DRAFT

Round 5
Groundwater Monitoring Report
for
Area A Landfill

Naval Submarine Base
New London
Groton, Connecticut

Northern Division
Naval Facilities Engineering Command
Contract Number N62472-90-D-1298
Contract Task Order 0257

March 2001

TETRA TECH NUS, INC.

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ROUND 5 GROUNDWATER MONITORING REPORT
FOR
AREA A LANDFILL

NAVAL SUBMARINE BASE - NEW LONDON
GROTON, CONNECTICUT

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Northern Division
Environmental Branch Code 18
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, Pennsylvania 19113-2090

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1.0 INTRODUCTION

This Round 5 Groundwater Monitoring Report for the Area A Landfill at the Naval Submarine Base New London (NSB-NLON) in Groton, Connecticut was prepared for the U.S. Department of the Navy (Navy) by Tetra Tech NUS, Inc. (TtNUS) under the Comprehensive Long-Term Environmental Action Navy (CLEAN), Contract Number N62472-90-D-1298, Contract Task Order (CTO) 0257.

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

1.1 SCOPE AND OBJECTIVE

An Interim Remedial Action (IRA) was completed in 1997 at the Area A Landfill site to address the risk from direct exposure to landfill material and to minimize the risk of migration of chemicals of concern (COCs) from the landfill to the surrounding areas via groundwater. The IRA consisted of capping the site with a multi-layer low-permeability cover system and installing a surface water and shallow groundwater interception and diversion system upgradient from the cover system. The groundwater monitoring is being conducted to evaluate the effectiveness of the IRA.

The objective of this Round 5 Groundwater Monitoring Report is to present the results of the fifth round of long-term groundwater monitoring at the Area A Landfill site. Three Phase I and Phase II Remedial Investigation (RI) monitoring wells and 11 monitoring wells installed in May 1999 were sampled and analyzed for a suite of analytes based on an evaluation of site history and previous analytical results. One seep sample and seven surface water samples located adjacent to monitoring wells were also obtained. Three additional surface water locations were to be sampled; however, due to a lack of surface water at these locations, samples were not obtained. Sampling and analyses were performed in accordance to the Groundwater Monitoring Plan (GMP) prepared for the Area A Landfill (TtNUS, January 1999). Because this is an interim report for the fifth round of groundwater monitoring, evaluation of monitoring results is limited to a comparison of these results to the criteria identified in the GMP for the Area A Landfill (TtNUS, January 1999).

1.2 BACKGROUND INFORMATION

1.2.1 Base Description

NSB-NLON is located in southeastern Connecticut in the Towns of Ledyard and Groton. It encompasses approximately 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 (Figure 1-1). 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 the submarine maintenance, repair, and overhaul.

1.2.2 Site Description and History

The Area A Landfill is located in the northeastern and north central part of NSB-NLON and encompasses approximately 13 acres (Figure 1-2). The Area A Landfill is relatively flat and is bordered by a steep, wooded hillside that rises to the south, a steep wooded ravine to the west, and the Area A Wetland to the north. Access to the west end of the landfill is via a gate off Wahoo Avenue and access to the east end of the landfill is via a paved road and gate adjacent to a parking lot and the Area A recreational facilities.

Before the Area A Landfill was opened, dredge spoil from the Thames River was deposited continuously along a major portion of the hillside and within the former valley, which is currently the Area A Wetland. The Area A Landfill reportedly opened sometime before 1957. However, a 1957 aerial photograph (USEPA, EPIC, 1957) shows no apparent landfilling activities, indicating a somewhat later start-up date. After the NSB-NLON incinerator closed in 1963, most of the wastes generated by submarine and base operations were disposed of in the landfill, including all non-salvageable materials.

The area fill method was reportedly used in landfill operations at the Area A Landfill. The area fill method consists of filling an area in a sequence of cells and lifts. Each lift is a specified thickness and consists of several cells. Each cell can be viewed as a rectangular area that is filled from back to front. The front area is the "working face" and is the location were new refuse is placed and is the area that is covered on a daily basis. The cover material used on the landfill was gravel obtained from the Groton water supply reservoir. The Area A Landfill closed in 1973.

After closure, a bituminous concrete pad approximately 160 x 100 feet in size was constructed in the southwest portion of the landfill for above-ground storage of industrial wastes. Steel drums, transformers, and electrical switches were stored on this pad. All of these materials have been properly disposed of off-site. This pad was also used for crane testing and test weights were stored there. The remainder of the Area A Landfill was unpaved and included a gravel covered parking lot (deployed parking) that was located in the central part of the landfill.

Site investigations were conducted at the Area A Landfill as part of a base-wide Phase I RI (Atlantic, August 1992) and a base-wide Phase II RI (B&R Environmental, March 1997). A site-specific Area A Landfill Focused Feasibility Study (FFS) (Atlantic, May 1995), and a Proposed Remedial Action Plan (PRAP), (Atlantic, June 1995) were also prepared. A Record of Decision (ROD) was prepared and signed by the Navy and United States Environmental Protection Agency (USEPA) Region I on September 26, 1995. The major components of the selected alternative as described in the ROD were as follows:

- Restricting access to the contaminated areas of the site using perimeter fencing and institutional controls.
- Capping the site with a low-permeability multi-layer cover system to prevent water infiltration into the landfill.
- Constructing an interception system to collect shallow groundwater and storm water and re-route these around the landfill
- Establishing landfill gas controls to manage landfill gas migration.
- Developing a groundwater monitoring plan to monitor the quality of groundwater after the landfill closure is completed.

A remedial design for the proposed landfill cover system was first prepared by Atlantic Environmental Services, Inc. (Atlantic) (Atlantic, July 1994) and subsequently amended and finalized by Brown & Root Environmental, Inc. (B&R Environmental) (B&R Environmental, December 1996b). As part of the re-design effort, a Geotechnical Field Investigation (HNUS, May 1995), an Area A East End Investigation (B&R Environmental, December 1996a), and a Groundwater/Leachate Modeling Study (B&R Environmental, October 1996) were also conducted.

Construction of the landfill cover system (including gas control and storm water and shallow groundwater interception systems) was completed as part of an Interim Remedial Action (IRA) in September 1997 by Foster Wheeler Environmental Corporation. Prior to commencement of construction, a large quantity of metal, concrete and wood debris, several thousand sandbags, the Deployed Parking lot, the electrical storage building (Building 496), the Master at Arms Building (Building 373), salt storage shed, and various other items that had been located on the surface of the landfill were removed or relocated. The majority of the surficial debris was disposed of off-site as scrap metal or at an off-site landfill. The debris that was salvageable by NSB-NLON was removed and relocated to other areas of NSB-NLON.

The preparation of the subgrade to the cover required excavation from the northern slope of the landfill and placement of the excavated material on the southern slope. Also, approximately 4,000 cubic yards of soil from the Rubble Fill Area at Bunker A 86 (Site 4) and 1,000 cubic yards of common fill were placed over the eastern portion of the landfill, beneath the area of the relocated Deployed Parking. The soils were then compacted. During the subgrade preparation activities, two storm water drainage structures located within the limits of the site were decommissioned. These structures consisted of open catch basins on the southern edge of the landfill that discharged into a reinforced concrete culvert running through the landfill and ultimately into the Area A Wetland. Both culverts were entirely filled with flowable concrete to eliminate potential voids in the subgrade due to pipe collapse. The catch basins were filled with materials unsuitable for placement in the landfill subgrade (e.g., tires, large metal and wood debris, large concrete debris, etc.) followed by encapsulation with flowable concrete fill.

1.2.3 Previous Site Investigations

Six field investigations have been conducted at the Area A Landfill. These include the following:

- Field investigation performed for the base-wide Phase I RI (Atlantic, August 1992)
- Supplemental field investigation performed for the Area A Landfill FFS (Atlantic, May 1995)
- Field investigation performed for the base-wide Phase II RI (B&R Environmental, March 1997)
- Geotechnical Field Investigation (HNUS, May 1995) and Area A East End Investigation (B&R Environmental, December 1996a) performed in support of the Area A Landfill Remedial Design (B&R Environmental, December 1996b)
- Field investigation performed for the Groundwater/Leachate Modeling Study, which supported the Area A Landfill Remedial Design (B&R Environmental, October 1996).

1.2.3.1 Base-Wide Phase I RI

Atlantic conducted a field investigation at the Area A Landfill in 1990 as part of the base-wide Phase I RI (Atlantic, August 1992). A total of 13 monitoring wells (2LMW7S, 2LMW7D, 2LMW8S, 2LMW8D, 2LMW9S, 2LMW9D, 2LMW13S, 2LMW13D, 2LMW14D, 2LMW17S, 2LMW17D, 2LMW18S, 2LMW18D) and 7 test borings (2LTB1 through 2LTB7) were installed. A total of 12 soil and 12 groundwater samples were collected from these monitoring wells and test borings. Soil samples were analyzed for Target Compound List (TCL) organics, Target Analyte List (TAL) inorganics, polychlorinated biphenyls (PCBs),

pesticides, and Toxicity Characteristics Leaching Procedure (TCLP) pesticides and metals. Groundwater samples were analyzed for the same parameters, except TCLP, plus radiological elements.

1.2.3.2 Area A Landfill FFS

Atlantic conducted a supplemental field investigation at the Area A Landfill in October and November 1993 to support the Area A Landfill FFS (Atlantic, May 1995). The main purpose of these field activities was to characterize the subsurface soil in the vicinity of the bituminous concrete pad located at the southwestern end of the landfill.

Twenty-four soil borings (2LTB8 through 2LTB31) were drilled to a depth of 16 feet or auger refusal. Based on field screening for volatile organic compounds (VOCs), with an HNu organic vapor analyzer and for PCBs with a field gas chromatograph, 13 subsurface soil sample were selected for analysis of TCL organics, PCBs, pesticides and TAL inorganics. Selected samples were also analyzed for organic content, cation exchange capacity, total organic carbon (TOC), dioxin and geotechnical parameters, including grain-size distribution, moisture content, and specific gravity. Two samples were also analyzed by the TCLP for all toxicity constituents.

1.2.3.3 Base-Wide Phase II RI

B&R Environmental conducted a field investigation at the Area A Landfill in 1994 as part of the base-wide Phase II RI (B&R Environmental, March 1997). A total of 10 monitoring wells (2LPW1S, 2LOW1S, 2LOW1D, 2LOW2S, 2LOW3S, 2LOW4S, 2LMW19S, 2LMW19D, 2LMW20S, 2LMW20D) were installed. Eleven soil samples were collected from two soil borings (2LTB13, 2LTB23). Two rounds of groundwater level measurements and groundwater sampling were conducted, including one in March 1994 and one in August 1994. Groundwater samples were analyzed for TCL organics, TAL inorganics, PCBs, and radiological elements.

1.2.3.4 Geotechnical Field Investigation

B&R Environmental conducted field activities at the Area A Landfill in February and March 1995 as part of the Geotechnical Field Investigation (HNUS, March 1995) performed in support of the remedial design for a landfill cover system. The purpose of the Geotechnical Field Investigation was to confirm the areal extent of the fill material and obtain additional geotechnical field data.

Twenty test pits (LF-TP01 to LF-TP13 and LF-TP15 to LF-TP21) were excavated along the edges of the Area A Landfill to allow for visual observation of subsurface conditions. The purpose of excavating these

test pits was primarily to determine the lateral extent of the fill material and, wherever practical (especially along the southern edge of the landfill), establish the depth and competence of bedrock.

Eight soil borings were drilled at strategic locations on the landfill plateau to establish the depth of bedrock and thickness of the fill and dredge spoil material. The soil borings were also used to collect six soil samples to be tested for geotechnical parameters (particle size, moisture content, classification, Atterberg limits, and triaxial compression) and three soil samples to be tested for analytical parameters (TCL organics, PCBs, and pesticides, and TAL inorganics). Four borings (LF-SB01 and LF-SB03 through LF-SB05) were advanced through the overburden to auger refusal at the bedrock. Two borings (LF-SB02, LF-SB06) were advanced through the overburden and approximately 5 feet into competent bedrock. Two borings (LF-TP01 and LF-TP07) were drilled through approximately 5 feet of bedrock at the bottom of previously excavated test pits.

1.2.3.5 Area A East End Investigation

B&R Environmental conducted field activities at the Area A Landfill in September 1995 as part of the Area A East End Investigation (B&R Environmental, December 1996a), performed in support of the remedial design for the landfill cover system. The purpose of the Area A East End Investigation was to verify that the fill used for the construction of the recreational facilities (Racquetball Building, tennis courts, and ball field) located at the extreme east end of Area A is of a different nature from that placed in the rest of the Area A Landfill, i.e., does not contain contaminated waste material, and therefore, does not need to be capped.

Six test trenches (LF-TP22 through LF-TP27) were excavated along the eastern boundary of the Area A Landfill cover system as designed to verify the eastern limit of contaminated fill material. The test trenches were field-screened for the presence of VOCs, and four soil samples were collected and analyzed TCL organics, PCBs, and pesticides; TAL inorganics and cyanide; and, total petroleum hydrocarbon (TPH).

Three soil borings (SB06 through SB08) were drilled in the vicinity of the Area A East End recreational facilities. These soil borings were advanced through the overburden to the bedrock to auger refusal. A total of six soil samples were collected from the fill and dredge spoil material and analyzed for TCL organics, PCBs, and pesticides; TAL inorganics and cyanide; and, TPH.

1.2.3.6 Groundwater/Leachate Modeling Study

B&R Environmental conducted field activities at the Area A Landfill in November/December 1995 as part of the Groundwater/Leachate Modeling Study (B&R Environmental, October 1996) performed in support

of the remedial design for the landfill cover system. The purpose of the Groundwater/Leachate Modeling Study was to evaluate the impact of the proposed landfill cover system on the saturated thickness of landfill material and on the flow and composition of the groundwater/leachate discharge from the landfill.

The modeling field investigation activities included the performance of the following activities:

- Surface infiltration tests at 10 locations (2LT1 thru 2LT10) throughout the surface of the landfill
- Installation of 13 overburden monitoring wells, including 6 in the landfill material (2LMW28F through 2LMW33F) and 7 in the underlying dredge spoil or alluvium (2LMW28DS, 2LMW29A, 2LMW30DS through 2LMW34DS).
- Installation of three bedrock wells, including two located upgradient from the Area A Landfill (2LMW35B and 2LMW36B) and one at the northeast end of the landfill (2LMW32B).
- Installation of 10 piezometers, including 7 (2LPZ1DS thru 2LPZ7DS) along the boundary between the Area A Landfill and Area A Wetland and 3 (2LPZ1F, 2LPZ2F, and 2LMW32PZ) at the northeast end of the landfill.
- Installation of eight staff gauges (SG07 thru SG14) along the boundary between the Area A Landfill and Area A Wetland.
- Slug testing of the newly installed wells and one piezometer (2LMW32PZ).
- Water level measurement for all newly installed monitoring wells, piezometers, and staff gauges as well as for all previously existing monitoring wells.
- Flow measurement and sampling of the groundwater seep (3MSP01) from the western face of the Area A Landfill into the Overbank Disposal Area (OBDA) (Site 3) of the adjoining Area A Downstream site. This sample was analyzed for TCL organics and TAL inorganics.

The Groundwater/Leachate Modeling Study provided a comprehensive analysis of the site geology and hydrogeology. The report provided surface contour maps of the four units (landfill material, dredge spoil, alluvium and bedrock) underlying the site; thickness maps for the landfill material and dredge spoil; surface contour maps for the water table and bedrock groundwater; geologic cross-sections; conceptual flow nets; and an analysis of vertical flow gradients.

Additionally, the Groundwater/Leachate Modeling Study concluded that the Area A Landfill cover system would reduce the thickness of the saturated landfill material by approximately 0.1 foot along the Area A Wetland boundary, by approximately 0.5 foot at the eastern end of the landfill, by approximately 0.2 foot in the center of the landfill, and by over one foot at the western end of the landfill. The study concluded that the cover system would reduce the flux of groundwater COCs from the Area A Landfill to the Area A Wetland by 16 to 55 percent and that none of these COCs would exceed either the Federal AWQCs or the Connecticut's SWPCs.

1.3 REPORT ORGANIZATION

This report has been prepared in the following format to address the requirements for long-term groundwater monitoring at the Area A Landfill. Section 1.0 is this brief introduction including the project scope and objective and a discussion of previous investigations. Section 2.0 describes Round 5 field activities. Section 3.0 presents and evaluates the analytical results from the Round 5 sampling effort.

DRAWN BY: J. BELLONE	DATE: 2/16/00	Tetra Tech NUS, Inc.	CONTRACT NUMBER: 5082
CHECKED BY:	DATE:		OWNER NO.: —
COST/SCHEDULE-AREA:		LOCATION MAP NSB-NLON GROTON, CONNECTICUT	APPROVED BY: Mark L. Mungel DATE: 3/19/01
SCALE: AS NOTED			APPROVED BY: — DATE: —
			DRAWING NO.: FIGURE 1-1 REV: 0

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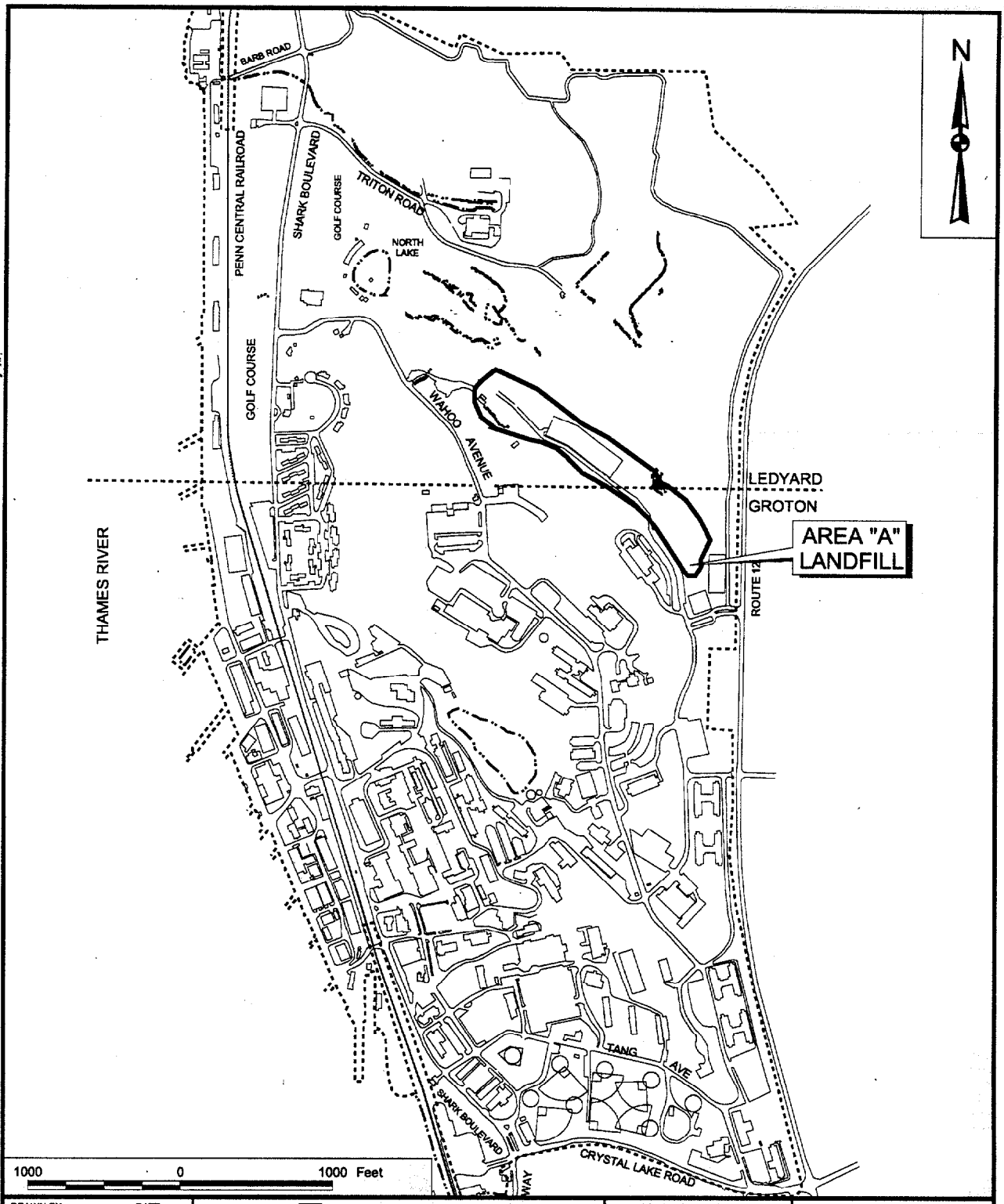

DRAWN BY: J. BELLONE — DATE: 2/16/00	Tetra Tech NUS, Inc.	CONTRACT NUMBER: 5082	OWNER NO.: —
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COST/SCHEDULE-AREA		APPROVED BY: — — DATE: —	
SCALE: AS NOTED		DRAWING NO.: FIGURE 1-2	REV: 0

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2.0 FIELD INVESTIGATION ACTIVITIES

Field investigation activities performed as part of the fifth round of the groundwater monitoring at Area A Landfill included one round of water level measurements and a round of groundwater sampling of 14 existing monitoring wells, sampling of seven surface water locations, and sampling of one seep location. Two additional monitoring wells (3MW12S and 3MW12D) were to be sampled; however these wells have been destroyed or buried and cannot be located. Three additional surface water locations (SG15, SG16, SG17) were to be sampled; however, due to a lack of water, samples at these locations were not obtained. Round 5 field activities occurred in December 2000. Figure 2-1 illustrates the sampling locations. Copies of the field logbook, sample logsheets, calibration logs, field measurements, and sample chain-of custody records for Round 5 are provided in Appendices A through E.

2.1 WATER LEVEL MEASUREMENT

Prior to groundwater purging and sampling and surface water sampling, one round of water levels was measured from 14 monitoring wells. Water levels were also measured at 13 staff gauge locations; however, the survey data for the staff gauges is considered suspect due to some of the staff gauges being moved after installation. Therefore, the elevation data were not used in preparing the potentiometric surface map. The one existing staff gauge (SG-06) was located at the top of the headwall along the southern side of the dike. The other existing staff gauge (SG-25, formerly SG-12) was located along the shoreline of the pond northeast of the crane test pad. Table 2-1 summarizes the water level measurements minus the staff gauge data. Figure 2-2 illustrates the potentiometric surface map for the shallow groundwater at the Area A Landfill. Groundwater level measurement sheets are provided in Appendix B.

2.2 GROUNDWATER SAMPLING

A total of 14 monitoring wells, comprised of 2LMW20S, 2WMW21S, 4MW1S, 2WMW38DS through 2WMW47DS, and 3MW37S, were sampled during the fifth round of groundwater monitoring. Low-flow purging and sampling techniques, as described in Sections 4.1.6 and 4.1.7 of the GMP (TtNUS, January 1999), were used during sampling.

The wells were purged using a peristaltic pump with disposable Teflon® tubing. Prior to purging, the initial static water level was measured in the well using a water-level indicator. During purging, the water level was measured every 5 to 10 minutes. The pumping rate was initially set at less than 0.3 liter per minute and reduced to 0.1 to 0.2 liter per minute. The pumping rate was adjusted to not allow drawdown

to exceed 0.3 foot during the purging (except for wells with low recharge rates). Copies of the low-flow purge data sheets are provided in Appendix D.

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

- pH ± 0.2 standard units
- turbidity ± 10 % for values greater than 1 NTU
- specific conductance ± 10 %
- temperature ± 10 %
- Eh ± 10 mV
- dissolved oxygen ± 10 %.

Monitoring wells 2WMW38DS through 2WMW46DS were dewatered during purging due to the low recharge rate of the screened formation. The dewatered wells were sampled within the next 2 days. Well 2WMW38DS was sampled over 3 days due to insufficient recharge for supplying volume for the sample containers.

All purge water was containerized in 55-gallon drums for off-site disposal by a disposal subcontractor, as discussed in Section 2.4.

Following purging, samples were collected directly from the discharge end of the tubing. All sample containers were filled by allowing the discharge to flow gently down the inside of the container with minimal turbulence. Groundwater samples were analyzed for select TCL VOCs, SVOCs, PAHs, pesticides and PCBs; TAL metals (total and dissolved); TOC; chemical oxygen demand; and water chemistry parameters of total dissolved solids, alkalinity, chloride, sulfate, and hardness. Samples analyzed for VOCs were collected by drawing a column of water into the tubing with the pump; crimping the discharge end of the tubing; disconnecting the tubing from the well; releasing the tubing; and decanting the sample into the sample vials from an intake end of the tubing via gravity flow. For filtered inorganic samples, an in-line 0.45-micron filter was used, pre-rinsed with approximately 400 ml of deionized water and attached to the discharge end of the pump tubing. Copies of the groundwater sample logsheets and Chain of Custody Records are provided in Appendix D and E, respectively. Analytical results of the samples are discussed in Section 3.0.

2.3 SURFACE WATER SAMPLING

As detailed in Section 4.0 of the Groundwater Monitoring Plan for the Area A Landfill (TtNUS, January 1999), ten staff gauge locations and one seep sampling location were to be sampled as part of the sampling program. Due to the limited amount of surface water present within the wetland the one seep and only seven of the surface water locations were sampled. Surface water samples were filled by directly filling sample containers in accordance with Section 4.1.3 of the GMP (TtNUS, January 1999). Surface water sample logsheets and chain of custody are provided in Appendices D and E, respectively. Analytical results of surface water samples are shown on Table 3-2.

2.4 DECONTAMINATION AND INVESTIGATION-DERIVED WASTE

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

Liquid IDW derived from the ongoing monitoring of groundwater at the Area A Landfill has been extensively tested for COCs during the past two years of quarterly monitoring. The liquid IDW generated has been determined to be non-hazardous and is disposed directly to the OT-10 wastewater processing facility in compliance with the SUBASE NLON Pre-Treatment Permit from the Connecticut DEP.

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TABLE 2-1

WATER LEVEL ELEVATIONS (DECEMBER 2000)
ROUND 5 GROUNDWATER WATER MONITORING REPORT
AREA A LANDFILL, NSB-NLON, GROTON, CONNECTICUT

Well/ Staff Gauge Number	Ground Surface Elevation[1] (feet msl)	Reference Elevation[1] (feet msl)	Depth to Water (feet)	Water Elevation (feet msl)	Screened Unit[3]
2LMW20S	87.19	86.83	16.43[2]	70.40	F/A
2WMW21S	74.59	76.31	4.55[2]	71.76	DS
2WMW38DS	72.29	74.06	7.27[2]	66.79	DS
2WMW39DS	71.59	73.53	3.38[2]	70.15	SS/DS
2WMW40DS	71.49	73.21	3.53[2]	69.68	DS
2WMW41DS	70.99	73.39	2.73[2]	70.66	DS
2WMW42DS	71.19	73.65	2.34[2]	71.31	DS
2WMW43DS	71.39	74.36	2.75[2]	71.61	DS
2WMW44DS	70.99	73.72	1.82[2]	71.90	DS
2WMW45DS	72.19	74.24	2.54[2]	71.70	DS
2WMW46DS	71.69	73.53	1.74[2]	71.79	DS
2WMW47DS	71.99	73.39	1.55[2]	71.84	SS/DS
3MW12D	41.09	43.54	Destroyed	--	BR
3MW12S	40.79	42.25	Destroyed	--	A
3MW37S	44.09	47.39	3.70[2]	43.69	A
4MW1S	127.99	129.55	6.87[2]	122.68	BR
2LOW1S	[4]	88.57	--	--	F/DS
2LMW28DS	[4]	87.61	--	--	DS
SG-15	71.29	74.03	Dry	--	--
SG-16	71.19	73.50	Dry	--	--
SG-17	71.19	73.57	Dry	--	--
SG-18	70.99	75.92	4.10	71.82	--
SG-19	70.99	75.83	4.05	71.78	--
SG-20	71.09	75.19	3.34	71.85	--
SG-21	70.39	75.32	3.51	71.81	--
SG-22	71.79	76.13	4.35	71.78	--
SG-23	71.09	75.83	4.06	71.77	--
SG-24	71.59	76.68	Dry	--	--

NOTES:
msl: mean sea level (1982 Base Traverse System)
-- Data not available
1 Reference elevation is top of well casing (1982 Base Traverse System)
2 Depth to water is from top of well casing. Measured January 17, 2000.
3 F = fill; DS = dredge spoil; A = alluvium; BR = bedrock; SS = surficial sand
4 No survey data available. Ground surface not resurveyed after landfill cap installed.

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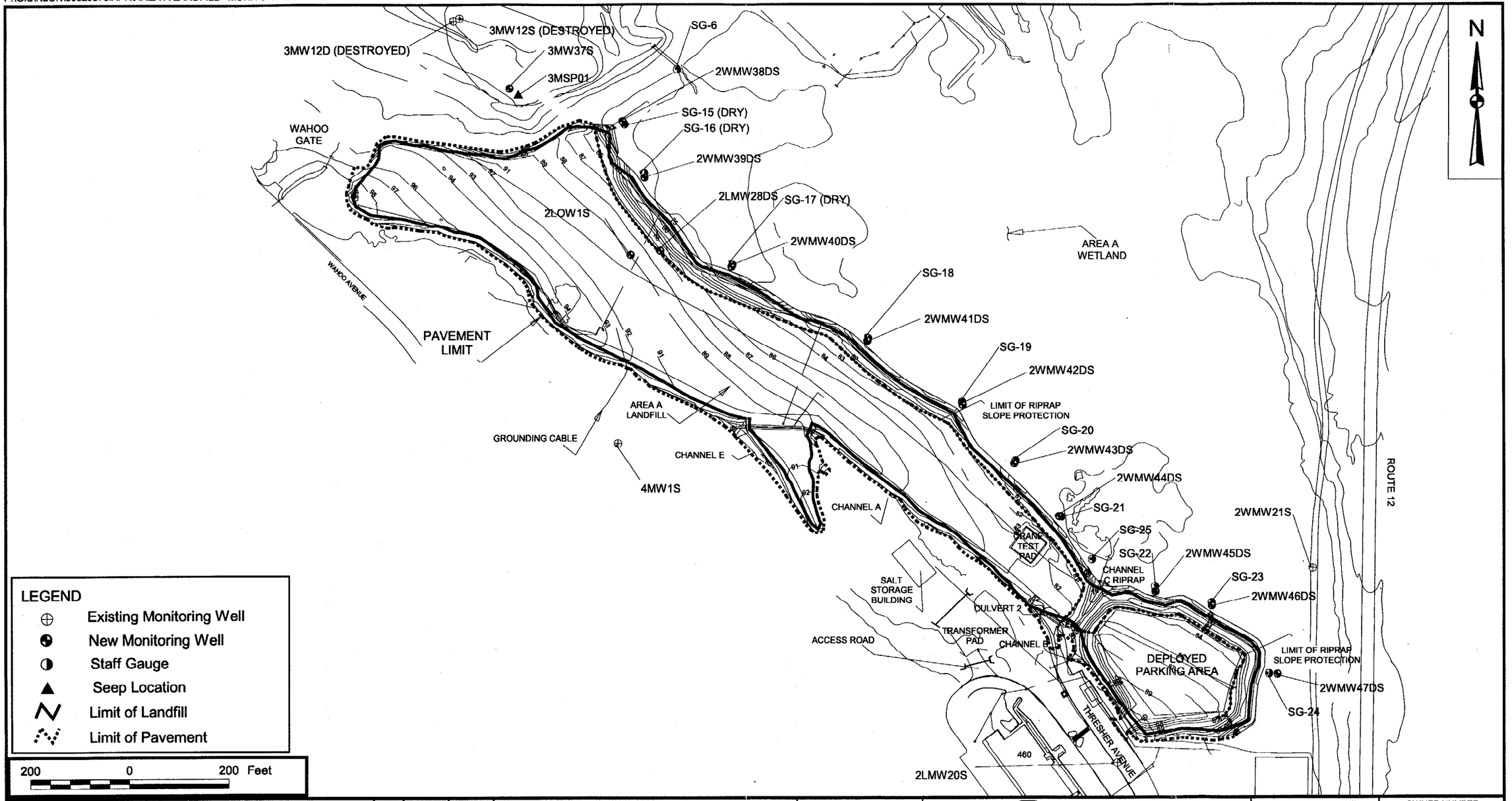

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY J. BELLONE DATE 1/12/00
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COST/SCHEDULE-AREA
SCALE AS NOTED

Tetra Tech NUS, Inc.

SAMPLING LOCATIONS FOR
ROUND 5 GROUNDWATER MONITORING
AREA A LANDFILL
NSB-NEW LONDON, GROTON, CONNECTICUT

CONTRACT NUMBER 5082
OWNER NUMBER —
APPROVED BY Mark L. Mengel DATE 3/19/01
APPROVED BY — DATE —
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REV 0

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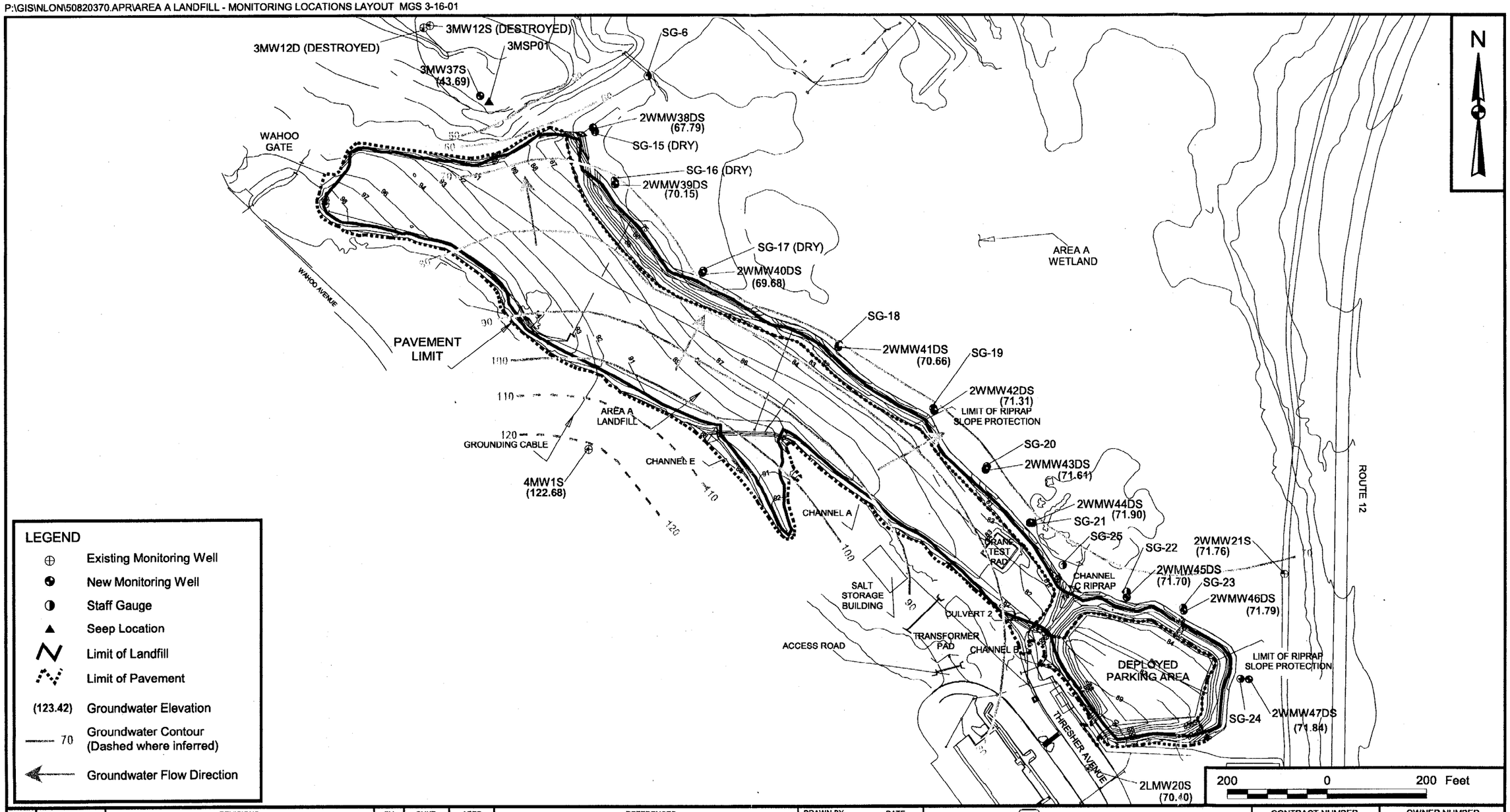

LEGEND

- Existing Monitoring Well
- New Monitoring Well
- Staff Gauge
- Seep Location
- Limit of Landfill
- Limit of Pavement
- (123.42) Groundwater Elevation
- 70 Groundwater Contour (Dashed where inferred)
- Groundwater Flow Direction

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY M. Spangenberg DATE 2-26-01
CHECKED BY DATE
COST/SCHEDULE-AREA
SCALE AS NOTED

Tetra Tech NUS, Inc.

POTENTIOMETRIC SURFACE MAP
ROUND 5 GROUNDWATER MONITORING
AREA A LANDFILL
NSB-NEW LONDON, GROTON, CONNECTICUT

CONTRACT NUMBER 7091
OWNER NUMBER —
APPROVED BY Mark L. Mungle DATE 3/19/01
APPROVED BY — DATE —
DRAWING NO. FIGURE 2-2
REV 0

3.0 MONITORING RESULTS

The groundwater samples collected from 14 monitoring wells, seven surface water locations, and one seep location were analyzed for TCL organic compounds, TAL inorganic (total and dissolved) analytes, and water chemistry parameters. Monitoring focused on the following organic and inorganic chemicals of potential concern, as identified in the GMP (TtNUS, January 1999).

- Ethylbenzene
- 1,1,2,2-Tetrachloroethane
- Xylenes
- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Bis(2-ethylhexyl)phthalate
- Phenanthrene
- Aroclor 1016
- Aroclor 1254
- Aroclor 1260
- Dieldrin
- Heptachlor
- Arsenic
- Beryllium
- Cadmium
- Chromium
- Copper
- Lead
- Zinc

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

The Round 5 analytical results are summarized on Tables 3-1 and 3-2. Within each table, the analytical results are compared to the primary and secondary monitoring criteria, as established in the GMP (TtNUS, January 1999). Chemicals exceeding either primary or secondary monitoring criteria are noted by shading. Data validation letters and laboratory data sheets are attached to this report as Appendix F. The results of this comparison may be summarized as follows:

- There were no detections of volatile organic compounds, pesticides, or PCBs in groundwater or surface water.

- The semivolatile organic compound phenanthrene was detected in the sample from monitoring well 3MW37S (0.11 µg/L) and in surface water samples SG-19 (0.39 µg/L), SG24 (0.19 µg/L), and SG24D (0.14 µg/L), at concentrations in excess of the primary monitoring criterion of 0.077 µg/L, which is the Connecticut SWPC for substances in groundwater.

- Arsenic was detected in nine of 16 groundwater samples in both the unfiltered and filtered samples as shown on Figure 3-1. The concentrations in unfiltered samples ranged from 4.4 µg/L to 22.4 µg/L,

while the concentrations in the filtered samples ranged from 4.2 µg/L to 36.2 µg/L. All detections exceeded the primary criterion of 4 µg/L, which is the Connecticut SWPC for substances in groundwater. No detections exceeded the secondary criterion of 150 µg/L, which is the Federal Ambient Water Quality Criterion (AWQC) for protection of aquatic life (chronic, freshwater).

- Zinc was detected in the unfiltered sample from monitoring well 2WMW40DS at a concentration 210 µg/L, which exceeded the primary criterion of 123 µg/L, which is the Connecticut SWPC for substances in groundwater.

- Copper was detected in the unfiltered (5 µg/L) sample collected from surface water location SG-24 at a concentration in excess of the secondary monitoring criterion of 4.8 µg/L which is the Federal AWQC for protection of aquatic life (chronic, freshwater).

- Zinc was detected in 7 of 8 surface water samples collected in excess of the secondary monitoring criterion of 58.2 µg/L, which is the Federal AWQC for protection of aquatic life (chronic, freshwater). Exceedences were noted for both the unfiltered and filtered samples. The concentration ranges also exceeded the primary criterion of 123 µg/L in four of the samples, as shown on Figure 3-2.

As discussed in Section 1.2, because this is only an interim report, the evaluation of the analytical results is limited to the above comparison. No conclusions or recommendations are drawn from this comparison. Initial conclusions and recommendations were addressed in the Year 1 Summary Report based on the first four quarterly rounds of results.

TABLE 3-1

ROUND 5 GROUNDWATER ANALYTICAL RESULTS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
AREA A, NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 3

Chemical	Primary Monitoring Criterion [1]	Secondary Monitoring Criterion	2LMW20S 2LGW20S-05 12/16/00	2WMW21S 2WGW21S-05 12/14/00	2WMW38DS 2WGW38DS-05 12/15/00	2WMW39DS 2WGW39DS-05 12/13/00	2WMW40DS 2WGW40DS-05 12/14/00
VOCs (ug/L)							
1,1,2,2-TETRACHLOROETHANE	110	NA	1 U	1 U	1 U	1 U	1 U
ETHYLBENZENE	580,000	NA	1 U	1 U	1 U	1 U	1 U
XYLENES, TOTAL	NA	NA	1 U	1 U	1 U	1 U	1 U
SVOCs (ug/L)							
BENZO(A)ANTHRACENE	0.3	NA	0.2 U	0.2 UJ	0.2 U	0.2 UJ	0.2 UJ
BENZO(A)PYRENE	0.3	NA	0.2 U	0.2 UJ	0.2 U	0.2 UJ	0.2 UJ
BENZO(B)FLUORANTHENE	0.3	NA	0.2 U	0.2 UJ	0.2 U	0.2 UJ	0.2 UJ
BENZO(K)FLUORANTHENE	0.3	NA	0.2 U	0.2 UJ	0.2 U	0.2 UJ	0.2 UJ
BIS(2-ETHYLHEXYL)PHTHALATE	59	NA	10 U	10 U	10 U	10 U	10 U
PHENANTHRENE	0.077	NA	0.2 U	0.2 UJ	0.2 U	0.2 UJ	0.2 UJ
Pesticides/PCBs (ug/L)							
AROCLOR-1016	0.5	0.014[2]	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
AROCLOR-1254	0.5	0.014[2]	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
AROCLOR-1260	0.5	0.014[2]	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
DIELDRIN	0.1	0.0019[3]	0.02 U	0.08 U	0.02 U	0.02 U	0.02 U
HEPTACHLOR	0.05	0.0038[2]	0.01 U	0.04 U	0.01 U	0.01 U	0.01 U
Inorganics (total/dissolved) (ug/L)							
ARSENIC	4	150[2]	2.2 U/2.2 U	4 J/3.9 J	**4.4**	3.1 J/3 J	**22.4/36.2**
BERYLLIUM	4	NA	0.2 U/0.2 U	0.2 U/0.2 U	0.2 U	0.29 U/0.2 U	0.2 U/0.2 U
CADMIUM	6	0.62[3]	0.28 U/0.27 U	0.74 U/0.34 U	0.32 U	0.33 U/0.43 U	0.2 UJ/0.37 U
CHROMIUM[4]	110	11[2]	0.61 U/0.5 U	8.4 J/6.7 J	1.5 U	0.67 U/0.5 U	3.7 U/4.3 J
COPPER	48	4.8[3]	1 U/1 U	1.2 U/1 UJ	4.6 U	1 U/1 U	1 UJ/1 UJ
LEAD	13	1.2[3]	1 UJ/1 UJ	1 UJ/1 UJ	1 UJ	1 UJ/1 UJ	1 UJ/1 UJ
ZINC	123	58.2[3]	24.8 U/15.4 U	8.5 U/7.4 U	8 U	12 U/11.1 U	**210 J/14.1 U**
Miscellaneous Parameters (mg/L)							
CHEMICAL OXYGEN DEMAND	NA	NA	10 U	1670		22.6	586 J
CHLORIDE	NA	NA	146	12200	189	297	9420
SULFATE	NA	NA	6.6	1 U	99	4.6	840
TOTAL DISSOLVED SOLIDS	NA	NA	341	20400	830	643	16600
TOTAL ORGANIC CARBON	NA	NA	1.6 U	14.8 J	16.2 J	15.7 J	13.8 J

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. (CTDEP, January 1996)
(2) Federal Ambient Water Quality Criteria for protection of aquatic life (chronic, freshwater). (USEPA, 1999)
(3) Connecticut Water Quality Criteria for protection of human health from consumption of organisms. (CTDEP, 1997)
(4) Hexavalent Chromium
J Estimated Value
R Rejected Value
U Undetected
NA Not Available

TABLE 3-1

ROUND 5 GROUNDWATER ANALYTICAL RESULTS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
AREA A, NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 3

Chemical	Primary Monitoring Criterion [1]	Secondary Monitoring Criterion	2WMW41DS 2WGW41DS-05 12/14/00	2WMW42DS 2WGW42DS-05 12/13/00	2WMW43DS 2WGW43DS-05 12/14/00	2WMW44DS 2WGW44DS-05 12/15/00	2WMW45DS 2WGW45DS-05 12/15/00
VOCs (ug/L)							
1,1,2,2-TETRACHLOROETHANE	110	NA	1 U	1 U	1 U	1 U	1 U
ETHYLBENZENE	580,000	NA	1 U	1 U	1 U	1 U	1 U
XYLENES, TOTAL	NA	NA	1 U	1 U	1 U	1 U	1 U
SVOCs (ug/L)							
BENZO(A)ANTHRACENE	0.3	NA	0.2 UJ	0.2 UJ	0.2 UJ	0.2 U	0.2 U
BENZO(A)PYRENE	0.3	NA	0.2 UJ	0.028 J	0.2 UJ	0.2 U	0.2 U
BENZO(B)FLUORANTHENE	0.3	NA	0.2 UJ	0.034 J	0.2 UJ	0.2 U	0.2 U
BENZO(K)FLUORANTHENE	0.3	NA	0.2 UJ	0.2 UJ	0.2 UJ	0.2 U	0.2 U
BIS(2-ETHYLHEXYL)PHTHALATE	59	NA	10 U	10 U	10 U	10 U	10 U
PHENANTHRENE	0.077	NA	0.2 UJ	0.023 J	0.2 UJ	0.2 U	0.2 U
Pesticides/PCBs (ug/L)							
AROCLOR-1016	0.5	0.014[2]	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
AROCLOR-1254	0.5	0.014[2]	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
AROCLOR-1260	0.5	0.014[2]	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
DIELDRIN	0.1	0.0019[3]	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
HEPTACHLOR	0.05	0.0038[2]	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Inorganics (total/dissolved) (ug/L)							
ARSENIC	4	150[2]	**18.2/14.2**	**12.2/11.1**	**6.5/7.4**	2.2 U/2.2 U	**5.5/4.2 J**
BERYLLIUM	4	NA	0.2 U/0.2 U	0.2 U/0.2 U	0.4 U/0.2 U	0.2 U/0.2 U	0.2 U/0.2 U
CADMIUM	6	0.62[3]	0.36 U/0.44 U	0.58 U/0.23 U	0.59 U/0.42 U	0.37 U/0.31 U	0.2 U/0.2 U
CHROMIUM[4]	110	11[2]	8.2 J/7.1 J	3.4 U/3 U	3.2 U/3.6 U	0.95 U/1.4 U	1.3 U/2.2 U
COPPER	48	4.8[3]	1.1 U/1 UJ	1 U/1 UJ	1 UJ/1 UJ	1 U/1 U	1 U/1 U
LEAD	13	1.2[3]	1 UJ/1 UJ	1 UJ/1 UJ	1 UJ/1 UJ	1 UJ/1 UJ	1 UJ/1 UJ
ZINC	123	58.2[3]	15 U/9.2 U	16.8 U/27.7 U	9.6 U/3.3 U	10.8 U/16.8 U	12 U/3.8 U
Miscellaneous Parameters (mg/L)							
CHEMICAL OXYGEN DEMAND	NA	NA	880 J	141	411 J	60.9	263
CHLORIDE	NA	NA	9810	4270	11400	2470	4050
SULFATE	NA	NA	257	89.9	400	22.4	55.6
TOTAL DISSOLVED SOLIDS	NA	NA	16400	7330	18800	4350	6400
TOTAL ORGANIC CARBON	NA	NA	44.5 J	14.2 J	12.4 J	8.2 J	14.8 J

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. (CTDEP, January 1996)
(2) Federal Ambient Water Quality Criteria for protection of aquatic life (chronic, freshwater). (USEPA, 1999)
(3) Connecticut Water Quality Criteria for protection of human health from consumption of organisms. (CTDEP, 1997)
(4) Hexavalent Chromium
J Estimated Value
R Rejected Value
U Undetected
NA Not Available

TABLE 3-1

ROUND 5 GROUNDWATER ANALYTICAL RESULTS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
AREA A, NSB-NLON, GROTON, CONNECTICUT
PAGE 3 OF 3

Chemical	Primary Monitoring Criterion [1]	Secondary Monitoring Criterion	2WMW46DS 2WGW46DS-05 12/15/00	2WMW47DS 2WGW47DS-05 12/14/00	2WMW47DS (DUP) 2WGW47DS-05-D 12/14/00	3MW37S 3-GW37S-05 12/18/00	4MW1S 4GW01S-05 12/16/00
VOCs (ug/L)							
1,1,2,2-TETRACHLOROETHANE	110	NA	1 U	1 U	1 U	1 U	1 U
ETHYLBENZENE	580,000	NA	1 U	1 U	1 U	1 U	1 U
XYLENES, TOTAL	NA	NA	1 U	1 U	1 U	1 U	1 U
SVOCs (ug/L)							
BENZO(A)ANTHRACENE	0.3	NA	0.2 U	0.2 U	0.2 U	0.051 J	0.2 U
BENZO(A)PYRENE	0.3	NA	0.2 U	0.2 U	0.2 U	0.039 J	0.2 U
BENZO(B)FLUORANTHENE	0.3	NA	0.2 U	0.2 U	0.2 U	0.044 J	0.2 U
BENZO(K)FLUORANTHENE	0.3	NA	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
BIS(2-ETHYLHEXYL)PHTHALATE	59	NA	10 U	10 U	10 U	10 U	5.6 J
PHENANTHRENE	0.077	NA	0.2 U	0.2 U	0.2 U	0.11 J	0.2 U
Pesticides/PCBs (ug/L)							
AROCLOR-1016	0.5	0.014[2]	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
AROCLOR-1254	0.5	0.014[2]	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
AROCLOR-1260	0.5	0.014[2]	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
DIELDRIN	0.1	0.0019[3]	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
HEPTACHLOR	0.05	0.0038[2]	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Inorganics (total/dissolved) (ug/L)							
ARSENIC	4	150[2]	16.4/13	20.9/21.7	21.3/16.1	2.2 U/2.2 U	2.4 J/2.3 J
BERYLLIUM	4	NA	0.2 U/0.49 U	0.2 U/0.2 U	0.2 U/0.2 U	0.2 U/0.2 U	0.21 U/0.2 U
CADMIUM	6	0.62[3]	0.25 U/0.53 U	0.2 UJ/0.2 UJ	0.2 UJ/0.23 U	0.29 U/0.29 U	0.41 U/0.38 U
CHROMIUM[4]	110	11[2]	4.4 J/3.6 U	0.5 UJ/0.5 UJ	0.5 UJ/0.5 UJ	0.5 U/0.5 U	0.51 U/0.5 U
COPPER	48	4.8[3]	1 UJ/1 UJ	1.3 U/1 UJ	1 UJ/1 UJ	1.8 J/2.1	1 U/1 U
LEAD	13	1.2[3]	1 UJ/1 UJ	1 UJ/1 UJ	1 UJ/1 UJ	1 UJ/1 U	1 UJ/1 UJ
ZINC	123	58.2[3]	13.4 U/8.8 U	8.3 U/6.1 U	3 U/5.7 U	16.8 U/16.7 U	7.7 U/8.9 U
Miscellaneous Parameters (mg/L)							
CHEMICAL OXYGEN DEMAND	NA	NA	671	88.7	2150	19.1	10 U
CHLORIDE	NA	NA	17300	2270	2210	244	31.8
SULFATE	NA	NA	273	1 U	1 U	15.5	39.3
TOTAL DISSOLVED SOLIDS	NA	NA	27100	4010	3810	549	105
TOTAL ORGANIC CARBON	NA	NA	14.4 J	9.8 J	9.3 J	2.4	1.9 U

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. (CTDEP, January 1996)
(2) Federal Ambient Water Quality Criteria for protection of aquatic life (chronic, freshwater). (USEPA, 1999)
(3) Connecticut Water Quality Criteria for protection of human health from consumption of organisms. (CTDEP, 1997)
(4) Hexavalent Chromium
J Estimated Value
R Rejected Value
U Undetected
NA Not Available

TABLE 3-2

ROUND 5 SURFACE WATER ANALYTICAL RESULTS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
AREA A, NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 2

Chemical	Primary Monitoring Criterion [1]	Secondary Monitoring Criterion	3MSP01 3M-SP01-05 12/16/00	SG-18 SWSG18-05 12/18/00	SG-19 SWSG19-05 12/19/00	SG-20 SWSG20-05 12/19/00	SG-21 SWSG21-05 12/19/00
VOCs (ug/L)							
1,1,2,2-TETRACHLOROETHANE	110	NA	1 U	1 U	1 U	1 U	1 U
ETHYLBENZENE	580,000	NA	1 U	1 U	1 U	1 U	1 U
XYLENES, TOTAL	NA	NA	1 U	1 U	0.21 J	1 U	1 U
SVOCs (ug/L)							
BENZO(A)ANTHRACENE	0.3	NA	0.2 UJ	0.2 U	0.2 U	0.2 U	0.029 J
BENZO(A)PYRENE	0.3	NA	0.2 UJ	0.2 U	0.2 U	0.2 U	0.026 J
BENZO(B)FLUORANTHENE	0.3	NA	0.2 UJ	0.2 U	0.2 U	0.2 U	0.037 J
BENZO(K)FLUORANTHENE	0.3	NA	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U
BIS(2-ETHYLHEXYL)PHTHALATE	59	NA	10 U	10 U	10 U	10 U	10 U
PHENANTHRENE	0.077	NA	0.021 J	0.037 J	0.39	0.024 J	0.043 J
Pesticides/PCBs (ug/L)							
AROCLOR-1016	0.5	0.014[2]	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
AROCLOR-1254	0.5	0.014[2]	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
AROCLOR-1260	0.5	0.014[2]	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
DIELDRIN	0.1	0.0019[3]	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
HEPTACHLOR	0.05	0.0038[2]	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Inorganics (total/dissolved) (ug/L)							
ARSENIC	4	150[2]	2.7 J/2.6 J	2.2 U/2.2 U	2.2 U/2.2 U	2.2 U/2.2 U	2.2 U/2.2 U
BERYLLIUM	4	NA	0.2 U/0.2 U	0.26 U/0.2 U	0.2 U/0.2 U	0.2 U/0.2 U	0.2 U/0.36 U
CADMIUM	6	0.62[3]	0.23 U/0.23 U	0.2 U/0.2 U	0.2 U/0.2 U	0.2 U/0.2 U	0.28 U/0.37 U
CHROMIUM[4]	110	11[2]	0.5 U/0.5 U	0.5 U/0.5 U	0.5 U/0.5 U	0.5 U/0.5 U	0.5 U/0.5 U
COPPER	48	4.8[3]	1 U/1 U	1.8 J/1 U	2.2/1 U	1 U/1 U	2.2/1.5 J
LEAD	13	1.2[3]	1.2 J/1 UJ	1.6 U/1.5 U	2.1 U/1.3 U	1.3 U/1.2 U	5 U/1 UJ
ZINC	123	58.2[3]	28.1 U/24.6 U	72.5/72.4	74.6/31.8 U	52.2/32.7 U	86.3/34.5 U
Miscellaneous Parameters (mg/L)							
CHEMICAL OXYGEN DEMAND	NA	NA	12.2	15.6	22.6	26.1	15.6
CHLORIDE	NA	NA	210	90.5	92.3	68.6	57
SULFATE	NA	NA	8.3	8.2	7.8	9.4	8.5
TOTAL DISSOLVED SOLIDS	NA	NA	471	198	248	167	145
TOTAL ORGANIC CARBON	NA	NA	3.7 J	4.5	3.4	3.6	3.7

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. (CTDEP, January 1996)
(2) Federal Ambient Water Quality Criteria for protection of aquatic life (chronic, freshwater). (USEPA, 1999)
(3) Connecticut Water Quality Criteria for protection of human health from consumption of organisms. (CTDEP, 1997)
(4) Hexavalent Chromium
J Estimated Value
R Rejected Value
U Undetected
NA Not Available

TABLE 3-2

ROUND 5 SURFACE WATER ANALYTICAL RESULTS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
AREA A, NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 2

Chemical	Primary Monitoring Criterion [1]	Secondary Monitoring Criterion	SG-22 SWSG22-05 12/19/00	SG-23 SWSG23-05 12/19/00	SG-24 SWSG24-05 12/18/00	SG-24 (DUP) SWSG24-05-D 12/18/00
VOCs (ug/L)						
1,1,2,2-TETRACHLOROETHANE	110	NA	1 U	1 U	1 U	1 U
ETHYLBENZENE	580,000	NA	1 U	1 U	1 U	1 U
XYLENES, TOTAL	NA	NA	1 U	1 U	1 U	1 U
SVOCs (ug/L)						
BENZO(A)ANTHRACENE	0.3	NA	0.2 U	0.2 U	0.093 J	0.093 J
BENZO(A)PYRENE	0.3	NA	0.2 U	0.2 U	0.05 J	0.039 J
BENZO(B)FLUORANTHENE	0.3	NA	0.2 U	0.2 U	0.069 J	0.053 J
BENZO(K)FLUORANTHENE	0.3	NA	0.2 U	0.2 U	0.028 J	0.026 J
BIS(2-ETHYLHEXYL)PHTHALATE	59	NA	10 U	10 U	10 U	10 U
PHENANTHRENE	0.077	NA	0.042 J	0.031 J	0.19 J	0.14 J
Pesticides/PCBs (ug/L)						
AROCLOR-1016	0.5	0.014[2]	0.2 U	0.2 U	0.2 U	0.2 U
AROCLOR-1254	0.5	0.014[2]	0.2 U	0.2 U	0.2 U	0.2 U
AROCLOR-1260	0.5	0.014[2]	0.2 U	0.2 U	0.2 U	0.2 U
DIELDRIN	0.1	0.0019[3]	0.02 U	0.02 U	0.02 U	0.02 U
HEPTACHLOR	0.05	0.0038[2]	0.01 U	0.01 U	0.01 U	0.01 U
Inorganics (total/dissolved) (ug/L)						
ARSENIC	4	150[2]	2.2 U/2.2 U	2.2 U/2.2 U	2.2 U/2.2 U	2.2 U/2.2 U
BERYLLIUM	4	NA	0.2 U/0.2 U	0.2 U/0.2 U	0.2 U/0.2 U	0.2 U/0.2 U
CADMIUM	6	0.62[3]	0.2 U/0.2 U	0.2 U/0.2 U	0.26 U/0.2 U	0.31 U/0.2 U
CHROMIUM[4]	110	11[2]	0.5 U/0.5 U	0.5 U/0.5 U	0.5 U/0.5 U	0.5 U/0.5 U
COPPER	48	4.8[3]	3.5/1 U	1 U/1 U	5/1.5 J	2.7/1.8 J
LEAD	13	1.2[3]	2.9 U/1 UJ	1.3 U/1.1 U	1.8 U/1.5 U	1.5 U/1.2 U
ZINC	123	58.2[3]	217/204	240/290	115/115	120/114
Miscellaneous Parameters (mg/L)						
CHEMICAL OXYGEN DEMAND	NA	NA	10 U	10 U	10 U	10 U
CHLORIDE	NA	NA	48	8	9.2	9.1
SULFATE	NA	NA	10.3	3.2	6.9	6.7
TOTAL DISSOLVED SOLIDS	NA	NA	154	41	43	57
TOTAL ORGANIC CARBON	NA	NA	2.4	1.8	1.6	1.2

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. (CTDEP, January 1996)
(2) Federal Ambient Water Quality Criteria for protection of aquatic life (chronic, freshwater). (USEPA, 1999)
(3) Connecticut Water Quality Criteria for protection of human health from consumption of organisms. (CTDEP, 1997)
(4) Hexavalent Chromium
J Estimated Value
R Rejected Value
U Undetected
NA Not Available

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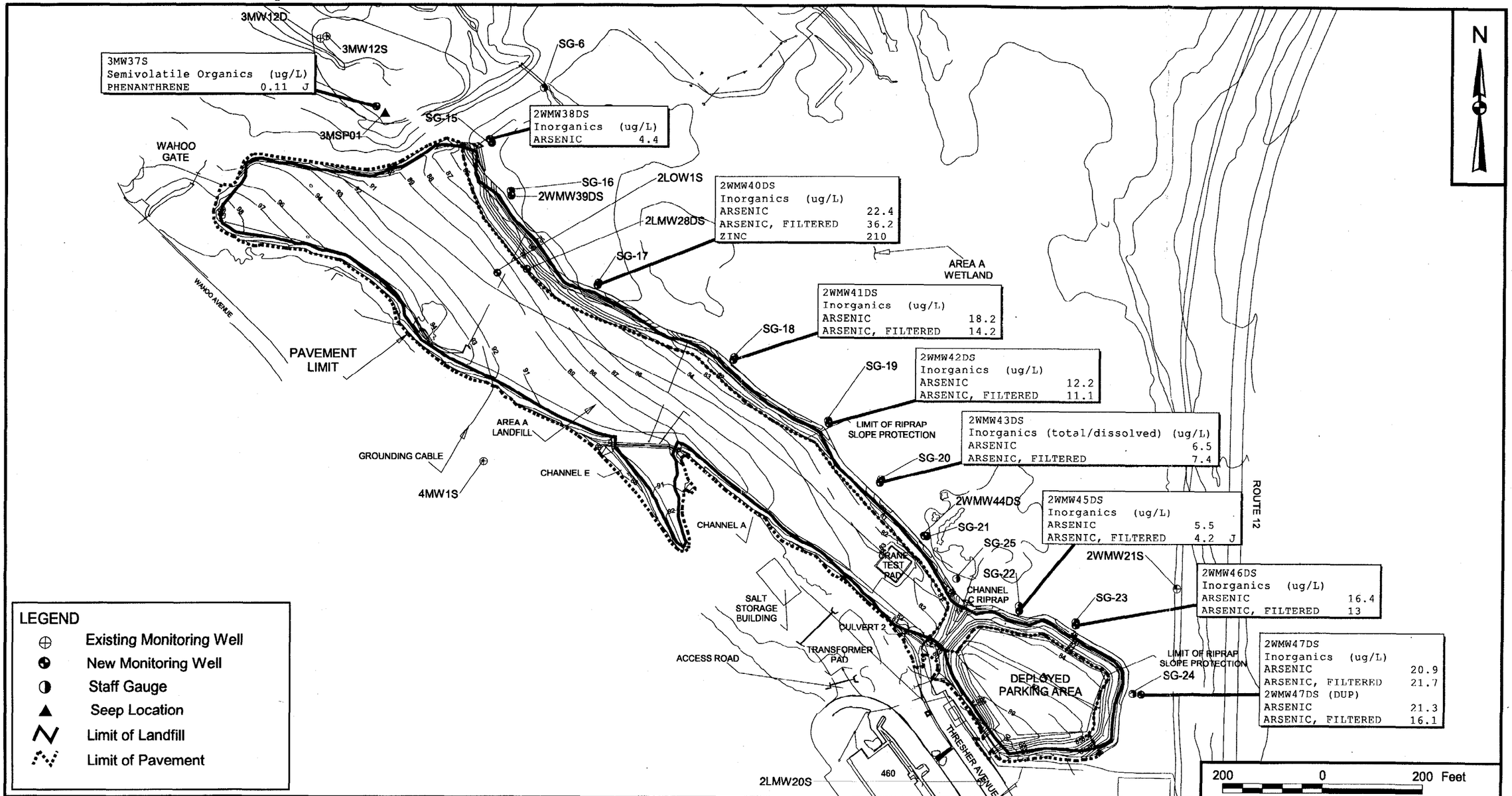
P:\GIS\NLON\50820370.APR\Area A Landfill Round 5 GW Tags MGS 3-7-01



LEGEND

- Existing Monitoring Well
- New Monitoring Well
- Staff Gauge
- Seep Location
- Limit of Landfill
- Limit of Pavement

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

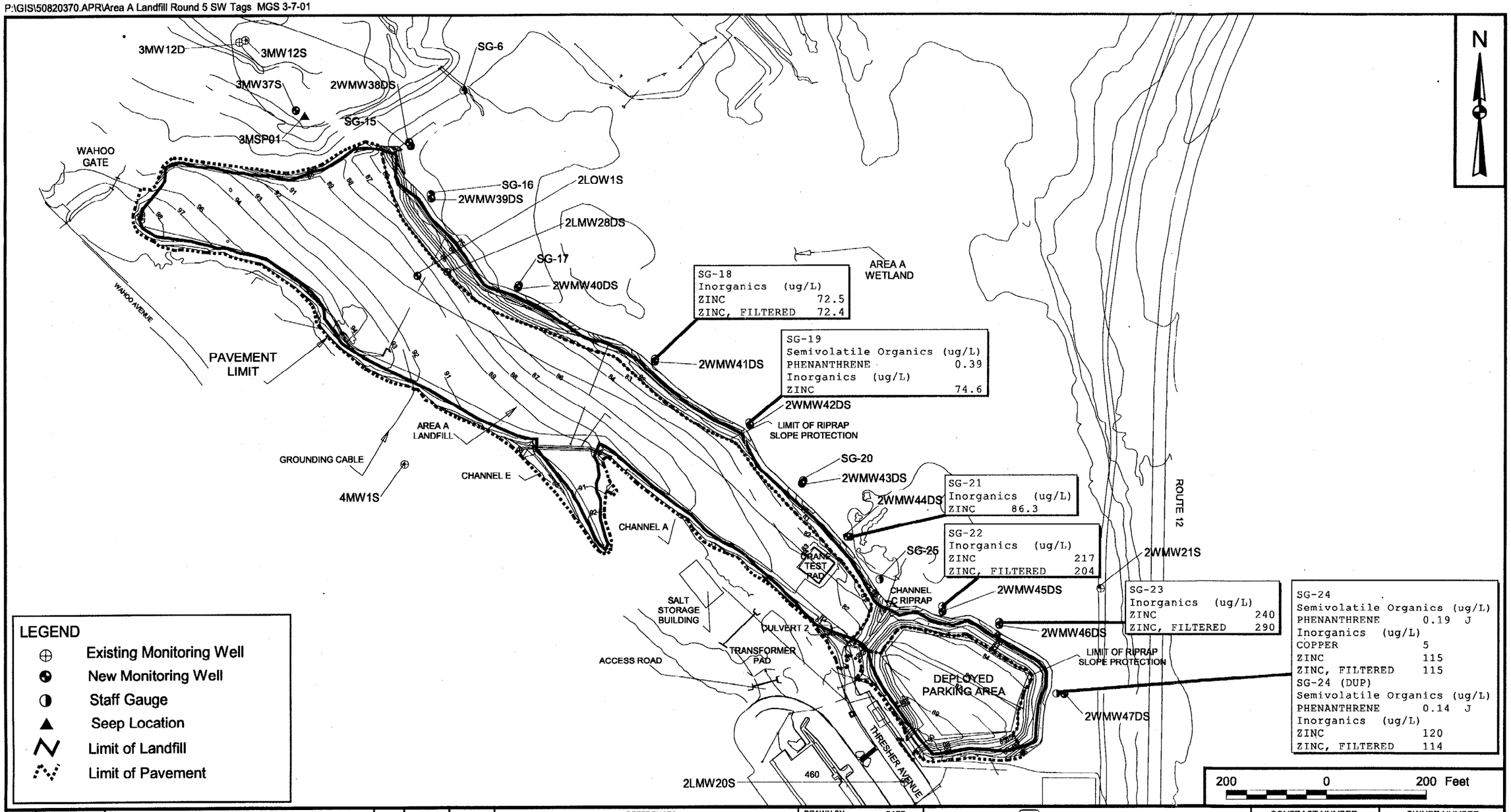
DRAWN BY M. Spangenberg DATE 3-7-01
CHECKED BY DATE
COST/SCHEDULE-AREA
SCALE AS NOTED

Tetra Tech NUS, Inc.

COC EXCEEDANCES OF MONITORING CRITERIA
ROUND 5 GROUNDWATER SAMPLING
AREA A LANDFILL
NSB-NLON, GROTON, CONNECTICUT

CONTRACT NUMBER 7091
OWNER NUMBER
APPROVED BY Mark L. Mingle DATE 3/19/01
APPROVED BY DATE
DRAWING NO. FIGURE 3-1
REV 0

P:\GIS\50820370.APR\Area A Landfill Round 5 SW Tags MGS 3-7-01



LEGEND

- Existing Monitoring Well
- New Monitoring Well
- Staff Gauge
- Seep Location
- Limit of Landfill
- Limit of Pavement

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY M. Spangenberg DATE 3-7-01
CHECKED BY DATE
COST/SCHEDULE-AREA
SCALE AS NOTED

Tetra Tech NUS, Inc.

COC EXCEEDANCES OF MONITORING CRITERIA
ROUND 5 SURFACE WATER SAMPLING
AREA A LANDFILL
NSB-NLON, GROTON, CONNECTICUT

CONTRACT NUMBER 7091
OWNER NUMBER
APPROVED BY Mark L. Mingel DATE 5/19/01
APPROVED BY DATE
DRAWING NO. FIGURE 3-2
REV 0

REFERENCES

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APPENDIX A

FIELD ACTIVITIES LOG BOOK

NSB NLON

12-11-00 40's OVERCAST

~~5088~~ 7041

1244

PERSONAL Frank Wudkowych FW
DOUG MUNSON DG

~~1400~~ (FW) 1300 DO ROUND OF WATER LEVELS
WILL BEGIN ROUND 5 sampling on 12-12-00

1400 SCOUT OUT DEMO

1600 RETURN TO BLO 166

1730 Leave BASE FOR DAY

Work continued to Page

FW

SIG WITNESS

DATE 12-11-00

DATE

NSB NLON

7091
1244

50's RAINING

12-12-00

0600 FCW + DM ARRIVE @ BADGE + PASS OFFICE, GET PERMANAT ID's

0620 ARRIVE @ BLD 166, PACK UP VEHICLES

0645 ARRIVE @ AREA A, RAINING PRETTY STEADY, ALSO STLL DARK OUT, will wait OUT RAIN HOPEFULY

0700 FCW PURGES 2WMW38DS DRY
DM PURGES 2WMW39DS DRY

0800 FCW GOES TO BLD 166 Meet DICK CONANT
PICKUP DRMO KEY, CALL LAB ABOUT Bottles

0845 FCW DROPS OFF DRUMS @ EACH SITE

0930 FCW PURGES 2WMW 42DS DRY
DM PURGES 2WMW 40DS DRY

1130 Return TO BLD 166. CALL LAB, Still no bottles

1145 Lunch

1238 Return TO BLD 166. DM GOES to AREA A TO pump 2WMW41DS DRY.
FCW Will TRY TO LOCATE BOTTLES

1300 FCW Purges 2WMW43DS DRY

1515 Return to trailer, getting Colder + windyer
CALL LAB BECAUSE NO BOTTLES HAVE ARRIVED

1530 Bottleware has not been located. DICK CONANT + FCW DRIVE AROUND BASE LOOKING FOR THEM, NO LUCK.
LAB (STL) IS TRY TO Locate shipping company TO find Man. Fe

Work continued to Page

SIGNATURE FCW

DATE 12-1200

DISCLOSED AND UNDERSTOOD BY WITNESS DATE

NSB NLON

118 30's + dropping windy 1244

1610 DM LEAVES BASE FOR DAY
FCW WAITS AROUND TO TALK TO STL (LAB)
ABOUT WHERE THE BOTTLES ARE

1640 FCW RETURNS TO HOTEL, CALLS STL (LAB)
LAB will Fax shipping manefest TO FCW.

NSB NLON 7091
1244

20's / 30's SUNNY 12-13-00

0630 FCW + DM ARRIVE @ BLD 166, LOAD UP Vehicles

0645 DM GOES TO AREA TO PURGE DRY 2WMW44DS
FCW + DICK CONANT TRY TO TRACK DOWN BOTTLES

0730 FCW locates bottles @ HAZ WAST. BLD.

0830 FCW UNloads Bottles @ BLD 166
GOES TO AREA A STARTS PURGING 2WMW46DS

1030 DM BEGINS PURGING 2WMW45DS

1100 FCW Returns to 166 to put together bottle sets

1200 Lunch

1245 Return to site, will sample wells

1315 collect 2WGW42DS-05

1325 collect 2WGW39DS-05

1500 FCW + DM finish sampling all other wells are still recharging

1530 Return to office, Ice samples + Do Paperwork

1600 GO TO PICK up Nitrogen Cylinders For DRMO

1630 BUY Supplies @ WALMART

1700 Return to hotel

SIGNATURE [signature] 12-13-00

DISCLOSED [illegible]

NSB NLON 5082
30'S RAINIG 1244

12-14-00

0840 FCW + DM ARRIVE AT BLD 166
Get EQUIPMENT READY

0700 ARRIVE @ AREA A FCW sets up on 2WMW470S
DM sets up on 2WMW215 - has no tubing in it.
NO TUBING IN TRAILER, will try to use Silicon
Tubing to sample well

0900 collect 2W-GW470S-05 and GWFD121400-01

0940 collect 2W-GW215-05 Stops Raining

1200 Buy ice, Return TO bLD. 166.

1230 Lunch

1320 DM Goes to site to Sample wells
FCW packs samples

1340 collect 2WGW400S-05

1400 DROP off Samples @ FED EX

1450 sample 2W-GW430S-05

1540 start sampling 2W-GW410S-05

1600 FCW Returns TO office to do paperwork. CHECK OUT
EQUIP FOR DRMO

1700 went dry @ 2W-GW410S-05 only collect VOCs, SVOC,
PAHS + Pest/PCB
will try to complete sample on 12-14-00

1730 Return to office BLD 166, do paper work, Calibrate
YSI'S. FW LEAVE SITE. GOES TO WALMART.

Work continued to Page

SIGNATURE [signature] DATE 12-14-00

DISCLOSURE AND UNDERSTANDING DATE WITNESS DATE

NSB NLON
30's SUNNY

7091
1244

12-15-00

0145 ARRIVE @ BLD 166 DO DRMO site

1130 DM Finishes collecting 2WGW410S-05

1200 Lunch

1315 DM GOES TO AREA A TO Samplo
FCW MAKES Phone Calls + packs samples

1330 2W-GW440S-05 sampled

1400 GO TO DPDP OFF FED EX Samplos

1435 Return to AREA A

1450 Sample 2WGW460S-05

1540 collect 2W-GW450S-05

1620 START sampling 2WGW380S-05, well went dry
will Finish collecting on 12-17-00

1700 Return to BLD 166 ICE SAMPLES + DO PAPERWORK

1800 Leave Base FOR DAY

Work continued to Page

SIGNATURE

DATE 12-15-00

DISCLOSED TO AND RECEIVED BY

DATE

WITNESS

DATE

NSB NORTH

7041
1244

30's OVERCAST

12-16-00

0900 ARRIVE @ BLD 166 after sampling DRMO

0930 collect 3M-SP01-05

1000 DM sets up on 2L MW205

1100 FCW sets up on 4MW015

1125 collect 2LGW205-05 do MS/MSD

1210 Collect 4GMW015-05

1330 FCW GOES TO BUY ICE AND DUMP PURGE WATER.

1410 RETURN TO BLD 166

1430 LEAVE BASE FOR DAY

SIGNATURE

DISCIPLINE

DATE 12-16-00

NSB NLON
50's

7091
1244

12-17-00

WORKE @ DRMO IN A.M.

1200 FINISH COLLECTING 2WGW3805-05

1230 SCOPE OUT SURFACE WATER LOCATIONS
POORING DOWN RAIN

1300 LEAVE BASE FOR DAY

Work continued to Page

SIGNATURE FNT W

DATE 12-17-00

DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

NSB NLON 7091
30's windy partly cloudy 1244
12-18-00

0700 ARRIVE @ BLD 166 WORK @ DRMO IN A.M.

1200 LUNCH

1230 DM Sets up on 3-MW375

1245 FCW collects SWSG24-03 and FD-SW-18 121800-01

1330 Collect 3-GW375-05
FCW PACKS SAMPLES @ BLD. 166

1530 DROPS OFF Samples @ BLD 166

1620 FCW + DM collect SWSG18-05

1630 Return TO BLD 166, do paper work and clean up, and get ready for tommorrow

1700 Leave Base For day

continued on Page

SIGNATURE

12-18-00

DISCL

NSB NLON 7091
30's Sunny 1244
12-19-00

0645 ARRIVE @ BLD. 166, GET EQUIPMENT TO collect SURFACE H_2Os

0700 collect SWSG 19-05

0730 collect SWSG 20-05

0800 collect SWSG 21-05

0810 Return to BLD. 166, PACK samples, prepare For DRMO Sampling

1230 Return to AREA A to collect surface H_2Os

1300 Collect SWSG22-05

1320 collect SWSG 23-05

1400 Return to BLD. 166 PACK SAMPLES CLEAN OUT VECHICLES

1500 TAKE SAMPLES TO FED EX

1530 PACK UP. EQUIP. FOR SHIPMENT

1700 LEAVE BASE END OF SHIFT

END OF ROUND 5

SIG

DISC

12-19-00

APPENDIX B

GROUNDWATER LEVEL MEASUREMENT SHEET

WATER LEVEL MEASUREMENT SHEET

Project Name: NSB-NLON, Area A
Location: Groton, CT
Weather Conditions: 40's OVERCAST
Project No.: CTO 203 5082
Personnel:
Measuring Device: SLOPE INDICATOR
Remarks:

Well ID	Date	Time	Water Level *	Thickness of Free Product *	PID Reading ppm RP	PID Reading ppm BZ	Comments
3mw37S	12/11/00	1330	3.70	NA			
2wmw38DS		1338	7.27	NA			
SG15		1340	—	NA			Dry
2wmw39DS		1342	3.38	NA			
SG16		1342	—	NA			Dry
2wm40DS		1345	3.53	NA			
SG17		~~1346~~	—	NA			Dry
SG06		1353	—	NA			NOT one there
4mw1S		1358	~~5.87~~ (FW) 6.87	NA			NO ID on well cap
2wmw41DS		1401	2.73	NA			
SG18		1402	4.10	NA			
2wmw42DS		1405	2.34	NA			

* All measurements to the nearest 0.01 foot

Signature(s): FW

WATER LEVEL MEASUREMENT SHEET

Project Name: NSB-NLON, Area A
Location: Groton, CT
Weather Conditions: 40's OVERCAST
Project No.: CTO 203 5082
Personnel:
Measuring Device: SLOPE INDICATOR
Remarks:

Well ID	Date	Time	Water Level *	Thickness of Free Product *	PID Reading ppm RP	PID Reading ppm BZ	Comments
SG19	12/11/00	1406	4.05	NA			
2WMW43DS		1411	2.75	NA			
SG20		1412	3.34	NA			
2WMW44DS		1414	1.82	NA			
SG21		1415	3.51	NA			
2WMW45DS		1418	2.54	NA			
SG22		1419	4.35	NA			
2WMW46DS		1421	1.74	NA			
SG23		1423	4.06	NA			
2WMW47DS		1429	1.55	NA			S
SG24		1431	—*	NA			*SG Crooked threads rotted
2MW21S		1433	4.55	NA			

* All measurements to the nearest 0.01 foot

Signature(s): FRJ

APPENDIX C

MONITORING INSTRUMENT CALIBRATION LOGS

Tetra Tech NUS, Inc.

EQUIPMENT CALIBRATION LOG

PROJECT NAME: NSB- NLON

SITE NAME: DRMO / AREA A

PROJECT No.: CTO 203 / 267

INSTRUMENT NAME/MODEL: YSI / 6820

MANUFACTURER: YSI

SERIAL NUMBER: 96D49278

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		
12/11/00	142	R.D Munson	PH 4.0	4.02	Cond	1020	2230/2437	
			7.0	6.93			2210	
			10.0	10.01			2231	
			DO%	90.4			—	
			ORP	167.0			2297	
12/15/00	142	RD Munson	PH 7	7.00	Cond	1000		
			PH 10	10.00				
			DO %	97.7				
			ORP	100.3				
12/18/00	142	RD Munson	PH 7.0	6.99	Cond	940		
			PH 10	10.01				
			DO%	—				DO not working
			ORP	100.1				

Tetra Tech NUS, Inc.

EQUIPMENT CALIBRATION LOG

PROJECT NAME: NSB-NLON

INSTRUMENT NAME/MODEL: YSI/6820

SITE NAME: DRMO/ AREA A

MANUFACTURER: YSI

PROJECT No.: CTO 203/ 267

SERIAL NUMBER: 98F0134

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		
12/11/00	161	R.D Munson	pH 4.0	4.19	cond	1007.0	2230/2437	
			7.0	6.93			2210	
			10.0	10.01			2231	
			DO	64.1				
			ORP	181.1			2297	
12/14/00	161	RDMunson	4.0			1000		
			7.0	7.00				
			10.0	10.03				
			DO	100.1				
			ORP	108.3				
12/18/00	161	RDMunson	pH 7.0	6.99	cond	992		
			pH 10.0	10.01				
			DO	99.9				
			ORP	105.6				

APPENDIX D

GROUNDWATER SAMPLE LOGSHEETS AND LOW-FLOW PURGE DATA SHEETS

Tetra Tech NUS, Inc

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 203 5082

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

Sample ID No.: 2LGW20S- GW-05
Sample Location: 2LMW20S
Sampled By: RD Munson
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Date: 12.16.00	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	ppt
Time: 1125								
Method: Peristaltic Pump	Clear	6.23	0.552	12.75	1.59	3.87	-98.5	—

PURGE DATA:

Date: 12.16.00
Method: Peristaltic Pump
Monitor Reading (ppm):
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 18.85
Static Water Level (WL): 16.58
One Casing Volume(gal): 0.37
Start Purge (hrs): 1030
End Purge (hrs): 1120
Total Purge Time (min): 50
Total Vol. Purged (gal): 2.1

See Attached Low Flow Purge Data Sheet
for Purge Data

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	7 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	3 Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 Qt. Amber Glass	✓
TCL PAH	4° C	2 Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	2 L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	2 L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	4 - 40 ~~60~~ mL Glass VIAL	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	2 - 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	2 L PE	✓

OBSERVATIONS / NOTES:

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):
RD Munson

Tetra Tech NUS, Inc. LOW FLOW PURGE DATA SHEET

Well No.: 2LMW20S

PROJECT: NSB - NLON
PROJECT NUMBER: CTO 203 5082
SITE: AREA A

DATE: 12.16.00
WEATHER: Overcast breezy cold
PERSONNEL: RD Munson

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 16.58 @ ____ hrs.
Pump Type/Material: ____
Pump Intake Depth: ____

Tide Cycle: ☐ High @ ____ ☐ Low @ ____ ☐ Not Affected

Total Purge Volume= 2.1 (gal) L) **Total Purge Time=** 50 (min)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Pump Settings	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity ppt	Eh mV	Comments
1030	16.58	—	—	—	—	—	—	—	—	—	—	start purge
1035	16.65	900	90		12.39	6.35	1.13	6.88	247		-105.6	cloudy
1040	16.67	1700	80		12.60	6.30	0.926	4.84	144		-104.1	
1045	16.68	2500	80		12.72	6.27	0.783	4.31	60.9		-104.6	
1050	16.67	3300	80		12.74	6.26	0.706	4.09	23.6		-105.4	
1055	16.69	4100	80		12.62	6.25	0.643	4.28	10.53		-104.4	
1100	16.68	4900	80		12.75	6.24	0.607	3.71	5.63		-102.9	
1105	16.68	5700	80		12.63	6.24	0.585	4.05	3.25		-101.6	
1110	16.68	6500	80		12.65	6.23	0.569	3.96	2.71		-100.3	
1115	16.68	7300	80		12.71	6.23	0.558	3.84	1.94		-99.3	
1120	16.68	8100	80		12.75	6.23	0.552	3.87	159		-98.5	End purge
	Sample 1125 - 1408 MS/MSD											

Water Quality Meter (S/N): ____
Control Box Type (S/N): ____
Turbidimeter (S/N): ____

Notes: ____

Tetra Tech NUS, Inc

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 203 5082

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

Sample ID No.: 2W-GW121S -- ~~GW-05~~
Sample Location: Area A
Sampled By: R D MUNSON
C.O.C. No.: ~~A-121300~~
Type of Sample: A-121300
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	ppt
Date: 12-14-00								
Time: ~~NSD~~ 940								
Method:Peristaltic Pump	Clear	6.95	3.38	8.09	19.3	4.85	-310	—

PURGE DATA:

Date: 12-14-00
Method:Peristaltic Pump
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 17.30
Static Water Level (WL): 4.28
One Casing Volume(gal): 2.12
Start Purge (hrs): 0810
End Purge (hrs): 0940
Total Purge Time (min): 90
Total Vol. Purged (gal): 2.25

See Attached Low Flow Purge Data Sheet
for Purge Data

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	2 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1 - 1000ml Qt. Amber Glass	✓
TCL PAH	4° C	~~1~~ 2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1-500ml L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1-50ml L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2x 40ml ~~Vial 60 mL~~ Glass	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 - 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - 1000ml L PE	✓

OBSERVATIONS / NOTES:

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):
R D Munson

Tetra Tech NUS, Inc. LOW FLOW PURGE DATA SHEET

Well No.: 2WMW 21S

PROJECT: NSB - NLON / AREA A
PROJECT NUMBER: CTO 203 - 5082
SITE: AREA A

DATE: 12-14-00
WEATHER: RAIN - cold
PERSONNEL: RD MUNSON

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 4.28 @ 0800 hrs.

Pump Type/Material: ____
Pump Intake Depth: ____

Tide Cycle: ☐ High @ ____ ☐ Low @ ____ ☐ Not Affected

Total Purge Volume= ____ (gal / L)
Total Purge Time= ____ (min)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Pump Settings	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity ppt	Eh mV	Comments
0810	4.78	90	90		8.00	7.12	4.40	4.92	7.33		-339.5	Sulfur odor Black fines
0820	5.25	990	90		7.55	7.12	4.31	4.16	3.37		-324.4	
0830	5.52	1890	90		7.93	7.11	4.23	3.90	2.20		-322.0	
0840	5.70	2840	95		8.22	7.09	4.15	3.60	3.14		-39.8	
0850	5.83	3790	95		8.17	7.08	4.02	3.71	2.93		-317.3	
0900	5.85	4740	95		7.95	7.04	3.89	3.94	2.57		-314.1	
0910	5.86	5690	95		7.94	7.01	3.73	4.02	2.78		-311.7	
0920	5.87	6640	95		8.11	6.98	3.59	4.40	5.34		-310.3	
0930	5.87	7590	95		8.02	6.97	3.50	4.60	11.2		-309.9	
0940	5.96	8540	95		8.09	6.95	3.38	4.85	19.3		-310.7	
	Purging completed, begin sampling											
1113	Sample completed											
↳	5.70											

Water Quality Meter (S/N): ____
Control Box Type (S/N): ____
Turbidimeter (S/N): ____

Notes: ____

Tetra Tech NUS, Inc

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 203 5082

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

Sample ID No.: 3-GW375-GW-05
Sample Location: 3MW375
Sampled By: RD MUNSON
C.O.C. No.: A-121800
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12.18.00	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Time: 1330	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	ppt
Method: Peristaltic Pump	Clear	6.12	0.760	9.12	0.80	2.49	25.5	—

PURGE DATA:

Date: 12.18.00	See Attached Low Flow Purge Data Sheet for Purge Data
Method: Peristaltic Pump	
Monitor Reading (ppm): →	
Well Casing Diameter & Material Type: 2" PVC	
Total Well Depth (TD): 8.45	
Static Water Level (WL): 3.47	
One Casing Volume(gal): 0.81	
Start Purge (hrs): 1240	
End Purge (hrs): 1330	
Total Purge Time (min): 50	
Total Vol. Purged (gal): 2.64	

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	40 ml Vial	3
TCL SEMIVOLATILES	4° C	Qt. Amber Glass	2
TCL PEST/PCBs	4° C	Qt. Amber Glass	1
TCL PAH	4° C	Qt. Amber Glass	2
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	L PE	1
TAL METALS (DISSOLVED)	HNO_3 / 4° C	L PE	1
Total Organic Carbon (TOC)	HCL / 4° C	3 40ml ~~60 mL Glass~~ vial	3
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	250 mL PE	1
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - 1,000 Ml L PE	1

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

RD Munson

Tetra Tech NUS, Inc. LOW FLOW PURGE DATA SHEET

Well No.: 3MW37S

PROJECT: NSB - New London
PROJECT NUMBER: 203-5082
SITE: Area A

DATE: 12·18·00
WEATHER: Clear - Windy, cold
PERSONNEL: RD Munson

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 3.47 @ 1231 hrs.

Pump Type/Material:
Pump Intake Depth:

Tide Cycle: ☐ High @ ____ ☐ Low @ ____ ☐ Not Affected

Total Purge Volume= 2.64 (ga) / L) **Total Purge Time=** 50 (min)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Pump Settings	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity ppt	Eh mV	Comments
1237		~~0~~	100	–	–	–	–	–	–	–	–	Begin Purge
1240	3.82	900	90		8.50	6.28	0.765	5.51	7.3	–	34.6	MW fines
1245	3.82	1800	90		8.79	6.24	0.761	4.44	4.2	–	32.1	
1250	3.82	2700	90		8.78	6.23	0.759	4.25	2.5	–	31.1	
1255	3.82	3600	90		8.96	6.22	0.759	4.24	2.9		30.0	
1300	3.82	4500	90		9.23	6.20	0.749	3.81	1.1		29.0	
1305	3.83	5400	90		9.22	6.18	0.734	3.34	1.6		28.2	
1310	3.84	6400	100		9.18	6.15	0.724	2.91	1.5		27.2	
1315	3.83	7300	90		9.13	6.14	0.726	2.67	1.0		26.6	
1320	3.83	8200	90		9.30	6.13	0.734	2.34	0.95		26.3	
~~1325~~ 1330	3.83	9100	90		9.12	6.13	0.746	2.52	0.85		25.8	
1330	3.82	10000	90		9.12	6.12	0.760	2.49	0.80		25.5	
	1330 Begin Sample											
	1500 Sample completed											

Water Quality Meter (S/N): _____
Control Box Type (S/N): _____
Turbidimeter (S/N): _____

Notes: _____

Tetra Tech NUS, Inc

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 203 5082

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

Sample ID No.: 2WAW38DS-05 ~~GW-05~~ (R)
Sample Location: 2WMW38DS
Sampled By: FCW
C.O.C. No.: A-121500
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12-15-00	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Time: 1620	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	ppt
Method:Peristaltic Pump	Clear	~~6.84~~	1.11	11.85	12	2.94	-49.6	—

PURGE DATA:

Date: 12-12-00	See Attached Low Flow Purge Data Sheet for Purge Data
Method:Peristaltic Pump	
Monitor Reading (ppm): —	
Well Casing Diameter & Material Type: 2" PVC	
Total Well Depth (TD): 12.51	
Static Water Level (WL): 7.19	
One Casing Volume(gal): 0.8	
Start Purge (hrs): 0716	
End Purge (hrs): 0753	
Total Purge Time (min): 37	
Total Vol. Purged (gal): 1.3	

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3x 40 ml Vial	✓ 12-1
TCL SEMIVOLATILES	4° C	1 Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1 Qt. Amber Glass	✓
TCL PAH	4° C	1 Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	— L PE	
Total Organic Carbon (TOC)	HCL / 4° C	2x 40 ~~60~~ mL Glass	✓ 12-
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 250 mL PE	
Alkalinity, Chloride, Sulfate, TDS	4° C	1 L PE	✓

OBSERVATIONS / NOTES:

Well dry will sample @ later date 10 bottles

Sample 12-15-00

Return on 12-17-00 to finish

Circle if Applicable:

MS/MSD — Duplicate ID No.:

Signature(s): FCW

Tetra Tech NUS, Inc. LOW FLOW PURGE DATA SHEET

Well No.: 2WMW38D5

PROJECT: NSB NLON
PROJECT NUMBER: CTO 203
SITE: AREA A

DATE: 12-12-00
WEATHER: OVERCAST
PERSONNEL: F. WUDKWYCH

Well Screen Depth: — / — ft.
Initial Water Level: — @ — hrs.

Pump Type/Material: Peristaltic
Pump Intake Depth: Bottom

Tide Cycle: ☐ High @ ___ ☐ Low @ ___ ☑ Not Affected

Total Purge Volume= 1.3 (gal/L)

Total Purge Time= 37 (min)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Pump Settings	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity ppt	Eh mV	Comments
0716	7.19			NA								START PURGING
0722	7.79		100		11.58	7.05	0.956	3.42	7.7	0	85.4	
0730	8.60		130		11.72	6.88	0.953	4.92	5.7	0	81.6	
0738	9.71		140		11.74	6.85	0.992	3.03	4.9	0	77.5	
0746	10.67		145		11.83	6.86	1.06	2.14	4.0	0	60.8	
0753	11.54		145		11.75	6.84	1.11	2.94	12	0	-49.6	well going dry will sample at later date

Water Quality Meter (S/N): ___

Control Box Type (S/N): ___

Turbidimeter (S/N): ___

Notes: ___

GROUNDWATER SAMPLE LOG SHEET

Tetra Tech NUS, Inc

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 203 5082

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

Sample ID No.: 2W-GW39DS- GW-05
Sample Location: AREA A
Sampled By: R D Manson
C.O.C. No.: A-121300
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12·13·00 / Time: 1325 / Method: Peristaltic Pump	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
		6.94	3.43	10.91	~~0.6~~ (FD) 19	0.6	73.5	—

PURGE DATA:

Round 5

Date: 12 12·00
Method: Peristaltic Pump
Monitor Reading (ppm): -
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 16.70
Static Water Level (WL): 3.55
One Casing Volume(gal):
Start Purge (hrs): 0733
End Purge (hrs): 0858
Total Purge Time (min): 85
Total Vol. Purged (gal): 3.32

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	3
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	2
TCL PEST/PCBs	4° C	1 - Qt. Amber Glass	1
TCL PAH	4° C	2 - Qt. Amber Glass	2
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 - LPE 500 mL	1
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - LPE 500 ml	1
Total Organic Carbon (TOC)	HCL / 4° C	2 - 40 ml Vial ~~60 mL Glass~~	2
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 - 250 mL PE	1
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - 500 ml LPE	1

OBSERVATIONS / NOTES:

Pumped well dry - will sample on 12·13·00 if well has recharged enough,

WL: 3.98 on 12·13·00

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

R D Manson

Tetra Tech NUS, Inc. LOW FLOW PURGE DATA SHEET

Well No.: 2WMW39DS

PROJECT: NSB - NLON
PROJECT NUMBER: CTO 203 5082
SITE: AREA A

DATE: 12.12.00
WEATHER: OVCST - Windy, ocnl Rain, cold
PERSONNEL: R. D MUNSON

Well Screen Depth: _____ / _____ ft.
Initial Water Level: _____ @ _____ hrs.
Pump Type/Material: _____
Pump Intake Depth: _____
Tide Cycle: ☐ High @ _____ ☐ Low @ _____ ☐ Not Affected

Total Purge Volume= 3.32 (gal / L) **Total Purge Time=** 85 (min)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Pump Settings	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity ppt	Eh mV	Comments
0733	5.17	150	150		10.53	6.81	3.12	1.21	33.3	~~43.6~~	-43.6	
0738	6.27	900	150		10.28	6.80	2.72	0.61	24.3	—	-44.2	
0743	6.67	1650	150		9.95	6.74	1.89	0.50	28.4	—	-25.0	
0748	7.08	2350	140		9.90	6.70	1.71	0.44	33.5	—	-11.5	
0753	7.63	3100	150		9.97	6.69	1.67	0.39	29.8	—	-5.7	
10 min ↓ 0758	8.24	3800	140		10.05	6.67	1.63	0.36	27.4	—	-3.4	Switch to 10 min Int.
0808	9.47	5200	140		10.14	6.67	1.59	0.33	27.0	—	-8.3	
0818	10.56	6600	140		10.21	6.69	1.49	0.37	13.8	—	-33.3	
0828	11.83	8100	150		10.42	6.72	1.75	0.41	9.92	—	-53.2	
0838	12.99	9600	150		10.59	6.76	2.29	0.42	9.51	—	-62.0	
0848	14.38	11100	150		10.84	6.84	3.08	0.42	10.79	—	-70.6	
0858	15.58	12600	150		10.91	6.94	3.43	0.60	19.6	—	75.5	Dry Sample
12.13.00 1322 ↓ 1437	3.98											Sample done

Water Quality Meter (S/N): _____
Control Box Type (S/N): _____
Turbidimeter (S/N): 0357 - 4197

Notes: _____

GROUNDWATER SAMPLE LOG SHEET

Tetra Tech NUS, Inc

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 203 5082

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

Sample ID No.: 2WGW40DSGW-05
Sample Location: Area A
Sampled By: RD Munson
C.O.C. No.: A-121480
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Date: 12-14-00	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	ppt
Time: 1340								
Method: Peristaltic Pump	Clear	7.11	252	11.64	8.35	4.31	-320	—

PURGE DATA:

Round 5

Date: 12-12-00	
Method: Peristaltic Pump	
Monitor Reading (ppm): -	
Well Casing Diameter & Material Type: 2" PVC	
Total Well Depth (TD): 17.38	
Static Water Level (WL): 3.43	
One Casing Volume(gal): 2.28	
Start Purge (hrs): 0940	
End Purge (hrs): 1055	
Total Purge Time (min): 75	
Total Vol. Purged (gal): 2.77	

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 - 500 ml L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - 500 ml L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2 - 40 ml Vial 60 mL Glass	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 - 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - 1000 ml L PE	✓

OBSERVATIONS / NOTES:

Purged dry on 12-12-00. Will sample when well has sufficiently recharged

WL 7.14 12-14-00 1340

Circle if Applicable:

MS/MSD —

Duplicate ID No.:

Signature(s):

RD Munson

Tetra Tech NUS, Inc. **LOW FLOW PURGE DATA SHEET** **Well No.:** 2WMW40DS-05

PROJECT: NSB-NLON/AREA A - Rounds
PROJECT NUMBER: CTO 203 5082
SITE: AREA A
DATE: 12.12.00
WEATHER: Sunny - Windy - Cool
PERSONNEL: RD Munson

Well Screen Depth: ____ / ____ ft.
Initial Water Level: ____ @ ____ hrs.
Pump Type/Material: ____
Pump Intake Depth: ____
Tide Cycle: ☐ High @ ____ ☐ Low @ ____ ☐ Not Affected
Total Purge Volume= 2.77 (gal) / L) **Total Purge Time=** 75 (min)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Pump Settings	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity ppt	Eh ORP mV	Comments
0940	4.64	140	140		10.55	7.10	3.06	11.61	3.81		-309.5	strong sulfur odor
0945	5.57	840	140		10.66	7.10	3.01	17.80	3.41		-312.1	Black fines
0950	6.43	1540	140		10.78	7.10	2.93	22.93	5.53		-312.7	
0955	7.04	2190	130		10.85	7.11	2.75	26.78	3.57		-319.1	
1000	7.59	2890	140		10.89	7.11	2.63	29.12	5.50		-324.3	
1005	8.32	3590	140		11.09	7.13	2.45	30.90	4.77		-329.0	
1010	8.89	4290	140		11.18	7.14	2.31	32.15	4.41		-331.3	
1015	9.41	4990	140		11.20	7.16	2.17	33.20	4.27		-330.5	
1020	10.10	5690	140		11.28	7.18	2.06	34.10	4.42		-330.7	
10 min → 1030	11.41	7090	140		11.16	7.16	1.99	36.16	4.41		-328.0	re-zoning interval
1040	12.83	8390	130		11.35	7.13	2.14	37.90	5.46		-327.5	
1050	14.62	9790	140		11.47	7.10	2.41	39.48	8.35		-327.7	
1055	15.35	10490	140		11.64	7.11	2.52	40.31	—		-320.6	Dry
12.14.00 → 1340	7.14	Start Sampling										
1520	Finish Sampling											

Water Quality Meter (S/N): ____
Control Box Type (S/N): ____
Turbidimeter (S/N): 0357-4197
Notes: ____

Tetra Tech NUS, Inc

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 203 5082

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

Sample ID No.: 2W-GW41DS GW-05
Sample Location: Area A
Sampled By: RD/Hudson
C.O.C. No.: A-121400
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12-14-00	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	ppt
Time: 1540								
Method: Peristaltic Pump	clear	7.01	2.78	10.80	10.9	46.47	-331	—

PURGE DATA:

Date: 12.12.00	Round 5
Method: Peristaltic Pump	
Monitor Reading (ppm): —	See Attached Low Flow Purge Data Sheet for Purge Data
Well Casing Diameter & Material Type: 2" PVC	
Total Well Depth (TD): 16.65	
Static Water Level (WL): 2.67	
One Casing Volume(gal): 2.28	
Start Purge (hrs): 1309	
End Purge (hrs): 1429	
Total Purge Time (min): 80	
Total Vol. Purged (gal): 3.26	

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 - 500ml L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - 500ml L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2 - 40ml Vial ~~60 mL Glass~~	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 - 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - 1000ml L PE	✓

OBSERVATIONS / NOTES:

Purged dry on 12.12.00. Will sample when well has sufficiently recharged

WL=6.43 on 12.14.00 - 1540 Well ran dry 1635. Collected TCL volatiles TCL Semivolatiles, TCL Pest/PCBs + TCL PAH's.
WL = 7.87 on 12.14.00 1100 Complete Sample 1130

Circle if Applicable:

MS/MSD	Duplicate ID No.:
~~—~~	—

Signature(s): RDHudson

Tetra Tech NUS, Inc. **LOW FLOW PURGE DATA SHEET** **Well No.:** 2WMW41DS

PROJECT: NSB New London
PROJECT NUMBER: CTO 203 5082
SITE: Area A

DATE: 12.12.00
WEATHER: Sunny - very windy, cold
PERSONNEL: RD Munson

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 2.67 @ 1302 hrs.

Pump Type/Material:
Pump Intake Depth:

Tide Cycle: ☐ High @ ____ ☐ Low @ ____ ☐ Not Affected

Total Purge Volume= ____ (gal / L)

Total Purge Time= 80 ~~ml~~ (min)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Pump Settings	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity ppt	Eh mV	Comments
1309	4.07	150	150		10.78	7.02	2.98	30.50	10.03	—	-332.7	Start of Purge
1314	5.16	900	150		10.47	7.01	2.81	32.38	7.88	—	-337.1	
1319	6.14	1850	150		10.38	7.00	2.64	37.23	4.13	—	-337.7	
1324	6.96	2600	150		10.86	6.99	2.45	37.90	3.01	—	-335.2	
1329	7.55	3350	150		10.84	6.97	2.27	39.69	2.82	—	-333.8	
1334	8.27	4100	150		10.56	6.94	2.02	41.45	3.29	—	-329.0	
1339	8.84	4850	150		10.42	6.92	1.81	42.33	5.51	—	-322.8	
1349 (10 min)	10.14	6350	150		10.89	7.22	1.58	40.84	7.26	—	-329.1	10 min Interval
1359	11.46	7850	150		11.00	7.13	1.62	41.99	7.30	—	-335.4	
1409	12.98	9350	150		10.87	7.04	1.94	43.96	8.12	—	-332.3	BLACK Fines
1419	14.51	10850	150		10.65	7.02	2.25	45.71	6.71	—	-329.7	
1429	15.60	12350	150		10.80	7.01	2.78	46.47	10.96		-331.0	Dry
1540	6.43											Dry @1635
1100 (12.40 / 12.15)	7.87											

Water Quality Meter (S/N): ____

Control Box Type (S/N): ____

Turbidimeter (S/N): ____

Notes: ____

GROUNDWATER SAMPLE LOG SHEET

Tetra Tech NUS, Inc

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 203 5082

Sample ID No.: 2WMW42DS-05-GW-05
Sample Location: 2WMW42DS
Sampled By: FCW
C.O.C. No.: 121300
Type of Sample:
[X] Low Concentration
[ ] High Concentration

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

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Date: 12-13-00	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	ppt
Time: 1315								
Method: Peristaltic Pump	grey	6.85	2.96	10.7	55	3.04	-327	0

PURGE DATA:

Date: 12-12-00
Method: Peristaltic Pump
Monitor Reading (ppm): -
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 16.91
Static Water Level (WL): 2.35
One Casing Volume(gal): 2.3
Start Purge (hrs): 0941
End Purge (hrs): 1115
Total Purge Time (min): 94
Total Vol. Purged (gal): 3.5

See Attached Low Flow Purge Data Sheet
for Purge Data

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3x 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2x Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1 ~~2~~ Qt. Amber Glass	✓
TCL PAH	4° C	2 x Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2 x 40 ~~60~~ mL Glass	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 L PE	✓

OBSERVATIONS / NOTES:

dry will sample on 12-13-00

WL = 3.25 on 12-13-00

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc. **LOW FLOW PURGE DATA SHEET** **Well No.:** 2WMW 42DS

PROJECT:	NSB NLON	**DATE:**	12-12-00
PROJECT NUMBER:	CTO - 203	**WEATHER:**	40's windy
SITE:	AREA A	**PERSONNEL:**	E. Wudkwych

Well Screen Depth: — / — ft. **Pump Type/Material:** Peristaltic **Tide Cycle:** ☐ High @ ____

Initial Water Level: — @ — hrs. **Pump Intake Depth:** bottom ☐ Low @ ____

Total Purge Volume= 3.5 (gal / L) **Total Purge Time=** 94 (min) ☑ Not Affected

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Pump Settings	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity ppt	Eh mV	Comments
0941	2.35			Na								START PURGING
0948	3.51		130		9.11	6.98	3.57	1.27	13	0	-332	
0957	5.41		130		9.42	6.74	3.19	0.77	8.3	0	-352	
1006	6.90		140		10.0	6.54	2.15	0.00	4.9	0	-337	
1015	8.65		140		10.2	6.50	1.84	0.14	3.8	0	-332	
1024	9.80		145		10.3	6.51	1.71	0.51	30	0	-326	
1032	10.70		145		10.3	6.66	1.38	0.30	50	0	-348	
1040	11.71		145		10.3	6.89	1.38	0.18	6.7	0	-344	
1048	12.76		145		10.3	6.86	1.59	0.52	3.1	0	-345	
1056	13.95		145		10.7	6.82	1.94	0.62	4.6	0	-347	
1110	15.81		145		10.8	6.80	283	2.41	7.7	0	-349	Switched YSI DO TO BATTERY BEING DEAD
1115	DRY		145		10.7	6.85	~~3.09~~ 2.96	3.04	55	0	-327	
1315												sample
1445												end

12-13

Water Quality Meter (S/N): _____ Notes: _____

Control Box Type (S/N): _____

Tetra Tech NUS, Inc

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 203 5082

Sample ID No.: 2WGW43 DS-05 ~~GW-05~~ FD
Sample Location: 2WMW43 DS
Sampled By: FCW
C.O.C. No.: A-121400

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

Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12-14-00 / Time: 1450	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Method:Peristaltic Pump	DARK GREY	6.60	3.68	10.35	65	4.65	—	~360

PURGE DATA:

Date: 12-12-00	See Attached Low Flow Purge Data Sheet for Purge Data
Method:Peristaltic Pump	
Monitor Reading (ppm): —	
Well Casing Diameter & Material Type: 2" PVC	
Total Well Depth (TD): 15.67	
Static Water Level (WL): 2.66	
One Casing Volume(gal): 2.1	
Start Purge (hrs): 1316	
End Purge (hrs): 1455	
Total Purge Time (min): 99	
Total Vol. Purged (gal): 3.14	

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3X 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2X Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1X Qt. Amber Glass	✓
TCL PAH	4° C	2X Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 L PE FD	✓
Total Organic Carbon (TOC)	HCL / 4° C	2X 40-60 ml Glass	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 L PE	✓

OBSERVATIONS / NOTES:

DRY on 12-12-00 will sample @ later date
WL = 7.24 on 12-13-00
will sample 12-14-00
WL = 4.20 on 12-14-00

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	

Signature(s): FCW

Tetra Tech NUS, Inc. LOW FLOW PURGE DATA SHEET

Well No.: 2WMW 430S

PROJECT: NSB NLON
PROJECT NUMBER: CTO 203
SITE: AREA A

DATE: 12-12-00
WEATHER: 40's windy
PERSONNEL: F. WUOK WYCH

Well Screen Depth: — / — ft.
Initial Water Level: — @ — hrs.

Pump Type/Material: Peristaltic
Pump Intake Depth: bottom

Tide Cycle: ☐ High @ ____ ☐ Low @ ____ ☑ Not Affected

Total Purge Volume= 3.14 (gal/L)

Total Purge Time= 99 (min)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Pump Settings	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity ppt	Eh mV	Comments
1316	2.66			Na								START PURGING
1324	3.85		140		9.31	6.57	4.09	3.60	160	0	-368	
1332	5.28		135		9.54	6.54	3.79	~~12.89~~	25	0	-365	
1340	6.75		135		9.66	6.57	3.56	5.62 3.25	19	0	-364	
1348	7.72		135		9.62	6.70	3.12	3.79	17	0	-359	
1356	8.65		135		9.68	6.74	3.04	3.51	18	0	-358	
1404	9.45		135		9.71	6.74	3.03	3.33	21	0	-361	
1412	10.40		125		9.75	6.74	3.012	3.00	19	0	-362	
1420	11.16		125		9.79	6.72	3.014	3.03	18	0	-365	
1428	12.03		125		9.96	6.69	3.08	3.29	24	0	-363	
~~1446~~ 1436	13.00		140		10.24	6.68	3.20	4.82	34	0	-363	
1445	14.30		125		10.28	6.64	3.41	4.25	50	0	-363	
1452	15.20		125		10.35	6.60	3.68	4.65	65	0	-360	
1455												dry sample
12-14-00 1450												End
1555												

Notes:

Water Quality Meter (S/N):
Control Box Type (S/N):
Turbidimeter (S/N):

Tetra Tech NUS, Inc

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 203 5082

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

Sample ID No.: 2W-GW44DS GW-05
Sample Location: AREA A
Sampled By: GT Munson
C.O.C. No.: A-121500
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12-15-00 / Time: 1330	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Method:Peristaltic Pump	grey	7.19	1.90	9.90	28.5	13.75	-30.5	—

PURGE DATA:

Date:	12-13-00
Method:Peristaltic Pump	
Monitor Reading (ppm):	—
Well Casing Diameter & Material Type:	2" PVC
Total Well Depth (TD):	16.77
Static Water Level (WL):	1.88
One Casing Volume(gal):	2.43
Start Purge (hrs):	0740
End Purge (hrs):	0942
Total Purge Time (min):	122
Total Vol. Purged (gal):	4.56

Round 5

See Attached Low Flow Purge Data Sheet for Purge Data

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1-500ml L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1-500ml L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2 - 40ml Vial ~~60 mL Glass~~	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 - 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - 1000ml L PE	✓

OBSERVATIONS / NOTES:

Purged dry 12-13-00, will sample when well has sufficiently recharged

WL = 1.77 on 12-15-00 1330

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	

Signature(s): GT Munson

Tetra Tech NUS, Inc. **LOW FLOW PURGE DATA SHEET** **Well No.:** 2WMW44DS

PROJECT: ~~CTO2~~ NSB-NLON
PROJECT NUMBER: CTO203 5082
SITE: AREA A

DATE: 12-13-00
WEATHER: Sunny, Clear, Very Cold
PERSONNEL: R.D. Munoz

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 1.88 @ 0720 hrs.
Pump Type/Material:
Pump Intake Depth:

Tide Cycle: ☐ High @ ____ ☐ Low @ ____ ☐ Not Affected

Total Purge Volume= 4.56 (gal/L) **Total Purge Time=** 122 (min)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Pump Settings	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity ppt	Eh mV	Comments
0740	3.20	180	180		8.57	7.14	4.27	9.79	6.16	—	-347.3	Sulfur odor
0745	3.76	—	140		8.16	7.12	4.19	25.05	4.88	—	-358.4	Black fines
0750	4.53	1580	140		8.21	7.11	4.14	31.78	4.40	—	-357.0	
0800	5.70	2980	140		8.73	7.07	3.97	39.88	6.55	—	-354.0	Start 10 min Int
0810	6.75	4380	140		9.08	7.02	3.53	33.02	8.29	—	-348.9	
0820	7.55	5780	140		9.22	7.01	2.57	29.51	13.9	—	-341.3	
0830	8.40	7180	140		9.11	7.13	1.44	24.29	47.5	—	-325.1	
0840	9.36	8580	140		9.33	7.07	1.42	22.64	40.7	—	-324.1	
0850	10.26	9980	140		9.64	7.05	1.69	23.48	32.9	—	-327.7	
0900	11.34	11380	140		9.76	7.06	1.71	23.08	31.2	—	-325.0	
0910	12.44	12780	140		9.74	7.10	2.06	21.51	27.7	—	-318.9	
0920	13.28	14180	140		9.87	7.12	2.01	18.81	34.1	—	-315.7	
0930	14.27	15580	140		10.04	7.13	2.11	17.33	35.1	—	-317.0	
0940	15.17	16980	140		9.95	7.18	1.89	14.40	32.8	—	-310.3	
0942	15.28	17260	140		9.90	7.19	1.90	13.75	28.5	—	-306.5	Dry
12-15-00 1330	1.77											

Notes:

Water Quality Meter (S/N):
Control Box Type (S/N):
Turbidimeter (S/N):

Tetra Tech NUS, Inc

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 203 5082

Sample ID No.: 2W-GW45DS- ~~GW-05~~
Sample Location: AREA 2
Sampled By: R.D. MUNSON
C.O.C. No.: A-121500
Type of Sample:
[X] Low Concentration
[ ] High Concentration

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

SAMPLING DATA:

Date: 12-15-00	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Time: 1540	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	ppt
Method: Peristaltic Pump	Clear	6.98	3.90	10.61	16.8	40.38	-351.4	-

PURGE DATA:

Date:	12-13-00
Method:	Peristaltic Pump
Monitor Reading (ppm):	-
Well Casing Diameter & Material	
Type:	2" PVC
Total Well Depth (TD):	16.75
Static Water Level (WL):	2.52
One Casing Volume(gal):	2.32
Start Purge (hrs):	1025
End Purge (hrs):	1140
Total Purge Time (min):	75
Total Vol. Purged (gal):	2.98

Round 5

See Attached Low Flow Purge Data Sheet
for Purge Data

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1 Qt. Amber Glass	✓
TCL PAH	4° C	2 Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1-500 ml L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1-500ml L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2-40ml Vial ~~60 mL Glass~~	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 - 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - 1,000 L PE	✓

OBSERVATIONS / NOTES:

Purged dry 12-13-00. Will sample when ~~filled~~ well has sufficiently recharged
WL=2.28 @ 1540 12-15-00

Circle if Applicable:

MS/MSD —

Duplicate ID No.: —

Signature(s):

R D Munson

Tetra Tech NUS, Inc. LOW FLOW PURGE DATA SHEET

Well No.: 2WMW 44DS (45 from)

PROJECT: NSB-NLON
PROJECT NUMBER: CTO 203 5082
SITE: Area A

DATE: 12-13-00
WEATHER: Clear, sunny - cold
PERSONNEL: RD Munson

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 2.52 @ 1018 hrs.

Pump Type/Material:
Pump Intake Depth:

Tide Cycle: ☐ High @ ____ ☐ Low @ ____ ☐ Not Affected

Total Purge Volume= 2.98 (gal / L)

Total Purge Time= 75 (min)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Pump Settings	Temp °C	pH	Sp Cond mS/cm	DO mg/l	Turbidity NTU	Salinity ppt	Eh mV	Comments
1025	4.11	150	150		9.22	6.97	4.21	17.28	2.65	—	-356.3	Sulfur odor
1030	4.84	900	150		9.15	6.98	4.15	17.65	1.81	—	-358.2	
1035	5.67	1650	150		9.33	6.99	4.04	21.33	1.42	—	-358.6	
1040	6.50	2400	150		9.47	6.99	3.95	24.29	1.67	—	-358.1	Black fines
→ 1050	7.45	3900	150		9.68	6.98	3.59	29.91	2.60	—	-354.5	switch to 10 min Int.
1100	8.86	5400	150		9.60	7.08	2.56	34.88	5.21	—	-345.7	
1110	10.60	6900	150		10.00	7.02	2.59	35.72	4.90	—	-340.1	
1120	12.12	8400	150		10.10	7.01	2.98	38.00	7.08	—	-343.9	
1130	13.10	9700	130		10.55	7.01	3.40	39.56	7.13	—	-348.7	change Battery
1140	14.80	11300	160		10.61	6.98	3.90	40.38	16.8	—	-351.4	Dry
12-15-00 1540	2.28											

Water Quality Meter (S/N):
Control Box Type (S/N):

Notes:

bidir (S/N

GROUNDWATER SAMPLE LOG SHEET

Tetra Tech NUS, Inc

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 203 5082

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

Sample ID No.: 2WMW46DS-05 ~~GW-05~~ (FD)
Sample Location: 2WMW46DS
Sampled By: FHW
C.O.C. No.: A-121500
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12-15-00 / Time: 1450	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Method:Peristaltic Pump	Clear	7.00	4.05	9.4	45	2.24	-376	—

PURGE DATA:

Date: 12-13-00	See Attached Low Flow Purge Data Sheet for Purge Data
Method:Peristaltic Pump	
Monitor Reading (ppm): —	
Well Casing Diameter & Material Type: 2" PVC	
Total Well Depth (TD): 17.32	
Static Water Level (WL): 1.85	
One Casing Volume(gal): 2.6	
Start Purge (hrs): 0845	
End Purge (hrs): 1019	
Total Purge Time (min): 91	
Total Vol. Purged (gal): 2.9	

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3X 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2x Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1x ~~2x~~ Qt. Amber Glass	✓
TCL PAH	4° C	2x Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2x 40 ~~60~~ mL Glass	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 L PE	✓

OBSERVATIONS / NOTES:

dry will sample @ later date

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s): FHW —

Tetra Tech NUS, Inc. LOW FLOW PURGE DATA SHEET

Well No.: 2WMW46DS

PROJECT: NSB-NLON
PROJECT NUMBER: CTO-203
SITE: AREA A

DATE: 12-13-00
WEATHER: 30's SUNNY
PERSONNEL: F. WVDKWYCH

Well Screen Depth: — / — ft.
Initial Water Level: — @ — hrs.

Pump Type/Material: Peristaltic
Pump Intake Depth: bottom

Tide Cycle: ☐ High @ ____ ☐ Low @ ____ ☑ Not Affected

Total Purge Volume= ____ (gal / L)

Total Purge Time= 91 (min)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Pump Settings	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity ppt	Eh mV	Comments
												START PURGING
0848	1.85			Na								
0856	3.04		120		8.0	6.92	4.33	0.75	12	0.	-379	
0904	4.38		125		8.2	6.79	4.31	1.65	4.3	0	-376	
0912	5.95		130		8.4	6.79	4.30	1.67	4.7	0	-376	
0920	6.94		130		8.7	6.80	4.28	2.12	9.3	0	-378	
0928	8.23		130		8.9	6.81	4.24	2.12	11	0	-378	
0936	9.46		130		8.9	6.97	4.04	2.13	13	0	-374	
0944	10.64		130		9.8	7.08	3.93	1.63	20	0	-366	
0952	11.97		125		9.0	7.06	3.93	1.35	29	0	-367	
1000	13.30		120		9.2	7.03	3.95	1.77	37	0	-373	
1008	14.58		120		9.3	7.02	3.99	2.04	50	0	-374	
1016	15.75		120		9.4	7.00	4.05	2.24	45	0	-376	
1019												DRY
1450												End Sample
1600												End

12-15-00

Notes: ____

Water Quality Meter (S/N): ____

Control Box Type (S/N): ____

Turbidimeter (S/N): ____

GROUNDWATER SAMPLE LOG SHEET

Tetra Tech NUS, Inc

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 203 5082

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

Sample ID No.: 2WGW47DS-05 ~~GW-05~~
Sample Location: 2WMW47DS
Sampled By: FCW
C.O.C. No.: A-121300
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 12-14-00 / Time: 0900 / Method: Peristaltic Pump	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
	grey	6.40	9.25	7.56	85	12.22	-233	—

PURGE DATA:

Date: 12-14-00	Turbidity = 30 @ 1040 will sample metals
Method: Peristaltic Pump	
Monitor Reading (ppm): —	See Attached Low Flow Purge Data Sheet for Purge Data
Well Casing Diameter & Material Type: 2" PVC	
Total Well Depth (TD): 16.20	
Static Water Level (WL): 1.49	
One Casing Volume(gal): 2.3	
Start Purge (hrs): 0708	
End Purge (hrs): 0920	
Total Purge Time (min): 112	
Total Vol. Purged (gal): 2.9	

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3X 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2X Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1X Qt. Amber Glass	✓
TCL PAH	4° C	2X Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2 x 40 ~~60~~ mL Glass	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 L PE	

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD

Duplicate ID No.: GWFD 121400-01

Signature(s):

Tetra Tech NUS, Inc. **LOW FLOW PURGE DATA SHEET** Well No.: RWMW47D5

PROJECT: NSB-NLON
PROJECT NUMBER: CTO -203
SITE: AREA A

DATE: 12-14-00
WEATHER: RAINING
PERSONNEL: F. WODKWYCH

Well Screen Depth: — / — ft.
Initial Water Level: — @ — hrs.

Pump Type/Material: Peristatic
Pump Intake Depth: bottom

Tide Cycle: ☐ High @ ____ ☐ Low @ ____ ☑ Not Affected

Total Purge Volume= 2.9 (gal/L)

Total Purge Time= 112 (min)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Pump Settings	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity ppt	Eh mV	Comments
												START PURGING
0708	1.49				6.83	7.00	3.87	0.30	24	—	-370	
0717	2.26		100		7.15	6.84	3.60	0.25	7.8	—	-362	
0725	2.89		100		7.37	6.77	3.13	0.70	4.3	—	-349	
0733	3.44		100		7.46	6.67	2.68	1.85	6.9	—	-342	
0741	3.81		100		7.56	6.38	2.21	3.09	100	—	-354	
0750	4.18		100		7.71	6.38	1.68	4.92	170	—	-343	
0800	4.50		100		7.75	6.33	1.25	5.26	170	—	-310	
0810	4.78		100		7.71	6.34	5.78	1.09	150	—	-257	
0820	4.92		100		7.67	6.33	1.03	7.71	130	—	-280	
0830	5.06		100		7.66	6.35	10.3	10.33	100	—	-249	
0840	5.15		100		7.58	6.39	1.00	10.92	100	—	-241	
0850	5.20		100		7.56	6.40	9.25	12.22	85	—	-233	Sample End
900	5.27											
1135												

End @

Water Quality Meter (S/N): _____

Control Box Type (S/N): _____

Turbidimeter (S/N): _____

Notes: _____

Tetra Tech NUS, Inc

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 203 5082

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

Sample ID No.: 46W015-03 ~~GW05~~
Sample Location: 46MW015
Sampled By: FCV
C.O.C. No.: A-121500
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Date: 12-16-00	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	ppt
Time: 1210								
Method: Peristaltic Pump	Clear	5.80	0.270	10.40	2.8	6.54	66.7	—

PURGE DATA:

Date: 12-16-00
Method: Peristaltic Pump
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 20.30
Static Water Level (WL): 6.92
One Casing Volume(gal): 2.1
Start Purge (hrs): 1116
End Purge (hrs): 1210
Total Purge Time (min): 54
Total Vol. Purged (gal): 1.6

See Attached Low Flow Purge Data Sheet
for Purge Data

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3X 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2X Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1X Qt. Amber Glass	✓
TCL PAH	4° C	2X Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2 x 40 ~~60~~ mL Glass	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 L PE	✓

OBSERVATIONS / NOTES:

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc. **LOW FLOW PURGE DATA SHEET** Well No.: 4MW015

PROJECT: NSB-NLON 1
PROJECT NUMBER: CTO -203
SITE: AREA A

DATE: 12-16-00
WEATHER: 30's RAINING
PERSONNEL: F. WUDKWYCH

Well Screen Depth: / ft.
Initial Water Level: 6.92 @ 1116 hrs.

Pump Type/Material: Peristaltic
Pump Intake Depth: bottom

Tide Cycle: ☐ High @ ☐ Low @ ☑ Not Affected

Total Purge Volume= (gal / L)
Total Purge Time= 54 (min)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Pump Settings	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity ppt	Eh mV	Comments
1116	6.92											START
1125	6.96		75		10.08	6.10	0.320	7.00	4.7	-	14.6	
1135	6.98		110		10.30	5.87	0.292	6.63	3.0	-	32.7	
1145	6.99		120		10.51	5.83	0.278	6.66	2.8	-	46.1	
1153	7.00		125		10.43	5.80	0.276	7.06	3.2	-	35.9	
1200	7.00		120		10.54	5.80	0.271	6.55	2.5	-	60.9	
1205	7.01		120		10.49	5.80	0.271	6.58	2.6	-	64.7	
1210	7.00		115		10.40	5.80	0.270	6.54	2.8		66.7	sample
1310												End

Water Quality Meter (S/N):
Control Box Type (S/N):
Turbidimeter (S/N):

Notes:

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NSB - NLON AREA A
Project No.: CTO -203

Sample ID No.: 3MSP01-05 -10 FCW
Sample Location: AREA A
Sampled By: FCW/DM
C.O.C. No.: A-121500

[] Stream
[] Spring
[] Pond
[] Lake
[X] Other: SEEP
[] QA Sample Type:

Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

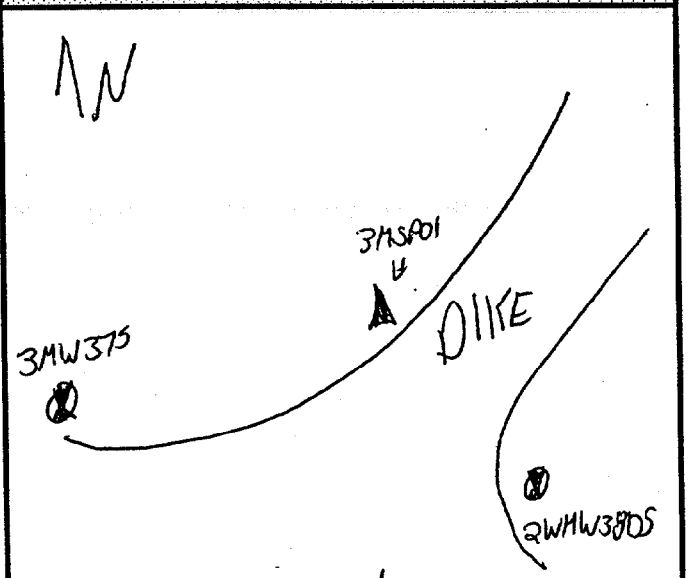
	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Eh
	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	%	mV
Date: 12-16-00								
Time: 0930								
Depth: —	Clear	6.78	0.926	13.87	26	8.06	—	-122
Method: —								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements		Collected
TCL VOLATILES	HCL / 4° C	3X	40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2X	Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1X	Qt. Amber Glass	✓
TCL PAH	4° C	2X	Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1	L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1	L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2X40 ~~60~~	mL Glass	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1	250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1	L PE	✓

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NSB NLON
Project No.: CTO 203

Sample ID No.: SWSG18-05
Sample Location: AREA A
Sampled By: FaulDM
C.O.C. No.: A-121800

[] Stream
[] Spring
[] Pond
[] Lake
[✓] Other: Wetlands
[] QA Sample Type:

Type of Sample:
[✓] Low Concentration
[] High Concentration

SAMPLING DATA:

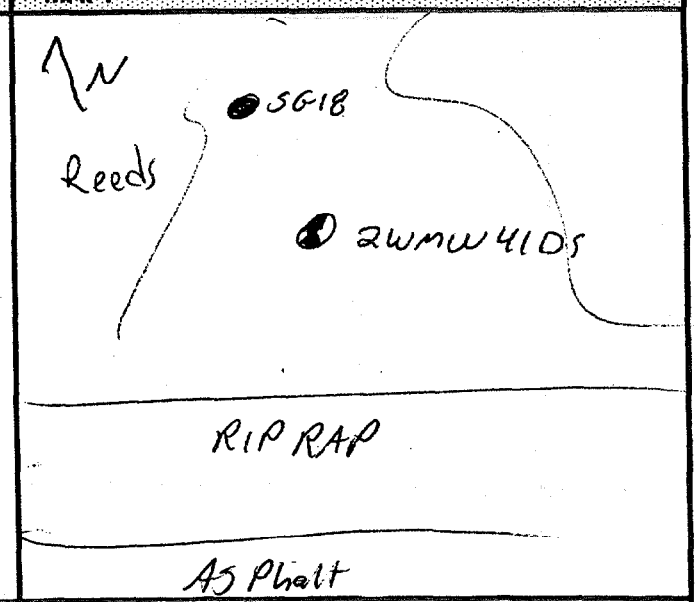
Date: 12-18-00 / Time: 1620 / Depth: — / Method: —	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Salinity %	Eh mV
	clear	7.34	0.332	5.88	11	3.65	—	-53.7

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3X 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2X Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1 Qt. Amber Glass	✓
TCL PAH	4° C	2X Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2x40 ~~60~~ (2) Glass	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 L PE	✓

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NSB NLON
Project No.: CTO 203

Sample ID No.: SWSG19-05
Sample Location: AREA A
Sampled By: FCW/DM
C.O.C. No.: A-121800

- [ ] Stream
- [ ] Spring
- [ ] Pond
- [ ] Lake
- [x] Other: Wetland
- [ ] QA Sample Type:

Type of Sample:
- [x] Low Concentration
- [ ] High Concentration

SAMPLING DATA:

Date: 12-19-00 / Time: 0700 / Depth: — / Method: —	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Salinity %	Eh mV
	Clear	6.81	0.395	2.93	8.4	1.01	—	126

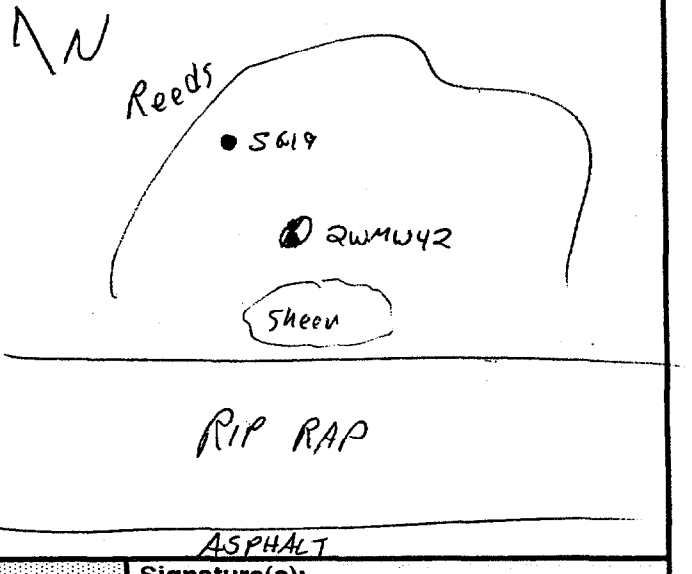
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3x 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2x Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1 Qt. Amber Glass	✓
TCL PAH	4° C	2x Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2x40 ~~60~~ mL Glass (EPA)	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 L PE	✓

OBSERVATIONS / NOTES:

Sheen on water

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	

Signature(s):

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NSB NLON
Project No.: CTO -203

Sample ID No.: SWSG20-05
Sample Location: AREA A
Sampled By: FA/DM
C.O.C. No.: A-121800

- [ ] Stream
- [ ] Spring
- [ ] Pond
- [ ] Lake
- [x] Other: Wetland
- [ ] QA Sample Type:

Type of Sample:
- [x] Low Concentration
- [ ] High Concentration

SAMPLING DATA:

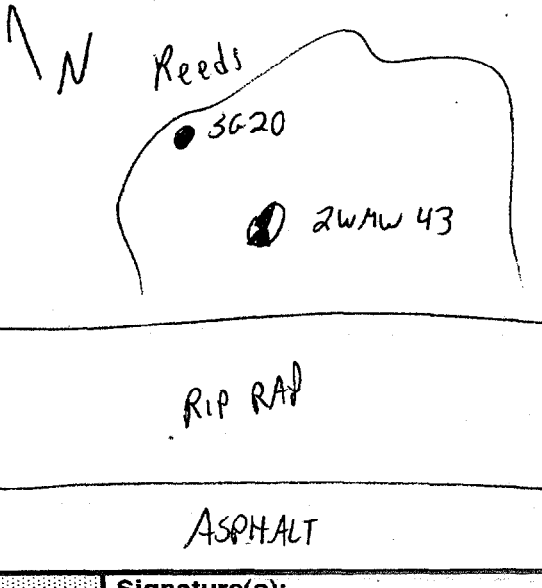
	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Eh
	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	%	mV
Date: 12-19-00								
Time: 0730								
Depth: —	clear	6.98	0.267	1.99	~~1.82~~ 7.3	3.44	—	-17.2
Method: —								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 X 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 X Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1 Qt. Amber Glass	✓
TCL PAH	4° C	2X Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2x40 ~~60 mL~~ 40 mL Glass	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 L PE	✓

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	

Signature(s):

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NSB NCON
Project No.: CTO -203

Sample ID No.: SWS621-05
Sample Location: AREA A
Sampled By: FCW / OM
C.O.C. No.: A-1218-00

[] Stream
[] Spring
[] Pond
[] Lake
[✓] Other: Wetland
[] QA Sample Type:

Type of Sample:
[✓] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 12-19-00 / Time: 0800 / Depth: — / Method: —	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Salinity %	Eh mV
	Clear	6.53	0.253	2.33	6.1	2.29	—	-26.4

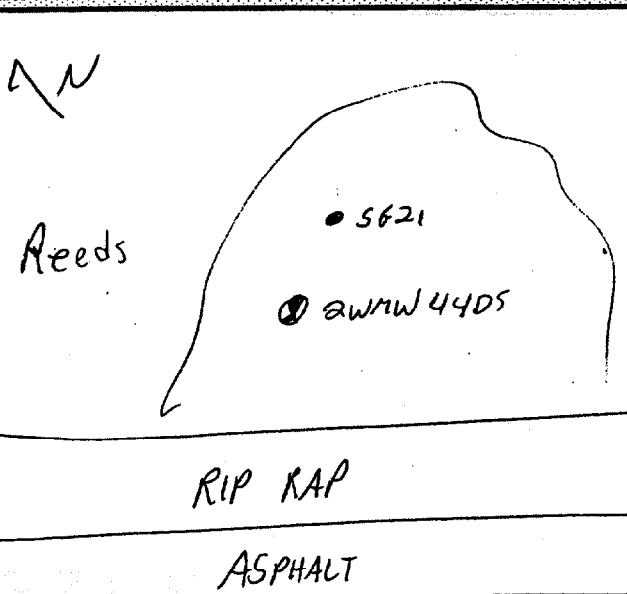
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3X 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2X Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1 Qt. Amber Glass	✓
TCL PAH	4° C	2X Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2x40 60 mL Glass	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 L PE	✓

OBSERVATIONS / NOTES:

HAD TO BREAK ICE

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NSB NLON
Project No.: CTO- 203

Sample ID No.: SWSG-22-05
Sample Location: AREA A
Sampled By: FW/DM
C.O.C. No.: A-121800

- [ ] Stream
- [ ] Spring
- [ ] Pond
- [ ] Lake
- [x] Other: Wetlands
- [ ] QA Sample Type:

Type of Sample:
- [x] Low Concentration
- [ ] High Concentration

SAMPLING DATA:

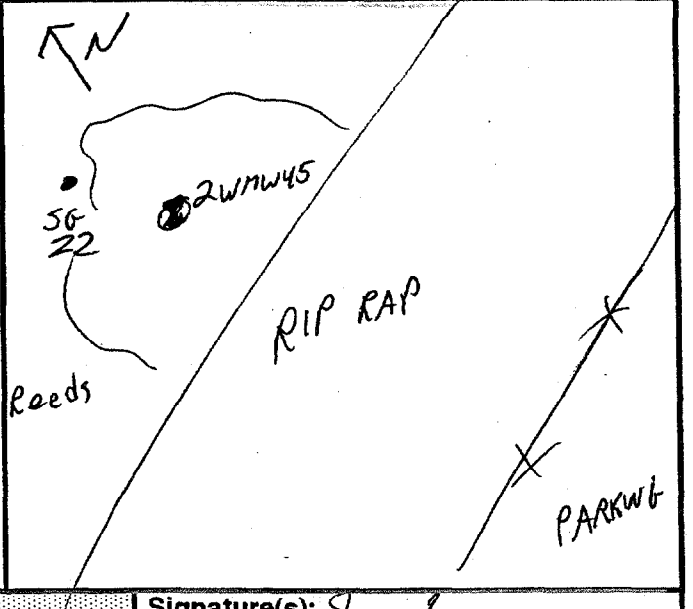
Date: 12-19-00 / Time: 1300 / Depth: - / Method: -	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Salinity %	Eh mV
	Clear	6.69	0.258	3.68	7	1.96	—	-10.5

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 x 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 x Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1 Qt. Amber Glass	✓
TCL PAH	4° C	2 x Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2 x 40 ~~60~~ mL Glass	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 L PE	✓

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NSB NLON
Project No.: CTO - 203

Sample ID No.: SWS623-05
Sample Location: AREA A
Sampled By: RWLOM
C.O.C. No.: A-121800

[] Stream
[] Spring
[] Pond
[] Lake
[✓] Other: Wet land
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

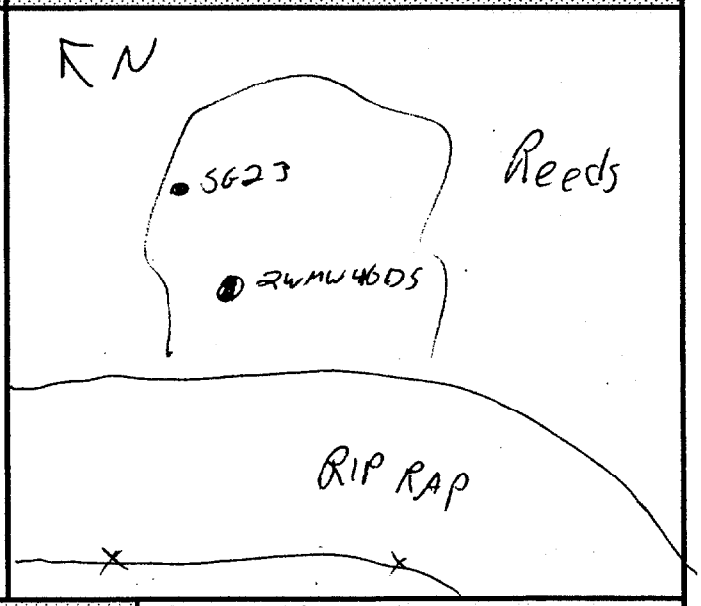
Date: 12-19-00 / Time: 1320 / Depth: — / Method: —	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Salinity %	Eh mV
	Clear	6.57	0.055	2.57	0	4.67	—	-0.6

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3x 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2x Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1 Qt. Amber Glass	✓
TCL PAH	4° C	2x Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2x40 ~~60mL~~ Glass	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1 250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 L PE	✓

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NSB NCON
Project No.: CTO 203

Sample ID No.: SWSG24-05
Sample Location: AREA A
Sampled By: FW
C.O.C. No.: A-121800

- [ ] Stream
- [ ] Spring
- [ ] Pond
- [ ] Lake
- [x] Other: Wetland
- [ ] QA Sample Type:

Type of Sample:
- [x] Low Concentration
- [ ] High Concentration

SAMPLING DATA:

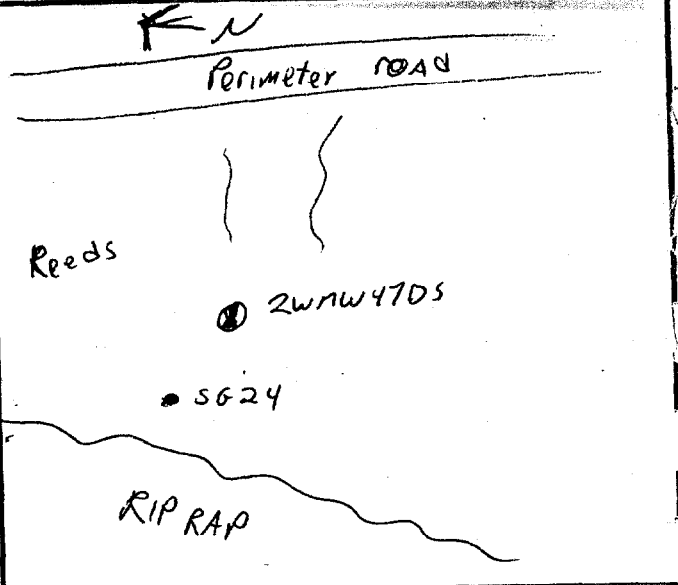
	Color	pH	S.C.	Temp.	Turbidity	DO	Salinity	Eh
	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	%	mV
Date: 12-18-06								
Time: 1245								
Depth: -	Clear	9.29	0.371	3.22	~~10.02~~ 4.8	9.68	—	-211
Method: ✓								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements		Collected
TCL VOLATILES	HCL / 4° C	3 x	40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 x	Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	1 ~~2~~	Qt. Amber Glass	✓
TCL PAH	4° C	2 x	Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1	L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1	L PE	✓
Total Organic Carbon (TOC)	HCL / 4° C	2 x 40	~~60~~ 40 mL Glass	✓
Chemical Oxygen Demand (COD)	H_2SO_4 / 4° C	1	250 mL PE	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1	L PE	✓

OBSERVATIONS / NOTES:

MAP:



Circle if Applicable:

MS/MSD

Duplicate ID No.: FD-SW-121800-01

Signature(s):

APPENDIX E

CHAIN OF CUSTODY RECORDS

TETRA TECH NUS, INC. | CHAIN OF CUSTODY | NUMBER A-121300 | PAGE 1 OF 1

PROJECT NO: CTO-203	SITE NAME: AREA A
PROJECT MANAGER AND PHONE NUMBER: MARK MENGEL 412-921-8723	LABORATORY NAME AND CONTACT: STL VERONICA BORTOT
SAMPLERS (SIGNATURE): FJW, RTOrsuma	FIELD OPERATIONS LEADER AND PHONE NUMBER: FRANK WUDKWYCH 412-921-8868
CARRIER/WAYBILL NUMBER: FED EX 8244 4672 4097	ADDRESS: 450 WILLIAM PITT WAY
STANDARD TAT ☑ RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day	CITY, STATE: PITTSBURGH PA 15238

DATE (YEAR 2000)	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TCL VOC	TCL SVOC	TCL Pest/PCB	TCL PAH	TAL Metals (Total) + HARDNESS	TAL Metals (DISSOLVED)	TOC	COD	ALK, CHL, SUL, TDS	COMMENTS
						G	HCL										
						G	–										
						G	–										
						G	HNO_3										
						P	HNO_3										
						P	HCL										
						P	H_2SO_4										
						P	–										
12-13	1315	2WGW42DS-05	AQ	G	14			X	X	X	X	X	X	X	X	X	
↓	1300	TB-121300			2			X									TRIP BLANK
↓	1325	2WGW39DS-05			14			X	X	X	X	X	X	X	X	X	
12-14	0900	2WGW47DS-05			14			X	X	X	X	X	X	X	X	X	
↓	0000	GWFD121400-01			14			X	X	X	X	X	X	X	X	X	DUP OF 47DS
↓	0940	~~GW(FB)~~ 2WGW21S-05	↓	↓	14			X	X	X	X	X	X	X	X	X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY FJW	12-14-00	1500	1. RECEIVED BY		
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

TETRA TECH NUS, INC. | CHAIN OF CUSTODY | NUMBER A-121400 | PAGE 1 OF 1

PROJECT NO: CTO -203	SITE NAME: AREA A	PROJECT MANAGER AND PHONE NUMBER: MARK MENGEL 412-921-8723	LABORATORY NAME AND CONTACT: STL VERONICA BORTOT
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER AND PHONE NUMBER: FRANK WUDKWYCH 412-921-8868	ADDRESS: 450 WILLIAM PITT WAY
		CARRIER/WAYBILL NUMBER: FED EX 8244 4672 4101	CITY, STATE: Pittsburgh Pa 15238

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

DATE YEAR 2000	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: TCL VOC	TCL SVOC	TCL Pest/PCB	TCL PAH	TAL Metals (TOTAL) / HARDNESS	TAL Metals (DISSOLVED)	TOC	COD	ALK, SUL, CHL, TDS	COMMENTS
						G	HCL	G	G	G	P	P	G	P	P		
12-14	1230	TB-121400-01	AQ	G	2		—	X									TRIP BLANK
↓	1310	2WGW40DS-05	↓	↓	14		—	X	X	X	X	X	X	X	X	X	
	1450	2WGW43DS-05			14		—	X	X	X	X	X	X	X	X	X	
↓	1540	2WGW41DS-05			14		—	X	X	X	X	X	X	X	X	X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	12-15-00	1500	1. RECEIVED BY		
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS

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3/99

FORM NO TT/US-0[illegible]

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER A- 121500 | PAGE 1 OF 1

PROJECT NO: CTO-203	SITE NAME: AREA A	PROJECT MANAGER AND PHONE NUMBER: MARK MENGEL 412-921-8723	LABORATORY NAME AND CONTACT: STL VERONICA BORTOT
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER AND PHONE NUMBER: FRANK WUDKWICH 412-921-8868	ADDRESS: 450 WILLIAM PITT WAY
		CARRIER/WAYBILL NUMBER: FED EX 8244 4672 4112	CITY, STATE: PITTSBURGH PA 15238

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

DATE YEAR 2000	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	PRESERVATIVE USED	TYPE OF ANALYSIS: TCL VOC	TCL SVOC	TCL PEST/PCB	TCL PAH	TAL METALS (TOTAL)	TAL METALS (DISSOLVED)	TCC	LOD	ALK, CHL, SUL, TDS	COMMENTS
						G	HCL	G	G	G	P	P	P	G		P	
								-	-	-	HNO_3	HNO_3	HCL	H_2SO_4			
12-15	1300	TB-121500-01	AQ	G	2			X									
	1430	2WGW146DS-05			14			X	X	X	X	X	X	X	X	X	
	1620	2WGW138DS-05			10			X	X	X	X	X		X		X	
	1330	2WGW144DS-05			14			X	X	X	X	X	X	X	X	X	
	1540	2WGW145DS-05			14			X	X	X	X	X	X	X	X	X	
12-16	0930	3M-SP01-05			14			X	X	X	X	X	X	X	X	X	
	1125	2LGW205-05			26			X	X	X	X	X	X	X	X	X	DO MS/MSD
	1210	46W015-05			14			X	X	X	X	X	X	X	X	X	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	12/18/00	1530	1. RECEIVED BY		
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

TETRA TECH NUS, INC. | CHAIN OF CUSTODY | NUMBER A- 121800 | PAGE 1 OF 1

PROJECT NO: CTO-203	SITE NAME: AREA A
PROJECT MANAGER AND PHONE NUMBER: MARK MENGEL 412-921-8723	LABORATORY NAME AND CONTACT: STL VERONICA BORTOT
SAMPLERS (SIGNATURE): F.J. Wu, R.D. Munson	FIELD OPERATIONS LEADER AND PHONE NUMBER: FRANK WUDKWYCH 412-921-8868
CARRIER/WAYBILL NUMBER: FED EX 8244 4672 4123	ADDRESS: 450 WILLIAM PITT WAY
STANDARD TAT ☑ RUSH TAT ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day	CITY, STATE: PITTSBURGH PA 15238

DATE 2000 YEAR	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	CONTAINER TYPE PLASTIC (P) or GLASS (G)	G	G	G	G	P	P	G	P	P
						PRESERVATIVE USED	HCL	-	-	-	HNO_3	HNO_3	HCL	H_2SO_4	-
						TYPE OF ANALYSIS	TCL VOC	TCL SVOC	TCL PEST/PCB	TCL PAH	TAL METALS + HARDNESS (TOTAL)	TAL METALS (DISSOLVED)	TOC	COD	ALK, CHL, SUL, TDS
12-10	1230	TB-121800-01	AQ	G	2		X								TRIP BLANK
	1245	SW5624-05			14		X	X	X	X	X	X	X	X	X
	0000	FD-SW-121800-01			14		X	X	X	X	X	X	X	X	X DUP OF SW5624-05
	1330	3-GW375-05			14		X	X	X	X	X	X	X	X	X
	1620	SW5618-05			14		X	X	X	X	X	X	X	X	X
12-11	0700	SW5619-05			14		X	X	X	X	X	X	X	X	X
	0730	SW5620-05			14		X	X	X	X	X	X	X	X	X
	0800	SW5621-05			14		X	X	X	X	X	X	X	X	X
	1300	SW5622-05			14		X	X	X	X	X	X	X	X	X
	1320	SW5623-05			14		X	X	X	X	X	X	X	X	X

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY: F.J. Wu	12/19/00	1534	1. RECEIVED BY		
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) | Y | N (FI OPY | PINK (FILE COPY) | M N(US-(

3/99

APPENDIX F

DATA VALIDATION LETTERS AND LABORATORY DATA SHEETS

TETRA TECH NUS, INC.

PHIL-14982

TO: M. MENGEL DATE: FEBRUARY 22, 2001

FROM: JAMES LUCCHESE COPIES: FILE

SUBJECT: ORGANIC DATA VALIDATION – TCL ORGANICS, PAHs, PESTICIDES/PCBs
CTO 203, NSB NEW LONDON, GROTON, CONNECTICUT
SDG NO. NL001

SAMPLES: 18 / Aqueous

2LGW20S-05	2WGW45DS-05
2WGW21S-05	2WGW46DS-05
2WGW38DS-05	2WGW47DS-05
2WGW39DS-05	3M-SP01-05
2WGW40DS-05	4GW01S-05
2WGW41DS-05	GWFD121400-01
2WGW42DS-05	TB-121300
2WGW43DS-05	TB-121400-01
2WGW44DS-05	TB-121500-01

INTRODUCTION

The sample set for the CTO 203, New London Site, SDG NL001, consists of 15 aqueous environmental samples and 3 trip blanks (designated TB-). All environmental samples were analyzed for volatile, semivolatile, polynuclear aromatic hydrocarbons (PAHs), and pesticide/polychlorinated biphenyl (PCB) organic compounds. The trip blanks were analyzed for volatile organic compounds (VOCs).

The samples were collected by Tetra Tech NUS between December 13 and December 16, 2000, and analyzed by Severn Trent Laboratory (STL) according to the analytical and reporting protocols of CLP OLC02.1 for volatiles and pesticides, SW 846 Method 8270C for semivolatiles, Method 8310 for PAHs, and Method 8082 for PCBs.

The data contained in this SDG were validated with regard to the following parameters:

- * Holding Times
- * GC/MS Tuning and System Performance
- Initial/Continuing Calibrations
- Field and Laboratory Method Blank Results
- * Internal Standards Performance
- Surrogate Spike Recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Control/Laboratory Control Spike Duplicate (LCS/LCSD) Results
- * Compound Identification
- * Compound Quantitation
- * Quantitation Limits
- * Tentatively Identified Compounds
- * Data Completeness

Y - %RSD > 30%; estimate positive results and non-detected results (J/UJ).
Z - %RSD > 20%; estimate positive results and non-detected results (J/UJ).
NA - Not Applicable

BLANKS

The following contaminants were detected in field QC blanks at the maximum concentrations indicated:

Compound	Maximum Concentration	Action Level (Water)
Acetone[1]	2.9 µg/L	29 µg/L
Methylene Chloride[1]	0.3 µg/L	3 µg/L
Carbon Disulfide[1]	0.15 µg/L	0.75 µg/L

[1] Contaminant was detected at a maximum level in a trip blank.

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.

Samples affected: All.

The aliquot used for analysis and dilution factors were considered during the application of all action levels. Positive results for all compounds were qualified in the manner indicated in the blank action table.

SURROGATE SPIKE RECOVERIES PERFORMANCE

PAHs

The analysis of the system monitoring compounds showed recoveries from both detectors that were below the lower QC limit for *p*-terphenyl and benzo(e)pyrene in samples 2WGW42DS-05 and 2WGW21S-05. The same analysis showed recoveries on both detectors that were below the lower QC limit for *p*-terphenyl in samples 2WGW39DS-05, 2WGW40DS-05, 2WGW41DS-05, 2WGW43DS-05, and 3M-SP01-05. Positive and non-detected results in the aforementioned samples were qualified as estimated, "J/UJ", respectively.

Samples 2WGW21S-05 and 2WGW42DS-05 were re-extracted out of holding time and reanalyzed for the PAH fraction due to low recoveries of the surrogates, *p*-terphenyl and benzo(e)pyrene, in the original samples. The recoveries of benzo(e)pyrene in the reanalysis of both samples were within the QC limits, however, the recoveries for *p*-terphenyl were still less than the QC limit. The results for the original PAH samples, 2WGW21S-05 and 2WGW42DS-05, were selected due to compliance with the holding time criteria.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

Volatiles

The MSD Percent Recoveries (%R) for the volatile analysis was greater than the QC limit for *cis*-1,3-dichloropropene. No action was required as the aforementioned compound was not detected in the unspiked sample, 2LGW20S-05.

LABORATORY CONTROL/LABORATORY CONTROL SPIKE DUPLICATE RESULTS

Semivolatiles

The LCS/LCSD %R were less than 10% for 3,3'-dichlorobenzidine and hexachlorocyclopentadiene. Non-detected results for these compounds were rejected, "UR", in samples GWFD121400-01, 2WGW21S-05, 2WGW39DS-05, 2WGW40DS-05, 2WGW41DS-05, 2WGW42DS-05, 2WGW43DS-05, and 2WGW47DS-05.

The LCS/LCSD %R for the semivolatile analysis were outside the QC limits for N-nitrosodiphenylamine and benzoic acid. The affected samples were GWFD121400-01, 2WGW21S-05, 2WGW39DS-05, 2WGW40DS-05, 2WGW41DS-05, 2WGW42DS-05, 2WGW43DS-05, and 2WGW47DS-05. The %R for the aforementioned compounds were greater than 10% but less than the lower end of the QC limits. Non-detected results were qualified as estimated, "UJ".

The LCS/LCSD %R for the semivolatile analysis of 3,3'-dichlorobenzidine was outside the QC limits. The affected samples were 2LGW20S-05, 2WGW38DS-05, 2WGW44DS-05, 2WGW45DS-05, 2WGW46DS-05, 3M-SP01-05, and 4GW01S-05. The %R for the aforementioned compounds were greater than 10% but less than the lower end of the QC limits, therefore, non-detected results were qualified as estimated, "UJ".

PERCENT DIFFERENCE BETWEEN RESULTS

Pesticides

The %D between columns for the pesticide analyses for sample 4GW01S-05 was greater than 100% for Endosulfan II. The positive result reported for Endosulfan II in sample 4GW01S-05 was qualified as rejected, "R".

The %D between columns exceeded the QC limit of ±25% for 4,4'-DDD and Endosulfan II in sample 2WGW43DS-05. Positive results for these compounds in the aforementioned sample were qualified as estimated, "J", due to exceedence of QC limits.

PAHs

The %D between detectors in the PAH analysis exceeded the QC limit of ±25% for benzo(g,h,i)perylene, fluoranthene, and benzo(b)fluoranthene in sample 2WGW42DS-05. Sample 3M-SP01-05 also exceeded the QC limits for naphthalene. The positive results reported for these compounds in their respective samples were qualified as estimated, "J".

QUANTITATION LIMITS

Pesticides

Sample 2WGW21S-05 was reanalyzed for pesticides at a 40X dilution factor due to a high positive result for 4,4'-DDD. The reanalysis reported a positive result that confirmed the original result obtained at a 4X dilution. The results for the original pesticide sample, 2WGW21S-05, were selected due to the lower CRQLs.

EXECUTIVE SUMMARY

Laboratory Performance: LCS/LCSD %R were outside the QC limits for two semivolatile compounds. Several RRFs and one continuing calibration %D exceeded QC limits for the analysis of the volatiles. Initial calibration %RSD exceeded the QC limits for one volatile compound and three pesticide compounds. One continuing calibration %D exceeded the QC limit in the semivolatile analyses. Surrogate recoveries were outside the QC limits for several PAH samples.

Other Factors Affecting Data Quality: The %D between detectors for the PAH analyses exceeded ±25% for several compounds. The %D between columns for the pesticide analyses exceeded ±25% for several compounds. Several compounds were detected at a maximum concentration in the trip blanks.

The data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Organic Data Review", as amended for use within EPA Region 1 (12/96), and the NFESC guidelines entitled "Naval 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, Inc.
James Lucchese
Chemist

Tetra Tech 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 - Region One Worksheets

4. Appendix D - Support Documentation

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
o	=	Poor Instrument Performance (i.e., baseline 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	=	Pesticide/PCB % Difference Between Columns for Positive Results
v	=	Non-linear Calibrations, Tuning r < 0.995 (correlation coefficient)

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
o	=	Poor Instrument Performance (i.e., baseline 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	=	Pesticide/PCB % Difference Between Columns for Positive Results
v	=	Non-linear Calibrations, Tuning r < 0.995 (correlation coefficient)

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2LGW20S-05			2WGW21S-05			2WGW38DS-05			2WGW39DS-05		
SAMPLE DATE:	12/16/00			12/14/00			12/15/00			12/13/00		
LABORATORY ID:	C0L190177006			C0L150299005			C0L190177002			C0L150299002		
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-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	3.6	J	CP	5	UR	C	11	J	C
2-HEXANONE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
4-METHYL-2-PENTANONE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
ACETONE	5	U	B	13	U	B	5	U	B	34	J	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	B	1	U	B	1		
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	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	
DIBROMOCHLOROMETHANE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		2	U		2	U		2	U	
STYRENE	1	U		1	U		1	U		1	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2LGW20S-05			2WGW21S-05			2WGW38DS-05			2WGW39DS-05		
SAMPLE DATE:	12/16/00			12/14/00			12/15/00			12/13/00		
LABORATORY ID:	C0L190177006			C0L150299005			C0L190177002			C0L150299002		
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												
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		0.22	J	P	1	U		0.17	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	U		1	U		1	U		1	U	
XYLENES, TOTAL	1	U		1	U		1	U		1	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW40DS-05			2WGW41DS-05			2WGW42DS-05			2WGW43DS-05		
SAMPLE DATE:	12/14/00			12/14/00			12/13/00			12/14/00		
LABORATORY ID:	C0L160141001			C0L160141003			C0L150299001			C0L160141002		
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-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	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
4-METHYL-2-PENTANONE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
ACETONE	11	U	B	5.8	U	B	5	U	B	9.2	U	B
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	1.4			1.2			0.98	J	P	2.2		
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	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	
DIBROMOCHLOROMETHANE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		2	U		2	U		2	U	
STYRENE	1	U		1	U		1	U		1	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW40DS-05			2WGW41DS-05			2WGW42DS-05			2WGW43DS-05		
SAMPLE DATE:	12/14/00			12/14/00			12/13/00			12/14/00		
LABORATORY ID:	C0L160141001			C0L160141003			C0L150299001			C0L160141002		
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												
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		0.74	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	U		1	U		1	U		1	U	
XYLENES, TOTAL	1	U		1	U		1	U		1	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW44DS-05			2WGW45DS-05			2WGW46DS-05			2WGW47DS-05		
SAMPLE DATE:	12/15/00			12/15/00			12/15/00			12/14/00		
LABORATORY ID:	C0L190177003			C0L190177004			C0L190177001			C0L150299003		
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-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	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
4-METHYL-2-PENTANONE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
ACETONE	5.4	U	PB	9.1	U	B	5	U	B	5	U	B
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	B	1.9			1.7			1	U	B
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	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	
DIBROMOCHLOROMETHANE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		2	U		2	U		2	U	
STYRENE	1	U		1	U		1	U		1	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW44DS-05			2WGW45DS-05			2WGW46DS-05			2WGW47DS-05		
SAMPLE DATE:	12/15/00			12/15/00			12/15/00			12/14/00		
LABORATORY ID:	C0L190177003			C0L190177004			C0L190177001			C0L150299003		
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												
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	U		1	U		1	U		1	U	
XYLENES, TOTAL	1	U		1	U		1	U		1	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	3M-SP01-05			4GW01S-05			GWFD121400-01			TB-121300		
SAMPLE DATE:	12/16/00			12/16/00			12/14/00			12/14/00		
LABORATORY ID:	C0L190177005			C0L190177007			C0L150299004			C0L150299006		
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:							2WGW47DS-05					
	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-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	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
4-METHYL-2-PENTANONE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
ACETONE	5	U	B	5	U	B	5	U	B	1.1	J	CP
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	B	0.15	J	P
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	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	
DIBROMOCHLOROMETHANE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		2	U		2	U		2	U	
STYRENE	1	U		1	U		1	U		1	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	3M-SP01-05			4GW01S-05			GWFD121400-01			TB-121300		
SAMPLE DATE:	12/16/00			12/16/00			12/14/00			12/14/00		
LABORATORY ID:	C0L190177005			C0L190177007			C0L150299004			C0L150299006		
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:							2WGW47DS-05					
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
TETRACHLOROETHENE	1	U		0.11	J	P	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	U		1	U		1	U		1	U	
XYLENES, TOTAL	1	U		1	U		1	U		1	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	TB-121400-01			TB-121500-01			/ /			/ /		
SAMPLE DATE:	12/14/00			12/15/00								
LABORATORY ID:	C0L160141004			C0L190177008								
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**
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U							
1,1,2,2-TETRACHLOROETHANE	1	U		1	U							
1,1,2-TRICHLOROETHANE	1	U		1	U							
1,1-DICHLOROETHANE	1	U		1	U							
1,1-DICHLOROETHENE	1	U		1	U							
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C	1	UR	C						
1,2-DIBROMOETHANE	1	U		1	U							
1,2-DICHLOROBENZENE	1	U		1	U							
1,2-DICHLOROETHANE	1	U		1	U							
1,2-DICHLOROPROPANE	1	U		1	U							
1,3-DICHLOROBENZENE	1	U		1	U							
1,4-DICHLOROBENZENE	1	U		1	U							
2-BUTANONE	5	UR	C	5	UR	C						
2-HEXANONE	5	UJ	C	5	UJ	C						
4-METHYL-2-PENTANONE	5	UJ	C	5	UJ	C						
ACETONE	1.5	J	CP	2.9	J	CP						
BENZENE	1	U		1	U							
BROMOCHLOROMETHANE	1	U		1	U							
BROMODICHLOROMETHANE	1	U		1	U							
BROMOFORM	1	U		1	U							
BROMOMETHANE	1	U		1	U							
CARBON DISULFIDE	0.12	J	P	1	U							
CARBON TETRACHLORIDE	1	U		1	U							
CHLOROBENZENE	1	U		1	U							
CHLOROETHANE	1	UJ	C	1	UJ	C						
CHLOROFORM	1	U		1	U							
CHLOROMETHANE	1	U		1	U							
CIS-1,2-DICHLOROETHENE	1	U		1	U							
CIS-1,3-DICHLOROPROPENE	1	U		1	U							
DIBROMOCHLOROMETHANE	1	U		1	U							
ETHYLBENZENE	1	U		1	U							
METHYLENE CHLORIDE	2	U		0.3	J	P						
STYRENE	1	U		1	U							

SAMPLE NUMBER:	TB-121400-01	TB-121500-01		
SAMPLE DATE:	12/14/00	12/15/00	/ /	/ /
LABORATORY ID:	C0L160141004	C0L190177008		
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
VOLATILES												
TETRACHLOROETHENE	1	U		1	U							
TOLUENE	1	U		1	U							
TRANS-1,2-DICHLOROETHENE	1	U		1	U							
TRANS-1,3-DICHLOROPROPENE	1	U		1	U							
TRICHLOROETHENE	1	U		1	U							
VINYL CHLORIDE	1	U		1	U							
XYLENES, TOTAL	1	U		1	U							

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2LGW20S-05			2WGW21S-05			2WGW38DS-05			2WGW39DS-05		
SAMPLE DATE:	12/16/00			12/14/00			12/15/00			12/13/00		
LABORATORY ID:	C0L190177006			C0L150299005			C0L190177002			C0L150299002		
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												
1,2,4-TRICHLOROBENZENE	10	U		10	U		10	U		10	U	
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U		10	U		10	U		10	U	
2,4,5-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4,6-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DIMETHYLPHENOL	10	U		10	U		10	U		10	U	
2,4-DINITROPHENOL	50	UJ	C	50	UJ	C	50	UJ	C	50	UJ	C
2,4-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2,6-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2-CHLORONAPHTHALENE	10	U		10	U		10	U		10	U	
2-CHLOROPHENOL	10	U		10	U		10	U		10	U	
2-METHYLPHENOL	10	U		10	U		10	U		10	U	
2-NITROANILINE	50	U		50	U		50	U		50	U	
2-NITROPHENOL	10	U		10	U		10	U		10	U	
3,3'-DICHLOROBENZIDINE	50	UJ	E	50	UJ	E	50	UJ	E	50	UJ	E
3-NITROANILINE	50	U		50	U		50	U		50	U	
4,6-DINITRO-2-METHYLPHENOL	50	U		50	U		50	U		50	U	
4-BROMOPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-CHLORO-3-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-CHLOROANILINE	10	U		10	U		10	U		10	U	
4-CHLOROPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-NITROANILINE	50	U		50	U		50	U		50	U	
4-NITROPHENOL	50	U		50	U		50	U		50	U	
BENZOIC ACID	50	UJ	C	50	UJ	EC	50	U		50	UJ	EC
BIS(2-CHLOROETHOXY)METHANE	10	U		10	U		10	U		10	U	
BIS(2-CHLOROETHYL)ETHER	10	U		10	U		10	U		10	U	
BIS(2-ETHYLHEXYL)PHTHALATE	10	U		10	U		10	U		10	U	
BUTYLBENZYL PHTHALATE	10	U		10	U		10	U		10	U	
CARBAZOLE	10	U		10	U		10	U		10	U	
DI-N-BUTYL PHTHALATE	10	U		10	U		10	U		10	U	
DI-N-OCTYL PHTHALATE	10	U		10	U		10	U		10	U	
DIBENZOFURAN	10	U		10	U		10	U		10	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2LGW20S-05			2WGW21S-05			2WGW38DS-05			2WGW39DS-05		
SAMPLE DATE:	12/16/00			12/14/00			12/15/00			12/13/00		
LABORATORY ID:	C0L190177006			C0L150299005			C0L190177002			C0L150299002		
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	10	U		10	U		10	U		10	U	
DIMETHYL PHTHALATE	10	U		10	U		10	U		10	U	
HEXACHLOROBENZENE	10	U		10	U		10	U		10	U	
HEXACHLOROBUTADIENE	10	U		10	U		10	U		10	U	
HEXACHLOROCYCLOPENTADIENE	50	U		50	UR	E	50	U		50	UR	E
HEXACHLOROETHANE	10	U		10	U		10	U		10	U	
ISOPHORONE	10	U		10	U		10	U		10	U	
N-NITROSO-DI-N-PROPYLAMINE	10	U		10	U		10	U		10	U	
N-NITROSODIPHENYLAMINE	10	U		10	UJ	E	10	U		10	UJ	E
NITROBENZENE	10	U		10	U		10	U		10	U	
PENTACHLOROPHENOL	50	U		50	U		50	U		50	U	
PHENOL	10	U		10	U		10	U		10	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW40DS-05			2WGW41DS-05			2WGW42DS-05			2WGW43DS-05		
SAMPLE DATE:	12/14/00			12/14/00			12/13/00			12/14/00		
LABORATORY ID:	C0L160141001			C0L160141003			C0L150299001			C0L160141002		
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												
1,2,4-TRICHLOROBENZENE	10	U		10	U		10	U		10	U	
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U		10	U		10	U		10	U	
2,4,5-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4,6-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DIMETHYLPHENOL	10	U		10	U		10	U		10	U	
2,4-DINITROPHENOL	50	UJ	C	50	UJ	C	50	UJ	C	50	UJ	C
2,4-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2,6-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2-CHLORONAPHTHALENE	10	U		10	U		10	U		10	U	
2-CHLOROPHENOL	10	U		10	U		10	U		10	U	
2-METHYLPHENOL	10	U		10	U		10	U		10	U	
2-NITROANILINE	50	U		50	U		50	U		50	U	
2-NITROPHENOL	10	U		10	U		10	U		10	U	
3,3'-DICHLOROBENZIDINE	50	UR	E	50	UR	E	50	UR	E	50	UR	E
3-NITROANILINE	50	U		50	U		50	U		50	U	
4,6-DINITRO-2-METHYLPHENOL	50	U		50	U		50	U		50	U	
4-BROMOPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-CHLORO-3-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-CHLOROANILINE	10	U		10	U		10	U		10	U	
4-CHLOROPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-NITROANILINE	50	U		50	U		50	U		50	U	
4-NITROPHENOL	50	U		50	U		50	U		50	U	
BENZOIC ACID	50	UJ	EC	50	UJ	EC	50	UJ	EC	50	UJ	EC
BIS(2-CHLOROETHOXY)METHANE	10	U		10	U		10	U		10	U	
BIS(2-CHLOROETHYL)ETHER	10	U		10	U		10	U		10	U	
BIS(2-ETHYLHEXYL)PHTHALATE	10	U		10	U		10	U		10	U	
BUTYLBENZYL PHTHALATE	10	U		10	U		10	U		10	U	
CARBAZOLE	10	U		10	U		10	U		10	U	
DI-N-BUTYL PHTHALATE	10	U		10	U		10	U		10	U	
DI-N-OCTYL PHTHALATE	10	U		10	U		10	U		10	U	
DIBENZOFURAN	10	U		10	U		10	U		10	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW40DS-05	2WGW41DS-05	2WGW42DS-05	2WGW43DS-05
SAMPLE DATE:	12/14/00	12/14/00	12/13/00	12/14/00
LABORATORY ID:	C0L160141001	C0L160141003	C0L150299001	C0L160141002
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	10	U		10	U		10	U		10	U	
DIMETHYL PHTHALATE	10	U		10	U		10	U		10	U	
HEXACHLOROBENZENE	10	U		10	U		10	U		10	U	
HEXACHLOROBUTADIENE	10	U		10	U		10	U		10	U	
HEXACHLOROCYCLOPENTADIENE	50	UR	E	50	UR	E	50	UR	E	50	UR	E
HEXACHLOROETHANE	10	U		10	U		10	U		10	U	
ISOPHORONE	10	U		10	U		10	U		10	U	
N-NITROSO-DI-N-PROPYLAMINE	10	U		10	U		10	U		10	U	
N-NITROSODIPHENYLAMINE	10	UJ	E	10	UJ	E	10	UJ	E	10	UJ	E
NITROBENZENE	10	U		10	U		10	U		10	U	
PENTACHLOROPHENOL	50	UJ	C	50	UJ	C	50	UJ	C	50	UJ	C
PHENOL	10	U		10	U		10	U		10	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW44DS-05	2WGW45DS-05	2WGW46DS-05	2WGW47DS-05
SAMPLE DATE:	12/15/00	12/15/00	12/15/00	12/14/00
LABORATORY ID:	C0L190177003	C0L190177004	C0L190177001	C0L150299003
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												
1,2,4-TRICHLOROBENZENE	10	U		10	U		10	U		10	U	
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U		10	U		10	U		10	U	
2,4,5-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4,6-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DIMETHYLPHENOL	10	U		10	U		10	U		10	U	
2,4-DINITROPHENOL	50	UJ	C	50	UJ	C	50	UJ	C	50	UJ	C
2,4-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2,6-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2-CHLORONAPHTHALENE	10	U		10	U		10	U		10	U	
2-CHLOROPHENOL	10	U		10	U		10	U		10	U	
2-METHYLPHENOL	10	U		10	U		10	U		10	U	
2-NITROANILINE	50	U		50	U		50	U		50	U	
2-NITROPHENOL	10	U		10	U		10	U		10	U	
3,3'-DICHLOROBENZIDINE	50	UJ	E	50	UJ	E	50	UJ	E	50	UR	E
3-NITROANILINE	50	U		50	U		50	U		50	U	
4,6-DINITRO-2-METHYLPHENOL	50	U		50	U		50	U		50	U	
4-BROMOPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-CHLORO-3-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-CHLOROANILINE	10	U		10	U		10	U		10	U	
4-CHLOROPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-NITROANILINE	50	U		50	U		50	U		50	U	
4-NITROPHENOL	50	U		50	U		50	U		50	U	
BENZOIC ACID	50	U		50	U		50	U		50	UJ	EC
BIS(2-CHLOROETHOXY)METHANE	10	U		10	U		10	U		10	U	
BIS(2-CHLOROETHYL)ETHER	10	U		10	U		10	U		10	U	
BIS(2-ETHYLHEXYL)PHTHALATE	10	U		10	U		10	U		10	U	
BUTYLBENZYL PHTHALATE	10	U		10	U		10	U		10	U	
CARBAZOLE	10	U		10	U		10	U		10	U	
DI-N-BUTYL PHTHALATE	10	U		10	U		10	U		10	U	
DI-N-OCTYL PHTHALATE	10	U		10	U		10	U		10	U	
DIBENZOFURAN	10	U		10	U		10	U		10	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW44DS-05			2WGW45DS-05			2WGW46DS-05			2WGW47DS-05		
SAMPLE DATE:	12/15/00			12/15/00			12/15/00			12/14/00		
LABORATORY ID:	C0L190177003			C0L190177004			C0L190177001			C0L150299003		
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	10	U		10	U		10	U		10	U	
DIMETHYL PHTHALATE	10	U		10	U		10	U		10	U	
HEXACHLOROBENZENE	10	U		10	U		10	U		10	U	
HEXACHLOROBUTADIENE	10	U		10	U		10	U		10	U	
HEXACHLOROCYCLOPENTADIENE	50	U		50	U		50	U		50	UR	E
HEXACHLOROETHANE	10	U		10	U		10	U		10	U	
ISOPHORONE	10	U		10	U		10	U		10	U	
N-NITROSO-DI-N-PROPYLAMINE	10	U		10	U		10	U		10	U	
N-NITROSODIPHENYLAMINE	10	U		10	U		10	U		10	UJ	E
NITROBENZENE	10	U		10	U		10	U		10	U	
PENTACHLOROPHENOL	50	U		50	U		50	U		50	U	
PHENOL	10	U		10	U		10	U		10	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	3M-SP01-05			4GW01S-05			GWFD121400-01					
SAMPLE DATE:	12/16/00			12/16/00			12/14/00			/ /		
LABORATORY ID:	C0L190177005			C0L190177007			C0L150299004					
QC_TYPE:	NORMAL			NORMAL			NORMAL					
% SOLIDS:	0.0 %			0.0 %			0.0 %			100.0 %		
UNITS:	UG/L			UG/L			UG/L					
FIELD DUPLICATE OF:							2WGW47DS-05					
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
SEMIVOLATILES												
1,2,4-TRICHLOROBENZENE	10	U		10	U		10	U				
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U		10	U		10	U				
2,4,5-TRICHLOROPHENOL	10	U		10	U		10	U				
2,4,6-TRICHLOROPHENOL	10	U		10	U		10	U				
2,4-DICHLOROPHENOL	10	U		10	U		10	U				
2,4-DIMETHYLPHENOL	10	U		10	U		10	U				
2,4-DINITROPHENOL	50	UJ	C	50	UJ	C	50	UJ	C			
2,4-DINITROTOLUENE	10	U		10	U		10	U				
2,6-DINITROTOLUENE	10	U		10	U		10	U				
2-CHLORONAPHTHALENE	10	U		10	U		10	U				
2-CHLOROPHENOL	10	U		10	U		10	U				
2-METHYLPHENOL	10	U		10	U		10	U				
2-NITROANILINE	50	U		50	U		50	U				
2-NITROPHENOL	10	U		10	U		10	U				
3,3'-DICHLOROBENZIDINE	50	UJ	E	50	UJ	E	50	UR	E			
3-NITROANILINE	50	U		50	U		50	U				
4,6-DINITRO-2-METHYLPHENOL	50	U		50	U		50	U				
4-BROMOPHENYL PHENYL ETHER	10	U		10	U		10	U				
4-CHLORO-3-METHYLPHENOL	10	U		10	U		10	U				
4-CHLOROANILINE	10	U		10	U		10	U				
4-CHLOROPHENYL PHENYL ETHER	10	U		10	U		10	U				
4-METHYLPHENOL	10	U		10	U		10	U				
4-NITROANILINE	50	U		50	U		50	U				
4-NITROPHENOL	50	U		50	U		50	U				
BENZOIC ACID	50	U		50	UJ	C	50	UJ	EC			
BIS(2-CHLOROETHOXY)METHANE	10	U		10	U		10	U				
BIS(2-CHLOROETHYL)ETHER	10	U		10	U		10	U				
BIS(2-ETHYLHEXYL)PHTHALATE	10	U		5.6	J	P	10	U				
BUTYLBENZYL PHTHALATE	10	U		10	U		10	U				
CARBAZOLE	10	U		10	U		10	U				
DI-N-BUTYL PHTHALATE	10	U		10	U		10	U				
DI-N-OCTYL PHTHALATE	10	U		10	U		10	U				
DIBENZOFURAN	10	U		10	U		10	U				

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	3M-SP01-05			4GW01S-05			GWFD121400-01				
SAMPLE DATE:	12/16/00			12/16/00			12/14/00			/ /	
LABORATORY ID:	C0L190177005			C0L190177007			C0L150299004				
QC_TYPE:	NORMAL			NORMAL			NORMAL				
% SOLIDS:	0.0 %			0.0 %			0.0 %			100.0 %	
UNITS:	UG/L			UG/L			UG/L				
FIELD DUPLICATE OF:							2WGW47DS-05				
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
SEMIVOLATILES												
DIETHYL PHTHALATE	10	U		10	U		10	U				
DIMETHYL PHTHALATE	10	U		10	U		10	U				
HEXACHLOROBENZENE	10	U		10	U		10	U				
HEXACHLOROBUTADIENE	10	U		10	U		10	U				
HEXACHLOROCYCLOPENTADIENE	50	U		50	U		50	UR	E			
HEXACHLOROETHANE	10	U		10	U		10	U				
ISOPHORONE	10	U		10	U		10	U				
N-NITROSO-DI-N-PROPYLAMINE	10	U		10	U		10	U				
N-NITROSODIPHENYLAMINE	10	U		10	U		10	UJ	E			
NITROBENZENE	10	U		10	U		10	U				
PENTACHLOROPHENOL	50	U		50	U		50	U				
PHENOL	10	U		10	U		10	U				

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2LGW20S-05			2WGW21S-05			2WGW38DS-05			2WGW39DS-05		
SAMPLE DATE:	12/16/00			12/14/00			12/15/00			12/13/00		
LABORATORY ID:	C0L190177006			C0L150299005			C0L190177002			C0L150299002		
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		6.3			0.020	U		0.020	U	
4,4'-DDE	0.020	U		0.080	U		0.020	U		0.020	U	
4,4'-DDT	0.020	U		0.080	U		0.020	U		0.020	U	
ALDRIN	0.010	U		0.040	U		0.010	U		0.010	U	
ALPHA-BHC	0.010	U		0.040	U		0.010	U		0.010	U	
ALPHA-CHLORDANE	0.010	U		0.040	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		0.040	U		0.010	U		0.010	U	
DELTA-BHC	0.010	U		0.040	U		0.010	U		0.010	U	
DIELDRIN	0.020	U		0.080	U		0.020	U		0.020	U	
ENDOSULFAN I	0.010	U		0.040	U		0.010	U		0.010	U	
ENDOSULFAN II	0.020	U		0.080	U		0.020	U		0.020	U	
ENDOSULFAN SULFATE	0.020	U		0.080	U		0.020	U		0.020	U	
ENDRIN	0.020	U		0.080	U		0.020	U		0.020	U	
ENDRIN ALDEHYDE	0.020	U		0.080	U		0.020	U		0.020	U	
ENDRIN KETONE	0.020	U		0.080	U		0.020	U		0.020	U	
GAMMA-BHC (LINDANE)	0.010	U		0.040	U		0.010	U		0.010	U	
GAMMA-CHLORDANE	0.010	U		0.040	U		0.010	U		0.010	U	
HEPTACHLOR	0.010	U		0.040	U		0.010	U		0.010	U	
HEPTACHLOR EPOXIDE	0.010	U		0.040	U		0.010	U		0.010	U	
METHOXYCHLOR	0.10	U		0.40	U		0.10	U		0.10	U	
TOXAPHENE	1.0	U		4.0	U		1.0	U		1.0	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW40DS-05			2WGW41DS-05			2WGW42DS-05			2WGW43DS-05		
SAMPLE DATE:	12/14/00			12/14/00			12/13/00			12/14/00		
LABORATORY ID:	C0L160141001			C0L160141003			C0L150299001			C0L160141002		
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		0.016	J	UP
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		0.010	J	UP
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	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW44DS-05			2WGW45DS-05			2WGW46DS-05			2WGW47DS-05		
SAMPLE DATE:	12/15/00			12/15/00			12/15/00			12/14/00		
LABORATORY ID:	C0L190177003			C0L190177004			C0L190177001			C0L150299003		
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		0.022		
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	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	3M-SP01-05			4GW01S-05			GWFD121400-01					
SAMPLE DATE:	12/16/00			12/16/00			12/14/00			/ /		
LABORATORY ID:	C0L190177005			C0L190177007			C0L150299004					
QC_TYPE:	NORMAL			NORMAL			NORMAL					
% SOLIDS:	0.0 %			0.0 %			0.0 %			100.0 %		
UNITS:	UG/L			UG/L			UG/L					
FIELD DUPLICATE OF:							2WGW47DS-05					
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
PESTICIDES/PCBs												
4,4'-DDD	0.020	U		0.020	U		0.026					
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		0.011	R	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		0.016	J	P	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				

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2LGW20S-05			2WGW21S-05			2WGW38DS-05			2WGW39DS-05		
SAMPLE DATE:	12/16/00			12/14/00			12/15/00			12/13/00		
LABORATORY ID:	C0L190177006			C0L150299005			C0L190177002			C0L150299002		
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												
ACENAPHTHENE	1	U		1	UJ	R	1	U		1	UJ	R
ACENAPHTHYLENE	1	U		0.08	J	RP	1	U		1	UJ	R
ANTHRACENE	0.2	U		0.2	UJ	R	0.2	U		0.2	UJ	R
BENZO(A)ANTHRACENE	0.2	U		0.2	UJ	R	0.2	U		0.2	UJ	R
BENZO(A)PYRENE	0.2	U		0.2	UJ	R	0.2	U		0.2	UJ	R
BENZO(B)FLUORANTHENE	0.2	U		0.2	UJ	R	0.2	U		0.2	UJ	R
BENZO(G,H,I)PERYLENE	0.2	U		0.2	UJ	R	0.2	U		0.2	UJ	R
BENZO(K)FLUORANTHENE	0.2	U		0.2	UJ	R	0.2	U		0.2	UJ	R
CHRYSENE	0.2	U		0.2	UJ	R	0.2	U		0.2	UJ	R
DIBENZO(A,H)ANTHRACENE	0.2	U		0.2	UJ	R	0.2	U		0.2	UJ	R
FLUORANTHENE	0.2	U		0.2	UJ	R	0.2	U		0.2	UJ	R
FLUORENE	0.2	U		0.2	UJ	R	0.2	U		0.2	UJ	R
INDENO(1,2,3-CD)PYRENE	0.2	U		0.2	UJ	R	0.2	U		0.2	UJ	R
NAPHTHALENE	1	U		1	UJ	R	1	U		1	UJ	R
PHENANTHRENE	0.2	U		0.2	UJ	R	0.2	U		0.2	UJ	R
PYRENE	0.2	U		0.2	UJ	R	0.2	U		0.2	UJ	R

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW40DS-05			2WGW41DS-05			2WGW42DS-05			2WGW43DS-05		
SAMPLE DATE:	12/14/00			12/14/00			12/13/00			12/14/00		
LABORATORY ID:	C0L160141001			C0L160141003			C0L150299001			C0L160141002		
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												
ACENAPHTHENE	1	UJ	R	1	UJ	R	1	UJ	R	1	UJ	R
ACENAPHTHYLENE	1	UJ	R	1	UJ	R	0.17	J	RP	1	UJ	R
ANTHRACENE	0.2	UJ	R	0.2	UJ	R	0.2	UJ	R	0.2	UJ	R
BENZO(A)ANTHRACENE	0.2	UJ	R	0.2	UJ	R	0.2	UJ	R	0.2	UJ	R
BENZO(A)PYRENE	0.2	UJ	R	0.2	UJ	R	0.028	J	RP	0.2	UJ	R
BENZO(B)FLUORANTHENE	0.2	UJ	R	0.2	UJ	R	0.034	J	UPR	0.2	UJ	R
BENZO(G,H,I)PERYLENE	0.2	UJ	R	0.2	UJ	R	0.028	UJ	UR	0.2	UJ	R
BENZO(K)FLUORANTHENE	0.2	UJ	R	0.2	UJ	R	0.2	UJ	R	0.2	UJ	R
CHRYSENE	0.2	UJ	R	0.2	UJ	R	0.2	UJ	R	0.2	UJ	R
DIBENZO(A,H)ANTHRACENE	0.2	UJ	R	0.2	UJ	R	0.2	UJ	R	0.2	UJ	R
FLUORANTHENE	0.2	UJ	R	0.2	UJ	R	0.03	J	UPR	0.2	UJ	R
FLUORENE	0.2	UJ	R	0.2	UJ	R	0.2	UJ	R	0.2	UJ	R
INDENO(1,2,3-CD)PYRENE	0.2	UJ	R	0.2	UJ	R	0.2	UJ	R	0.2	UJ	R
NAPHTHALENE	1	UJ	R	1	UJ	R	1	UJ	R	1	UJ	R
PHENANTHRENE	0.2	UJ	R	0.2	UJ	R	0.023	J	RP	0.2	UJ	R
PYRENE	0.2	UJ	R	0.2	UJ	R	0.067	J	RP	0.2	UJ	R

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW44DS-05			2WGW45DS-05			2WGW46DS-05			2WGW47DS-05		
SAMPLE DATE:	12/15/00			12/15/00			12/15/00			12/14/00		
LABORATORY ID:	C0L190177003			C0L190177004			C0L190177001			C0L150299003		
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												
ACENAPHTHENE	1	U		1	U		1	U		1	U	
ACENAPHTHYLENE	0.19	J	P	1	U		0.52	J	P	1	U	
ANTHRACENE	0.2	U		0.2	U		0.2	U		0.2	U	
BENZO(A)ANTHRACENE	0.2	U		0.2	U		0.2	U		0.2	U	
BENZO(A)PYRENE	0.2	U		0.2	U		0.2	U		0.2	U	
BENZO(B)FLUORANTHENE	0.2	U		0.2	U		0.2	U		0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U		0.2	U		0.2	U		0.2	U	
BENZO(K)FLUORANTHENE	0.2	U		0.2	U		0.2	U		0.2	U	
CHRYSENE	0.2	U		0.2	U		0.2	U		0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U		0.2	U		0.2	U		0.2	U	
FLUORANTHENE	0.2	U		0.029	J	P	0.2	U		0.2	U	
FLUORENE	0.2	U		0.2	U		0.2	U		0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U		0.2	U		0.2	U		0.2	U	
NAPHTHALENE	1	U		1	U		1	U		1	U	
PHENANTHRENE	0.2	U		0.2	U		0.2	U		0.2	U	
PYRENE	0.2	U		0.023	J	P	0.2	U		0.2	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	3M-SP01-05			4GW01S-05			GWFD121400-01					
SAMPLE DATE:	12/16/00			12/16/00			12/14/00			/ /		
LABORATORY ID:	C0L190177005			C0L190177007			C0L150299004					
QC_TYPE:	NORMAL			NORMAL			NORMAL					
% SOLIDS:	0.0 %			0.0 %			0.0 %			100.0 %		
UNITS:	UG/L			UG/L			UG/L					
FIELD DUPLICATE OF:							2WGW47DS-05					
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	1	UJ	R	1	U		1	U				
ACENAPHTHYLENE	1	UJ	R	1	U		0.093	J	P			
ANTHRACENE	0.2	UJ	R	0.2	U		0.2	U				
BENZO(A)ANTHRACENE	0.2	UJ	R	0.2	U		0.2	U				
BENZO(A)PYRENE	0.2	UJ	R	0.2	U		0.2	U				
BENZO(B)FLUORANTHENE	0.2	UJ	R	0.2	U		0.2	U				
BENZO(G,H,I)PERYLENE	0.2	UJ	R	0.2	U		0.2	U				
BENZO(K)FLUORANTHENE	0.2	UJ	R	0.2	U		0.2	U				
CHRYSENE	0.2	UJ	R	0.2	U		0.2	U				
DIBENZO(A,H)ANTHRACENE	0.2	UJ	R	0.2	U		0.2	U				
FLUORANTHENE	0.2	UJ	R	0.2	U		0.2	U				
FLUORENE	0.07	J	RP	0.2	U		0.2	U				
INDENO(1,2,3-CD)PYRENE	0.2	UJ	R	0.2	U		0.2	U				
NAPHTHALENE	0.18	J	UPR	1	U		1	U				
PHENANTHRENE	0.021	J	RP	0.2	U		0.2	U				
PYRENE	0.2	UJ	R	0.2	U		0.2	U				

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **M. MENGEL** **DATE:** **FEBRUARY 22, 2001**

FROM: **ERIN M. FAUST** **COPIES:** **DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS AND MISCELLANEOUS PARAMETERS**
CTO-203 NSB NEW LONDON
SAMPLE DELIVERY GROUP (SDG)– NL001

SAMPLES: 15/Aqueous/

2LGW205-05	2WGW21S-05	2WGW38DS-05
2WGW39DS-05	2WGW40DS-05	2WGW41DS-05
2WGW42DS-05	2WGW43DS-05	2WGW44DS-05
2WGW45DS-05	2WGW46DS-05	2WGW47DS-05
3M-SP01-05	4GW01S-05	GWFD121400-01

Overview

The sample set for CTO 203, NSB New London, SDG NL001, consists of fifteen (15) aqueous environmental samples. One field duplicate pair (2GW47DS-05 / GWFD121400-01) is included in this SDG.

All samples were analyzed for total target analyte list (TAL) metals, dissolved TAL metals, hardness, total organic carbon (TOC), chemical oxygen demand (COD), alkalinity, chloride, sulfate and total dissolved solids (TDS) except for sample 2WGW38DS-05, which was not analyzed for dissolved metals or COD. Samples designated –F were analyzed for dissolved metals. The samples were collected by TetraTech NUS from December 13-16, 2000 and analyzed by Severn Trent Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses were conducted using Contract Laboratory Program (CLP) method ILM04.0. Analyses for hardness were conducted using Standard Methods, 18th Edition, method 2340B. TOC analyses were conducted using EPA method 415.1. COD analyses were conducted using EPA method 410.4. Analyses for alkalinity were conducted using EPA method 310.1. Analyses for chloride and sulfate were conducted using EPA method 300.0. TDS analyses were conducted using EPA method 160.1.

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

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

Holding Time Violations

The 28-day holding time for COD was exceeded by 13 days for samples 2WGW40DS-05, 2WGW41DS-05 and 2WGW43DS-05. All positive results reported for COD for these samples were qualified as estimated, "J".

Calibration Recoveries

The contract required detection limit (CRDL) percent recoveries (%Rs) were >120% quality control limit for lead, selenium and thallium. All nondetected results reported for lead, selenium and thallium were qualified as estimated, "UJ". All positive results less than three times the CRDL for lead were qualified as estimated, "J".

Laboratory Blank Analyses

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

Analyte	Maximum Concentration	Action Level
Aluminum	130 µg/L	650 µg/L
Antimony	3.5 µg/L	17.5 µg/L
Barium	0.7 µg/L	3.5 µg/L
Beryllium	0.9 µg/L	4.5 µg/L
Cadmium	0.5 µg/L	2.5 µg/L
Calcium[(1)]	152 µg/L	670 µg/L
Chromium	0.8 µg/L	4.0 µg/L
Cobalt	1.5 µg/L	7.5 µg/L
Copper	1.3 µg/L	6.5 µg/L
Iron	64.0 µg/L	320 µg/L
Magnesium[(1)]	114 µg/L	570 µg/L
Manganese	2.0 µg/L	10.0 µg/L
Potassium[(1)]	57.5 µg/L	287.5 µg/L
Sodium[(1)]	809 µg/L	4045 µg/L
Silver	1.0 µg/L	5.0 µg/L
Thallium	8.1 µg/L	40.5 µg/L
TOC[(1)]	0.43 mg/L	2.15 mg/L
Vanadium	1.3 µg/L	6.5 µg/L
Zinc[(1)]	7.9 µg/L	39.5 µg/L

[(1)] Maximum concentration present in a laboratory method blank.

An action level of 5X the maximum concentration were used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluation for blank contamination. Positive results less than the blank action levels for all of the above analytes except barium, calcium, magnesium, potassium and sodium were qualified, "U", as a result of blank contamination.

ICP Interference Check Sample Results

The interfering analytes calcium and magnesium were present in sample 2WGW21S-05 at concentrations, which were comparable to the levels of calcium and magnesium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, copper, lead, manganese, selenium, sodium, vanadium and zinc were present in the ICS solution at concentrations which exceeded two times the Instrument Detection Limit (IDL). Interference affects exist for chromium, selenium and vanadium in the affected sample. The positive results reported for chromium and vanadium were qualified as estimated, "J", and should be considered biased low. The nondetected result reported for selenium was qualified as estimated, "UJ", and should be considered biased low.

The interfering analytes calcium and magnesium were present in sample 2WGW21S-05-F at concentrations, which were comparable to the levels of calcium and magnesium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, copper, lead, manganese, selenium, sodium, vanadium and zinc were present in the ICS solution at concentrations which exceeded two times the Instrument Detection Limit (IDL). Interference affects exist for chromium, copper, selenium and vanadium in the affected sample. The positive results reported for chromium and vanadium were qualified as estimated, "J", and should be considered biased low. The nondetected results reported for copper and selenium were qualified as estimated, "UJ", and should be considered biased low.

The interfering analyte magnesium was present in sample 2WGW40DS-05 at a concentration, which was comparable to the level of magnesium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, copper, lead, manganese, selenium, sodium, vanadium and zinc were present in the ICS solution at concentrations which exceeded two times the Instrument Detection Limit (IDL). Interference affects exist for cadmium, copper, selenium and zinc in the affected sample. The positive result reported for zinc was qualified as estimated, "J", and should be considered biased high. The nondetected results reported for cadmium, copper and selenium were qualified as estimated, "UJ", and should be considered biased low.

The interfering analytes calcium and magnesium were present in samples 2WGW40DS-05-F and 2WGW46DS-05 at concentrations, which were comparable to the levels of calcium and magnesium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, copper, lead, manganese, selenium, sodium, vanadium and zinc were present in the ICS solution at concentrations which exceeded two times the Instrument Detection Limit (IDL). Interference affects exist for chromium, copper and selenium in the affected samples. The positive results reported for chromium was qualified as estimated, "J", and should be considered biased low. The nondetected results reported for copper and selenium were qualified as estimated, "UJ", and should be considered biased low.

The interfering analyte magnesium was present in sample 2WGW41DS-05 at a concentration, which was comparable to the level of magnesium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, copper, lead, manganese, selenium, sodium, vanadium and zinc were present in the ICS solution at concentrations which exceeded two times the Instrument Detection Limit (IDL). Interference affects exist for chromium, selenium and vanadium in the affected sample. The positive results reported chromium and vanadium were qualified as estimated, "J", and should be considered biased low. The nondetected result reported for selenium was qualified as estimated, "UJ", and should be considered biased low.

The interfering analyte magnesium was present in sample 2WGW41DS-05-F at a concentration, which was comparable to the level of magnesium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, copper, lead, manganese, selenium, sodium, vanadium and zinc were present in the ICS solution at concentrations which exceeded two times the Instrument Detection Limit (IDL). Interference affects exist for chromium, copper, selenium and vanadium in the affected sample. The positive results reported chromium and vanadium were qualified as estimated, "J", and should be considered biased low. The nondetected results reported for copper and selenium were qualified as estimated, "UJ", and should be considered biased low.

The interfering analyte magnesium was present in sample 2WGW42DS-05 at a concentration, which was comparable to the level of magnesium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, copper, lead, manganese, selenium, sodium, vanadium and zinc were present in the ICS solution at concentrations which exceeded two times the Instrument Detection Limit (IDL). Interference affects exist for selenium in the affected sample. The nondetected result reported for selenium was qualified as estimated, "UJ", and should be considered biased low.

The interfering analyte magnesium was present in sample 2WGW42DS-05-F at a concentration, which was comparable to the level of magnesium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, copper, lead, manganese, selenium, sodium, vanadium and zinc were present in the ICS solution at concentrations which exceeded two times the Instrument Detection Limit (IDL). Interference affects exist for copper and selenium in the affected sample. The nondetected results reported for copper and selenium were qualified as estimated, "UJ", and should be considered biased low.

The interfering analytes calcium and magnesium were present in samples 2WGW43DS-05 and 2WGW43DS-05-F at concentrations, which were comparable to the levels of calcium and magnesium in the

Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, copper, lead, manganese, selenium, sodium, vanadium and zinc were present in the ICS solution at concentrations which exceeded two times the Instrument Detection Limit (IDL). Interference affects exist for copper, selenium and vanadium in the affected samples. The positive results reported for vanadium were qualified as estimated, "J", and should be considered biased low. The nondetected results reported for copper and selenium were qualified as estimated, "UJ", and should be considered biased low.

The interfering analytes calcium and magnesium were present in sample 2WGW46DS-05-F at concentrations, which were comparable to the levels of calcium and magnesium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, copper, lead, manganese, selenium, sodium, vanadium and zinc were present in the ICS solution at concentrations which exceeded two times the Instrument Detection Limit (IDL). Interference affects exist for copper and selenium in the affected sample. The nondetected results reported for copper and selenium were qualified as estimated, "UJ", and should be considered biased low.

The interfering analyte iron was present in sample 2WGW47DS-05 at a concentration, which was comparable to the level of iron in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, copper, lead, manganese, selenium, sodium, vanadium and zinc were present in the ICS solution at concentrations which exceeded two times the Instrument Detection Limit (IDL). Interference affects exist for cadmium, chromium, selenium and vanadium in the affected sample. The nondetected results reported for cadmium, chromium, selenium and vanadium were qualified as estimated, "UJ", and should be considered biased low.

The interfering analyte iron was present in sample GWFD121400-01-F at a concentration, which was comparable to the level of iron in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, copper, lead, manganese, selenium, sodium, vanadium and zinc were present in the ICS solution at concentrations which exceeded two times the Instrument Detection Limit (IDL). Interference affects exist for chromium, copper, selenium and vanadium in the affected sample. The nondetected results reported for chromium, copper, selenium and vanadium were qualified as estimated, "UJ", and should be considered biased low.

The interfering analyte iron was present in samples 2WGW47DS-05-F and GWFD121400-01 at concentrations, which were comparable to the level of iron in the Interference Check Sample (ICS) solution. Several analytes namely antimony, barium, cadmium, chromium, copper, lead, manganese, selenium, sodium, vanadium and zinc were present in the ICS solution at concentrations which exceeded two times the Instrument Detection Limit (IDL). Interference affects exist for cadmium, chromium, copper, selenium and vanadium in the affected sample. The nondetected results reported for cadmium, chromium, copper, selenium and vanadium were qualified as estimated, "UJ", and should be considered biased low.

ICP Serial Dilution Results

The ICP serial dilution percent difference (%D) exceeded the 15% quality control limit for potassium. Positive results reported for potassium were qualified as estimated, "J".

Field Duplicate Results

Field duplicate imprecision (RPD>30%) was noted for TOC. All positive results reported for TOC were qualified as estimated, "J".

Sample Quantitation

Due to uncertainty near the IDL, all positive results less than two times the IDL for arsenic, lead and nickel were qualified as estimated, "J".

Notes

The matrix spike duplicate (MSD) percent recovery (%R) was < 75% quality control limit for sulfate. The sample that was used for the MSD was not from this SDG, therefore, no validation action was taken.

Executive Summary

Laboratory Performance: The holding time was exceeded for COD for three samples. Several analytes were present in the laboratory method / preparation blanks. Lead, selenium and thallium were qualified due to calibration noncompliance.

Other Factors Affecting Data Quality: Potassium was qualified due to ICP serial dilution noncompliance. The interfering analytes calcium, iron and/or magnesium were present in several samples. Field duplicate imprecision was noted for TOC. Arsenic, lead and nickel were qualified due to uncertainty near the IDL.

The data for these analyses were reviewed with reference to the EPA Region I "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

Tetra Tech 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 - 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
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

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2LGW20S-05			2LGW20S-05-F			2WGW21S-05			2WGW21S-05-F		
SAMPLE DATE:	12/16/00			12/16/00			12/14/00			12/14/00		
LABORATORY ID:	C0L190177006			C0L190177006			C0L150299005			C0L150299005		
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	12.9	U		12.9	U		34.0	U	A	12.9	U	
ANTIMONY	1.8	U		2.7	U	A	1.8	U		1.8	U	
ARSENIC	2.2	U		2.2	U		4.0	J	P	3.9	J	P
BARIUM	88.5			88.0			111			109		
BERYLLIUM	0.20	U		0.20	U		0.20	U		0.20	U	
CADMIUM	0.28	U	A	0.27	U	A	0.74	U	A	0.34	U	A
CALCIUM	36000			35400			287000			293000		
CHROMIUM	0.61	U	A	0.50	U		8.4	J	K	6.7	J	K
COBALT	1.7	U	A	1.7	U	A	2.0	U	A	1.2	U	A
COPPER	1.0	U		1.0	U		1.2	U	A	1.0	UJ	K
IRON	9470			9310			11400			3250		
LEAD	1.0	UJ	C	1.0	UJ	C	1.0	UJ	C	1.0	UJ	C
MAGNESIUM	7420			7440			888000			937000		
MANGANESE	781			766			175			155		
MERCURY	0.10	U		0.10	U		0.10	U		0.10	U	
NICKEL	9.2			8.2			2.1	U		2.1	U	
POTASSIUM	5870	J	I	5830	J	I	391000	J	I	407000	J	I
SELENIUM	2.9	UJ	C	2.9	UJ	C	2.9	UJ	CK	2.9	UJ	CK
SILVER	0.90	U		0.90	U		0.90	U		0.90	U	
SODIUM	76000			76500			7640000			7620000		
THALLIUM	8.8	U	A	7.1	UJ	C	20.5	U	A	18.4	U	A
VANADIUM	4.5	U	A	3.8	U	A	9.1	J	K	8.8	J	K
ZINC	24.8	U	A	15.4	U	A	8.5	U	A	7.4	U	A

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW38DS-05			2WGW39DS-05			2WGW39DS-05-F			2WGW40DS-05		
SAMPLE DATE:	12/15/00			12/13/00			12/13/00			12/14/00		
LABORATORY ID:	C0L190177002			C0L150299002			C0L150299002			C0L160141001		
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	31.0	U	A	27.5	U	A	12.9	U		256	U	A
ANTIMONY	5.0	U	A	1.8	U		3.4	U	A	4.2	U	A
ARSENIC	4.4			3.1	J	P	3.0	J	P	22.4		
BARIUM	11.4			52.5			59.3			96.3		
BERYLLIUM	0.20	U		0.29	U	A	0.20	U		0.20	U	
CADMIUM	0.32	U	A	0.33	U	A	0.43	U	A	0.20	UJ	K
CALCIUM	47400			26900			30300			215000		
CHROMIUM	1.5	U	A	0.67	U	A	0.50	U		3.7	U	A
COBALT	0.65	U	A	1.2	U	A	1.4	U	A	0.66	U	A
COPPER	4.6	U	A	1.0	U		1.0	U		1.0	UJ	K
IRON	955			4650			4130			4120		
LEAD	1.0	UJ	C	1.0	UJ	C	1.0	UJ	C	1.0	UJ	C
MAGNESIUM	24500			6990			7880			692000		
MANGANESE	47.2			705			790			349		
MERCURY	0.10	U		0.10	U		0.10	U		0.10	U	
NICKEL	2.6	J	P	2.1	U		3.0	J	P	2.1	U	
POTASSIUM	20700	J	I	8890	J	I	10000	J	I	347000	J	I
SELENIUM	2.9	UJ	C	2.9	UJ	C	2.9	UJ	C	2.9	UJ	CK
SILVER	0.90	U		0.90	U		0.90	U		0.90	U	
SODIUM	198000			173000			196000			5610000		
THALLIUM	7.1	UJ	C	7.1	UJ	C	7.1	UJ	C	19.6	U	A
VANADIUM	15.4			1.1	U	A	0.80	U	A	5.6	U	A
ZINC	8.0	U	A	12.0	U	A	11.1	U	A	210	J	K

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW40DS-05-F			2WGW41DS-05			2WGW41DS-05-F			2WGW42DS-05		
SAMPLE DATE:	12/14/00			12/14/00			12/14/00			12/13/00		
LABORATORY ID:	C0L160141001			C0L160141003			C0L160141003			C0L150299001		
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	12.9	U		66.1	U	A	12.9	U		34.6	U	A
ANTIMONY	5.6	U	A	2.7	U	A	2.5	U	A	1.8	U	
ARSENIC	36.2			18.2			14.2			12.2		
BARIUM	124			88.8			76.2			52.3		
BERYLLIUM	0.20	U		0.20	U		0.20	U		0.20	U	
CADMIUM	0.37	U	A	0.36	U	A	0.44	U	A	0.58	U	A
CALCIUM	261000			219000			205000			127000		
CHROMIUM	4.3	J	K	8.2	J	K	7.1	J	K	3.4	U	A
COBALT	0.85	U	A	2.1	U	A	1.5	U	A	1.4	U	A
COPPER	1.0	UJ	K	1.1	U	A	1.0	UJ	K	1.0	U	A
IRON	31.4	U	A	3290			689			10300		
LEAD	1.0	UJ	C	1.0	UJ	C	1.0	UJ	C	1.0	UJ	C
MAGNESIUM	840000			693000			649000			304000		
MANGANESE	396			548			591			497		
MERCURY	0.10	U		0.10	U		0.10	U		0.10	U	
NICKEL	2.1	U		2.2	J	P	2.1	U		2.1	J	P
POTASSIUM	428000	J	I	342000	J	I	311000	J	I	155000	J	I
SELENIUM	2.9	UJ	CK	2.9	UJ	C	2.9	UJ	CK	2.9	UJ	CK
SILVER	0.90	U		0.90	U		0.90	U		0.90	U	
SODIUM	7410000			5590000			5160000			2600000		
THALLIUM	19.3	U	A	22.0	U	A	22.4	U	A	20.8	U	A
VANADIUM	4.1	U	A	10.7	J	K	10.8	J	K	5.2	U	A
ZINC	14.1	U	A	15.0	U	A	9.2	U	A	16.8	U	A

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW42DS-05-F			2WGW43DS-05			2WGW43DS-05-F			2WGW44DS-05		
SAMPLE DATE:	12/13/00			12/14/00			12/14/00			12/15/00		
LABORATORY ID:	C0L150299001			C0L160141002			C0L160141002			C0L190177003		
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	12.9	U		58.9	U	A	12.9	U		12.9	U	
ANTIMONY	3.3	U	A	2.6	U	A	2.8	U	A	2.4	U	A
ARSENIC	11.1			6.5			7.4			2.2	U	
BARIUM	52.6			105			120			43.3		
BERYLLIUM	0.20	U		0.40	U	A	0.20	U		0.20	U	
CADMIUM	0.23	U	A	0.59	U	A	0.42	U	A	0.37	U	A
CALCIUM	118000			259000			256000			88100		
CHROMIUM	3.0	U	A	3.2	U	A	3.6	U	A	0.95	U	A
COBALT	1.2	U	A	2.9	U	A	1.2	U	A	1.0	U	A
COPPER	1.0	UJ	K	1.0	UJ	K	1.0	UJ	K	1.0	U	
IRON	3350			15200			8050			19400		
LEAD	1.0	UJ	C	1.0	UJ	C	1.0	UJ	C	1.0	UJ	C
MAGNESIUM	267000			806000			786000			122000		
MANGANESE	531			711			783			877		
MERCURY	0.10	U		0.10	U		0.10	U		0.10	U	
NICKEL	2.3	J	P	2.1	U		2.1	U		2.1	U	
POTASSIUM	135000	J	I	338000	J	I	325000	J	I	58100	J	I
SELENIUM	2.9	UJ	CK	2.9	UJ	CK	2.9	UJ	CK	2.9	UJ	C
SILVER	0.90	U		1.1	U	A	0.90	U		0.90	U	
SODIUM	2290000			5610000			5490000			1050000		
THALLIUM	15.4	U	A	16.5	U	A	21.8	U	A	13.0	U	A
VANADIUM	4.7	U	A	7.6	J	K	6.7	J	K	2.2	U	A
ZINC	27.7	U	A	9.6	U	A	3.3	U	A	10.8	U	A

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW44DS-05-F			2WGW45DS-05			2WGW45DS-05-F			2WGW46DS-05		
SAMPLE DATE:	12/15/00			12/15/00			12/15/00			12/15/00		
LABORATORY ID:	C0L190177003			C0L190177004			C0L190177004			C0L190177001		
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	12.9	U		12.9	U		12.9	U		12.9	U	
ANTIMONY	1.8	U		3.0	U	A	3.5	U	A	3.0	U	A
ARSENIC	2.2	U		5.5			4.2	J	P	16.4		
BARIUM	42.0			28.7			28.7			117		
BERYLLIUM	0.20	U		0.20	U		0.20	U		0.20	U	
CADMIUM	0.31	U	A	0.20	U		0.20	U		0.25	U	A
CALCIUM	89300			84200			88400			319000		
CHROMIUM	1.4	U	A	1.3	U	A	2.2	U	A	4.4	J	K
COBALT	0.79	U	A	0.60	U		0.62	U	A	0.77	U	A
COPPER	1.0	U		1.0	U		1.0	U		1.0	UJ	K
IRON	7930			60300			50100			7080		
LEAD	1.0	UJ	C	1.0	UJ	C	1.0	UJ	C	1.0	UJ	C
MAGNESIUM	129000			204000			215000			1100000		
MANGANESE	877			723			771			358		
MERCURY	0.10	U		0.10	U		0.10	U		0.10	U	
NICKEL	2.1	U		2.1	U		2.1	U		2.1	U	
POTASSIUM	61200	J	I	102000	J	I	107000	J	I	459000	J	I
SELENIUM	2.9	UJ	C	2.9	UJ	C	2.9	UJ	C	2.9	UJ	CK
SILVER	0.90	U		0.90	U		0.90	U		0.90	U	
SODIUM	1120000			1800000			1890000			8450000		
THALLIUM	9.6	U	A	11.9	U	A	14.2	U	A	18.6	U	A
VANADIUM	1.6	U	A	3.5	U	A	3.8	U	A	4.5	U	A
ZINC	16.8	U	A	12.0	U	A	3.8	U	A	13.4	U	A

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW46DS-05-F			2WGW47DS-05			2WGW47DS-05-F			3M-SP01-05		
SAMPLE DATE:	12/15/00			12/14/00			12/14/00			12/16/00		
LABORATORY ID:	C0L190177001			C0L150299003			C0L150299003			C0L190177005		
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	12.9	U		12.9	U		12.9	U		12.9	U	
ANTIMONY	1.8	U		4.6	U	A	3.6	U	A	3.1	U	A
ARSENIC	13.0			20.9			21.7			2.7	J	P
BARIUM	93.8			535			516			80.6		
BERYLLIUM	0.49	U	A	0.20	U		0.20	U		0.20	U	
CADMIUM	0.53	U	A	0.20	UJ	K	0.20	UJ	K	0.23	U	A
CALCIUM	307000			65700			68300			29700		
CHROMIUM	3.6	U	A	0.50	UJ	K	0.50	UJ	K	0.50	U	
COBALT	1.3	U	A	10.6			9.4			0.82	U	A
COPPER	1.0	UJ	K	1.3	U	A	1.0	UJ	K	1.0	U	
IRON	1510			162000			160000			10000		
LEAD	1.0	UJ	C	1.0	UJ	C	1.0	UJ	C	1.2	J	CP
MAGNESIUM	1090000			107000			116000			10600		
MANGANESE	477			6380			6410			1160		
MERCURY	0.10	U		0.10	U		0.10	U		0.10	U	
NICKEL	2.1	U		2.1	U		2.1	U		2.1	U	
POTASSIUM	427000	J	I	72200	J	I	78600	J	I	6470	J	I
SELENIUM	2.9	UJ	CK	2.9	UJ	CK	2.9	UJ	CK	2.9	UJ	C
SILVER	0.90	U		0.90	U		0.90	U		0.90	U	
SODIUM	8180000			1130000			1220000			121000		
THALLIUM	23.1	U	A	7.1	UJ	C	10.6	U	A	7.1	UJ	C
VANADIUM	4.1	U	A	0.60	UJ	K	0.60	UJ	K	0.95	U	A
ZINC	8.8	U	A	8.3	U	A	6.1	U	A	28.1	U	A

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	3M-SP01-05-F	4GW01S-05	4GW01S-05-F	GWFD121400-01
SAMPLE DATE:	12/16/00	12/16/00	12/16/00	12/14/00
LABORATORY ID:	C0L190177005	C0L190177007	C0L190177007	C0L150299004
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:				2WGW47DS-05

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	12.9	U		12.9	U		12.9	U		12.9	U	
ANTIMONY	2.6	U	A	1.8	U		1.8	U		4.7	U	A
ARSENIC	2.6	J	P	2.4	J	P	2.3	J	P	21.3		
BARIUM	76.0			47.8			43.6			580		
BERYLLIUM	0.20	U		0.21	U	A	0.20	U		0.20	U	
CADMIUM	0.23	U	A	0.41	U	A	0.38	U	A	0.20	UJ	K
CALCIUM	28800			20700			19100			70700		
CHROMIUM	0.50	U		0.51	U	A	0.50	U		0.50	UJ	K
COBALT	1.0	U	A	0.60	U		0.67	U	A	11.5		
COPPER	1.0	U		1.0	U		1.0	U		1.0	UJ	K
IRON	7460			25.0	U	A	20.9	U	A	176000		
LEAD	1.0	UJ	C	1.0	UJ	C	1.0	UJ	C	1.0	UJ	C
MAGNESIUM	10200			3250			3000			115000		
MANGANESE	1120			8.3	U	A	7.9	U	A	6920		
MERCURY	0.10	U		0.10	U		0.10	U		0.10	U	
NICKEL	2.1	U		2.1	U		2.1	U		2.1	U	
POTASSIUM	6280	J	I	3000	J	I	2770	J	I	79000	J	I
SELENIUM	2.9	UJ	C	2.9	UJ	C	2.9	UJ	C	2.9	UJ	CK
SILVER	0.90	U		0.90	U		0.90	U		0.90	U	
SODIUM	118000			31400			29200			1230000		
THALLIUM	7.1	UJ	C	10.0	U	A	7.1	UJ	C	7.1	UJ	C
VANADIUM	0.60	U		0.60	U		0.60	U		0.60	UJ	K
ZINC	24.6	U	A	7.7	U	A	8.9	U	A	3.0	U	A

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	GWFD121400-01-F											
SAMPLE DATE:	12/14/00			/ /			/ /			/ /		
LABORATORY ID:	C0L150299004											
QC_TYPE:	NORMAL											
% SOLIDS:	0.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	UG/L											
FIELD DUPLICATE OF:	2LGW205-05-F											
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	12.9	U										
ANTIMONY	5.0	U	A									
ARSENIC	16.1											
BARIUM	464											
BERYLLIUM	0.20	U										
CADMIUM	0.23	U	A									
CALCIUM	71500											
CHROMIUM	0.50	UJ	K									
COBALT	8.3											
COPPER	1.0	UJ	K									
IRON	139000											
LEAD	1.0	UJ	C									
MAGNESIUM	136000											
MANGANESE	5850											
MERCURY	0.10	U										
NICKEL	2.1	U										
POTASSIUM	85400	J	I									
SELENIUM	2.9	UJ	CK									
SILVER	0.90	U										
SODIUM	1330000											
THALLIUM	8.3	U	A									
VANADIUM	0.60	UJ	K									
ZINC	5.7	U	A									

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2LGW20S-05			2WGW21S-05			2WGW38DS-05			2WGW39DS-05		
SAMPLE DATE:	12/16/00			12/14/00			12/15/00			12/13/00		
LABORATORY ID:	C0L190177006			C0L150299005			C0L190177002			C0L150299002		
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												
CHEMICAL OXYGEN DEMAND(MG/L)	10	U		1670						22.6		
CHLORIDE(MG/L)	146			12200			189			297		
HARDNESS as CaCO3(MG/L)	120			4370			219			96.0		
SULFATE(MG/L)	6.6			1.0	U		99.0			4.6		
TOTAL ALKALINITY(MG/L)	86.9			2220			280			129		
TOTAL DISSOLVED SOLIDS(MG/L)	341			20400			830			643		
TOTAL ORGANIC CARBON(MG/L)	1.6	U	A	14.8	J	G	16.2	J	G	15.7	J	G

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW40DS-05			2WGW41DS-05			2WGW42DS-05			2WGW43DS-05		
SAMPLE DATE:	12/14/00			12/14/00			12/13/00			12/14/00		
LABORATORY ID:	C0L160141001			C0L160141003			C0L150299001			C1A230109002		
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												
CHEMICAL OXYGEN DEMAND(MG/L)	586	J	H	880	J	H	141			411	J	H
CHLORIDE(MG/L)	9420			9810			4270			11400		
HARDNESS as CaCO3(MG/L)	3390			3400			1570			3970		
SULFATE(MG/L)	840			257			89.9			400		
TOTAL ALKALINITY(MG/L)	1490			2110			793			1350		
TOTAL DISSOLVED SOLIDS(MG/L)	16600			16400			7330			18800		
TOTAL ORGANIC CARBON(MG/L)	13.8	J	G	44.5	J	G	14.2	J	G	12.4	J	G

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	2WGW44DS-05			2WGW45DS-05			2WGW46DS-05			2WGW47DS-05		
SAMPLE DATE:	12/15/00			12/15/00			12/15/00			12/14/00		
LABORATORY ID:	C0L190177003			C0L190177004			C0L190177001			C0L150299003		
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												
CHEMICAL OXYGEN DEMAND(MG/L)	60.9			263			671			88.7		
CHLORIDE(MG/L)	2470			4050			17300			2270		
HARDNESS as CaCO3(MG/L)	722			1050			5330			605		
SULFATE(MG/L)	22.4			55.6			273			1.0	U	
TOTAL ALKALINITY(MG/L)	618			730			2380			375		
TOTAL DISSOLVED SOLIDS(MG/L)	4350			6400			27100			4010		
TOTAL ORGANIC CARBON(MG/L)	8.2	J	G	14.8	J	G	14.4	J	G	9.8	J	G

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL001

SAMPLE NUMBER:	GWFD121400-01	3M-SP01-05	4GW01S-05	
SAMPLE DATE:	12/14/00	12/16/00	12/16/00	/ /
LABORATORY ID:	C0L150299004	C0L190177005	C0L190177007	
QC_TYPE:	NORMAL	NORMAL	NORMAL	
% SOLIDS:	0.0 %	0.0 %	0.0 %	100.0 %
FIELD DUPLICATE OF:	2WGW47DS-05			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
CHEMICAL OXYGEN DEMAND(MG/L)	2150			12.2			10	U				
CHLORIDE(MG/L)	2210			210			31.8					
HARDNESS as CaCO3(MG/L)	650			118			65.1					
SULFATE(MG/L)	1.0	U		8.3			39.3					
TOTAL ALKALINITY(MG/L)	352			93.3			27.6					
TOTAL DISSOLVED SOLIDS(MG/L)	3810			471			105					
TOTAL ORGANIC CARBON(MG/L)	9.3	J	G	3.7	J	G	1.9	U	A			

TETRA TECH NUS, INC.

PHIL-14991

TO: M. MENGEL **DATE:** FEBRUARY 22, 2001

FROM: JAMES LUCCHESE **COPIES:** FILE

SUBJECT: ORGANIC DATA VALIDATION – TCL ORGANICS, PAHs, PESTICIDES/PCBs
CTO 203, NSB NEW LONDON, GROTON, CONNECTICUT
SDG NO. NL003

SAMPLES: 10 / Aqueous

3-GW37S-05	SWSG-21-05
FD-SW-121800-01	SWSG-22-05
SWSG-18-05	SWSG-23-05
SWSG-19-05	SWSG-24-05
SWSG-20-05	TB-121800-01

INTRODUCTION

The sample set for the CTO 203, New London Site, SDG NL003, consists of nine (9) aqueous environmental samples and one (1) trip blank (designated TB-). All environmental samples were analyzed for volatile, semivolatile, polynuclear aromatic hydrocarbons (PAHs), and pesticide/polychlorinated biphenyl (PCB) organic compounds. The trip blank was analyzed for volatile organic compounds (VOCs). One field duplicate pair (FD-SW-121800-01/SWSG-24-05) is included within this SDG.

The samples were collected by Tetra Tech NUS on December 18 and December 19, 2000, and analyzed by Severn Trent Laboratory (STL) according to the analytical and reporting protocols of CLP OLC02.1 for volatiles and pesticides, SW 846 Method 8270C for semivolatiles, Method 8310 for PAHs, and Method 8082 for PCBs.

The data contained in this SDG were validated with regard to the following parameters:

* • Holding Times
* • GC/MS Tuning and System Performance
• Initial/Continuing Calibrations
• Field and Laboratory Method Blank Results
* • Internal Standards Performance
* • Surrogate Spike Recoveries
• Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
• Laboratory Control/Laboratory Control Spike Duplicate (LCS/LCSD) Results
• Field Duplicate Precision
* • Compound Identification
* • Compound Quantitation
* • Quantitation Limits
* • Tentatively Identified Compounds
* • Data Completeness

The symbol (*) indicates that all Quality Control (QC) criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendices C and D. Qualified analytical results are presented in Appendix A.

CALIBRATIONS

The following tables summarize calibration non-compliances and corresponding validation actions. The key associated with these tables is presented following the tables.

Volatiles

Compound	IC 12/18/00	CC 12/21/00	CC 12/27/00
2-Butanone	X	X	X
1,2-Dibromo-3-chloropropane	X	X	X
Acetone	Y	X, Y	X, Y
Chloroethane	Y	NA	NA
4-Methyl-2-pentanone	Y	NA	NA
2-Hexanone	Y	NA	NA
Associated Samples:	All	SWSG-24-05 3-GW37S-05 FD-SW-121800-01	SWSG-18-05 SWSG-19-05 SWSG-20-05 SWSG-21-05 SWSG-22-05 SWSG-23-05 TB-121800-01

Semivolatiles

Compound	IC 01/07/01	CC 01/06/01
Benzoic Acid	Y	NA
2,4-Dinitrophenol	Y	W
Associated Samples:	All	None

Pesticides

Compound	IC 01/09/01 & 01/10/01 (Column RTX-1701)
Alpha-BHC	Z
Delta-BHC	Z
Gamma-BHC (Lindane)	Z
Associated Samples:	All The %RSDs for column RTX-50 were acceptable therefore, results reported for these compounds did not require qualification.

Calibration Actions:

W	-	Percent Difference (%D) > ±25%; estimate positive results and non-detected results (J/UJ).
X	-	Relative Response Factor (RRF) < 0.05; estimate (J) positive results and reject (UR) non-detected results.
Y	-	%RSD > 30%; estimate positive results and non-detected results (J/UJ).
Z	-	%RSD > 20%; estimate positive results and non-detected results (J/UJ).
NA	-	Not Applicable

BLANKS

The following contaminants were detected in laboratory method or field QC blanks at the maximum concentrations indicated:

Compound	Maximum Concentration	Action Level (Water)
Acetone[1]	4.0 µg/L	40 µg/L
Methylene Chloride[2]	0.43 µg/L	4.3 µg/L

[1] Contaminant was detected at a maximum level in a laboratory method blank.
[2] Contaminant was detected at a maximum level in a trip blank.

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.

Samples affected: All.

The aliquot used for analysis and dilution factors were considered during the application of all action levels. Positive results for all compounds were qualified in the manner indicated in the blank action table.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

Volatiles

The MSD Percent Recoveries (%R) for the volatile analysis was greater than the QC limit for *cis*-1,3-dichloropropene. No action was required as the aforementioned compound was not detected in any sample.

LABORATORY CONTROL/LABORATORY CONTROL SPIKE DUPLICATE RESULTS

Semivolatiles

The LCS/LCSD %R for the semivolatile analysis of 3,3'-dichlorobenzidine was greater than 10% but less than the lower end of the QC limit. Non-detected results were qualified as estimated, "UJ", in all samples.

PERCENT DIFFERENCE BETWEEN RESULTS

PAHs

The %D between detectors exceeded the QC limit of ±25% for the following: fluoranthene in samples SWSG-18-05, SWSG-20-05, and SWSG-23-05; Indeno(1,2,3-cd)pyrene in sample SWSG-24-05; anthracene in samples 3GW37S-05 and SWSG-19-05; benzo(g,h,i)perylene in samples SWSG-21-05 and SWSG-22-05; phenanthrene and pyrene in sample SWSG-23-05. Positive results for these compounds in their respective samples were qualified as estimated, "J", due to exceedance of QC limits.

FIELD DUPLICATE PRECISION

The Relative Percent Difference (%RPD) for duplicate samples, SWSG-24-04 and FD-SW-121800-01, exceeded the QC limit of 30% for carbon disulfide, anthracene, and phenanthrene. Positive results for these compounds in the aforementioned samples were qualified as estimated, "J".

NOTES

Several compounds, namely, 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4-dichlorobenzene were reported in the volatile and semivolatile fractions. Additionally, naphthalene was reported in both the semivolatile and PAH fractions. Since the reporting limits in the volatile and PAH fractions are lower than the semivolatile reporting limits, the semivolatile compounds were removed from the database.

EXECUTIVE SUMMARY

Laboratory Performance: LCS/LCSD %R were outside the QC limits for one semivolatile compound. Several RRFs exceeded QC limits for the analysis of the volatiles. Initial calibration %RSD exceeded the QC limits for four volatile compounds and three pesticide compounds. One continuing calibration %D exceeded the QC limit in the semivolatile analyses. One compound was detected at a maximum concentration in a laboratory method blank. %RPD exceeded QC limits for several compounds in the field duplicate samples.

Other Factors Affecting Data Quality: The %D between detectors for the PAH analyses exceeded ±25% for several compounds. One compound was detected at a maximum concentration in the trip blank.

The data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Organic Data Review", as amended for use within EPA Region 1 (12/96), and the NFESC guidelines entitled "Naval 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, Inc.
James Lucchese
Chemist

Tetra Tech 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 - Region One 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
o	=	Poor Instrument Performance (i.e., baseline 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	=	Pesticide/PCB % Difference Between Columns for Positive Results
v	=	Non-linear Calibrations, Tuning r < 0.995 (correlation coefficient)

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	3-GW37S-05			FD-SW-121800-01			SWSG-18-05			SWSG-19-05		
SAMPLE DATE:	12/18/00			12/18/00			12/18/00			12/19/00		
LABORATORY ID:	C0L200180003			C0L200180002			C0L200180004			C0L200180005		
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:				SWSG-24-05								
	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-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	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
4-METHYL-2-PENTANONE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
ACETONE	5.0	U	A	5.0	U	A	5.0	U	A	5.0	U	A
BENZENE	1	U		1	U		1	U		0.14	J	P
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	0.2	J	P	0.18	J	GP	1	U		1	U	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		0.17	J	P
CHLOROETHANE	1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	0.14	J	P	1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
DIBROMOCHLOROMETHANE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		2	U		2	U		2	U	
STYRENE	1	U		1	U		1	U		1	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	3-GW37S-05			FD-SW-121800-01			SWSG-18-05			SWSG-19-05		
SAMPLE DATE:	12/18/00			12/18/00			12/18/00			12/19/00		
LABORATORY ID:	C0L200180003			C0L200180002			C0L200180004			C0L200180005		
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:				SWSG-24-05								
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
VOLATILES												
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	0.58	J	P	1	U		1	U		1	U	
VINYL CHLORIDE	1	U		1	U		1	U		1	U	
XYLENES, TOTAL	1	U		1	U		1	U		0.21	J	P

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG-20-05	SWSG-21-05	SWSG-22-05	SWSG-23-05
SAMPLE DATE:	12/19/00	12/19/00	12/19/00	12/19/00
LABORATORY ID:	C0L200180006	C0L200180007	C0L200180008	C0L200180009
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-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	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
4-METHYL-2-PENTANONE	5	UJ	C	5	UJ	C	5	UJ	C	5	UJ	C
ACETONE	5.0	U	A	5.0	U	A	5.0	U	A	5.0	U	A
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	
CHLOROETHANE	1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	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	
DIBROMOCHLOROMETHANE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U		2	U		2	U		2	U	
STYRENE	1	U		1	U		1	U		1	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG-20-05			SWSG-21-05			SWSG-22-05			SWSG-23-05		
SAMPLE DATE:	12/19/00			12/19/00			12/19/00			12/19/00		
LABORATORY ID:	C0L200180006			C0L200180007			C0L200180008			C0L200180009		
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												
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	U		1	U		1	U		1	U	
XYLENES, TOTAL	1	U		1	U		1	U		1	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG-24-05	TB-121800-01		
SAMPLE DATE:	12/18/00	12/18/00	/ /	/ /
LABORATORY ID:	C0L200180001	C0L200180010		
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
VOLATILES												
1,1,1-TRICHLOROETHANE	1	U		1	U							
1,1,2,2-TETRACHLOROETHANE	1	U		1	U							
1,1,2-TRICHLOROETHANE	1	U		1	U							
1,1-DICHLOROETHANE	1	U		1	U							
1,1-DICHLOROETHENE	1	U		1	U							
1,2-DIBROMO-3-CHLOROPROPANE	1	UR	C	1	UR	C						
1,2-DIBROMOETHANE	1	U		1	U							
1,2-DICHLOROBENZENE	1	U		1	U							
1,2-DICHLOROETHANE	1	U		1	U							
1,2-DICHLOROPROPANE	1	U		1	U							
1,3-DICHLOROBENZENE	1	U		1	U							
1,4-DICHLOROBENZENE	1	U		1	U							
2-BUTANONE	5	UR	C	5	UR	C						
2-HEXANONE	5	UJ	C	5	UJ	C						
4-METHYL-2-PENTANONE	5	UJ	C	5	UJ	C						
ACETONE	5.0	U	A	3.6	U	A						
BENZENE	1	U		1	U							
BROMOCHLOROMETHANE	1	U		1	U							
BROMODICHLOROMETHANE	1	U		1	U							
BROMOFORM	1	U		1	U							
BROMOMETHANE	1	U		1	U							
CARBON DISULFIDE	0.26	J	GP	1	U							
CARBON TETRACHLORIDE	1	U		1	U							
CHLOROBENZENE	1	U		1	U							
CHLOROETHANE	1	UJ	C	1	UJ	C						
CHLOROFORM	1	U		1	U							
CHLOROMETHANE	1	U		1	U							
CIS-1,2-DICHLOROETHENE	1	U		1	U							
CIS-1,3-DICHLOROPROPENE	1	U		1	U							
DIBROMOCHLOROMETHANE	1	U		1	U							
ETHYLBENZENE	1	U		1	U							
METHYLENE CHLORIDE	2	U		0.43	J	P						
STYRENE	1	U		1	U							

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG-24-05			TB-121800-01			/ /			/ /		
SAMPLE DATE:	12/18/00			12/18/00								
LABORATORY ID:	C0L200180001			C0L200180010								
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**
VOLATILES												
TETRACHLOROETHENE	1	U		1	U							
TOLUENE	1	U		1	U							
TRANS-1,2-DICHLOROETHENE	1	U		1	U							
TRANS-1,3-DICHLOROPROPENE	1	U		1	U							
TRICHLOROETHENE	1	U		1	U							
VINYL CHLORIDE	1	U		1	U							
XYLENES, TOTAL	1	U		1	U							

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	3-GW37S-05			FD-SW-121800-01			SWSG-18-05			SWSG-19-05		
SAMPLE DATE:	12/18/00			12/18/00			12/18/00			12/19/00		
LABORATORY ID:	C0L200180003			C0L200180002			C0L200180004			C0L200180005		
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:				SWSG-24-05								

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,2,4-TRICHLOROBENZENE	10	U		10	U		10	U		10	U	
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U		10	U		10	U		10	U	
2,4,5-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4,6-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DIMETHYLPHENOL	10	U		10	U		10	U		10	U	
2,4-DINITROPHENOL	50	UJ	C	50	UJ	C	50	UJ	C	50	UJ	C
2,4-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2,6-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2-CHLORONAPHTHALENE	10	U		10	U		10	U		10	U	
2-CHLOROPHENOL	10	U		10	U		10	U		10	U	
2-METHYLPHENOL	10	U		10	U		10	U		10	U	
2-NITROANILINE	50	U		50	U		50	U		50	U	
2-NITROPHENOL	10	U		10	U		10	U		10	U	
3,3'-DICHLOROBENZIDINE	50	UJ	E	50	UJ	E	50	UJ	E	50	UJ	E
3-NITROANILINE	50	U		50	U		50	U		50	U	
4,6-DINITRO-2-METHYLPHENOL	50	U		50	U		50	U		50	U	
4-BROMOPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-CHLORO-3-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-CHLOROANILINE	10	U		10	U		10	U		10	U	
4-CHLOROPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-NITROANILINE	50	U		50	U		50	U		50	U	
4-NITROPHENOL	50	U		50	U		50	U		50	U	
BENZOIC ACID	50	UJ	C	50	UJ	C	50	UJ	C	50	UJ	C
BIS(2-CHLOROETHOXY)METHANE	10	U		10	U		10	U		10	U	
BIS(2-CHLOROETHYL)ETHER	10	U		10	U		10	U		10	U	
BIS(2-ETHYLHEXYL)PHTHALATE	10	U		10	U		10	U		10	U	
BUTYLBENZYL PHTHALATE	10	U		10	U		10	U		10	U	
CARBAZOLE	10	U		10	U		10	U		10	U	
DI-N-BUTYL PHTHALATE	10	U		10	U		10	U		10	U	
DI-N-OCTYL PHTHALATE	10	U		10	U		10	U		10	U	
DIBENZOFURAN	10	U		10	U		10	U		10	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	3-GW37S-05			FD-SW-121800-01			SWSG-18-05			SWSG-19-05		
SAMPLE DATE:	12/18/00			12/18/00			12/18/00			12/19/00		
LABORATORY ID:	C0L200180003			C0L200180002			C0L200180004			C0L200180005		
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:				SWSG-24-05								
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
SEMIVOLATILES												
DIETHYL PHTHALATE	10	U		10	U		10	U		10	U	
DIMETHYL PHTHALATE	10	U		10	U		10	U		10	U	
HEXACHLOROBENZENE	10	U		10	U		10	U		10	U	
HEXACHLOROBUTADIENE	10	U		10	U		10	U		10	U	
HEXACHLOROCYCLOPENTADIENE	50	U		50	U		50	U		50	U	
HEXACHLOROETHANE	10	U		10	U		10	U		10	U	
ISOPHORONE	10	U		10	U		10	U		10	U	
N-NITROSO-DI-N-PROPYLAMINE	10	U		10	U		10	U		10	U	
N-NITROSODIPHENYLAMINE	10	U		10	U		10	U		10	U	
NITROBENZENE	10	U		10	U		10	U		10	U	
PENTACHLOROPHENOL	50	U		50	U		50	U		50	U	
PHENOL	10	U		10	U		10	U		10	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG-20-05			SWSG-21-05			SWSG-22-05			SWSG-23-05		
SAMPLE DATE:	12/19/00			12/19/00			12/19/00			12/19/00		
LABORATORY ID:	C0L200180006			C0L200180007			C0L200180008			C0L200180009		
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												
1,2,4-TRICHLOROBENZENE	10	U		10	U		10	U		10	U	
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U		10	U		10	U		10	U	
2,4,5-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4,6-TRICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DICHLOROPHENOL	10	U		10	U		10	U		10	U	
2,4-DIMETHYLPHENOL	10	U		10	U		10	U		10	U	
2,4-DINITROPHENOL	50	UJ	C	50	UJ	C	50	UJ	C	50	UJ	C
2,4-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2,6-DINITROTOLUENE	10	U		10	U		10	U		10	U	
2-CHLORONAPHTHALENE	10	U		10	U		10	U		10	U	
2-CHLOROPHENOL	10	U		10	U		10	U		10	U	
2-METHYLPHENOL	10	U		10	U		10	U		10	U	
2-NITROANILINE	50	U		50	U		50	U		50	U	
2-NITROPHENOL	10	U		10	U		10	U		10	U	
3,3'-DICHLOROBENZIDINE	50	UJ	E	50	UJ	E	50	UJ	E	50	UJ	E
3-NITROANILINE	50	U		50	U		50	U		50	U	
4,6-DINITRO-2-METHYLPHENOL	50	U		50	U		50	U		50	U	
4-BROMOPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-CHLORO-3-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-CHLOROANILINE	10	U		10	U		10	U		10	U	
4-CHLOROPHENYL PHENYL ETHER	10	U		10	U		10	U		10	U	
4-METHYLPHENOL	10	U		10	U		10	U		10	U	
4-NITROANILINE	50	U		50	U		50	U		50	U	
4-NITROPHENOL	50	U		50	U		50	U		50	U	
BENZOIC ACID	50	UJ	C	50	UJ	C	50	UJ	C	50	UJ	C
BIS(2-CHLOROETHOXY)METHANE	10	U		10	U		10	U		10	U	
BIS(2-CHLOROETHYL)ETHER	10	U		10	U		10	U		10	U	
BIS(2-ETHYLHEXYL)PHTHALATE	10	U		10	U		10	U		10	U	
BUTYLBENZYL PHTHALATE	10	U		10	U		10	U		10	U	
CARBAZOLE	10	U		10	U		10	U		10	U	
DI-N-BUTYL PHTHALATE	10	U		10	U		10	U		10	U	
DI-N-OCTYL PHTHALATE	10	U		10	U		10	U		10	U	
DIBENZOFURAN	10	U		10	U		10	U		10	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG-20-05			SWSG-21-05			SWSG-22-05			SWSG-23-05		
SAMPLE DATE:	12/19/00			12/19/00			12/19/00			12/19/00		
LABORATORY ID:	C0L200180006			C0L200180007			C0L200180008			C0L200180009		
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	10	U		10	U		10	U		10	U	
DIMETHYL PHTHALATE	10	U		10	U		10	U		10	U	
HEXACHLOROBENZENE	10	U		10	U		10	U		10	U	
HEXACHLOROBUTADIENE	10	U		10	U		10	U		10	U	
HEXACHLOROCYCLOPENTADIENE	50	U		50	U		50	U		50	U	
HEXACHLOROETHANE	10	U		10	U		10	U		10	U	
ISOPHORONE	10	U		10	U		10	U		10	U	
N-NITROSO-DI-N-PROPYLAMINE	10	U		10	U		10	U		10	U	
N-NITROSODIPHENYLAMINE	10	U		10	U		10	U		10	U	
NITROBENZENE	10	U		10	U		10	U		10	U	
PENTACHLOROPHENOL	50	U		50	U		50	U		50	U	
PHENOL	10	U		10	U		10	U		10	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG-24-05			/ /			/ /			/ /		
SAMPLE DATE:	12/18/00											
LABORATORY ID:	C0L200180001											
QC_TYPE:	NORMAL											
% SOLIDS:	0.0 %			100.0 %			100.0 %			100.0 %		
UNITS:	UG/L											
FIELD DUPLICATE OF:												
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
SEMIVOLATILES												
1,2,4-TRICHLOROBENZENE	10	U										
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U										
2,4,5-TRICHLOROPHENOL	10	U										
2,4,6-TRICHLOROPHENOL	10	U										
2,4-DICHLOROPHENOL	10	U										
2,4-DIMETHYLPHENOL	10	U										
2,4-DINITROPHENOL	50	UJ	C									
2,4-DINITROTOLUENE	10	U										
2,6-DINITROTOLUENE	10	U										
2-CHLORONAPHTHALENE	10	U										
2-CHLOROPHENOL	10	U										
2-METHYLPHENOL	10	U										
2-NITROANILINE	50	U										
2-NITROPHENOL	10	U										
3,3'-DICHLOROBENZIDINE	50	UJ	E									
3-NITROANILINE	50	U										
4,6-DINITRO-2-METHYLPHENOL	50	U										
4-BROMOPHENYL PHENYL ETHER	10	U										
4-CHLORO-3-METHYLPHENOL	10	U										
4-CHLOROANILINE	10	U										
4-CHLOROPHENYL PHENYL ETHER	10	U										
4-METHYLPHENOL	10	U										
4-NITROANILINE	50	U										
4-NITROPHENOL	50	U										
BENZOIC ACID	50	UJ	C									
BIS(2-CHLOROETHOXY)METHANE	10	U										
BIS(2-CHLOROETHYL)ETHER	10	U										
BIS(2-ETHYLHEXYL)PHTHALATE	10	U										
BUTYLBENZYL PHTHALATE	10	U										
CARBAZOLE	10	U										
DI-N-BUTYL PHTHALATE	10	U										
DI-N-OCTYL PHTHALATE	10	U										
DIBENZOFURAN	10	U										

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG-24-05			
SAMPLE DATE:	12/18/00	/ /	/ /	/ /
LABORATORY ID:	C0L200180001			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	UG/L			
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
DIETHYL PHTHALATE	10	U										
DIMETHYL PHTHALATE	10	U										
HEXACHLOROBENZENE	10	U										
HEXACHLOROBUTADIENE	10	U										
HEXACHLOROCYCLOPENTADIENE	50	U										
HEXACHLOROETHANE	10	U										
ISOPHORONE	10	U										
N-NITROSO-DI-N-PROPYLAMINE	10	U										
N-NITROSODIPHENYLAMINE	10	U										
NITROBENZENE	10	U										
PENTACHLOROPHENOL	50	U										
PHENOL	10	U										

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	3-GW37S-05			FD-SW-121800-01			SWSG-18-05			SWSG-19-05		
SAMPLE DATE:	12/18/00			12/18/00			12/18/00			12/19/00		
LABORATORY ID:	C0L200180003			C0L200180002			C0L200180004			C0L200180005		
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:				SWSG-24-05								
	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	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

	SWSG-20-05			SWSG-21-05			SWSG-22-05			SWSG-23-05		
SAMPLE NUMBER:												
SAMPLE DATE:	12/19/00			12/19/00			12/19/00			12/19/00		
LABORATORY ID:	C0L200180006			C0L200180007			C0L200180008			C0L200180009		
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		0.011	J	P	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	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG-24-05			
SAMPLE DATE:	12/18/00	/ /	/ /	/ /
LABORATORY ID:	C0L200180001			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
UNITS:	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										
4,4'-DDE	0.020	U										
4,4'-DDT	0.020	U										
ALDRIN	0.010	U										
ALPHA-BHC	0.010	U										
ALPHA-CHLORDANE	0.010	U										
AROCLOR-1016	0.20	U										
AROCLOR-1221	0.40	U										
AROCLOR-1232	0.20	U										
AROCLOR-1242	0.20	U										
AROCLOR-1248	0.20	U										
AROCLOR-1254	0.20	U										
AROCLOR-1260	0.20	U										
BETA-BHC	0.010	U										
DELTA-BHC	0.010	U										
DIELDRIN	0.020	U										
ENDOSULFAN I	0.010	U										
ENDOSULFAN II	0.020	U										
ENDOSULFAN SULFATE	0.020	U										
ENDRIN	0.020	U										
ENDRIN ALDEHYDE	0.020	U										
ENDRIN KETONE	0.020	U										
GAMMA-BHC (LINDANE)	0.010	U										
GAMMA-CHLORDANE	0.010	U										
HEPTACHLOR	0.010	U										
HEPTACHLOR EPOXIDE	0.010	U										
METHOXYCHLOR	0.10	U										
TOXAPHENE	1.0	U										

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	3-GW37S-05			FD-SW-121800-01			SWSG-18-05			SWSG-19-05		
SAMPLE DATE:	12/18/00			12/18/00			12/18/00			12/19/00		
LABORATORY ID:	C0L200180003			C0L200180002			C0L200180004			C0L200180005		
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:				SWSG-24-05								
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	1	U		1	U		1	U		1.1		
ACENAPHTHYLENE	1	U		1	U		1	U		1	U	
ANTHRACENE	0.034	J	UP	0.16	J	GP	0.2	U		0.037	J	UP
BENZO(A)ANTHRACENE	0.051	J	P	0.093	J	P	0.2	U		0.2	U	
BENZO(A)PYRENE	0.039	J	P	0.039	J	P	0.2	U		0.2	U	
BENZO(B)FLUORANTHENE	0.044	J	P	0.053	J	P	0.2	U		0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U		0.2	U		0.2	U		0.2	U	
BENZO(K)FLUORANTHENE	0.2	U		0.026	J	P	0.2	U		0.2	U	
CHRYSENE	0.037	J	P	0.11	J	P	0.2	U		0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U		0.2	U		0.2	U		0.2	U	
FLUORANTHENE	0.12	J	P	0.36			0.03	J	UP	0.11	J	P
FLUORENE	0.2	U		0.2	U		0.031	J	P	0.57		
INDENO(1,2,3-CD)PYRENE	0.2	U		0.2	U		0.2	U		0.2	U	
NAPHTHALENE	1	U		1	U		1	U		3.6		
PHENANTHRENE	0.11	J	P	0.14	J	GP	0.037	J	P	0.39		
PYRENE	0.096	J	P	0.26			0.2	U		0.2	U	

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG-20-05			SWSG-21-05			SWSG-22-05			SWSG-23-05		
SAMPLE DATE:	12/19/00			12/19/00			12/19/00			12/19/00		
LABORATORY ID:	C0L200180006			C0L200180007			C0L200180008			C0L200180009		
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												
ACENAPHTHENE	1	U		1	U		1	U		1	U	
ACENAPHTHYLENE	1	U		1	U		1	U		1	U	
ANTHRACENE	0.2	U		0.2	U		0.2	U		0.2	U	
BENZO(A)ANTHRACENE	0.2	U		0.029	J	P	0.2	U		0.2	U	
BENZO(A)PYRENE	0.2	U		0.026	J	P	0.2	U		0.2	U	
BENZO(B)FLUORANTHENE	0.2	U		0.037	J	P	0.2	U		0.2	U	
BENZO(G,H,I)PERYLENE	0.2	U		0.029	J	UP	0.023	J	UP	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U		0.2	U		0.2	U		0.2	U	
CHRYSENE	0.2	U		0.026	J	P	0.2	U		0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U		0.2	U		0.2	U		0.2	U	
FLUORANTHENE	0.03	J	UP	0.064	J	P	0.066	J	P	0.038	J	UP
FLUORENE	0.2	U		0.2	U		0.2	U		0.2	U	
INDENO(1,2,3-CD)PYRENE	0.2	U		0.022	J	P	0.2	U		0.2	U	
NAPHTHALENE	1	U		1	U		1	U		1	U	
PHENANTHRENE	0.024	J	P	0.043	J	P	0.042	J	P	0.031	J	UP
PYRENE	0.2	U		0.047	J	P	0.043	J	P	0.022	J	UP

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG-24-05				
SAMPLE DATE:	12/18/00	/ /	/ /	/ /	
LABORATORY ID:	C0L200180001				
QC_TYPE:	NORMAL				
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %	
UNITS:	UG/L				
FIELD DUPLICATE OF:					

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
ACENAPHTHENE	1	U										
ACENAPHTHYLENE	1	U										
ANTHRACENE	0.3	J	G									
BENZO(A)ANTHRACENE	0.093	J	P									
BENZO(A)PYRENE	0.05	J	P									
BENZO(B)FLUORANTHENE	0.069	J	P									
BENZO(G,H,I)PERYLENE	0.2	U										
BENZO(K)FLUORANTHENE	0.028	J	P									
CHRYSENE	0.13	J	P									
DIBENZO(A,H)ANTHRACENE	0.2	U										
FLUORANTHENE	0.38											
FLUORENE	0.2	U										
INDENO(1,2,3-CD)PYRENE	0.036	J	UP									
NAPHTHALENE	1	U										
PHENANTHRENE	0.19	J	GP									
PYRENE	0.26											

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**M. MENGEL**	**DATE:**	**FEBRUARY 21, 2001**
FROM:	**ERIN M. FAUST**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS AND MISCELLANEOUS PARAMETERS**
CTO-203 NSB NEW LONDON -
SAMPLE DELIVERY GROUP (SDG) – NL003

SAMPLES: 9/Aqueous/

3-GW37S-05	FD-SW-121800-01	SWSG18-05
SWSG19-05	SWSG20-05	SWSG21-05
SWSG22-05	SWSG23-05	SWSG24-05

Overview

The sample set for CTO 203, NSB New London, SDG NL003, consists of nine (9) aqueous environmental samples. One field duplicate pair (FD-SW-121800-01 / SWSG24-05) is included in this SDG.

All samples were analyzed for total target analyte list (TAL) metals, dissolved TAL metals, hardness, total organic carbon (TOC), chemical oxygen demand (COD), alkalinity, chloride, sulfate and total dissolved solids (TDS). Samples designated –F were analyzed for dissolved metals. The samples were collected by TetraTech NUS on December 18 and 19, 2000 and analyzed by Severn Trent Laboratories under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses were conducted using Contract Laboratory Program (CLP) method ILM04.0. Analyses for hardness were conducted using Standard Methods, 18th Edition, method 2340B. TOC analyses were conducted using EPA method 415.1. COD analyses were conducted using EPA method 410.4. Analyses for alkalinity were conducted using EPA method 310.1. Analyses for chloride and sulfate were conducted using EPA method 300.0. TDS analyses were conducted using EPA method 160.1.

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
* • Field 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 recoveries (%Rs) were >120% quality control limit for lead and selenium. All nondetected results reported for lead and selenium were qualified as estimated, "UJ". All positive results less than three times the CRDL for lead and selenium were qualified as estimated, "J".

The CRDL percent recovery was < 80% quality control limit for thallium. All nondetected results reported for thallium 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	75.7 µg/L	378.5 µg/L
Antimony	2.0 µg/L	10.0 µg/L
Barium	0.8 µg/L	4.0 µg/L
Beryllium	0.8 µg/L	4.0 µg/L
Cadmium	0.4 µg/L	2.0 µg/L
Calcium	103 µg/L	515 µg/L
Chromium	0.5 µg/L	2.5 µg/L
Cobalt	0.8 µg/L	4.0 µg/L
Iron	49.8 µg/L	249 µg/L
Lead	1.5 µg/L	7.5 µg/L
Magnesium	105 µg/L	525 µg/L
Manganese	1.1 µg/L	5.5 µg/L
Mercury[1]	0.12 µg/L	0.60 µg/L
Vanadium	1.1 µg/L	5.5 µg/L
Zinc[1]	9.0 µg/L	45.0 µg/L

[1] Maximum concentration present in a laboratory method blank.

An action level of 5X the maximum concentration were used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors were taken into consideration when evaluation for blank contamination. Positive results less than the blank action levels for all of the above analytes except barium, calcium, chromium, magnesium and manganese were qualified, "U", as a result of blank contamination.

Sample Quantitation

Due to uncertainty near the IDL, all positive results less than two times the IDL for copper and nickel were qualified as estimated, "J".

Notes

The laboratory did not perform a matrix spike (MS) and a sample duplicate analysis for metals in this SDG; therefore, an evaluation of the QC parameter could not be conducted.

Executive Summary

Laboratory Performance: Several analytes were present in the laboratory method / preparation blanks. Lead, selenium and thallium were qualified due to calibration noncompliance.

Other Factors Affecting Data Quality: Copper and nickel were qualified due to uncertainty near the IDL.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", February 1994 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 - 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
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

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	3-GW37S-05			3-GW37S-05-F			FD-SW-121800-01			FD-SW-121800-01-F		
SAMPLE DATE:	12/18/00			12/18/00			12/18/00			12/18/00		
LABORATORY ID:	C0L200180003			C0L200180003			C0L200180002			C0L200180002		
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:							SWSG24-05			SWSG24-05-F		
	RESULT	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**	**RESULT**	**QUAL**	**CODE**
INORGANICS												
ALUMINUM	12.9	U		12.9	U		12.9	U		12.9	U	
ANTIMONY	1.8	U		3.0	U	A	1.8	U		1.8	U	
ARSENIC	2.2	U		2.2	U		2.2	U		2.2	U	
BARIUM	116			112			18.6			16.7		
BERYLLIUM	0.20	U		0.20	U		0.20	U		0.20	U	
CADMIUM	0.29	U	A	0.29	U	A	0.31	U	A	0.20	U	
CALCIUM	44400			42400			3630			3600		
CHROMIUM	0.50	U		0.50	U		0.50	U		0.50	U	
COBALT	7.9			7.3			0.80	U	A	0.60	U	
COPPER	1.8	J	P	2.1			2.7			1.8	J	P
IRON	331			307			446			185	U	A
LEAD	1.0	UJ	C	1.0	U	A	1.5	U	A	1.2	U	A
MAGNESIUM	13200			12800			939			939		
MANGANESE	2520			2410			70.6			71.7		
MERCURY	0.10	U		0.10	U		0.10	U		0.10	U	
NICKEL	2.1	U		2.1	U		2.2	J	P	2.1	U	
POTASSIUM	7420			7110			1920			1920		
SELENIUM	2.9	UJ	C	2.9	UJ	C	2.9	UJ	C	2.9	UJ	C
SILVER	0.90	U		0.90	U		0.90	U		0.90	U	
SODIUM	134000			131000			6440			6600		
THALLIUM	7.1	UJ	C	7.1	UJ	C	7.1	UJ	C	7.1	UJ	C
VANADIUM	0.60	U		0.60	U		1.0	U	A	0.65	U	A
ZINC	16.8	U	A	16.7	U	A	120			114		

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG18-05	SWSG18-05-F	SWSG19-05	SWSG19-05-F
SAMPLE DATE:	12/18/00	12/18/00	12/19/00	12/19/00
LABORATORY ID:	C0L200180004	C0L200180004	C0L200180005	C0L200180005
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	47.6	U	A	12.9	U		26.8	U	A	12.9	U	
ANTIMONY	1.9	U	A	1.8	U		1.8	U		1.8	U	
ARSENIC	2.2	U		2.2	U		2.2	U		2.2	U	
BARIUM	24.7			22.0			43.3			40.0		
BERYLLIUM	0.26	U	A	0.20	U		0.20	U		0.20	U	
CADMIUM	0.20	U		0.20	U		0.20	U		0.20	U	
CALCIUM	10900			10500			20300			19500		
CHROMIUM	0.50	U		0.50	U		0.50	U		0.50	U	
COBALT	0.60	U		0.60	U		0.60	U		0.60	U	
COPPER	1.8	J	P	1.0	U		2.2			1.0	U	
IRON	1500			705			6120			5160		
LEAD	1.6	U	A	1.5	U	A	2.1	U	A	1.3	U	A
MAGNESIUM	2710			2590			3550			3380		
MANGANESE	154			145			230			221		
MERCURY	0.10	U		0.10	U		0.10	U		0.10	U	
NICKEL	2.3	J	P	2.1	J	P	2.9	J	P	2.3	J	P
POTASSIUM	4190			4040			4780			4530		
SELENIUM	2.9	UJ	C	2.9	UJ	C	2.9	UJ	C	2.9	UJ	C
SILVER	0.90	U		0.90	U		0.90	U		0.90	U	
SODIUM	52300			50400			52700			50200		
THALLIUM	7.1	UJ	C	7.1	UJ	C	7.1	UJ	C	7.1	UJ	C
VANADIUM	0.99	U	A	0.60	U		0.60	U		0.60	U	
ZINC	72.5			72.4			74.6			31.8	U	A

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG20-05			SWSG20-05-F			SWSG21-05			SWSG21-05-F		
SAMPLE DATE:	12/19/00			12/19/00			12/19/00			12/19/00		
LABORATORY ID:	C0L200180006			C0L200180006			C0L200180007			C0L200180007		
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	58.3	U	A	12.9	U		250	U	A	12.9	U	
ANTIMONY	2.1	U	A	1.8	U		1.8	U		2.3	U	A
ARSENIC	2.2	U		2.2	U		2.2	U		2.2	U	
BARIUM	17.7			15.9			23.8			23.0		
BERYLLIUM	0.20	U		0.20	U		0.20	U		0.36	U	A
CADMIUM	0.20	U		0.20	U		0.28	U	A	0.37	U	A
CALCIUM	7690			7880			10300			11000		
CHROMIUM	0.50	U		0.50	U		0.50	U		0.50	U	
COBALT	0.60	U		0.60	U		0.60	U		0.69	U	A
COPPER	1.0	U		1.0	U		2.2			1.5	J	P
IRON	1050			517			2000			1380		
LEAD	1.3	U	A	1.2	U	A	5.0	U	A	1.0	UJ	C
MAGNESIUM	2240			2300			2450			2660		
MANGANESE	111			110			191			202		
MERCURY	0.10	U		0.15	U	A	0.10	U		0.10	U	
NICKEL	2.1	U		2.1	U		2.1	U		2.1	J	P
POTASSIUM	3910			4100			4200			4590		
SELENIUM	2.9	UJ	C	2.9	UJ	C	2.9	UJ	C	2.9	UJ	C
SILVER	0.90	U		0.90	U		0.90	U		0.90	U	
SODIUM	39800			41600			35600			38800		
THALLIUM	7.1	UJ	C	7.1	UJ	C	7.1	UJ	C	7.1	UJ	C
VANADIUM	0.60	U		0.60	U		0.93	U	A	0.72	U	A
ZINC	52.2			32.7	U	A	86.3			34.5	U	A

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG22-05			SWSG22-05-F			SWSG23-05			SWSG23-05-F		
SAMPLE DATE:	12/19/00			12/19/00			12/19/00			12/19/00		
LABORATORY ID:	C0L200180008			C0L200180008			C0L200180009			C0L200180009		
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	48.9	U	A	12.9	U		12.9	U		12.9	U	
ANTIMONY	1.8	U		2.0	U	A	1.8	U		3.0	U	A
ARSENIC	2.2	U		2.2	U		2.2	U		2.2	U	
BARIUM	43.4			42.8			12.7			12.9		
BERYLLIUM	0.20	U		0.20	U		0.20	U		0.20	U	
CADMIUM	0.20	U		0.20	U		0.20	U		0.20	U	
CALCIUM	17300			18600			4050			4870		
CHROMIUM	0.50	U		0.50	U		0.50	U		0.50	U	
COBALT	0.80	U	A	1.0	U	A	0.60	U		0.60	U	
COPPER	3.5			1.0	U		1.0	U		1.0	U	
IRON	2160			489			450			268		
LEAD	2.9	U	A	1.0	UJ	C	1.3	U	A	1.1	U	A
MAGNESIUM	2990			3170			771			907		
MANGANESE	401			432			66.3			79.4		
MERCURY	0.10	U	A	0.10	U		0.10	U		0.10	U	
NICKEL	2.7	J	P	2.5	J	P	2.1	U		3.8	J	P
POTASSIUM	3550			3750			2080			2520		
SELENIUM	2.9	UJ	C	2.9	UJ	C	2.9	UJ	C	2.9	UJ	C
SILVER	0.90	U		0.90	U		0.90	U		0.90	U	
SODIUM	26700			28400			3730			4800		
THALLIUM	7.1	UJ	C	7.1	UJ	C	7.1	UJ	C	7.1	UJ	C
VANADIUM	0.73	U	A	0.60	U		0.60	U		0.60	U	
ZINC	217			204			240			290		

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG24-05			SWSG24-05-F								
SAMPLE DATE:	12/18/00			12/18/00			/ /			/ /		
LABORATORY ID:	C0L200180001			C0L200180001								
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	23.9	U	A	12.9	U							
ANTIMONY	1.8	U		1.8	U							
ARSENIC	2.2	U		2.2	U							
BARIUM	18.8			16.9								
BERYLLIUM	0.20	U		0.20	U							
CADMIUM	0.26	U	A	0.20	U							
CALCIUM	3490			3470								
CHROMIUM	0.50	U		0.50	U							
COBALT	0.85	U	A	0.60	U							
COPPER	5.0			1.5	J	P						
IRON	480			150	U	A						
LEAD	1.8	U	A	1.5	U	A						
MAGNESIUM	935			892								
MANGANESE	64.5			64.0								
MERCURY	0.10	U		0.10	U							
NICKEL	6.9			2.1	U							
POTASSIUM	1760			1830								
SELENIUM	3.8	J	C	2.9	UJ	C						
SILVER	0.90	U		0.90	U							
SODIUM	5790			6050								
THALLIUM	7.1	UJ	C	7.1	UJ	C						
VANADIUM	1.2	U	A	0.61	U	A						
ZINC	115			115								

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	3-GW37S-05	SWSG18-05	SWSG19-05	SWSG20-05
SAMPLE DATE:	12/18/00	12/18/00	12/19/00	12/19/00
LABORATORY ID:	C0L200180003	C0L200180004	C0L200180005	C0L200180006
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												
CHEMICAL OXYGEN DEMAND(MG/L)	19.1			15.6			22.6			26.1		
CHLORIDE(MG/L)	244			90.5			92.3			68.6		
HARDNESS as CaCO3(MG/L)	165			38.4			65.3			28.4		
SULFATE(MG/L)	15.5			8.2			7.8			9.4		
TOTAL ALKALINITY(MG/L)	117			21.2			53.0			14.8		
TOTAL DISSOLVED SOLIDS(MG/L)	549			198			248			167		
TOTAL ORGANIC CARBON(MG/L)	2.4			4.5			3.4			3.6		

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	SWSG21-05			SWSG22-05			SWSG23-05			SWSG24-05		
SAMPLE DATE:	12/19/00			12/19/00			12/19/00			12/18/00		
LABORATORY ID:	C0L200180007			C0L200180008			C0L200180009			C0L200180001		
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												
CHEMICAL OXYGEN DEMAND(MG/L)	15.6			10	U		10	U		10	U	
CHLORIDE(MG/L)	57.0			48			8.0			9.2		
HARDNESS as CaCO3(MG/L)	35.8			55.5			13.3			12.6		
SULFATE(MG/L)	8.5			10.3			3.2			6.9		
TOTAL ALKALINITY(MG/L)	17.0			42.4			10.6			6.4		
TOTAL DISSOLVED SOLIDS(MG/L)	145			154			41			43.0		
TOTAL ORGANIC CARBON(MG/L)	3.7			2.4			1.8			1.6		

CTO203-NSB NEW LONDON
WATER DATA
QUANTERRA
SDG: NL003

SAMPLE NUMBER:	FD-SW-121800-01			
SAMPLE DATE:	12/18/00	/ /	/ /	/ /
LABORATORY ID:	C0L200180002			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
FIELD DUPLICATE OF:	SWSG24-05			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
CHEMICAL OXYGEN DEMAND(MG/L)	10	U										
CHLORIDE(MG/L)	9.1											
HARDNESS as CaCO3(MG/L)	12.9											
SULFATE(MG/L)	6.7											
TOTAL ALKALINITY(MG/L)	6.4											
TOTAL DISSOLVED SOLIDS(MG/L)	57.0											
TOTAL ORGANIC CARBON(MG/L)	1.2											