N00129.AR.000925
NSB NEW LONDON
5090.3a

Round 9 Groundwater Monitoring Report for Area A Landfill

Naval Submarine Base New London

Groton, Connecticut

Engineering Field Activity Northeast
Naval Facilities Engineering Command

Contract Number N62467-94-D-0888
Contract Task Order 0816

April 2002

TETRA TECH NUS, INC.

040208/P

ROUND 9 GROUNDWATER MONITORING REPORT
FOR
AREA A LANDFILL

NAVAL SUBMARINE BASE - NEW LONDON
GROTON, CONNECTICUT

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

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

Submitted by:
Tetra Tech NUS, Inc.
600 Clark Avenue, Suite 3
King of Prussia, Pennsylvania 19406-1433

CONTRACT NUMBER N62467-94-D-0888
CONTRACT TASK ORDER 0816

April 2002

PREPARED UNDER DIRECTION OF:

COREY A. RICH, P.E.
PROJECT MANAGER
TETRA TECH NUS, INC
PITTSBURGH, PENNSYLVANIA

APPROVED BY:

JOHN J. TREPANOWSKI, P.E.
PROGRAM MANAGER
TETRA TECH NUS, INC
KING OF PRUSSIA, PENNSYLVANIA

TABLE OF CONTENTS

SECTION		PAGE NO.
1.0	**INTRODUCTION**	**1-1**
1.1	SCOPE AND OBJECTIVE	1-1
1.2	BACKGROUND INFORMATION	1-2
1.2.1	Base Description	1-2
1.2.2	Site Description and History	1-2
1.2.3	Previous Site Investigations	1-4
1.3	REPORT ORGANIZATION	1-8
2.0	**FIELD INVESTIGATION ACTIVITIES**	**2-1**
2.1	WATER LEVEL MEASUREMENT	2-1
2.2	GROUNDWATER SAMPLING	2-1
2.3	SURFACE WATER SAMPLING	2-3
2.4	DECONTAMINATION AND INVESTIGATION-DERIVED WASTE	2-3
3.0	**MONITORING RESULTS**	**3-1**
REFERENCES		**R-1**

APPENDICES

A	**FIELD ACTIVITIES LOG BOOK**
B	**MONITORING WELL INSPECTIONS SHEETS**
C	**GROUNDWATER LEVEL MEASUREMENT SHEET**
D	**MONITORING INSTRUMENT CALIBRATION LOGS**
E	**GROUNDWATER AND SURFACE WATER SAMPLE LOGSHEETS AND LOW-FLOW PURGE DATA SHEETS**
F	**CHAIN OF CUSTODY RECORDS**
G	**DATA VALIDATON LETTERS AND LABORATORY DATA SHEETS**

TABLES

NUMBER		PAGE NO.
2-1	Water Level Elevations (December, 2001)	2-5
3-1	Round 9 Groundwater Analytical Results Summary	3-5
3-2	Round 9 Surface Water Analytical Results Summary	3-9

FIGURES

NUMBER		PAGE NO.
1-1	Location Map	1-9
1-2	Area "A" Landfill Location	1-11
1-3	Site Map	1-13
2-1	Sampling Locations for Groundwater and Surface Water Monitoring	2-7
2-2	Potentiometric Surface Map	2-9
3-1	COC Exceedances of Monitoring Criteria, Round 9 Groundwater Sampling	3-11
3-2	COC Exceedances of Monitoring Criteria, Round 9 Surface Water Sampling	3-13

1.0 INTRODUCTION

This Round 9 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 N62467-94-D-0888, Contract Task Order (CTO) 0816.

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

1.1 SCOPE AND OBJECTIVE

An Interim Remedial Action (IRA) was completed in 1997 at the Area A Landfill site [Operable Unit (OU) 1] 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 9 Groundwater Monitoring Report is to present the results of the ninth 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, from locations 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).

The results of the first and second years of monitoring are summarized in the Year 1 Annual Groundwater Monitoring Report for Area A Landfill (TtNUS, May 2001) and Draft Year 2 Annual Groundwater Report for Area A Landfill (TtNUS, March 2002), respectively. Because this report is an interim report for the ninth round of groundwater monitoring, evaluation of monitoring results is limited to a comparison of the 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 687 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.

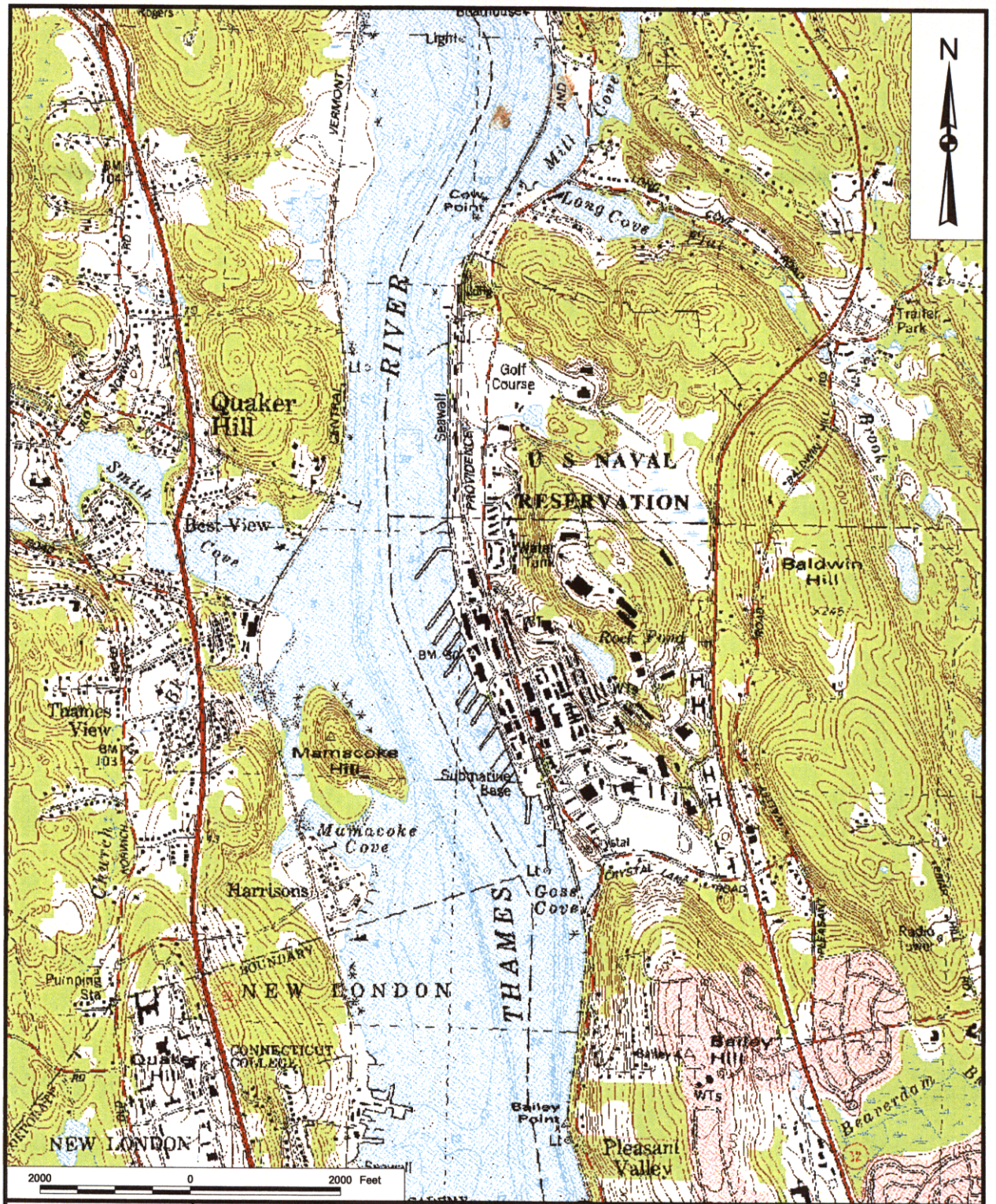
- Flow measurement and sampling of the groundwater seep (3MSP01) from the western face of the Area A Landfill into the Overbank Disposal Area (OBDA) (Site 3) of the adjoining Area A Downstream site. This sample was analyzed for TCL organics and TAL inorganics.

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.

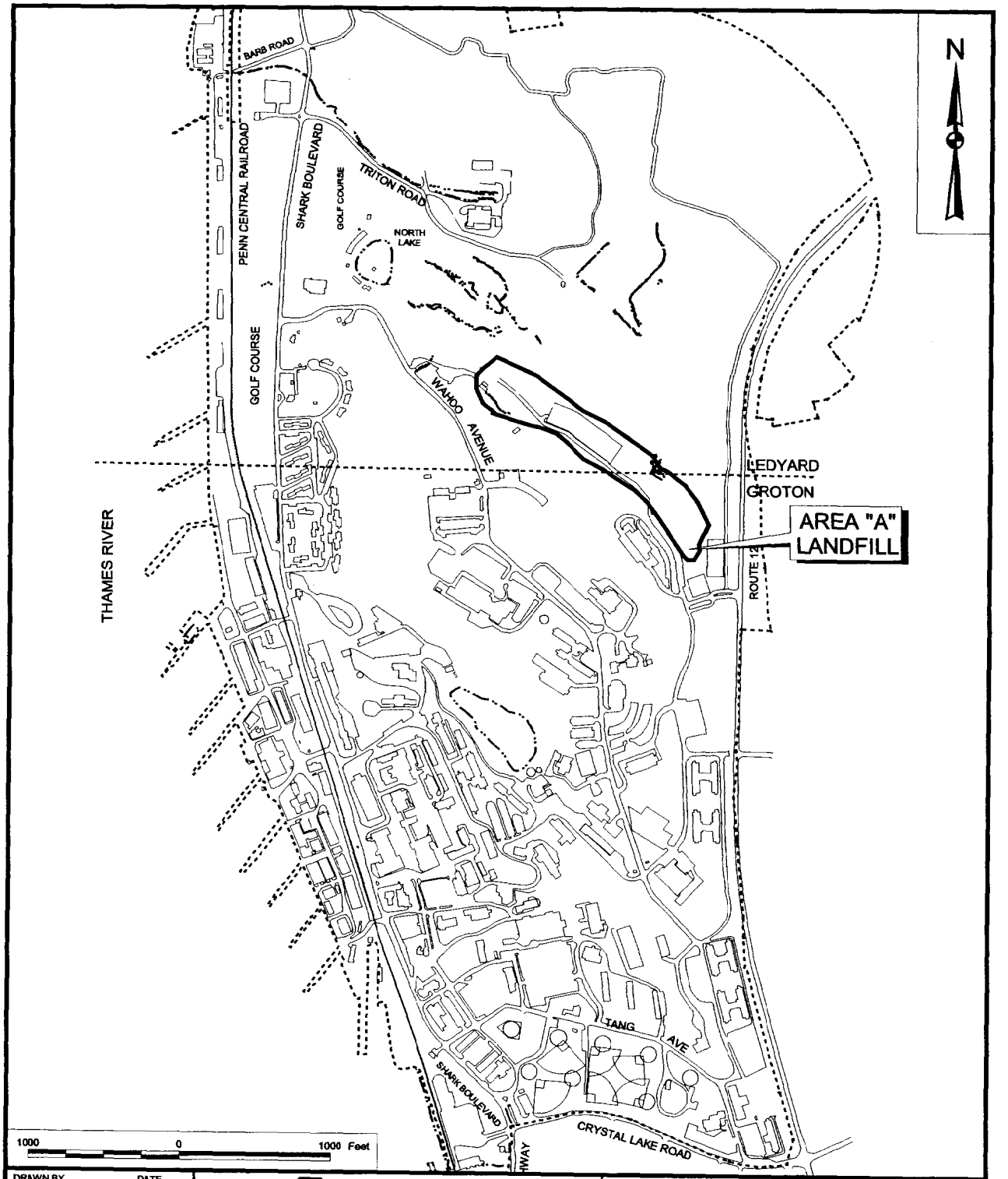
1.3 REPORT ORGANIZATION

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 9 field activities. Section 3.0 presents and evaluates the analytical results from the Round 9 sampling effort.



DRAWN BY	DATE	Tetra Tech NUS, Inc.	CONTRACT NUMBER	OWNER NO.
J. BELLONE	2/16/00		2863	CTO 816
CHECKED BY	DATE	LOCATION MAP NSB-NLON GROTON, CONNECTICUT	APPROVED BY CAR	DATE 4/9/02
COST/SCHEDULE-AREA			APPROVED BY	DATE
SCALE			DRAWING NO. FIGURE 1 - 1	REV 0
AS NOTED				

P:\GIS\50820370.APR LOCATION MAP 2/21\02 KMP

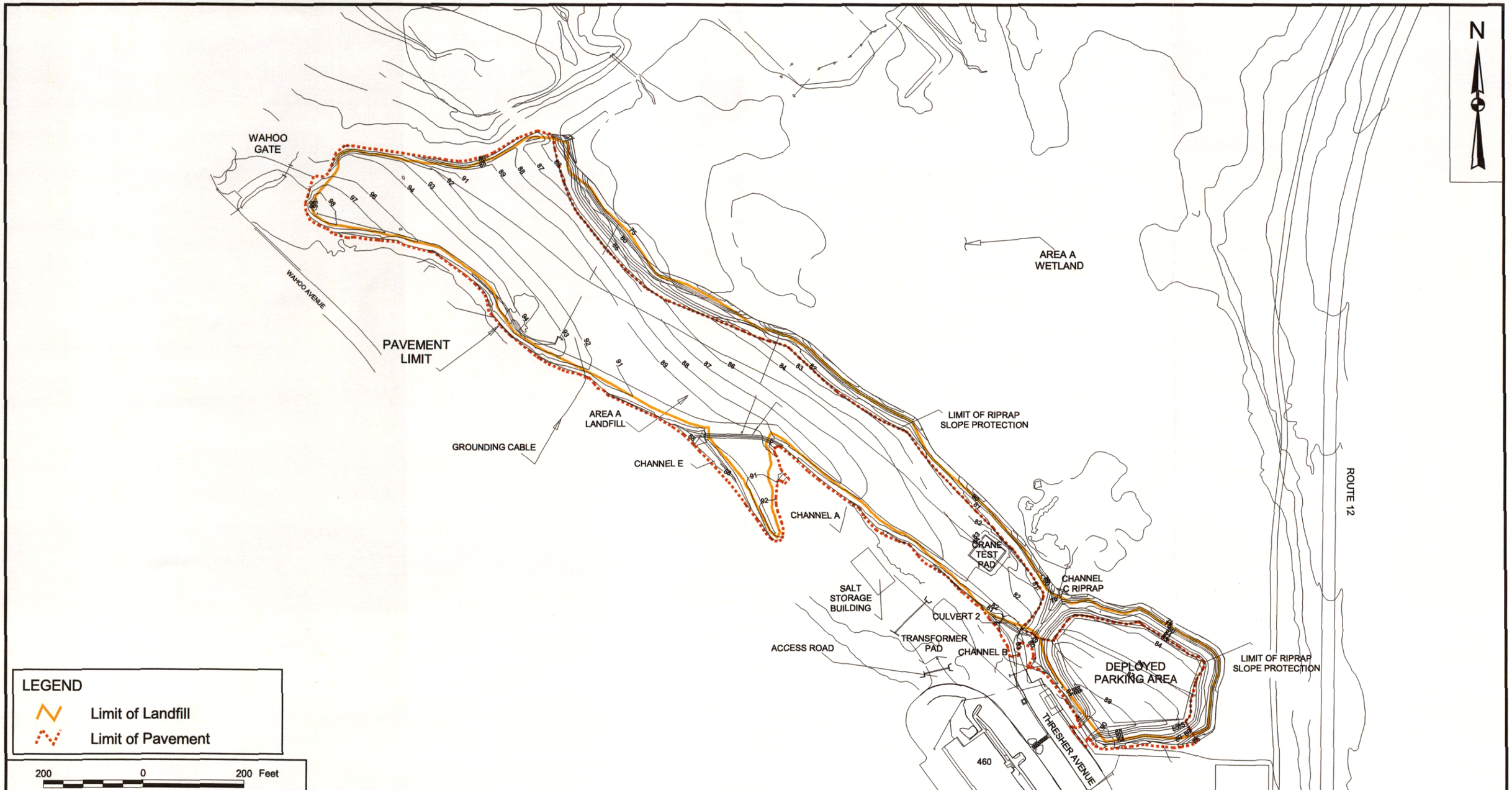


DRAWN BY J. BELLONE	DATE 2/16/00	Tetra Tech NUS, Inc.	CONTRACT NUMBER 2863 / OWNER NO. CTO 816
CHECKED BY	DATE	AREA "A" LANDFILL LOCATION NSB NLON GROTON, CONNECTICUT	APPROVED BY CAR / DATE 4/9/02
COST/SCHEDULE-AREA			APPROVED BY — / DATE —
SCALE AS NOTED			DRAWING NO. FIGURE 1 - 2 / REV 0

P:\GIS\NLON\7363ANNUAL_APR\AREA A LANDFILL SITE MAP 2/21/02 KMP

This page intentionally left blank.

P:\GIS\NLON\50820370.APR\AREA A LANDFILL - SITE MAP LAYOUT 2/21/02 KMP



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

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

Tetra Tech NUS, Inc.

SITE MAP
AREA A LANDFILL
NSB-NEW LONDON, GROTON, CONNECTICUT

CONTRACT NUMBER 2863	OWNER NUMBER CTO 816
APPROVED BY CAR	DATE 4/9/02
APPROVED BY	DATE
DRAWING NO. FIGURE 1 - 3	REV 0

2.0 FIELD INVESTIGATION ACTIVITIES

Field investigation activities performed as part of the ninth round of the groundwater monitoring at Area A Landfill included the following:

- One round of water level measurements at 14 monitoring wells and four staff gauges
- Collection of groundwater samples from 13 monitoring wells.
- Collection of surface water samples from 6 surface water locations.
- Collection of one seep sample.

Monitoring wells 3MW12S and 3MW12D have been destroyed and have not been sampled since Round 5. Four surface water locations (SG15, SG17, SG22, and SG24) were to be sampled; however, due to a lack of water, samples were not collected at these locations. Round 9 field activities occurred in December 2001 and January 2002. Figure 2-1 shows the sampling locations. Copies of the field logbook, monitoring well inspection sheets, water level measurement sheet, calibration logs, sample log sheets, chain-of custody records, and data validation letters for Round 9 are provided in Appendices A through G, respectively.

2.1 WATER LEVEL MEASUREMENT

Prior to groundwater purging and sampling and surface water sampling, the monitoring wells were inspected and one round of water levels was measured at 14 monitoring wells. Water levels were also measured at 4 staff gauge locations. Water levels were not measured at six staff gauges (SG-15 through SG-17 and SG-22 through SG-24) because of dry conditions or the gauge being damaged or missing. The survey data for the staff gauges is considered suspect due to some of the staff gauges being moved after installation; therefore, the surface water elevation data were not used in preparing the potentiometric surface map. Table 2-1 summarizes the water level measurements. Figure 2-2 illustrates the potentiometric surface map for the shallow groundwater at the Area A Landfill. Monitoring well inspection sheets are provided in Appendix B. Groundwater level measurement sheets are provided in Appendix C.

2.2 GROUNDWATER SAMPLING

A total of 14 monitoring wells, comprised of 2LMW20S, 2WMW21S, 4MW1S, 2WMW38DS through 2WMW47DS, and 3MW37S, were to be sampled during the ninth round of groundwater monitoring. Monitoring well 2LMW20S was not sampled because it was pumped dry during purging and did not recover. The well pad for this monitoring well is broken and the vault was full of water; both of which

indicate that the integrity of the well is questionable. 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 liters per minute and reduced to 0.1 to 0.2 liters 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). Equipment calibration logs are provided in Appendix D. Sample log sheets and low-flow purge data sheets are provided in Appendix E.

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. A summary of groundwater water quality data for Rounds 1 through 9 is provided in Table E-1 in Appendix E. 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, 2WMW40DS, 2WMW41DS, 2WMW42DS, and 2WMW46DS were dewatered during purging due to the low recharge rate of the screened formation. These wells were sampled over multiple days to provide sufficient sample volume.

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. 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 E and F, respectively.

Groundwater samples were sent to the project laboratory (Katahdin) for analysis for select TCL VOCs, SVOCs, PAHs, pesticides and PCBs; TAL metals (total and dissolved); TOC; chemical oxygen demand; and water chemistry parameters (total dissolved solids, alkalinity, chloride, sulfate, and hardness). Analytical results for the samples are discussed in Section 3.0.

2.3 SURFACE WATER SAMPLING

As detailed in Section 4.0 of the GMP 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, only six of the surface water locations (SG-16, SG-18, SG-19, SG-20, SG-21, and SG-23) and the one seep location (3MSP01) were sampled. Surface water samples were collected 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 E and F, respectively. A summary of surface water water quality data for Rounds 1 through 9 is provided in Table E-1 of Appendix E.

The surface water samples were sent to the project laboratory for analysis for the same parameters as the groundwater samples. Analytical results for surface water samples are discussed in Section 3.0.

2.4 DECONTAMINATION AND INVESTIGATION-DERIVED WASTE

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

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

This page intentionally left blank.

TABLE 2-1

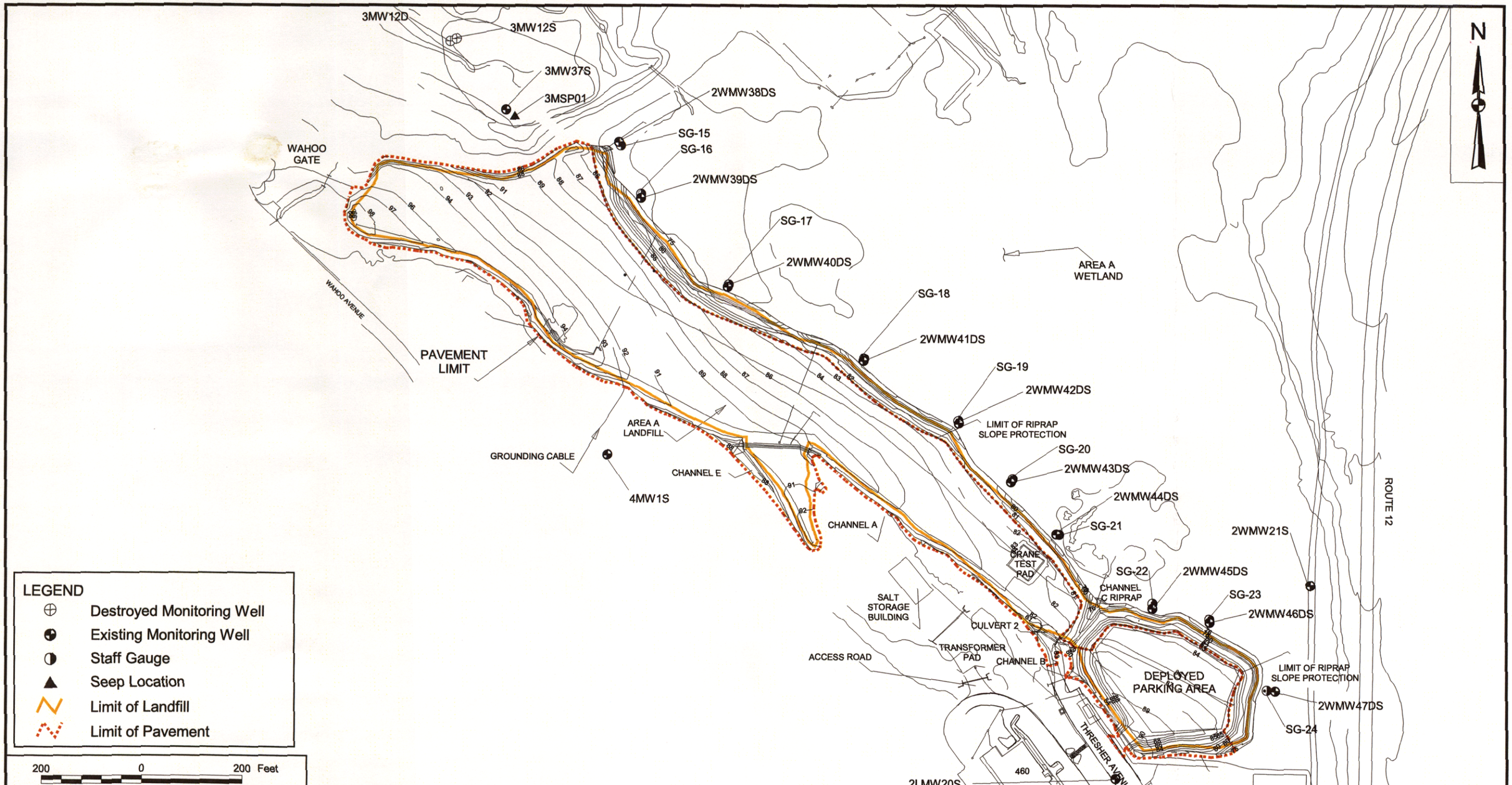
WATER LEVEL ELEVATIONS (DECEMBER, 2001)
ROUND 9 GROUNDWATER WATER MONITORING REPORT
AREA A LANDFILL, NSB-NLON, GROTON, CONNECTICUT

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	87.23	86.83	18.02[2]	68.81	F/A
2WMW21S	74.62	76.31	4.98[2]	71.33	DS
2WMW38DS	72.28	74.06	7.61[2]	66.45	DS
2WMW39DS	71.60	73.53	3.40[2]	70.13	SS/DS
2WMW40DS	71.46	73.21	3.81[2]	69.40	DS
2WMW41DS	71.04	73.39	3.24[2]	70.15	DS
2WMW42DS	71.24	73.65	2.50[2]	71.15	DS
2WMW43DS	71.39	74.36	3.28[2]	71.08	DS
2WMW44DS	70.95	73.72	2.29[2]	71.43	DS
2WMW45DS	72.24	74.24	2.95[2]	71.29	DS
2WMW46DS	71.76	73.53	2.28[2]	71.25	DS
2WMW47DS	71.98	73.39	2.37[2]	71.02	SS/DS
3MW37S	44.09	47.26	3.79[2]	43.47	A
4MW1S	127.98	129.55	9.90[2]	119.65	BR
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	4.49	71.43	--
SG-19	70.99	75.83	4:45	71.38	--
SG-20	71.09	75.19	4.07	71.12	--
SG-21	70.39	75.32	3.91	71.41	--
SG-22	71.79	76.13	Dry	--	--
SG-23	71.09	75.83	Dry	--	--
SG-24	71.59	76.68	[4]	--	--

NOTES:
msl: mean sea level (1982 Base Traverse System)
-- Data not available
1 Reference elevation is top of well casing (1982 Base Traverse System = NGVD 1988 + 2.39 feet)
2 Depth to water is from top of well casing. Measured December 17, 2001.
3 F = fill; DS = dredge spoil; A = alluvium; BR = bedrock; SS = surficial sand
4 Staff Gauge was damaged or missing.

This page intentionally left blank.

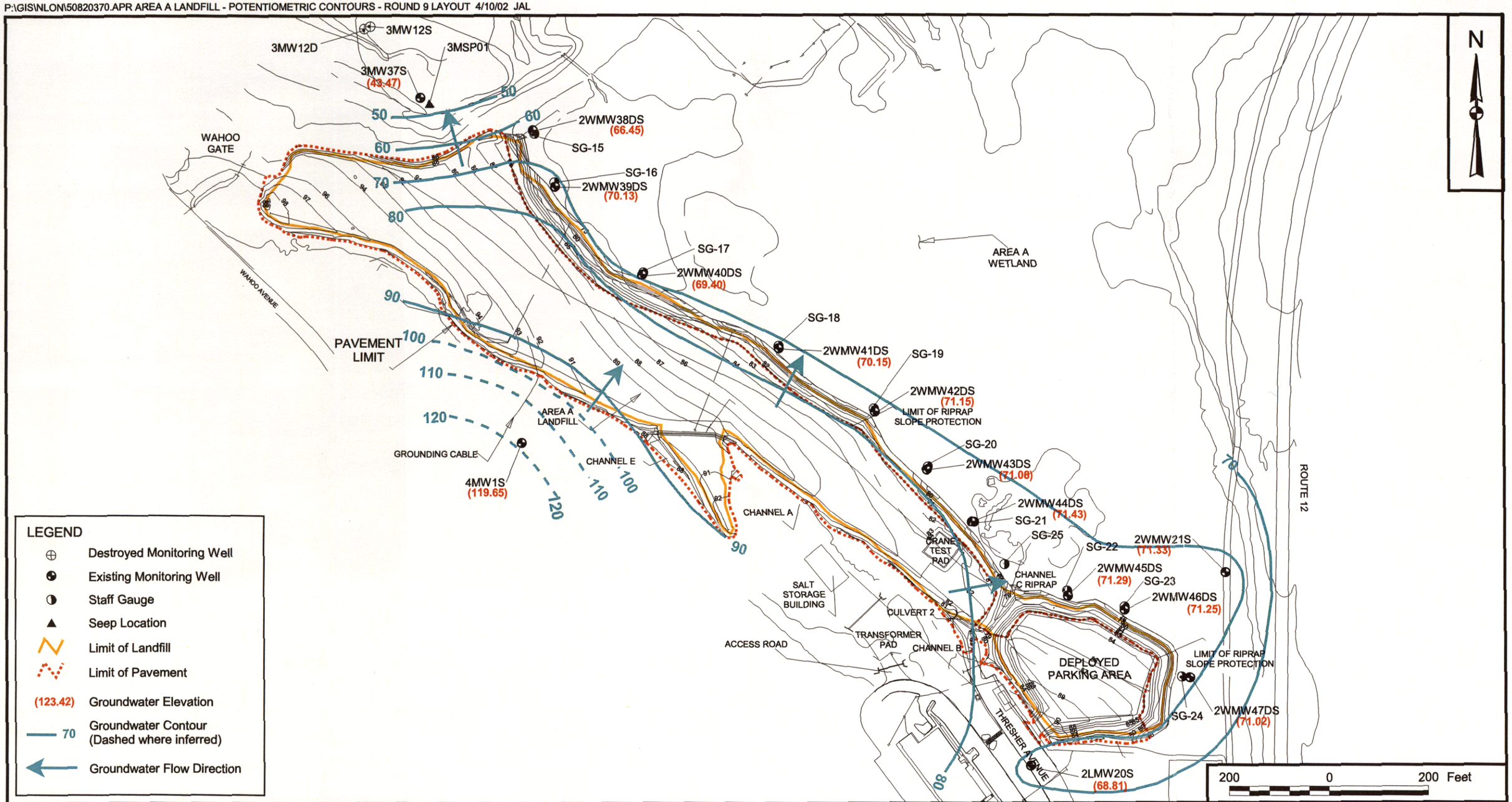
P:\GIS\NLON\50820370.APR\AREA A LANDFILL - MONITORING LOCATIONS LAYOUT 2/21/02 KMP



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY J. BELLONE	DATE 1/12/00	Tetra Tech NUS, Inc.	CONTRACT NUMBER 2863 / OWNER NUMBER CTO 816
CHECKED BY	DATE	SAMPLING LOCATIONS FOR GROUNDWATER AND SURFACE WATER MONITORING AREA A LANDFILL NSB-NEW LONDON, GROTON, CONNECTICUT	APPROVED BY CAR / DATE 4/9/02
COST/SCHEDULE-AREA			APPROVED BY / DATE
SCALE AS NOTED			DRAWING NO. FIGURE 2 - 1 / REV 0

P:\GIS\NLON\50820370.APR AREA A LANDFILL - POTENTIOMETRIC CONTOURS - ROUND 9 LAYOUT 4/10/02 JAL



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY K. PEILA	DATE 2/21/02
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	

Tetra Tech NUS, Inc.

POTENTIOMETRIC SURFACE MAP
ROUND 9 GROUNDWATER MONITORING
AREA A LANDFILL
NSB-NEW LONDON, GROTON, CONNECTICUT

CONTRACT NUMBER 2863	OWNER NUMBER CTO 816
APPROVED BY CAR	DATE 4/10/02
APPROVED BY	DATE
DRAWING NO. FIGURE 2 - 2	REV 0

3.0 MONITORING RESULTS

The groundwater samples collected from 13 monitoring wells, six 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 9 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). The results are also compared to NSB-NLON background groundwater concentrations established in the Basewide Groundwater OU RI (TtNUS, January 2002). Chemicals exceeding either primary or secondary monitoring criteria or background concentrations are noted by shading. Figure 3-1 shows the chemicals detected in groundwater samples that exceed criteria and Figure 3-2 shows the chemicals detected in surface water samples that exceed criteria. Data validation letters and laboratory data sheets are attached to this report as Appendix G.

The results of this comparison can be summarized as follows:

- There were no detections of pesticides or PCBs in groundwater or surface water.

- The volatile organic compound, ethylbenzene, was detected in one of six surface water samples. The concentration was 2 µg/L in the surface water sample collected from SG-18. This result did not exceed the monitoring criteria.

- The volatile organic compound, total xylenes, was detected in one of thirteen groundwater samples and one of six surface water samples. The concentration was 0.6 µg/L in the groundwater sample collected from monitoring well 2WMW42DS. The concentration was 5 µg/L in the surface water sample collected from SG-18. Neither of these results exceeded the monitoring criteria because there is no monitoring criteria for this compound.

- The semivolatile organic compound, phenanthrene, was detected in three of six surface water samples at concentrations in excess of the primary monitoring criteria (0.077 µg/L). The concentrations were 0.1 µg/L, 0.09 µg/L, and 0.5 µg/L, and they were detected in samples SG-16, SG-19, and SG-20 respectively. Sample SG-23 also had a positive result for phenanthrene of 0.07 µg/L. This result did not exceed the monitoring criteria. The laboratory's reporting limit (0.1 µg/L) exceeded the primary monitoring criteria (0.077 µg/L) for phenanthrene for the surface water and seep samples collected from SG-21, SG-21DUP, SG-18, and 3MSP01. The project laboratory was unable to report defensible results below the primary criteria using currently available laboratory equipment.

- The semivolatile organic compound, phenanthrene, was detected in one of 13 groundwater samples at a concentration in excess of the primary monitoring criteria (0.077 µg/L). The concentration was 0.10 µg/L in the sample collected from monitoring well 2WMW21S. The laboratory's reporting limit (0.1 µg/L) exceeded the primary monitoring criteria (0.077 µg/L) for phenanthrene for all of the groundwater samples except 2WMW21S. The project laboratory was unable to report defensible results below the primary criteria using currently available laboratory equipment.

- The semivolatile organic compound, bis(2-ethylhexyl)phthalate, was detected in two of 13 groundwater samples and in two of six surface water samples. The concentrations were 4 µg/L and 6 µg/L in the groundwater samples collected from monitoring wells 2WMW41DS and 4MW1S, respectively. The concentrations were 3 µg/L and 12 µg/L in the surface water samples collected from SG-18 and SG-20, respectively. None of these results exceeded the monitoring criteria.

- The detection limits for Aroclors 1016, 1254, and 1260 were elevated (0.78 µg/L) for the sample from 2WMW21S and exceeded the primary monitoring criteria (0.5 µg/L). This elevated detection limit resulted from the sample being diluted for analysis. The laboratory's detection limits for all pesticide and PCB compounds exceeded the secondary monitoring criteria for all samples. The project laboratory was unable to report defensible results within an order of magnitude of the secondary criteria using currently available laboratory equipment.

- Arsenic was detected in seven unfiltered groundwater samples at concentrations ranging from 4.3 µg/L to 34.9 µg/L. Arsenic was also detected in filtered samples from nine wells (2WMW21S, 2WMW40DS, 2WMW41DS, 2WMW42DS, 2WMW43DS, 2WMW44DS, 2WMW45DS, 2WMW46DS and 2WMW47DS). The concentrations in the unfiltered samples from these nine wells were 4.3, 8.1, 5.1, 6.45U, 18.3, 2.53U, 5.1, 34.9, and 9.8 µg/L, respectively, while the concentrations in the filtered samples were 2.9, 5.9, 5.4, 10.7, 9.5, 3.2, 5.5, 31.6, and 11.5 µg/L, respectively. Several of the detections of arsenic exceeded the primary criterion of 4 µg/L. No detections exceeded the secondary criterion of 150 µg/L. Several of the results for arsenic in the filtered samples were higher than the results in the unfiltered portions of the corresponding samples.

- Arsenic was detected in two unfiltered surface water samples collected from SG-16 and SG-20, and one filtered surface water sample collected from SG-23. The unfiltered concentrations at SG-16 and SG-20 were 3.6 µg/L and 7.4 µg/L, while the filtered concentration at SG-23 was 2.6 µg/L. The result of 7.4 µg/L from SG-20 exceeded the primary monitoring criterion of 4 µg/L. No detections exceeded the secondary criterion of 150 µg/L.

- Cadmium was detected in a sample collected from one monitoring well location. Cadmium was detected in the unfiltered sample (3.5 µg/L) from monitoring well 2WMW38DS. The detected concentration exceeded the secondary monitoring criterion of 0.62 µg/L. Cadmium was not detected in the surface water samples.

- Copper was detected in three unfiltered surface water samples collected from SG-16, SG-19 and SG-20. The concentrations in the unfiltered samples were 79.4 µg/L, 25.6 µg/L, and 64.8 µg/L, respectively. Two of the detections of copper exceeded the primary criterion of 48 µg/L. All of the detections of copper exceeded the secondary criterion of 4.8 µg/L. It is likely that these high results are related to high levels of suspended solids in the samples. Copper was not detected in the filtered samples from these locations.

- Lead was detected in three unfiltered surface water samples collected from SG-16, SG-19 and SG-20. The concentrations in the unfiltered samples were 75.7 µg/L, 13.3 µg/L, and 41.8 µg/L, respectively. All of the detections of lead exceeded the primary criterion of 13 µg/L and all of the detections of lead also exceeded the secondary criterion of 1.2 µg/L. Lead was not detected in the filtered samples from these same locations. Lead has not been detected at these concentrations (>10 µg/L) during previous sampling rounds. It is likely that the elevated concentrations are due to high suspended solids.

- Zinc was detected in two of 13 groundwater samples and five of eight seep and surface water samples. The concentrations in the unfiltered groundwater samples from 2WMW43DS and 2WMW46DS were 4.2U µg/L and 166 µg/L, respectively, while the concentrations in the filtered samples were 2.2 µg/L and 3.78U µg/L, respectively. The concentration of zinc detected in the unfiltered sample for 2WMW46DS exceeded the primary criterion of 123 µg/L. The detection also exceeded the secondary criterion of 58.2 µg/L. The concentrations of zinc in the unfiltered surface water samples ranged from 259 µg/L to 1160 µg/L, while the concentration in the filtered surface water samples ranged from 28.2 µg/L to 145 µg/L. The samples were from locations SG-16, SG-18, SG-19, SG-20, and SG-23. Many of the concentrations of zinc detected in the unfiltered and filtered samples exceeded the primary criterion of 123 µg/L. The detections also exceeded the secondary criterion of 58.2 µg/L. Similar to the copper and lead results, it is likely that the elevated zinc results for the unfiltered samples are due to high suspended solids.

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 stated in the Year 1 and Year 2 Annual Groundwater Monitoring Reports based on the first eight quarterly rounds of results. Subsequent conclusions and recommendations will be provided in the Year 3 Annual Groundwater Monitoring Report based on monitoring performed during year 3.

TABLE 3-1

ROUND 9 GROUNDWATER ANALYTICAL RESULTS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
AREA A LANDFILL, NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 4

Chemical	Primary Monitoring Criterion [1]	Secondary Monitoring Criterion	NSB-NLON Background Concentration[5]	2WMW21S 09 12/20/2001	2WMW38DS 09 12/20/2001	2WMW39DS 09 12/19/2001	2WMW40DS 09 12/19/2001
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	--	0.1 UJ	0.1 UJ	0.1 U	0.1 UJ
BENZO(A)PYRENE	0.3	NA	--	0.1 UJ	0.1 UJ	0.1 U	0.1 U
BENZO(B)FLUORANTHENE	0.3	NA	--	0.1 UR	0.1 UJ	0.1 U	0.1 U
BENZO(K)FLUORANTHENE	0.3	NA	--	0.1 UJ	0.1 U	0.1 U	0.1 U
BIS(2-ETHYLHEXYL)PHTHALATE	59	NA	--	5 UJ	5 U	5 U	6 U
PHENANTHRENE	0.077	NA	--	0.1 J	0.1 UJ	0.1 U	0.1 UJ
Pesticides/PCBs (ug/L)							
AROCLOR-1016	0.5	0.014[2]	--	0.78 U	0.29 U	0.2 U	0.21 U
AROCLOR-1254	0.5	0.014[2]	--	0.78 U	0.29 U	0.2 U	0.21 U
AROCLOR-1260	0.5	0.014[2]	--	0.78 U	0.29 U	0.2 U	0.21 U
DIELDRIN	0.1	0.0019[3]	--	0.078 U	0.029 U	0.02 U	0.021 U
HEPTACHLOR	0.05	0.0038[2]	--	0.039 U	0.015 U	0.01 U	0.011 U
Inorganics (total/dissolved) (ug/L)							
ARSENIC	4	150[2]	1.92/2.55	4.329	2.53 U/2.53 U	2.53 U/2.53 U	8.159
BERYLLIUM	4	NA	ND	0.41 U/0.41 U	0.41 U/0.41 U	0.41 U/0.41 U	0.41 U/0.41 U
CADMIUM	6	0.027	ND	2.84 U/2.84 U	3.5 J/2.84 U	2.84 U/2.84 U	2.84 UJ/2.84 UJ
CHROMIUM[4]	110	11[2]	49.9/16	7.6 U/7.6 U	2.2 U/1.3 U	4.81 UJ/0.57 U	9.3 U/4.4 U
COPPER	48	4.8[3]	107/39.4	1.66 U/1.66 U	5.6 U/4.5 U	1.66 U/1.66 U	3.9 U/1.66 U
LEAD	13	1.2[3]	6.63/2.52	1.48 UJ/1.48 UJ	1.8 U/1.48 UJ	1.48 U/1.48 UJ	1.48 UJ/1.48 UJ
ZINC	123	58.2[3]	131/109	5.8 U/4 U	3 U/3.1 U	4.2 U/4.7 U	10.1 U/3 U
Miscellaneous Parameters (mg/L)							
ALKALINITY	NA	NA	--	570 J	190	130 J	1300 J
CHEMICAL OXYGEN DEMAND	NA	NA	--	240	30	20	100
CHLORIDE	NA	NA	--	3300	150	160	6800
HARDNESS (mg/L)	NA	NA	--	1230000	204000	65000	3060000
SULFATE	NA	NA	--	10 UJ	71 J	6.3 J	610 J
TOTAL DISSOLVED SOLIDS	NA	NA	--	5900	590 J	430	18000 J
TOTAL ORGANIC CARBON	NA	NA	--	50 J	12	9.5 J	35 J

DRAFT

TABLE 3-1

ROUND 9 GROUNDWATER ANALYTICAL RESULTS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
AREA A LANDFILL, NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 4

Chemical	Primary Monitoring Criterion [1]	Secondary Monitoring Criterion	NSB-NLON Background Concentration[5]	2WMW41DS 09 12/19/2001	2WMW42DS 09 1/11/2002	2WMW43DS 09 1/11/2002	2WMW44DS 09 1/12/2002
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	0.6 J	1 U	1 U
SVOCs (ug/L)							
BENZO(A)ANTHRACENE	0.3	NA	--	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
BENZO(A)PYRENE	0.3	NA	--	0.1 U	0.1 UJ	0.1 UJ	0.1 UJ
BENZO(B)FLUORANTHENE	0.3	NA	--	0.1 U	0.1 UJ	0.1 UJ	0.1 UJ
BENZO(K)FLUORANTHENE	0.3	NA	--	0.1 U	0.1 U	0.1 UJ	0.1 U
BIS(2-ETHYLHEXYL)PHTHALATE	59	NA	--	4 J	25 U	25 U	25 U
PHENANTHRENE	0.077	NA	--	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
Pesticides/PCBs (ug/L)							
AROCLOR-1016	0.5	0.014[2]	--	0.21 U	0.2 UJ	0.2 U	0.2 U
AROCLOR-1254	0.5	0.014[2]	--	0.21 U	0.2 UJ	0.2 U	0.2 U
AROCLOR-1260	0.5	0.014[2]	--	0.21 U	0.2 UJ	0.2 U	0.2 U
DIELDRIN	0.1	0.0019[3]	--	0.021 U	0.02 UJ	0.02 U	0.02 U
HEPTACHLOR	0.05	0.0038[2]	--	0.011 U	0.01 UJ	0.01 U	0.01 U
Inorganics (total/dissolved) (ug/L)							
ARSENIC	4	150[2]	192.2/55	5.1/5.4	6.45 U/10.7	18.3/9.5	2.53 U/3.2
BERYLLIUM	4	NA	ND	0.53 U/0.41 U	0.41 U/0.41 U	0.84 U/0.84 U	0.41 U/0.41 U
CADMIUM	6	0.62[3]	ND	2.84 UJ/2.84 UJ	2.84 U/2.84 UJ	1.05 UJ/1.05 UJ	2.84 U/2.84 U
CHROMIUM[4]	110	11[2]	49.9/16	7.2 U/7.7 U	2.52 U/4.1 U	14.4 U/5.7 U	11.3 U/4.81 UJ
COPPER	48	4.8[3]	107/39.4	2 U/1.66 U	1.66 U/1.66 UJ	2.55 UJ/1.66 UJ	3.3 U/1.66 U
LEAD	13	1.2[3]	6.63/2.52	1.48 UJ/1.48 UJ	4.11 U/4.3 U	4.11 U/4.11 U	2.7 U/1.48 UJ
ZINC	123	58.2[3]	131/109	8.7 U/4.2 U	4.2 U/2.2 J	56.6 U/4.6 UJ	5.8 U/1.8 U
Miscellaneous Parameters (mg/L)							
ALKALINITY	NA	NA	--	1800 J	660	2100	800
CHEMICAL OXYGEN DEMAND	NA	NA	--	410	960	1600	100
CHLORIDE	NA	NA	--	9100	4000	10000	4000
HARDNESS (mg/L)	NA	NA	--	2890000	2160000	4920000	1080000
SULFATE	NA	NA	--	250 J	120 J	310 J	58 J
TOTAL DISSOLVED SOLIDS	NA	NA	--	14000	7000 J	15000 J	5100 J
TOTAL ORGANIC CARBON	NA	NA	--	70 J	30	40	13

DRAFT

TABLE 3-1

ROUND 9 GROUNDWATER ANALYTICAL RESULTS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
AREA A LANDFILL, NSB-NLON, GROTON, CONNECTICUT
PAGE 3 OF 4

Chemical	Primary Monitoring Criterion [1]	Secondary Monitoring Criterion	NSB-NLON Background Concentration[5]	2WMW45DS 09 1/12/2002	2WMW46DS 09 1/13/2002	2WMW47DS 09 1/12/2002	2WMW47DS (DUP) 09 1/12/2002
VOCs (ug/L)							
1,1,2,2-TETRACHLOROETHANE	110	NA	--	1 U	5 U	1 U	1 U
ETHYLBENZENE	580,000	NA	--	1 U	5 U	1 U	1 U
XYLENES, TOTAL	NA	NA	--	1 U	5 U	1 U	1 U
SVOCs (ug/L)							
BENZO(A)ANTHRACENE	0.3	NA	--	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
BENZO(A)PYRENE	0.3	NA	--	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
BENZO(B)FLUORANTHENE	0.3	NA	--	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
BENZO(K)FLUORANTHENE	0.3	NA	--	0.1 U	0.1 U	0.1 UJ	0.1 U
BIS(2-ETHYLHEXYL)PHTHALATE	59	NA	--	27 U	25 U	5 U	5 U
PHENANTHRENE	0.077	NA	--	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
Pesticides/PCBs (ug/L)							
AROCLOR-1016	0.5	0.014[2]	--	0.21 U	0.23 U	0.19 UJ	0.2 U
AROCLOR-1254	0.5	0.014[2]	--	0.21 U	0.23 U	0.19 UJ	0.2 U
AROCLOR-1260	0.5	0.014[2]	--	0.21 U	0.23 U	0.19 UJ	0.2 U
DIELDRIN	0.1	0.0019[3]	--	0.021 U	0.023 U	0.019 UJ	0.02 U
HEPTACHLOR	0.05	0.0038[2]	--	0.011 U	0.012 U	0.009 UJ	0.01 U
Inorganics (total/dissolved) (ug/L)							
ARSENIC	-- 5	150[2]	1.32/2.55	5.1/5.5	34.9/31.6	9.8/11.5	10.8/8.2 U
BERYLLIUM	4	NA	ND	0.41 U/0.41 U	1.7 U/1.1 U	0.41 U/0.41 U	0.41 U/0.41 U
CADMIUM	6	0.62[3]	ND	2.84 U/2.84 U	8.94 U/8.94 U	2.84 U/2.84 U	2.84 U/2.84 U
CHROMIUM[4]	110	11[2]	49.9/16	5.6 U/11.3 U	9 U/24.33 U	5.5 U/11 U	11 U/5.6 U
COPPER	48	4.8[3]	107/39.4	1.9 U/1.66 U	5.22 U/5.22 U	4 U/1.66 U	2.6 U/1.66 U
LEAD	13	1.2[3]	6.63/2.52	1.48 UJ/1.48 UJ	4.11 U/4.11 U	1.48 UJ/2.7 U	3.3 U/1.37 U
ZINC	123	58.2	131/109	9.2 U/3.7 U	166/3.78 U	9.3 U/3.4 U	6.9 U/2.2 U
Miscellaneous Parameters (mg/L)							
ALKALINITY	NA	NA	--	1400	250	250	260
CHEMICAL OXYGEN DEMAND	NA	NA	--	60	1900	40	50
CHLORIDE	NA	NA	--	10000	20000	1200	1200
HARDNESS (µg/L)	NA	NA	--	809000	5450000	300000	286000
SULFATE	NA	NA	--	67 J	110 J	1 UJ	1 UJ
TOTAL DISSOLVED SOLIDS	NA	NA	--	15000 J	26000 J	1500 J	1600 J
TOTAL ORGANIC CARBON	NA	NA	--	20	40	12	14

DRAFT

TABLE 3-1

ROUND 9 GROUNDWATER ANALYTICAL RESULTS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
AREA A LANDFILL, NSB-NLON, GROTON, CONNECTICUT
PAGE 4 OF 4

Chemical	Primary Monitoring Criterion [1]	Secondary Monitoring Criterion	NSB-NLON Background Concentration[5]	3MW37S 09 12/19/2001	4MW1S 09 1/12/2002	4MW1S (DUP) 09 1/12/2002
VOCs (ug/L)						
1,1,2,2-TETRACHLOROETHANE	110	NA	--	1 U	1 U	1 U
ETHYLBENZENE	580,000	NA	--	1 U	1 U	1 U
XYLENES, TOTAL	NA	NA	--	1 U	1 U	1 U
SVOCs (ug/L)						
BENZO(A)ANTHRACENE	0.3	NA	--	0.1 UJ	0.1 UJ	0.1 UJ
BENZO(A)PYRENE	0.3	NA	--	0.1 U	0.1 UJ	0.1 UJ
BENZO(B)FLUORANTHENE	0.3	NA	--	0.1 U	0.1 UJ	0.1 UJ
BENZO(K)FLUORANTHENE	0.3	NA	--	0.1 U	0.1 U	0.1 U
BIS(2-ETHYLHEXYL)PHTHALATE	59	NA	--	5 U	6 J	5 U
PHENANTHRENE	0.077	NA	--	0.1 U	0.1 UJ	0.1 UJ
Pesticides/PCBs (ug/L)						
AROCLOR-1016	0.5	0.014[2]	--	0.2 U	0.19 U	0.19 U
AROCLOR-1254	0.5	0.014[2]	--	0.2 U	0.19 U	0.19 U
AROCLOR-1260	0.5	0.014[2]	--	0.2 U	0.19 U	0.19 U
DIELDRIN	0.1	0.0019[3]	--	0.02 U	0.019 U	0.019 U
HEPTACHLOR	0.05	0.0038[2]	--	0.01 U	0.01 U	0.01 U
Inorganics (total/dissolved) (ug/L)						
ARSENIC	4	150[2]	1.92/2.55	2.53 U/2.53 U	2.53 U/2.53 U	2.53 U/2.53 U
BERYLLIUM	4	NA	ND	0.41 U/0.41 U	0.41 U/0.41 U	0.41 U/0.41 U
CADMIUM	6	0.62[3]	ND	2.84 U/2.84 U	2.84 U/2.84 U	2.84 U/2.84 U
CHROMIUM[4]	110	11[2]	49.9/16	4.81 UJ/0.7 U	4.81 UJ/4.81 UJ	4.81 UJ/4.81 UJ
COPPER	48	4.8[3]	107/39.4	2.6 U/2.9 U	2.5 U/1.66 U	1.66 U/1.66 U
LEAD	i3	1.2[3]	6.63/2.52	1.48 U/2.2 U	2.4 U/2.4 U	2.6 U/3.1 U
ZINC	123	58.2[3]	131/109	3.7 U/3.6 U	3.4 U/6 U	10.1 U/3.2 U
Miscellaneous Parameters (mg/L)						
ALKALINITY	NA	NA	--	120 J	30	30
CHEMICAL OXYGEN DEMAND	NA	NA	--	15 U	15 U	15 U
CHLORIDE	NA	NA	--	370	40	40
HARDNESS (mg/L)	NA	NA	--	229000	61200	60600
SULFATE	NA	NA	--	13 J	38 J	34 J
TOTAL DISSOLVED SOLIDS	NA	NA	--	800	1800 J	160 J
TOTAL ORGANIC CARBON	NA	NA	--	5.3 J	3	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 aquatic life (chronic, freshwater). (CTDEP, 1997)
4 Hexavalent Chromium
5 Background Concentrations taken from Basewide Groundwater Operable Unit Remedial Investigation Report (TtNUS, January 2002)
J Estimated Value
R Rejected Value
U Undetected
NA Not Available
ND Not Detected in background samples
-- Not analyzed for in background samples.

DRAFT

TABLE 3-2

ROUND 9 SURFACE WATER ANALYTICAL RESULTS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
AREA A LANDFILL, NSB-NLON, GROTON, CONNECTICUT
PAGE 1 OF 2

Chemical	Primary Monitoring Criterion [1]	Secondary Monitoring Criterion	NSB-NLON Background Concentration[5]	3MSP01 09 12/20/2001	SG-16 09 12/19/2001	SG-18 09 12/18/2001	SG-19 09 12/18/2001
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	2	1 U
XYLENES, TOTAL	NA	NA	--	1 U	1 U	5	1 U
SVOCs (ug/L)							
BENZO(A)ANTHRACENE	0.3	NA	--	0.1 UJ	0.1 U	0.1 UJ	0.1 U
BENZO(A)PYRENE	0.3	NA	--	0.1 U	0.1 U	0.1 U	0.1 U
BENZO(B)FLUORANTHENE	0.3	NA	--	0.1 U	0.1 U	0.1 U	0.1 U
BENZO(K)FLUORANTHENE	0.3	NA	--	0.1 U	0.1 U	0.1 U	0.1 U
BIS(2-ETHYLHEXYL)PHTHALATE	59	NA	--	5 U	5 U	3 J	5 U
PHENANTHRENE	0.077	NA	--	0.1 UJ	0.1	0.1 U	0.09 J
Pesticides/PCBs (ug/L)							
AROCLOR-1016	0.5	0.014[2]	--	0.2 U	0.21 U	0.2 U	0.2 U
AROCLOR-1254	0.5	0.014[2]	--	0.2 U	0.21 U	0.2 U	0.2 U
AROCLOR-1260	0.5	0.014[2]	--	0.2 U	0.21 U	0.2 U	0.2 U
DIELDRIN	0.1	0.0019[3]	--	0.02 U	0.021 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]	1.92/2.55	2.53 U/2.53 U	3.6/2.53 U	2.53 U/2.53 U	2.53 U/2.53 U
BERYLLIUM	4	NA	ND	0.41 U/0.41 U	0.57 U/0.41 U	0.18 U/0.41 U	0.18 U/0.41 U
CADMIUM	6	0.62[3]	ND	2.84 U/2.84 U	2.84 U/2.84 U	0.3 U/2.84 U	0.76 U/2.84 U
CHROMIUM[4]	110	11[2]	49.9/16	0.57 U/0.72 U	7.2 U/0.57 U	1.8 U/4.81 UJ	4.2 U/4.81 U
COPPER	48	4.9	107/39.4	1.66 U/1.66 U	79.4/7.2 U	8.5 U/1.66 U	25.6/1.66 U
LEAD	13	1.2	6.63/2.52	2.8 U/1.9 U	75.7/4.6 U	5.2 U/1.48 U	13.3/2.3 U
ZINC	123	58.2	131/109	15.2/12.2 U	424/104	394/101	259/28.2
Miscellaneous Parameters (mg/L)							
ALKALINITY	NA	NA	--	80 J	20 UJ	70 J	30 J
CHEMICAL OXYGEN DEMAND	NA	NA	--	15 U	20	20	30
CHLORIDE	NA	NA	--	240	13	51	17
HARDNESS (mg/L)	NA	NA	--	118000	27900	66900	39200
SULFATE	NA	NA	--	8.7 J	16 J	10 J	12 J
TOTAL DISSOLVED SOLIDS	NA	NA	--	490	60	140	56
TOTAL ORGANIC CARBON	NA	NA	--	5.4 J	8 J	7.5 J	20 J

DRAFT

TABLE 3-2

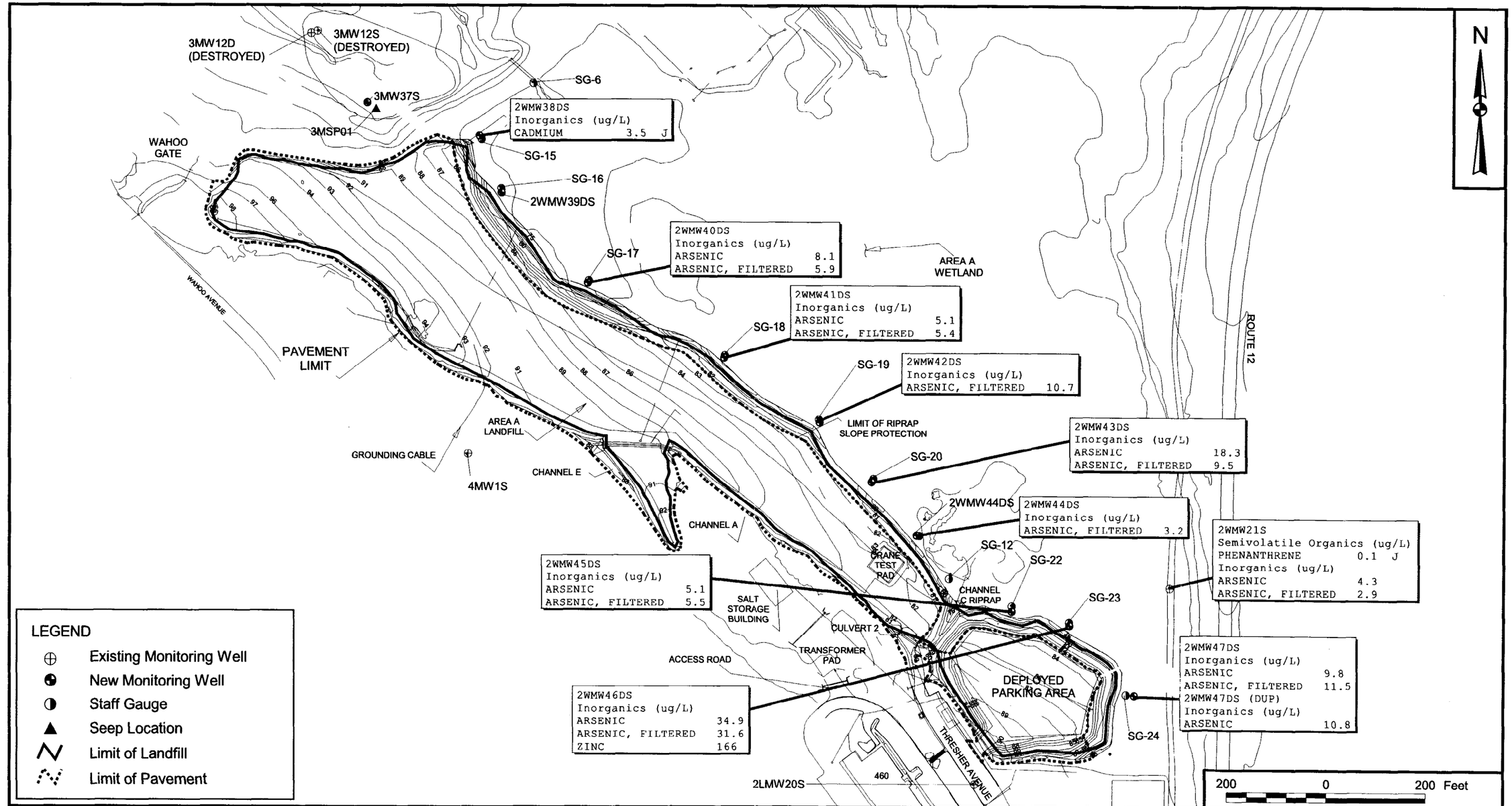
ROUND 9 SURFACE WATER ANALYTICAL RESULTS SUMMARY
INTERIM GROUNDWATER MONITORING REPORT
AREA A LANDFILL, NSB-NLON, GROTON, CONNECTICUT
PAGE 2 OF 2

Chemical	Primary Monitoring Criterion [1]	Secondary Monitoring Criterion	NSB-NLON Background Concentration[5]	SG-20 09 12/18/2001	SG-21 09 12/18/2001	SG-21 (DUP) 09 12/18/2001	SG-23 09 12/20/2001
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	--	1 U	0.1 U	0.1 U	0.1 UJ
BENZO(A)PYRENE	0.3	NA	--	1 U	0.1 UJ	0.1 U	0.1 U
BENZO(B)FLUORANTHENE	0.3	NA	--	1 U	0.1 UJ	0.1 U	0.1 U
BENZO(K)FLUORANTHENE	0.3	NA	--	1 U	0.1 UJ	0.1 U	0.1 U
BIS(2-ETHYLHEXYL)PHTHALATE	59	NA	--	12 J	5 U	5 U	6 U
PHENANTHRENE	0.077	NA	--	0.5	0.1 UJ	0.1 U	0.07 J
Pesticides/PCBs (ug/L)							
AROCLOR-1016	0.5	0.014[2]	--	0.2 U	0.19 U	0.19 U	0.22 U
AROCLOR-1254	0.5	0.014[2]	--	0.2 U	0.19 U	0.19 U	0.22 U
AROCLOR-1260	0.5	0.014[2]	--	0.2 U	0.19 U	0.19 U	0.22 U
DIELDRIN	0.1	0.0019[3]	--	0.02 U	0.019 U	0.019 U	0.022 U
HEPTACHLOR	0.05	0.0038[2]	--	0.01 U	0.01 U	0.01 U	0.011 U
Inorganics (total/dissolved) (ug/L)							
ARSENIC	4	150[2]	1.92/2.55	7.4/2.53 U	2.53 U/2.53 U	2.53 U/2.53 U	2.53 U/2.6
BERYLLIUM	4	NA	ND	0.72 U/0.41 U	0.18 U/0.41 U	0.18 U/0.42 U	0.41 U/0.41 U
CADMIUM	6	0.62[3]	ND	1.3 U/2.84 U	0.24 U/2.84 U	0.53 U/2.84 U	2.84 U/2.84 U
CHROMIUM[4]	110	11[2]	49.9/16	21.1 U/4.81 UJ	0.57 U/4.81 UJ	1.9 U/4.81 U	1.7 U/0.57 U
COPPER	48	4.6[2]	107/39.4	64.8/2.1 U	0.84 U/1.66 U	0.84 U/2.6 U	14 U/2.8 U
LEAD	13	1.2[2]	6.63/2.52	41.8/1.48 U	2.3 U/1.48 U	3.4 U/2.5 U	7.4 U/2.5 U
ZINC	123	58.2[2]	131/109	1160/145	14.6/7.1 U	14.3/10 U	305/126
Miscellaneous Parameters (mg/L)							
ALKALINITY	NA	NA	--	40 J	90 J	100 J	20 J
CHEMICAL OXYGEN DEMAND	NA	NA	--	30	30	30	30
CHLORIDE	NA	NA	--	99	100	100	84
HARDNESS (mg/L)	NA	NA	--	104000	112000	111000	37800
SULFATE	NA	NA	--	18 J	5 J	5.1 J	15 J
TOTAL DISSOLVED SOLIDS	NA	NA	--	250	260	280	250
TOTAL ORGANIC CARBON	NA	NA	--	14 J	11 J	20 J	20 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 aquatic life (chronic, freshwater). (CTDEP, 1997)
4 Hexavalent Chromium
5 Background Concentrations taken from Basewide Groundwater Operable Unit Remedial Investigation Report (TtNUS, January 2002)
J Estimated Value
R Rejected Value
U Undetected
NA Not Available
ND Not Detected in background samples
-- Not analyzed for in background samples.

DRAFT

P:\GIS\NLON\50820390.APR\AREA A LANDFILL ROUND 9 GW TAGS 4/2/02 JAL



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY J. LAMEY DATE 4/2/02
CHECKED BY DATE
COST/SCHEDULE-AREA
SCALE AS NOTED

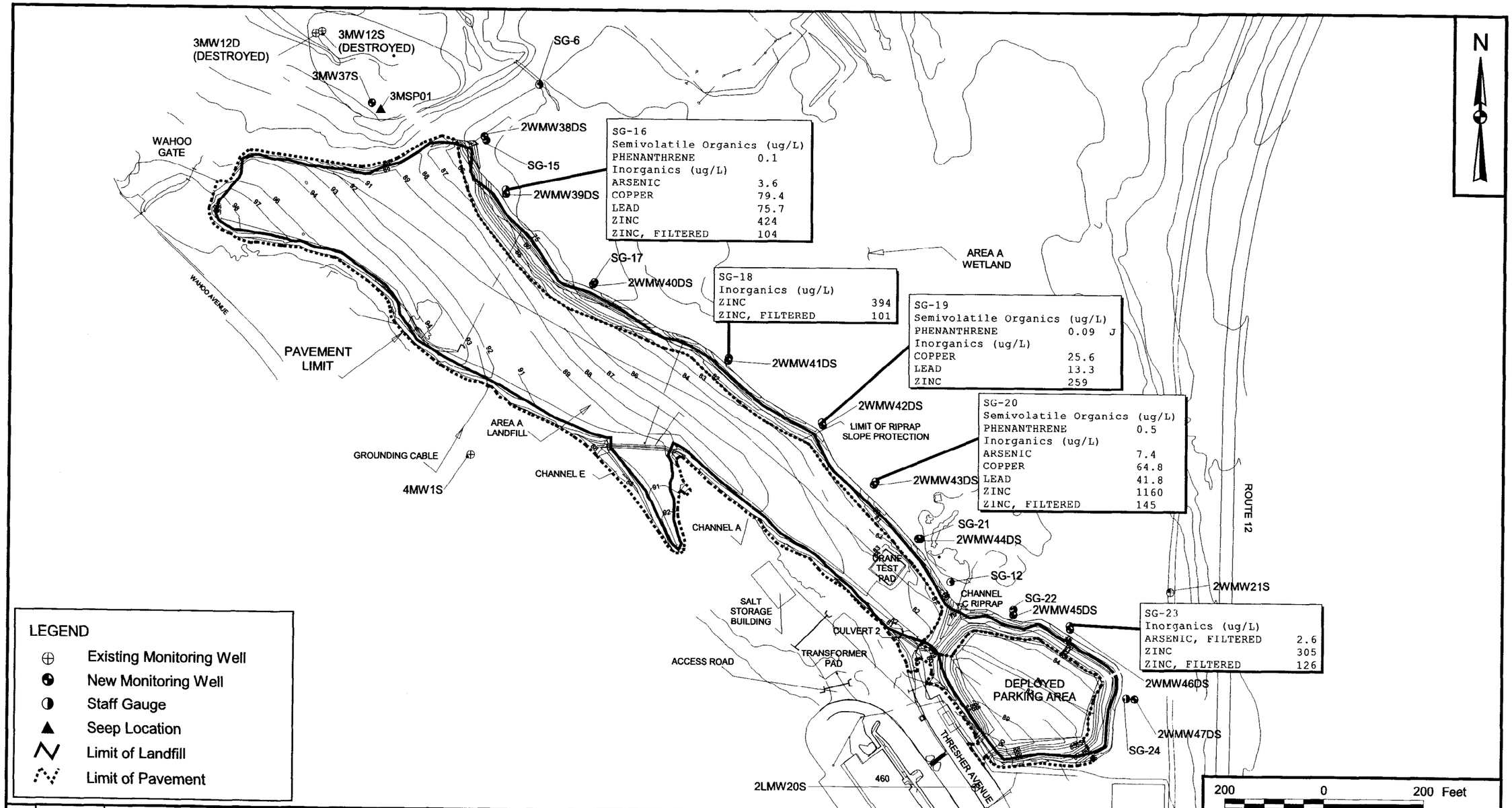
Tetra Tech NUS, Inc.

COC EXCEEDANCES OF MONITORING CRITERIA
ROUND 9 GROUNDWATER SAMPLING
AREA A LANDFILL
NSB-NLON, GROTON, CONNECTICUT

CONTRACT NUMBER 2863
OWNER NUMBER —
APPROVED BY CAR DATE 4/9/02
APPROVED BY — DATE —
DRAWING NO. FIGURE 3-1
REV 0

1178DR42

P:\GIS\NLON\50820390.APR\AREA A LANDFILL ROUND 9 SW TAGS 4/4/02 JAL



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY J. LAMEY	DATE 4/2/02
CHECKED BY	DATE
COST/SCHEDULE-AREA	
SCALE AS NOTED	

Tetra Tech NUS, Inc.

COC EXCEEDANCES OF MONITORING CRITERIA
ROUND 9 SURFACE WATER SAMPLING
AREA A LANDFILL
NSB-NLON, GROTON, CONNECTICUT

CONTRACT NUMBER 2863	OWNER NUMBER —
APPROVED BY CAR	DATE 4/9/02
APPROVED BY	DATE
DRAWING NO. FIGURE 3-2	REV 0

REFERENCES

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

Atlantic. (July 1994). Design Document (Design Analysis Report, Technical Specifications, Construction Drawings), Area A Landfill, Naval Submarine Base - New London, Groton, Connecticut. Colchester Connecticut.

Atlantic. (May 1995). Focused Feasibility Study Report and Addendum, Area A Landfill, Naval Submarine Base - New London, Groton, Connecticut. Colchester Connecticut.

Atlantic. (June 1995): Proposed Remedial Action Plan, Area A Landfill, Naval Submarine Base - New London, Groton, Connecticut, Colchester Connecticut.

Brown & Root Environmental, Inc. (B&R Environmental). (October 1996). Groundwater/Leachate Modeling Study Report, Area A Landfill, Naval Submarine Base - New London, Groton, Connecticut. Wayne, Pennsylvania.

B&R Environmental. (December 1996a). Area A East End Investigation Report, Area A Landfill, Naval Submarine Base - New London, Groton, Connecticut, Brown & Root Environmental. Wayne, Pennsylvania.

B&R Environmental. (December 1996b). Revised Design Analysis Report, Area A Landfill, Naval Submarine Base – New London, Groton, Connecticut. Wayne, Pennsylvania.

B&R Environmental. (March 1997). Phase II Remedial Investigation Report, Naval Submarine Base - New London, Groton, Connecticut. Wayne, Pennsylvania.

Connecticut Department of Environmental Protection (CTDEP). (January 1996). Remediation Standard Regulations, Connecticut Department of Environmental Protection, Bureau of Water Management, Permitting.

CTDEP. (April 1996). Ground Water Quality Standards, Connecticut Department of Environmental Protection, Bureau of Water Management, Planning & Standards Division.

Halliburton NUS, Inc. (HNUS). May 1995. Geotechnical Field Investigation, Area A Landfill Design, Naval Submarine Base - New London, Groton, Connecticut. Wayne, Pennsylvania.

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

Tetra Tech NUS, Inc. (TtNUS). (January 1999). Groundwater Monitoring Plan for Area A Landfill, Naval Submarine Base - New London, Groton, Connecticut. King of Prussia, Pennsylvania.

Tetra Tech NUS, Inc. (TtNUS). (May 2001). Year 1 Annual Groundwater Monitoring Report for Area A Landfill, Naval Submarine Base - New London, Groton, Connecticut. King of Prussia, Pennsylvania.

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

Tetra Tech NUS, Inc. (TtNUS). (March 2002). Draft Year 2 Annual Groundwater Monitoring Report for Area A Landfill, Naval Submarine Base - New London, Groton, Connecticut. King of Prussia, Pennsylvania.

United States Environmental Protection Agency (USEPA). (1957): Environmental Photographic Interpretation Center Report, Frame No. 2971:144-149.

USEPA. (April 1999). National Recommended Water Quality Criteria - Correction. EPA 822-Z-99-001. Office of Water.

APPENDIX A

FIELD ACTIVITIES LOG BOOK

SUNDAY 12.16.01

Work continued from Page

1500 KEITH SIMPSON JAIME KOSTELNIK & BOB BAUKOVEC
@ PGH AIRPORT TO NEW LONDON
CHECK INTO HOTEL

TRAVEL DAY
SUNDAY PM

GOSS COVE
TIDAL STUDY

TROLL SP 4000 SET-UP

LEVEL SURFACE, POSITIVE UP
DECREASING W/L CORRESPOND TO DECREASING READINGS
ALL TRANSDUCERS STARTED @ 1700 ON 12-17-0,
1 READING EVERY 6 MIN.
ZERO @ START

TITLE NSB - N10N

12.17.01

PROJECT NO. N2863

BOOK NO. 1300

Work continued from Page

GOSS COVE TIDAL STUDY

LOCATION	TRANSDUCER SN #	12.17.01 START WL TIME	WATER LEVEL	12.19.01 END WL TIME	WATER LEVEL	COMMENTS
8MW1	12973	1707	11.90	0948	11.97	
8MW2S	12787	1700	9.29	0935	9.82	
8MW2D	11904	1701	10.38	0941	9.73	RESTRICTED @ 22'±
8MW3	11900	1658	8.15	0928	8.42	
8MW5S	11102	1708	10.62	0957	12.32	VERY LITTLE WATER @ L. TIDE
8MW6S	12974	1655	8.17	0852	8.28	
8MW6D	11081	1654	7.48	0840	7.22	
8MW7S	12994	1650	8.80*	0732	8.94	* TOP OF 6" PVC
8MW8S	11930	1645	15.13	0812	• 15.00	• AFTER PULLING TRAN.
8MW8D	12628	1616	16.99	0828	16.90	
8SG01	11906	1719	9.59	0909	8.42	
HNUS23	—	1728	9.18	0718	9.16	NO TRANS. WL ONLY

* CAN NOT REACH 2" PVC READINGS FROM 6" PVC TOP
2" PVC TO TOC 6" PVC = 1.30'

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE [signature] **DATE** 12.17.01

DISCLOSED TO AND UNDERSTOOD BY **DATE** **WITNESS** **DATE**

DAILY SUMMARY
12.17.01

ON SITE: T+NUS, KEITH SIMPSON
JAIME KOSTELNIK
BOB BALKOVEC

H&S SITE TRAINING
WL @ AREA A + INSPECTION
START TIDAL STUDY GC
3- WL @ GC + INSPECTION

MONDAY 12.17.01

Work continued from Page WEATHER: 40-50°F RAIN LT ALL DAY & NIGHT

0700 KEITH SIMPSON, JAIME KOSTELNIK & BOB BANKULEC @ PASS & ID, TO BLD 166 MET WITH DICK C., PICK-UP KEY TO BLD UNPACK ALL EQUIPMENT. CAL EQ AS NEEDED

0915 KS, JK & BB SITE TOUR OF BASE, AREA A, & OT 10

1000 KS & DICK C. @ MUSEUM MET WITH LCDR BEN HOWARD AND PO WARRICK, MEETING WENT WELL WE HAVE OK FOR PLANNED WORK & DRUM STORAGE. TO PEIR WITH PO WARRICK & DICK C. PICKED LOCATION FOR 8SG01, NE SIDE OF PEIR (BACK-GC SIDE).

1045 DRUMS DELIVERED WILL BE STORED ON PALLETS IN BACK NW AREA OF SITE, BEHIND RADIO CLUB BOB & JAMIE STARTED RD. OF WL & MW INSPECTION

1200 LUNCH BOB TO WAL-MART FOR SUPPLIES, KS & JK TO HARDWARE STORE
RETURN TO GOSS COVE START INSTALLING TRANSDUCERS.

1455 COMPLETE INSTALLATION JK & BB TO AREA A FOR WL
KS CHECKING TRANSDUCER SET-UP @ GOSS COVE

1630 START ROUND OF WL @ GC (KS)

1735 COMPLETE WL RETURN TO BLD 166
CLEAN-UP WORK EQ. PAPER WORK
JK & BB COMPLETE WL @ AREA A

1840 JK TO HOTEL, KS, BB TO GC & CHECK ON TIDAL STUDY
ALL TRANSDUCERS RUNNING ALSO COLLECTED WLs

1940 TO HOTEL KS & BB

VOID 12.18.01
KES

Work continued from Page

AREA A LANDFILL SAMPLING
ROUND 9

LOCATION	SAMPLE DATE	QA	COMMENTS
3MW37S	12.19.01	—	
2UMW38DS	12.20* .01	—	PURGED 12.18.01 * 1.10.02 & 1.12.02
39DS	12.19.01	—	12.18.01
40DS	12.19.20.01	—	12.18.01
41DS	12.19.20.01	—	12.18.01
42DS	1.11.02	—	1.10.02
43DS	1.11.02	—	1.10.02
44DS	1.12.02	—	1.12.02
45DS	1.12.02	—	1.11.02
46DS	1.13.02	—	1.12.02
47DS	1.12.02	DUP	—
2UMW20S	DRY	—	1.13.02
2UMW21S	12.20.01	MS/MSD	—
4MW1S	1.12.02	DUP	—
SWSG-15	DRY	—	
16	12.19.01	—	
17	DRY	—	
18	12.18.01	—	
19	12.18.01	—	
20	12.18.01	—	
21	12.18.01	DUP+MS/MSD	
22	DRY	—	
23	12.20.01	—	
24	DRY	—	
3MSP01	12.20.01	—	

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE

DATE 12.18.01

DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

— DAILY SUMMARY —
12.18.01

ON SITE: T+NUS; KEITH S.
JAIME K.
BOB B.

4 SW LOCATIONS SAMPLED

4 MWs PURGED DRY

RD OF WL @ GC

SHIPPED 5 COOLERS TO LAB

TUESDAY 12.18.01

Work continued from Page WEATHER: RAIN OVERNIGHT 38-48°F RAIN
RAIN STOPPING @ 1200
0700 KS, BB & JK @ BLD 166 CAL EQ. LOAD SUVs
COLLECTED RB ON PERISTALTIC PUMP TUBING
TEFLON, SILCONE + FILTER ON "F" METALS
CALLED LAB WE HAVE PICK-UP FOR TUES,
WED, THUR @ HOTEL 7:00 PM
0915 KS, JK, BB TO AREA A SET-UP ON WELL
38DS - KS & BB TO PASS & ID FOR PHOTO/
1000 1 YEAR PASSES, PICK-UP ICE DROPPED BOB
OFF AT AREA A TO SAMPLE SW KS TO
166 THEN GC FOR WL ROUND
1110 KS STARTING WL ROUND @ GC
1150 COMPLETE GC WLs TO AREA A
1205 TO LUNCH RETURN TO BLD 166 KS & JK TO
HNUS-23 WL = 9.15' @ 1330
1335 THEN TO AREA A FOR SW SAMPLING
BOB B. WORKING ON GW SAMPLING @ AREA A
COMPLETED 2 SW LOCATIONS + 1 DUP & MS/MSD
@ SG-21
1540 TO BLD 166 SAMPLES ON ICE PAPER WORK RESTOCK
SUV
RETURN TO AREA A TO SAMPLE SW
1 SW SAMPLED SWSG20
ALL 3 OF US TO 166 PACK SAMPLES
1800 BOB & JAIME TO HNUS 23 FOR WL
1830 KS COMPLETE PAPER WORK TO HOTEL

1905 COURIER @ HOTEL TRANFURED 5 COOLER TO HIS
VAN TO LAB

— DAILY SUMMARY —

ON SITE: T + NUS, KEITH S.
BOB B.
JAIME K

COMPLETE TIDAL STUDY @ ~~AREA A~~ KS GOSS COVE
SAMPLED 2 MWs @ AREA A
1 SW LOCATION SAMPLED @ AREA A
3 MWs DEVELOPED @ GC

2 COOLERS TO LAB

WED. 12·19·01

Work continued from Page WEATHER: 45-50°F CLEAR

0650 KS, JK & BB @ BLD 166 CAL EQ. LOAD SUV
BOB TO AREA A FOR GW SAMPLING
KS & JK TO GOSS COVE AND END TIDAL
0715 STUDY. WL @ HNVS 23 = 9.16 @ 0718
"PULL" ALL TRANDUCERS SAVED DATA, SENT
TIDAL STUDY RENTED EQ BACK TO US ENV.
+ 1 PID
RETURN TO BLD 166 PAPER WORK, CALLED
COREY. LOAD SUV FOR MW DEVELOPMENT
@ GC
BOB SAMPLED 1 MW @ AREA A
1230 TO LUNCH - KS & JK TO HARDWARE STORE
FOR SUPPLIES.
BOB BACK TO AREA A FOR GW SAMPLING
1325 KS & JK @ BLD 166 LOAD SUV FOR
1350 WELL DEVELOPMENT TO GOSS COVE
BOB COMPLETING SAMPLING FOR THE DAY
@ AREA A PACK SAMPLES & TO HOTEL TO
1815 MEET COURIER
KS & JK CONTINUE DEVELOPMENT @ GC
SAL. IN THAMES RIVER = 2.17%
PUMP USED FOR DEVELOPMENT QUIT ON 3RD
WELL, WILL CALL FOR REPLACEMENT THUR.
1820 KS & JK TO BLD 166 UNLOAD SUV, CLEAN
EQ., PAPER WORK, FAX COC
1850 DEPART BASE

GOSS COVE MW DEVELOPMENT INSPECTION

12.19.01 **8MW6S** FLUSH MT, 2" PVC @ SURFACE, VAULT CLEARANCE 0.15', - GOOD PRODUCER REMOVED 13 GAL. @ 1.7 GPM VERY LITTLE DRAWDOWN

OK

8MW6D FLUSH MT., 2" PVC WITH 6" PVC OUTER CASE, VAULT OK WITH CLEARANCE, LOOSE SLIP JOINT ON 2" PVC RISER MAY NOT BE WATER TIGHT ≈ 2.5' DOWN INSID 6" PVC

OK

8MW7S FLUSH MT., 2" PVC ≈ 1.3' DOWN 6" PVC @ TOP USED FOR SURVEY & MEASURME ET REF., CLEARANCE IS OK. GOOD PRODUCER

OK

12.20.01 **8MW8S** FLUSH MT, 2" PVC OK, VAULT OK FOR PUMP INSTALLATION. NO WATER ≈ 0.1 GAL REMOVED THEN DRY

X

8MW8D FLUSH MT., 2" PVC OK, VAULT OK FOR PUMP INSTALLATION DEVELOPED MAKES ≈ 700 ML/MIN.

OK

8MW5S FLUSH MT., 2" PVC, COUPLER ≈ 2' DOWN LOOSE MAY LEAK., VAULT OK NOT ENOUGH OF A WATER COL. FOR BLADDER PUMP OK FOR PERISTALTIC GOOD PRODUCER

OK FOR PERISTALTIC PUMP

OK = GOOD PRODUCER & OK FOR BLADDER PUMP INSTALLATION OR PERISTALTIC

Work continued from Page

8MW1 FLUSH MT., 2" PVC OK, VAULT IN GOOD SHAPE.
OK GOOD PRODUCER

8MW2D FLUSH MT., 2" PVC, RESTRICTION IN PVC RISER @ 16.5'± BELOW TOC. MAY BE OPEN ≈ 1" WL
OK METER FIT PAST BUT NOT TRANDUCER OR SLUG
GOOD FOR PERISTALTIC

8MW2S FLUSH MT, 2" PVC VAULT OK, SOME RESTRICTIONS @ 12' TO BTM 17.7', A BLADDER PUMP SHOULD FIT.
OK DEVELOPED - GOOD PRODUCER

8MW3 FLUSH MT, 2" PVC & VAULT OK
FUEL ODOR, GOOD PRODUCER
OK

HNUS 23 FLUSH MT., 2" PVC & VAULT OK
OK

KS ~~HOT~~ 8MW10S IN GOOD SHAPE, CONCRETE AROUND VAULT IS RESEATED ≈ 1/2"
OK BUT ON ROAD GOOD PRODUCER
ON ROAD NEE POLICE TO BLOCK RD.
WILL BE A PROBLEM WITH TIME

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

— DAILY SUMMARY —
12.20.01

ON SITE: T + NUS, KEITH S.
BOB. B.
JAIME K.

1 SEEP SAMPLED @ AREA A
1 SW SAMPLED @ AREA A
MWs SAMPLED @ AREA A

WORKING ON MW DEVELOPMENT
@ GOSS COVE

SHIPPED 5 COOLERS TO LAB

THUR. 12.20.01

Work continued from Page WEATHER: 36-42 °F NO RAIN

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

0740 BOB TO AREA A FOR GW SAMPLING
KS CALLED US ENVIRONMENTAL TALKED WITH JARROD POLIDORI, THEY WILL "SHUT-OFF" RENTAL CHARGES OVER THE HOLIDAY.
ALSO, 12V WHALE PUMP BROKE DOWN AFTER ON 3 WELL (PURCHASE) WE WILL SEND OLD PUMP BACK FOR FREE REPLACEMENT.
KS & JK TO GOSS COVE
COMPLETE DEVELOPMENT FOR SHIFT
5 WELLS COMPLETE (SEE DEVELOPMENT LOGS AND PG 72-73)

1155 TO LUNCH - RETURN TO BLD 166 BOB IS WORKING ON GW SAMPLING @ AREA A

1320 KS & JK SAMPLING SEEP & SW23.
COMPLETE SAMPLING TO HAZ WASTE BLD #562
KATE SCHWEITZER ISSUED DRUM LABELS FOR GOSS COVE DRUMS

1525 RETURN TO BLD 166 FILTER DIS. METAL SAMPLES, CLEAN EQUIPMENT, PAPER WORK, PACK SAMPLES
DEPART SITE TO HOTEL & CD&C

1735 PICK-UP OF SAMPLES

— DAILY SUMMARY —

ON SITE, T+NUS, BOB B.
JAIME K.
KEITH S.

TITLE NSB N10N

PROJECT NO. N2863

BOOK NO. 1300

FRIDAY 12-21-01

Work continued from Page WEATHER: WINDY 35-40°F NO RAIN

0700 KS, BB & JK @ BLD 166, CLEAN-UP, INVENTORY
JK TO GOSS COVE LABEL DRUMS (2 FULL)
PICK-UP OUR I DW BUCKETS
COMPLETE CLEAN-UP
LOCK EQ UP
0900 DEPART TO AIRPORT / HOME

END OF SHIFT

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE

DATE 12-21-01

DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

GOSS COVE

1.7.02

— DAILY SUMMARY —

ON SITE, TT NWS, KEITH SIMPSON
FRANK WUDRWYCH

TRAVEL PGH TO NEW LONDON
REPAIR MWs
DEVELOPMENT 2 MWs

NEED TO TAKE
WL READINGS EVERY 2 HRS ALL DAY
@ 6S, 7S & 10S

MONDAY 1.7.02

Work continued from Page WEATHER: RAIN/SNOW MIX 30-35°F

0605 KEITH SIMPSON @ PGH AIRPORT MET FRANK WUDKWYCH @ GATE TO NSB-NION

1300 AT PASS & ID TO BLD 166 LOAD TRUCKS

1405 UNPACK EQUIPMENT. TO GOSS COVE WORKING ON WELL REPAIR

EXTENDED RISER 1.3' ± @ 8MW7S & ADDED SAND TO FILL AREA BETWEEN 6" PVC & RISER

ADDED SAND TO 5S, 2S & 2D

1524 START DEVELOPMENT @ 8MW2S COMPLETE DEVELOPMENT TO BLD 166 FOR DECON (HOT WATER/ SOAP)

1600 @ MW 8MW8D SURGE & PUMP (DEVELOP)

RETURN TO BLD 166, PAPER WORK, MAKE-UP BOTTLE SETS.

1810 OFF SITE

GOSS COVE

1.8.02

— DAILY SUMMARY —

ON SITE, T+ NUS; K. SIMPSON
F. WUDKWYCH

SAMPLED 2 MWs @ GC
DEVELOPED 4 MWs @ GC

SHIPPED 2 COOLERS TO LAB

TITLE NSB-NION

PROJECT NO. N2963

BOOK NO. 1330

1.8.02 TUES

Work continued from Page WEATHER: SNOW 1" OVER NIGHT 25-35°F

0700 KS & FW @ BLD 166 PREP. FOR GW SAMPLING AND DEVELOPMENT AT GOSS COVE, CAL. EQ

0905 TO GOSS COVE & DEVELOP 8MW3

1000 COMPLETE DEVELOPMENT, DUMP WATER INTO DRUMS SET-UP TO PURGE & SAMPLE 8MW5S & 7S

1245 COMPLETE SAMPLING OFF SITE TO LUNCH. PICK-UP ICE TO BLD 166 CLEAN EQ., PACK SAMPLES, PAPER WORK

1420 RETURN TO GC FOR DEVELOPMENT DEVELOPED MW 8MW2D KS TO PASS & ID TALKED WITH LINDA BROWN (EX 4098) ABOUT BLOCKING ROAD TO ACCESS WELL 10S FOR DEVELOPMENT. BASE POLICE WILL BLOCK RD @ 1700 TODAY & THUR. FOR SAMPLING

1610 KS STARTS DEVELOPMENT @ 8MW1 COMPLETE 8MW1 DUMP WATER, DECON EQ. TO 8MW10S

1735 COMPLETE DEVELOPMENT DUMP WATER THEN TO 166 CLEAN-UP, PAPER WORK PREP. FOR 1.9.02

TO HOTEL TO MEET CD&L FOR SAMPLE

1840 PICK-UP

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE [signature] **DATE** 1.8.02

DISCLOSED TO AND UNDERSTOOD BY **DATE** **WITNESS** **DATE**

EXAMPLE

STATE-REGULATED WASTE

THIS WASTE IS NOT REGULATED BY THE US ENVIRONMENTAL PROTECTION AGENCY

WASTE DESCRIPTION: GOSS COVE WELL WATER

PROFILE #: P1557 WASTE CODE: CR04 PENDING ANALYSI

ACTIVITY: TETRA TECH SITE #: S60

HW COORDINATOR: KEITH SIMPSON

STATE-REGULATED WASTE

Work continued from Page

GOSS COVE ROUND 1 SAMPLING
DECEMBER '01 / JANUARY '02

LOCATION	DATE DEVEL.	DATE SAMPLED	PUMP USED	Q.A	COMMENTS
8MW1	1.8.02	1.13.02	B	—	
8MW 2S	1.7.02	1.11.02	B	—	
8MW 2D	1.8.02	1.9.02	P	DUP + MS/MSD	
8MW 3	1.8.02	1.11.02	B	—	
8MW 5S	12.20.01	1.8.02	P	—	
8MW 6S	12.19.01	1.10.02	B	—	
8MW 6D	12.19.01	1.10.02	B	—	
8MW 7S	12.19.01	1.8.02	P	—	
8MW 8D	1.7.02	1.13.02	B	—	
8MW 10S	1.8.02	1.10.02	P	—	ON ROAD - NEED PUICE TO BUCK RD
HNUS 23	1.9.02	1.10.02	B	—	

PUMPS TO SAMPLE: P = PERISTALTIC
B = BLADDER
S = 12V SUB. WHALER

8MW8S IS DRY

1.9.02

DAILY SUMMARY GOSS COLE

ON SITE, TTNUS, FRANK W.
KEITH S.

SURVEYORS (AM ONLY) MIKE GOSSELIN
CDEP MARK LEWIS 1300

1 MW DEVELOPED, ALL WELLS DEVELOPED

1 MW SAMPLED 8MW20 + QA

INSTALLED ALL BLADDER PUMPS

COMPLETED 2 ROUNDS OF WLS
HIGH/LOW

3 COOLERS SHIPPED

WATER LEVELS IN FEET FROM TOP OF RISER

TIME	6S	7S	10S
0800	8.43	9.16	16.55
1035	8.43	9.13	16.55
1250	8.49	9.14	16.59
1630	8.54	9.14	16.59
1755	8.54	9.20	16.58

WED 1.9.02

Work continued from Page WEATHER: 30-35°F OVERCAST

0650 KS & FW @ BLD 166 CLEAN EQ., CAL. HORIBA LOAD TRUCKS FOR WELL DEVELOPMENT
0720 KS & FW TO HNUS 23 SET-UP FOR DEVELOPMENT
FRANK WORKING ON HNUS 23 KS TO GOSS COVE FOR WLs ON 6S, 7S & 10S
0845 ~~WTKS~~ KS TO BOC GASES PICK-UP 3 NITROGEN CYL.
0930 SURVEYOR MIKE GOSSELIN ON SITE, TOUR OF SITE + H&S WILL RETURN ON FRIDAY TO SURVEY
1040 KS TO BLD 166 PREP FOR GW SAMPLING
1130 TO GOSS COVE SET-UP, PURGE & SAMPLE 8MW2D ALSO COLLECTED DUP & MS/MSD
KS TAKING WL LOW TIDE @ 1245
1450 COLLECTED RB 01090201 FROM NEW BLADDER PUMP FOR 8MW7S USED 4" PVC WITH END CAP (DECONED) TO HOLD DI WATER & PUMP. PUMPED THRU TUBING INTO BOTTLES
DI USED NERL DIAGNOSTICS, LOT 0510011 EXP. 05-2002

1535 FW @ BLD 166 PACKING SAMPLES
1620 TO GC FOR WLs @ 6S, 7S & 10S
THEN INSTALL BLADDER PUMPS
→ 1300 TO 1315 MARK LEWIS STOPPED @ GC AND TALKED WITH FRANK (CDEP)
1750 COMPLETE PUMP INSTALLATION, START ROUND OF HIGH TIDE WLS
COMPLETE WLs
1838 FW TO HOTEL FOR SAMPLE DROP OFF
KS PAPER WORK @ 166
1915 KS OFF SITE

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE [signature] DATE 1.9.02

DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

AREA A & GOSS COVE

1.10.02

DAILY SUMMARY

ON SITE: T+ NUS, KEITH S.
FRANK W.

PURGED 2 WELLS DRY @ AREA A
SAMPLED 3 BDS (3 QTS)

SAMPLED 4 MWs @ GC

SHIPPED 3 COOLERS

THUR. 1.10.02

Work continued from Page WEATHER: CLOUDY 34-40°F

0650 PICK-UP ICE TO BLD 166, KS & FW, PREP FOR SAMPLING @ AREA A

0740 KS & FW TO AREA A FOR GW SAMPLING PURGED WELLS 43 & 42 DRY ALSO SAMPLED 38

KS & FW TO BLD 166, CLEAN-UP, LOAD EQ. FOR GC TO LUNCH

1140 AT GUSS COVE SET-UP ON 8MW6S & 6D

1430 COMPLETE SAMPLING FW TO BLD 166

KS TO HARDWARE STORE

1545 ADDED 0.58' TO RISER 8MW6D, RISER WAS TO FAR DOWN VAULT & PARKING LOT RUN OFF MAY HAVE GOTTEN INTO WELL.

1605 FW PURGING @ HNUS23 STOPPED & CHECKED ON FRANK

1630 CHECKED WITH GUARDS & ROAD WILL BE BLOCKED @ 1700 FOR SAMPLING OF 8MW10S

1700 SET-UP & START PURGE @ 8MW10S

1833 COMPLETE SAMPLING TO BLD 166

1850 FRANK TO HOTEL WITH SAMPLES FOR PICK-UP

KS PAPER WORK & CLEAN-UP

1920 KS OFF SITE

88 GOSS COVE AREA A

DAILY SUMMARY

ON SITE: T+NUS, FRANK W.
KEITH S.

GENERAL CHEM. CORP.; SCOTT SAVIOL
IDW (WASTE HAULERS)

CME/CPK DESIGN GROUP: JAMES ROSS. A
(SURVEYORS) MIKE GOSSELIN

2 MWs SAMPLED @ GC
2 MWs SAMPLED @ AREA A
SHIPPED 3 COOLERS

CME/CPK Design Group
Architecture Engineering Environmental Science & Surveying
Offices in Norwich & Woodstock, CT and Southbridge, MA
CPK CHANDLER PALMER & KING
SURVEYORS
James Rossman
Project Manager
TEL: 860-889-3397
FAX: 860-886-7801
TOLL FREE: 888-291-3227
jrossman@cmeengineering.com
110 Broadway
Norwich, Ct 06360

General Chemical Corp.
The Environmental Services Source
Scott Savioli
Customer Service Representative
133-138 Leland Street
Framingham, MA 01702
508-872-5000 • Fax: 508-875-5271 • Direct: 508-782-4152
www.cyclechem.com • www.generalchemical.com
ssavioli@generalchemical.com

— GOSS COVE —
LOW TIDE 2:16 + 10 MIN
LOW @ 2:26
8 MWZS LAG = 62 MIN
SAMPLE @ 3:28
8 MW3 LAG = 64 " "
SAMPLE @ 3:30
@ SITE 2:20 ±

FRIDAY 1.11.02
Work continued from Page WEATHER: 36-46°F RAIN (START @ 0830)

0650 KS & FW @ BLD 166 CAL. EQ. LOAD SUV FOR GW SAMPLING @ AREA A

0707 FW TO AREA A

KS PAPER WORK 0815 TO GOSS COVE IDW/ SURVEYORS

0845 SCOTT SAVIOLI, GENERAL CHEM. CORP. ON SITE TO SAMPLE DRUMS. 6 DRUMS SCOTT WILL TAKE 2 COMP. SAMPLES (3 & 3) SURVEYORS ARE A NO SHOW.

0915 KS TO AREA A CHECK ON FRANK THEN TO 2W MW 45DS TO PURGE

1055 KS & FW TO BLD 166 CLEAN-UP RESTOCK SUVS

1205 TO LUNCH - STOPPED @ GOSS COVE SURVEYORS WERE ON SITE - WILL COMPLETE SURVEYING TODAY

1230 PICK-UP ICE BACK TO BLD 166

1415 CALLED TROY @ US ENVIRONMENAL FOR CAL. KIT MSDS WILL FAX TODAY

CLEANING BASEMENT STORAGE

1420 TO GOSS COVE FOR GW SAMPLING SET-UP ON 8MW3 & 2S

COMPLETE SAMPLING RETURN TO BLD 166 AFTER DUMPING PURGE WATER

PACK SAMPLES, UNLOAD SUV, CLEAN EQ. PAPER WORK

1712 DEPART SITE FOR HOTEL & SAMPLE PICK-UP

RAIN ENDING AT 1410

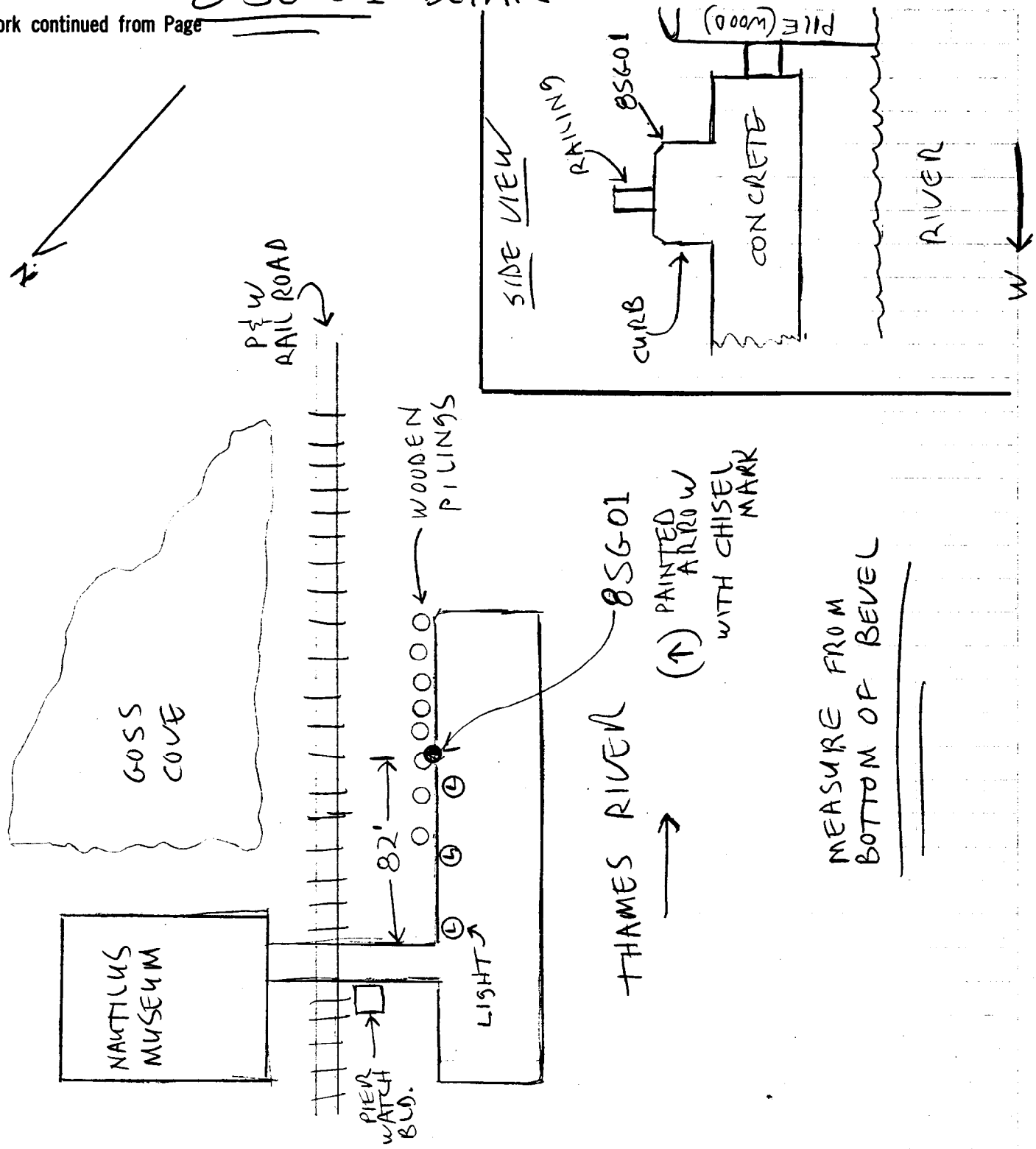
TITLE NSB-NCON

PROJECT NO. N2863

BOOK NO. 1300

8SG01 DETAIL

Work continued from Page



Work continued to Page

SIGNATURE

DATE 7.11.02

DISCLOSED TO AND UNDERSTOOD BY **DATE** **WITNESS** **DATE**

AREA A

1.12.01

DAILY SUMMARY

ON SITE, T+N4S; KEITH S.
FRANK W.

SAMPLED 5 MWs AT AREA A

DUP 01 @ 4MW01
DUP 02 @ 2WMW47DS

TITLE NSB-NION

PROJECT NO. N2863

BOOK NO. 1300

SAT. 1.12.02

Work continued from Page

WEATHER: NICE, CLOUDY 35-45 °F

0700 FW & KS AT BLD 166 CAL EQ, LOAD SUV PREP FOR GW SAMPLING AT AREA A

0735 TO AREA A

SAMPLED MWs 44, 45 & 38 - PURGED 46 DRY

1110 TO BLD 166 RESTOCK SUVs CLEAN-UP EQ.

TO LUNCH PICK-UP ICE RETURN TO BLD 166

CALL BASE POLICE LET THEM KNOW WE WOULD

1235 BE ON PERIMETER RD. & @ A86 TALKED WITH OFFICER KELLY (3777)

TO AREA A KS AT MW 47 FRANK AT 4MWIS

1640 COMPLETE SAMPLING AT BOTH WELLS TO BLD 166 UNLOAD SUVs, STORE SAMPLES & EQ. + PAPER WORK

1650 TO GOSS COVE ADDED SAND TO WELLS (IN BETWEEN 6" & 2" RISER) ~~KS~~ THAT HAD LOOSE RISERS.

ALSO CHECKED & CLOSED ALL WELL NOW THAT SURVEYORS ARE DONE.

1815 TO HOTEL

1815

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE

DATE 1.12.02

DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

AREA A & GOSS COVE

1.13.02

DAILY SUMMARY

ON SITE, TETRA TECH; FRANK W.
KEITH S.

COMPLETE SAMPLING AT AREA A
AND GOSS COVE

START DEMOB., PACKING EQ.

— GOSS COVE —
LOW TIDE 3:42 PM + 10 MIN
LOW @ 3:52 PM
& MW1 LAG = 14 MIN.
SAMPLE @ 4:06 PM
& MW8D LAG = 12 MIN
SAMPLE @ 4:04 PM
@ SITE 2:50 PM

SUNDAY 1.13.02

Work continued from Page WEATHER: RAIN 38-42°F TEMP. DROPPING TO 30°F + SNOW HIGH WINDS

RAINING THIS AM + OVERNITE

0650 KS & FW AT BLD 166 LOAD SUVs FOR GW SAMPLING AT AREA A

0740 TO AREA A - RAIN TURNING TO SNOW
MW 2LMW20S DRY NO SAMPLE
COMPLETE SAMPLING 2WMW46DS
ALL AREA A SAMPLING COMPLETE

0935 TO BLD 166 WORKING ON INVENTORY & STORAGE OF EQUIPMENT IN BASEMENT

1200 TO LUNCH

1300 TO GOSS COVE CLEAN-UP @ DRUM STORAGE AREA
6 FULL DRUMS @ SITE & 8 EMPTIES.
~~START~~ PURGE @ 8MW1 & 8D

1635 COMPLETE SAMPLING, DUMP PURGE WATER TO BLD 166 PACK EQ. FOR RETURN
COMPLETE PACKING & PAPER WORK

1825 DEPART SITE TO HOTEL

1.14.02

DAILY SUMMARY

ON SITE, T+NUS; FRANK W.
KEITH S.

— DEMOB —

ROUND 1 GOSS COVE COMPLETE
ROUND 9 AREA A COMPLETE

MONDAY 1.14.02

Work continued from Page WEATHER: OVERCAST 30-35°F

0650 PICK-UP ICE RS & FW TO BLD 166
PACK SAMPLES FOR FEDEX
0830 TO FEDEX
11 ~~8~~ KG COOLERS TO LAB 6 WITH SAMPLES, 5 EMPTY
8 PACKAGES TO US ENVIRONMENTAL
5 TO PGH OFFICE
RETURN TO BLD 166 CLEAN WORK ROOM
1100 RETURN NITROGEN CYL. TO HOTEL TO CHECK-OUT
CALLED US ENVIRONMENTAL & TALKED WITH COLIN
I LET HIM KNOW THAT THE PROBE END CAME OFF ONE OF THE WL METERS, BUT WE DID NOT BREAK IT. I WAS LOOSE WHEN WE RECEIVED IT. HE WILL CHECK IT & DON'T THINK THERE WILL BE A CHARGE.
1155 TO AIRPORT & HOME

END OF SHIFT

SIGNATURE [signature] DATE 1.14.02
DISCLOSED TO AND UNDERSTOOD BY DATE WITNESS DATE

APPENDIX B

MONITORING WELL INSPECTION SHEETS

MONITORING WELL INSPECTION SHEET

Well ID: 2LMW20S

Time: 1635 **Date:** 12/17/01 **Inspector's Name:** J. Kostelnik

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible		✓	No label
Well security	Condition protective case, cap, lock		✓	Busted Bolt / J-Plug not tight on well
Well pad	Concrete or gravel & condition		✓	Cracked Apron
Well seal	Condition of...		✓	H_2O in Vault
Area Immediately around well pad	Record any evidence of/or standing water in area of well	✓		Asphalt
Dedicated sampling equipment	Condition of...	NA	—	
PVC Riser	Condition of riser & survey reference point	✓		

Comments: Tubing in well

Signature(s) [signature]

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

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

Well ID: 2WMW215

Time: 1430 **Date:** 12/17/01 **Inspector's Name:** J. Kostelnik

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible		✓	No Label
Well security	Condition protective case, cap, lock	✓		
Well pad	Concrete or gravel & condition		✓	NO PAD
Well seal	Condition of…	✓		
Area Immediately around well pad	Record any evidence of/or standing water in area of well	✓		
Dedicated sampling equipment	Condition of…	NA	—	—
PVC Riser	Condition of riser & survey reference point	✓		

Comments:

TUBING IN WELL

Signature(s) [signature]

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

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

Well ID: 2WMW38DS

Time: 1517 **Date:** 12/17/01 **Inspector's Name:** J. Kostelnik

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

Comments:
TUBING IN WELL

Signature(s) Jaime Kostelnik

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

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

Well ID: 2NMW39DS

Time: 1529 **Date:** 12/17/01 **Inspector's Name:** J. Kostelnik

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

Comments:

TUBING in well

Signature(s) James Kostelnik

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

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

Well ID: 2NMW40DS

Time: 1539 **Date:** 12/17/01 **Inspector's Name:** J. Kostelnik

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

Comments:

TUBING in WELL

Signature(s) Jaime Kostelnik

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

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

Well ID: 2NMW 41D5

Time: 1546 **Date:** 12/17/01 **Inspector's Name:** J. Kostelnik

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible	✓		
Well security	Condition protective case, cap, lock	✓		
Well pad	Concrete or gravel & condition	✓		Gravel
Well seal	Condition of...	✓		
Area Immediately around well pad	Record any evidence of/or standing water in area of well		✓	STANDING H_2O ~~IN FRONT~~ ALL AROUND
Dedicated sampling equipment	Condition of...	NA	—	
PVC Riser	Condition of riser & survey reference point	✓		

Comments: TUBING IN WELL

Signature(s) James Kostelnik

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

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

Well ID: QWMW 42DS

Time: 1352 **Date:** 12/17/01 **Inspector's Name:** J. Kostelnik

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible	✓		
Well security	Condition protective case, cap, lock	✓		
Well pad	Concrete or gravel & condition	✓		Gravel
Well seal	Condition of…	✓		
Area Immediately around well pad	Record any evidence of/or standing water in area of well		✓	Standing H_2O surrounding
Dedicated sampling equipment	Condition of…	NA	—	
PVC Riser	Condition of riser & survey reference point	✓		

Comments:

Tubing in well

Signature(s) [illegible]

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

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

Well ID: 2NMW43DS

Time: 1600 **Date:** 12/17/01 **Inspector's Name:** J. Kostelnik

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

Comments:

TIRAE in well

Signature(s) [illegible]

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

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

Well ID: 2NMW44DS

Time: 1604 **Date:** 12/17/01 **Inspector's Name:** J.Kostelnik

Inspection Item	Types of Problems	Status		Observation
		S	U	
Well Tag	Is it in-place, legible	✓		
Well security	Condition protective case, cap, lock	✓		
Well pad	Concrete or gravel & condition		✓	PAD(GRAVEL) WASHING Away
Well seal	Condition of…	✓		
Area Immediately around well pad	Record any evidence of/or standing water in area of well		✓	H_2O Surrounding (Deeper Than Previous)
Dedicated sampling equipment	Condition of…	NA		
PVC Riser	Condition of riser & survey reference point	✓		

Comments:

TUBING in well

Signature(s) Jaime Kostelnik

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

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

Well ID: 2MMW45DS

Time: 1609 **Date:** 12/17/01 **Inspector's Name:** J. Kostelnik

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

Comments:

TUBINE in well

Signature(s) Jaime Kostelnik

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

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

Well ID: 2WMW461DS

Time: 1623 **Date:** 12/17/01 **Inspector's Name:** J. Kostelnik

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

Comments: Tubing in well

Signature(s): Jaime Kostelnik

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

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

Well ID: 2WMW47DS

Time: 1620 **Date:** 12/17/01 **Inspector's Name:** J. Kostelnik

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

Comments:

Tubing in well

Signature(s): Jerry Kostelnik

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

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

Well ID: 3MW37S

Time: MT 1523 **Date:** 12/17/01 **Inspector's Name:** J.Kostelnik

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

Comments:

TUBINE IN WELL

Signature(s) Jaime Kostelnik

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

NSB-NLON
Field Form
Revision: 1
January: 1999

MONITORING WELL INSPECTION SHEET

Well ID: 4MW2S

Time: 1535 **Date:** 12/17/01 **Inspector's Name:** J. Kostelnik

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

Comments:

TUBING in Well

Signature(s) [signature]

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

NSB-NLON
Field Form
Revision: 1
January: 1999

APPENDIX C

WATER LEVEL MEASUREMENT SHEET

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NSB-NLON, Groton, CT
Project No.: CTO 816 # 2863.0503
Location: AREA A LANDFILL
Personnel: BOB B., JAME K.
Weather Conditions: CLOUDY, COLD, LT. RAIN
Measuring Device:
Tidally Influenced: Yes ___ No X
Remarks:

Well or Piezometer Number	Date	Time	Elevation of Reference Point (feet)*	Total Well Depth (feet)*	Water Level Indicator Reading (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
3MW37S	12/17/01	1523		8.45	3.79			
2WMW38DS	12/17/01	1517		11.92	7.61			
2WMW39DS	12/17/01	1529		16.70	3.40			
2WMW40DS	12/17/01	1539		16.62	3.81			
2WMW41DS	12/17/01	1545		16.65	3.24			
2WMW42DS	12/17/01	1555		16.91	2.50			
2WMW43DS	12/17/01	1600			3.28			
2WMW44DS	12/17/01	1604		16.77	2.29			
2WMW45DS	12/17/01	1610		16.75	2.95			
2WMW46DS	12/17/01	1623		17.32	2.28			
2WMW47DS	12/17/01	1621		16.20	2.37			
2LMW20S	12/17/01	1638		18.90	18.02			
2WMW21S	12/17/01	1630		17.30	4.98			
4MW1S	12/17/01	1535		20.30	9.90			
SG06	12/17/01	1515			16.83			
SG15	12/17/01	1519		2.55*				Dry
SG16	12/17/01	1531		1.75*				Dry
SG17	12/17/01	1541		2.39*				Dry
SG18	12/17/01	1546			4.49			
SG19	12/17/01	1555			4.45			
SG20	12/17/01	1601			4.07			
SG21	12/17/01	1605			3.91			
SG22	12/17/01	1611		4.52*				Dry
SG23	12/17/01	1624		4.35*				Dry
SG24	12/17/01	1621						SG KNOCKED OVER

* All measurements to the nearest 0.01 foot

* TO GROUND SURFACE
0.25' ADDED TO TD FOR WL METER CORRECTION ON TDS

APPENDIX D

MONITORING INSTRUMENT CALIBRATION LOGS

EQUIPMENT CALIBRATION LOG

INSTRUMENT NAME/MODEL : YSI 650MDS

PROJECT NAME : NSB-NLON AREA A & GOSS COVE

MANUFACTURER : YSI

PROJECT NUMBER : CTO 816 N2863

SER# 01C0844 AC SOND 97K1095

CALIBRATION DATE	INITIAL SETTINGS	STANDARDS USED	PROCEDURE	ADJUSTMENTS MADE	FINAL SETTINGS	SIGNATURE	COMMENTS
12.18.01		SEE RIGHT	AS PER MANU.	YES	OK	RSB	PH 7.00 LOT 2675 EXP 6/2003
12.19.01		"	"	"	OK	RSB	PH 4.00 LOT 2600 EXP 3/2003
12.20.01		"	"	"	OK	RSB	ORP 100 MV LOT 2505
1.8.02		"	"	"	OK	RSB	EXP 2.1.2002
1.9.02		"	"	"	OK	RSB	
1.10.02		"	"	"	OK	RSB	COND. 1000 µS/CM
1.11.02		"	"	"	OK	RSB	LOT 2904 EXP 11/2002
1.12.02		"	"	"	OK	RSB	
1.13.02		"	"	"	OK	RSB	
							SET-UP & CHECKED
							PARAMETERS & UNITS

Instrument Rented From: US ENVIRONMENTAL

EQUIPMENT CALIBRATION LOG

INSTRUMENT NAME/MODEL : YSI 650 MDS

PROJECT NAME : NSB-NLON AREA A & GOSS COVE

MANUFACTURER : YSI

PROJECT NUMBER : CTO 816 N2863

SER# 01A0854 AA SOND 99F1380

CALIBRATION DATE	INITIAL SETTINGS	STANDARDS USED	PROCEDURE	ADJUSTMENTS MADE	FINAL SETTINGS	SIGNATURE	COMMENTS
12.18.01		SEE RIGHT	AS PER MANUAL	YES	OK	RSP	PH 7.00 LOT 2675 EXP 6/2003
12.19.01		"	"	"	OK	RSP	PH 4.00 LOT 2600 EXP 3/2003
12.20.01		"	"	"	OK	RSP	ORP 100 MV LOT 2505
1.8.02		"	"	"	OK	RSP	EXP 2.1.2002
1.9.02		"	"	"	OK	RSP	
1.10.02		"	"	"	OK	RSP	COND 1000 µS/CM
1.11.02		"	"	"	OK	RSP	LOT 2904 EXP 11/2002
1.12.02		"	"	"	OK	RSP	
1.13.02		"	"	"	OK	RSP	
							SET-UP & CHECKED
							PARAMETERS & UNITS

Instrument Rented From: US ENVIRONMENTAL

EQUIPMENT CALIBRATION LOG

INSTRUMENT NAME/MODEL: TURB. METER 2020

PROJECT NAME: NSB-NION AREA A & GOSS COVE

MANUFACTURER: LaMOTTE

PROJECT NUMBER: CTO 816 N2863

SER. # 1758 1800

CALIBRATION DATE	INITIAL SETTINGS	STANDARDS USED	PROCEDURE	ADJUSTMENTS MADE	FINAL SETTINGS	SIGNATURE	COMMENTS
12.18.01	–	CHECK	–	Na	0	[illegible]	
12-19-01	–	CHECK	–	Na	0	FMW	STANDARDS 0 + 10
12-20-01	–	CHECK	–	Na	0	[illegible]	
~~12-20-01~~ 1-8-02	–	CHECK	–	Na	0	FMW	
1-9-02	–	CHECK	–	Na	0	FMW	
1-10-02	–	CHECK	–	Na	0	FMW	
1-11-02	–	CHECK	–	No	0	FMW	
1.12.02	–	CHECK	–	NO	0 & 10	RSP	
1.13.02	–	CHECK	–	NO	0 & 10	RSP	

Instrument Rented From: US ENVIRONMENTAL

EQUIPMENT CALIBRATION LOG

INSTRUMENT NAME/MODEL : TURB. METER 2020

PROJECT NAME : NSB-NION AREA A & GOSS COVE

MANUFACTURER : LaMOTTE

PROJECT NUMBER : CTO 816 N2863

SER. # 1757-1800

CALIBRATION DATE	INITIAL SETTINGS	STANDARDS USED	PROCEDURE	ADJUSTMENTS MADE	FINAL SETTINGS	SIGNATURE	COMMENTS
12.18.01	—	CHECK	—	Na	0	FWL	
12-19-01	—	CHECK	—	Na	0	FWL	STANDARDS 0 + 10
12-20-01	—	CHECK	—	Na	0	FWL	
1-8-02	—	CHeck	—	Na	0	FWL	
1-9-02	—	CHeck	—	Na	0	FWL	
1-10-02	—	CHECK	—	Na	0	FWL	
1-11-02	—	CHECK	—	Na	0	FWL	
1.12.02	—	CHECK	—	NO	0 & 10	RSP	
1.13.02	—	CHECK	—	NO	0 & 10	RSP	

Instrument Rented From: US ENVIRONMENTAL

EQUIPMENT CALIBRATION LOG

INSTRUMENT NAME/MODEL : PID 2020

PROJECT NAME : NSB-NLON AREA A & GOSS COVE

MANUFACTURER : PHOTOVAC

PROJECT NUMBER : CTO 816 N2863

SER# ED KH 319

CALIBRATION DATE	INITIAL SETTINGS	STANDARDS USED	PROCEDURE	ADJUSTMENTS MADE	FINAL SETTINGS	SIGNATURE	COMMENTS
12.17.02	0 - 98	ISO BUT.	AS PER. MAN.	NONE	0 - 100	[illegible]	0 AIR
12.19.02	0 - 100	100 PPM	"	"	0 - 100	[illegible]	100 ISO BUTYLENE

Instrument Rented From: US ENVIRONMENTAL

EQUIPMENT CALIBRATION LOG

INSTRUMENT NAME/MODEL : PID 2020

PROJECT NAME : NSB-NLON AREA A & GOSS COVE

MANUFACTURER : PHOTOVAC

PROJECT NUMBER : CTO 816 N2863

SER# ED RJ 335

CALIBRATION DATE	INITIAL SETTINGS	STANDARDS USED	PROCEDURE	ADJUSTMENTS MADE	FINAL SETTINGS	SIGNATURE	COMMENTS
12.17	0 - 98	ISO BUT.	AS PER. MANG.	NONE	0 - 100	RSP	0 AIR
12. 18		100 PPM					100 ISO BUTYLENE
12. 19							
12. 20							
1.8 ~~12. 8~~							
1. 9. 02							
1.10.02							
1-11-02							

Instrument Rented From: US ENVIRONMENTAL

EQUIPMENT CALIBRATION LOG

INSTRUMENT NAME/MODEL : HORIBA U-10

PROJECT NAME : NSB-NLON AREA A & GOSS COVE

MANUFACTURER : HORIBA

PROJECT NUMBER : CTO 816 N2863

SER. # 710025

CALIBRATION DATE	INITIAL SETTINGS	STANDARDS USED	PROCEDURE	ADJUSTMENTS MADE	FINAL SETTINGS	SIGNATURE	COMMENTS
12.18.01	pH 4.00	AUTO CAL	AUTO	—	4.00	RSL	USED FOR
12.19.01	pH 3.99	"	"	—	4.00	RSL	DEVELOPMENT
12.20.01	pH 4.02	"	"	—	4.00	RSL	AT GOSS COVE
1-7-02	Ph 3.99	AUTO CAL	AUTO	—	4.00	[illegible]	
1.8.02	pH 3.99	"	"	—	4.00	RSL	
1.9.02	pH 4.00	"	"	—	4.00	RSL	

Instrument Rented From: US ENVIRONMENTAL

APPENDIX E

GROUNDWATER AND SURFACE WATER SAMPLE LOGSHEETS AND LOW-FLOW PURGE DATA SHEETS

TABLE E-1

SUMMARY OF GROUNDWATER/SURFACE WATER FIELD PARAMETERS
AREA A LANDFILL GROUNDWATER MONITORING PROGRAM ROUNDS 1 THROUGH 9
NSB-NLON, GROTON, CONNECTICUT

Location ID	Round	Date	pH Standard	SC mS/cm	Temp. Degree C	Turb. NTU	DO mg/L	Eh mV	Salinity ppt
4MW1S	1	10/27/1999	5.69	0.293	13.7	0.1	1.37	124	0.14
(UG)	2	1/23/2000	5.70	0.234	8.1	0	1.08	219	0.11
	3	4/8/2000	5.65	0.418	10.2	0	0.06	180	0.20
	4	7/6/2000	5.53	0.350	14.0	0	6.17	214	0.00
	5	12/16/2000	5.80	0.270	10.4	2.8	6.54	67	--
	6	3/11/2001	5.38	0.624	7.7	0	9.87	195	0.31
	7	6/25/2001	5.61	0.217	12.1	0	8.33	--	--
	8	9/20/2001	5.70	0.339	15.3	0	6.13	175	0.00
	9	1/12/2002	5.76	0.298	10.1	0	6.08	20	0.14
2LMW20S	1	10/24/1999	6.09	0.568	15.7	0	1.37	32	0.28
(UG)	2	1/22/2000	6.42	0.394	8.8	0.5	2.19	-7	0.19
	3	4/8/2000	6.31	0.439	12.3	3.1	0.02	28	0.21
	4	7/6/2000	6.16	0.503	16.0	2.2	0.99	-18	0.00
	5	12/16/2000	6.23	0.552	12.8	1.6	3.87	-99	--
	6	3/12/2001	12.31	0.515	9.9	3.6	0.73	27	0.25
	7	6/24/2001	6.48	0.359	15.2	1.0	6.20	--	--
	8	9/21/2001	6.34	0.431	17.8	7.2	5.01	-114	0.00
	9	1/13/2002	dry	--	--	--	--	--	--
2WMW21S	1	10/25/1999	6.72	30.27	13.5	190	5.78	-333	18.79
(REF)	2	1/23/2000	6.84	34.25	7.6	3.2	3.48	-338	21.32
	3	4/8/2000	6.62	34.20	12.1	41	4.49	-366	21.46
	4	7/5/2000	6.91	32.30	15.4	40	0.26	-404	20.00
	5	12/14/2000	6.95	3.380	8.1	19	9.85	-310	--
	6	3/8/2001	6.14	4.585	3.4	1.7	1.18	-234	2.40
	7	6/23/2001	6.69	25.58	14.1	45	8.15	--	--
	8	9/19/2001	6.99	28.20	15.2	100	3.32	-390	17.00
	9	12/20/2002	6.29	21.80	10.2	>999	8.21	-581	13.15
3MW37S	1	10/28/1999	6.10	0.581	12.7	5.8	2.08	60	0.28
(DG)	2	1/22/2000	6.22	0.841	4.8	0.5	1.67	55	0.41
	3	4/9/2000	6.21	0.824	7.6	2.4	--	68	0.41
	4	7/20/2000	6.12	0.664	16.5	1.9	1.19	50	0
	5	12/18/2000	6.12	0.760	9.1	0.8	2.49	26	--
	6	3/12/2001	5.99	2.455	6.1	0	4.31	70	1.25
	7	6/19/2001	6.03	1.355	15.4	1.4	0.70	71	--
	8	9/22/2001	6.11	0.932	16.1	2.5	3.78	-31	0
	9	12/19/2001	6.10	1.440	10.7	0.4	2.90	174	0.73
2WMW38DS	1	10/26/1999	6.83	1.130	14.8	6.8	2.48	199	0.57
(DG)	2	1/21/2000	7.10	0.811	8.6	4.3	4.40	47	0.39
	3	4/7/2000	7.13	1.220	9.1	4.1	3.93	39	0.61
	4	7/20/2000	6.80	1.290	14.7	1.3	2.14	-126	0.10
	5	12/15/2000	6.84	1.110	11.9	12	2.94	-50	--
	6	3/12/2001	6.75	0.874	6.8	1.8	3.34	118	0.43
	7	6/21/2001	--	--	--	--	--	--	--
	8	9/25/2001	6.69	0.521	15.9	4.6	4.67	-99	0
	9	12/20/2002	6.84	1.262	11.3	3.9	3.32	-67	0.64
2WMW39DS	1	10/27/1999	6.82	4.400	13.6	112	2.03	-125	2.47
(DG)	2	1/21/2000	7.02	6.450	8.4	4.7	0.00	-206	3.52
	3	4/6/2000	6.94	5.970	9.2	12	0.13	-110	3.24
	4	7/19/2000	6.85	4.690	13.1	12	0.70	-133	0.20
	5	12/13/2000	6.94	3.430	10.9	19	0.60	76	--
	6	3/8/2001	6.76	4.320	8.4	37	0.95	-110	2.30
	7	6/19/2001	6.67	1.500	15.1	8.1	0.60	--	--
	8	9/22/2001	6.83	3.430	12.4	32	5.94	-152	2.00
	9	12/19/2001	6.72	3.606	9.6	37	0.56	-183	1.91
2WMW40DS	1	10/25/1999	7.14	19.23	13.8	11	3.29	-324	11.48
(DG)	2	1/21/2000	7.11	26.20	9.4	42	0.16	-328	15.98
	3	4/7/2000	6.95	25.33	8.9	51	0	-319	15.35
	4	7/20/2000	7.13	35.50	13.9	11	0.64	-324	2.30
	5	12/14/2000	7.11	2.52	11.6	8.4	40.31	-320	--
	6	3/9/2001	6.86	20.48	8.3	11	0.61	-321	12.25
	7	6/19/2001	6.89	12.53	11.3	3.0	0.74	-334	--
	8	9/23/2001	7.13	27.90	12.8	8.2	3.36	-372	17.00
	9	12/19/2001	6.99	27.70	10.7	5.1	3.45	-426	17.10
2WMW41DS	1	10/28/1999	6.88	31.86	12.2	14	8.94	-292	19.82
(DG)	2	1/21/2000	6.86	27.73	9.7	32	4.02	-326	17.07
	3	4/7/2000	6.55	27.06	9.1	23	17.06	-325	16.59
	4	7/20/2000	6.93	27.40	13.4	6.4	0.24	-349	17.00
	5	12/14/2000	7.01	2.78	10.8	11	40.47	-331	--
	6	3/9/2001	6.56	21.88	8.6	2.9	2.93	-324	13.01
	7	6/20/2001	7.03	21.40	19.7	34	7.77	-314	--
	8	9/23/2001	7.08	28.20	12.7	6.0	4.64	-371	17.00
	9	12/19/2001	6.95	13.20	10.7	4.1	3.77	-417	13.00

TABLE E-1

SUMMARY OF GROUNDWATER/SURFACE WATER FIELD PARAMETERS
AREA A LANDFILL GROUNDWATER MONITORING PROGRAM ROUNDS 1 THROUGH 9
NSB-NLON, GROTON, CONNECTICUT

Location ID	Round	Date	pH Standard	SC mS/cm	Temp. Degree C	Turb. NTU	DO mg/L	Eh mV	Salinity ppt
2WMW42DS	1	10/28/1999	6.97	32.56	12.1	142	9.65	-339	20.39
(DG)	2	1/21/2000	6.96	28.94	8.6	22	2.04	-328	19.21
	3	4/6/2000	6.67	29.97	9.1	25	26.81	-338	18.49
	4	7/20/2000	7.09	31.30	12.2	20	0.31	-351	19.00
	5	12/13/2000	6.85	2.96	10.7	55	3.04	-327	--
	6	3/8/2001	6.71	26.70	8.3	32	0.08	-340	16.06
	7	6/20/2001	6.86	11.86	14.7	63	2.39	--	--
	8	9/24/2001	7.15	29.10	13.2	23	4.40	-373	18.00
	9	1/10/2002	6.98	23.20	10.3	16	2.92	-413	13.90
2WMW43DS	1	10/27/1999	6.52	36.50	12.3	109	8.29	-345	23.06
(DG)	2	1/22/2000	6.69	38.66	7.4	90	6.30	-320	24.34
	3	4/8/2000	6.46	38.31	10.6	133	11.76	-355	24.31
	4	7/21/2000	6.85	40.60	11.7	50	0.28	-371	26.00
	5	12/14/2000	6.60	3.68	10.4	65	4.65	-360	--
	6	3/13/2001	6.27	33.31	8.7	32	7.18	-346	20.74
	7	6/20/2001	6.89	20.29	12.9	5.5	2.88	--	--
	8	9/23/2001	6.96	38.60	13.7	25	4.13	-390	25.00
	9	1/11/2002	6.80	33.40	9.4	32	3.88	-382	22.40
2WMW44DS	1	10/28/1999	6.96	18.73	12.9	145	13.21	-307	11.04
(DG)	2	--	--	--	--	--	--	--	--
	3	4/9/2000	6.85	20.49	11.8	238	1.52	-329	12.26
	4	7/20/2000	7.15	22.20	12.2	49	0.80	-325	13.00
	5	12/15/2000	7.19	1.900	9.9	29	13.75	-307	--
	6	3/9/2001	6.65	18.25	10.3	34	0.25	-324	10.84
	7	6/22/2001	6.92	27.88	15.7	4.3	5.87	--	--
	8	9/24/2001	7.22	23.90	14.0	39	3.11	-346	14.00
	9	1/12/2002	6.86	16.55	8.0	13	1.39	-404	9.68
2WMW45DS	1	10/26/1999	6.79	42.12	11.3	17	6.22	-321	26.43
(DG)	2	1/23/2000	6.85	39.68	8.1	6.2	5.17	-340	24.93
	3	4/8/2000	6.91	36.19	9.7	13	0.95	-350	22.49
	4	7/20/2000	7.03	37.50	11.3	26	0.26	-382	23.00
	5	12/15/2000	6.98	3.900	10.6	17	40.38	-351	--
	6	3/11/2001	6.55	39.59	9.3	33	2.82	-359	25.40
	7	6/20/2001	7.02	18.01	18.3	35	5.68	-325	--
	8	9/24/2001	7.05	34.80	13.1	11	2.61	-392	22.00
	9	1/12/2002	7.02	29.48	9.9	14	7.57	-429	18.20
2WMW46DS	1	10/26/1999	6.83	41.17	11.3	223	3.97	-331	26.30
(DG)	2	1/24/2000	7.12	41.45	7.4	67	2.76	-328	26.28
	3	4/7/2000	6.82	42.15	9.2	71	6.94	-366	26.89
	4	7/20/2000	7.28	44.50	15.1	42	0.20	-363	28.00
	5	12/15/2000	7.00	4.050	9.4	45	2.24	-370	--
	6	3/11/2001	6.65	37.46	8.3	33	6.84	-357	23.59
	7	6/21/2001	6.94	29.67	14.4	4.7	2.94	--	--
	8	9/20/2001	7.26	51.70	12.7	42	2.23	-378	33.00
	9	1/13/2002	6.96	43.78	9.2	70	5.87	-441	28.00
2WMW47DS	1	10/25/1999	6.45	7.180	13.2	19	0.60	-187	3.97
(DG)	2	1/24/2000	6.62	7.340	6.5	52	0.76	-308	4.03
	3	4/6/2000	6.76	6.150	10.0	46	0.22	-230	3.31
	4	7/18/2000	6.60	11.60	17.7	101	0.24	-451	7.00
	5	12/14/2000	6.40	9.250	7.6	85	12.22	-233	--
	6	3/9/2001	6.36	19.57	8.2	260	5.49	-379	11.46
	7	6/23/2001	6.68	5.430	15.0	29	2.89	-237	--
	8	9/20/2001	6.94	23.90	13.9	35	4.60	-335	15.00
	9	1/12/2002	6.57	4.762	7.8	20	1.43	-177	2.53
3MSP01	1	10/24/1999	6.57	0.371	14.0	13	7.25	184	0.18
(SP)	2	--	--	--	--	--	--	--	--
	3	--	--	--	--	--	--	--	--
	4	7/22/2000	6.12	1.040	12.5	4.9	6.88	-53	0
	5	12/16/2000	6.78	0.926	13.9	26	8.06	-122	--
	6	3/13/2001	6.52	0.172	3.5	42	14.27	66	0.08
	7	6/19/2001	6.50	0.491	16.2	11	7.00	51	--
	8	9/25/2001	6.38	0.843	18.4	5.6	8.90	-62	0
	9	12/20/2002	6.18	1.130	13.4	3.8	4.44	-51	0.57
SG16	9	12/19/2001	6.72	0.611	10.7	250	6.21	-92	12.27
(DG)	Note: Dry all other rounds								

TABLE E-1

SUMMARY OF GROUNDWATER/SURFACE WATER FIELD PARAMETERS
AREA A LANDFILL GROUNDWATER MONITORING PROGRAM ROUNDS 1 THROUGH 9
NSB-NLON, GROTON, CONNECTICUT

Location ID	Round	Date	pH Standard	SC mS/cm	Temp. Degree C	Turb. NTU	DO mg/L	Eh mV	Salinity ppt
SG18	1	10/27/1999	6.45	0.639	10.1	6.1	3.81	-24	0.31
(DG)	2	--	--	--	--	--	--	--	--
	3	4/5/2000	7.70	0.442	9.0	5.3	1.89	-221	0.21
	4	7/18/2000	6.64	0.734	19.0	18	1.18	-161	0
	5	12/18/2000	7.34	0.332	3.9	11	3.65	-54	--
	6	3/13/2001	6.57	0.285	1.0	11	12.41	104	0.13
	7	6/20/2001	7.87	0.309	24.3	89	6.49	-80	--
	8	9/25/2001	6.35	0.405	19.0	159	7.22	-88	0
	9	12/18/2001	7.12	0.322	5.9	132	3.10	-75	0.25
SG19	1	10/27/1999	6.62	0.628	10.5	6.2	5.05	23	0.31
(DG)	2	--	--	--	--	--	--	--	--
	3	4/5/2000	8.11	0.536	9.7	22	2.04	-219	0.26
	4	7/19/2000	6.56	1.260	18.5	6.6	0.70	-192	0.10
	5	12/19/2000	6.81	0.395	2.8	8.4	1.01	126	--
	6	3/12/2001	6.56	0.389	2.8	2.9	8.59	-66	0.19
	7	6/22/2001	6.51	0.236	20.1	5.8	4.56	32	--
	8	9/25/2001	6.16	0.583	20.1	28	7.67	-61	0
	9	12/18/2001	7.23	0.188	6.1	1.5	2.10	-72	0.09
SG20	1	10/27/1999	6.63	0.624	11.0	6.3	4.95	7	0.31
(DG)	2	--	--	--	--	--	--	--	--
	3	4/4/2000	6.96	0.360	11.8	7.1	6.61	163	0.17
	4	7/19/2000	6.28	0.422	18.0	6.3	0.57	-101	0
	5	12/19/2000	6.98	0.267	2.0	7.3	3.44	-17	--
	6	3/13/2001	6.67	0.380	1.7	12	7.29	39	0.18
	7	6/22/2001	6.55	0.231	20.2	7.2	6.21	14	--
	8	9/25/2001	6.18	0.302	21.0	18	6.92	-13	0
	9	12/18/2001	6.57	0.558	5.6	8.7	4.24	151	0.27
SG21	1	10/24/1999	6.68	0.568	9.4	6.3	1.80	46	0.28
(DG)	2	--	--	--	--	--	--	--	--
	3	4/4/2000	7.74	0.401	12.1	7.0	7.68	145	0.19
	4	7/19/2000	6.65	0.599	17.9	15	0.43	-172	0.00
	5	12/19/2000	6.53	0.253	2.3	6.1	2.29	-26	--
	6	3/11/2001	7.15	0.097	1.2	4.7	11.25	5	0.05
	7	6/24/2001	7.46	0.335	23.7	--	9.70	-10	--
	8	9/25/2001	6.44	0.494	20.6	15	6.62	-81	0.00
	9	12/18/2001	6.63	0.739	5.3	28	2.40	97	0.36
SG22	1	10/27/1999	6.39	0.559	14.0	30	4.35	-50	0.27
(DG)	2	--	--	--	--	--	--	--	--
	3	4/5/2000	6.90	0.360	8.6	10	0.65	-57	0.17
	4	--	--	--	--	--	--	--	--
	5	12/19/2000	6.69	0.258	3.7	7.0	1.96	-11	--
	6	3/11/2001	7.03	0.491	3.5	10	1.27	-68	0.24
	7	6/25/2001	6.80	0.430	14.8	--	3.16	-103	--
	8	9/25/2001	dry	--	--	--	--	--	--
	9	12/20/2001	dry	--	--	--	--	--	--
	10	3/25/2002	dry	--	--	--	--	--	--
SG23	1	10/27/1999	6.16	0.500	11.0	6.8	4.01	-19	0.24
(DG)	2	--	--	--	--	--	--	--	--
	3	4/6/2000	7.84	0.617	6.0	6.3	5.61	-246	0.30
	4	7/18/2000	6.12	0.650	16.7	13	0.79	-82	0
	5	12/19/2000	6.57	0.055	2.6	0	4.67	-1	--
	6	3/11/2001	8.03	0.069	0.8	5.0	6.28	-45	0.03
	7	6/21/2001	7.82	0.368	20.1	5.2	5.25	-96	--
	8	9/25/2001	dry	--	--	--	--	--	--
	9	12/20/2001	5.50	0.461	4.7	6.3	5.40	-15	0.22
SG24	1	10/27/1999	7.32	0.403	12.7	3.9	6.46	-29	0.19
(DG)	2	--	--	--	--	--	--	--	--
	3	4/5/2000	6.80	4.500	13.7	10	1.12	-176	2.54
	4	--	--	--	--	--	--	--	--
	5	12/18/2000	9.29	0.371	3.2	4.9	9.68	-211	--
	6	3/13/2001	7.55	0.037	0.5	6.4	14.47	89	0.02
	7	6/25/2001	6.56	0.253	24.8	--	3.22	-12	--
	8	9/25/2001	dry	--	--	--	--	--	--
	9	12/20/2001	dry	--	--	--	--	--	--

DG = Downgradient Location
UG = Upgradient Location
REF = Reference Location
SP = Seep Location
MW = Monitoring Well
SG = Staff Gauge
Shaded numbers are suspect results.
Staff Gauges SG-15 and SG-17 were dry during Rounds 1 through 9.
Locations marked with -- were either not sampled or had an instrument error.

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: 2LGW20S - 09
Sample Location: 2LMW20S
Sampled By: FGW
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: / Time: / Method: Peristaltic Pump	BLACK	6.17	0.066	5.51	999	4.63	-59.1	0.03

PURGE DATA:

Date: 1-13-02
Method: Peristaltic Pump
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 18.9
Static Water Level (WL): 18.7
One Casing Volume(gal):
Start Purge (hrs): 0830
End Purge (hrs):
Total Purge Time (min):
Total Vol. Purged (gal):

See Attached Low Flow Purge Data Sheet for Purge Data

NO SAMPLE

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	
TCL PAH	4° C	2 - Qt. Amber Glass	
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	

OBSERVATIONS / NOTES:

PUMPED DRY, ONLY 0.2' OF WATER IN WELL
WELL PAD IS BROKEN, VAULT WAS FULL OF WATER
COULD NOT KEEP WATER OUT OF WELL CASING

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: 2WGW215 - 09
Sample Location: 2WMW215
Sampled By: B. BALKOVEC
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: 12/20/01								
Time: 1016								
Method: Peristaltic Pump	BLACK	6.29	21.80	10.23	>999	8.21	-581.4	13.15

PURGE DATA: -NON TURBID-

Date: 12/20/01	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): 17.31	
Static Water Level (WL): 4.85	
One Casing Volume(gal): 2.03	
Start Purge (hrs): 0815	
End Purge (hrs): 1015	
Total Purge Time (min): 120	
Total Vol. Purged (gal): 4.75	

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	9
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	6
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	8
TCL PAH	4° C	2 - Qt. Amber Glass	6
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	2
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	2
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	2
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	2

OBSERVATIONS / NOTES:

SULFUR ODOR.
WATER TURNED BLACK.

Circle if Applicable:

MS/MSD

Duplicate ID No.: —

Signature(s): Robert Balkovec

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / AREA A - ROUND 9
PROJECT NUMBER: CTO 816 job#2863.0503

WELL ID.: 2WMW21S
DATE: 12/20/01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh (mV)	Sal. (ppt)	Comments (Vol. Accum. & Color)
0815	4.85	START								BLACK FINES IN WATER
0820	5.43	125	6.46	49.01	7.9	5.11	10.45	-420.7	34.01	SULFUR ODOR!
0825	5.84	125	6.45	48.62	1.5	4.61	10.48	-415.9	31.56	1.25L
0830	6.28	125	6.87	44.84	1.2	3.99	10.80	-424.5	28.47	1.88L
0835	6.37	150	6.82	42.40	1.0	3.81	10.81	-424.2	27.25	GREENISH TINT
0840	6.55	150	6.74	39.77	1.1	3.80	10.81	-419.6	25.34	3.38L
0845	6.61	150	6.67	37.76	3.2	3.76	10.82	-415.8	23.45	4.13L
0855	6.72	150	6.51	33.01	6.0	3.62	10.80	-418.8	20.48	5.63L
0905	6.77	150	6.51	28.36	120	2.49	10.67	-442.1	17.49	WATER TURNING GRAY
0915	6.79	150	6.46	26.42	472	4.50	10.53	-456.7	16.19	8.63L >1 vol
0925	6.81	150	6.36	24.77	>999	7.54	10.43	-495.2	15.10	BLACK → NON TURBID
0935	6.82	150	6.31	23.43	>999	8.10	10.36	-530.1	14.14	" " "
0945	6.81	150	6.31	22.40	>999	8.21	10.26	-570.4	13.50	13.73L 3.5gal
0955	6.81	160	6.29	22.00	>999	8.34	10.23	-579.8	13.12	
1005	6.82	160	6.29	21.82	>999	8.20	10.24	-580.1	13.11	18.43L
1015	6.82	160	6.29	21.80	>999	8.21	10.23	-581.4	13.15	18.93L = 4.75gal
	→ END PURGE	W/L STABILIZED + PARAMETERS STABLE								
	SAMPLED @ 1016									

7.7L = 1 vol

SIGNATURE(S): Robert Belkner

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: 2 W GW38DS09
Sample Location: 2WMW38DS
Sampled By: B Balkovec / J Kostenzik
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: 12/20/01 * Time: 1550 Method: Peristaltic Pump	CLEAR	6.84	1.262	11.27	3.9	3.32	-66.8	0.64

PURGE DATA: GREENISH TINT

Date: 12/19/01
Method: Peristaltic Pump
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 11.92
Static Water Level (WL): 7.48
One Casing Volume(gal): 0.7
Start Purge (hrs): 921
End Purge (hrs): 949
Total Purge Time (min): 28
Total Vol. Purged (gal): 3.0

See Attached Low Flow Purge Data Sheet for Purge Data

* SAMPLED 12/20/01 1550, 1/10/02 0810, 1/12/02 1045

WELL PURGED DRY @ 949

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial (3)	12/20/01
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass (2)	1.10.02
TCL PEST/PCBs	4° C	ONLY 500 ML 2 - Qt. Amber Glass (1)	1.12.02
TCL PAH	4° C	DRY WELL 2 - Qt. Amber Glass (2)	1.12.02
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE (1)	12/20/01
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE (1)	12/20/01
TOC & COD	H_2SO_4 / 4° C	125 ml Glass (1)	1.10.02
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE (1)	1.10.02

OBSERVATIONS / NOTES:

WL=9.52 ON 12/20/01 @ 1548. START SAMPLING @ 1550
STARTED SAMPLING ON 12/20/01 WELL RAN DRY AFTER METALS WERE COLLECTED
WATER LEVEL 1.10.02 @ 0808 = 7.66'
WL 1.12.02 @ ~~0940~~ 1040 = 8.78'

Circle if Applicable: KS

MS/MSD

Duplicate ID No.:

Signature(s): Robert Balkovec

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / AREA A - ROUND 9
PROJECT NUMBER: CTO 816 job#2863.0503

WELL ID.: 2WGW38DS-09
DATE: 12/18/01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh (mV)	Sal. (ppt)	Comments (Vol. Accum. & Color)
921	7.48	START	PURGE	→					→	CLEAR, NO ODOR
929	8.61	170	6.81	1.194	6.9	5.72	11.49	-29.4	0.60	↓
934	9.24	125	6.81	1.195	5.2	5.22	11.38	-21.8	0.60	↓
939	9.82	125	6.82	1.227	4.9	4.10	11.27	-32.0	0.62	↓
944	10.62	125	6.84	1.262	3.9	3.32	11.27	-66.8	0.64	↓ ~2L PURGED
949	WELL PURGED DRY	→						→		↓ ~3L PURGED

SIGNATURE(S): [illegible] FOR JK

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: 2WGW39DS 09
Sample Location: 2WMW39DS
Sampled By: R. BALKOVEC
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: 12/19/01								
Time: 0735								
Method: Peristaltic Pump	HAZY TAN	6.72	3.696	4.63	37	0.56	-183.2	1.91

PURGE DATA:

Date: 12/18/01
Method: Peristaltic Pump
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 16.70
Static Water Level (WL): 2.53
One Casing Volume(gal): 2.3
Start Purge (hrs): 1031
End Purge (hrs): 1130
Total Purge Time (min): 59
Total Vol. Purged (gal): 3.9

PURGED BY J. KUSTELNYK

See Attached Low Flow Purge Data Sheet for Purge Data

Purged Dry @ 1130

SAMPLE COLLECTION INFORMATION: 12.19.01

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

@ 0734 12/19/01 WL: 3.32'

Circle if Applicable:

MS/MSD —
Duplicate ID No.: —

Signature(s): Robert Balkovec

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / AREA A - ROUND 9
PROJECT NUMBER: CTO 816 job#2863.0503

WELL ID.: 2WGW39DS-09
DATE: 12/18/01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh (mV)	Sal. (ppt)	Comments (Vol. Accum. & Color)
1031	2.53	START	PURGE						→	~~Clear, NO ODOR~~ BROWNISH
1039	5.16	250	6.71	3.4188	65	1.10	10.40	-165.3	1.85	w/FINE BLACK MATERIAL
1048	7.88	250	6.52	1.852	85	0.63	9.70	-91.3	0.94	BROWN TURBID
1058	9.45	250	6.51	1.802	65	0.50	9.83	-93.0	0.92	↓
1103	10.83	250	6.60	1.770	29	0.45	9.89	-144.4	0.90	Clear, NO ODOR, SL Turbidity
1108	12.34	250	6.62	1.988	17	0.40	10.02	-162.3	1.02	
1113	13.59	250	6.65	2.476	15	0.37	10.22	-170.8	1.30	
1118	14.62	250	6.68	2.828	17	0.38	10.33	-176.2	1.48	~12L
1123	15.61	250	6.76	3.368	28	0.56	10.45	-182.0	1.78	
1128	15.66	250	6.72	3.606	37	6.92	[illegible]	-183.2	1.91	ALMOST DRY LOTS OF BUBBLES
113[illegible]	PURGED L[illegible]									↓ DRY

SIGNATURE(S): J.K.

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: 2WGW40D5-09
Sample Location: 2WMW40S0
Sampled By: B. BALKOVEC
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

SEE BELOW

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: 12/19/01 & 12/20/01								
Time: 0850								
Method: Peristaltic Pump	GREENISH TINT	6.99	27.70	10.73	5.1	3.45	-47.61	17.10

PURGE DATA:

Date: 12/19/01	12/20/01 @ 1413 WL = 9.57
Method: Peristaltic Pump	@ 1415 FINISH SAMPLING
Monitor Reading (ppm):	
Well Casing Diameter & Material	See Attached Low Flow Purge Data Sheet for Purge Data
Type: 2" PVC	
Total Well Depth (TD): 16.62	
Static Water Level (WL): 3.71	
One Casing Volume(gal): 1.45	
Start Purge (hrs): 1340	
End Purge (hrs): 1440	WHEN SAMPLING VOC'S, AIR BUBBLES (TINY) WERE CREATED
Total Purge Time (min): 60	* DUE TO A CHEMICAL REACTION W/ THE HCL.
Total Vol. Purged (gal): 2.2	

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements		Collected
TCL VOLATILES	HCL / 4° C	12/19/01	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	1 ON 12/19/01	2 - Qt. Amber Glass 1 ON	12/20/01
TCL PEST/PCBs	4° C	1 ON 12/19/01	2 - Qt. Amber Glass 1 ON	12/20/01
TCL PAH	4° C	1 ON 12/19/01	2 - Qt. Amber Glass 1 ON	12/20/01
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1 ON	1- L PE	12/19/01
TAL METALS (DISSOLVED)	HNO_3 / 4° C		1 - L PE	12/20/01
TOC & COD	H_2SO_4 / 4° C		125 ml Glass	12/20/01
Alkalinity, Chloride, Sulfate, TDS	4° C		1 - L PE	12/20/01

OBSERVATIONS / NOTES:

SULFUR ODOR W/ LIGHT GREEN TINT

* WELL PUMPED DRY ON 12/18/01 @ 1440 WILL ALLOW FOR RECHARGE AND SAMPLE ON 12/19/01

* @ 0850 ON 12/19/01 WL = 10.71' WILL PUT AND SAMPLE WELL. WELL DRY @ 0916 ALLOW FOR RECHARGE.

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Robert Balkovec

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / AREA A - ROUND 9
PROJECT NUMBER: CTO 816 job#2863.0503

WELL ID.: 2WMW40DS
DATE: 12/18/01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh (mV)	Sal. (ppt)	Comments (Vol. Accum. & Color)
1340	3.71	125								SMELLS LIKE SULFUR
1350	5.47	125	6.82	28.80	3.0	3.72	9.48	-425.6	25.46	1.25L YELLOW TINT
1355	7.02	130	6.83	27.61	0.20	3.54	10.63	-428.6	24.15	BLACK FINES IN WATER
1400	7.44	130	6.81	26.10	0.17	3.49	10.71	-422.9	22.44	2.55L
1405	8.48	130	6.81	22.82	0.45	3.38	11.18	-421.3	19.35	BLACK FINES IN WATER
1410	9.77	125	6.84	20.30	0.5	3.36	11.40	-425.5	16.37	3.8L
1415	10.43	130	7.02	21.78	3.5	3.15	11.20	-420.5	13.22	GREENISH TINT
1420	11.61	130	7.12	21.53	5.2	3.40	11.14	-417.3	12.80	5.1L
1425	12.35	130	7.07	23.14	2.7	3.40	10.41	-416.2	13.40	STILL SMELLS LIKE SULFUR
1430	13.14	130	7.03	24.71	3.3	3.38	10.73	-420.2	14.98	*UNABLE TO STOP DRAWDOWN
1435	14.68	175	6.98	27.85	4.2	3.40	10.73	-427.0	17.06	WELL PUMP WENT DRY &
1440	DRY	210	6.99	27.70	5.1	3.45	10.73	-426.1	17.10	SAMPLE TOMORROW.
		WELL PUMPED DRY ON 12/18/01 REMOVED 2 8.5L								
		WILL ALLOW WELL TO RECHARGE AND SAMPLE TOMORROW								

5.5L = 1 vol

SIGNATURE(S): Robert Bulkner

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: 2WGW41DS- 09
Sample Location: 2WMW41DS
Sampled By: B. BALKOVEC
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: 12/19/01 & 12.20.01								
Time: 0945 (SEE BELOW)								
Method: Peristaltic Pump	GREENISH TINT	6.95	13.20	10.65	4.1	3.77	417.2	13.00

PURGE DATA:

Date: 12/18/01
Method: Peristaltic Pump
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 16.65
Static Water Level (WL): 3.15
One Casing Volume(gal): 2.2
Start Purge (hrs): 1518
End Purge (hrs): 1634
Total Purge Time (min): 76
Total Vol. Purged (gal): 3.3

See Attached Low Flow Purge Data Sheet for Purge Data

ON 12/20/01 WL = 4.03 @ 1502 : FINISH SAMPLING @ 1505

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements		Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial		✓
TCL SEMIVOLATILES	4° C	1 (ON) 12/19/01	2 - Qt. Amber Glass 1	ON 12/20/01
TCL PEST/PCBs	4° C	1 (ON) 12/19/01	2 - Qt. Amber Glass 1	ON 12/20/01
TCL PAH	4° C	1 (ON) 12/19/01	2 - Qt. Amber Glass 1	ON 12/20/01
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C		1- L PE 4	12/19/01
TAL METALS (DISSOLVED)	HNO_3 / 4° C		1 - L PE	12/20/01
TOC & COD	H_2SO_4 / 4° C		125 ml Glass 4	12/19/01
Alkalinity, Chloride, Sulfate, TDS	4° C		1 - L PE	12/20/01

OBSERVATIONS / NOTES:

SULFUR ODOR + GREENISH TINT
* WELL PUMPED DRY @ 1634 ALLOW FOR RECHARGE. TRY TO SAMPLE WELL TOMORROW

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Robert Balkovec

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / AREA A - ROUND 9
PROJECT NUMBER: CTO 816 job#2863.0503

WELL ID.: 2WMW4105
DATE: 12/18/01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh (mV)	Sal. (ppt)	Comments (Vol. Accum. & Color)
1518	3.15	140								CLEAR. SULFUR ODOR
1525	4.56	140	6.86	26.32	11	4.03	10.24	-417.8	23.13	GREENISH TINT
1530	5.27	140	6.83	24.51	4.0	3.78	10.43	-421.7	21.19	1.7L
1535	6.90	140	6.80	22.53	2.6	4.15	10.54	-419.3	19.27	—
1540	7.59	150	6.79	20.73	3.1	3.87	10.65	-414.1	17.48	3.1L
1550	8.83	150	6.75	16.42	4.6	3.85	10.66	-411.6	14.15	4.6L
1600	10.39	150	6.45	13.41	5.1	3.80	10.55	-409	11.02	6.1L
1610	11.65	150	6.45	13.40	4.2	3.79	10.60	-406.8	11.45	7.6L
1620	13.63	175	6.45	13.40	3.9	3.82	10.67	-414.1	12.51	UNABLE TO STOP DRAWDOWN
1630	15.27	175	6.45	13.20	4.1	3.77	10.65	-417.2	13.00	*WELL PUMPED WELL DRY &
1634	DRY									SAMPLE TOMORROW.
	REMOVED	11.1L	33 gal	ALLOW	WELL TO	RECHARGE	THEN	SAMPLE		
		TOMORROW								

8.3L = 100%

SIGNATURE(S): Robert Balkovec

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: 2W-GW42DS - 09
Sample Location: 2WAW42DS
Sampled By: FCW
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: 1-10-02								
Time: 0730								
Method: Peristaltic Pump		6.98	23.2	10.34	16.4	2.92	-413.1	13.9

PURGE DATA:

Date: 1-10-02
Method: Peristaltic Pump
Monitor Reading (ppm): -
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 16.91
Static Water Level (WL): 2.55
One Casing Volume(gal): 2.3
Start Purge (hrs): 0755
End Purge (hrs): 0957
Total Purge Time (min): 62
Total Vol. Purged (gal): 3.9

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	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
~~TOC & COD~~ (Fw) TOC COD	~~H_2SO_4 / 4° C~~	~~125 ml Glass~~ (Fw)	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

END PURGE 1-10-02
WILL SAMPLE 1-11-02

WL = 4.02 on 1-11-02

NEED TOC + COD

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / AREA A - ROUND 9
PROJECT NUMBER: CTO 816 job#2863.0503

WELL ID.: 2W MW 42 D5
DATE: 1-10-02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh (mV)	Sal. (ppt)	Comments (Vol. Accum. & Color)
0755	2.55									START PURGING
0802	3.60	120	7.16	32.19	105.8	0.83	8.30	-400.3	20	
0808	4.44	100	7.03	31.01	9.2	1.33	7.68	-412.3	19	
0816	5.45	100	~~6.87~~ 6.87	24.68	5.8	0.23	8.06	-407.7	14	
0824	6.78	110	6.75	19.2	3.3	0.19	8.26	-398.4	11	
0832	7.52	110	6.73	17.7	3.9	0.19	8.55	-396.2	10.4	
0840	8.65	110	6.72	16.8	2.6	0.25	8.42	-396.4	9.8	
0849	9.95	120	6.72	16.1	2.14	0.19	9.19	-401.5	9.4	
0857	10.78	120	6.74	15.2	9.2	0.20	9.36	-402.7	8.9	
0905	11.63	120	6.93	13.4	36.6	0.20	9.42	-413.5	7.7	
0914	12.30	120	7.05	13.9	29.4	0.38	9.51	-420.2	8.0	9560
0923	12.53	120	7.03	16.15	21.3	0.56	9.62	-419.8	9.5	
0930	13.~~30~~ 15	120	7.00	18.7	15.6	0.73	9.70	-421.8	11.1	STOPPED PUMP 11480
0942	13.15	200	6.98	19.4	15.0	1.45	8.07	-408.6	11.4	WELL NOT PRODUCING
0949	14.35	200	6.96	20.4	12.7	2.25	10.10	-420.7	12.2	ENOUGH WATER
0954	15.25	200	6.95	21.13	13.2	2.76	10.26	-419.4	12.7	TO SAMPLE
0957	16.10		6.98	23.2	16.4	2.92	10.34	-413.1	13.9	END PURGING
0730										SAMPLE 1-11-02
0900										END

SIGNATURE(S): [illegible]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: 2WGW43DS09
Sample Location: 2WMW43DS
Sampled By: RS
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Date: 1-11-02	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	ppt
Time: 0905								
Method: Peristaltic Pump	GRAY	6.80	33.4	9.4	32	3.88	-382	22.4

PURGE DATA:

Date: 1-10-02
Method: Peristaltic Pump
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 15.75
Static Water Level (WL): 2.95
One Casing Volume(gal): 2.0
Start Purge (hrs): 0855
End Purge (hrs): 1010
Total Purge Time (min): 75
Total Vol. Purged (gal): 3.2

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	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

PUMP INLET (TUBING) SET IN CENTER OF SCREEN ±

WL = 7.45 on 1-11-02

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s): [illegible]

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / AREA A - ROUND 9
PROJECT NUMBER: CTO 816 job#2863.0503

WELL ID.: 2W MW43 DS
DATE: 1.10.0D

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh (mV)	Sal. (ppt)	Comments (Vol. Accum. & Color)
0855	2.95	150								START PURGE
0900	4.35		6.83	46.3	24	2.43	8.7	-397	26.7	SULFUR ODOR,
0910	6.42		6.69	38.7	33	3.67	9.1	-408	24.4	BLACK FINES
0920	7.66		6.83	30.9	24	3.81	9.1	-409	19.3	
0930	8.82		6.91	29.3	31	4.02	9.1	-406	18.1	
0940	10.45	180	6.90	29.1	34	3.47	9.3	-423	17.9	
0950	12.55		6.80	31.1	26	3.11	9.4	-428	19.3	
1000	13.88		6.77	33.2	30	3.91	9.4	-430	20.7	
1010	15.10		6.80	33.4	32	3.98	9.4	-382	22.4	DRY
0905	7.45									SAMPLE
1048										END

SIGNATURE(S): [illegible]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: 2W6W44D5-09
Sample Location: 2W6W44D5
Sampled By: FCW
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: 1-12-02								
Time: 0915								
Method: Peristaltic Pump	CLEAR	6.86	16.55	7.96	13	1.39	-404.4	9.68

PURGE DATA:

Date: 1-12-02
Method: Peristaltic Pump
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 16.77
Static Water Level (WL): 1.89
One Casing Volume(gal): 2.4
Start Purge (hrs): 0744
End Purge (hrs): 0915
Total Purge Time (min): 91
Total Vol. Purged (gal): 2.5

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	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD —
Duplicate ID No.: —

Signature(s): FCW

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / AREA A - ROUND 9
PROJECT NUMBER: CTO 816 job#2863.0503

WELL ID.: 2W MW 44DS
DATE: 1-12-02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh (mV)	Sal. (ppt)	Comments (Vol. Accum. & Color)
0744	1.89									START PURGING
0752	2.76	140	6.97	40.77	24	2.77	8.26	-415.0	25.8	
0800	4.15	140	6.87	40.01	7	0.48	8.49	-426.4	23.3	
0808	5.25	140	6.86	39.30	6	0.62	8.93	-421.8	24.8	
0816	5.80	~~140~~ 110	6.83	37.83	8	0.63	8.67	-419.9	23.8	
0824	6.20	~~140~~ 110	6.83	36.28	8	0.81	8.63	-418.4	22.7	
0832	6.50	~~140~~ 110	6.81	33.98	8	0.92	8.68	-417.9	21.8	
0840	6.75	~~140~~ 110	6.81	31.45	10	1.28	8.61	-417.3	19.4	
0850	6.95	~~140~~ 110	6.81	26.8	8	1.76	8.49	-414.8	16.3	
0859	7.05	110	6.83	22.43	9	1.79	8.44	-411.5	13.4	
0906	7.06	110	6.85	18.80	10	1.68	8.23	-408.2	11.10	
0915	7.12	110	6.86	16.55	13	1.39	7.96	-404.4	9.68	SAMPLE
1100										END

SIGNATURE(S): [illegible]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: 2WGW45DS 09
Sample Location: 2WMW45DS
Sampled By: RS
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: 1.12.02								
Time: 0930								
Method: Peristaltic Pump		7.02	29.48	9.9	14	7.57	-429	18.2

PURGE DATA:

Date: 1.11.02
Method: Peristaltic Pump
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 16.75
Static Water Level (WL): 2.62
One Casing Volume(gal): 2.3
Start Purge (hrs): 0952
End Purge (hrs): 1100
Total Purge Time (min): 68
Total Vol. Purged (gal): 3.6

BLACK FINES
LT YELLOW
SULFUR ODOR

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	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

WL 1.12.02 @ 0926 = 2.60'

SAMPLE EFFERVESING IN HCL (VOCs)

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / AREA A - ROUND 9
PROJECT NUMBER: CTO 816 job#2863.0503

WELL ID.: 2W MW 45 DS
DATE: 1.11.02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh (mV)	Sal. (ppt)	Comments (Vol. Accum. & Color)
0952	2.62	200								START PURGE
1000	5.37		6.96	43.08	4.20	1.16	9.3	-431	27.5	SULFUR ODOR,
1010	7.50		7.04	39.99	3.3	3.25	9.3	-430	23.4	BLACK FINES
1020	9.44		7.05	39.03	4.3	4.67	9.4	-431	17.5	
1030	10.77		7.03	35.43	4.8	5.50	9.5	-428	17.6	
1040	12.90		7.05	34.20	7.6	6.36	9.5	-428	17.7	
1050	14.71		7.05	30.15	9.8	6.91	9.7	-429	18.0	
1100	15.10		7.02	29.48	14.1	7.57	9.9	-429	18.2	END
										DRY TO PUMP INLET

SIGNATURE(S):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: 2WGW46DS 09
Sample Location: 2WMW46DS
Sampled By: RS
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: 1.13.02 Time: 0820 Method: Peristaltic Pump		6.96	43.78	9.2	70	5.87	-44	28.0

PURGE DATA:

Date: 1.12.02
Method: Peristaltic Pump
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 17.32
Static Water Level (WL): 2.09
One Casing Volume(gal): 2.4
Start Purge (hrs): 0808
End Purge (hrs): 0905
Total Purge Time (min): 57
Total Vol. Purged (gal): 2.6

BLACK FINES
LT. YELLOW
SULFUR ODOR

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	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

PURGED DRY 1.12.02
SAMPLED 1.13.02

EFFERVESING IN HCL (VOCs)

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / AREA A - ROUND 9
PROJECT NUMBER: CTO 816 job#2863.0503

WELL ID.: 2W MW 46 DS
DATE: 1.12.02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh (mV)	Sal. (ppt)	Comments (Vol. Accum. & Color)
0808	2.09	200								START PURGE
0815	3.75	200	7.09	48.32	2.1	0.64	8.5	-426	31.4	SULFUR ODOR
0825	6.58	150	6.85	47.28	7.4	4.89	8.7	-442	30.5	LT. YELLOW WITH
0835	8.47		6.81	45.87	18	8.01	9.0	-439	29.6	BLACK FINES
0845	12.19		7.05	42.24	32	~~8.70~~	8.7	-431	26.9	DO = 5.54
0855	13.52		7.00	42.51	43	4.51	8.9	-434	27.1	
0905	15.42	↓	6.96	43.78	70	5.87	9.2	-441	28.0	
	17.3	300								LOWERED TUBING TO
										BTM TO DRY/CLEAN
										OUT WELL

SIGNATURE(S): [illegible]

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: 2WGW47DS 09
Sample Location: 2WMW47DS
Sampled By: KS
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 1-12-02	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Time: 1410	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	ppt
Method:Peristaltic Pump		6.57	4.762	7.8	20	1.43	-177	2.53

PURGE DATA:

Date: 1-12-02
Method:Peristaltic Pump
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 16.20
Static Water Level (WL): 2.02
One Casing Volume(gal): 2.3
Start Purge (hrs): 1300
End Purge (hrs): 1410
Total Purge Time (min): 70
Total Vol. Purged (gal): 2.4

CLEAR WITH RUST COLOR FINES

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	2 - Qt. Amber Glass	—
TCL PAH	4° C	2 - Qt. Amber Glass	—
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	—
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	—
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	✓
		2X VOL FOR DUP	

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	FD 011202 02

Signature(s): [signature]

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / AREA A - ROUND 9
PROJECT NUMBER: CTO 816 job#2863.0503

WELL ID.: 2WMW47DS
DATE: 1·12·01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh (mV)	Sal. (ppt)	Comments (Vol. Accum. & Color)
1300	2.02	150								START, RUST COLOR
1305	2.92	↓	6.62	15.34	45	2.60	9.2	-195	9.01	FINES, LT. SULFUR
1315	3.82	↓	6.51	10.98	32	2.50	9.0	-201	6.28	ODOR
1325	4.63	125	6.49	8.377	21	2.17	8.6	-197	4.68	
1335	5.28	↓	6.51	5.760	12	1.57	8.2	-190	3.14	
1345	6.00	↓	6.56	4.995	17	1.44	8.1	-188	2.69	
1355	6.32	↓	6.58	4.806	25	1.39	7.9	-179	2.58	
1405	6.41	↓	6.57	4.773	22	1.42	7.8	-177	2.56	
1410	6.48	↓	6.57	4.762	20	1.43	7.8	-177	2.53	END PURGE

SIGNATURE(S): [illegible]

3MW37S - LOCATI
3GW37S-09 ID

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: ~~3GW37S~~ 09 BB
Sample Location: ~~3GWMW37S~~
Sampled By: R. Balkovec
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Eh mV	Salinity ppt
Date: 12/19/01								
Time: 1352								
Method: Peristaltic Pump	CLEAR	6.10	1.440	10.66	0.40	2.90	174.1	0.73

PURGE DATA:

Date: 12/19/01
Method: Peristaltic Pump
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 8.45
Static Water Level (WL): 3.72
One Casing Volume(gal): .77
Start Purge (hrs): 1300
End Purge (hrs): 1350
Total Purge Time (min): 50
Total Vol. Purged (gal): 1.4

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	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s): Robert Balkovec

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / AREA A - ROUND 9
PROJECT NUMBER: CTO 816 job#2863.0503

WELL ID.: 2WMW37OS
DATE: 12/19/01

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh (mV)	Sal. (ppt)	Comments (Vol. Accum. & Color)
1300	3.72	START								CLEAR WATER
1305	4.01	150	6.65	1.544	12	4.28	10.54	+188.7	0.78	.75L
1310	4.34	125	6.33	1.488	7.9	3.37	10.62	+198.6	0.75	1.38L
1315	4.21	95	6.23	1.477	6.1	2.99	10.66	+196.8	0.75	1.85L PUMP SHUT OFF!
1320	4.25	100	6.19	1.470	6.2	2.99	10.60	+194.2	0.75	2.35L RESTARTED
1325	4.20	100	6.20	1.468	5.0	3.00	10.61	+191.1	0.75	2.85L
1330	4.07	45	6.19	1.463	4.2	2.98	10.54	+190.0	0.74	3.325L 1vol
1335	4.23	40	6.11	1.441	3.9	2.89	10.63	+184.1	0.73	
1340	4.21	90	6.11	1.439	0.50	2.90	10.64	+178.8	0.73	4.23L
1345	4.22	90	6.11	1.440	0.46	2.91	10.65	+175.7	0.73	
1350	4.20	90	6.10	1.440	0.40	2.90	10.66	+174.1	0.73	5.13L
	→ END PURGE = PARAMETERS STABLE									
	SAMPLED @ 1352									

3L = 1 vol

SIGNATURE(S): Robert Belkere

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: 4-GW01S - 09
Sample Location: 4MW01S
Sampled By: FCW
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[ ] High Concentration

SAMPLING DATA:

Date: 1-12-02	Color	pH	S.C.	Temp.	Turbidity	DO	Eh	Salinity
Time: 1344	Visual	Standard	mS/cm	Degrees C	NTU	mg/l	mV	ppt
Method: Peristaltic Pump	CLEAR	5.76	0.298	10.13	0	6.08	20.3	0.14

PURGE DATA:

Date: 1-12-02
Method: Peristaltic Pump
Monitor Reading (ppm): —
Well Casing Diameter & Material
Type: 2" PVC
Total Well Depth (TD): 20.3
Static Water Level (WL): 7.61
One Casing Volume(gal): 2
Start Purge (hrs): 1251
End Purge (hrs): 1344
Total Purge Time (min): 53
Total Vol. Purged (gal): 1.8

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	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	✓
		X VOL COLLECTED FOR DUP	

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	FD-011202-01

Signature(s): FCW

LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NSB-NLON / AREA A - ROUND 9
PROJECT NUMBER: CTO 816 job#2863.0503

WELL ID.: 4MW01S
DATE: 1-12-02

Time (Hrs.)	Water Level (Ft. below TOC)	Flow (mL/Min.)	pH (S.U.)	S. Cond. (mS/cm)	Turb. (NTU)	DO (mg/L)	Temp. (Celcius)	Eh (mV)	Sal. (ppt)	Comments (Vol. Accum. & Color)
1251	7.61									START PURGING
1258	7.68	130	6.54	0.611	4	5.35	10.03	-90.9	0.30	
1304	7.66	130	6.06	0.323	1	5.67	10.17	-62.8	0.15	
1310	7.69	130	5.92	0.302	0	6.08	10.22	-50.8	0.14	
1317	7.69	130	5.85	0.298	0	6.02	10.31	-38.7	0.14	
1324	7.69	130	5.81	0.299	0	6.07	10.24	-33.7	0.14	
1331	7.69	130	5.79	0.299	0	6.05	10.21	-26.8	0.14	
1338	7.69	130	5.77	0.298	0	6.03	10.21	-21.6	0.14	
1344	7.69	130	5.76	0.298	0	6.08	10.13	20.3	0.14	SAMPLE
1633										END

SIGNATURE(S): [illegible]

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: SWSG16-09
Sample Location: SG16/2WMW39DS
Sampled By: B. BALKOVEC
C.O.C. No.:

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

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Salinity ppt	Eh mV
Date: 12/19/01 Time: 1620 Depth: 2" Method: DIRECT FILL	BROWN/ ORANGE	6.72	0.61	10.74	250	6.21	12.27	-92

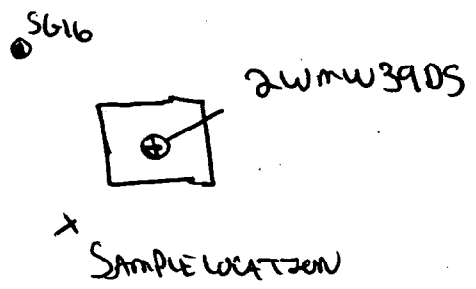
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

POOLED WATER, NO FLOW

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): BOB BALKOVEC

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: SW SG18 – 09
Sample Location: SG18/2WMW410S
Sampled By: B. BALKOVEC
C.O.C. No.:

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

SAMPLING DATA:

Date: 12/18/01 Time: 1040	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Salinity ppt	Eh mV
Depth: 22" BELOW SURFACE Method: DIRECT FILL	BROWN	7.12	0.322	5.92	132	3.10	0.25	-75

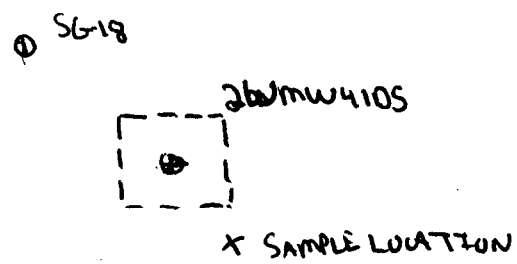
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

* SAMPLE TAKEN IN A PREVIOUSLY DUG AREA.
* SOME DEBRIS STIRRED UP WHILE FILLING UP BOTTLES. SOME FLOCKING MADE ITS WAY INTO THE SAMPLE BOTTLES
* NO FLOW, POOLED WATER

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
–	

Signature(s): Robert Balkovec

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

Sample ID No.: SWSG-19 - 09
Sample Location: SG-19
Sampled By: RS - JR
C.O.C. No.:

[] Stream
[] Spring
[] Pond
[] Lake
[X] Other: WETLAND - SW
[] QA Sample Type:

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

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Salinity ppt	Eh mV
Date: 12.18.01 Time: 1400 Depth: 3" Method: DIRECT FILL	LT TAN	7.23	0.188	6.1	1.5	2.10	0.09	-72

SAMPLE COLLECTION INFORMATION:

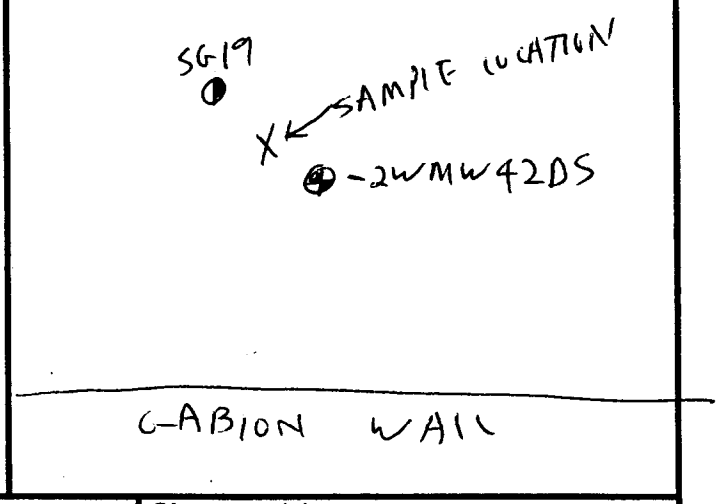
Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

SMALL POOL OF WATER
≈ 8" DEEP, NO FLOW

SOME SOILDS STIRRED-UP
DURING SAMPLING

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:
—	—

Signature(s):

SURFACE WATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: SWSG20 - 09
Sample Location: SG20/MW43DS
Sampled By: KS - JK
C.O.C. No.:

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

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Salinity ppt	Eh mV
Date: 12/18/01 Time: 1635 Depth: Top of 8" Fwis Method: Direct Fill	TAN	6.57	0.558	5.6	8.74	4.24	0.27	+151

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

SAMPLED @ BASE OF SG20.

FINES (ORGANIC) IN SAMPLE

MAP:

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s):

SURFACE WATER SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: SW SG 21 09
Sample Location: SG21
Sampled By: KS - JR
C.O.C. No.:

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

SAMPLING DATA:

Date: 12/18/01 Time: 1440 Depth: 14" Method: Direct Fill	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Salinity ppt	Eh mV
	LT. TAN	6.63	0.739	5.3	28.1	2.40	0.36	97

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements		Collected
TCL VOLATILES	HCL / 4° C	12	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	8	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	10	2 - Qt. Amber Glass	✓
TCL PAH	4° C	8	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	3	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	3	1 - L PE	✓
TOC & COD	H_2SO_4 / 4° C	3	125 ml Glass	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	3	1 - L PE	✓

OBSERVATIONS / NOTES:

X VOL FOR DUP / MS-MSD

MAP:

SAMPLED @ BASE OF SG

POOLED WATER AROUND SG & MW, NO FLOW

Circle if Applicable:

MS/MSD: YES

Duplicate ID No.: YES FD 121801-01

Signature(s):

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: SWSG-23 09
Sample Location: 2WMW46DS
Sampled By: KS-JR
C.O.C. No.:

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

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Salinity ppt	Eh mV
Date: 12-20-01								
Time: 1425								
Depth: 2-3"	LT TAN	5.50	0.461	4.7	6.32	5.40	0.22	-15.0
Method: DIRECT FILL								

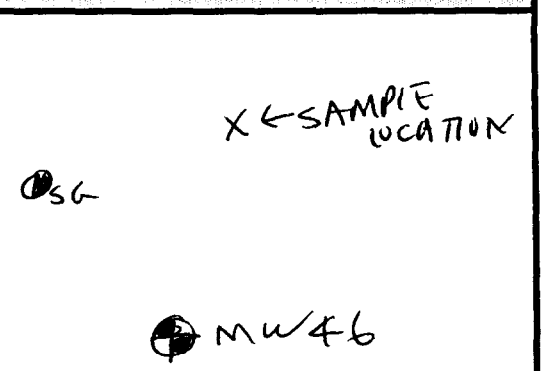
SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	✓

OBSERVATIONS / NOTES:

POOLED WATER
NO FLOW
≈ 6" DEEP
SOME (TSS) SOLIDS STIRRED-UP DURING SAMPLING

MAP:



GABION BASKETS

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): KS Eh.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON / AREA A
Project No.: CTO 816 2863.0503

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

Sample ID No.: 3MSP01 09
Sample Location: 3MSP01
Sampled By: RS - JK
C.O.C. No.:

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

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. Degrees C	Turbidity NTU	DO mg/l	Salinity ppt	Eh mV
Date: 12.20.01 Time: 1350 Depth: 2-4" Method: DIRECT FILL	CLEAR	6.18	1.130	13.4	3.8	4.44	0.57	-51

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
TCL VOLATILES	HCL / 4° C	3 - 40 ml Vial	✓
TCL SEMIVOLATILES	4° C	2 - Qt. Amber Glass	✓
TCL PEST/PCBs	4° C	2 - Qt. Amber Glass	✓
TCL PAH	4° C	2 - Qt. Amber Glass	✓
TAL METALS (TOTAL) + Hardness	HNO_3 / 4° C	1- L PE	✓
TAL METALS (DISSOLVED)	HNO_3 / 4° C	1 - L PE	✓
TOC & COD	H_2SO_4 / 4° C	125 ml Glass	✓
Alkalinity, Chloride, Sulfate, TDS	4° C	1 - L PE	✓

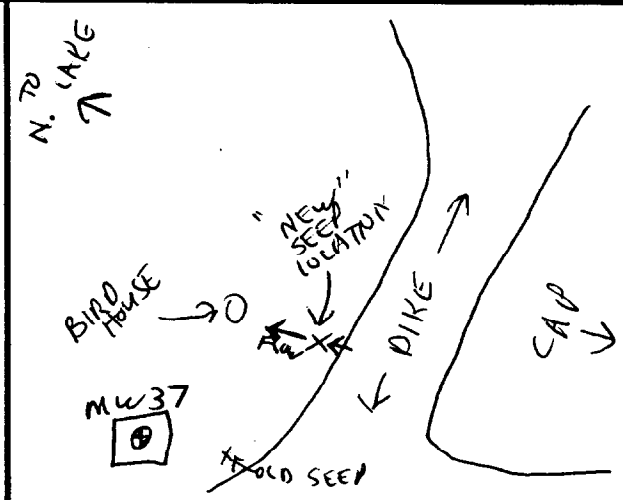
OBSERVATIONS / NOTES:

FLOW EST. 30 GPM

RUST COLOR FLOCKING ON STREAM BTM.

≈ 6" DEEP

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

APPENDIX F

CHAIN OF CUSTODY RECORDS

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

PROJECT NO: CTO 816 N2863	SITE NAME: NSB NLON
PROJECT MANAGER AND PHONE NUMBER: COREY RZICH 412-921-8984	LABORATORY NAME AND CONTACT: KATAHDIN, A. COLBK
SAMPLERS (SIGNATURE): [signature]	FIELD OPERATIONS LEADER AND PHONE NUMBER: KEITH SAMPSON
	ADDRESS:
CARRIER/WAYBILL NUMBER: CD + L	CITY, STATE: WESTBROOKE, ME

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

DATE YEAR 2001	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TCL VOC	TCL SVOC	TCL PEST/PCBS	TCL PAH	TAL METALS + HARDNESS	TOC, COD	TAL METALS DISSOLVED	ALK, CHLORIDE, SULFATES, TDS	COMMENTS
CONTAINER TYPE PLASTIC (P) or GLASS (G)						G	G	G	G	P	G	P	P	
PRESERVATIVE USED						HCL	4°C	4°C	4°C	HNO_3	H_2SO_4	HNO_3	4°C	
12/19	0710	TB12190101	AQ	G	2	2								
	0735	2WGW39DS-09	AQ	G	13	3	2	2	2	1	1	1	1	
	1352	2WGW37DS-09	AQ	G	13	3	2	2	2	1	1	1	1	
	1620	SWSG16-09	AQ	G	13	3	2	2	2	1	1	1	1	
		SHOULD BE												
		3GW37S-09												
		KES 12.2601												

1. RELINQUISHED BY [signature]	DATE 12/19/01	TIME 1800	1. RECEIVED BY CD&L	DATE	TIME
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: ALL DISSOLVED SAMPLES END IN "F" FILTERED

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

3/99
FORM NO TtNUS-001

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

PROJECT NO: CTO 816 N2863
SITE NAME: NSB-NLON
PROJECT MANAGER AND PHONE NUMBER: COREY RICH 412-921-8484
LABORATORY NAME AND CONTACT: KATAHDIN, A. COLBY
SAMPLERS (SIGNATURE): K. Simpson
FIELD OPERATIONS LEADER AND PHONE NUMBER: KEITH SIMPSON 412 921 8131
ADDRESS:
CARRIER/WAYBILL NUMBER: CD & L
CITY, STATE: WESTBROOKE, ME

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

ARCA A
ROUND 9

DATE YEAR 2001	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TCL VOC	TCL SVOC	TCL PEST/PCBs	TAL METALS HARDNESS	TAL METALS DISSOLVED	TOC + COD	TCL PAH	ALK, CHLORIDE, SULFATES, TDS	COMMENTS
					CONTAINER TYPE PLASTIC (P) or GLASS (G)	G	G	G	P	P	G	P	G	
					PRESERVATIVE USED	HCl	4°C	4°C	HNO3	HNO3	H2SO4	4°C	4°C	
12/19	0830	TB12190102	AQ	G	2	2	—	—	—	—	—	—	—	
	0850	2WGW40DS-09	AQ	G	7	3	1	1	1	—	—	1	—	
	0945	2WGW41DS-09	AQ	G	8	3	1	1	1	—	1	1	—	
12/20	1350	3MSP01 09	AQ	G	13	3	2	2	1	1	1	2	1	
	1425	SWSG-23 09	AQ	G	13	3	2	2	1	1	1	2	1	
	1016	2WGW21S-09	AQ	G	37	9	6	8	2	2	2	6	2	MS/MSD
	1415	2WGW40DS-09	AQ	G	6	—	1	1	—	1	1	1	1	
	1505	2WGW41DS-09	AQ	G	5	—	1	1	—	1	—	1	1	
	1550	2WGW38DS-09	AQ	G	5	3	—	—	1	1	—	—	—	SHORT BOTTLES WILL COMPLETE JAN. 2002

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY K. Simpson	12.20.01	1900	1. RECEIVED BY CD & L	12.20.01	1900
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

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

FORM NO TINUS-001

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

PROJECT NO: CTO 816 N2863	SITE NAME: NSB-NLON	PROJECT MANAGER AND PHONE NUMBER: COREY RICH 412921 8984	LABORATORY NAME AND CONTACT: KATAHDIN, A. COLBY
SAMPLERS (SIGNATURE): [signature]		FIELD OPERATIONS LEADER AND PHONE NUMBER: KEITH SIMPSON 412921	ADDRESS
		CARRIER/WAYBILL NUMBER: CD&L	CITY, STATE: WESTBROOKE, ME

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

DATE YEAR 2001	TIME	SAMPLE ID (AREA A ROUND 9)	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TCL VOC	TCL SVOC	TCL PEST/PCBs	TCL PAH	TAL METALS + HARDNESS	DISS. TAL METALS	TOC, COD	ALK, CHLORIDE, SULFATE, TDS	COMMENTS
CONTAINER TYPE PLASTIC (P) or GLASS (G)						G	G	G	G	P	P	G	P	
PRESERVATIVE USED						HCL	4°C	4°C	4°C	HNO3	HNO3	H2SO4	4°C	
12/18	0730	TB 12180101	AQ	G	2	2								TRIP BLANK
↓	0800	RB 12180101	AQ	G	13	3	2	2	2	1	1	1	1	TEFLON/SILCONE TUBING + FILTER
	0000	FD 12180101	AQ	G	13	3	2	2	2	1	1	1	1	DUP OF SWSG2109
	1400	SWSG1909	AQ	G	13	3	2	2	2	1	1	1	1	
	1440	SWSG2109	AQ	G	37	9	6	8	6	2	2	2	2	RUN ALSO MS/MSD
↓	1635	SWSG2009	AQ	G	13	3	2	2	2	1	1	1	1	
↓	1040	SWSG1809	AQ	G	13	3	2	2	2	1	1	1	1	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY [signature]	12.13.01	1900	1. RECEIVED BY CD&L COURIER SER.	12.13.01	1900
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS: ALL DISSOLVED SAMPLES END IN "F" FILTERED RB "F" THRU FILTER

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

3/99
FORM NO. TtNUS-001

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

PROJECT NO: CTO 816 N2963	SITE NAME: NSIS-NION	PROJECT MANAGER AND PHONE NUMBER: COREY RICH 412 921 8984	LABORATORY NAME AND CONTACT: KATAHDIN
SAMPLERS (SIGNATURE): [signature]		FIELD OPERATIONS LEADER AND PHONE NUMBER: KEITH SIMPSON 412 921 8131	ADDRESS
		CARRIER/WAYBILL NUMBER: FEDEX KS ~~CD~~ 8216504351 54	CITY, STATE: ME

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

AREA A
ROUND 9

DATE YEAR 2002	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TCL VOC	TCL SVOC	TCL PEST/PCB	TCL PAH	TAL METALS + HARDNESS	DISS. TAL METALS	TOC & COD	ALK, CHLORIDE, SULFATE, TDS	COMMENTS
						G	G	G	G	P	P	G	P	
						HCL	4°C	4°C	4°C	HNO3	HNO3	H2SO4	4°C	
1/12	0710	TB 011202 01	AQ	G	2	2	—	—	—	—	—	—	—	
	0915	2WGW44DS 09	AQ	G	13	3	2	2	2	1	1	1	1	
	0930	2WGW45DS 09	AQ	G	13	3	2	2	2	1	1	1	1	
	1040	2WGW38DS 09	AQ	G	3	—	—	1	2	—	—	—	—	LOW VOL. THIS COMPLETES SAMPLING @ 38
	1344	4GW01S 09	AQ	G	13	3	2	2	2	1	1	1	1	
	1410	2WGW47DS09	AQ	G	13	3	2	2	2	1	1	1	1	
KS ~~0000~~	0000	FD 011202 01	AQ	G	13	3	2	2	2	1	1	1	1	DUP OF 4GW01S 09
	0000	FD 011202 02	AQ	G	13	3	2	2	2	1	1	1	1	2WGW47DS09
1/13	0820	2WGW46DS 09	AQ	G	13	3	2	2	2	1	1	1	1	

1. RELINQUISHED BY: [signature]	DATE 1-14-02	TIME 1000	1. RECEIVED BY: ~~CD~~ FEDEX	DATE 1-14-02	TIME 1000
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: W ACCINIES PLE) YI W (FIE OPY) PINK COPY

FORM NO TTNUS-001

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

PROJECT NO: CTO 316 N2863	SITE NAME: NSB-NLON	PROJECT MANAGER AND PHONE NUMBER: COREY RICH 412 921 8984	LABORATORY NAME AND CONTACT: RATCHDIN, A. COLBY
SAMPLERS (SIGNATURE): [signature]		FIELD OPERATIONS LEADER AND PHONE NUMBER: KEITH SIMPSON 4129218131	ADDRESS
		CARRIER/WAYBILL NUMBER: CD & L	CITY, STATE: WESTBROOKE, ME

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

AREA A
ROUND 9

DATE YEAR 2002	TIME	SAMPLE ID	MATRIX	GRAB (G) COMP (C)	No. OF CONTAINERS	TCL VOC	TCL SVOC	TCL PEST/PCBs	TCL PAH	TAL + HARDNESS DISS. METALS	TAL METALS	TOC & COD	ALK, CHLORIDE, SULFATE, TDS	COMMENTS
CONTAINER TYPE PLASTIC (P) or GLASS (G)						G	G	G	G	P	P	G	P	
PRESERVATIVE USED						HCL	4°C	4°C	4°C	HNO_3	HNO_3	H_2SO_4	4°C	
1/10	0810	2W GW 38 DS 09	AQ	G	4	—	2	—	—	—	—	1	1	
1/11	0730	2W GW 42 DS 09	AQ	G	13	3	2	2	2	1	1	1	1	
↓	0905	2W GW 43 DS 09	AQ	G	13	3	2	2	2	1	1	1	1	

1. RELINQUISHED BY [signature]	DATE 1.11.02	TIME 1900	1. RECEIVED BY CD & L	DATE 1.11.02	TIME 1900
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS NOTE: DISSOLVED SAMPLE IDs END IN "F" (FILTERED)

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

3/99
FORM NO. TINUS-001

APPENDIX G

DATA VALIDATION LETTERS AND LABORATORY DATA SHEETS

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**C. RICH**	**DATE:**	**MARCH 18, 2002**
FROM:	**ETHAN G. LEE**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS AND MISCELLANEOUS PARAMETERS**
CTO- 816 NSB NEW LONDON
SAMPLE DELIVERY GROUP (SDG) – 816-3

SAMPLES: 19/Aqueous/

2WGW38DS09	2WGW42DS09	2WGW43DS09
2WGW44DS09	2WGW45DS09	2WGW46DS09
2WGW47DS09	4GW01S09	FD01120201
FD01120202	2WGW42DS09-F	2WGW43DS09-F
2WGW44DS09-F	2WGW45DS09-F	2WGW46DS09-F
2WGW47DS09-F	4GW01S09-F	FD01120201-F
FD01120202-F		

Overview

The sample set for CTO 816, NSB New London, SDG 816-3, consists of nineteen (19) aqueous environmental samples. Four (4) Field duplicate pairs are included in this SDG (FD01120201 / 4GW01S09; FD01120201-F / 4GW01S09-F; FD01120202 / 2WGW47DS09; FD01120202-F / 2WGW47DS09-F).

The samples were analyzed for TAL metals, alkalinity, chemical oxygen demand (COD), chloride, hardness, sulfate, total dissolved solids (TDS), and total organic carbon (TOC). TAL metals were analyzed for all samples except 2WGW38DS09. Alkalinity, COD, chloride, hardness, sulfate, TDS, and TOC were analyzed for all samples except the filtered ones. The samples were collected by Tetra Tech NUS January 10-13, 2002 and analyzed by Katahdin Analytical Services under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. TAL metals analyses except thallium and mercury were conducted using method SW846 6010B; thallium analyses were conducted using method SW846 6020; mercury analyses were conducted using method SW846 7470A; alkalinity analyses were conducted using method E310.1; chemical oxygen demand analyses were conducted using method E410.4; chloride and sulfate analyses were conducted using method E300; total dissolved solids analyses were conducted using method 160.1; total organic carbon analyses were conducted using method E415.1.

Metals analyses except mercury and thallium were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Manual Cold Vapor AA (CV) methodologies. Thallium analyses were conducted using ICP Mass Spectrophotometry (MS) methodologies.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
  • Calibration Recoveries

- Laboratory Blank Analyses
- * Laboratory Control Sample Results
- ICP Interference Check Sample Results
- Matrix Spike Results
- * Laboratory Duplicate Results
- Field Duplicate Results
- * ICP Serial Dilution Results
- * Sample Quantitation
- * Detection Limits

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

Laboratory Blank Analyses

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

Analyte	Maximum Concentration	Action Level
Aluminum	99.62 ug/L	498.1 ug/L
Arsenic	2.53 ug/L	12.65 ug/L
Beryllium	0.44 ug/L	2.2 ug/L
Calcium	64.41 ug/L	322.05 ug/L
Chromium	10.38 ug/L	51.9 ug/L
Copper	1.76 ug/L	8.8 ug/L
Iron	27.81 ug/L	139.05 ug/L
Iron[2]	28.65 ug/L	143.25 ug/L
Lead[1]	1.98 ug/L	9.9 ug/L
Lead[2]	1.81 ug/L	9.05 ug/L
Magnesium	62.82 ug/L	314.1 ug/L
Manganese	1.03 ug/L	5.15 ug/L
Nickel	1.02 ug/L	5.1 ug/L
Nickel[2]	6.75 ug/L	33.75 ug/L
Selenium	3.42 ug/L	17.1 ug/L
Sodium	66.36 ug/L	331.8 ug/L
Thallium	0.25 ug/L	1.25 ug/L
Zinc	4.73 ug/L	23.65 ug/L

[1] Maximum sample concentrations found in laboratory preparation blank from preparation batch SA15ICW0.
[2] Maximum sample concentrations found in laboratory preparation blank from preparation batch SA16ICW0.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results < Action Level were qualified (U). Blank contamination for arsenic only affects sample FD0110202-F. Because different analytes were analyzed on different instruments (resulting in different Instrument Detection Limits (IDLs)), maximum contaminant concentrations were evaluated relative to the instrument in which they were run. No validation action was required for calcium, magnesium, and sodium because all the results were greater than the action level.

Calibration Recoveries Analysis

Instrument: TJA Trace ICP

The Contract Required Detection Limit (CRDL) Percent Recovery (%R) for lead at 12:20 on 1/17/02 is outside the control limit of 80-120% affecting samples 2WGW44DS09, 2WGW45DS09, 4GW01S09, 2WGW47DS09, FD01120201, FD01120202, 2WGW44DS09-F, 2WGW45DS09-F, 4GW01S09-F, 2WGW47DS09-F, and FD01120201-F. Positive results (>IDL; <3X CRDL) reported for lead in the affected samples were qualified as estimated (J). Nondetects (<IDL; <3XCRDL) were qualified as estimated (UJ).

The CRDL %R's for copper, nickel, and selenium at 17:30 on 1/21/02 are outside the limit of 80-120% affecting sample 2WGW43DS09. Positive results (>IDL; <3X CRDL) reported for these analytes in the affected samples were qualified as estimated (J). Nondetects (<IDL; <3XCRDL) were qualified as estimated (UJ).

The CRDL %R's for nickel and selenium at 17:30 on 1/21/02 are outside the limit of 80-120% affecting sample 2WGW43DS09-F. Positive results (>IDL; <3X CRDL) reported for these analytes in the affected samples were qualified as estimated (J). Nondetects (<IDL; <3XCRDL) were qualified as estimated (UJ).

The CRDL %R for selenium at 17:30 on 1/21/02 is outside the limit of 80-120% affecting samples 2WGW42DS09, 2WGW42DS09-F, and 2WGW46DS09-F. Positive results (>IDL; <3X CRDL) reported for selenium in the affected samples were qualified as estimated (J). Nondetects (<IDL; <3XCRDL) were qualified as estimated (UJ).

The CRDL %R for selenium at 20:00 on 1/22/02 is outside the limit of 80-120% affecting sample FD01120202-F. Positive results (>IDL; <3X CRDL) reported for selenium in the affected sample were qualified as estimated (J). Nondetects (<IDL; <3XCRDL) were qualified as estimated (UJ).

Instrument: TJA 61 ICP

The CRDL %R's for chromium and zinc at 21:47 on 1/17/02 are outside the limit of 80-120% affecting samples 2WGW45DS09, 4GW01S09, 2WGW47DS09, FD01120201, FD01120202, 2WGW44DS09-F, 2WGW45DS09-F, 4GW01S09-F, 2WGW47DS09-F, FD01120201-F, and FD01120202-F. Positive results (>IDL; <3X CRDL) reported for these analytes in the affected samples were qualified as estimated (J). Nondetects (<IDL; <3XCRDL) were qualified as estimated (UJ).

Interference Check Sample Analysis

The interfering analyte magnesium was present in sample 2WGW42DS09-F at a concentration that was comparable to the level of magnesium in the Interference Check Sample (ICS) solution. Several analytes, namely antimony, arsenic, cadmium, chromium, copper, lead, selenium, silver, sodium, thallium, and zinc, were present in the ICS solution at concentrations that exceeded two times the Instrument Detection Limit (IDL). Interference effects exist for antimony, arsenic, cadmium, chromium, copper, lead, thallium, and zinc in the affected sample. The positive results reported for arsenic, chromium, lead, thallium, and zinc were qualified as estimated, (J). The nondetected results reported for antimony, cadmium, and copper were qualified as estimated, (UJ).

The interfering analyte magnesium was present in sample 2WGW43DS09 at a concentration that was comparable to the level of magnesium in the ICS solution. Several analytes, namely antimony, arsenic, cadmium, chromium, copper, lead, selenium, silver, sodium, thallium, and zinc, were present in the ICS solution at concentrations that exceeded two times the IDL. Interference effects exist for antimony, arsenic, cadmium, chromium, copper, thallium, and zinc in the affected sample. The positive results reported for arsenic, chromium, thallium, and zinc were qualified as estimated, (J). The nondetected results reported for antimony, cadmium, and copper were qualified as estimated, (UJ).

The interfering analyte magnesium was present in sample 2WGW43DS09-F at a concentration that was comparable to the level of magnesium in the ICS solution. Several analytes, namely antimony, arsenic, cadmium, chromium, copper, lead, selenium, silver, sodium, thallium, and zinc, were present in the ICS solution at concentrations that exceeded two times the IDL. Interference effects exist for antimony, arsenic, cadmium, chromium, copper, silver, thallium, and zinc in the affected sample. The positive results reported for arsenic, chromium, silver, thallium, and zinc were qualified as estimated, (J). The nondetected results reported for antimony, cadmium, and copper were qualified as estimated, (UJ).

Matrix Spike Sample Analysis

The Matrix Spike Percent Recovery (%R) for sulfate was <75%. Positive results were qualified as estimated (J). Nondetects were qualified as estimated (UJ).

Field Duplicate Analysis

The Relative Percent Difference (RPD) for the field duplicate pair (FD01120201 / 4GW01S09) for Total Dissolved Solids (TDS) was calculated to be >30%. Since both values were >5XCRDL, this analysis result falls outside the appropriate control window. Positive results for TDS were qualified as estimated (J).

Notes

No post digestion spike analysis form was included in this data set.

Executive Summary

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

Other Factors Affecting Data Quality: Samples 2WGW42DS09-F, 2WGW43DS09, and 2WGW43DS09-F were qualified due to ICP interference. Total Dissolved Solid was qualified due to field duplicate imprecision. Sulfate was qualified due to Matrix Spike noncompliance. All positive results <2X IDL were qualified due to uncertainty near the detection limit.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", April 1993 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
Ethan G. Lee
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 – Regional Worksheets
4. Appendix D - Support Documentation

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

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

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	2WGW42DS09			2WGW42DS09-F			2WGW43DS09			2WGW43DS09-F		
SAMPLE DATE:	01/11/02			01/11/02			01/11/02			01/11/02		
LABORATORY ID:	WS0078-002			WS0078-004			WS0078-003			WS0078-005		
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	198	U	A	21.39	U		1410	U	A	283	U	A
ANTIMONY	7.86	U		7.86	UJ	K	7.86	UJ	K	7.86	UJ	K
ARSENIC	6.45	U		10.7			18.3			9.5		
BARIUM	56.2			60.2			132			141		
BERYLLIUM	0.41	U		0.41	U		0.84	U		0.84	U	
CADMIUM	2.84	U		2.84	UJ	K	1.05	UJ	K	1.05	UJ	K
CALCIUM	172000			151000			345000			344000		
CHROMIUM	2.52	U		4.1	U	A	14.4	U	A	5.7	U	A
COBALT	3.89	U		3.89	U		2.04	U		2.04	U	
COPPER	1.66	U		1.66	UJ	K	2.55	UJ	CK	1.66	UJ	K
IRON	8350			1770			26200			360		
LEAD	4.11	U		4.3	U	A	4.11	U		4.11	U	
MAGNESIUM	422000			320000			986000			1020000		
MANGANESE	327			463			193			181		
MERCURY	0.03	U		0.03	U		0.03	U		0.03	U	
NICKEL	5.89	U		5.89	U		5.9	U	A	3.5	UJ	C
POTASSIUM	169000			128000			292000			290000		
SELENIUM	10.26	UJ	C	10.26	UJ	C	10.26	UJ	C	10.26	UJ	C
SILVER	4.15	U		4.15	U		2.82	U		3.3	J	KP
SODIUM	3830000			2830000			7460000			7570000		
THALLIUM	2.9	U	A	0.82	U	A	1.6	U	A	0.48	U	A
VANADIUM	13.9			9.5			18.2			15.2		
ZINC	4.2	U	A	2.2	J	KP	56.6	U	A	4.6	UJ	A

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	2WGW44DS09			2WGW44DS09-F			2WGW45DS09			2WGW45DS09-F		
SAMPLE DATE:	01/12/02			01/12/02			01/12/02			01/12/02		
LABORATORY ID:	WS0086-003			WS0086-010			WS0086-004			WS0086-011		
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	711			21.39	U		94.2	U	A	21.39	U	
ANTIMONY	3.65	U		3.65	U		3.65	U		3.65	U	
ARSENIC	2.53	U		3.2			5.1			5.5		
BARIUM	31.0			33.9			18.5			11.8		
BERYLLIUM	0.41	U		0.41	U		0.41	U		0.41	U	
CADMIUM	2.84	U		2.84	U		2.84	U		2.84	U	
CALCIUM	101000			113000			63000			43700		
CHROMIUM	11.3	U	A	4.81	UJ	C	5.6	U	A	11.3	U	A
COBALT	3.89	U		3.89	U		3.89	U		3.89	U	
COPPER	3.3	U	A	1.66	U		1.9	U	A	1.66	U	
IRON	11100			296			22600			18900		
LEAD	2.7	U	A	1.48	UJ	C	1.48	UJ	C	1.48	UJ	C
MAGNESIUM	202000			260000			158000			97200		
MANGANESE	336			232			251			251		
MERCURY	0.03	U		0.03	U		0.03	U		0.03	U	
NICKEL	5.89	U		12.1	U	A	5.89	U		5.89	U	
POTASSIUM	75000			101000			63500			45100		
SELENIUM	3.04	U		3.04	U		4.2	U	A	3.04	U	
SILVER	4.15	U		4.15	U		4.15	U		4.15	U	
SODIUM	1760000			2180000			1350000			898000		
THALLIUM	0.42	U	A	1.0	U	A	0.40	U		0.21	U	A
VANADIUM	5.8	J	P	5.0	J	P	6.9	J	P	4.66	U	
ZINC	5.8	U	A	1.8	U	A	9.2	U	A	3.7	U	A

CTOR 6-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	2WGW46DS09			2WGW46DS09-F			2WGW47DS09			2WGW47DS09-F		
SAMPLE DATE:	01/13/02			01/13/02			01/12/02			01/12/02		
LABORATORY ID:	WS0086-009			WS0086-016			WS0086-006			WS0086-013		
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	539	U	A	66.9	UJ	AP	1130			21.39	U	
ANTIMONY	7.86	U		9.5	J	P	3.65	U		3.65	U	
ARSENIC	34.9			31.6			9.8			11.5		
BARIUM	120			121			205			179		
BERYLLIUM	1.7	U		1.1	U	A	0.41	U		0.41	U	
CADMIUM	8.94	U		8.94	U		2.84	U		2.84	U	
CALCIUM	376000			382000			36600			37000		
CHROMIUM	9.0	U	A	24.33	U		5.5	U	A	11.0	U	A
COBALT	8.79	U		8.79	U		7.1	J	P	5.1	J	P
COPPER	5.22	U		5.22	U		4.0	U	A	1.66	U	
IRON	946			698			69700			69900		
LEAD	4.11	U		4.11	U		1.48	UJ	C	2.7	U	A
MAGNESIUM	1090000			1120000			50800			51800		
MANGANESE	40.8			36.6			3670			3660		
MERCURY	0.03	U		0.03	U		0.03	U		0.03	U	
NICKEL	27.75	U		27.75	U		11.1	U	A	9.3	U	A
POTASSIUM	290000			302000			40600			42700		
SELENIUM	10.26	UJ	C	10.26	UJ	C	3.04	U		3.4	U	A
SILVER	11.67	U		11.67	U		4.15	U		4.15	U	
SODIUM	8360000			8870000			647000			697000		
THALLIUM	1.5	U	A	1.1	U	A	1.5			0.12	U	A
VANADIUM	12.3	J	P	11.52	U		4.66	U		4.66	U	
ZINC	166			3.78	U		9.3	U	A	3.4	U	A

SAMPLE NUMBER:	4GW01S09			4GW01S09-F			FD01120201			FD01120201-F		
SAMPLE DATE:	01/12/02			01/12/02			01/12/02			01/12/02		
LABORATORY ID:	WS0086-005			WS0086-012			WS0086-007			WS0086-014		
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:							4GW01S09			4GW01S09-F		
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	35.0	U	A	26.4	U	A	22.4	U	A	22.2	U	A
ANTIMONY	3.65	U		3.65	U		3.65	U		3.65	U	
ARSENIC	2.53	U		2.53	U		2.53	U		2.53	U	
BARIUM	42.5			41.7			42.1			42.7		
BERYLLIUM	0.41	U		0.41	U		0.41	U		0.41	U	
CADMIUM	2.84	U		2.84	U		2.84	U		2.84	U	
CALCIUM	19400			18800			19100			18800		
CHROMIUM	4.81	UJ	C	4.81	UJ	C	4.81	UJ	C	4.81	UJ	C
COBALT	3.89	U		3.89	U		3.89	U		3.89	U	
COPPER	2.5	U	A	1.66	U		1.66	U		1.66	U	
IRON	51.4	U	A	15.5	U	A	14.1	U	A	10.8	U	A
LEAD	2.4	U	A	2.4	U	A	2.6	U	A	3.1	U	A
MAGNESIUM	3140			2960			3110			3010		
MANGANESE	5.2			5.2			4.5	U	A	4.5	U	A
MERCURY	0.03	U		0.03	U		0.03	U		0.03	U	
NICKEL	5.89	U		5.89	U		5.89	U		6.3	U	A
POTASSIUM	2900			2950			2810			2800		
SELENIUM	3.04	U		4.3	U	A	3.04	U		3.04	U	
SILVER	4.15	U		4.15	U		4.15	U		4.15	U	
SODIUM	33000			33500			32600			33500		
THALLIUM	0.10	U		0.15	U	A	0.80	U	A	0.10	U	
VANADIUM	4.66	U		4.66	U		4.66	U		4.66	U	
ZINC	3.4	U	A	6.0	U	A	10.1	U	A	3.2	U	A

SAMPLE NUMBER:	FD01120202			FD01120202-F								
SAMPLE DATE:	01/12/02			01/12/02			/ /			/ /		
LABORATORY ID:	WS0086-008			WS0086-015								
QC_TYPE:	NORMAL			NORMAL								
% SOLIDS:	0.0 %			0.0 %			100.0 %			100.0 %		
UNITS:	UG/L			UG/L								
FIELD DUPLICATE OF:	2WGW47DS09			2WGW47DS09-F								
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	881			21.39	U							
ANTIMONY	3.65	U		2.62	U							
ARSENIC	10.8			8.2	U	A						
BARIUM	214			147								
BERYLLIUM	0.41	U		0.41	U							
CADMIUM	2.84	U		2.84	U							
CALCIUM	34600			40500								
CHROMIUM	11.0	U	A	5.6	U	A						
COBALT	6.6	J	P	3.89	U							
COPPER	2.6	U	A	1.66	U							
IRON	66500			72200								
LEAD	3.3	U	A	1.37	U							
MAGNESIUM	46700			58500								
MANGANESE	3570			3670								
MERCURY	0.03	U		0.03	U							
NICKEL	5.89	U		5.89	U							
POTASSIUM	38900			47200								
SELENIUM	3.04	U		3.42	UJ	C						
SILVER	4.15	U		4.15	U							
SODIUM	632000			792000								
THALLIUM	0.58	U	A	0.40	U							
VANADIUM	4.66	U		4.66	U							
ZINC	6.9	U	A	2.2	U	A						

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	FD01120202			2WGW38DS09			2WGW42DS09			2WGW43DS09		
SAMPLE DATE:	01/12/02			01/10/02			01/11/02			01/11/02		
LABORATORY ID:	WS0086-008			WS0075-1			WS0078-002			WS0078-003		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:	2GW47DS09											
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)	260			190			660			2100		
CHEMICAL OXYGEN DEMAND(MG/L)	50			30			960			1600		
CHLORIDE(MG/L)	1200			150			4000			10000		
HARDNESS(UG/L)	286000						2160000			4920000		
SULFATE(MG/L)	1	UJ	D	71	J	D	120	J	D	310	J	D
TOTAL DISSOLVED SOLIDS(MG/L)	1600	J	G	590	J	G	7000	J	G	15000	J	G
TOTAL ORGANIC CARBON(MG/L)	14			12			30			40		

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	2WGW44DS09			2WGW45DS09			2WGW46DS09			2WGW47DS09		
SAMPLE DATE:	01/12/02			01/12/02			01/13/02			01/12/02		
LABORATORY ID:	WS0086-003			WS0086-004			WS0086-009			WS0086-006		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)	800			1400			250			250		
CHEMICAL OXYGEN DEMAND(MG/L)	100			60			1900			40		
CHLORIDE(MG/L)	4000			10000			20000			1200		
HARDNESS(UG/L)	1080000			809000			5450000			300000		
SULFATE(MG/L)	58	J	D	67	J	D	110	J	D	1	UJ	D
TOTAL DISSOLVED SOLIDS(MG/L)	5100	J	G	15000	J	G	26000	J	G	1500	J	G
TOTAL ORGANIC CARBON(MG/L)	13			20			40			12		

CTO8T0-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	4GW01S09			FD01120201								
SAMPLE DATE:	01/12/02			01/12/02			/ /			/ /		
LABORATORY ID:	WS0086-005			WS0086-007								
QC_TYPE:	NORMAL			NORMAL								
% SOLIDS:	0.0 %			0.0 %			100.0 %			100.0 %		
FIELD DUPLICATE OF:				4GW01S09								
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)	30			30								
CHEMICAL OXYGEN DEMAND(MG/L)	15	U		15	U							
CHLORIDE(MG/L)	40			40								
HARDNESS(UG/L)	61200			60600								
SULFATE(MG/L)	38	J	D	34	J	D						
TOTAL DISSOLVED SOLIDS(MG/L)	1800	J	G	160	J	G						
TOTAL ORGANIC CARBON(MG/L)	3			2								

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**C. RICH**	**DATE:**	**MARCH 18, 2002**
FROM:	**REBEKAH A. HAYNIE**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION – TAL METALS AND MISCELLANEOUS PARAMETERS**
CTO-816 NSB NEW LONDON
SAMPLE DELIVERY GROUP (SDG) – 816-1

SAMPLES: 15/Aqueous/

2WGW21S-09	3GW37S-09	2WGW38DS-09
2WGW39DS-09	2WGW40DS-09	2WGW41DS-09
3MSP01-09	FD121801-01	RB121801-01
SWSG16-09	SWSG18-09	SWSG19-09
SWSG20-09	SWSG21-09	SWSG23-09

Overview

The sample set for CTO 816, NSB New London, SDG 816-1, consists of fifteen (15) aqueous environmental samples. Two (2) field duplicate pairs FD121801-01 / SWSG21-09 and FD121801-01-F / SWSG21-09-F are included within this SDG.

All samples were analyzed for alkalinity, chemical oxygen demand (COD), chloride, hardness, sulfate, total dissolved solids (TDS), total organic carbon (TOC), and total and dissolved target analyte list (TAL) metals. Samples designated "–F" were analyzed for dissolved metals. The samples were collected by TetraTech NUS on December 18, 19, and 20, 2002, and analyzed by Katahdin Analytical Services under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Metals analyses, with the exception of thallium, were conducted using SW 846 method 6010B. Thallium analyses were conducted using SW 846 method 6020. Results for hardness were calculated using Standard Methods 18th ed. Method 2340B. Analyses for alkalinity, COD, chloride, sulfate, TDS, and TOC were performed using EPA methods 310.1, 410.4, 325.2, 375.4, 160.1, and 415.1, respectively.

Metals analyses, with the exception of mercury and thallium, were conducted using Inductively Coupled Plasma (ICP) methodologies. Mercury analyses were conducted using Cold Vapor Atomic Absorption (CVAA). Thallium analyses were conducted using Inductively Coupled Plasma Mass Spectrometric (ICP-MS) methodologies.

These data were evaluated based on the following parameters:

* • Data Completeness
- Holding Times
- Calibration Recoveries
- Laboratory Blank Analyses

* • Laboratory Control Sample Results
- ICP Interference Check Sample Results
- Matrix Spike Results

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

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

Holding Times

The holding time for TDS is seven days. TDS in sample 2WGW40DS-09 was analyzed eight days after sampling. The TDS result in sample 2WGW40DS-09 was 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	61.91 µg/L	309.55 µg/L
Barium	3.54 µg/L	17.70 µg/L
Beryllium	0.77 µg/L	3.85 µg/L
Cadmium	0.29 µg/L	1.45 µg/L
Cadmium[1]	0.37 µg/L	1.85 µg/L
Calcium	49.41 µg/L	247.05 µg/L
Chromium	7.34 µg/L	36.70 µg/L
Copper	3.64 µg/L	18.20 µg/L
Iron	76.88 µg/L	384.4 µg/L
Lead	1.57 µg/L	7.85 µg/L
Lead[1]	2.06 µg/L	10.3 µg/L
Magnesium	70.78 µg/L	353.90 µg/L
Manganese	0.98 µg/L	4.90 µg/L
Nickel[1]	1.45 µg/L	7.25 µg/L
Selenium	6.40 µg/L	32.0 µg/L
Silver	0.01 µg/L	0.05 µg/L
Sodium	37.85 µg/L	189.25 µg/L
Sodium[1]	43.93 µg/L	219.65 µg/L
Sodium[2]	48.70 µg/L	243.50 µg/L
Thallium	0.36 µg/L	1.80 µg/L
Vanadium	0.57 µg/L	2.85 µg/L
Zinc	2.23 µg/L	11.15 µg/L
Zinc[2]	3.01 µg/L	15.05 µg/L

[1] Maximum concentration present in a laboratory preparation blank from preparation batch RL21ICW0.
[2] Maximum concentration present in a laboratory preparation blank from preparation batch RL27ICW1.

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Because different analytes were analyzed on different instruments (resulting in different Instrument Detection Limits (IDLs)), maximum contaminant concentrations were evaluated relative to the instrument in which they were run. Sample aliquot and dilution factors were taken into consideration when evaluating for blank contamination. Positive results for aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, copper, iron, lead, manganese, nickel, selenium, thallium, vanadium, and zinc that were less than the associated action level were qualified nondetected, "U", as a result of laboratory blank contamination.

Sample Quantitation

Due to uncertainty near the detection limit, positive results < 2X the Instrument Detection Limit (IDL) for barium, cadmium, cobalt, lead, manganese, mercury, selenium, silver, and vanadium were qualified as estimated, "J".

Calibration Recoveries

Contract Required Detection Limits (CRDLs) noncompliance (recoveries outside of +/-20% quality control limits) were noted for chromium, lead, selenium, and silver affecting the total metals and dissolved metals matrices. Positive results < 3X CRDL reported for these analytes were qualified as estimated, "J", while nondetected results were qualified as estimated, "UJ".

ICP Interference Check Sample Results

The interfering analyte magnesium was present in samples 2WGW40DS-09 and 2WGW40DS-09-F at concentrations comparable to the level of magnesium in the Interference Check Sample (ICS) solution. Several analytes namely antimony, arsenic, barium, beryllium, cadmium, copper, lead, manganese, nickel, selenium, sodium, thallium, and zinc were present in the ICS solution at concentrations that exceeded 2X the absolute value of the Instrument Detection Limit (IDL). Interference affects exist for arsenic, cadmium, and thallium. The nondetected results reported for these analytes were qualified as estimated, "UJ".

The interfering analyte magnesium was present in sample 2WGW41DS-09 and 2WGW41DS-09-F at concentrations comparable to the level of magnesium in the ICS solution. Several analytes namely antimony, arsenic, barium, beryllium, cadmium, copper, lead, manganese, nickel, selenium, sodium, thallium, and zinc were present in the ICS solution at concentrations that exceeded 2X the absolute value of the IDL. Interference affects exist for arsenic, barium, cadmium, and thallium. The positive results reported for barium were qualified as estimated, "J". The nondetected results reported for arsenic, cadmium, and thallium were qualified as estimated, "UJ".

Matrix Spike Results

Matrix Spike (MS) noncompliance (percent recovery (%R) >125%) was noted for mercury and silver. Positive results were qualified as estimated, "J".

MS noncompliance (%R < 75%) was noted for selenium. Positive results reported for selenium were qualified as estimated, "J", while nondetected results were qualified as estimated, "UJ".

MS noncompliance (%R < 75% and %R > 125%) was noted for sulfate. Positive results reported for sulfate were qualified as estimated, "J". A direction of bias could not be determined.

Field Duplicates

Field duplicate noncompliance (percent difference (%D) > 2X CRDL) was noted for alkalinity. Positive results reported for alkalinity were qualified as estimated, "J".

Field duplicate noncompliance (relative percent difference (RPD) > 30%) was noted for sulfate and TOC. Positive results reported for sulfate and TOC were qualified as estimated, "J".

Field duplicate noncompliance (%D > 2X CRDL) was noted for iron, affecting the dissolved metals sample matrix. Positive results reported for iron in the dissolved metals matrix were qualified as estimated, "J".

Notes

The rinsate blank samples, RB121801-01 and RB121801-01-F, were not used in establishing blank action levels and were not qualified based on laboratory blank action levels.

Executive Summary

Laboratory Performance: Holding times were exceeded for TDS analyses in sample 2WGW40DS-09. Several analytes were present in the laboratory method / preparation blanks. CRDL calibration noncompliance was noted for chromium, lead, selenium, and silver.

Other Factors Affecting Data Quality: Barium, cadmium, cobalt, lead, manganese, mercury, selenium, and silver were qualified due to uncertainty near the IDL. The interfering analyte magnesium was present in several samples. MS noncompliance was noted for mercury, selenium, silver, and sulfate. Field duplicate noncompliance was noted for several analytes, affecting the filtered and nonfiltered matrices.

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

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

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

Rebekah A. Haynie

Tetra Tech NUS
Rebekah A. Haynie
Environmental Scientist

TetraTech NUS
Joseph A. Samchuck
Quality Assurance Officer

TO: **C. RICH – PAGE 5**
DATE: **MARCH 18, 2002**

Attachments:

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

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

CTO816-NSB NEW L[illegible]
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	2WGW21S-09			2WGW21S-09-F			2WGW38DS-09			2WGW38DS-09-F		
SAMPLE DATE:	12/20/01			12/20/01			12/20/01			12/20/01		
LABORATORY ID:	WR4215-006			WR4215-012			WR4215-009			WR4215-015		
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	73.7	U	A	69.4	U	A	135	U	A	29.54	U	
ANTIMONY	3.65	U		3.65	U		3.65	U		3.65	U	
ARSENIC	4.3			2.9			2.53	U		2.53	U	
BARIUM	45.3			41.9			9.8	U	A	8.2	U	A
BERYLLIUM	0.41	U		0.41	U		0.41	U		0.41	U	
CADMIUM	2.84	U		2.84	U		3.5	J	P	2.84	U	
CALCIUM	86700			68800			46300			45500		
CHROMIUM	7.6	U	A	7.6	U	A	2.2	U	A	1.3	U	A
COBALT	3.89	U		3.89	U		3.89	U		3.89	U	
COPPER	1.66	U		1.66	U		5.6	U	A	4.5	U	A
IRON	85600			78100	J	G	7290			385	J	G
LEAD	1.48	UJ	C	1.48	UJ	C	1.8	U	A	1.48	UJ	C
MAGNESIUM	245000			188000			21500			18300		
MANGANESE	798			858			193			94.6		
MERCURY	0.03	U		0.03	U		0.03	U		0.03	U	
NICKEL	5.89	U		5.89	U		5.89	U		5.89	U	
POTASSIUM	77800			57700			16400			15400		
SELENIUM	3.04	UJ	D	3.04	UJ	D	3.04	UJ	D	3.04	UJ	D
SILVER	4.15	UJ	C	4.15	UJ	C	4.15	UJ	C	4.15	UJ	C
SODIUM	2030000			1540000			163000			153000		
THALLIUM	0.45	U	A	0.40	U		0.22	U	A	0.13	U	A
VANADIUM	9.4			12.6			9.7			8.9	J	P
ZINC	5.8	U	A	4.0	U	A	3.0	U	A	3.1	U	A

CTO81[illegible] LONDON
WATER DATA
KAS
SDG: CTC916-1

SAMPLE NUMBER:	2WGW39DS-09			2WGW39DS-09-F			2WGW40DS-09			2WGW40DS-09-F		
SAMPLE DATE:	12/19/01			12/19/01			12/20/01			12/20/01		
LABORATORY ID:	WR4193-002			WR4193-005			WR4215-002			WR4215-013		
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	61.3	U	A	44.6	U	A	820			43.0	U	A
ANTIMONY	3.65	U		3.65	U		3.65	U		3.65	U	
ARSENIC	2.53	U		2.53	U		8.1			5.9		
BARIUM	51.7			49.3			53.9			53.9		
BERYLLIUM	0.41	U		0.41	U		0.41	U		0.41	U	
CADMIUM	2.84	U		2.84	U		2.84	UJ	K	2.84	UJ	K
CALCIUM	18500			20000			210000			213000		
CHROMIUM	4.81	UJ	C	0.57	U		9.3	U	A	4.4	U	A
COBALT	3.89	U		3.89	U		3.89	U		3.89	U	
COPPER	1.66	U		1.66	U		3.9	U	A	1.66	U	
IRON	2930			662	J	G	5870			2260	J	G
LEAD	1.48	U		1.48	UJ	C	1.48	UJ	C	1.48	UJ	C
MAGNESIUM	4590			5420			615000			625000		
MANGANESE	395			350			153			167		
MERCURY	0.03	U		0.03	U		0.07	J	D	0.03	U	
NICKEL	5.89	U		5.89	U		5.89	U		5.89	U	
POTASSIUM	7290			8830			230000			225000		
SELENIUM	3.04	UJ	D	3.04	UJ	D	3.04	UJ	D	3.04	UJ	D
SILVER	4.15	UJ	C	4.15	UJ	C	4.15	UJ	C	4.15	UJ	C
SODIUM	143000			163000			5260000			5180000		
THALLIUM	0.29	U	A	0.42	U	A	0.81	U	A	1.2	U	A
VANADIUM	4.66	U		4.66	U		13.3			12.8		
ZINC	4.2	U	A	4.7	U	A	10.1	U	A	3.0	U	A

CT[illegible]6-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	2WGW41DS-09			2WGW41DS-09-F			3GW37S-09			3GW37S-09-F		
SAMPLE DATE:	12/19/01			12/20/01			12/19/01			12/19/01		
LABORATORY ID:	WR4215-003			WR4215-014			WR4193-003			WR4193-006		
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	313			64.17	U		40.0	U	A	41.1	U	A
ANTIMONY	3.65	U		4.0			3.65	U		3.65	U	
ARSENIC	5.1			5.4			2.53	U		2.53	U	
BARIUM	38.2	J	K	39.8	J	K	171			163		
BERYLLIUM	0.53	U	A	0.41	U		0.41	U		0.41	U	
CADMIUM	2.84	UJ	K	2.84	UJ	K	2.84	U		2.84	U	
CALCIUM	201000			192000			57700			54500		
CHROMIUM	7.2	U	A	7.7	U	A	4.81	UJ	C	0.70	U	A
COBALT	3.89	U		3.89	U		13.4			13.1		
COPPER	2.0	U	A	1.66	U		2.6	U	A	2.9	U	A
IRON	17000			9140	J	G	2990			2920	J	G
LEAD	1.48	UJ	C	1.48	UJ	C	1.48	U		2.2	U	A
MAGNESIUM	580000			517000			20600			18600		
MANGANESE	416			331			3600			3390		
MERCURY	0.03	U		0.03	U		0.03	U		0.03	U	
NICKEL	5.89	U		11.7			5.89	U		5.89	U	
POTASSIUM	214000			185000			8900			8510		
SELENIUM	3.04	UJ	D	3.04	UJ	D	3.04	UJ	D	3.04	UJ	D
SILVER	4.15	UJ	C	4.15	UJ	C	4.15	UJ	C	4.15	UJ	C
SODIUM	4830000			4480000			183000			174000		
THALLIUM	0.63	U	A	0.69	U	A	0.54	U	A	0.61	U	A
VANADIUM	13.0			10.6			4.66	U		4.66	U	
ZINC	8.7	U	A	4.2	U	A	3.7	U	A	3.6	U	A

CTO816-NSB NEW I
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	3MSP01-09			3MSP01-09-F			FD121801-01			FD121801-01-F		
SAMPLE DATE:	12/20/01			12/20/01			12/18/01			12/18/01		
LABORATORY ID:	WR4215-004			WR4215-010			WR4180-002			WR4180-008		
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:							SWSG21-09			SWG21-09-F		
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	87.0	U	A	51.2	U	A	96.1	U	A	21.39	U	
ANTIMONY	3.65	U		3.65	U		3.65	U		3.65	U	
ARSENIC	2.53	U		2.53	U		2.53	U		2.53	U	
BARIUM	75.9			71.4			55.7			50.3		
BERYLLIUM	0.41	U		0.41	U		0.18	U		0.42	U	A
CADMIUM	2.84	U		2.84	U		0.53	U	A	2.84	U	
CALCIUM	25500			25500			33700			28800		
CHROMIUM	0.57	U		0.72	U	A	1.9	U	A	4.81	U	
COBALT	3.89	U		3.89	U		0.92	U		3.89	U	
COPPER	1.66	U		1.66	U		0.84	U		2.6	U	A
IRON	11200			9830	J	G	5940			481	J	G
LEAD	2.8	U	A	1.9	U	A	3.4	U	A	2.5	U	A
MAGNESIUM	13200			12900			6440			5960		
MANGANESE	1040			1040			509			436		
MERCURY	0.03	U		0.03	U		0.03	U		0.03	U	
NICKEL	5.89	U		5.89	U		2.0	U	A	5.89	U	
POTASSIUM	6570			6340			7510			7680		
SELENIUM	3.04	UJ	D	3.04	UJ	D	3.04	UJ	D	3.3	U	A
SILVER	4.15	UJ	C	4.15	UJ	C	1.0	J	CDP	4.15	UJ	C
SODIUM	133000			127000			58200			58800		
THALLIUM	0.12	U	A	0.11	U	A	0.20	U	A	0.26	U	A
VANADIUM	4.66	U		4.66	U		1.7	U	A	4.66	U	
ZINC	15.2			12.2	U	A	14.3			10.0	U	A

SAMPLE NUMBER:	RB121801-01			RB121801-01-F			SWSG16-09			SWSG16-09-F		
SAMPLE DATE:	12/18/01			12/18/01			12/19/01			12/19/01		
LABORATORY ID:	WR4180-001			WR4180-007			WR4193-004			WR4193-007		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
INORGANICS												
ALUMINUM	30.3			35.3			13500			158	U	A
ANTIMONY	3.65	U		3.65	U		3.65	U		3.65	U	
ARSENIC	2.53	U		2.53	U		3.6			2.53	U	
BARIUM	2.2	J	P	1.15	U		105			17.0	U	A
BERYLLIUM	0.18	U		0.18	U		0.57	U	A	0.41	U	
CADMIUM	0.37	J	P	0.26	J	P	2.84	U		2.84	U	
CALCIUM	7.68	U		7.68	U		5210			3640		
CHROMIUM	0.57	U		0.57	U		7.2	U	A	0.57	U	
COBALT	0.92	U		0.92	U		6.6	J	P	3.89	U	
COPPER	0.84	U		0.84	U		79.4			7.2	U	A
IRON	229			7.3	J	G	25700			516	J	G
LEAD	1.5	J	P	2.6	J	P	75.7			4.6	U	A
MAGNESIUM	7.06	U		7.06	U		3620			700		
MANGANESE	0.54	J	P	0.12	J	P	330			7.2		
MERCURY	0.03	U		0.03	U		0.38	J	D	0.03	U	
NICKEL	0.72	U		0.72	U		16.4			5.89	U	
POTASSIUM	305.21	U		305.21	U		4720			2660		
SELENIUM	3.1	J	CDP	4.2	J	CDP	3.04	UJ	D	3.04	UJ	D
SILVER	1.03	UJ	C	1.03	UJ	C	4.15	UJ	C	4.15	UJ	C
SODIUM	27.8			33.1			10100			10600		
THALLIUM	0.35			0.27			0.33	U	A	0.22	U	A
VANADIUM	0.55	J	P	0.70	J	P	270			10.1		
ZINC	0.47	U		0.47	U		424			104		

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG18-09			SWSG18-09-F			SWSG19-09			SWSG19-09-F		
SAMPLE DATE:	12/18/01			12/18/01			12/18/01			12/18/01		
LABORATORY ID:	WR4180-C06			WR4180-012			WR4180-003			WR4180-009		
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	1300			44.5	U	A	2920			21.39	U	
ANTIMONY	3.65	U		3.65	U		3.65	U		3.65	U	
ARSENIC	2.53	U		2.53	U		2.53	U		2.53	U	
BARIUM	99.1			78.5			47.9			24.0		
BERYLLIUM	0.18	U		0.41	U		0.18	U		0.41	U	
CADMIUM	0.30	U	A	2.84	U		0.76	U	A	2.84	U	
CALCIUM	20800			19400			11600			9040		
CHROMIUM	1.8	U	A	4.81	UJ	C	4.2	U	A	4.81	U	
COBALT	0.92	U		3.89	U		1.3	J	P	3.89	U	
COPPER	8.5	U	A	1.66	U		25.6			1.66	U	
IRON	20800			12400	J	G	11100			2820	J	G
LEAD	5.2	U	A	1.48	U		13.3			2.3	U	A
MAGNESIUM	3640			3430			2480			1670		
MANGANESE	477			451			311			230		
MERCURY	0.03	U		0.03	U		0.05	J	DP	0.03	U	
NICKEL	4.6	U	A	5.89	U		11.1			5.89	U	
POTASSIUM	4200			4200			4530			4360		
SELENIUM	3.2	U	A	3.04	UJ	D	5.4	U	A	3.04	UJ	D
SILVER	1.2	J	CDP	4.15	UJ	C	1.03	UJ	C	4.15	UJ	C
SODIUM	33200			34900			10800			11500		
THALLIUM	0.43	U	A	0.41	U	A	0.18	U	A	0.16	U	A
VANADIUM	9.9			4.66	U		30.6			4.66	U	
ZINC	394			101			259			28.2		

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG20-09			SWSG20-09-F			SWSG21-09			SWSG21-09-F		
SAMPLE DATE:	12/18/01			12/18/01			12/18/01			12/18/01		
LABORATORY ID:	WR4180-005			WR4180-011			WR4180-004			WR4180-010		
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	16500			51.7	U	A	109	U	A	34.3	U	A
ANTIMONY	3.65	U		3.65	U		3.65	U		3.65	U	
ARSENIC	7.4			2.53	U		2.53	U		2.53	U	
BARIUM	138			47.2			55.7			52.1		
BERYLLIUM	0.72	U	A	0.41	U		0.18	U		0.41	U	
CADMIUM	1.3	U	A	2.84	U		0.24	U		2.84	U	
CALCIUM	25600			20500			34100			30000		
CHROMIUM	21.1	U	A	4.81	UJ	C	0.57	U		4.81	UJ	C
COBALT	6.8	J	P	3.89	U		0.92	U		3.89	U	
COPPER	64.8			2.1	U	A	0.84	U		1.66	U	
IRON	23600			153	U	A	6120			944	J	G
LEAD	41.8			1.48	U		2.3	U	A	1.48	U	
MAGNESIUM	9670			5380			6480			6240		
MANGANESE	655			332			510			462		
MERCURY	0.13	J	D	0.03	U		0.03	U		0.03	U	
NICKEL	31.0			5.89	U		1.7	U	A	5.89	U	
POTASSIUM	14900			12400			7480			7360		
SELENIUM	4.7	U	A	3.04	UJ	D	5.5	U	A	3.04	UJ	D
SILVER	1.1	J	CDP	4.15	UJ	C	1.1	J	CDP	4.15	UJ	C
SODIUM	49500			52600			58000			60000		
THALLIUM	0.99	U	A	0.69	U	A	0.10	U		0.15	U	A
VANADIUM	46.0			4.66	U		1.6	U	A	4.66	U	
ZINC	1160			145			14.6			7.1	U	A

CTO816-NSA NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG23-09	SWSG23-09-F		
SAMPLE DATE:	12/20/01	12/20/01	/ /	/ /
LABORATORY ID:	WR4215-005	WR4215-011		
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	1440			92.9	U	A						
ANTIMONY	5.0			3.7								
ARSENIC	2.53	U		2.6								
BARIUM	35.0			22.0								
BERYLLIUM	0.41	U		0.41	U							
CADMIUM	2.84	U		2.84	U							
CALCIUM	8080			8110								
CHROMIUM	1.7	U	A	0.57	U							
COBALT	3.89	U		3.89	U							
COPPER	14.0	U	A	2.8	U	A						
IRON	4380			2050	J	G						
LEAD	7.4	U	A	2.5	U	A						
MAGNESIUM	4290			4080								
MANGANESE	331			280								
MERCURY	0.03	U		0.03	U							
NICKEL	5.89	U		5.89	U							
POTASSIUM	3960			3820								
SELENIUM	3.04	UJ	D	3.04	UJ	D						
SILVER	4.15	UJ	C	4.15	UJ	C						
SODIUM	53200			56500								
THALLIUM	0.16	U	A	0.10	U							
VANADIUM	6.8	J	P	4.66	U							
ZINC	305			126								

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	2WGW21S-09			2WGW21S-09-A			2WGW37DS-09			2WGW37DS-09-A		
SAMPLE DATE:	12/20/01			12/20/01			12/19/01			12/19/01		
LABORATORY ID:	WR4215-6			WR4215-006			WR4193-3			WR4193-003		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)	570	J	G				120	J	G			
CHEMICAL OXYGEN DEMAND(MG/L)	240						15	U				
CHLORIDE(MG/L)	3300						370					
HARDNESS(UG/L)				1230000						229000		
SULFATE(MG/L)	10	UJ	DG				13	J	DG			
TOTAL DISSOLVED SOLIDS(MG/L)	5900						800					
TOTAL ORGANIC CARBON(MG/L)	50	J	G				5.3	J	G			

CTO816-NSG NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	2WGW38DS-09-A			2WGW39DS-09			2WGW39DS-09-A			2WGW40DS-09		
SAMPLE DATE:	12/20/01			12/19/01			12/19/01			12/19/01		
LABORATORY ID:	WR4215-009			WR4193-2			WR4193-002			WR4215-2		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)				130	J	G				1300	J	G
CHEMICAL OXYGEN DEMAND(MG/L)				20						100		
CHLORIDE(MG/L)				160						6800		
HARDNESS(UG/L)	204000						65000					
SULFATE(MG/L)				6.3	J	DG				610	J	DG
TOTAL DISSOLVED SOLIDS(MG/L)				430						18000	J	H
TOTAL ORGANIC CARBON(MG/L)				9.5	J	G				35	J	G

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	2WGW40DS-09-A			2WGW41DS-09			2WGW41DS-09-A			3MSP01-09		
SAMPLE DATE:	12/19/01			12/19/01			12/19/01			12/20/01		
LABORATORY ID:	WR4215-002			WR4215-3			WR4215-003			WR4215-4		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)				1800	J	G				80	J	G
CHEMICAL OXYGEN DEMAND(MG/L)				410						15	U	
CHLORIDE(MG/L)				9100						240		
HARDNESS(UG/L)	3060000						2890000					
SULFATE(MG/L)				250	J	DG				8.7	J	DG
TOTAL DISSOLVED SOLIDS(MG/L)				14000						490		
TOTAL ORGANIC CARBON(MG/L)				70	J	G				5.4	J	G

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	3MSP01-09-A			RB121801-01			RB121801-01-A			SWSG16-09		
SAMPLE DATE:	12/20/01			12/18/01			12/18/01			12/19/01		
LABORATORY ID:	WR4215-004			WR4180-1			WR4180-001			WR4193-4		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)				20	UJ	G				20	UJ	G
CHEMICAL OXYGEN DEMAND(MG/L)				15	U					20		
CHLORIDE(MG/L)				2.0	U					13		
HARDNESS(UG/L)	118000						48.25	U				
SULFATE(MG/L)				1.0	UJ	DG				16	J	DG
TOTAL DISSOLVED SOLIDS(MG/L)				10	U					60		
TOTAL ORGANIC CARBON(MG/L)				1.0	UJ	G				8	J	G

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG16-09-A			SWSG18-09			SWSG18-09-A			SWSG19-09		
SAMPLE DATE:	12/19/01			12/18/01			12/18/01			12/18/01		
LABORATORY ID:	WR4193-004			WR4180-6			WR4180-006			WR4180-3		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)				70	J	G				30	J	G
CHEMICAL OXYGEN DEMAND(MG/L)				20						30		
CHLORIDE(MG/L)				51						17		
HARDNESS(UG/L)	27900						66900					
SULFATE(MG/L)				10	J	DG				12	J	DG
TOTAL DISSOLVED SOLIDS(MG/L)				140						56		
TOTAL ORGANIC CARBON(MG/L)				7.5	J	G				20	J	G

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG19-09-A			SWSG20-09			SWSG20-09-A			SWSG21-09		
SAMPLE DATE:	12/18/01			12/18/01			12/18/01			12/18/01		
LABORATORY ID:	WR4180-003			WR4180-5			WR4180-005			WR4180-4		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)				40	J	G				90	J	G
CHEMICAL OXYGEN DEMAND(MG/L)				30						30		
CHLORIDE(MG/L)				99						100		
HARDNESS(UG/L)	39200						104000					
SULFATE(MG/L)				18	J	DG				5	J	DG
TOTAL DISSOLVED SOLIDS(MG/L)				250						260		
TOTAL ORGANIC CARBON(MG/L)				14	J	G				11	J	G

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG21-09-A			FD121801-01			FD121801-01-A			SWSG23-09		
SAMPLE DATE:	12/18/01			12/18/01			12/18/01			12/20/01		
LABORATORY ID:	WR4180-004			WR4180-2			WR4180-002			WR4215-5		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:				SWSG21-09			SWSG21-09					
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)				100	J	G				20	J	G
CHEMICAL OXYGEN DEMAND(MG/L)				30						30		
CHLORIDE(MG/L)				100						84		
HARDNESS(UG/L)	112000						111000					
SULFATE(MG/L)				5.1	J	DG				15	J	DG
TOTAL DISSOLVED SOLIDS(MG/L)				280						250		
TOTAL ORGANIC CARBON(MG/L)				20	J	G				20	J	G

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG23-09-A			
SAMPLE DATE:	12/20/01	/ /	/ /	/ /
LABORATORY ID:	WR4215-005			
QC_TYPE:	NORMAL			
% SOLIDS:	0.0 %	100.0 %	100.0 %	100.0 %
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
HARDNESS(UG/L)	37800											

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	2WGW21S-09			2WGW21S-09-A			2WGW37DS-09-A			2WGW38DS-09-A		
SAMPLE DATE:	12/20/01			12/20/01			12/19/01			12/20/01		
LABORATORY ID:	WR4215-6			WR4215-006			WR4193-003			WR4215-009		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)	570	J	G									
CHEMICAL OXYGEN DEMAND(MG/L)	240											
CHLORIDE(MG/L)	3300											
HARDNESS(UG/L)				1230000			229000			204000		
SULFATE(MG/L)	10	UJ	DG									
TOTAL DISSOLVED SOLIDS(MG/L)	5900											
TOTAL ORGANIC CARBON(MG/L)	50	J	G									

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	2WGW39DS-09			2WGW39DS-09-A			2WGW40DS-09			2WGW40DS-09-A		
SAMPLE DATE:	12/19/01			12/19/01			12/19/01			12/19/01		
LABORATORY ID:	WR4193-2			WR4193-002			WR4215-2			WR4215-002		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)	130	J	G				1300	J	G			
CHEMICAL OXYGEN DEMAND(MG/L)	20						100					
CHLORIDE(MG/L)	160						6800					
HARDNESS(UG/L)				65000						3060000		
SULFATE(MG/L)	6.3	J	DG				610	J	DG			
TOTAL DISSOLVED SOLIDS(MG/L)	430						18000	J	H			
TOTAL ORGANIC CARBON(MG/L)	9.5	J	G				35	J	G			

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	2WGW41DS-09			2WGW41DS-09-A			3GW37S-09			3MSP01-09		
SAMPLE DATE:	12/19/01			12/19/01			12/19/01			12/20/01		
LABORATORY ID:	WR4215-3			WR4215-003			WR4193-3			WR4215-4		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)	1800	J	G				120	J	G	80	J	G
CHEMICAL OXYGEN DEMAND(MG/L)	410						15	U		15	U	
CHLORIDE(MG/L)	9100						370			240		
HARDNESS(UG/L)				2890000								
SULFATE(MG/L)	250	J	DG				13	J	DG	8.7	J	DG
TOTAL DISSOLVED SOLIDS(MG/L)	14000						800			490		
TOTAL ORGANIC CARBON(MG/L)	70	J	G				5.3	J	G	5.4	J	G

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	3MSP01-09-A			RB121801-01			RB121801-01-A			SWSG16-09		
SAMPLE DATE:	12/20/01			12/18/01			12/18/01			12/19/01		
LABORATORY ID:	WR4215-004			WR4180-1			WR4180-001			WR4193-4		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)				20	UJ	G				20	UJ	G
CHEMICAL OXYGEN DEMAND(MG/L)				15	U					20		
CHLORIDE(MG/L)				2.0	U					13		
HARDNESS(UG/L)	118000						48.25	U				
SULFATE(MG/L)				1.0	UJ	DG				16	J	DG
TOTAL DISSOLVED SOLIDS(MG/L)				10	U					60		
TOTAL ORGANIC CARBON(MG/L)				1.0	UJ	G				8	J	G

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG16-09-A			SWSG18-09			SWSG18-09-A			SWSG19-09		
SAMPLE DATE:	12/19/01			12/18/01			12/18/01			12/18/01		
LABORATORY ID:	WR4193-004			WR4180-6			WR4180-006			WR4180-3		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)				70	J	G				30	J	G
CHEMICAL OXYGEN DEMAND(MG/L)				20						30		
CHLORIDE(MG/L)				51						17		
HARDNESS(UG/L)	27900						66900					
SULFATE(MG/L)				10	J	DG				12	J	DG
TOTAL DISSOLVED SOLIDS(MG/L)				140						56		
TOTAL ORGANIC CARBON(MG/L)				7.5	J	G				20	J	G

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG19-09-A			SWSG20-09			SWSG20-09-A			SWSG21-09		
SAMPLE DATE:	12/18/01			12/18/01			12/18/01			12/18/01		
LABORATORY ID:	WR4180-003			WR4180-5			WR4180-005			WR4180-4		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)				40	J	G				90	J	G
CHEMICAL OXYGEN DEMAND(MG/L)				30						30		
CHLORIDE(MG/L)				99						100		
HARDNESS(UG/L)	39200						104000					
SULFATE(MG/L)				18	J	DG				5	J	DG
TOTAL DISSOLVED SOLIDS(MG/L)				250						260		
TOTAL ORGANIC CARBON(MG/L)				14	J	G				11	J	G

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG21-09-A			FD121801-01			FD121801-01-A			SWSG23-09		
SAMPLE DATE:	12/18/01			12/18/01			12/18/01			12/20/01		
LABORATORY ID:	WR4180-004			WR4180-2			WR4180-002			WR4215-5		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
FIELD DUPLICATE OF:				SWSG21-09			SWSG21-09					
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
ALKALINITY(MG/L)				100	J	G				20	J	G
CHEMICAL OXYGEN DEMAND(MG/L)				30						30		
CHLORIDE(MG/L)				100						84		
HARDNESS(UG/L)	112000						111000					
SULFATE(MG/L)				5.1	J	DG				15	J	DG
TOTAL DISSOLVED SOLIDS(MG/L)				280						250		
TOTAL ORGANIC CARBON(MG/L)				20	J	G				20	J	G

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG23-09-A											
SAMPLE DATE:	12/20/01			/ /			/ /			/ /		
LABORATORY ID:	WR4215-005											
QC_TYPE:	NORMAL											
% SOLIDS:	0.0 %			100.0 %			100.0 %			100.0 %		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
MISCELLANEOUS PARAMETERS												
HARDNESS(UG/L)	37800											

Qualifier Codes:

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

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **C. RICH** **DATE: MARCH 14, 2002**

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

SUBJECT: **ORGANIC DATA VALIDATION: VOA/SVOA/PAH/PEST/PCB**
CTO 816, NSB NEW LONDON
SDG: 816-3

SAMPLES:

10 / Aqueous / VOA

2WGW42DS09	2WGW43DS09	2WGW44DS09
2WGW45DS09	2WGW46DS09	2WGW47DS09
4GW01S09	FD1120201	FD01120202
TB0112021		

10 / Aqueous /SVOA/PAH/PEST/PCB

2WGW38DS09	2WGW42DS09	2WGW43DS09
2WGW44DS09	2WGW45DS09	2WGW46DS09
2WGW47DS09	4GW01S09	FD1120201
FD01120202		

Overview

The sample set for the CTO 816, NSB New London, SDG: 816-3 consists of ten (10) aqueous environmental samples and one (1) trip blank. The trip bank was analyzed for Target Compound List (TCL) volatile organic compounds (VOC) only. All environmental samples except 2WGW38DS09 were analyzed for TCL volatile, semivolatile (SVOC), polynuclear aromatic hydrocarbons (PAHs), pesticides (PEST), and polychlorinated biphenyl (PCB) organic compounds. Sample 2WGW38DS09 was analyzed for TCL semivolatile (SVOC), polynuclear aromatic hydrocarbons (PAHs), pesticides (PEST), and polychlorinated biphenyl (PCB) organic compounds. Two field duplicate pairs were included in this SDG: 4GW01S09 / FD1120201 and 2WGW47DS09 / FD01120202.

The samples were collected by Tetra Tech NUS, Inc. on January 10-12, 2002 and were analyzed by Katahdin Analytical Services. Analyses were conducted using the Contract Laboratory Program (CLP) Statement of Work (SOW) OLC02.1 (volatile, pesticide and PCB), and the U.S. EPA Test Methods for Evaluating Solid Wastes (SW-846) Methods 8270C and 8270-SIM analytical and reporting protocols.

The data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • GC/MS Tuning
  • Calibration
  • Blanks
  • Surrogate Spike Recoveries
  • Blank Spike Recoveries
  • Matrix Spike/Matrix Spike Duplicate Recoveries

- Internal Standards Performance
- * Instrument Performance
- * Field Duplicate Precision
- Compound Identification
- Compound Quantitation
- * Tentatively Identified Compounds (TICs)

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

HOLDING TIMES

All quality control parameters for holding times were met.

CALIBRATIONS

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

Compound	IC 01/1102	CC 01/17/02;11:59	CC 01/19/02;08:03
Methylene chloride	D		
Bromomethane		X	X
Trans-1,3-dichloropropene		X	X
Dibromochloromethane			X
1,1,2-Trichloroethane			X
Acetone			R
2-Butanone			R
Associated Samples:	All	2WGW42DS09 2WGW43DS09 2WGW44DS09 2WGW45DS09 2WGW47DS09 4GW01S09 FD1120201 FD01120202 TB0112021	2WGW46DS09

Compound	IC 01/21/02	CC 01/24/02;0940
Benzoic acid	D	X
2,4-dinitrophenol	D	
4,6-dinitro-2-methylphenol	D	
Carbazole	D	
	Samples: ALL	2WGW45DS09

Compound	CC 01/18/02;1054
Phenanthrene	X
Anthracene	X

Associated Samples:
2WGW38DS09
2WGW42DS09
2WGW43DS09
2WGW44DS09
2WGW45DS09
2WGW47DS09
4GW01S09
FD1120201
FD01120202

Calibration Actions:

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

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

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

BLANKS

The following compounds were detected in the method blanks and/or trip blanks (*) as indicated below:

Compound	Maximum Concentration	Action Level
Methylene chloride	2 µg/L	20 µg/L
Acetone	5 µg/L	50 µg/L
Tetrachloroethene*	0.6 µg/L	3.0 µg/L
1,4-Dichlorobenzene	0.6 µg/L	3.0 µg/L
Carbon Disulfide*	0.6 µg/L	3.0 µg/L

Trip blank = *

Samples Affected: All
Blank Actions:

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

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

SURROGATE RECOVERY

Recovery of the PAH surrogate nitrobenzene-d5 was less than the lower quality control limit for the analysis of sample 2WGW44DS-09. No qualifiers were assigned since only on one surrogate was noncompliant.

Recovery of the PAH surrogates nitrobenzene-d5 and 2-fluorobiphenyl were less than the lower quality control limit for the analysis of sample 2WGW43DS-09. Positive and nondetected compounds were qualified as estimated, J, and, UJ, respectively, in the aforementioned sample.

Recovery of the pesticide surrogate tetrachloro-m-xylene (TCX) was less than lower 30% quality control limit on both analytical columns for the analysis of samples 2WGW42DS09 and 2WGW47DS09. Positive and nondetected results were qualified as estimated, J, and, UJ, respectively in the aforementioned samples.

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

All quality control parameters were met for this fraction.

INTERNAL STANDARDS PERFORMANCE

The internal standards phenanthrene-d10, chyrsene-d12, and perylene-d12 were greater than the upper quality control limit for sample 2WGW46DS09. The re-analysis of the sample yielded internal standards that were greater than the upper quality control limit for chyrsene-d12 and perylene-d12. Therefore the re-analysis was used for data validation purposes. No qualification action was taken because the reported results associated with the internal standard were not detected.

LABORATORY CONTROL SAMPLES

The LCS and/or LCSD percent recoveries were less than the lower quality control limits in the semivolatile fraction prepared on 01/16/02 for benzoic acid, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, hexachlorocyclopentadiene, and hexachloroethane. Nondetected results were qualified as estimated, UJ, in the associated samples.

The LCS and/or LCSD percent recoveries were greater than the upper quality control limit in the semivolatile fraction prepared on 01/16/02 for carbazole and 3,3'-dichlorobenzidine. No qualification action was taken because the reported results were nondetected.

Several LCS/LCSD RPDs were greater than the quality control limit in semivolatile fraction prepared on 01/16/02. No qualification action was taken based on RPD noncompliance.

The LCS percent recoveries were less than the lower quality control limits in the PAH fraction prepared on 01/17/02 for 2-methylnaphthalene, acenaphthalene, acenaphthylene, fluorene, naphthalene, and pyrene. The LCSD percent recoveries were less than the lower quality controls limits for all compounds except benzo(k)fluoranthene. Positive and nondetected results were qualified as estimated, J, and, UJ, receptively, in the associated samples.

Several LCS/LCSD RPDs were greater than the quality control limit in PAH fraction. No qualification action was taken based on RPD noncompliance.

COMPOUND QUANTITATION

Sample 2WGW46DS09 was analyzed at a 5X dilution in the volatile fraction, thus causing elevated reporting limits.

Samples 2WGW42DS09, 2WGW43DS09, 2WGW44DS09, 2WGW45DS09,and 2WGW46DS09 were analyzed at 5X dilutions in the semivolatile fraction, thus causing elevated reporting limits. No positive results were reported in the samples at a concentration that would have merited the dilutions.

TENTATIVELY INDENTIFIED COMPOUNDS

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

ADDITIONAL COMMENTS

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

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

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

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

Compound 1,2,4-trichlorobenzene was not reported on the EDD but was reported on the Form Is in the semivolatile fraction. The EDD was amended to include the results for 1,2,4-trichlorobenzene.

OVERALL ASSESSMENT

Laboratory Performance: Initial and continuing calibration of several volatile, semivolatile and PAH compounds failed to meet quality control criteria, resulting in the qualification of analytical data. Several data completeness issues were noted.

Other Factors Affecting Data Quality: Noncompliances (% recoveries and %RPDs) were observed for several LCS/LCSD analyses of sample.

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

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

TetraTech NUS

Seth C. Staffen
Environmental Scientist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

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

APPENDIX A

QUALIFIED LABORATORY RESULTS

Qualifier Codes:

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

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	2WGW42DS09			2WGW43DS09			2WGW44DS09			2WGW45DS09		
SAMPLE DATE:	01/11/02			01/11/02			01/12/02			01/12/02		
LABORATORY ID:	WS0078-2			WS0078-3			WS0086-3			WS0086-4		
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	U		1	U		1	U		1	U	
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	U		3	J	P	5	U		5	U	
2-HEXANONE	5	U		5	U		5	U		5	U	
4-METHYL-2-PENTANONE	5	U		5	U		5	U		5	U	
ACETONE	5	U	A	8	U	A	5	U		5	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	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
CARBON DISULFIDE	2	U	B	3	U	B	1	U	B	2	U	B
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	U		1	U		1	U		1	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		0.8	J	P	1	U	
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	1	U	A	1	U	A	1	U	A	1	U	A

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	2WGW42DS09			2WGW43DS09			2WGW44DS09			2WGW45DS09		
SAMPLE DATE:	01/11/02			01/11/02			01/12/02			01/12/02		
LABORATORY ID:	WS0078-2			WS0078-3			WS0086-3			WS0086-4		
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												
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U	A	1	U	A	1	U		1	U	
TOLUENE	1	U		1	U		1	U		1	U	
TOTAL XYLENES	0.6	J	P	1	U		1	U		1	U	
TRANS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	1	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
TRICHLOROETHENE	1	U		1	U		1	U		1	U	
VINYL CHLORIDE	1	U		1	U		1	U		1	U	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	2WGW46DS09			2WGW47DS09			4GW01S09			FD01120201		
SAMPLE DATE:	01/13/02			01/12/02			01/12/02			01/12/02		
LABORATORY ID:	WS0086-9			WS0086-6			WS0086-5			WS0086-7		
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:										4GW01S09		
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
1,1,1-TRICHLOROETHANE	5	U		1	U		1	U		1	U	
1,1,2,2-TETRACHLOROETHANE	5	U		1	U		1	U		1	U	
1,1,2-TRICHLOROETHANE	5	UJ	C	1	U		1	U		1	U	
1,1-DICHLOROETHANE	5	U		1	U		1	U		1	U	
1,1-DICHLOROETHENE	5	U		1	U		1	U		1	U	
1,2-DIBROMO-3-CHLOROPROPANE	5	U		1	U		1	U		1	U	
1,2-DIBROMOETHANE	5	U		1	U		1	U		1	U	
1,2-DICHLOROBENZENE	5	U		1	U		1	U		1	U	
1,2-DICHLOROETHANE	5	U		1	U		1	U		1	U	
1,2-DICHLOROPROPANE	5	U		1	U		1	U		1	U	
1,3-DICHLOROBENZENE	5	U		1	U		1	U		1	U	
1,4-DICHLOROBENZENE	5	U		1	U		1	U		1	U	
2-BUTANONE	25	UR	C	5	U		5	U		5	U	
2-HEXANONE	25	U		5	U		5	U		5	U	
4-METHYL-2-PENTANONE	25	U		5	U		5	U		5	U	
ACETONE	25	U	A	5	U		5	U		5	U	
BENZENE	5	U		1	U		1	U		1	U	
BROMOCHLOROMETHANE	5	U		1	U		1	U		1	U	
BROMODICHLOROMETHANE	5	U		1	U		1	U		1	U	
BROMOFORM	5	U		1	U		1	U		1	U	
BROMOMETHANE	5	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
CARBON DISULFIDE	13	U	B	2	U	B	2	U	B	1	U	B
CARBON TETRACHLORIDE	5	U		1	U		1	U		1	U	
CHLOROBENZENE	5	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	5	UJ	C	1	U		1	U		1	U	
CHLOROETHANE	5	U		1	U		1	U		1	U	
CHLOROFORM	5	U		1	U		1	U		1	U	
CHLOROMETHANE	5	U		1	U		0.6	J	P	1	U	
CIS-1,2-DICHLOROETHENE	5	U		1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	5	U		1	U		1	U		1	U	
ETHYLBENZENE	5	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	5	U	A	1	U	A	1	U	A	1	U	A

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	2WGW46DS09			2WGW47DS09			4GW01S09			FD01120201		
SAMPLE DATE:	01/13/02			01/12/02			01/12/02			01/12/02		
LABORATORY ID:	WS0086-9			WS0086-6			WS0086-5			WS0086-7		
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:										4GW01S09		
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
STYRENE	5	U		1	U		1	U		1	U	
TETRACHLOROETHENE	5	U	A	1	U		1	U		1	U	
TOLUENE	5	U		1	U		1	U		1	U	
TOTAL XYLENES	5	U		1	U		1	U		1	U	
TRANS-1,2-DICHLOROETHENE	5	U		1	U		1	U		1	U	
TRANS-1,3-DICHLOROPROPENE	5	UJ	C	1	UJ	C	1	UJ	C	1	UJ	C
TRICHLOROETHENE	5	U		1	U		1	U		1	U	
VINYL CHLORIDE	5	U		1	U		1	U		1	U	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	FD01120202			TB01120201								
SAMPLE DATE:	01/12/02			01/12/02			/ /			/ /		
LABORATORY ID:	WS0086-8			WS0086-1								
QC_TYPE:	NORMAL			NORMAL								
% SOLIDS:	0.0 %			0.0 %			100.0 %			100.0 %		
UNITS:	UG/L			UG/L								
FIELD DUPLICATE OF:	2WGW47DS09											
	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	U		1	U							
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	U		5	U							
2-HEXANONE	5	U		5	U							
4-METHYL-2-PENTANONE	5	U		5	U							
ACETONE	5	U		5	U							
BENZENE	1	U		1	U							
BROMOCHLOROMETHANE	1	U		1	U							
BROMODICHLOROMETHANE	1	U		1	U							
BROMOFORM	1	U		1	U							
BROMOMETHANE	1	UJ	C	1	UJ	C						
CARBON DISULFIDE	1	U		0.6	J	P						
CARBON TETRACHLORIDE	1	U		1	U							
CHLOROBENZENE	1	U		1	U							
CHLORODIBROMOMETHANE	1	U		1	U							
CHLOROETHANE	1	U		1	U							
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							
ETHYLBENZENE	1	U		1	U							
METHYLENE CHLORIDE	1	U	A	1	J	CP						

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	FD01120202	TB01120201	/ /	/ /
SAMPLE DATE:	01/12/02	01/12/02		
LABORATORY ID:	WS0086-8	WS0086-1		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	UG/L	UG/L		
FIELD DUPLICATE OF:	2WGW47DS09			

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
STYRENE	1	U		1	U							
TETRACHLOROETHENE	1	U		0.6	J	P						
TOLUENE	1	U		1	U							
TOTAL XYLENES	1	U		1	U							
TRANS-1,2-DICHLOROETHENE	1	U		1	U							
TRANS-1,3-DICHLOROPROPENE	1	UJ	C	1	UJ	C						
TRICHLOROETHENE	1	U		1	U							
VINYL CHLORIDE	1	U		1	U							

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	2WGW38DS09			2WGW42DS09			2WGW43DS09			2WGW44DS09		
SAMPLE DATE:	01/10/02			01/11/02			01/11/02			01/12/02		
LABORATORY ID:	WS0075-1			WS0078-2			WS0078-3			WS0086-3		
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	5	U		25	U		25	U		25	U	
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U		25	U		25	U		25	U	
2,4,5-TRICHLOROPHENOL	20	U		100	U		100	U		100	U	
2,4,6-TRICHLOROPHENOL	5	U		25	U		25	U		25	U	
2,4-DICHLOROPHENOL	5	U		25	U		25	U		25	U	
2,4-DIMETHYLPHENOL	5	U		25	U		25	U		25	U	
2,4-DINITROPHENOL	20	UJ	C	100	UJ	CE	100	UJ	CE	100	UJ	CE
2,4-DINITROTOLUENE	5	U		25	U		25	U		25	U	
2,6-DINITROTOLUENE	5	U		25	U		25	U		25	U	
2-CHLORONAPHTHALENE	5	U		25	U		25	U		25	U	
2-CHLOROPHENOL	5	U		25	U		25	U		25	U	
2-METHYLPHENOL	5	U		25	U		25	U		25	U	
2-NITROANILINE	20	U		100	U		100	U		100	U	
2-NITROPHENOL	5	U		25	U		25	U		25	U	
3,3'-DICHLOROBENZIDINE	5	U		25	U		25	U		25	U	
3-NITROANILINE	20	U		100	U		100	U		100	U	
4,6-DINITRO-2-METHYLPHENOL	20	UJ	C	100	UJ	CE	100	UJ	CE	100	UJ	CE
4-BROMOPHENYL PHENYL ETHER	5	U		25	U		25	U		25	U	
4-CHLORO-3-METHYLPHENOL	5	U		25	U		25	U		25	U	
4-CHLOROANILINE	5	U		25	U		25	U		25	U	
4-CHLOROPHENYL PHENYL ETHER	5	U		25	U		25	U		25	U	
4-METHYLPHENOL	5	U		25	U		25	U		25	U	
4-NITROANILINE	20	U		100	U		100	U		100	U	
4-NITROPHENOL	20	U		100	U		100	U		100	U	
BENZOIC ACID	20	UJ	C	100	UJ	CE	100	UJ	CE	100	UJ	CE
BIS(2-CHLOROETHOXY)METHANE	5	U		25	U		25	U		25	U	
BIS(2-CHLOROETHYL)ETHER	5	U		25	U		25	U		25	U	
BIS(2-ETHYLHEXYL)PHTHALATE	5	U		25	U		25	U		25	U	
BUTYL BENZYL PHTHALATE	5	U		25	U		25	U		25	U	
CARBAZOLE	5	UJ	C	25	UJ	C	25	UJ	C	25	UJ	C
DI-N-BUTYL PHTHALATE	0.8	J	AP	25	U		25	U		25	U	
DI-N-OCTYL PHTHALATE	5	U		25	U		25	U		25	U	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	2WGW38DS09			2WGW42DS09			2WGW43DS09			2WGW44DS09		
SAMPLE DATE:	01/10/02			01/11/02			01/11/02			01/12/02		
LABORATORY ID:	WS0075-1			WS0078-2			WS0078-3			WS0086-3		
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												
DIBENZOFURAN	5	U		25	U		25	U		25	U	
DIETHYL PHTHALATE	5	U		25	U		25	U		25	U	
DIMETHYL PHTHALATE	5	U		25	U		25	U		25	U	
HEXACHLOROBENZENE	5	U		25	U		25	U		25	U	
HEXACHLOROBUTADIENE	5	U		25	U		25	U		25	U	
HEXACHLOROCYCLOPENTADIENE	5	U		25	UJ	E	25	UJ	E	25	UJ	E
HEXACHLOROETHANE	5	U		25	UJ	E	25	UJ	E	25	UJ	E
ISOPHORONE	5	U		25	U		25	U		25	U	
N-NITROSO-DI-N-PROPYLAMINE	5	U		25	U		25	U		25	U	
N-NITROSODIPHENYLAMINE	5	U		25	U		25	U		25	U	
NITROBENZENE	5	U		25	U		25	U		25	U	
PENTACHLOROPHENOL	20	U		100	U		100	U		100	U	
PHENOL	5	U		25	U		25	U		25	U	

NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	2WGW45DS09			2WGW46DS09			2WGW47DS09			4GW01S09		
SAMPLE DATE:	01/12/02			01/13/02			01/12/02			01/12/02		
LABORATORY ID:	WS0086-4			WS0086-9			WS0086-6			WS0086-5		
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	27	U		25	U		5	U		5	U	
2,2'-OXYBIS(1-CHLOROPROPANE)	27	U		25	U		5	U		5	U	
2,4,5-TRICHLOROPHENOL	110	U		100	U		20	U		20	U	
2,4,6-TRICHLOROPHENOL	27	U		25	U		5	U		5	U	
2,4-DICHLOROPHENOL	27	U		25	U		5	U		5	U	
2,4-DIMETHYLPHENOL	27	U		25	U		5	U		5	U	
2,4-DINITROPHENOL	110	UJ	CE	100	UJ	CE	20	UJ	CE	20	UJ	CE
2,4-DINITROTOLUENE	27	U		25	U		5	U		5	U	
2,6-DINITROTOLUENE	27	U		25	U		5	U		5	U	
2-CHLORONAPHTHALENE	27	U		25	U		5	U		5	U	
2-CHLOROPHENOL	27	U		25	U		5	U		5	U	
2-METHYLPHENOL	27	U		25	U		5	U		5	U	
2-NITROANILINE	110	U		100	U		20	U		20	U	
2-NITROPHENOL	27	U		25	U		5	U		5	U	
3,3'-DICHLOROBENZIDINE	27	U		25	U		5	U		5	U	
3-NITROANILINE	110	U		100	U		20	U		20	U	
4,6-DINITRO-2-METHYLPHENOL	110	UJ	CE	100	UJ	CE	20	UJ	CE	20	UJ	CE
4-BROMOPHENYL PHENYL ETHER	27	U		25	U		5	U		5	U	
4-CHLORO-3-METHYLPHENOL	27	U		25	U		5	U		5	U	
4-CHLOROANILINE	27	U		25	U		5	U		5	U	
4-CHLOROPHENYL PHENYL ETHER	27	U		25	U		5	U		5	U	
4-METHYLPHENOL	27	U		25	U		5	U		5	U	
4-NITROANILINE	110	U		100	U		20	U		20	U	
4-NITROPHENOL	110	U		100	U		20	U		20	U	
BENZOIC ACID	110	UJ	CE	100	UJ	CE	20	UJ	CE	20	UJ	CE
BIS(2-CHLOROETHOXY)METHANE	27	U		25	U		5	U		5	U	
BIS(2-CHLOROETHYL)ETHER	27	U		25	U		5	U		5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	27	U		25	U		5	U		6	J	A
BUTYL BENZYL PHTHALATE	27	U		25	U		5	U		5	U	
CARBAZOLE	27	UJ	C	25	UJ	C	5	UJ	C	5	UJ	C
DI-N-BUTYL PHTHALATE	27	U		25	U		5	U		5	U	
DI-N-OCTYL PHTHALATE	27	U		25	U		5	U		5	U	

SAMPLE NUMBER:	2WGW45DS09			2WGW46DS09			2WGW47DS09			4GW01S09		
SAMPLE DATE:	01/12/02			01/13/02			01/12/02			01/12/02		
LABORATORY ID:	WS0086-4			WS0086-9			WS0086-6			WS0086-5		
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												
DIBENZOFURAN	27	U		25	U		5	U		5	U	
DIETHYL PHTHALATE	27	U		25	U		5	U		5	U	
DIMETHYL PHTHALATE	27	U		25	U		5	U		5	U	
HEXACHLOROBENZENE	27	U		25	U		5	U		5	U	
HEXACHLOROBUTADIENE	27	U		25	U		5	U		5	U	
HEXACHLOROCYCLOPENTADIENE	27	UJ	E	25	UJ	E	5	UJ	E	5	UJ	E
HEXACHLOROETHANE	27	UJ	E	25	UJ	E	5	UJ	E	5	UJ	E
ISOPHORONE	27	U		25	U		5	U		5	U	
N-NITROSO-DI-N-PROPYLAMINE	27	U		25	U		5	U		5	U	
N-NITROSODIPHENYLAMINE	27	U		25	U		5	U		5	U	
NITROBENZENE	27	U		25	U		5	U		5	U	
PENTACHLOROPHENOL	110	U		100	U		20	U		20	U	
PHENOL	27	U		25	U		5	U		5	U	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	FD01120201			FD01120202								
SAMPLE DATE:	01/12/02			01/12/02			/ /			/ /		
LABORATORY ID:	WS0086-7			WS0086-8								
QC_TYPE:	NORMAL			NORMAL								
% SOLIDS:	0.0 %			0.0 %			100.0 %			100.0 %		
UNITS:	UG/L			UG/L								
FIELD DUPLICATE OF:	4GW01S09			2WGW47DS09								
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,2,4-TRICHLOROBENZENE	5	U		5	U							
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U		5	U							
2,4,5-TRICHLOROPHENOL	20	U		20	U							
2,4,6-TRICHLOROPHENOL	5	U		5	U							
2,4-DICHLOROPHENOL	5	U		5	U							
2,4-DIMETHYLPHENOL	5	U		5	U							
2,4-DINITROPHENOL	20	UJ	CE	20	UJ	CE						
2,4-DINITROTOLUENE	5	U		5	U							
2,6-DINITROTOLUENE	5	U		5	U							
2-CHLORONAPHTHALENE	5	U		5	U							
2-CHLOROPHENOL	5	U		5	U							
2-METHYLPHENOL	5	U		5	U							
2-NITROANILINE	20	U		20	U							
2-NITROPHENOL	5	U		5	U							
3,3'-DICHLOROBENZIDINE	5	U		5	U							
3-NITROANILINE	20	U		20	U							
4,6-DINITRO-2-METHYLPHENOL	20	UJ	CE	20	UJ	CE						
4-BROMOPHENYL PHENYL ETHER	5	U		5	U							
4-CHLORO-3-METHYLPHENOL	5	U		5	U							
4-CHLOROANILINE	5	U		5	U							
4-CHLOROPHENYL PHENYL ETHER	5	U		5	U							
4-METHYLPHENOL	5	U		5	U							
4-NITROANILINE	20	U		20	U							
4-NITROPHENOL	20	U		20	U							
BENZOIC ACID	20	UJ	CE	20	UJ	CE						
BIS(2-CHLOROETHOXY)METHANE	5	U		5	U							
BIS(2-CHLOROETHYL)ETHER	5	U		5	U							
BIS(2-ETHYLHEXYL)PHTHALATE	5	U		5	U							
BUTYL BENZYL PHTHALATE	5	U		5	U							
CARBAZOLE	5	UJ	C	5	UJ	C						
DI-N-BUTYL PHTHALATE	5	U		5	U							
DI-N-OCTYL PHTHALATE	5	U		5	U							

SAMPLE NUMBER:	FD01120201			FD01120202								
SAMPLE DATE:	01/12/02			01/12/02			/ /			/ /		
LABORATORY ID:	WS0086-7			WS0086-8								
QC_TYPE:	NORMAL			NORMAL								
% SOLIDS:	0.0 %			0.0 %			100.0 %			100.0 %		
UNITS:	UG/L			UG/L								
FIELD DUPLICATE OF:	4GW01S09			2WGW47DS09								
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
DIBENZOFURAN	5	U		5	U							
DIETHYL PHTHALATE	5	U		5	U							
DIMETHYL PHTHALATE	5	U		5	U							
HEXACHLOROBENZENE	5	U		5	U							
HEXACHLOROBUTADIENE	5	U		5	U							
HEXACHLOROCYCLOPENTADIENE	5	UJ	E	5	UJ	E						
HEXACHLOROETHANE	5	UJ	E	5	UJ	E						
ISOPHORONE	5	U		5	U							
N-NITROSO-DI-N-PROPYLAMINE	5	U		5	U							
N-NITROSODIPHENYLAMINE	5	U		5	U							
NITROBENZENE	5	U		5	U							
PENTACHLOROPHENOL	20	U		20	U							
PHENOL	5	U		5	U							

SAMPLE NUMBER:	2WGW38DS09			2WGW42DS09			2WGW43DS09			2WGW44DS09		
SAMPLE DATE:	01/12/02			01/11/02			01/11/02			01/12/02		
LABORATORY ID:	WS0086-2			WS0078-2			WS0078-3			WS0086-3		
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												
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.29	U		0.20	UJ	R	0.20	U		0.20	U	
4,4'-DDD	0.029	U		0.020	UJ	R	0.020	U		0.020	U	
4,4'-DDE	0.029	U		0.020	UJ	R	0.020	U		0.020	U	
4,4'-DDT	0.029	U		0.020	UJ	R	0.020	U		0.020	U	
ALDRIN	0.015	U		0.010	UJ	R	0.010	U		0.010	U	
ALPHA-BHC	0.015	U		0.010	UJ	R	0.010	U		0.010	U	
ALPHA-CHLORDANE	0.015	U		0.010	UJ	R	0.010	U		0.010	U	
AROCLOR-1016	0.29	U		0.20	UJ	R	0.20	U		0.20	U	
AROCLOR-1221	0.59	U		0.41	UJ	R	0.40	U		0.40	U	
AROCLOR-1232	0.29	U		0.20	UJ	R	0.20	U		0.20	U	
AROCLOR-1242	0.29	U		0.20	UJ	R	0.20	U		0.20	U	
AROCLOR-1248	0.29	U		0.20	UJ	R	0.20	U		0.20	U	
AROCLOR-1254	0.29	U		0.20	UJ	R	0.20	U		0.20	U	
AROCLOR-1260	0.29	U		0.20	UJ	R	0.20	U		0.20	U	
BETA-BHC	0.015	U		0.010	UJ	R	0.010	U		0.010	U	
DELTA-BHC	0.015	U		0.010	UJ	R	0.010	U		0.010	U	
DIELDRIN	0.029	U		0.020	UJ	R	0.020	U		0.020	U	
ENDOSULFAN I	0.015	U		0.010	UJ	R	0.010	U		0.010	U	
ENDOSULFAN II	0.029	U		0.020	UJ	R	0.020	U		0.020	U	
ENDOSULFAN SULFATE	0.029	U		0.020	UJ	R	0.020	U		0.020	U	
ENDRIN	0.029	U		0.020	UJ	R	0.020	U		0.020	U	
ENDRIN ALDEHYDE	0.029	U		0.020	UJ	R	0.020	U		0.020	U	
ENDRIN KETONE	0.029	U		0.020	UJ	R	0.020	U		0.020	U	
GAMMA-BHC (LINDANE)	0.015	U		0.010	UJ	R	0.010	U		0.010	U	
GAMMA-CHLORDANE	0.015	U		0.010	UJ	R	0.010	U		0.010	U	
HEPTACHLOR	0.015	U		0.010	UJ	R	0.010	U		0.010	U	
HEPTACHLOR EPOXIDE	0.015	U		0.010	UJ	R	0.010	U		0.010	U	
METHOXYCHLOR	0.15	U		0.10	UJ	R	0.099	U		0.10	U	
TOXAPHENE	2.0	U		1.0	UJ	R	0.99	U		1.0	U	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	2WGW45DS09			2WGW46DS09			2WGW47DS09			4GW01S09		
SAMPLE DATE:	01/12/02			01/13/02			01/12/02			01/12/02		
LABORATORY ID:	WS0086-4			WS0086-9			WS0086-6			WS0086-5		
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												
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.42	U		0.23	U		0.19	UJ	R	0.19	U	
4,4'-DDD	0.021	U		0.023	U		0.056	J	R	0.019	U	
4,4'-DDE	0.021	U		0.023	U		0.019	UJ	R	0.019	U	
4,4'-DDT	0.021	U		0.023	U		0.019	UJ	R	0.019	U	
ALDRIN	0.011	U		0.012	U		0.009	UJ	R	0.010	U	
ALPHA-BHC	0.011	U		0.012	U		0.009	UJ	R	0.010	U	
ALPHA-CHLORDANE	0.011	U		0.012	U		0.009	UJ	R	0.010	U	
AROCLOR-1016	0.21	U		0.23	U		0.19	UJ	R	0.19	U	
AROCLOR-1221	0.42	U		0.47	U		0.38	UJ	R	0.38	U	
AROCLOR-1232	0.21	U		0.23	U		0.19	UJ	R	0.19	U	
AROCLOR-1242	0.21	U		0.23	U		0.19	UJ	R	0.19	U	
AROCLOR-1248	0.21	U		0.23	U		0.19	UJ	R	0.19	U	
AROCLOR-1254	0.21	U		0.23	U		0.19	UJ	R	0.19	U	
AROCLOR-1260	0.21	U		0.23	U		0.19	UJ	R	0.19	U	
BETA-BHC	0.011	U		0.012	U		0.009	UJ	R	0.010	U	
DELTA-BHC	0.011	U		0.012	U		0.009	UJ	R	0.010	U	
DIELDRIN	0.021	U		0.023	U		0.019	UJ	R	0.019	U	
ENDOSULFAN I	0.011	U		0.012	U		0.009	UJ	R	0.010	U	
ENDOSULFAN II	0.021	U		0.023	U		0.019	UJ	R	0.019	U	
ENDOSULFAN SULFATE	0.021	U		0.023	U		0.019	UJ	R	0.019	U	
ENDRIN	0.021	U		0.023	U		0.019	UJ	R	0.019	U	
ENDRIN ALDEHYDE	0.021	U		0.023	U		0.019	UJ	R	0.019	U	
ENDRIN KETONE	0.021	U		0.023	U		0.019	UJ	R	0.019	U	
GAMMA-BHC (LINDANE)	0.011	U		0.012	U		0.009	UJ	R	0.010	U	
GAMMA-CHLORDANE	0.011	U		0.012	U		0.009	UJ	R	0.010	U	
HEPTACHLOR	0.011	U		0.012	U		0.009	UJ	R	0.010	U	
HEPTACHLOR EPOXIDE	0.011	U		0.012	U		0.009	UJ	R	0.010	U	
METHOXYCHLOR	0.11	U		0.12	U		0.094	UJ	R	0.095	U	
TOXAPHENE	1.0	U		1.0	U		0.94	UJ	R	0.95	U	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	FD01120201	FD01120202		
SAMPLE DATE:	01/12/02	01/12/02	/ /	/ /
LABORATORY ID:	WS0086-7	WS0086-8		
QC_TYPE:	NORMAL	NORMAL		
% SOLIDS:	0.0 %	0.0 %	100.0 %	100.0 %
UNITS:	UG/L	UG/L		
FIELD DUPLICATE OF:	4GW01S09	2WGW47DS09		

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.19	U		0.20	U							
4,4'-DDD	0.019	U		0.053								
4,4'-DDE	0.019	U		0.020	U							
4,4'-DDT	0.019	U		0.020	U							
ALDRIN	0.010	U		0.010	U							
ALPHA-BHC	0.010	U		0.010	U							
ALPHA-CHLORDANE	0.010	U		0.010	U							
AROCLOR-1016	0.19	U		0.20	U							
AROCLOR-1221	0.38	U		0.41	U							
AROCLOR-1232	0.19	U		0.20	U							
AROCLOR-1242	0.19	U		0.20	U							
AROCLOR-1248	0.19	U		0.20	U							
AROCLOR-1254	0.19	U		0.20	U							
AROCLOR-1260	0.19	U		0.20	U							
BETA-BHC	0.010	U		0.010	U							
DELTA-BHC	0.010	U		0.010	U							
DIELDRIN	0.019	U		0.020	U							
ENDOSULFAN I	0.010	U		0.010	U							
ENDOSULFAN II	0.019	U		0.020	U							
ENDOSULFAN SULFATE	0.019	U		0.020	U							
ENDRIN	0.019	U		0.020	U							
ENDRIN ALDEHYDE	0.019	U		0.020	U							
ENDRIN KETONE	0.019	U		0.020	U							
GAMMA-BHC (LINDANE)	0.010	U		0.010	U							
GAMMA-CHLORDANE	0.010	U		0.010	U							
HEPTACHLOR	0.010	U		0.010	U							
HEPTACHLOR EPOXIDE	0.010	U		0.010	U							
METHOXYCHLOR	0.095	U		0.10	U							
TOXAPHENE	0.95	U		1.0	U							

TO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	2WGW38DS09			2WGW42DS09			2WGW43DS09			2WGW44DS09		
SAMPLE DATE:	01/12/02			01/11/02			01/11/02			01/12/02		
LABORATORY ID:	WS0086-2			WS0078-2			WS0078-3			WS0086-3		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	0.1	UJ	E	0.3	J	E	0.1	UJ	ER	0.07	J	EP
2-METHYLNAPHTHALENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	ER	0.1	UJ	E
ACENAPHTHENE	0.1	UJ	E	0.5	J	E	0.1	UJ	ER	0.1	J	E
ACENAPHTHYLENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	ER	0.1	UJ	E
ANTHRACENE	0.1	UJ	C	0.1	UJ	C	0.1	UJ	CE	0.04	J	CEP
BENZO(A)ANTHRACENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	ER	0.1	UJ	E
BENZO(A)PYRENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	ER	0.1	UJ	E
BENZO(B)FLUORANTHENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	ER	0.1	UJ	E
BENZO(G,H,I)PERYLENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	ER	0.1	UJ	E
BENZO(K)FLUORANTHENE	0.1	U		0.1	U		0.1	UJ	R	0.1	U	
CHRYSENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	ER	0.1	UJ	E
DIBENZO(A,H)ANTHRACENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	ER	0.1	UJ	E
FLUORANTHENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	ER	0.1	UJ	E
FLUORENE	0.1	UJ	E	0.3	J	E	0.1	UJ	ER	0.06	J	EP
INDENO(1,2,3-CD)PYRENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	ER	0.1	UJ	E
NAPHTHALENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	ER	0.1	UJ	E
PHENANTHRENE	0.1	UJ	CE	0.1	UJ	CE	0.1	UJ	CER	0.1	UJ	CE
PYRENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	ER	0.1	UJ	E

SAMPLE NUMBER:	2WGW45DS09			2WGW46DS09			2WGW47DS09			4GW01S09		
SAMPLE DATE:	01/12/02			01/13/02			01/12/02			01/12/02		
LABORATORY ID:	WS0086-4			WS0086-9			WS0086-6			WS0086-5		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E
2-METHYLNAPHTHALENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E
ACENAPHTHENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E
ACENAPHTHYLENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E
ANTHRACENE	0.1	UJ	CE	0.1	UJ	E	0.1	UJ	C	0.1	UJ	CE
BENZO(A)ANTHRACENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E
BENZO(A)PYRENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E
BENZO(B)FLUORANTHENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E
BENZO(G,H,I)PERYLENE	0.1	UJ	E	0.1	UJ	E	0.1	U		0.1	UJ	E
BENZO(K)FLUORANTHENE	0.1	U		0.1	U		0.1	UJ	E	0.1	U	
CHRYSENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E
DIBENZO(A,H)ANTHRACENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E
FLUORANTHENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E
FLUORENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E
INDENO(1,2,3-CD)PYRENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E
NAPHTHALENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E
PHENANTHRENE	0.1	UJ	CE	0.1	UJ	E	0.1	UJ	CE	0.1	UJ	CE
PYRENE	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E	0.1	UJ	E

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: 816-3

SAMPLE NUMBER:	FD01120201			FD01120202								
SAMPLE DATE:	01/12/02			01/12/02			/ /			/ /		
LABORATORY ID:	WS0086-7			WS0086-8								
QC_TYPE:	NORMAL			NORMAL								
% SOLIDS:	0.0 %			0.0 %			100.0 %			100.0 %		
UNITS:	UG/L			UG/L								
FIELD DUPLICATE OF:	4GW01S09			2WGW47DS09								
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	0.1	UJ	E	0.1	UJ	E						
2-METHYLNAPHTHALENE	0.1	UJ	E	0.1	UJ	E						
ACENAPHTHENE	0.1	UJ	E	0.1	UJ	E						
ACENAPHTHYLENE	0.1	UJ	E	0.1	UJ	E						
ANTHRACENE	0.1	UJ	CE	0.1	UJ	CE						
BENZO(A)ANTHRACENE	0.1	UJ	E	0.1	UJ	E						
BENZO(A)PYRENE	0.1	UJ	E	0.1	UJ	E						
BENZO(B)FLUORANTHENE	0.1	UJ	E	0.1	UJ	E						
BENZO(G,H,I)PERYLENE	0.1	UJ	E	0.1	UJ	E						
BENZO(K)FLUORANTHENE	0.1	U		0.1	U							
CHRYSENE	0.1	UJ	E	0.1	UJ	E						
DIBENZO(A,H)ANTHRACENE	0.1	UJ	E	0.1	UJ	E						
FLUORANTHENE	0.1	UJ	E	0.1	UJ	E						
FLUORENE	0.1	UJ	E	0.1	UJ	E						
INDENO(1,2,3-CD)PYRENE	0.1	UJ	E	0.1	UJ	E						
NAPHTHALENE	0.1	UJ	E	0.1	UJ	E						
PHENANTHRENE	0.1	UJ	CE	0.1	UJ	CE						
PYRENE	0.1	UJ	E	0.1	UJ	E						

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO: **C. RICH** **DATE: MARCH 15, 2002**

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

SUBJECT: **ORGANIC DATA VALIDATION: VOA/SVOA/PAH/PEST/PCB**
CTO 816, NSB NEW LONDON
SDG CTO816-1

SAMPLES: 18 / Aqueous / VOA/SVOA/PEST/PCB

2WGW21S-09	3WGW37S-09	2WGW38DS-09*
2WGW39DS-09	2WGW40DS-09	2WGW41DS-09
3MSP01-09	FD121801-01	RB121801-01
SWSG16-09	SWSG18-09	SWSG19-09
SWSG20-09	SWSG21-09	SWSG23-09
TB121801-01*	TB121901-01*	TB121901-02*

Overview

The sample set for the CTO 816, NSB New London, SDG CTO816-1 consists of fourteen (14) aqueous environmental samples, three (3) trip blanks, and one (1) rinsate blank. The trip blanks and sample 2WGW38DS-09 were analyzed for TCL volatile organic compounds (VOC) only. All environmental samples and sample RB121801-01 were analyzed for volatile, semivolatile (SVOC), polynuclear aromatic hydrocarbons (PAHs), pesticides (PEST), and polychlorinated biphenyl (PCB) organic compounds. One field duplicate pair was included in this SDG: SWSG21-09 / FD121801-01.

The samples were collected by Tetra Tech NUS, Inc. on December 18-20, 2001 and were analyzed by Katahdin Analytical Services. Analyses were conducted using the Contract Laboratory Program (CLP) Statement of Work (SOW) OLC02.1 (volatile, pesticide and PCB), and the U.S. EPA Test Methods for Evaluating Solid Wastes (SW-846) Methods 8270C and 8270-SIM analytical and reporting protocols.

The data were evaluated based on the following parameters:

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

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

HOLDING TIMES

All quality control parameters for holding times were met.

CALIBRATIONS

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

Compound	IC 12/17/01	CC 12/20/01;10:56	CC 12/21/01;07:58
Acetone	D	RX	J
Methylene chloride	D		
Chloromethane			J
Associated Samples:	All	2WGW39DS-09 2WGW37DS-09 SWSG16-09 TB12190101	TB12190102 3MSP01-09 SWSG23-09 2WGW21S-09 2WGW38DS-09 2WGW40DS-09 2WGW41DS-09

Compound	IC 01/03/02	CC 01/04/02:1100
Benzoic acid	D	
2,4-dinitrophenol	D	
4,6-dinitro-2-methylphenol	D	
4-nitrophenol	D	
Hexachlorocyclopentadiene		X
	Samples: ALL	2WGW40DS-09 2WGW41DS-09 3MSP01-09 SWSG23-09 2WGW21S-09

Compound	CC 01/04/01;1044
Benzo(a)anthracene	X

Associated Samples:
RB-12180101
SWSG1809
2WGW37S-09
2WGW40DS-09
2WGW41DS-09
3MSP01-09
SWSG23-09
2WGW21S-09
2WGW41DS-09
SWSG23-09

Compound	CC 01/08/02
4,4'-DDT	X*
Methoxychlor	X*

X* = Second column was compliant: no qualification action.

Compound	CC 01/08/02
Endosulfan Sulfate	X*

X* = Second column was compliant: no qualification action.

Calibration Actions:

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

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

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

BLANKS

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

Compound	Maximum Concentration	Action Level
Methylene chloride	1 µg/L	10 µg/L
Acetone	5 µg/L	50 µg/L
Trichloroethene	0.3 µg/L	1.5 µg/L

1,4-Dichlorobenzene	0.5 µg/L	2.5 µg/L
Fluoranthene	0.06 µg/L	0.3 µg/L
Pyrene	0.06 µg/L	0.3 µg/L
Benzo(a)anthracene	0.2 µg/L	1.0 µg/L
Chrysene	0.2 µg/L	1.0 µg/L
Benzo(b)fluoranthene	0.2 µg/L	1.0 µg/L
Benzo(k)fluoranthene	0.2 µg/L	1.0 µg/L
Benzo(a)pyrene	0.2 µg/L	1.0 µg/L
Indeno(1,2,3-cd)pyrene	0.3 µg/L	1.5 µg/L
Dibenzo(a,h)anthracene	0.3 µg/L	1.5 µg/L
Benzo(g,h,i)perylene	0.2 µg/L	1.0 µg/L

Samples Affected: All
Blank Actions:

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

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

SURROGATE RECOVERY

Recovery of the volatile surrogate bromofluorobenzene was greater than the upper quality control limit for the analysis of sample 2WGW21S-09MSD. No qualification action was taken.

Recovery of the PAH surrogate Nitrobenzene-d5 was less than the lower quality control limit for the analysis of sample 2WGW40DS-09. No qualification action was taken because only one surrogate was noncompliant.

Recovery of the pesticide surrogate Tetrachloro-m-xylene (TCX) exceeded the 30%-150% quality control limit on one analytical column for the analysis of sample 2WGW41DS-09. However, since the other surrogates was compliant, no qualification action was taken based on this noncompliance.

Recovery of the pesticide surrogate TCX exceeded the 30%-150% quality control limit on both analytical columns for the analysis of sample 2WGW21S-09. No action was taken since this sample required a dilution for analysis.

Recovery of the pesticide surrogates TCX and/or Decachlorobiphenyl (DCB) exceeded the 30%-150% quality control limit on one or both analytical columns for the analysis of sample 2WGW21S-09. No action was taken based on this noncompliance.

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

The Relative Percent Difference (RPD) for 1,2-dibromoethane (23) exceeded the upper quality control limit (20) for the Matrix Spike / Matrix Spike Duplicate (MS/MSD) analysis of sample SWSG2109. No qualification action was taken .

The MSD percent recovery for vinyl chloride (153%) exceeded the upper quality control limit (140%). No qualification action was taken because the aforementioned compound was not detected in the unspiked sample, 2WGW21S-09. No qualification action was taken .

Several MS and/or MSD percent recoveries in the semivolatile fraction were less than the lower quality control limit. Positive and nondetected compounds were qualified as estimated, J, and, UJ, respectively, in the unspiked sample, SWSG2109.

The MS %R for 3,3'-dichlorobenzidine was less than lower quality control limit and less than 10%. The aforementioned compound was qualified as rejected, UR, in the unspiked sample, SWSG2109.

The MS/MSD RPD for the semivolatile fraction exceeded the quality control limit for several compounds. The compounds were qualified as estimated, J, and ,UJ, respectively, in the unspiked sample, SWSG2109.

Several MS and/or MSD percent recoveries in the semivolatile fraction were less than the lower quality control limit. Positive and nondetected compounds were qualified as estimated, J, and, UJ, respectively, in the unspiked sample,2WGW21S-09.

The MS/MSD RPD for the semivolatile fraction exceeded the quality control limit for several compounds. The compounds were qualified as estimated, J, and ,UJ, respectively, in the unspiked sample, 2WGW21S-09.

Several MS/MSD percent recoveries in the PAH fraction were less than the lower quality control limit. Positive and nondetected compounds were qualified as estimated, J, and, UJ, respectively, in the unspiked sample, SWSG2109.

Several MS/MSD percent recoveries in the PAH fraction were less than the lower quality control limit. Positive and nondetected compounds were qualified as estimated, J, and, UJ, respectively, in the unspiked sample, 2WGW2109.

The MS/MSD percent recoveries in the PAH fraction were less than 10% for benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and benzo(g,h,i)perylene. Only nondetected results were reported for the aforementioned compounds; therefore, the reported results were qualified as rejected, UR, in the unspiked sample, 2WGW2109.

The RPD for several pesticides exceeded the 20% quality control limit for the MS/MSD analysis of sample 2WGW21S-09. No qualification action was taken.

Recovery of pesticide target compound 4,4'-DDE fell below the quality control limit for the MS/MSD analysis of sample 2WGW21S-09. Only a positive result was reported for 4,4'-DDE and this was qualified as estimated (J) in the unspiked sample only.

Matrix spike recovery of pesticide target compounds g-BHC and Endosulfan sulfate fell below the quality control limit for the MS/MSD analysis of sample 2WGW21S-09. Nondetected results for the aforementioned compounds were qualified as estimated, UJ, in sample 2WGW21S-09.

LABORATORY CONTROL SAMPLES

The LCS prepared on 12/20/01 contained percent recoveries for the semivolatile fraction that were less than the lower quality control limit for the following compounds: 1,2,4-trichlorobenzen, 2,2'-oxybis(1-chloropropane), 2,4-dichlorophenol, 2,4-methylphenol, 2-chlorophenol, 2-methylphenol, 2-nitrophenol, 3,3'-dichlorobenzidine, 4-chloroaniline, 4-methylphenol, benzoic acid, bis(2-chloroethoxy)methane, hexachlorobutadiene, hexachlorocyclopentadiene, hexachloroethane, hexachloroethane, isophorone, nitrobenzene, and phenol. Nondetected results were qualified as estimated, UJ, in the associated samples.

The LCS prepared on 12/26/01 contained percent recoveries for the semivolatile fraction that were less than the lower quality control limit for the following compounds: 1,2,4-trichlorobenzen, 1,3-dichlorobenzene, 2,4-methylphenol, 3,3'-dichlorobenzidine, 4-chloroaniline, benzoic acid, hexachlorobutadiene, hexachlorocyclopentadiene, and hexachloroethane. Nondetected results were qualified as estimated, UJ, in the associated samples.

The LCS prepared on 12/26/01 for the PAH fraction contained percent recoveries that were less than the lower quality control limit for the following compounds: 2-methylnaphthalene, acenphthalene, acenaphthylene, anthracene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene. Positive and nondetected results were qualified as estimated, J, and, UJ, in the associated samples.

The LCS recoveries in LCP1930 and LCP1933 contained percent recoveries for the Pesticide fraction that were greater than the upper quality control limit for Endrin and Endosulfan sulfate. No qualification action was taken.

INTERNAL STANDARDS PERFORMANCE

The internal standard perylene-d12 was greater than the upper quality control limit for sample SWSG16-09. The re-analysis of the sample yielded similar results. Therefore, the original analysis was used for data validation purposes. No qualification action was taken because the reported results associated with the internal standard were not detected.

The internal standard perylene-d12 was greater than the upper quality control limit for sample SWSG20-09. The re-analysis of the sample yielded compliant internal standard areas. The original sample was used for data validation purposes.

The internal standards chyrsene-d12 and perylene-d12 were greater than the upper quality control limit for sample SWSG23-09. The re-analysis of the sample yielded internal standard areas that were noncompliant for phenanthrene-d10, chyrsene-d12, and perylene-d12. Therefore the original analysis was used for data validation purposes.

The internal standards chyrsene-d12 and perylene-d12 were greater than the upper quality control limit for sample 2WGW41DS-09. The re-analysis of the sample yielded internal standard areas that were noncompliant for acenaphthrene-d10, phenanthrene-d10, chyrsene-d12 and perylene-d12. Therefore the original analysis was used for data validation purposes.

The PAH fraction internal standards chyrsene-d12 and perylene-d12 was greater than the upper quality control limit for sample 2WGW21S-09. The original analysis was used for data validation purposes because the sample was not re-analyzed. No qualification action was taken for high internal standard recoveries.

FIELD DUPLICATE PRECISION

Field duplicate imprecision occurred between sample SWSG21-09 and its duplicate FD121801-01 for Aldrin. Positive and nondetected results were qualified as estimated, J, and, UJ, respectively, in the field pair.

COMPOUND QUANTITATION

Due to the presence of 4,4'-DDD at a concentration that exceeded the linear range of the instrument calibration, sample 2WGW21S-09 was re-analyzed at a 40X dilution. Positive results for the aforementioned compounds were transposed onto the Electronic Data Deliverable (EDD) from the 40X dilution and the remaining compounds were reported from the original sample analysis.

Due to the presence of 4,4'-DDT at a concentration that exceeded the linear range of the instrument calibration, sample 2SWGW16-09 was re-analyzed at a 5X dilution. Positive results for the aforementioned compounds were transposed onto the Electronic Data Deliverable (EDD) from the 5X dilution and the remaining compounds were reported from the original sample analysis.

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

Sample	Compound	%D	Qual
2W-GW47DS-08	a-chlordane	37.5	J
SWSG21-09	Aldrin	29.8	J
SWSG20-09	Aldrin	30.3	J
	Endrin aldehyde	25.5	J

TENTATIVELY INDENTIFIED COMPOUNDS

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

ADDITIONAL COMMENTS

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

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

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

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

The SW-846 PAH compound 1-methylnaphthalene was not reported on the Form Is or EDD. The laboratory was contacted and the Form Is were re-submitted including the reported results for the aforementioned compound.

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

OVERALL ASSESSMENT

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

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

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

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

TetraTech NUS

Seth C. Staffen
Environmental Scientist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

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

APPENDIX A

QUALIFIED LABORATORY RESULTS

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

3GW37S-09

SAMPLE NUMBER: 3-15-02 JAd	2WGW21S-09	~~2WGW37DS-09~~	2WGW38DS-09	2WGW39DS-09
SAMPLE DATE:	12/20/01	12/19/01	12/20/01	12/19/01
LABORATORY ID:	WR4215-6	WR4193-3	WR4215-9	WR4193-2
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	U		1	U		1	U		1	U	
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	U		5	U		5	U		4	J	P
2-HEXANONE	5	U		5	U		5	U		5	U	
4-METHYL-2-PENTANONE	5	U		5	U		5	U		5	U	
ACETONE	6	U	A	5	U	A	5	U	A	12	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		0.2	J	P
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	U		1	U		1	U		1	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	1	U		0.2	J	P	1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U	A	2	U	A	2	U	A	2	U	A

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	2WGW21S-09			2WGW37DS-09			2WGW38DS-09			2WGW39DS-09		
SAMPLE DATE:	12/20/01			12/19/01			12/20/01			12/19/01		
LABORATORY ID:	WR4215-6			WR4193-3			WR4215-9			WR4193-2		
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												
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		4		
TOTAL XYLENES	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	A	1	U		1	U	
VINYL CHLORIDE	1	U		1	U		1	U		1	U	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	2WGW40DS-09			2WGW41DS-09			3MSP01-09			FD121801-01		
SAMPLE DATE:	12/19/01			12/19/01			12/20/01			12/18/01		
LABORATORY ID:	WR4215-2			WR4215-3			WR4215-4			WR4180-2		
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:										SWSG21-09		
	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	U		1	U		1	U		1	U	
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	U		5	U		5	U		5	U	
2-HEXANONE	5	U		5	U		5	U		5	U	
4-METHYL-2-PENTANONE	5	U		5	U		5	U		5	U	
ACETONE	8	U	A	6	U	A	5	U	A	5	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	2			2			0.7	J	P	1	U	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	U		1	U		1	U		1	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U	A	2	U	A	2	U	A	2	U	A

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	2WGW40DS-09	2WGW41DS-09	3MSP01-09	FD121801-01
SAMPLE DATE:	12/19/01	12/19/01	12/20/01	12/18/01
LABORATORY ID:	WR4215-2	WR4215-3	WR4215-4	WR4180-2
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:				SWSG21-09

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		1	U		1	U		0.9	J	P
TOTAL XYLENES	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	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	RB121801-01			SWSG16-09			SWSG18-09			SWSG19-09		
SAMPLE DATE:	12/18/01			12/19/01			12/18/01			12/18/01		
LABORATORY ID:	WR4180-1			WR4193-4			WR4180-6			WR4180-3		
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	U		1	U		1	U		1	U	
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	A	1	U	
2-BUTANONE	10			5	U		5	U		5	U	
2-HEXANONE	5	U		5	U		5	U		5	U	
4-METHYL-2-PENTANONE	5	U		5	U		5	U		5	U	
ACETONE	11	J	P	5	U	A	6	U	A	5	U	A
BENZENE	1	U		1	U		0.3	J	P	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		0.9	J	P	1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	U		1	U		1	U		1	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		2			1	U	
METHYLENE CHLORIDE	2	J	P	2	U	A	2	U	A	2	U	A

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	RB121801-01			SWSG16-09			SWSG18-09			SWSG19-09		
SAMPLE DATE:	12/18/01			12/19/01			12/18/01			12/18/01		
LABORATORY ID:	WR4180-1			WR4193-4			WR4180-6			WR4180-3		
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												
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	0.9	J	P	1	U		1			1	U	
TOTAL XYLENES	0.8	J	P	1	U		5			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	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG20-09			SWSG21-09			SWSG23-09			TB121801-01		
SAMPLE DATE:	12/18/01			12/18/01			12/20/01			12/18/01		
LABORATORY ID:	WR4180-5			WR4180-4			WR4215-5			WR4180-13		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	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	U		1	U		1	U		1	U	
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	U		5	U		5	U		5	U	
2-HEXANONE	5	U		5	U		5	U		5	U	
4-METHYL-2-PENTANONE	5	U		5	U		5	U		5	U	
ACETONE	5	U	A	5	U	A	5	U	A	4	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		1	U	
CARBON TETRACHLORIDE	1	U		1	U		1	U		1	U	
CHLOROBENZENE	1	U		1	U		1	U		1	U	
CHLORODIBROMOMETHANE	1	U		1	U		1	U		1	U	
CHLOROETHANE	1	U		1	U		1	U		1	U	
CHLOROFORM	1	U		1	U		1	U		1	U	
CHLOROMETHANE	1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE	1	U		1	U		1	U		1	U	
CIS-1,3-DICHLOROPROPENE	1	U		1	U		1	U		1	U	
ETHYLBENZENE	1	U		1	U		1	U		1	U	
METHYLENE CHLORIDE	2	U	A	2	U	A	2	U	A	0.8	J	P

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG20-09	SWSG21-09	SWSG23-09	TB121801-01
SAMPLE DATE:	12/18/01	12/18/01	12/20/01	12/18/01
LABORATORY ID:	WR4180-5	WR4180-4	WR4215-5	WR4180-13
QC_TYPE:	NORMAL	NORMAL	NORMAL	NORMAL
% SOLIDS:	0.0 %	0.0 %	0.0 %	0.0 %
UNITS:	UG/L	UG/L	UG/L	UG/L
FIELD DUPLICATE OF:				

	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
VOLATILES												
STYRENE	1	U		1	U		1	U		1	U	
TETRACHLOROETHENE	1	U		1	U		1	U		1	U	
TOLUENE	1	U		0.9	J	P	1	U		1	U	
TOTAL XYLENES	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	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	TB121901-01	TB121901-02		
SAMPLE DATE:	12/19/01	12/19/01	/ /	/ /
LABORATORY ID:	WR4193-1	WR4215-1		
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	U		1	U							
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	U		5	U							
2-HEXANONE	5	U		5	U							
4-METHYL-2-PENTANONE	5	U		5	U							
ACETONE	4	J	CP	3	J	P						
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	1	U		1	U							
CARBON TETRACHLORIDE	1	U		1	U							
CHLOROBENZENE	1	U		1	U							
CHLORODIBROMOMETHANE	1	U		1	U							
CHLOROETHANE	1	U		1	U							
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							
ETHYLBENZENE	1	U		1	U							
METHYLENE CHLORIDE	0.6	J	P	3								

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	TB121901-01	TB121901-02		
SAMPLE DATE:	12/19/01	12/19/01	/ /	/ /
LABORATORY ID:	WR4193-1	WR4215-1		
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												
STYRENE	1	U		1	U							
TETRACHLOROETHENE	1	U		1	U							
TOLUENE	1	U		1	U							
TOTAL XYLENES	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							

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

3-15-02 JAI

3GW375-09

SAMPLE NUMBER:	2WGW21S-09	~~2WGW37DS-09~~	2WGW39DS-09	2WGW40DS-09
SAMPLE DATE:	12/20/01	12/19/01	12/19/01	12/19/01
LABORATORY ID:	WR4215-6	WR4193-3	WR4193-2	WR4215-2
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	5	UJ	DE	5	UJ	E	5	UJ	E	5	UJ	E
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U		5	UJ	E	5	UJ	E	6	U	
2,4,5-TRICHLOROPHENOL	20	U		20	U		20	U		22	U	
2,4,6-TRICHLOROPHENOL	5	U		5	U		5	U		6	U	
2,4-DICHLOROPHENOL	5	U		5	UJ	E	5	UJ	E	6	U	
2,4-DIMETHYLPHENOL	5	UJ	E	5	UJ	E	5	UJ	E	6	UJ	E
2,4-DINITROPHENOL	20	UJ	C	20	UJ	C	20	UJ	C	22	UJ	C
2,4-DINITROTOLUENE	5	U		5	U		5	U		6	U	
2,6-DINITROTOLUENE	5	U		5	U		5	U		6	U	
2-CHLORONAPHTHALENE	5	U		5	U		5	U		6	U	
2-CHLOROPHENOL	5	UJ	D	5	UJ	E	5	UJ	E	6	U	
2-METHYLPHENOL	5	U		5	UJ	E	5	UJ	E	6	U	
2-NITROANILINE	20	U		20	U		20	U		22	U	
2-NITROPHENOL	5	U		5	UJ	E	5	UJ	E	6	U	
3,3'-DICHLOROBENZIDINE	5	UJ	E	5	UJ	E	5	UJ	E	6	UJ	E
3-NITROANILINE	20	U		20	U		20	U		22	U	
4,6-DINITRO-2-METHYLPHENOL	20	UJ	C	20	UJ	C	20	UJ	C	22	UJ	C
4-BROMOPHENYL PHENYL ETHER	5	U		5	U		5	U		6	U	
4-CHLORO-3-METHYLPHENOL	5	U		5	U		5	U		6	U	
4-CHLOROANILINE	5	UJ	E	5	UJ	E	5	UJ	E	6	UJ	E
4-CHLOROPHENYL PHENYL ETHER	5	U		5	U		5	U		6	U	
4-METHYLPHENOL	5	U		5	UJ	E	5	UJ	E	6	U	
4-NITROANILINE	20	UJ	D	20	U		20	U		22	U	
4-NITROPHENOL	20	UJ	C	20	UJ	C	20	UJ	C	22	UJ	C
BENZOIC ACID	20	UJ	CDE	20	UJ	CE	20	UJ	CE	22	UJ	CE
BIS(2-CHLOROETHOXY)METHANE	5	U		5	UJ	E	5	UJ	E	6	U	
BIS(2-CHLOROETHYL)ETHER	5	U		5	U		5	U		6	U	
BIS(2-ETHYLHEXYL)PHTHALATE	5	UJ	D	5	U		5	U		6	U	
BUTYL BENZYL PHTHALATE	5	UJ	D	5	U		5	U		6	U	
CARBAZOLE	5	U		5	U		5	U		6	U	
DI-N-BUTYL PHTHALATE	5	U		0.9	J	AP	1	J	AP	6	U	
DI-N-OCTYL PHTHALATE	5	UJ	D	5	U		5	U		6	U	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	2WGW21S-09			2WGW37DS-09			2WGW39DS-09			2WGW40DS-09		
SAMPLE DATE:	12/20/01			12/19/01			12/19/01			12/19/01		
LABORATORY ID:	WR4215-6			WR4193-3			WR4193-2			WR4215-2		
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												
DIBENZOFURAN	5	U		5	U		5	U		6	U	
DIETHYL PHTHALATE	5	U		5	U		5	U		6	U	
DIMETHYL PHTHALATE	5	U		5	U		5	U		6	U	
HEXACHLOROBENZENE	5	U		5	U		5	U		6	U	
HEXACHLOROBUTADIENE	5	UJ	DE	5	UJ	E	5	UJ	E	6	UJ	E
HEXACHLOROCYCLOPENTADIENE	5	UJ	CDE	5	UJ	E	5	UJ	E	6	UJ	CE
HEXACHLOROETHANE	5	UJ	DE	5	UJ	E	5	UJ	E	6	UJ	E
ISOPHORONE	5	UJ	E	5	UJ	E	5	UJ	E	6	UJ	E
N-NITROSO-DI-N-PROPYLAMINE	5	U		5	U		5	U		6	U	
N-NITROSODIPHENYLAMINE	5	U		5	U		5	U		6	U	
NITROBENZENE	5	U		5	UJ	E	5	UJ	E	6	U	
PENTACHLOROPHENOL	20	UJ	D	20	U		20	U		22	U	
PHENOL	5	U		5	UJ	E	5	UJ	E	6	U	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	2WGW41DS-09			3MSP01-09			FD121801-01			RB121801-01		
SAMPLE DATE:	12/19/01			12/20/01			12/18/01			12/18/01		
LABORATORY ID:	WR4215-3			WR4215-4			WR4180-2			WR4180-1		
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:							SWSG21-09					
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
1,2,4-TRICHLOROBENZENE	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
2,2'-OXYBIS(1-CHLOROPROPANE)	6	U		5	U		5	UJ	E	5	UJ	E
2,4,5-TRICHLOROPHENOL	22	U		20	U		20	U		20	U	
2,4,6-TRICHLOROPHENOL	6	U		5	U		5	U		5	U	
2,4-DICHLOROPHENOL	6	U		5	U		5	UJ	E	5	UJ	E
2,4-DIMETHYLPHENOL	6	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
2,4-DINITROPHENOL	22	UJ	C	20	UJ	C	20	UJ	C	20	UJ	C
2,4-DINITROTOLUENE	6	U		5	U		5	U		5	U	
2,6-DINITROTOLUENE	6	U		5	U		5	U		5	U	
2-CHLORONAPHTHALENE	6	U		5	U		5	U		5	U	
2-GHLOROPHENOL	6	U		5	U		5	UJ	E	5	UJ	E
2-METHYLPHENOL	6	U		5	U		5	UJ	E	5	UJ	E
2-NITROANILINE	22	U		20	U		20	U		20	U	
2-NITROPHENOL	6	U		5	U		5	UJ	E	5	UJ	E
3,3'-DICHLOROBENZIDINE	6	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
3-NITROANILINE	22	U		20	U		20	U		20	U	
4,6-DINITRO-2-METHYLPHENOL	22	UJ	C	20	UJ	C	20	UJ	C	20	UJ	C
4-BROMOPHENYL PHENYL ETHER	6	U		5	U		5	U		5	U	
4-CHLORO-3-METHYLPHENOL	6	U		5	U		5	U		5	U	
4-CHLOROANILINE	6	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
4-CHLOROPHENYL PHENYL ETHER	6	U		5	U		5	U		5	U	
4-METHYLPHENOL	6	U		5	U		5	UJ	E	5	UJ	E
4-NITROANILINE	22	U		20	U		20	U		20	U	
4-NITROPHENOL	22	UJ	C	20	UJ	C	20	UJ	C	20	UJ	C
BENZOIC ACID	3	J	CEP	20	UJ	CE	20	UJ	CE	20	UJ	CE
BIS(2-CHLOROETHOXY)METHANE	6	U		5	U		5	UJ	E	5	UJ	E
BIS(2-CHLOROETHYL)ETHER	6	U		5	U		5	U		5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	4	J	AP	5	U		5	U		8	J	A
BUTYL BENZYL PHTHALATE	6	U		5	U		5	U		5	U	
CARBAZOLE	6	U		5	U		5	U		5	U	
DI-N-BUTYL PHTHALATE	6	U		5	U		1	J	AP	0.6	J	AP
DI-N-OCTYL PHTHALATE	6	U		5	U		5	U		5	U	

SAMPLE NUMBER:	2WGW41DS-09			3MSP01-09			FD121801-01			RB121801-01		
SAMPLE DATE:	12/19/01			12/20/01			12/18/01			12/18/01		
LABORATORY ID:	WR4215-3			WR4215-4			WR4180-2			WR4180-1		
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:							SWSG21-09					
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
SEMIVOLATILES												
DIBENZOFURAN	6	U		5	U		5	U		5	U	
DIETHYL PHTHALATE	6	U		5	U		5	U		5	U	
DIMETHYL PHTHALATE	6	U		5	U		5	U		5	U	
HEXACHLOROBENZENE	6	U		5	U		5	U		5	U	
HEXACHLOROBUTADIENE	6	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
HEXACHLOROCYCLOPENTADIENE	6	UJ	CE	5	UJ	CE	5	UJ	E	5	UJ	E
HEXACHLOROETHANE	6	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
ISOPHORONE	6	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
N-NITROSO-DI-N-PROPYLAMINE	6	U		5	U		5	U		5	U	
N-NITROSODIPHENYLAMINE	6	U		5	U		5	U		5	U	
NITROBENZENE	6	U		5	U		5	UJ	E	5	UJ	E
PENTACHLOROPHENOL	22	U		20	U		20	U		20	U	
PHENOL	6	U		5	U		5	UJ	E	5	UJ	E

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG16-09			SWSG18-09			SWSG19-09			SWSG20-09		
SAMPLE DATE:	12/19/01			12/18/01			12/18/01			12/18/01		
LABORATORY ID:	WR4193-4			WR4180-6			WR4180-3			WR4180-5		
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	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
2,2'-OXYBIS(1-CHLOROPROPANE)	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
2,4,5-TRICHLOROPHENOL	20	U		20	U		20	U		20	U	
2,4,6-TRICHLOROPHENOL	5	U		5	U		5	U		5	U	
2,4-DICHLOROPHENOL	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
2,4-DIMETHYLPHENOL	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
2,4-DINITROPHENOL	20	UJ	C	20	UJ	C	20	UJ	C	20	UJ	C
2,4-DINITROTOLUENE	5	U		5	U		5	U		5	U	
2,6-DINITROTOLUENE	5	U		5	U		5	U		5	U	
2-CHLORONAPHTHALENE	5	U		5	U		5	U		5	U	
2-CHLOROPHENOL	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
2-METHYLPHENOL	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
2-NITROANILINE	20	U		20	U		20	U		20	U	
2-NITROPHENOL	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
3,3'-DICHLOROBENZIDINE	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
3-NITROANILINE	20	U		20	U		20	U		20	U	
4,6-DINITRO-2-METHYLPHENOL	20	UJ	C	20	UJ	C	20	UJ	C	20	UJ	C
4-BROMOPHENYL PHENYL ETHER	5	U		5	U		5	U		5	U	
4-CHLORO-3-METHYLPHENOL	5	U		5	U		5	U		5	U	
4-CHLOROANILINE	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
4-CHLOROPHENYL PHENYL ETHER	5	U		5	U		5	U		5	U	
4-METHYLPHENOL	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
4-NITROANILINE	20	U		20	U		20	U		20	U	
4-NITROPHENOL	20	UJ	C	20	UJ	C	20	UJ	C	20	UJ	C
BENZOIC ACID	20	UJ	CE	20	UJ	CE	20	UJ	CE	20	UJ	CE
BIS(2-CHLOROETHOXY)METHANE	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
BIS(2-CHLOROETHYL)ETHER	5	U		5	U		5	U		5	U	
BIS(2-ETHYLHEXYL)PHTHALATE	5	U		3	J	AP	5	U		12	J	A
BUTYL BENZYL PHTHALATE	5	U		5	U		5	U		5	U	
CARBAZOLE	5	U		5	U		5	U		5	U	
DI-N-BUTYL PHTHALATE	0.9	J	AP	5	U		2	J	AP	5	U	
DI-N-OCTYL PHTHALATE	5	U		5	U		5	U		5	U	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG16-09			SWSG18-09			SWSG19-09			SWSG20-09		
SAMPLE DATE:	12/19/01			12/18/01			12/18/01			12/18/01		
LABORATORY ID:	WR4193-4			WR4180-6			WR4180-3			WR4180-5		
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												
DIBENZOFURAN	5	U		5	U		5	U		5	U	
DIETHYL PHTHALATE	5	U		5	U		5	U		5	U	
DIMETHYL PHTHALATE	5	U		5	U		5	U		5	U	
HEXACHLOROBENZENE	5	U		5	U		5	U		5	U	
HEXACHLOROBUTADIENE	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
HEXACHLOROCYCLOPENTADIENE	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
HEXACHLOROETHANE	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
ISOPHORONE	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
N-NITROSO-DI-N-PROPYLAMINE	5	U		5	U		5	U		5	U	
N-NITROSODIPHENYLAMINE	5	U		5	U		5	U		5	U	
NITROBENZENE	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E
PENTACHLOROPHENOL	20	U		20	U		20	U		20	U	
PHENOL	5	UJ	E	5	UJ	E	5	UJ	E	5	UJ	E

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG21-09			SWSG23-09								
SAMPLE DATE:	12/18/01			12/20/01			/ /			/ /		
LABORATORY ID:	WR4180-4			WR4215-5								
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
SEMIVOLATILES												
1,2,4-TRICHLOROBENZENE	5	UJ	DE	5	UJ	E						
2,2'-OXYBIS(1-CHLOROPROPANE)	5	UJ	DE	6	U							
2,4,5-TRICHLOROPHENOL	20	U		22	U							
2,4,6-TRICHLOROPHENOL	5	U		6	U							
2,4-DICHLOROPHENOL	5	UJ	DE	6	U							
2,4-DIMETHYLPHENOL	5	UJ	E	6	UJ	E						
2,4-DINITROPHENOL	20	UJ	C	22	UJ	C						
2,4-DINITROTOLUENE	5	U		6	U							
2,6-DINITROTOLUENE	5	U		6	U							
2-CHLORONAPHTHALENE	5	U		6	U							
2-CHLOROPHENOL	5	UJ	DE	6	U							
2-METHYLPHENOL	5	UJ	DE	6	U							
2-NITROANILINE	20	U		22	U							
2-NITROPHENOL	5	UJ	DE	6	U							
3,3'-DICHLOROBENZIDINE	5	UR	DE	6	UJ	E						
3-NITROANILINE	20	U		22	U							
4,6-DINITRO-2-METHYLPHENOL	20	UJ	C	22	UJ	C						
4-BROMOPHENYL PHENYL ETHER	5	U		6	U							
4-CHLORO-3-METHYLPHENOL	5	U		6	U							
4-CHLOROANILINE	5	UJ	D	6	UJ	E						
4-CHLOROPHENYL PHENYL ETHER	5	UJ	E	6	U							
4-METHYLPHENOL	5	UJ	D	6	U							
4-NITROANILINE	20	U		22	U							
4-NITROPHENOL	20	UJ	C	22	UJ	CE						
BENZOIC ACID	20	UJ	CE	22	UJ	C						
BIS(2-CHLOROETHOXY)METHANE	5	UJ	DE	6	U							
BIS(2-CHLOROETHYL)ETHER	5	UJ	D	6	U							
BIS(2-ETHYLHEXYL)PHTHALATE	5	U		6	U							
BUTYL BENZYL PHTHALATE	5	U		6	U							
CARBAZOLE	5	U		6	U							
DI-N-BUTYL PHTHALATE	1	J	AP	6	U							
DI-N-OCTYL PHTHALATE	5	U		6	U							

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG21-09	SWSG23-09		
SAMPLE DATE:	12/18/01	12/20/01	/ /	/ /
LABORATORY ID:	WR4180-4	WR4215-5		
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
SEMIVOLATILES												
DIBENZOFURAN	5	U		6	U							
DIETHYL PHTHALATE	5	U		6	U							
DIMETHYL PHTHALATE	5	U		6	U							
HEXACHLOROBENZENE	5	U		6	U							
HEXACHLOROBUTADIENE	5	UJ	DE	6	UJ	E						
HEXACHLOROCYCLOPENTADIENE	5	UJ	DE	6	UJ	CE						
HEXACHLOROETHANE	5	UJ	DE	6	UJ	E						
ISOPHORONE	5	UJ	DE	6	UJ	E						
N-NITROSO-DI-N-PROPYLAMINE	5	UJ	D	6	U							
N-NITROSODIPHENYLAMINE	5	U		6	U							
NITROBENZENE	5	UJ	DE	6	U							
PENTACHLOROPHENOL	20	U		22	U							
PHENOL	5	UJ	DE	6	U							

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	2WGW21S-09			2WGW39DS-09			2WGW40DS-09			2WGW41DS-09		
SAMPLE DATE:	12/20/01			12/19/01			12/19/01			12/19/01		
LABORATORY ID:	WR4215-6			WR4193-2			WR4215-2			WR4215-3		
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												
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.078	U		0.020	U		0.021	U		0.021	U	
4,4'-DDD	6.0			0.020	U		0.021	U		0.021	U	
4,4'-DDE	0.098	J	D	0.020	U		0.021	U		0.021	U	
4,4'-DDT	0.078	U		0.020	U		0.021	U		0.021	U	
ALDRIN	0.039	U		0.010	U		0.011	U		0.011	U	
ALPHA-BHC	0.039	U		0.010	U		0.011	U		0.011	U	
ALPHA-CHLORDANE	0.039	U		0.010	U		0.011	U		0.011	U	
AROCLOR-1016	0.78	U		0.20	U		0.21	U		0.21	U	
AROCLOR-1221	2.0	U		0.41	U		0.42	U		0.43	U	
AROCLOR-1232	0.78	U		0.20	U		0.21	U		0.21	U	
AROCLOR-1242	0.78	U		0.20	U		0.21	U		0.21	U	
AROCLOR-1248	0.78	U		0.20	U		0.21	U		0.21	U	
AROCLOR-1254	0.78	U		0.20	U		0.21	U		0.21	U	
AROCLOR-1260	0.78	U		0.20	U		0.21	U		0.21	U	
BETA-BHC	0.039	U		0.010	U		0.011	U		0.011	U	
DELTA-BHC	0.039	U		0.010	U		0.011	U		0.011	U	
DIELDRIN	0.078	U		0.020	U		0.021	U		0.021	U	
ENDOSULFAN I	0.039	U		0.010	U		0.011	U		0.011	U	
ENDOSULFAN II	0.078	U		0.020	U		0.021	U		0.021	U	
ENDOSULFAN SULFATE	0.078	UJ	D	0.020	U		0.021	U		0.021	U	
ENDRIN	0.078	U		0.020	U		0.021	U		0.021	U	
ENDRIN ALDEHYDE	0.078	U		0.020	U		0.021	U		0.021	U	
ENDRIN KETONE	0.078	U		0.020	U		0.021	U		0.021	U	
GAMMA-BHC (LINDANE)	0.039	UJ	D	0.010	U		0.011	U		0.011	U	
GAMMA-CHLORDANE	0.039	U		0.010	U		0.011	U		0.011	U	
HEPTACHLOR	0.039	U		0.010	U		0.011	U		0.011	U	
HEPTACHLOR EPOXIDE	0.039	U		0.010	U		0.011	U		0.011	U	
METHOXYCHLOR	0.39	U		0.10	U		0.11	U		0.11	U	
TOXAPHENE	4.0	U		1.0	U		1.0	U		1.0	U	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	3GW37S-09			3MSP01-09			FD121801-01			RB121801-01		
SAMPLE DATE:	12/19/01			12/20/01			12/18/01			12/18/01		
LABORATORY ID:	WR4193-3			WR4215-4			WR4180-2			WR4180-1		
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:							SWSG21-09					
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
PESTICIDES/PCBs												
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.020	U		0.020	U		0.019	U		0.020	U	
4,4'-DDD	0.020	U		0.020	U		0.019	U		0.020	U	
4,4'-DDE	0.020	U		0.020	U		0.019	U		0.020	U	
4,4'-DDT	0.020	U		0.020	U		0.019	U		0.020	U	
ALDRIN	0.010	U		0.010	U		0.010	UJ	G	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		0.19	U		0.20	U	
AROCLOR-1221	0.40	U		0.40	U		0.38	U		0.39	U	
AROCLOR-1232	0.20	U		0.20	U		0.19	U		0.20	U	
AROCLOR-1242	0.20	U		0.20	U		0.19	U		0.20	U	
AROCLOR-1248	0.20	U		0.20	U		0.19	U		0.20	U	
AROCLOR-1254	0.20	U		0.20	U		0.19	U		0.20	U	
AROCLOR-1260	0.20	U		0.20	U		0.19	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		0.019	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		0.019	U		0.020	U	
ENDOSULFAN SULFATE	0.020	U		0.020	U		0.019	U		0.020	U	
ENDRIN	0.020	U		0.020	U		0.019	U		0.020	U	
ENDRIN ALDEHYDE	0.020	U		0.020	U		0.019	U		0.020	U	
ENDRIN KETONE	0.020	U		0.020	U		0.019	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		0.096	U		0.098	U	
TOXAPHENE	1.0	U		1.0	U		0.96	U		0.98	U	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG16-09			SWSG18-09			SWSG19-09			SWSG20-09		
SAMPLE DATE:	12/19/01			12/18/01			12/18/01			12/18/01		
LABORATORY ID:	WR4193-4			WR4180-6			WR4180-3			WR4180-5		
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												
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.021	U		0.020	U		0.020	U		0.020	U	
4,4'-DDD	0.31			0.020	U		0.020	U		0.020	U	
4,4'-DDE	0.15			0.020	U		0.020	U		0.020	U	
4,4'-DDT	0.92			0.020	U		0.020	U		0.020	U	
ALDRIN	0.010	U		0.010	U		0.010	U		0.014	J	U
ALPHA-BHC	0.010	U		0.010	U		0.010	U		0.010	U	
ALPHA-CHLORDANE	0.013	J	U	0.010	U		0.010	U		0.010	U	
AROCLOR-1016	0.21	U		0.20	U		0.20	U		0.20	U	
AROCLOR-1221	0.42	U		0.40	U		0.40	U		0.41	U	
AROCLOR-1232	0.21	U		0.20	U		0.20	U		0.20	U	
AROCLOR-1242	0.21	U		0.20	U		0.20	U		0.20	U	
AROCLOR-1248	0.21	U		0.20	U		0.20	U		0.20	U	
AROCLOR-1254	0.21	U		0.20	U		0.20	U		0.20	U	
AROCLOR-1260	0.21	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	0.021	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	0.021	U		0.020	U		0.020	U		0.020	U	
ENDOSULFAN SULFATE	0.021	U		0.020	U		0.020	U		0.020	U	
ENDRIN	0.021	U		0.020	U		0.020	U		0.020	U	
ENDRIN ALDEHYDE	0.021	U		0.020	U		0.020	U		0.024	J	U
ENDRIN KETONE	0.021	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	0.017			0.010	U		0.010	U		0.010	U	
HEPTACHLOR	0.010	U		0.010	U		0.010	U		0.010	U	
HEPTACHLOR EPOXIDE	0.010	U		0.010	U		0.010	U		0.010	U	
METHOXYCHLOR	0.10	U		0.10	U		0.10	U		0.10	U	
TOXAPHENE	1.0	U		1.0	U		1.0	U		1.0	U	

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG21-09			SWSG23-09								
SAMPLE DATE:	12/18/01			12/20/01			/ /			/ /		
LABORATORY ID:	WR4180-4			WR4215-5								
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
PESTICIDES/PCBs												
2,2',4,4',5,5'-HEXACHLOROBIPHENYL	0.019	U		0.022	U							
4,4'-DDD	0.019	U		0.022	U							
4,4'-DDE	0.019	U		0.022	U							
4,4'-DDT	0.019	U		0.022	U							
ALDRIN	0.020	J	GU	0.011	U							
ALPHA-BHC	0.010	U		0.011	U							
ALPHA-CHLORDANE	0.010	U		0.011	U							
AROCLOR-1016	0.19	U		0.22	U							
AROCLOR-1221	0.39	U		0.43	U							
AROCLOR-1232	0.19	U		0.22	U							
AROCLOR-1242	0.19	U		0.22	U							
AROCLOR-1248	0.19	U		0.22	U							
AROCLOR-1254	0.19	U		0.22	U							
AROCLOR-1260	0.19	U		0.22	U							
BETA-BHC	0.010	U		0.011	U							
DELTA-BHC	0.010	U		0.011	U							
DIELDRIN	0.019	U		0.022	U							
ENDOSULFAN I	0.010	U		0.011	U							
ENDOSULFAN II	0.019	U		0.022	U							
ENDOSULFAN SULFATE	0.019	U		0.022	U							
ENDRIN	0.019	U		0.022	U							
ENDRIN ALDEHYDE	0.019	U		0.022	U							
ENDRIN KETONE	0.019	U		0.022	U							
GAMMA-BHC (LINDANE)	0.010	U		0.011	U							
GAMMA-CHLORDANE	0.010	U		0.011	U							
HEPTACHLOR	0.010	U		0.011	U							
HEPTACHLOR EPOXIDE	0.010	U		0.011	U							
METHOXYCHLOR	0.097	U		0.11	U							
TOXAPHENE	0.97	U		1.0	U							

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	2WGW21S-09			2WGW39DS-09			2WGW40DS-09			2WGW41DS-09		
SAMPLE DATE:	12/20/01			12/19/01			12/19/01			12/19/01		
LABORATORY ID:	WR4215-6			WR4193-2			WR4215-2			WR4215-3		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	0.1	U		0.1	U		0.1	U		0.1	U	
2-METHYLNAPHTHALENE	0.1	UJ	DE	0.1	U		0.1	UJ	E	0.1	UJ	E
ACENAPHTHENE	0.1	UJ	DE	0.1	U		0.1	UJ	E	0.1	UJ	E
ACENAPHTHYLENE	0.1	UJ	DE	0.1	U		0.1	UJ	E	0.1	UJ	E
ANTHRACENE	0.1	UJ	E	0.1	U		0.1	UJ	E	0.1	UJ	E
BENZO(A)ANTHRACENE	0.1	UJ	CD	0.1	U		0.1	UJ	C	0.1	UJ	C
BENZO(A)PYRENE	0.1	UJ	D	0.1	U		0.1	U		0.1	U	
BENZO(B)FLUORANTHENE	0.1	UR	D	0.1	U		0.1	U		0.1	U	
BENZO(G,H,I)PERYLENE	0.1	UR	D	0.1	U		0.1	U		0.1	U	
BENZO(K)FLUORANTHENE	0.1	UJ	D	0.1	U		0.1	U		0.1	U	
CHRYSENE	0.1	UJ	D	0.1	U		0.1	U		0.1	U	
DIBENZO(A,H)ANTHRACENE	0.1	UR	D	0.1	U		0.1	U		0.1	U	
FLUORANTHENE	0.1	UJ	E	0.1	U		0.1	UJ	E	0.1	UJ	E
FLUORENE	0.1	UJ	DE	0.1	U		0.1	UJ	E	0.1	UJ	E
INDENO(1,2,3-CD)PYRENE	0.1	UR	D	0.1	U		0.1	U		0.1	U	
NAPHTHALENE	0.1	UJ	DE	0.1	U		0.1	UJ	E	0.1	UJ	E
PHENANTHRENE	0.1	J	E	0.1	U		0.1	UJ	E	0.1	UJ	E
PYRENE	0.1	UJ	E	0.1	U		0.1	UJ	E	0.1	UJ	E

CTO816-NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	3GW37S-09			3MSP01-09			FD121801-01			RB121801-01		
SAMPLE DATE:	12/19/01			12/20/01			12/18/01			12/18/01		
LABORATORY ID:	WR4193-3			WR4215-4			WR4180-2			WR4180-1		
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:							SWSG21-09					
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	0.1	U		0.1	U		0.05	J	P	0.1	U	
2-METHYLNAPHTHALENE	0.1	U		0.1	UJ	E	0.1	U		0.1	U	
ACENAPHTHENE	0.1	U		0.08	J	EP	0.09	J	P	0.1	U	
ACENAPHTHYLENE	0.1	U		0.1	UJ	E	0.1	U		0.1	U	
ANTHRACENE	0.1	U		0.1	UJ	E	0.1	U		0.1	U	
BENZO(A)ANTHRACENE	0.1	UJ	C	0.1	UJ	C	0.1	U		0.1	UJ	C
BENZO(A)PYRENE	0.1	U		0.1	U		0.1	U		0.1	U	
BENZO(B)FLUORANTHENE	0.1	U		0.1	U		0.1	U		0.1	U	
BENZO(G,H,I)PERYLENE	0.1	U		0.1	U		0.1	U		0.1	U	
BENZO(K)FLUORANTHENE	0.1	U		0.1	U		0.1	U		0.1	U	
CHRYSENE	0.1	U		0.1	U		0.1	U		0.1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U		0.1	U		0.1	U		0.1	U	
FLUORANTHENE	0.1	U		0.1	UJ	E	0.1	U		0.1	U	
FLUORENE	0.1	U		0.07	J	EP	0.1	U		0.1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U		0.1	U		0.1	U		0.1	U	
NAPHTHALENE	0.1	U		0.2	J	E	0.06	J	P	0.07	J	P
PHENANTHRENE	0.1	U		0.1	UJ	E	0.1	U		0.1	U	
PYRENE	0.1	U		0.1	UJ	E	0.1	U		0.1	U	

SAMPLE NUMBER:	SWSG16-09			SWSG18-09			SWSG19-09			SWSG20-09		
SAMPLE DATE:	12/19/01			12/18/01			12/18/01			12/18/01		
LABORATORY ID:	WR4193-4			WR4180-6			WR4180-3			WR4180-5		
QC_TYPE:	NORMAL			NORMAL			NORMAL			NORMAL		
% SOLIDS:	0.0 %			0.0 %			0.0 %			0.0 %		
UNITS:	UG/L			UG/L			UG/L			UG/L		
FIELD DUPLICATE OF:												
	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE	RESULT	QUAL	CODE
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	0.1	U		0.2			0.1	U		0.1	U	
2-METHYLNAPHTHALENE	0.1	U		0.1			0.1	U		0.1	U	
ACENAPHTHENE	0.1	U		0.1			0.06	J	P	0.1	U	
ACENAPHTHYLENE	0.1	U		0.1	U		0.1	U		0.1	U	
ANTHRACENE	0.1	U		0.1	U		0.1	U		0.04	J	P
BENZO(A)ANTHRACENE	0.1	U	A	0.1	UJ	C	0.1	U	A	1.0	U	A
BENZO(A)PYRENE	0.1	U	A	0.1	U		0.1	U	A	1.0	U	A
BENZO(B)FLUORANTHENE	0.1	U	A	0.1	U		0.1	U	A	1.0	U	A
BENZO(G,H,I)PERYLENE	0.1	U	A	0.1	U		0.1	U	A	1.0	U	A
BENZO(K)FLUORANTHENE	0.1	U	A	0.1	U		0.1	U	A	1.0	U	A
CHRYSENE	0.2	U	A	0.1	U		0.1	U	A	1.0	U	A
DIBENZO(A,H)ANTHRACENE	0.1	U		0.1	U		0.1	U		1.5	U	A
FLUORANTHENE	0.4	U	A	0.1	U	A	0.2	U	A	2		
FLUORENE	0.1	U		0.1	U		0.1	U		0.1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	A	0.1	U		0.1	U	A	1.0	U	A
NAPHTHALENE	0.1	U		0.2			0.1	U		0.1	U	
PHENANTHRENE	0.1			0.1	U		0.09	J	P	0.5		
PYRENE	0.2	U	A	0.1	U	A	0.2	U	A	1.0		

CTO816 NSB NEW LONDON
WATER DATA
KAS
SDG: CTO816-1

SAMPLE NUMBER:	SWSG21-09			SWSG23-09								
SAMPLE DATE:	12/18/01			12/20/01			/ /			/ /		
LABORATORY ID:	WR4180-4			WR4215-5								
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
POLYNUCLEAR AROMATIC HYDROCARBONS												
1-METHYLNAPHTHALENE	0.06	J	P	0.1	U							
2-METHYLNAPHTHALENE	0.1	UJ	DE	0.1	U							
ACENAPHTHENE	0.1	J	DE	0.1	U							
ACENAPHTHYLENE	0.1	UJ	DE	0.1	U							
ANTHRACENE	0.1	UJ	E	0.1	U							
BENZO(A)ANTHRACENE	0.1	U		0.1	UJ	C						
BENZO(A)PYRENE	0.1	UJ	D	0.1	U							
BENZO(B)FLUORANTHENE	0.1	UJ	D	0.1	U	A						
BENZO(G,H,I)PERYLENE	0.1	UJ	D	0.1	U							
BENZO(K)FLUORANTHENE	0.1	UJ	D	0.1	U	A						
CHRYSENE	0.1	U		0.1	U							
DIBENZO(A,H)ANTHRACENE	0.1	UJ	D	0.1	U							
FLUORANTHENE	0.1	UJ	E	0.2								
FLUORENE	0.1	UJ	E	0.1	U							
INDENO(1,2,3-CD)PYRENE	0.1	UJ	D	0.1	U							
NAPHTHALENE	0.07	J	DEP	0.1	U							
PHENANTHRENE	0.1	UJ	E	0.07	J	P						
PYRENE	0.1	UJ	E	0.1	U	A						