N00129.AR.001207
NSB NEW LONDON
5090.3a

TETRA TECH

PITT-10-7-077

October 31, 2007

Project Number 112G00777

Mr. Valdis Jurka
Naval Facilities Engineering Command, Mid-Atlantic
Environmental Restoration
Bldg N-26, Room 3208
9742 Maryland Avenue
Norfolk, Virginia 23511-3095

Reference: CLEAN Contract No. N62472-03-D-0057
Contract Task Order 073

Subject: Letter Report for September 2007 Sampling Event
Site 23 Underdrain Metering Pit
Naval Submarine Base – New London, Groton, Connecticut

Dear Mr. Jurka:

This letter report summarizes the results of the September 2007 sampling event for the Site 23 underdrain metering pit at Naval Submarine Base - New London (NSB-NLON) in Groton, Connecticut. Two copies of it are being submitted to you for your records. Copies of the letter report were also distributed to Mr. Richard Conant at NSB-NLON, Ms. Kymberlee Keckler at EPA – Region I, Mr. Mark Lewis at CTDEP, and others for their records per the distribution list provided below.

This letter report was prepared by Tetra Tech NUS, Inc. (Tetra Tech) under the Comprehensive Long-Term Environmental Action Navy (CLEAN) Contract N62472-03-D-0057, Contract Task Order (CTO) 073. The work is a part of the United States Department of the Navy's Installation Restoration Program (IRP), a component of the Defense Environmental Restoration Program (DERP) established under the Comprehensive Environmental Response, Compensation, and Liability (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA).

1.0 INTRODUCTION

The results of the September 2007 underdrain metering pit sampling event are summarized and evaluated in this letter report. Attachment I to this letter includes field forms. Attachment II includes data tables and Attachment III includes the complete set of analytical results and the data validation letter. The September 2007 sampling event was the second of four planned sampling events for the metering pit.

No. 2 and No. 6 fuel oil and waste oil were previously stored in underground storage tanks (USTs) at Site 23 and each tank had an underdrain system that collected groundwater to control water levels and associated hydraulic pressure. The USTs were properly closed in place and the underdrain systems were kept to reduce groundwater levels in the area. Evidence of releases of petroleum products from the tanks, their associated piping, and possibly from other nearly sources was detected during previous investigations. Remedial actions were taken to address petroleum products detected in the soil. No significant groundwater contamination was detected; however, low-levels of petroleum hydrocarbons were infrequently detected at the outfall of the storm sewer system near Goss Cove. Subsequently, the storm sewer at Site 23 was rehabilitated in 2000 such that the original combined groundwater and stormwater system was separated into a deep groundwater and a new shallow stormwater system (FWEC, 2001).

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Over 2,000 feet of the existing underdrain piping was relined with cured-in-place plastic pipe and a manhole was converted into a metering pit to measure groundwater flow volume.

The metering pit sampling results will be used to determine the quality of groundwater being collected and conveyed by the underdrain piping and whether constituent levels in the water pose potential risks to human health or the environment.

2.0 FIELD WORK

The September 2007 sampling event was performed in accordance with the Work Plan for Site 23 Underdrain Metering Pit Sampling. (Tetra Tech, 2007). Field activities performed included removing the manhole cover, collecting a grab sample from the underdrain metering pit, collecting quality assurance/quality control samples, and measurement of water quality parameters. The field forms associated with the sampling effort (i.e., copies of the relevant field logbook pages, chain of custody, sample log sheet, and equipment calibration logs) are included in Attachment I. The water quality measurements are included in Table 1 in Attachment II.

Sampling was completed by lowering a dedicated stainless steel beaker into the manhole along the centerline of the bottom of the metering pit at a 45 degree angle with the mouth of the beaker facing upstream and allowed to fill. The sample was then retrieved to the ground surface and transferred to the appropriate sample containers. The samples were then packaged and shipped to the project laboratory, Katahdin Analytical Services, and analyzed for TCL VOCs, TCL SVOCs, TCL PAHs, TAL metals (total and dissolved), oil and grease, and ETPH. A trip blank was included in the cooler shipped to the laboratory.

The beaker was decontaminated prior to sampling and decontaminated after sampling using a potable water rinse, detergent rinse, and potable water rinse. The small quantity of decontamination fluid was directly disposed of into the sanitary sewer system at OT-10 at NSB-NLON.

3.0 RESULTS

A complete set of the September 2007 analytical results and data validation letter are provided in Attachment III. Positive detections of all analytes detected in the first two sampling events are summarized in Table 2 in Attachment II. Connecticut Remediation Standard Regulations (January 1996 and October 24, 2005) applicable to GB-classified groundwater (i.e., Surface Water Protection Criteria and Volatilization Criteria), which is the classification of the Site 23 groundwater, are included in the table for evaluation of the results. In addition, criteria from the NSB-NLON General Permit for the Discharge of Stormwater Associated with Industrial Activity (DEP-PERD-GP-014, Issuance Date: October 1, 2002 and Modified Date: July 15, 2003) are included because the groundwater is conveyed through the storm sewer system and discharges to the Thames River. Compliance with all of these criteria shows the groundwater does not represent a significant risk to human health or the environment.

Six VOCs, no PAHs, 15 metals, and ETPH were detected during the September event. All of the September 2007 results were in compliance with the criteria except for arsenic in the unfiltered sample. Arsenic was detected at a concentration of 13.9 µg/L in the unfiltered sample which exceeds the surface water protection criteria (4 µg/L). However, arsenic was detected at 1.2 J µg/L in the filtered sample which is below the criteria, and was not detected in the previous sampling event. Because the arsenic concentration detected in the filtered sample was significantly less than the concentration detected in the unfiltered sample, it is likely that the arsenic detection in the unfiltered sample is a result of suspended

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solid particles in the water and is not indicative of groundwater quality. Therefore, because all of the filtered sample concentrations are in compliance with the criteria, it can be concluded that the groundwater does not represent a significant risk to human health or the environment.

4.0 CONCLUSIONS

The Site 23 underdrain metering pit was sampled in September 2007 and was analyzed for TCL VOCs, TCL SVOCs, TCL PAHs, TAL metals (total or dissolved), oil and grease, and ETPH. The conclusions for this sampling event are as follows:

- The first two rounds of data were similar and in general all of the concentrations were below the established Connecticut criteria.
- Arsenic was detected at a concentration greater than surface water protection criteria in the September 2007 unfiltered sample. However, arsenic was not detected in the filtered sample at a concentration that exceeded the criteria. Therefore, the filtered result, which is more indicative of groundwater quality, does not indicate that arsenic in groundwater presents a significant threat to human health and the environment.
- Site 23 groundwater being collected and conveyed in the storm sewer system does not pose a significant threat to human health or the environment.
- Continued monitoring (2 additional rounds) will provide the additional information required to substantiate these results.

If you have any questions regarding this letter report, please contact me at (412) 921-8984.

Sincerely,

Corey A. Rich, P.E.
Project Manager/Base Coordinator

CAR/clm

Attachment(s)

c: Ms. Lee Anne Rapp, NAVFAC Atlantic (w/o attachments)
Ms. Bonnie Capito, NAVFAC Atlantic (1 copy w/ attachments and 1 CD)
Mr. Richard Conant, NSB-NLON (1 copy w/ attachments)
Ms. Kymberlee Keckler, EPA - Region I (2 copies w/ attachments)
Mr. Mark Lewis, CTDEP (1 copy w/ attachments)
Ms. Todd Finlayson, Gannett Fleming (1 copy w/ attachments)
Mr. John Trepanowski, TtNUS - KOP (1 copy w/ attachments)
CTO 073 – File Copy (1 copy w/ attachments)

ATTACHMENT I

Field Forms

TITLE NSB-LON

ROUND 2

PROJECT NO. 112600777

BOOK NO. 1398

THURS 9-6-07 SITE 23 - UNDERDRAIN METERING PIT MANHOLE

Work continued from Page

10:30 HRS - ARRIVE @ DAVISVILLE TRAILER - CALIBRATE METERS pick up disposable supplies & EQUIPMENT (S.S. beaker, pick BUCKETS, etc); prep. SUV FOR SEWER sampling

11:50 HRS - LEAVE DAVISVILLE FOR NEW LONDON

12:45 HRS - Purchase ICE

13:05 HRS - Pick up sample containers & check in w/ D. Conant

13:15 HRS - Arrive @ MANHOLE LOCATION

13:25 HRS - Start sampling

14:55 HRS - Finish clean up @ MANHOLE & REPORT to D. Conant & C. RICH via PHONE.

15:00 HRS - LEAVE NSB-LON FOR DAVISVILLE TRAILER to process samples FOR FED EX SHIPMENT.

16:05 HRS - ARRIVE @ DAVISVILLE TRAILER PERFORM sample handling & PACKAGE SAMPLES on COC # 4253 FOR SHIPMENT to Katahdin Analytical ON FED. EX. AIRBILL # 8545 6732 9529

1835 HRS - Drop OFF SAMPLES @ FED. EX.

END

SCIENTIFIC BINDERY PRODUCTIONS CHICAGO 60605 MADE IN USA

Work continued to Page

SIGNATURE			DATE
			9-6-07
DISCLOSED TO AND UNDERSTOOD BY	DATE	WITNESS	DATE

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 4253 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
112G00777	NSB NEW LONDON	COREY RICH	(412) 921-8984	KATAHDIN / ANDREA COLBY
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
Terry Rojahn		TERRY ROJAHN	(412)921-8857	600 TECHNOLOGY WAY
		CARRIER/WAYBILL NUMBER		CITY, STATE
		AB # 8545 6732 9529		SCARBOROUGH, ME 04074

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

DATE YEAR 2007	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	VOCs 40ml Vials	TCL SVOCs, PAHs & SIM 1L AMBER	Total Oil & GREASE 1L AMBER	ETPH 1L AMBER	Total TAL METALS 500ml HDPE	Dissolved TAL METALS 500ml HDPE			COMMENTS
CONTAINER TYPE PLASTIC (P) or GLASS (G)									G	G	G	G	P	P			
PRESERVATIVE USED									4°C/HCl	4°C	H2SO4/4°C	4°C	HNO3/4°C	HNO3/4°C			
9/6	1315	TB090607	QC	—	—	QC	G	2									TRIP BLANK
9/6	1325	S23GWMPM02	MAN HOLE	—	—	GW	G	31	9	6	6	6	2	2			RUN MS/MSD

1 RELINQUISHED BY Terry Rojahn	DATE 9-6-07	TIME 1900	1. RECEIVED BY FEDERAL EXPRESS	DATE 9-6-07	TIME 1900
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3 RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

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

4/02R
FORM NO. TtNUS-001

Tetra Tech NUS, Inc.

SURFACE WATER SAMPLE LOG SHEET

Project Site Name: NSB NEW LONDON
Project No.: 112G00777

[] Stream
[] Spring
[] Pond
[] Lake
[X] Other: Manhole - Monitoring Pit
[] QA Sample Type:

Sample ID No.: S23GWMPM02
Sample Location: Site 23
Sampled By: T. Rojahn
C.O.C. No.: 4253

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 %	~~Other~~ ORP mV ~~NA~~
Date: 9-6-07								
Time: 1325								
Depth: NA	CLEAR w/ ORANGE PERCIP.	6.61	5.8	17.3	26	4.7	0.0	15
Method: S.S. Beaker								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements		Collected
Volatiles	$4^0C/HCl$	3 x	(3) 40 ml VOA Vial	Yes
TCL SVOCS, PAHS & SIM	4^0C	3 x	(2) 1 L Glass Amber	Yes
Total Oil and Grease	$4^0C/H_2SO_4$	3 x	(2) 1 L Glass Amber	Yes
ETPH	4^0C	3 x	(2) 1 L Glass Amber	Yes
Total TAL Metals	$4^0C/HNO_3$	2 x	(1) 500 ml HDPE	Yes
Dissolved TAL Metals	$4^0C/HNO_3$	2 x	(1) 500 ml HDPE	Yes

OBSERVATIONS / NOTES:

MAP:

Circle if Applicable:

MS/MSD YES

Duplicate ID No.:

Signature(s):

Tey Rojahn

Tetra Tech NUS, Inc.

EQUIPMENT CALIBRATION LOG

PROJECT NAME : NSB NEW LONDON

INSTRUMENT NAME/MODEL: LAMOTTE 2020

SITE NAME: 23

MANUFACTURER: LAMOTTE

PROJECT No.: 112G00777

SERIAL NUMBER: 2239-0501

Date of Calibration	Instrument I.D. Number	Person Performing Calibration	0 NTUs		10 NUTs		Calibration Standard (Lot No.)	Remarks and Comments
			Pre-calibration	Post-calibration	Pre-calibration	Post-calibration		
9-6-07	SAME	TK	0.00	0.00	9.83	10.00	0 =	NA EXP 7/1/08
↓	↓	↓					10 =	GFS #8184-P780246
								EXP. 7/2008

Tetra Tech NUS, Inc.

DOCUMENTATION OF FIELD CALIBRATION

PROJECT NAME : NSB NEW LONDON

SITE NAME: 23

PROJECT No.: 112G00777

INSTRUMENT NAME/MODEL: U-22

MANUFACTURER: Horiba

SERIAL NUMBER: U00520X

Date of Calibration	Person Performing Calibration	INITIAL READINGS						FINAL READINGS						Calibration Standard (Lot No.)	Remarks and Comments
		PH	COND	TURB	DO	TEMP	SAL	PH	COND	TURB	DO	TEMP	SAL		
		S.U.	mS/cm	NTU	mg/L	°C									
9/6/07	T.R.	4.79	460	1	9.3	21.9	NA	4.00	450	0	8.90	21.9	NA	5585	Exp 2-1-08

ATTACHMENT II

Tables

TABLE 1

SUMMARY OF WATER QUALITY MEASUREMENTS FOR SEPTEMBER 2007 SAMPLING EVENT SITE 23 UNDERDRAIN METERING PIT NSB-NLON, GROTON, CONNECTICUT

Sample ID	pH (SU)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Temperature (°C)	Oxidation-Reduction Potential (mV)	Turbidity (NTU)
S23GWMPM02	6.61	5.8	4.7	17.3	15	26

TABLE 2

SUMMARY OF POSITIVE DETECTIONS FOR SEPTEMBER 2007 SAMPLING EVENT
SITE 23 UNDERDRAIN METERING PIT
NSB-NLON, GROTON, CONNECTICUT

PARAMETER	Surface Water Protection Criteria	Residential Volatilization Criteria	Stormwater Discharge Permit Criteria	23MP01 S23GWMPM01 20070618 ORIGINAL	23MP01 FD-061807 20070618 DUPLICATE	23MP01 S23GWMPM02 20070906 ORIGINAL
Volatile Organics (µg/L)						
BROMODICHLOROMETHANE	NE	NE	NA	0.3 J	0.5 U	0.5 U
CYCLOHEXANE	NE	NE	NA	0.5 U	0.5 U	0.1 J
CHLOROFORM	14100	287	NA	3 J	2 J	0.5 U
CIS-1,2-DICHLOROETHENE	NE	860	NA	0.3 J	0.2 J	0.3 J
ISOPROPYLBENZENE	NE	2800	NA	0.1 J	0.09 J	0.1 J
METHYL TERT-BUTYL ETHER	NE	50000	NA	1	0.9	0.4 J
TETRACHLOROETHENE	88	1500	NA	0.3 J	0.3 J	0.4 J
TRICHLOROETHENE	2340	219	NA	0.4 J	0.3 J	0.5 J
PAHs (µg/L)						
2-METHYLNAPHTHALENE	NE	NE	NA	0.17 J	0.16 J	0.2 U
Inorganics, Total (µg/L)						
ALUMINUM	NE	NA	NA	473	115	322
ARSENIC	4	NA	NA	3.7 U	3 U	13.9
BARIUM	NE	NA	NA	48.2	52.4	87
CALCIUM	NUT	NA	NA	33800	35800	32000
CHROMIUM	110 (2)	NA	NA	0.94 U	0.81 U	2
COPPER	48	NA	60	3 U	3 U	4.2
IRON	NUT	NA	NA	9190	11900	70800
LEAD	13	NA	30	2.2	9.3	8.4
MAGNESIUM	NUT	NA	NA	7260	7660	7020
MANGANESE	NE	NA	NA	661	715	845
POTASSIUM	NUT	NA	NA	5210	5490	5270
SELENIUM	50	NA	NA	1.5 U	2 J	1.5 U
SILVER	12	NA	NA	0.46 U	0.46 U	1.5
SODIUM	NUT	NA	NA	46900	49600	52100
VANADIUM	NE	NA	NA	1.3 U	1.4 U	3.7
ZINC	123	NA	200	21.3 J	22.3	47.1
Inorganics, Filtered (µg/L)						
ALUMINUM	NE	NA	NA	20.4 J	36.7 J	21.3 J
ARSENIC	4	NA	NA	3.5 U	2.2 U	1.2 J
BARIUM	NE	NA	NA	44.6	46.4	50.1
CALCIUM	NUT	NA	NA	33600	34700	31400
CHROMIUM	110 (2)	NA	NA	1.2 U	0.44 U	0.3 J
COBALT	NE	NA	NA	0.67 U	0.86 U	0.47 J
IRON	NUT	NA	NA	3470	3630	3600
LEAD	13	NA	30	1.3 J	1.8 J	1.1 U
MAGNESIUM	NUT	NA	NA	7200	7480	6980
MANGANESE	NE	NA	NA	645	664	708
NICKEL	880	NA	NA	1.1 U	0.88 U	0.78 J

TABLE 2

SUMMARY OF POSITIVE DETECTIONS FOR SEPTEMBER 2007 SAMPLING EVENT
SITE 23 UNDERDRAIN METERING PIT
NSB-NLON, GROTON, CONNECTICUT

PARAMETER	Surface Water Protection Criteria	Residential Volatilization Criteria	Stormwater Discharge Permit Criteria	23MP01 S23GWMPM01 20070618 ORIGINAL	23MP01 FD-061807 20070618 DUPLICATE	23MP01 S23GWMPM02 20070906 ORIGINAL
Inorganics, Filtered (µg/L) (Continued)						
POTASSIUM	NUT	NA	NA	5090	5390	5320
SELENIUM	50	NA	NA	1.5 U	1.7 J	2.4 U
SODIUM	NUT	NA	NA	46600	48400	52600
ZINC	123	NA	200	21.4 J	19.5 J	15
Petroleum Hydrocarbons (µg/L)						
ETPH (C09-C36)	NE	NE	2500[1]	55 J	79 U	140 J

1 Criteria is for oil and grease.
2 Criteria is for hexavalent chromium
BOLD Sample results that exceed a criterion are shown in bold font.
NA Not Applicable
NE Not Established
NUT Essential Nutrient

ATTACHMENT III

Complete Analytical Results and Data Validation Letters

CTO 073
Site 23 Underdrain Metering Pit
Complete Set of September Results (Round 2)

NSAMPLE	S23GWMPM02	TB090607
LOCATION	23MP02	QC
SAMPLE COC	S23GWMPM02	TB090607
SAMPLE DATE	20070906	20070906
SACODE	NORMAL	NORMAL
Volatile Organics (ug/l)		
1,1,1-TRICHLOROETHANE	0.5 U	0.5 U
1,1,2,2-TETRACHLOROETHANE	0.5 U	0.5 U
1,1,2-TRICHLOROETHANE	0 5 U	0.5 U
1,1,2-TRICHLOROTRIFLUOROETHANE	0 5 U	0.5 U
1,1-DICHLOROETHANE	0.5 U	0.5 U
1,1-DICHLOROETHENE	0.5 U	0.5 U
1,2,3-TRICHLOROBENZENE	0.5 U	0.5 U
1,2,4-TRICHLOROBENZENE	0.5 U	0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	0.5 U	0.5 U
1,2-DIBROMOETHANE	0.5 U	0.5 U
1,2-DICHLOROBENZENE	0.5 U	0.5 U
1,2-DICHLOROETHANE	0.5 U	0.5 U
1,2-DICHLOROPROPANE	0.5 U	0.5 U
1,3-DICHLOROBENZENE	0 5 U	0.5 U
1,4-DICHLOROBENZENE	0 5 U	0.5 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	0.5 U	0.5 U
BROMOCHLOROMETHANE	0.5 U	0.5 U
BROMODICHLOROMETHANE	0 5 U	0.5 U
BROMOFORM	0.5 U	0.5 U
BROMOMETHANE	0.5 U	0.5 U
CARBON DISULFIDE	0.5 U	0.5 U
CARBON TETRACHLORIDE	0.5 U	0.5 U
CHLOROBENZENE	0.5 U	0.5 U
CHLORODIBROMOMETHANE	0.5 U	0.5 U
CHLOROETHANE	0.5 U	0.5 U
CHLOROFORM	0.5 U	0.5 U
CHLOROMETHANE	0.5 U	0.5 U
CIS-1,2-DICHLOROETHENE	0.3 J	0.5 U
CIS-1,3-DICHLOROPROPENE	0.5 U	0.5 U
CYCLOHEXANE	0.1 J	0.5 U
DICHLORODIFLUOROMETHANE	0.5 U	0.5 U
ETHYLBENZENE	0 5 U	0.5 U
ISOPROPYLBENZENE	0.1 J	0.5 U
METHYL ACETATE	0.5 U	0.5 U
METHYL CYCLOHEXANE	0.5 U	0.5 U
METHYL TERT-BUTYL ETHER	0.4 J	0.5 U
METHYLENE CHLORIDE	0.5 U	6
STYRENE	0.5 U	0.5 U
TETRACHLOROETHENE	0.4 J	0.5 U
TOLUENE	0.5 U	0.5 U
TOTAL XYLENES	0.5 U	0.5 U
TRANS-1,2-DICHLOROETHENE	0.5 U	0 5 U
TRANS-1,3-DICHLOROPROPENE	0.5 U	0.5 U
TRICHLOROETHENE	0.5 J	0.5 U
TRICHLOROFLUOROMETHANE	0.5 U	0 5 U
VINYL CHLORIDE	0.5 U	0.5 U

NSAMPLE	S23GWMPM02	TB090607
LOCATION	23MP02	QC
SAMPLE COC	S23GWMPM02	TB090607
SAMPLE DATE	20070906	20070906
SACODE	NORMAL	NORMAL
Semivolatile Organics (ug/l)		
2,2'-OXYBIS(1-CHLOROPROPANE)	10 U	
2,4,5-TRICHLOROPHENOL	25 U	
2,4,6-TRICHLOROPHENOL	10 UJ	
2,4-DICHLOROPHENOL	10 U	
2,4-DIMETHYLPHENOL	10 UJ	
2,4-DINITROPHENOL	25 UJ	
2,4-DINITROTOLUENE	10 U	
2,6-DINITROTOLUENE	10 U	
2-CHLORONAPHTHALENE	10 U	
2-CHLOROPHENOL	10 UJ	
2-METHYLPHENOL	10 U	
2-NITROANILINE	25 U	
2-NITROPHENOL	10 U	
3&4-METHYLPHENOL	10 U	
3,3'-DICHLOROBENZIDINE	10 U	
3-NITROANILINE	25 U	
4,6-DINITRO-2-METHYLPHENOL	25 UJ	
4-BROMOPHENYL PHENYL ETHER	10 U	
4-CHLORO-3-METHYLPHENOL	10 U	
4-CHLOROANILINE	10 U	
4-CHLOROPHENYL PHENYL ETHER	10 U	
4-NITROPHENOL	25 U	
BIS(2-CHLOROETHOXY)METHANE	10 U	
BIS(2-CHLOROETHYL)ETHER	10 U	
BUTYL BENZYL PHTHALATE	10 UJ	
CARBAZOLE	10 U	
DI-N-BUTYL PHTHALATE	10 U	
DI-N-OCTYL PHTHALATE	10 U	
DIBENZOFURAN	10 U	
DIETHYL PHTHALATE	10 U	
DIMETHYL PHTHALATE	10 U	
HEXACHLOROCYCLOPENTADIENE	10 U	
HEXACHLOROETHANE	10 U	
ISOPHORONE	10 U	
N-NITROSO-DI-N-PROPYLAMINE	10 U	
N-NITROSODIPHENYLAMINE	10 U	
NITROBENZENE	10 U	
PHENOL	10 U	
Polynuclear Aromatic Hydrocarbons (ug/l)		
1-METHYLNAPHTHALENE	0.2 U	
2-METHYLNAPHTHALENE	0.2 U	
4-NITROANILINE	1 UJ	
ACENAPHTHENE	0.2 U	
ACENAPHTHYLENE	0.2 U	
ANTHRACENE	0.2 U	
BENZO(A)ANTHRACENE	0.041 U	
BENZO(A)PYRENE	0.2 U	
BENZO(B)FLUORANTHENE	0.075 U	
BENZO(G,H,I)PERYLENE	0.2 U	
BENZO(K)FLUORANTHENE	0.2 U	
BIS(2-ETHYLHEXYL)PHTHALATE	1 U	
CHRYSENE	0.2 U	
DIBENZO(A,H)ANTHRACENE	0.2 U	
FLUORANTHENE	0.2 U	
FLUORENE	0 2 U	
HEXACHLOROBENZENE	0.2 U	
HEXACHLOROBUTADIENE	0.48 U	
INDENO(1,2,3-CD)PYRENE	0.2 U	
NAPHTHALENE	0.2 U	
PENTACHLOROPHENOL	1 UR	
PHENANTHRENE	0.2 U	
PYRENE	0.2 U	

CTO 073
Site 23 Underdrain Metering Pit
Complete Set of September Results (Round 2)

NSAMPLE LOCATION SAMPLE COC SAMPLE DATE SACODE	S23GWMPM02 23MP02 S23GWMPM02 20070906 NORMAL	TB090607 QC TB090607 20070906 NORMAL
Inorganics (ug/l)		
ALUMINUM	322	
ANTIMONY	0.87 U	
ARSENIC	13.9	
BARIUM	87	
BERYLLIUM	0.12 U	
CADMIUM	0.64 U	
CALCIUM	32000	
CHROMIUM	2	
COBALT	0.26 U	
COPPER	4.2	
IRON	70800	
LEAD	8.4	
MAGNESIUM	7020	
MANGANESE	845	
MERCURY	0.02 U	
NICKEL	0.41 U	
POTASSIUM	5270	
SELENIUM	1 5 U	
SILVER	1.5	
SODIUM	52100	
THALLIUM	0.98 U	
VANADIUM	3.7	
ZINC	47 1	
Filtered Inorganics (ug/l)		
ALUMINUM	21.3 J	
ANTIMONY	0.87 U	
ARSENIC	1.2 J	
BARIUM	50.1	
BERYLLIUM	0.12 U	
CADMIUM	0.1 U	
CALCIUM	31400	
CHROMIUM	0 3 J	
COBALT	0.47 J	
COPPER	0.7 U	
IRON	3600	
LEAD	1.1 U	
MAGNESIUM	6980	
MANGANESE	708	
MERCURY	0.02 U	
NICKEL	0.78 J	
POTASSIUM	5320	
SELENIUM	2.4 U	
SILVER	0.46 U	
SODIUM	52600	
THALLIUM	1.7 U	
VANADIUM	0.29 U	
ZINC	15	
Petroleum Hydrocarbons		
OIL & GREASE - HEM (mg/l)	5.1 U	
TPH (C09-C36) (ug/l)	140 J	

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**C. RICH**	**DATE:**	**OCTOBER 18, 2007**
FROM:	**TERRI L. SOLOMON**	**COPIES:**	**DV FILE**

SUBJECT: **ORGANIC / INORGANIC DATA VALIDATION – VOC, SVOC, PAH, TPH, OIL AND GREASE, TAL METALS**
CTO 0073 NSB NEW LONDON
SAMPLE DELIVERY GROUP (SDG) – SA4982

SAMPLES: 2/Aqueous/

S23GWMPM02 TB090607

Overview

The sample set for NSB New London, CTO 0073, SDG SA4982, consists of one (1) aqueous environmental sample and one (1) trip blank (TB090607). No field duplicate pairs are included within this SDG.

All samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polynuclear aromatic hydrocarbons (PAHs), total petroleum hydrocarbons (TPH), oil and grease, total target analyte list (TAL) metals and dissolved TAL metals. The samples were collected by Tetra Tech NUS on September 6, 2007 and analyzed by Katahdin Analytical Services under Naval Facilities Engineering Service Center (NFESC) Quality Assurance / Quality Control (QA/QC) criteria. VOC analyses were conducted using USEPA CLP SOW OLC03.2. SVOC analyses were conducted using SW846 method 8270C. PAH analyses were conducted using SW-846 method 8270C SIM. TPH analyses were conducted using CT-ETPH. Metals analyses were conducted using method 6010B. Oil and grease analyses were conducted using EPA method 1664.

All samples in this SDG, except sample S23GWMPM02, were validated to EPA Region I Tier III protocol.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • GC/MS Tuning
• Initial and Continuing Calibrations
• Laboratory Method / Preparation Blank Analyses
• Surrogate Recoveries
• Laboratory Control Sample / Laboratory Control Sample Duplicate Results
* • Internal Standard Recoveries
* • ICP Interference Check Sample Results
• Matrix Spike/Matrix Spike Duplicate Results
* • ICP Serial Dilution Results
• Detection Limits
* • Analyte Quantitation

* - 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. Appendix D contains the documentation to support the findings as discussed in this validation report.

Volatiles

The initial calibration percent relative standard deviation (%RSD) on 09/04/07 instrument GCMS-F was > 30% quality control limit for methylene chloride. No validation actions were warranted as the sample result reported for methylene chloride was nondetected.

The following contaminant was detected in the laboratory method/preparation/trip blanks at the following maximum concentration:

Analyte	Maximum Concentration	Action Level
Methylene chloride[1]	6.0 ug/L	60 ug/L

[1] Maximum concentration present in a trip blank.

An action level of 10X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. No validation actions were warranted as the result reported for methylene chloride in the affected sample was nondetected.

All surrogate recoveries for bromoform-d were 0%. It was noted in the case narrative that the laboratory did not spike this surrogate into the samples because of the slow back exchange to native bromoform from using bromoform-d in undeuterated methanol. This does not impact the laboratories ability to detect bromoform, dibromochloromethane and 1,2-dibromoethane in the environmental samples. The recoveries for bromoform, dibromochloromethane and 1,2-dibromoethane were acceptable in the associated calibrations. No validation actions were required.

Semivolatiles

The initial calibration percent relative standard deviations (%RSDs) on 08/21/07 instrument GCMS-U for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol were > 30% quality control limit affecting sample S23GWMPM02. The nondetected results reported for the aforementioned compounds were qualified as estimated, "UJ".

The continuing calibration percent differences (%Ds) on 09/12/07 at 08:48 instrument GCMS-U for 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol and butylbenzylphthalate were > 25% quality control limit affecting sample S23GWMPM02. The nondetected results reported for the aforementioned compounds were qualified as estimated, "UJ".

The surrogate recovery for 2-fluorophenol was < 34% quality control limit affecting sample S23GWMPM02. No validation actions were warranted as only one surrogate was outside quality control limits.

The matrix spike and/or matrix spike duplicate percent recoveries for 2-chlorophenol, 2,4-dimethylphenol and 2,4,6-trichlorophenol were less than the quality control limits for sample S23GWMPM02. The nondetected results reported for the aforementioned compounds in the affected sample were qualified as estimated, "UJ".

The matrix spike duplicate percent recovery for di-n-octylphthalate was greater than the quality control limit for sample S23GWMPM02. No validation actions were required as the sample result reported for di-n-octylphthalate was a nondetect.

8270C SIM

The initial calibration RRF on 09/14/07 instrument GCMS-U was < 0.05 quality control limit for pentachlorophenol affecting sample S23GWMPM02. The nondetected result reported for pentachlorophenol in the affected sample was qualified as rejected, "UR".

The initial calibration %RSDs on 09/14/07 instrument GCMS-U for pentachlorophenol and 4-nitroaniline were > 30% quality control limit affecting sample S23GWMPM02. The nondetected result reported for 4-nitroaniline was qualified as estimated, "UJ". No validation action was required for pentachlorophenol as the sample result was rejected for a more severe noncompliance.

The laboratory control sample percent recoveries for 2-methylnaphthalene, hexachlorobenzene, pentachlorophenol, benzo(a)anthracene, dibenzo(a,h)anthracene and benzo(g,h,i)perylene were greater than the quality control limits. No validation actions were required as all sample results were nondetects.

The matrix spike / matrix spike duplicate percent recoveries for pentachlorophenol were > 150% quality control limit. No validation actions were required as the result reported for pentachlorophenol was nondetected.

TPH

The matrix spike / matrix spike duplicate relative percent difference for TPH was > 20% quality control limit for sample S23GWMPM02. The positive result reported for TPH was qualified as estimated, "J".

TAL Metals

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

Analyte	Maximum Concentration	Action Level
Antimony	1.51 ug/L	7.55 ug/L
Beryllium	0.21 ug/L	1.05 ug/L
Cadmium	0.16 ug/L	0.8 ug/L
Calcium	10.21 ug/L	51.05 ug/L
Copper	0.39 ug/L	1.95 ug/L
Iron	16.91 ug/L	84.55 ug/L
Lead	1.19 ug/L	5.95 ug/L
Magnesium	11.33 ug/L	56.65 ug/L
Manganese[1]	1.313 ug/L	6.565 ug/L
Potassium[1]	120.1 ug/L	600.5 ug/L
Selenium[1]	3.450 ug/L	17.25 ug/L
Thallium	1.48 ug/L	7.4 ug/L
Zinc[1]	2.103 ug/L	10.515 ug/L

[1] Maximum concentration present in a preparation blank.

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results less than the blank

action level reported for cadmium, copper, lead, selenium and thallium were qualified "U" as a result of laboratory blank contamination.

Notes

Positive results reported below the reporting limit (RL) but above the method detection limit (MDL) for the organic analyses were qualified as estimated, "J".

Positive metal results < 2X instrument detection limits (IDLs) were qualified as estimated, "J".

The method detection limits specified in the lab scope of work for hexachlorobutadiene (0.45 ug/L) and oil and grease (1.0 mg/L) were exceeded for sample S23GWMPM02.

Executive Summary

Laboratory Performance: Several initial and continuing calibration RRFs, %RSDs and %Ds were outside the quality control limits. Several contaminants were detected in the laboratory method/preparation blanks.

Other Factors Affecting Data Quality: Several matrix spike recoveries , matrix spike duplicate recoveries and matrix spike / matrix spike duplicate RPDs were outside the quality control limits.

The data for these analyses were reviewed with reference to the EPA Region I, " National Functional Guidelines for Inorganic Review", February 1989, EPA Region I "Functional Guidelines for Organic Data Validation", December 1996, National Functional Guidelines for EPA Low Concentration Organic Data Review, June 2001 and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories", January 2006.

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 DoD QSM."

Terri L. Solomon

Tetra Tech NUS
Terri L. Solomon
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 – Region I Worksheets
4. Appendix D – Support Documentation

APPENDIX A
QUALIFIED ANALYTICAL RESULTS

Data Validation Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery 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 / ICP PDS Recovery Noncompliance
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O - Poor Instrument Performance (e.g. base-line drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; e.g. chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DOT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient r < 0.995
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is greater than sample activity

PROJ_NO: 00777

SDG: SA4982 MEDIA: WATER DATA FRACTION: OV

nsample	S23GWMPM02
samp_date	9/6/2007
lab_id	SA4982-2
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2,3-TRICHLOROBENZENE	0.5	U	
1,2,4-TRICHLOROBENZENE	0.5	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.5	U	
1,2-DIBROMOETHANE	0.5	U	
1,2-DICHLOROBENZENE	0.5	U	
1,2-DICHLOROETHANE	0.5	U	
1,2-DICHLOROPROPANE	0.5	U	
1,3-DICHLOROBENZENE	0.5	U	
1,4-DICHLOROBENZENE	0.5	U	
2-BUTANONE	5	U	
2-HEXANONE	5	U	
4-METHYL-2-PENTANONE	5	U	
ACETONE	5	U	
BENZENE	0.5	U	
BROMOCHLOROMETHANE	0.5	U	
BROMODICHLOROMETHANE	0.5	U	
BROMOFORM	0.5	U	
BROMOMETHANE	0.5	U	
CARBON DISULFIDE	0.5	U	
CARBON TETRACHLORIDE	0.5	U	
CHLOROBENZENE	0.5	U	
CHLORODIBROMOMETHANE	0.5	U	
CHLOROETHANE	0.5	U	
CHLOROFORM	0.5	U	
CHLOROMETHANE	0.5	U	
CIS-1,2-DICHLOROETHENE	0.3	J	P

nsample	S23GWMPM02
samp_date	9/6/2007
lab_id	SA4982-2
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
CIS-1,3-DICHLOROPROPENE	0.5	U	
CYCLOHEXANE	0.1	J	P
DICHLORODIFLUOROMETHANE	0.5	U	
ETHYLBENZENE	0.5	U	
ISOPROPYLBENZENE	0.1	J	P
METHYL ACETATE	0.5	U	
METHYL CYCLOHEXANE	0.5	U	
METHYL TERT-BUTYL ETHER	0.4	J	P
METHYLENE CHLORIDE	0.5	U	
STYRENE	0.5	U	
TETRACHLOROETHENE	0.4	J	P
TOLUENE	0.5	U	
TOTAL XYLENES	0.5	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	J	P
TRICHLOROFLUOROMETHANE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	TB090607
samp_date	9/6/2007
lab_id	SA4982-1
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

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

PROJ_NO: 00777

SDG: SA4982 MEDIA: WATER DATA FRACTION: OV

nsample	TB090607
samp_date	9/6/2007
lab_id	SA4982-1
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
CIS-1,3-DICHLOROPROPENE	0.5	U	
CYCLOHEXANE	0.5	U	
DICHLORODIFLUOROMETHANE	0.5	U	
ETHYLBENZENE	0.5	U	
ISOPROPYLBENZENE	0.5	U	
METHYL ACETATE	0.5	U	
METHYL CYCLOHEXANE	0.5	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	6		
STYRENE	0.5	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	0.5	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
TRICHLOROFLUOROMETHANE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 00777

SDG: SA4982 MEDIA: WATER DATA FRACTION: OS

nsample	S23GWMPM02	nsample	S23GWMPM02
samp_date	9/6/2007	samp_date	9/6/2007
lab_id	SA4982-2	lab_id	SA4982-2
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0.0	Pct_Solids	0.0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U	
2,4,5-TRICHLOROPHENOL	25	U	
2,4,6-TRICHLOROPHENOL	10	UJ	D
2,4-DICHLOROPHENOL	10	U	
2,4-DIMETHYLPHENOL	10	UJ	D
2,4-DINITROPHENOL	25	UJ	C
2,4-DINITROTOLUENE	10	U	
2,6-DINITROTOLUENE	10	U	
2-CHLORONAPHTHALENE	10	U	
2-CHLOROPHENOL	10	UJ	D
2-METHYLPHENOL	10	U	
2-NITROANILINE	25	U	
2-NITROPHENOL	10	U	
3&4-METHYLPHENOL	10	U	
3,3'-DICHLOROBENZIDINE	10	U	
3-NITROANILINE	25	U	
4,6-DINITRO-2-METHYLPHENOL	25	UJ	C
4-BROMOPHENYL PHENYL ETHER	10	U	
4-CHLORO-3-METHYLPHENOL	10	U	
4-CHLOROANILINE	10	U	
4-CHLOROPHENYL PHENYL ETHER	10	U	
4-NITROPHENOL	25	U	
BIS(2-CHLOROETHOXY)METHANE	10	U	
BIS(2-CHLOROETHYL)ETHER	10	U	
BUTYL BENZYL PHTHALATE	10	UJ	C
CARBAZOLE	10	U	
DIBENZOFURAN	10	U	
DIETHYL PHTHALATE	10	U	
DIMETHYL PHTHALATE	10	U	
DI-N-BUTYL PHTHALATE	10	U	
DI-N-OCTYL PHTHALATE	10	U	
HEXACHLOROCYCLOPENTADIENE	10	U	

Parameter	Result	Val Qual	Qual Code
HEXACHLOROETHANE	10	U	
ISOPHORONE	10	U	
NITROBENZENE	10	U	
N-NITROSO-DI-N-PROPYLAMINE	10	U	
N-NITROSODIPHENYLAMINE	10	U	
PHENOL	10	U	

PROJ_NO: 00777

SDG: SA4982 MEDIA: WATER DATA FRACTION: PAH

nsample	S23GWMPM02RE
samp_date	9/6/2007
lab_id	SA4982-3RE
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.2	U	
2-METHYLNAPHTHALENE	0.2	U	
4-NITROANILINE	1	UJ	C
ACENAPHTHENE	0.2	U	
ACENAPHTHYLENE	0.2	U	
ANTHRACENE	0.2	U	
BENZO(A)ANTHRACENE	0.041	U	
BENZO(A)PYRENE	0.2	U	
BENZO(B)FLUORANTHENE	0.075	U	
BENZO(G,H,I)PERYLENE	0.2	U	
BENZO(K)FLUORANTHENE	0.2	U	
BIS(2-ETHYLHEXYL)PHTHALATE	1	U	
CHRYSENE	0.2	U	
DIBENZO(A,H)ANTHRACENE	0.2	U	
FLUORANTHENE	0.2	U	
FLUORENE	0.2	U	
HEXACHLOROBENZENE	0.2	U	
HEXACHLOROBUTADIENE	0.48	U	
INDENO(1,2,3-CD)PYRENE	0.2	U	
NAPHTHALENE	0.2	U	
PENTACHLOROPHENOL	1	UR	C
PHENANTHRENE	0.2	U	
PYRENE	0.2	U	

PROJ_NO: 00777

SDG: SA4982 MEDIA: WATER DATA FRACTION: PET

nsample	S23GWMPM02
samp_date	9/6/2007
lab_id	SA4982-2
qc_type	NM
Pct_Solids	0.0
DUP_OF:	

Parameter	units	Result	Val Qual	Qual Code
OIL & GREASE - HEM	MG/L	5.1	U	
TPH (C09-C36)	UG/L	140	J	D

PROJ_NO: 00777

SDG: SA4982 MEDIA: WATER DATA FRACTION: M

nsample	S23GWMPM02
samp_date	9/6/2007
lab_id	SA4982-002
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ALUMINUM	322		
ANTIMONY	0.87	U	
ARSENIC	13.9		
BARIUM	87		
BERYLLIUM	0 12	U	
CADMIUM	0.64	U	A
CALCIUM	32000		
CHROMIUM	2		
COBALT	0.26	U	
COPPER	4.2		
IRON	70800		
LEAD	8.4		
MAGNESIUM	7020		
MANGANESE	845		
MERCURY	0.02	U	
NICKEL	0.41	U	
POTASSIUM	5270		
SELENIUM	1 5	U	
SILVER	1.5		
SODIUM	52100		
THALLIUM	0.98	U	A
VANADIUM	3.7		
ZINC	47.1		

PROJ_NO: 00777

SDG: SA4982 MEDIA: WATER DATA FRACTION: MF

nsample	S23GWMPM02
samp_date	9/6/2007
lab_id	SA4982-003
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ALUMINUM	21.3	J	P
ANTIMONY	0.87	U	
ARSENIC	1.2	J	P
BARIUM	50.1		
BERYLLIUM	0.12	U	
CADMIUM	0.1	U	
CALCIUM	31400		
CHROMIUM	0.3	J	P
COBALT	0.47	J	P
COPPER	0.7	U	A
IRON	3600		
LEAD	1.1	U	A
MAGNESIUM	6980		
MANGANESE	708		
MERCURY	0.02	U	
NICKEL	0.78	J	P
POTASSIUM	5320		
SELENIUM	2.4	U	A
SILVER	0.46	U	
SODIUM	52600		
THALLIUM	1.7	U	A
VANADIUM	0.29	U	
ZINC	15		