	U		0.010	U				
DELTA-BHC	0.010	U		0.010	U		0.010	U				
DIELDRIN	0.020	U		0.020	U		0.020	U				
ENDOSULFAN I	0.010	U		0.010	U		0.010	U				
ENDOSULFAN II	0.020	U		0.020	U		0.020	U				
ENDOSULFAN SULFATE	0.020	U		0.020	U		0.020	U				
ENDRIN	0.020	U		0.020	U		0.020	U				
ENDRIN ALDEHYDE	0.020	U		0.020	U		0.020	U				
ENDRIN KETONE	0.020	U		0.020	U		0.020	U				
GAMMA-BHC (LINDANE)	0.010	U		0.010	U		0.010	U				
GAMMA-CHLORDANE	0.010	U		0.010	U		0.010	U				
HEPTACHLOR	0.010	U		0.010	U		0.010	U				
HEPTACHLOR EPOXIDE	0.010	U		0.010	U		0.010	U				
METHOXYCHLOR	0.10	U		0.10	U		0.10	U				
TOXAPHENE	1.0	U		1.0	U		1.0	U				