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LETTER REPORT REGARDING FINAL MARCH 2011 MONITORED NATURAL ATTENUATION FOR GROUNDWATER SAMPLING RESULTS AT SITE 8 NS NEWPORT RI
08/09/2011
TETRA TECH NUS

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C-NAVY-08-11-4525W

August 9, 2011

Project Number 112G02124

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Ms. Pamela Crump
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235 Promenade Street
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Reference: CLEAN Contract No. N62470-08-D-1001
Contract Task Order No. WE19

Subject: Final March 2011 Monitored Natural Attenuation (MNA) Groundwater Sampling Results
Site 08 – Naval Undersea Systems Center (NUSC) Disposal Area
Naval Station Newport, Newport RI

Dear Ms. Lombardo and Ms. Crump:

On behalf of Ms. Maritza Montegross, Tetra Tech is pleased to provide the results of the March 2011 groundwater sampling event at the NUSC Disposal Area (Site 08) at the Naval Station Newport, Rhode Island. This information was collected to help evaluate the natural attenuation of chlorinated volatile organic compounds (CVOCs) in groundwater at Site 08 and has been incorporated into the revised draft Feasibility Study (FS) issued on July 18, 2011. This summary document incorporates changes based on the July 15, 2011 responses to USEPA and RIDEM comments. As discussed during the April 14, 2011 technical meeting, further sampling for MNA parameters is proposed to provide more information regarding changes in the plume over time.

Field Activities

Tetra Tech conducted the groundwater sampling event from March 14 to 18, 2011, in accordance with the approved Work Plan[1]. Additional samples not identified in the work plan were also collected based on subsequent discussions and agreements with the USEPA and the RIDEM.

A total of 21 groundwater monitoring wells were sampled (Table 1, Figure 1). Samples were collected using low-flow methodology and were analyzed for target compound list (TCL) volatile organic compounds (VOCs) using EPA Method 8260B. Most wells also were sampled for the following MNA parameters: ammonia, nitrate, nitrite, phosphate, sulfate, sulfide, total organic carbon (TOC), chloride, and the dissolved gases methane, ethene, and ethane. Ferrous iron [Fe(II)] was measured in the field at each well using a HACH® test kit (AccuVac® ampoules with a DR-890 colorimeter). Other water quality measurements such as pH, oxidation-reduction potential (ORP), and dissolved oxygen (DO) also were measured in the field at each well using a YSI Pro Series water quality meter and a LaMotte 2020 turbidimeter. Field data collection forms are presented in Attachment A.

[1] Tetra Tech. 2011. "Work Plan for Supplemental Monitored Natural Attenuation Sampling, Site 08, NUSC Disposal Area, Naval Station Newport, RI". March 2.

Tetra Tech conducted Tier II validation of the VOC data and Tier I validation for the other laboratory MNA water quality analyses. Data validation memoranda are presented in Attachment B.

Investigation-derived waste (IDW) (purged groundwater) was collected into 55-gallon drums for off-site disposal. Waste characterization samples indicated that the IDW was non-hazardous (Attachment C).

Although not part of the work plan, the sampling team also inspected MW-100B for any remaining light non-aqueous phase liquid (LNAPL), because the well had not been checked since 2008 when approximately 4.5 inches of LNAPL had been removed. Upon opening the well, a reading of 60.6 parts per million (ppm) was measured in the confined well headspace (air) using a photoionization detector (PID); however, no measureable LNAPL (or dense non-aqueous phase liquid [DNAPL]) was found using an oil/water indicator probe and no LNAPL or DNAPL was visible in a bailed water sample collected from that well. A groundwater sample was not collected from MW-100B.

Results

Water quality measurements during monitoring well stabilization during March 2011 and from historical sampling events are summarized in Table 2. The natural attenuation parameters ORP and DO showed some variation over time (i.e., changing geochemical conditions at the Site).

Table 3 presents the March 2011 results of the ferrous iron field test kits and the fixed-base analytical laboratory analyses for VOCs and MNA parameters. Figure 1 shows the locations of detected total chlorinated VOCs in groundwater. Historical VOC and MNA data are presented in Attachment D.

During the March 2011 sampling event, the Fe(II) results ranged from non-detect to 2,240 micrograms per liter (ug/L) (median = 600 ug/L, mean = 661 ug/L).

VOCs were detected in 16 of the 21 wells. Of the five wells where VOCs were non-detect, three are considered upgradient or sidegradient wells (MW-06B, MW-08B, and MW-116B-D2) and two are at the plume fringes (MW-122, MW-125B). In the other wells, the following VOCs were detected at concentrations exceeding USEPA Regional Screening Levels (RSLs), federal Maximum Contaminant Levels (MCLs), and/or RIDEM "class GA" groundwater objectives (Table 3):

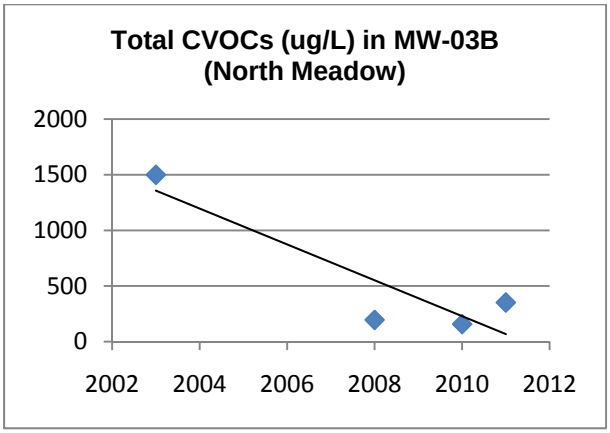
VOC Exceeding Benchmarks in March 2011	Maximum Detected Concentration (ug/L)	Number of Wells with VOCs Exceeding Benchmarks in March 2011
1,1,1-trichloroethane (TCA)	450 [(a)]	1
1,1-dichloroethane (DCA)	590	8
1,1-dichloroethene (DCE)	67 [(a)]	6
carbon tetrachloride	5.2 [(a)]	1
chloroform[(b)]	2.1	2
tetrachloroethene (PCE)	12 [(a)]	7
trichloroethene (TCE)	680 [(a)]	11
vinyl chloride	2.4 [(a)]	4

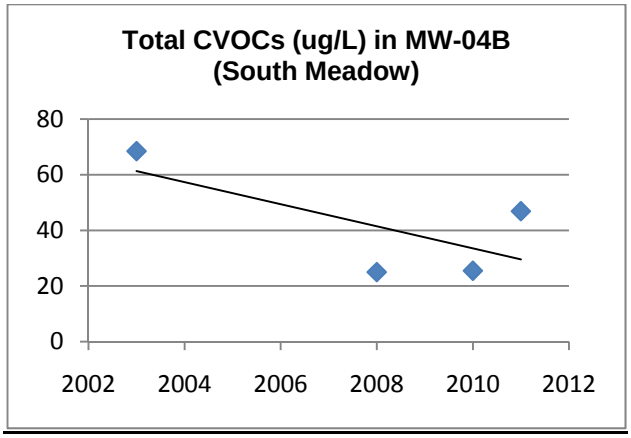
(a) In one or more wells, the VOC exceeded MCLs, which are potential groundwater cleanup goals for Site 08. Carbon tetrachloride, PCE, and vinyl chloride only slightly exceed their respective MCLs.
(b) Chloroform is not an identified contaminant of concern (COC) at Site 08 and did not exceed its MCL Goal (70 ug/L).

Biodegradation/Natural Attenuation Parameters

Multiple lines of evidence are being considered to evaluate whether natural attenuation has been occurring and whether conditions will allow it to continue to occur. This includes evaluations of temporal and spatial trends (showing decreasing COC concentrations and plume footprint), the presence of biodegradation daughter products, and comparisons of COC and daughter product footprints to geochemical footprints. MNA parameter results are summarized below and are further evaluated in the Site 08 FS.

- Total CVOC Trends – Limited historical sampling events are available (see Attachment D) to develop trend graphs and/or perform statistical evaluations (i.e., only 2 to 4 data points are available per well). Two of the wells sampled during March 2011 have been included in past sampling events since 2003 (MW-03B, MW-04B). Total CVOC concentrations in these wells have decreased over that time, as shown below.





The other wells have only been sampled since 2008. As summarized below, direct comparisons of total CVOC concentrations in the wells sampled from 2008 to 2011 indicate mixed results, as might be expected from the shorter timeframe:

Sampling Events Compared	Total CVOC Concentration Changes (Number and Percentage of Wells within the Plume Area)		
	Decreased	No change (within 10%)	Increased
2008 to 2011	5 (45%)	1 (9%)	5 (45%)
2010 to 2011	8 (47%)	4 (24%)	5 (29%)

These relative comparisons were similar within each of the Site 08 areas (Building 179 area, Building 185/South Meadow area, and North Meadow area).

CVOCs were non-detect in March 2011 at MW-122 and MW-125B whereas CVOCs had been detected in these wells during previous sampling events. MW-122 was previously sampled in June 2008 (1.4 J ug/L) and June 2010 (2.52 J ug/L). MW-125B was previously sampled in July 2008 (20.3 J ug/L) and August 2008 (13.5 J ug/L). These results may indicate a reduction in the plume footprint at the fringes; however, due to the limited data set, the observed results may also be attributable to seasonal changes or other fluctuations. Additional groundwater monitoring is needed to further evaluate MNA trends.

CVOC degradation involves dechlorination of CVOC molecules under either anaerobic or aerobic conditions. Generally, dechlorination occurs under anaerobic or reducing conditions and the resulting less chlorinated daughter products (e.g., vinyl chloride) can be aerobically degradable.

- Reducing Conditions – Evidence of strongly reducing conditions that are favorable for supporting anaerobic biodegradation of CVOCs include: low ORP (typically less than -50 millivolts [mV]) in conjunction with low DO concentrations (typically less than 0.5 milligrams per liter [mg/L]). During the 2011 sampling round, 6 of the 17 wells (35 percent) within the plume had strong or intermediate[2] reducing conditions (Table 2). These six wells are located within the Building 179 source area (MW-07B) and the Building 185/South Meadow Area. The wells in the North Meadow tended to have higher DO and positive ORP readings.

- Chlorinated Ethene Degradation Daughter Products – The expected daughter products of PCE and TCE degradation are cis-1,2-DCE, vinyl chloride, and ethene (trans-1,2-DCE and 1,1-DCE are also possible daughter products, but tend to be less common)[3]. In the North Meadow Area, daughter products were mainly detected in the northern downgradient wells with less apparent degradation in the southern section. The ratio of TCE and PCE to their daughter products[4] in those North Meadow wells were higher in the more impacted wells (66.7 in MW-118B-D1 and 40.4 in MW-128B) and lower at the distal location (5.8 in MW-127B). Ethene was detected in MW-127B (1.8 J ug/L) and MW-128B (0.84 J ug/L). Daughter products were not detected in the other North Meadow wells (MW-03B and MW-117B). In the Building 185/South Meadow area where PCE and/or TCE had been previously detected (MW-04B, MW-103B, MW-104B, and MW-110B) the parent-to-daughter product ratios showed some potential signs of biodegradation (ratios ranged from 0.6 to 1.8). Vinyl chloride, a degradation product of cis- and trans-1,2-DCE, was detected in two of these wells at trace concentrations (2.4 ug/L in MW-103B and 0.86 ug/L in MW-104B). Vinyl chloride also was detected at trace concentrations in two wells from the Building 179 Area (1.05 ug/L in MW-07B and 1.5 ug/L in MW-101B) but not the North Meadow area (Table 3).

- Chlorinated Ethane Degradation Daughter Products – The expected daughter products of 1,1,1-TCA degradation via biotic transformations are 1,1-DCA, chloroethane, and ethane. 1,1-DCE and vinyl chloride can also be present by abiotic transformations. In the Building 179 Area, the ratio of 1,1,1-TCA to its other daughter products remains low (range 0.1 to 1.1) and may indicate a trend of continuing degradation (e.g., in source area well MW-7B, the ratio was 1.5 in 2008, 1.2 in 2010, and 0.7 in 2011). The end-product ethane was not detected in March 2011 samples.

- Chloride (an end-product of CVOC degradation[5]) – In the Building 179 area, chloride concentrations are well above background levels and may be indicative of CVOC degradation. In upgradient (MW-06B) and side-gradient (MW-08B and MW-12) wells, chloride concentrations ranged from 9.8 to 78 mg/L. The wells within the Building 179 Area ranged from 20 to 240 mg/L. In the North Meadow and the Building 185/South Meadow Area, the chloride concentrations in the wells on the downgradient side of the plume (ranges from 12 to 36 mg/L and 18 to 84 mg/L, respectively) were generally higher than the concentrations in the more upgradient wells (16 mg/L in MW-116B and 19 mg/L in MW-108B, respectively).

- Fe(II) concentrations over 1,000 ug/L may indicate that an iron-reducing bioremediation pathway is active. The highest Fe(II) concentrations were found in the Building 185/South Meadow Area (mean = 1,130 ug/L). The Fe(II) concentrations were moderate in the Building 179 Area (mean = 380 ug/L) and were lower in the North Meadow area (mean = 234 ug/L).

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[2] Wells were noted as having "intermediate" reducing conditions if a negative ORP and/or low DO was present, but not at the preferred levels (i.e., ORP less than 50 mV and DO less than 0.5 mg/L).

[3] Complete records of materials disposed at the site are not available; therefore, it is uncertain to what extent the observed daughter products are due to the original disposal rather than to reductive dechlorination of PCE and TCE. However, the presence of cis-1,2-DCE over trans-1,2-DCE is consistent with PCE/TCE biodegradation.

[4] Sum of PCE and TCE divided by the sum of 1,2-DCE, 1,1-DCE, VC, and ethene concentrations.

[5] Complete records of materials disposed at the site are not available; therefore, it is uncertain to what extent the observed chloride concentrations may be due to other sources at the site.

- Nitrate concentrations less than 1 mg/L are generally desirable so as not to compete with CVOC reduction pathways. During March 2011, nitrate concentrations were favorable (low to non-detect) in most wells (Table 3) except in the following three wells: 1 mg/L in MW-12 (side-gradient to Building 179 plume area), 1 mg/L in MW-127B (downgradient end of North Meadow plume area), and 3 mg/L in MW-130 (downgradient end of the Building 179 plume).

- Sulfate concentrations less than 20 mg/L are generally desirable so as not to compete with CVOC reduction pathways, whereas sulfide concentrations greater than 1 mg/L may indicate conditions that are supportive of CVOC degradation. During March 2011, sulfate concentrations were the highest in the upgradient/side-gradient wells (mean = 25.6 mg/L, range = 15 to 44 mg/L). Sulfate concentrations were the lowest in the Building 179 Area (mean = 11 mg/L, range = 7.5 to 18 mg/L). Sulfate concentrations varied in the remaining site areas (mean of 19.5 mg/L in the Building 185/South Meadow and 21.5 mg/L in the North Meadow). Sulfide concentrations were generally non-detect except for a low concentration in MW-07B (0.615 J mg/L) and a favorable concentration in MW-130B (1.9 mg/L).

- The presence of methane can be an indicator of favorable reducing conditions for CVOC degradation, although other sources of methane associated with past disposal operations may be present at the site. Somewhat elevated methane concentrations were detected in samples from the Building 179 Area (mean = 140 ug/L) and the Building185/South Meadow Area (mean = 49.9 ug/L). Upgradient and sidegradient wells had an average of 14.3 ug/L. Low methane concentrations were detected in the North Meadow wells (mean = 1.3 ug/L).

- TOC is a measure of the amount of carbon that is available for fermentation in order to yield the necessary hydrogen for the dechlorination processes. TOC values higher than 20 mg/L are generally desirable for driving reductive dechlorination although other factors such as the form of the carbon (bioavailability), the amount of TOC influx into the area (replenishment), and the presence of other electron acceptors (competing for TOC usage) also play a role in the effectiveness of reductive dechlorination. In March 2011, TOC concentrations were low across the site (Table 3). The mean concentration in upgradient/side-gradient wells was 0.4 mg/L. The North Meadow TOC results were similar to those background levels. Average concentrations in the Building 185/South Meadow Area and the Building 179 Area were somewhat higher (1 mg/L and 2.1 mg/L).

- Each of the wells sampled within the plume areas were within the desired pH range for bioremediation (pH of 5 to 9). The only well outside of this range was upgradient well MW-06B (pH = 9.33).

Please contact me at (978) 474-8449 or jim.ropp@tetratech.com should you have any questions.

Sincerely,

James Ropp, P.E.
Project Manager

Encl: (1 CD)
Figure 1 – Groundwater Total CVOCs – March 2011
Table 1 – Groundwater Sampling Matrix
Table 2 – Groundwater Sampling Stabilization Records
Table 3 – Groundwater Analytical Results for March 2011
Attachment A – Field forms
Attachment B – Data Validation Memoranda
Attachment C – Investigation-Derived Waste Forms
Attachment D – Historical Groundwater Analytical Results

cc: M. Montegross, NAVFAC (w/ encl – CD)
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P. Steinberg, Mabbett (w/ encl. – CD)
K. Munney, USFWS (w/encl – CD)
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G. Glenn, Tetra Tech (w/o encl.)
File G02124-3.2 (w/o encl.), G02124-8.0 (w/ encl. – original)

FIGURES

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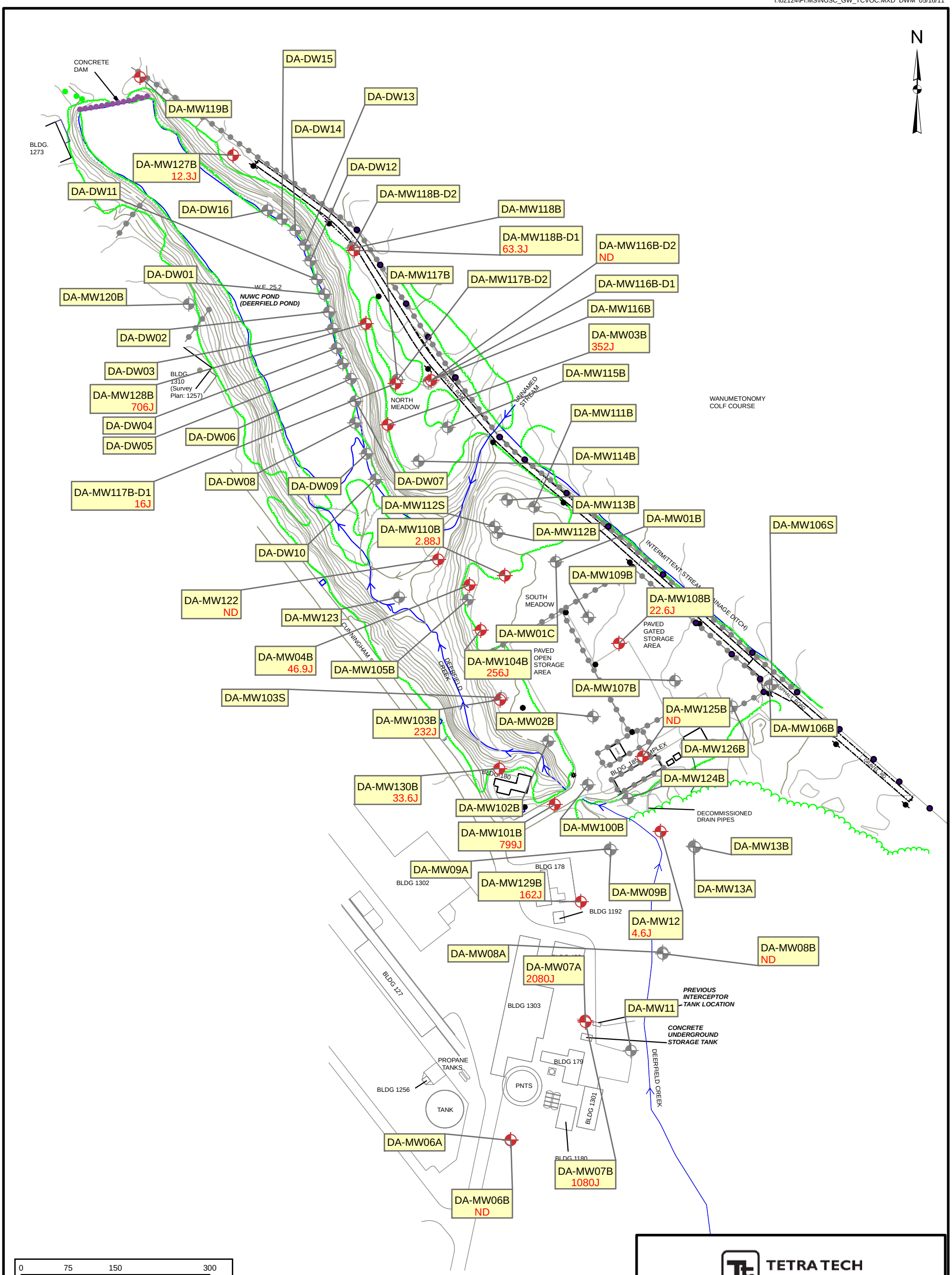

Legend

Monitoring Well Sampled March 2011

Monitoring Well

162J = Total CVOCs (µg/L)
ND = Non-Detect

TETRA TECH

GROUNDWATER TOTAL CVOCs - MARCH 2011
NUSC NEWPORT
MIDDLETOWN, RHODE ISLAND

FILE	SCALE
\..\NUSC_GW_TCVOC.MXD	AS NOTED

FIGURE NUMBER	REV	DATE
FIGURE NO. 1	0	05/16/11

TABLES

TABLE 1
GROUNDWATER SAMPLING MATRIX
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

MONITORING WELLS	ANALYSES		COMMENTS
	VOC	MNA	
North Meadow Area			
MW03B	Y	---	already have 2 rounds MNA sampling; sampled for VOC trends only
MW116B-D2	Y	Y	upgradient side of plume
MW117B-D1	Y	Y	shallower well in couplet selected due to higher VOC levels
MW118B-D1	Y	Y	shallower well in couplet selected due to higher VOC levels
MW119B	---	---	unable to locate this downgradient well (buried or destroyed)
MW127B	Y	Y	USEPA & RIDEM requested MNA analysis
MW128B	Y	Y	USEPA & RIDEM requested MNA analysis
Building 185/South Meadow Area			
MW04B	Y	Y	
MW103B	Y	Y	USEPA requested MNA analysis
MW104B	Y	Y	
MW108B	Y	Y	east edge of plume
MW110B	Y	Y	downgradient edge of plume
MW122	Y	Y	
MW125B	Y	Y	
Building 179 Area			
MW06B	Y	Y	extra VOC sample collected at this upgradient well
MW07A	Y	Y	RIDEM requested MNA analysis
MW07B	Y	Y	RIDEM requested MNA analysis
MW08B	Y	Y	additional side-gradient well requested by RIDEM
MW12	Y	Y	USEPA requested MNA analysis; side gradient well
MW101B	Y	Y	RIDEM requested MNA analysis
MW129B	Y	Y	RIDEM requested MNA analysis
MW130B	Y	Y	no previous MNA data collected
Total samples	**21**	**20**	

VOC = volatile organic compounds
MNA = monitored natural attenuation (various parameters)

TABLE 2
GROUNDWATER SAMPLING STABILIZATION RECORDS
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

Well ID	Sample Date	Depth Sampled	Water Depth Below MP (ft)	Temp (^{o}C)	Spec. Cond. (mS/cm)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Reducing conditions?
Groundwater Sampling - 2011										
MW-03B	3/17/2011	23	21.90	10.80	0.351	6.14	216.5	2.67	5.70	N
MW-04B	3/14/2011	30	17.10	9.10	0.348	6.93	195.6	0.55	3.13	N
MW-6B	3/16/2011	30.4	15.02	10.30	0.433	9.33	174.5	0.43	111	N
MW-7A	3/15/2011	7.5	7.00	7.20	0.352	6.30	111.7	0.30	3.19	N
MW-7B	3/15/2011	23.7	6.40	7.50	1.059	7.56	-17.4	0.43	26.6	intermediate
MW-8B	3/18/2011	12.1	5.80	8.10	0.277	7.88	-201.5	0.19	63.0	Y
MW-12	3/17/2011	5.5	3.97	8.35	0.199	5.76	235.0	3.70	3.77	N
MW-101B	3/15/2011	45	12.52	9.60	0.646	7.48	150.4	0.68	0.75	N
MW-103B*	3/16/2011	21	16.96	9.90	0.467	7.24	-80.0	0.34	37.9	Y
MW-103B	3/18/2011	35	16.60	10.80	0.443	6.99	-79.1	0.22	170.0	Y
MW-104B	3/14/2011	20	14.24	8.2	0.409	7.10	-58.1	0.34	47.9	Y
MW-108B	3/17/2011	16	5.14	11.60	0.429	7.22	-159.8	0.30	78.10	Y
MW-110B	3/14/2011	47	12.77	8.90	0.373	6.90	-88.3	0.65	26.6	Y
MW-116B-D2	3/17/2011	37	7.20	10.50	0.248	6.51	-4.0	4.12	3.30	intermediate
MW-117B-D1	3/17/2011	25	21.00	12.10	0.108	5.61	230.0	7.90	1.05	N
MW-118B-D1	3/16/2011	32	24.20	10.40	0.208	6.10	162.1	0.80	2.08	N
MW-122	3/17/2011	4.1	4.31	9.60	0.316	6.23	103.6	0.62	3.20	N
MW-125B	3/15/2011	31	5.20	8.60	0.619	6.59	-73.3	0.56	8.08	Y
MW-127B	3/16/2011	41	20.80	9.20	0.384	6.54	86.0	1.40	7.18	N
MW-128B	3/18/2011	40	22.80	10.20	0.314	6.53	158.9	2.98	0.63	N
MW-129B	3/15/2011	13.5	4.20	9.30	0.489	6.17	70.0	0.61	43.9	N
MW-130B	3/15/2011	23	6.30	11.60	1.090	6.35	97.9	4.65	9.98	N
Groundwater Sampling - 2010										
MW-03B	6/28/2010	25	23.70	22.41	0.265	6.21	203.4	2.91	3.00	N
MW-04B	6/30/2010	30	18.69	16.74	0.345	7.00	-2.4	1.31	4.45	intermediate
MW-6A	6/23/2010	10.8	DRY	17.73	0.153	6.37	-43.0	0.65	111	intermediate
MW-6B	6/17/2010	30.4	11.00	16.25	0.429	9.27	144.7	9.12	156	N
MW-7A	6/23/2010	7.4	6.75	19.56	0.443	6.06	-60.0	0.88	2.68	Y
MW-7B	6/22/2010	23.7	6.47	17.83	0.247	7.65	-176.8	0.31	139	Y
MW-8A	6/29/2010	6.6	7.45	20.63	0.370	6.20	-29.6	4.68	24.2	intermediate
MW-8B	6/22/2010	12.1	6.20	15.27	0.271	7.32	-188.0	0.43	66.2	Y
MW-9B	6/29/2010	18	11.72	22.14	0.614	7.26	-304.2	0.75	17.7	Y
MW-11	6/29/2010	10.9	DRY	19.68	0.587	6.12	34.2	1.83	11.60	N
MW-12	6/30/2010	5.3	3.95	19.72	0.227	5.46	113.0	1.18	1.62	N
MW-13B	6/30/2010	18	4.35	13.38	0.331	7.81	-214.3	0.24	65.40	Y
MW-101B	6/23/2010	45	12.35	19.09	0.605	7.33	69.1	1.09	48.6	N
MW-103B	7/1/2010	34.9	17.95	12.38	0.452	6.97	-202.9	0.48	147	Y
MW-104B	6/18/2010	32.5	15.50	14.92	0.344	6.77	-34.9	0.71	52.7	intermediate
MW-105B	6/28/2010	35	18.45	13.90	0.337	6.60	-14.4	0.61	9.37	intermediate
MW-116-D1	8/6/2010	25	9.51	17.40	0.218	5.98	-3.5	1.03	4.64	intermediate
MW-116B-D2	8/6/2010	35	9.80	15.71	0.228	6.41	-20.7	0.30	0.15	intermediate
MW-117B-D1	8/11/2010	25	22.90	14.39	0.201	7.95	-30.0	0.27	0.00	intermediate
MW-117B-D2	8/11/2010	34	23.18	14.02	0.248	6.07	-20.3	0.25	1.74	intermediate
MW-118-D1	8/10/2010	32	27.07	15.90	0.283	6.08	44.8	1.56	29.9	N
MW-118-D2	8/10/2010	42	26.40	14.98	0.195	6.16	68.7	0.37	0.00	N
MW-122	6/30/2010	5.82	4.30	16.09	0.329	6.18	-32.1	0.60	0.00	intermediate
MW-124B	8/11/2010	45	6.00	MW	0.542	6.44	-75.1	0.40	7.86	Y
MW-127B	8/10/2010	41	22.84	13.60	0.390	6.44	-33.1	0.50	5.37	intermediate
MW-128B	8/9/2010	40	24.65	13.38	0.348	6.29	34.8	0.20	3.10	N
MW-129B	8/10/2010	13.5	5.20	15.56	0.651	6.63	35.7	0.25	0.00	N
MW-130B	8/9/2010	23	7.20	18.22	0.918	6.41	78.3	2.69	20.1	N
Groundwater Sampling - 2008 (discrete interval sampling)										
MW-109B	5/8/2008	19.0-24.0	11.16	14.27	0.652	7.27	-205.8	0.43	35	Y
MW-109B	5/8/2008	30.0-35.0	8.80	6.96	0.337	6.96	-68.2	0.48	120	Y
MW-109B	5/8/2008	36.0-41.0	9.37	14.17	0.342	7.06	-91.2	0.48	120	Y
MW-114B	5/5/2008	29.0-34.0	21.46	13.63	0.478	6.37	19.4	0.85	7	N
MW-114B	5/5/2008	34.0-39.0	21.64	13.16	0.373	6.50	-35	1.94	65	intermediate
MW-114B	5/5/2008	53.0-61.0	23.20	15.41	0.350	6.14	26.4	2.29	80	N
MW-115B	5/7/2008	19.0-24.0	4.90	11.96	0.423	7.09	-182.5	0.12	160	Y

TABLE 2
GROUNDWATER SAMPLING STABILIZATION RECORDS
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

Well ID	Sample Date	Depth Sampled	Water Depth Below MP (ft)	Temp (^{o}C)	Spec. Cond. (mS/cm)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Reducing conditions?
MW-115B	5/7/2008	26.0-31.0	4.68	13.63	0.427	7.01	-172.2	0.33	160	Y
MW-124B	8/1/2008	10.0-20.0	3.42	25.81	0.884	7.69	-381.8	0.28	90	Y
MW-124B	8/4/2008	35.0-45.0	7.32	15.87	0.698	6.49	-110.8	0.88	100	Y
MW-125B	7/31/2008	26.0-36.0	10.41	17.55	0.463	7.15	-170.5	0.32	30	Y
MW-125B	8/1/2008	36.0-43.0	11.80	15.39	0.419	7.19	270	0.15	190	N
MW-126B	7/30/2008	22.0-27.0	7.26	19.38	0.282	7.44	-179.2	0.45	95	Y
MW-126B	7/30/2008	42.0-46.0	7.01	19.91	0.244	7.44	-199.8	0.40	150	Y
MW-126B	7/30/2008	50.0-55.0	7.54	16.42	0.229	7.44	-181.9	6.77	35	intermediate
Groundwater Sampling - 2008										
MW-100B	9/18/2008	30.21	9.29	17.45	0.497	7.24	-133.2	0.30	1.4	Y
MW-101B	5/30/2008	45.22	12.94	13.64	0.921	6.76	367	0.34	160	N
MW-101B	7/31/2008	45.2	14.73	16.15	0.501	7.11	274.9	0.22	5	N
MW-102B	5/27/2008	14.25	12.34	16.24	0.732	6.79	-56.8	0.67	25	Y
MW-102B	8/1/2008	16.25	16.35	14.70	0.388	6.12	-41.4	0.15	5	intermediate
MW-103B	5/23/2008	32.9	14.66	11.37	0.571	6.50	-60.1	0.33	5.8	Y
MW-103S	5/26/2008	14.89	14.39	14.86	1.433	7.01	-178.2	0.13	>1100	Y
MW-104B	5/20/2008	17.99	14.39	10.97	0.519	6.85	-90.1	0.30	65	Y
MW-105B	5/20/2008	43.07	16.65	10.45	0.509	6.99	35.1	0.34	0	N
MW-106B	5/21/2008	35.08	0.53	12.74	0.554	7.11	336.8	0.27	40	N
MW-106S	5/21/2008	14.52	2.15	11.95	0.378	6.15	49	1.96	23	N
MW-107B	6/4/2008	22.43	4.74	15.49	0.589	7.03	-113.6	0.21	16	Y
MW-108B	6/3/2008	N/R	7.68	17.84	0.658	7.21	-242.9	PE	22	Y
MW-109B	6/2/2008	27.45	7.58	18.32	0.644	6.81	-141.9	0.32	14	Y
MW-110B	5/19/2008	45.07	11.85	12.12	0.516	6.84	-202	0.19	30	Y
MW-111B	5/16/2008	40.74	11.64	10.50	0.312	5.98	11.3	1.75	21	N
MW-112B	5/16/2008	44.84	11.34	11.76	0.468	6.92	-20.1	0.54	0	intermediate
MW-112S	5/19/2008	13.45	11.68	10.10	0.351	6.06	129.6	0.20	130	N
MW-113B	5/16/2008	27.09	10.97	10.62	0.397	6.44	-15.7	0.35	107.6	intermediate
MW-114B	5/16/2008	58.45	19.41	9.96	0.216	6.19	114.7	2.78	2.2	N
MW-115B	5/15/2008	27.83	3.54	12.41	0.418	6.76	-129.6	0.34	21	Y
MW-116B	5/15/2008	34.87	5.99	11.88	0.364	6.43	-113.3	0.29	3.6	Y
MW-117B	5/15/2008	23	21.31	12.07	0.337	6.58	-58.4	0.37	0	Y
MW-118B	5/15/2008	31.09	24.19	12.32	0.276	6.29	156.8	0.38	4.6	N
MW-119B	5/14/2008	29.9	13.61	13.81	0.734	6.78	-172.1	0.42	0	Y
MW-120B	5/14/2008	53.63	19.73	13.61	0.767	6.08	-17.6	0.62	3.6	intermediate
MW-123	6/3/2008	4.34	2.54	20.82	0.956	6.47	349.6	2.26	3.2	N
MW-122	6/4/2008	4.15	1.36	13.20	0.486	6.29	156.8	0.77	4.9	N
MW-07A	5/28/2008	7.98	6.82	16.94	1.620	7.05	-185.2	PE	4.3	Y
MW-02B	5/27/2008	28.24	5.96	16.02	0.406	6.35	-79.9	2.15	4.5	intermediate
MW-03B	5/22/2008	17.81	20.42	11.01	0.403	6.72	188.2	3.56	2.6	N
MW-04B	5/23/2008	28.12	16.22	14.63	0.527	6.85	427.4	0.15	3.1	N
MW-07B	5/29/2008	24.29	7.5	13.11	0.676	7.58	-216	0.11	120	Y
MW-09B	5/28/2008	N/R	4.14	19.10	0.929	7.41	-50.3	1.48	170	intermediate
MW-13A	8/4/2008	1.31	0.35	19.42	0.223	4.76	598	0.82	4.7	N

Notes:
1. N/R = Not Recorded on Field Form
2. PE = Probe Error
3. ft = feet
4. mS/cm = millisiemens per centimeter
5. mV = millivolts
6. mg/L = milligrams per Liter
7. NTU = nephelometric turbidity units

* MW-103B was resampled on 3/18/11

Wells were noted as having “intermediate” reducing conditions if a negative ORP and/or low DO was present, but not at the preferred levels (i.e., ORP less than 50 mV and DO less than 0.5 mg/L).

TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR MARCH 2011
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

SAMPLE ID	EPA RSL TAP	RI GA OBJ	MCL	DA-GW-MW03B-031711	DA-GW-MW04B-031411	DA-GW-MW06B-031611-AVG	DA-GW-MW07A-031511	DA-GW-MW07B-031511-AVG	DA-GW-MW08B-031811	DA-GW-MW12-031711	DA-GW-MW101B-031511	DA-GW-MW103B-031811	DA-GW-MW104B-031411	DA-GW-MW108B-031711	DA-GW-MW110B-031411-AVG	DA-GW-MW116B-D2-031711
LOCATION ID				DA-MW03B	DA-MW04B	DA-MW06B	DA-MW07A	DA-MW07B	DA-MW08B	DA-MW12	DA-MW101B	DA-MW103B	DA-MW104B	DA-MW108B	DA-MW110B	DA-MW116B
SAMPLE DATE				03/17/11	03/14/11	03/16/11	03/15/11	03/15/11	03/18/11	03/17/11	03/15/11	03/18/11	03/14/11	03/17/11	03/14/11	03/17/11
SCREEN TOP DEPTH				4.0	15.0	25.0	0.0	18.0	6.5	0.0	10.0	20.0	19.0	15.0	19.0	10.0
SCREEN BOTTOM DEPTH				24.0	45.0	35.6	10.0	28.0	16.8	4.0	50.0	50.0	42.0	45.0	49.0	40.0
WELL DEPTH				24	45	35.6	10	28.72	16.09	4	50	50	42	45	49	40
SACODE				NORMAL	NORMAL	AVG	NORMAL	AVG	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	AVG	NORMAL
QC TYPE				NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
FIELD (UG/L)																
FERROUS IRON				0	90	770	910	250	640	0	10	1320	1680	2240	1260	1500
VOLATILES (UG/L)																
1,1,1,2-TETRACHLOROETHANE	0.52			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,1,1-TRICHLOROETHANE	9100	200	200	4.4	0.5 U	0.5 U	180	***450***	0.5 U	0.5 U	76	7.6	6.5	0.5 UJ	0.5 U	0.5 U
1,1,2,2-TETRACHLOROETHANE	0.067			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,1,2-TRICHLOROETHANE	0.24	5	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,1-DICHLOROETHANE	2.4			1.9	41	0.5 U	570	590	0.5 U	0.5 U	540	180	210	0.5 UJ	1.2	0.5 U
1,1-DICHLOROETHENE	340	7	7	0.5 U	2.4	0.5 U	***14***	***26.5***	0.5 U	0.5 U	***67***	***11***	***16***	0.5 UJ	0.5 U	0.5 U
1,1-DICHLOROPROPENE				0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,2,3-TRICHLOROBENZENE	29			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,2,3-TRICHLOROPROPANE	0.00072			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,2,4-TRICHLOROBENZENE	2.3	70	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,2,4-TRIMETHYLBENZENE	15			0.5 U	0.5 U	0.5 U	0.36 J	1.02 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	0.00032	0.2	0.2	0.75 UJ	0.75 UJ	0.75 U	0.75 UJ	0.75 U	0.75 UJ	0.75 UJ	0.75 UJ	0.75 UJ	0.75 UJ	0.75 UJ	0.75 UJ	0.75 UJ
1,2-DIBROMOETHANE	0.0065	0.05		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,2-DICHLOROBENZENE	370	600	600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,2-DICHLOROETHANE	0.15	5	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,2-DICHLOROPROPANE	0.39	5	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,3,5-TRIMETHYLBENZENE	370			0.5 U	0.5 U	0.5 U	0.5 U	0.255 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,3-DICHLOROBENZENE		600		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,3-DICHLOROPROPANE	730			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
1,4-DICHLOROBENZENE	0.43	75	75	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
2,2-DICHLOROPROPANE				0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
2-BUTANONE	7100			2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 U
2-CHLOROTOLUENE	730			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
2-HEXANONE	47			2.5 UJ	2.5 U	2.5 U	2.5 U	2.5 U	2.5 UJ	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 UJ
4-CHLOROTOLUENE	2600			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
4-ISOPROPYLTOLUENE				0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
4-METHYL-2-PENTANONE	2000			2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 U
ACETONE	22000			2.5 U	2.5 U	2.5 U	28	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 U
BENZENE	0.41	5	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
BROMOBENZENE	88			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
BROMOCHLOROMETHANE				0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U

Dark Shading - Exceeds RSL; Bold/Italic - Exceeds MCL or RI GA OBJ; Light Shading - Detected; U - Not Detected;
J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR MARCH 2011
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

SAMPLE ID	EPA RSL TAP	RI GA OBJ	MCL	DA-GW-MW03B-031711	DA-GW-MW04B-031411	DA-GW-MW06B-031611-AVG	DA-GW-MW07A-031511	DA-GW-MW07B-031511-AVG	DA-GW-MW08B-031811	DA-GW-MW12-031711	DA-GW-MW101B-031511	DA-GW-MW103B-031811	DA-GW-MW104B-031411	DA-GW-MW108B-031711	DA-GW-MW110B-031411-AVG	DA-GW-MW116B-D2-031711
LOCATION ID				DA-MW03B	DA-MW04B	DA-MW06B	DA-MW07A	DA-MW07B	DA-MW08B	DA-MW12	DA-MW101B	DA-MW103B	DA-MW104B	DA-MW108B	DA-MW110B	DA-MW116B
SAMPLE DATE				03/17/11	03/14/11	03/16/11	03/15/11	03/15/11	03/18/11	03/17/11	03/15/11	03/18/11	03/14/11	03/17/11	03/14/11	03/17/11
SCREEN TOP DEPTH				4.0	15.0	25.0	0.0	18.0	6.5	0.0	10.0	20.0	19.0	15.0	19.0	10.0
SCREEN BOTTOM DEPTH				24.0	45.0	35.6	10.0	28.0	16.8	4.0	50.0	50.0	42.0	45.0	49.0	40.0
WELL DEPTH				24	45	35.6	10	28.72	16.09	4	50	50	42	45	49	40
SACODE				NORMAL	NORMAL	AVG	NORMAL	AVG	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	AVG	NORMAL
QC TYPE				NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
BROMODICHLOROMETHANE	0.12			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
BROMOFORM	8.5			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
BROMOMETHANE	8.7			1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U
BTEX				0.562 U	0.562 U	0.562 U	0.33 J	1.04 J	0.562 U	0.562 U	0.562 U	0.562 U	0.562 U	0.562 UJ	0.562 U	0.562 U
CARBON DISULFIDE	1000			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.32 J	0.5 U
CARBON TETRACHLORIDE	0.44	5	5	***5.2***	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
CHLOROBENZENE	91	100	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
CHLORODIBROMOMETHANE	0.15			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
CHLOROETHANE	21000			1 U	1 UJ	1 UJ	1300	6.1	1 U	1 U	110 J	1 U	4.6 J	1 UJ	1 UJ	1 U
CHLOROFORM	0.19			2.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
CHLOROMETHANE	190			1 UJ	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 UJ	1 U	1 UJ	1 U	1 UJ
CIS-1,2-DICHLOROETHENE	73	70	70	0.5 U	1.4	0.5 U	4.8	0.5 U	0.5 U	0.5 U	0.41 J	18	8.3	8 J	0.59 J	0.5 U
CIS-1,3-DICHLOROPROPENE	0.43			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
DIBROMOMETHANE	8.2			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
DICHLORODIFLUOROMETHANE	390			1 UJ	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 UJ	1 U	1 UJ	1 U	1 UJ
ETHYLBENZENE	1.5	700	700	0.5 U	0.5 U	0.5 U	0.5 U	0.35 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
HEXACHLOROBUTADIENE	0.86			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
ISOPROPYLBENZENE	680			0.5 U	0.5 U	0.5 U	0.99 J	0.275 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
M+P-XYLENES				1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U
METHYL TERT-BUTYL ETHER	12	40		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
METHYLENE CHLORIDE	4.8	5	5	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 U
N-BUTYLBENZENE				0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
N-PROPYLBENZENE	1300			0.5 U	0.5 U	0.5 U	0.5 U	0.43 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
O-XYLENE	1200			0.5 U	0.5 U	0.5 U	0.33 J	0.38 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
SEC-BUTYLBENZENE				0.5 U	0.5 U	0.5 U	0.49 J	0.32 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
STYRENE	1600	100	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
TERT-BUTYLBENZENE				0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
TETRACHLOROETHENE	0.11	5	5	0.5 U	1.2	0.5 U	***12***	1.05	0.5 U	4.6	0.5 U	0.5 U	3.7	***8.8 J***	0.515 J	0.5 U
TOLUENE	2300	1000	1000	0.5 U	0.5 U	0.5 U	0.5 U	0.315 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
TOTAL 1,2-DICHLOROETHENE	330			0.5 U	1.4	0.5 U	4.8	0.5 U	0.5 U	0.5 U	0.41 J	18	8.3	8 J	0.59 J	0.5 U
TOTAL CHLORINATED ETHENES				340	5.88 J	0.6 U	34.9	30.6 J	0.6 U	4.6	72.7 J	44.4	35 J	22.6 J	1.68 J	0.6 U
TOTAL CHLORINATED VOCS				352 J	46.9 J	0.602 UJ	2080 J	1080 J	0.602 UJ	4.6 J	799 J	232 J	256 J	22.6 J	2.88 J	0.602 UJ
TOTAL XYLENES	200	10000	10000	0.75 U	0.75 U	0.75 U	0.33 J	0.38 J	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 UJ	0.75 U	0.75 U
TRANS-1,2-DICHLOROETHENE	110	100	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U

Dark Shading - Exceeds RSL; Bold/Italic - Exceeds MCL or RI GA OBJ; Light Shading - Detected; U - Not Detected;
J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR MARCH 2011
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

SAMPLE ID	EPA RSL TAP	RI GA OBJ	MCL	DA-GW-MW03B-031711	DA-GW-MW04B-031411	DA-GW-MW06B-031611-AVG	DA-GW-MW07A-031511	DA-GW-MW07B-031511-AVG	DA-GW-MW08B-031811	DA-GW-MW12-031711	DA-GW-MW101B-031511	DA-GW-MW103B-031811	DA-GW-MW104B-031411	DA-GW-MW108B-031711	DA-GW-MW110B-031411-AVG	DA-GW-MW116B-D2-031711
LOCATION ID				DA-MW03B	DA-MW04B	DA-MW06B	DA-MW07A	DA-MW07B	DA-MW08B	DA-MW12	DA-MW101B	DA-MW103B	DA-MW104B	DA-MW108B	DA-MW110B	DA-MW116B
SAMPLE DATE				03/17/11	03/14/11	03/16/11	03/15/11	03/15/11	03/18/11	03/17/11	03/15/11	03/18/11	03/14/11	03/17/11	03/14/11	03/17/11
SCREEN TOP DEPTH				4.0	15.0	25.0	0.0	18.0	6.5	0.0	10.0	20.0	19.0	15.0	19.0	10.0
SCREEN BOTTOM DEPTH				24.0	45.0	35.6	10.0	28.0	16.8	4.0	50.0	50.0	42.0	45.0	49.0	40.0
WELL DEPTH				24	45	35.6	10	28.72	16.09	4	50	50	42	45	49	40
SACODE				NORMAL	NORMAL	AVG	NORMAL	AVG	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	AVG	NORMAL
QC TYPE				NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
TRANS-1,3-DICHLOROPROPENE				0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U
TRICHLOROETHENE	2	5	5	***340***	0.88 J	0.5 U	4.1	1.95	0.5 U	0.5 U	3.8	***13***	***6.1***	***5.8 J***	0.57 J	0.5 U
TRICHLOROFLUOROMETHANE	1300			1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U
VINYL CHLORIDE	0.016	2	2	1 U	1 U	1 U	1 U	1.05 J	1 U	1 U	1.5 J	***2.4***	0.86 J	1 UJ	1 U	1 U
VOLATILE GASES (UG/L)																
ETHANE				NA	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
ETHENE				NA	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
METHANE				NA	11	2.25 J	360	16.5	52	2 J	250	120	28	120	10.5	1.1 J
MISCELLANEOUS PARAMETERS (MG/L)																
AMMONIA-N				NA	0.05 U	0.05 U	2.6	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.036 J	0.05 U	0.05 U
CHLORIDE				NA	18	78	20	240	9.8	15	74	36	30	19	16.5	16
NITRATE-N				NA	0.021 J	0.025 U	0.04 J	0.025 U	0.025 U	2.8	0.025 U	0.025 U	0.028 J	0.025 U	0.025 U	0.025 U
NITRITE-N				NA	0.025 U	0.025 U	0.0097 J	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
ORTHOPHOSPHATE-P				NA	0.067	0.025 U	0.025 U	0.0375 U	0.025 U	0.034 J	0.025 U	0.025 U	0.025 U	0.025 U	0.0205 J	0.025 J
SULFATE				NA	28	44	8.3	7.45	15	20	13	8.4	15	21	31	28
SULFIDE				NA	0.8 U	0.8 U	0.8 U	0.615 J	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
TOTAL ORGANIC CARBON				NA	0.35 J	0.615 J	6.2	1.5	0.29 J	0.5 J	0.61 J	0.7 J	0.53 J	0.82 J	0.47 J	0.34 J

Dark Shading - Exceeds RSL; Bold/Italic - Exceeds MCL or RI GA OBJ; Light Shading - Detected; U - Not Detected;
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TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR MARCH 2011
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

SAMPLE ID	EPA RSL TAP	RI GA OBJ	MCL	DA-GW-MW117B-D1-031711	DA-GW-MW118B-D1-031611	DA-GW-MW122-031711	DA-GW-MW125B-031511	DA-GW-MW127B-031611	DA-GW-MW128B-031811	DA-GW-MW129B-031511	DA-GW-MW130B-031511
LOCATION ID				DA-MW117B	DA-MW118B	DA-MW122	DA-MW125B	DA-MW127B	DA-MW128B	DA-MW129B	DA-MW130B
SAMPLE DATE				03/17/11	03/16/11	03/17/11	03/15/11	03/16/11	03/18/11	03/15/11	03/15/11
SCREEN TOP DEPTH				10.0	18.0	0.0	10.0	36.0	35.0	8.0	10.5
SCREEN BOTTOM DEPTH				40.0	49.0	5.0	50.5	46.0	45.0	58.0	60.5
WELL DEPTH				40	49	5	50.5	46	45	58	60.5
SACODE				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
QC TYPE				NM	NM	NM	NM	NM	NM	NM	NM
FIELD (UG/L)											
FERROUS IRON				0	280	220	1100	890	0	600	130
VOLATILES (UG/L)											
1,1,1,2-TETRACHLOROETHANE	0.52			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-TRICHLOROETHANE	9100	200	200	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50	17
1,1,2,2-TETRACHLOROETHANE	0.067			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-TRICHLOROETHANE	0.24	5	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-DICHLOROETHANE	2.4			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50	14
1,1-DICHLOROETHENE	340	7	7	0.5 U	0.39 J	0.5 U	0.5 U	0.5 U	***7.4***	2.8	1.8
1,1-DICHLOROPROPENE				0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-TRICHLOROBENZENE	29			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-TRICHLOROPROPANE	0.00072			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-TRICHLOROBENZENE	2.3	70	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-TRIMETHYLBENZENE	15			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.23 J	0.5 U
1,2-DIBROMO-3-CHLOROPROPANE	0.00032	0.2	0.2	0.75 UJ	0.75 U	0.75 UJ	0.75 UJ	0.75 U	0.75 UJ	0.75 U	0.75 UJ
1,2-DIBROMOETHANE	0.0065	0.05		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-DICHLOROBENZENE	370	600	600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-DICHLOROETHANE	0.15	5	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-DICHLOROPROPANE	0.39	5	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-TRIMETHYLBENZENE	370			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-DICHLOROBENZENE		600		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-DICHLOROPROPANE	730			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-DICHLOROBENZENE	0.43	75	75	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-DICHLOROPROPANE				0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-BUTANONE	7100			2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2-CHLOROTOLUENE	730			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-HEXANONE	47			2.5 UJ	2.5 U	2.5 UJ	2.5 U	2.5 U	2.5 UJ	2.5 U	2.5 U
4-CHLOROTOLUENE	2600			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-ISOPROPYLTOLUENE				0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-METHYL-2-PENTANONE	2000			2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
ACETONE	22000			2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
BENZENE	0.41	5	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
BROMOBENZENE	88			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
BROMOCHLOROMETHANE				0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Dark Shading - Exceeds RSL; Bold/Italic - Exceeds MCL or RI GA OBJ; Light Shading - Detected; U - Not Detected;
J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR MARCH 2011
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

SAMPLE ID	EPA RSL TAP	RI GA OBJ	MCL	DA-GW-MW117B-D1-031711	DA-GW-MW118B-D1-031611	DA-GW-MW122-031711	DA-GW-MW125B-031511	DA-GW-MW127B-031611	DA-GW-MW128B-031811	DA-GW-MW129B-031511	DA-GW-MW130B-031511
LOCATION ID				DA-MW117B	DA-MW118B	DA-MW122	DA-MW125B	DA-MW127B	DA-MW128B	DA-MW129B	DA-MW130B
SAMPLE DATE				03/17/11	03/16/11	03/17/11	03/15/11	03/16/11	03/18/11	03/15/11	03/15/11
SCREEN TOP DEPTH				10.0	18.0	0.0	10.0	36.0	35.0	8.0	10.5
SCREEN BOTTOM DEPTH				40.0	49.0	5.0	50.5	46.0	45.0	58.0	60.5
WELL DEPTH				40	49	5	50.5	46	45	58	60.5
SACODE				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
QC TYPE				NM	NM	NM	NM	NM	NM	NM	NM
BROMODICHLOROMETHANE	0.12			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
BROMOFORM	8.5			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
BROMOMETHANE	8.7			1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
BTEX				0.562 U	0.562 U	0.562 U	0.562 U	0.562 U	0.562 U	0.562 U	0.562 U
CARBON DISULFIDE	1000			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CARBON TETRACHLORIDE	0.44	5	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CHLOROBENZENE	91	100	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CHLORODIBROMOMETHANE	0.15			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
CHLOROETHANE	21000			1 U	1 UJ	1 U	1 UJ	1 UJ	1 U	57 J	1 UJ
CHLOROFORM	0.19			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.36 J
CHLOROMETHANE	190			1 UJ	1 U	1 UJ	1 U	1 U	1 UJ	1 U	1 U
CIS-1,2-DICHLOROETHENE	73	70	70	0.5 U	0.93 J	0.5 U	0.5 U	0.26 J	16	0.36 J	0.5 U
CIS-1,3-DICHLOROPROPENE	0.43			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DIBROMOMETHANE	8.2			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
DICHLORODIFLUOROMETHANE	390			1 UJ	1 U	1 UJ	1 U	1 U	1 UJ	1 U	1 U
ETHYLBENZENE	1.5	700	700	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
HEXACHLOROBUTADIENE	0.86			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ISOPROPYLBENZENE	680			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
M+P-XYLENES				1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
METHYL TERT-BUTYL ETHER	12	40		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
METHYLENE CHLORIDE	4.8	5	5	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
N-BUTYLBENZENE				0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
N-PROPYLBENZENE	1300			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
O-XYLENE	1200			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
SEC-BUTYLBENZENE				0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.22 J	0.5 U
STYRENE	1600	100	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TERT-BUTYLBENZENE				0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TETRACHLOROETHENE	0.11	5	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TOLUENE	2300	1000	1000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TOTAL 1,2-DICHLOROETHENE	330			0.5 U	0.93 J	0.5 U	0.5 U	0.26 J	18.6	0.36 J	0.5 U
TOTAL CHLORINATED ETHENES				16	63.3 J	0.6 U	0.6 U	12.3 J	706	5.46 J	2.58 J
TOTAL CHLORINATED VOCS				16 J	63.3 J	0.602 UJ	0.602 UJ	12.3 J	706 J	162 J	33.6 J
TOTAL XYLENES	200	10000	10000	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
TRANS-1,2-DICHLOROETHENE	110	100	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.6	0.5 U	0.5 U

Dark Shading - Exceeds RSL; Bold/Italic - Exceeds MCL or RI GA OBJ; Light Shading - Detected; U - Not Detected;
J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

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GROUNDWATER ANALYTICAL RESULTS FOR MARCH 2011
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

SAMPLE ID	EPA RSL TAP	RI GA OBJ	MCL	DA-GW-MW117B-D1-031711	DA-GW-MW118B-D1-031611	DA-GW-MW122-031711	DA-GW-MW125B-031511	DA-GW-MW127B-031611	DA-GW-MW128B-031811	DA-GW-MW129B-031511	DA-GW-MW130B-031511
LOCATION ID				DA-MW117B	DA-MW118B	DA-MW122	DA-MW125B	DA-MW127B	DA-MW128B	DA-MW129B	DA-MW130B
SAMPLE DATE				03/17/11	03/16/11	03/17/11	03/15/11	03/16/11	03/18/11	03/15/11	03/15/11
SCREEN TOP DEPTH				10.0	18.0	0.0	10.0	36.0	35.0	8.0	10.5
SCREEN BOTTOM DEPTH				40.0	49.0	5.0	50.5	46.0	45.0	58.0	60.5
WELL DEPTH				40	49	5	50.5	46	45	58	60.5
SACODE				NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL
QC TYPE				NM	NM	NM	NM	NM	NM	NM	NM
TRANS-1,3-DICHLOROPROPENE				0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TRICHLOROETHENE	2	5	5	***16***	***62***	0.5 U	0.5 U	***12***	***680***	2.3	0.78 J
TRICHLOROFLUOROMETHANE	1300			1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VINYL CHLORIDE	0.016	2	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VOLATILE GASES (UG/L)											
ETHANE				2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
ETHENE				2 U	2 U	2 U	2 U	1.8 J	0.84 J	2 U	2 U
METHANE				0.7 J	1.4 J	45	15	2.3 J	0.85 J	70	3.5 J
MISCELLANEOUS PARAMETERS (MG/L)											
AMMONIA-N				0.05 U	0.05 U	0.05 U	1	0.05 U	0.05 U	0.05 U	0.05 U
CHLORIDE				12	16	19	84	36	33	82	210
NITRATE-N				0.44	0.025 U	0.44	0.025 U	1	0.025 U	0.68	3
NITRITE-N				0.025 U	0.025 U	0.025 U	0.014 J	0.025 U	0.025 U	0.025 U	0.025 U
ORTHOPHOSPHATE-P				0.027 J	0.02 J	0.025 U	0.025 U	0.035 J	0.025 U	0.025 U	0.029 J
SULFATE				13	17	22	11	34	22	8.4	18
SULFIDE				0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	1.9
TOTAL ORGANIC CARBON				0.32 J	0.18 J	2	2.1	0.64 J	0.27 J	1.2	1.2

Dark Shading - Exceeds RSL; Bold/Italic - Exceeds MCL or RI GA OBJ; Light Shading - Detected; U - Not Detected;
J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

ATTACHMENT A

FIELD FORMS

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: TETRA TECH
Contact: JIM ROPP
Phone #: (978) 474-8449
Fax #: (978) 474-8499

Address: 250 ANDOVER ST SUITE 200
City: WILMINGTON
State: MA
Zip Code: 01887

Purchase Order #: NUSC DISPOSAL AREA
Proj. Name / No.: CTO 19
Katahdin Quote #:

Bill (if different than above): ACCTS PAYABLE
Address: T+NUS Pittsburgh

Sampler (Print / Sign): M. Aroom
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:

SHIPPING INFO: ❒ FED EX ❒ UPS ❒ CLIENT
AIRBILL NO:
TEMP°C ❒ TEMP BLANK ❒ INTACT ❒ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	VOC Filt. ❒Y ❒N	MEE Filt. ❒Y ❒N	TOC Filt. ❒Y ❒N	AMMONIA Filt. ❒Y ❒N	NITRATE, NITRITE SULPHATE, PHOS CHL. Filt. ❒Y ❒N	SULFIDE Filt. ❒Y ❒N	Filt. ❒Y ❒N	Filt. ❒Y ❒N	Filt. ❒Y ❒N	Filt. ❒Y ❒N
	DA-GW-MW04B-031411	3/14/11 / 15:55	GW	8	3	2	2	1	1	1				
	DA-GW-MW104B-031411	3/14/11 / 16:20	↓	8	3	2	2	1	1	1				
*	DA-GW-MW110B-031411	3/14/11 / 15:45	↓	8	3	2	2	1	1	1	DUP01			
	DA-GW-DUP01-031411	3/14/11 / —	↓	8	3	2	2	1	1	1	←			
	DA-GW-TB01-031411	3/14/11 / 0700	GW	3	3									
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		/												
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		/												
		/												
		/												

COMMENTS: DUP01 from MW110B on 3/14/11

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
M. Aroom	3/14/11 18:30				
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

CUSTOMER COPY

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: TETRA TECH | Contact: JIM ROPP | Phone #: (978)474-8449 | Fax #: (978)474-849

Address: 250 ANDOVER ST SUITE 200 | City: WILMINGTON | State: MA | Zip Code: 01887

Purchase Order #: NUSC DISPOSAL AREA | Proj. Name / No.: CTO 19 | Katahdin Quote #:

Bill (if different than above): ACCOUNTS PAYABLE | Address: TINUS Pittsburgh

Sampler (Print / Sign): M. Hroy | Copies To: Lucy Guzman

LAB USE ONLY WORK ORDER #:

KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	VOC (Filt. ☐Y ☐N)	MEE (Filt. ☐Y ☐N)	TOC (Filt. ☐Y ☐N)	AMMONIA (Filt. ☐Y ☐N)	NITRATE, NITRATE, SULPHATE, Phos, Chl (Filt. ☐Y ☐N)	SULFIDE (Filt. ☐Y ☐N)	(Filt. ☐Y ☐N)	(Filt. ☐Y ☐N)	(Filt. ☐Y ☐N)	(Filt. ☐Y ☐N)
	DA-GW-MW130B-031511	3/15/11 / 13:05	GW	10	3	2	2	1	1	1				
	DA-GW-MW101B-031511	/ 12:30		10	3	2	2	1	1	1				
	DA-GW-MW129B-031511	/ 16:25		10	3	2	2	1	1	1	resampled on 3/16/11			
	DA-GW-MW07A-031511	/ 15:35		10	3	2	2	1	1	1				
	DA-GW-MW125B-031511	/ 19:05		10	3	2	2	1	1	1				
	DA-GW-MW07B-031511	/ 20:20		10	3	2	2	1	1	1				
	DA-GW-DUP02-031511	/		10	3	2	2	1	1	1				
	DA-GW-TB02-031511	/ 0700	LW	2										
		/												
		/												
		/												
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		/												
		/												

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	3-16-11 / 1100				
Relinquished By: (Signature)	**Date / Time**	**Received By: (Signature)**	**Relinquished By: (Signature)**	**Date / Time**	**Received By: (Signature)**

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

CUSTOMER COPY

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: TETRA TECH
Contact: JIM ROPP
Phone #: (978) 474-8449
Fax #: (978) 474 849

Address: 250 ANDOVER ST. SUITE 200
City: WILMINGTON
State: MA
Zip Code: 01887

Purchase Order #: NUSC DISPOSAL AREA
Proj. Name / No.: CTO 19
Katahdin Quote #:

Bill (if different than above): ACCOUNTS PAYABLE
Address: TINUS Pittsburgh

Sampler (Print / Sign): M. Abrol
Copies To: LUCY GUZMAN

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ❒ FED EX ❒ UPS ❒ CLIENT
AIRBILL NO:
TEMP°C ❒ TEMP BLANK ❒ INTACT ❒ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	VOC (Filt. ❒Y ❒N)	MEE (Filt. ❒Y ❒N)	TOC (Filt. ❒Y ❒N)	AMMONIA (Filt. ❒Y ❒N)	NITRATE, NITRITE, SULFATE, PHOS, CHL. (Filt. ❒Y ❒N)	SULFIDE (Filt. ❒Y ❒N)	(Filt. ❒Y ❒N)	(Filt. ❒Y ❒N)	(Filt. ❒Y ❒N)	(Filt. ❒Y ❒N)
	DA-GW-MW127B-031611	3/16/11 / 15:03	GW	10	3	2	2	1	1	1				
	DA-GW-MW118B-DI-031611	/ 17:16		10	3	2	2	1	1	1				
	DA-GW-MW06B-031611	/ 16:10		10	3	2	2	1	1	1	DUP03			
	DA-GW-MW103B-031611	/ 14:25		3	3						resampled on 3/18/11			
	DA-GW-DUP03-031611	/		10	3	2	2	1	1	1	DA-GW-MW06B-031611			
	DA-GW-TB03-031611	/ 0700	LW	2										
	DA-GW-MW129B-031511	3/15/11 / 16:20	GW	7	3	2	2							
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		/												
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COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

CUSTOMER COPY

Katahdin ANALYTICAL SERVICES
600 Technology Way
Scarborough, ME 04074
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Client: TETRA TECH
Contact: JIM ROPP
Phone #: (978)474-8449
Fax #: (978)474-849

Address: 250 ANDOVER ST. SUITE 200
City: WILMINGTON
State: MA
Zip Code: 01887

Purchase Order #: NUSC DISPOSAL AREA
Proj. Name / No.: CTO 19
Katahdin Quote #:

Bill (if different than above): ACCOUNTS PAYABLE
Address: TENUS Pittsburgh

Sampler (Print / Sign): M. Aroy
Copies To: LUCY GUZMAN

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT NUMBER
REMARKS:

SHIPPING INFO: ❒ FED EX ❒ UPS ❒ CLIENT
AIRBILL NO:
TEMP°C ❒ TEMP BLANK ❒ INTACT ❒ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	VOC (Filt. ❒Y ❒N)	MEE (Filt. ❒Y ❒N)	TOC (Filt. ❒Y ❒N)	AMMONIA (Filt. ❒Y ❒N)	NITRATE, NITRITE SULFATE PHOS. CHL (Filt. ❒Y ❒N)	SULFIDE (Filt. ❒Y ❒N)	(Filt. ❒Y ❒N)	(Filt. ❒Y ❒N)	(Filt. ❒Y ❒N)	(Filt. ❒Y ❒I)
	DA-GW-MW12-031711	3/17/11/1300	GW	10	3	2	2	1	1	1				
	DA-GW-MW122-031711	/1040		10	3	2	2	1	1	1				
	DA-GW-MW108B-031711	/1400		30	9	6	6	3	3	3				
	DA-GW-MW116B-D2-031711	/1257		10	3	2	2	1	1	1				
	DA-GW-MW117B-D1-031711	/1455		10	3	2	2	1	1	1				
	DA-GW-MW03B-031711	/1800		3	3									
	DA-GW-TB04-031711	/0700		2	2									
		/												
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COMMENTS: DA-GW-MW108B-031711 IS TO BE RUN AS A LAB QC SAMPLE (MS/MSD)

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
M. Aroy	3/18/11 0900				
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

CUSTOMER COPY

Katahdin ANALYTICAL SERVICES
600 Technology Way
P.O. Box 540
Scarborough, ME 04070
Tel: (207) 874-2400
Fax: (207) 775-4029

Chain of Custody

Client: Tetra Tech NUS | Contact: Jim Ropp | Phone #: 978.474.8449 ( ) | Fax #: 978.474.8499 ( )

Address: 250 Andover St. Suite 200 | City: Wilmington | State:MA | Zip Code:01887

Purchase Order #: CTO 19 | Proj. Name/No.: NUSC Disposal Area | Katahdin Quote #:

Bill (if different than above): Accounts Payable | Address: Pittsburgh PA

Sampler (Print/Sign): Michael Abrar / M. Abrar | Copies To: Lucy Guzman

LAB USE ONLY
Work Order #: SE1336
Katahdin Project Number
Remarks:
Shipping Info: FEDEX UPS CLIENT
Airbill No:
Temp C Temp Blank Intact Not Intact

Analysis and Container Type Preservatives

*	Sample Description	Date/Time Collected	Matrix	No. of Containers	VOC (Filt. Y/N)	MEE (Filt. Y/N)	TOC (Filt. Y/N)	Ammonia (Filt. Y/N)	Sulfide (Filt. Y/N)	Nitrate, Nitrite, Sulfate, Phosphate, Chloride (Filt. Y/N)	(Filt. Y/N)	(Filt. Y/N)	(Filt. Y/N)	(Filt. Y/N)
	DA-GW-MW103B-031811	3/18/2011 11:40	GW	10	3	2	2	1	1	1				
	DA-GW-MW08B-031811	3/18/2011 13:35	GW	10	3	2	2	1	1	1				
MA 3/18/11	~~DA-GW-MW228-031811~~ ~~DA-GW-MW128-031811~~	3/18/2011 10:40	GW	10	3	2	2	1	1	1				
	DA-GW-RB01-031811	3/18/2011 14:30	GW	10	3	2	2	1	1	1				
	DA-GW-TB01-031811	3/18/2011 0700	~~GW~~ MA LW 3/18/11	2	2	~~2~~ MA	~~2~~ 3/18/11	~~1~~	~~1~~	~~1~~				

COMMENTS:

Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:
M. Abrar	3/18/11 17:00	Fed Ex	Fed Ex	03/19/11 09:15	A Brewer
Relinquished By:	Date/Time	Received By:	Relinquished By:	Date/Time	Received By:

The terms and conditions on the following page hereof shall govern services, except when a signed contractual agreement exists.

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW03B-031711

Tetra Tech NUS Charge No. 112G02124
QC: None (If applicable)

Sample Method: Peristaltic Pump
Depth Sampled: 23.0 Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/17/11 1800 hours NA /Dup
Sampler(s): Walt Payon
Data Recorded By: Walt Payon Signature: [signature]
Notes:

H&S Survey Meter 0.0 PPM Field Instrument Group ~~A/B/C/D~~ Blue
Pre-pump insertion WL 21.90 ft Post - pump insertion WL 21.90 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOCs					

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
~~1650~~	21.90	—	—	—	—	—	—	—	—	—	Initial
1715	21.90	1100	300	—	11.0	287.5	6.24	203.7	3.92	50.0	Slightly
1720	21.90	1100	120	—	11.0	300.0	6.16	206.7	3.49	27.2	↓
1725	21.90	1100	120	—	10.80	315.0	6.14	209.7	3.17	18.0	↓
1730	21.90	1100	120	—	10.80	329.0	6.13	211.5	2.89	8.90	Clear
1735	21.90	1100	120	—	10.80	335.5	6.13	212.9	2.89	5.56	
1740	21.90	1100	120	—	10.80	343.1	6.13	214.0	2.78	5.96	
1745	21.90	1100	120	—	10.80	349.6	6.14	215.2	2.64	5.60	
1750	21.90	1100	120	—	10.80	358.9	6.14	216.2	2.71	5.70	
1755	21.90	1100	120		10.90	351.0	6.14	216.5	2.67		

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: MW04B - 031411

Tetra Tech NUS Charge No. 112G02124
QC: NONE (If applicable)

Sample Method: Micro Bladder Pump
Depth Sampled: 30.0 Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/14/11 1552 hours NA /Dup
Sampler(s): Walt Pryor
Data Recorded By: Walt Pryor Signature: [illegible]
Notes:

H&S Survey Meter 0.0 PPM Field Instrument Group ~~A/B/C/D~~ Black
Pre-pump insertion WL 16.85 ft Post - pump insertion WL 17.26 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOCs		Ammonia		Sulfate	
MEE		Nitrate		Ortho/Chloride	
TOC		Nitrite		Sulfide	

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1409	16.85	—	—	—	—	—	—	—	—	—	Initial
1417	16.99	—	50	—	8.90	352	6.69	223.6	3.85	253	Cloudy
1422	17.10	—	50	—	9.10	347	6.75	223.3	2.66	226	
1427	17.10	—	50	—	9.50	345	6.80	218.5	1.77	666	
1432	17.10	—	50	—	9.40	347	6.84	216.0	1.86	>999	
1437	17.10	—	50	—	9.50	347	6.86	214.2	1.42	>999	
1442	17.10	—	50	—	9.00	347	6.89	212.7	1.73	>999	
1447	17.10	—	50	—	8.90	346	6.90	211.7	1.51	>999	
1452	17.10	—	50	—	9.40	347	6.89	209.6	1.02	529	
1457	17.10	—	50	—	9.00	347	6.90	207.9	0.94	446	
1502	17.10	—	50	—	9.40	345	6.91	205.4	0.77	593	
1512	17.10	—	50	—	9.30	345	6.92	200.0	0.76	89.3	Slightly
1522	17.10	—	50	—	9.40	348	6.93	197.3	0.66	5.84	Clear
1532	17.10	—	50	—	9.30	349	6.92	195.0	0.51	6.10	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: MW04B - 03MIII

Tetra Tech NUS Charge No. 112G02124
QC: None (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1537	17.10	—	50	—	9.10	348	6.93	194.0	0.55	3.14	Clear
1542	17.10	—	50	—	9.10	348	6.93	194.3	0.56	3.10	
1547	17.10	—	50	2.0 gal	9.10	348	6.93	195.6	0.55	3.13	
	← Well parameters stabilize →										
	← Sampling Begins →										

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW06B-031611

Tetra Tech NUS Charge No. 112G02124
QC: DA-GW-DUP08-031611 (If applicable)

Sample Method: low-flow bladder
Depth Sampled: 30.4 Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/16/11 16:10 hours 16:15 /Dup
Sampler(s): M. Alroy
Data Recorded By: M. Alroy Signature: M. Alroy
Notes:

H&S Survey Meter 0.0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 9.52 ft Post - pump insertion WL 9.3 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOC		NITRATE		SULFATE	
TOC		NITRITE		SULFIDE	
MEE		AMMONIA		CHLORIDE	

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
14:05	9.3		100	–	9.8	463.9	8.06	175.1	3.54	168	
14:10	9.62		"	0.5	9.9	442.9	8.38	174.6	1.79	141	
14:15	9.97		"	1.0	9.8	434.5	8.74	175.2	1.23	117	
14:20	10.29		"	1.5	9.8	434.7	8.88	175.5	1.03	129	
14:25	10.42		"	2.0	9.8	433.4	8.99	175.6	0.87	184	
14:30	10.72		"	2.5	9.8	433.4	9.06	175.6	0.83	126	
14:35	11.00		"	3.0	9.9	433.9	9.10	175.9	0.78	137	
14:40	11.31		"	3.5	9.9	433.3	9.13	175.8	0.72	141	
14:45	11.56		"	4.0	10.0	433.1	9.15	175.7	0.69	158	
14:50	11.67		"	4.5	10.1	433.3	9.18	175.5	0.65	162	
14:55	11.85		"	5.0	10.2	433.6	9.20	175.4	0.62	167	
15:00	12.11		"	5.5	10.1	433.7	9.22	175.4	0.57	157	
15:05	12.41		"	6.0	10.3	432.4	9.23	175.2	0.53	136	
15:10	12.61		"	6.5	10.3	433.1	9.25	175.1	0.54	128	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW06B-031611

Tetra Tech NUS Charge No. 112G02124
QC: DA-GW-DUP03-031611 (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
15:15	12.95		100	7.0	10.4	433.0	9.26	174.8	0.51	127	
15:20	13.15		"	7.5	10.3	433.1	9.27	175.0	0.51	123	
15:25	13.42		"	8.0	10.1	433.8	9.28	175.3	0.50	120	
15:30	13.56		"	8.5	9.9	433.5	9.30	175.6	0.50	117	
15:35	13.88		"	9.0	10.1	433.2	9.31	175.2	0.49	114	
15:40	14.06		"	9.5	10.1	433.0	9.31	175.1	0.47	111	
15:45	14.31		"	10.0	10.2	432.2	9.32	174.8	0.45	115	
15:50	14.48		"	10.5	10.2	432.7	9.33	174.8	0.43	109	
15:55	14.81		"	11.0	10.2	433.0	9.33	174.8	0.43	103.9	
16:00	14.92		"	11.5	10.2	433.0	9.33	174.6	0.43	100.5	
16:05	15.02		"	12.0	10.3	432.9	9.33	174.5	0.43	111	
				~~12.5~~							
				MA							
				3/16/11							

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW07A-0315M

Tetra Tech NUS Charge No. 112G02124
QC: _____ (If applicable)

Sample Method: LOW FLOW BLADDER
Depth Sampled: 7.5' Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/15/11 15:35 hours _____ /Dup
Sampler(s): M. Alroy
Data Recorded By: M. Alroy Signature: M. Alroy
Notes: IF SAMPLED IN SUMMER NEEDS TO BE DONE WITH PERISTALTIC PUMP

H&S Survey Meter 0.0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 5.43 ft Post - pump insertion WL _____ ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOC					
TOC					
MEG					

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
14:50	5.51		100	–	7.9	260.1	7.11	156.2	1.87	102.1	
14:55	5.87		"	0.5	7.3	274.5	6.43	156.1	0.97	48.4	
15:00	6.17		"	1.0	7.1	321.3	6.34	152.2	0.57	41.2	
15:05	6.30		"	1.5	7.1	353.4	6.35	140.4	0.53	24.2	
15:10	6.50		"	2.0	7.2	345.9	6.36	132.7	0.42	24.5	
15:15	6.57		"	2.5	7.2	345.6	6.34	126.5	0.38	21.5	
15:20	6.70		"	3.0	7.2	346.5	6.31	120.8	0.33	11.7	
15:25	6.81		"	3.5	7.3	347.7	6.30	116.7	0.31	6.53	
15:30	7.0		"	4.0	7.2	352.3	6.30	111.7	0.30	3.19	
15:35											

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW078-031511

Tetra Tech NUS Charge No. 112G02124
QC: _____ (If applicable)

Sample Method: LOW-FLOW BLADDER
Depth Sampled: 23.7' Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/15/11 20:20 hours _____ /Dup
Sampler(s): M. Alcay
Data Recorded By: M. Alcay Signature: M. Alcay
Notes:

H&S Survey Meter _____ PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 5.94 ft Post - pump insertion WL 5.78 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOC					
TOC					
MEE					

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
18:15	5.78		100	—	7.7	1076	6.73	85.2	2.76	268	
18:20	6.18		"	0.5	7.9	1127	7.20	80.8	1.43	256	
18:25	6.26		"	1.0	7.8	1126	7.37	78.0	1.03	231	
18:30	6.28		"	1.5	7.8	1127	7.53	68.8	0.95	169	
18:35	6.28		"	2.0	7.7	1126	7.59	61.2	1.09	131	
18:40	6.28		"	2.5	7.5	1128	7.68	49.7	1.43	114	
18:45	6.31		"	3.0	7.5	1127	7.73	38.1	1.31	74.1	
18:50	6.33		"	3.5	7.5	1124	7.76	27.0	1.17	67.9	
18:55	6.33		"	4.0	7.5	1122	7.78	16.8	1.13	66.4	
19:00	6.34		"	4.5	7.6	1121	7.79	11.8	0.91	64.9	
19:05	6.34		"	5.0	7.5	1120	7.80	3.3	0.71	66.6	
19:10	6.34		"	5.5	7.5	1116	7.79	-1.8	0.65	62.5	
19:15	6.34		"	6.0	7.5	1114	7.74	-2.9	0.63	57.7	
19:20	6.34		"	6.5	7.5	1111	7.71	-7.6	0.59	52.7	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC DISPOSAL AREA
Sample ID: DA-GW-MW07B-031511

Tetra Tech NUS Charge No. 112G02124
QC: _____ (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
19:25	6.35	~	100	7.0	7.6	1096	7.73	-11.9	0.55	46.8	
19:30	6.36		"	7.5	7.4	1090	7.69	-12.8	0.54	45.2	
19:35	6.37		"	8.0	7.5	1089	7.69	-13.4	0.53	43.5	
19:40	6.37		"	8.5	7.5	1086	7.66	-14.0	0.52	41.0	
19:45	6.37		"	9.0	7.5	1083	7.65	-14.6	0.51	40.1	
19:50	6.38		"	9.5	7.4	1078	7.64	-15.3	0.51	38.9	
19:55	6.38		"	10.0	7.5	1073	7.62	-15.9	0.48	36.6	
20:00	6.39		"	10.5	7.5	1071	7.61	-16.4	0.48	33.7	
20:05	6.39		"	11.0	7.5	1067	7.59	-16.7	0.46	30.1	
20:10	6.39		"	11.5	7.5	1062	7.57	-16.9	0.45	28.5	
20:15	6.40		"	12.0	7.5	1059	7.56	-17.4	0.43	26.6	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW08B-031811

Tetra Tech NUS Charge No. 112G02124
QC: None (If applicable)

Sample Method: Bladder Pump
Depth Sampled: 12.10 Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/18/11 1338 hours NA /Dup
Sampler(s): Walt Payson
Data Recorded By: Walt Payson Signature: WaPx
Notes: Overcast 48° Light Wind

H&S Survey Meter 0.0 PPM Field Instrument Group ~~A/B/C/D~~ Blue
Pre-pump insertion WL 5.10 ft Post - pump insertion WL _____ ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOCs		Ammonia		Nitrate	
MEE		Sulfide		Sulfate	
TOC		Nitrite		Phos/Chloride	

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1142	5.10	—	—	—	—	—	—	—	—	—	Initial
1143	5.30	—	300	—	7.20	275.2	7.79	-131.3	0.43	284	Cloudy
1148	5.70	—	300	—	7.58	274.2	7.93	-183.2	0.39	242	
1153	5.80	—	200	—	8.00	274.6	7.92	-194.7	0.38	227	
1158	5.80	—	200	—	8.10	274.8	7.92	-198.8	0.35	236	
1203	5.80	—	200	—	8.20	274.9	7.92	-201.2	0.32	232	
1208	5.80	—	200	—	8.30	275.1	7.93	-200.7	0.31	209	
1213	5.80	—	200	—	8.30	274.9	7.94	-205.5	0.28	194	
1218	5.80	—	200	—	8.40	274.8	7.94	-207.1	0.28	160	
1228	5.80	—	200	—	8.60	274.8	7.93	-208.0	0.25	135	
1238	5.80	—	200	—	8.60	274.9	7.92	-209.1	0.23	119	
1248	5.80	—	200	—	8.40	275.4	7.91	-209.3	0.22	100	
1258	5.80	—	200	—	8.30	275.7	7.91	-208.3	0.22	88.3	Slighty
1308	5.80	—	200	—	8.10	276.2	7.90	-207.0	0.22	79.3	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NNSC Disposal Area
Sample ID: DA-GW-MW08B-031811

Tetra Tech NUS Charge No. 112G02124
QC: None (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1318	5.80	—	200	—	8.10	276.7	7.87	-205.3	0.20	73.2	Slighty
1323	5.80	—	↓	—	8.10	276.6	7.85	-204.2	0.19	63.0	
1328	5.80	—	↓	—	8.10	276.9	7.84	-202.2	0.19	61.0	
1333	5.80	—	↓	6.5 gallons	8.10	276.9	7.88	-201.5	0.19	63.0	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Well parameters stabilize
Sampling Begins

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW12-031711

Tetra Tech NUS Charge No. 112G02124
QC: _____ (If applicable)

Sample Method: low-flow, peristaltic
Depth Sampled: 5.5 Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/17/11 1300 hours _____ /Dup
Sampler(s): L. Anderson
Data Recorded By: L. Anderson Signature: L Anderson
Notes:

H&S Survey Meter 0.0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL — ft Post - pump insertion WL 3.88 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP * ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1145	3.88										
1150	4.01		180								
1155	3.96		110								
1200	3.96		110		9.30	208	6.13	222.8	4.37	6.86	
1205	3.97		120		8.40	203	5.83	244.6	4.45	7.46	
1220	3.96		100		8.54	198	5.74	222.7	4.49	2.73	
1225	3.96		120	~1 gal	8.49	198	5.72	235.5	4.08	3.96	
1235	3.96		120		8.31	198	5.74	220.3	3.89	4.13	
1240	3.95		100		8.28	198	5.76	225.0	3.80	4.27	
1245	3.97		140	~2 gal	8.35	199	5.76	235.0	3.70	3.77	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

*depth measured from top of casing which is ~~approx~~ 0.45 ft above top of PVC (surveyed point) LKA 3/17/11

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW101B-031511

Tetra Tech NUS Charge No. 112G02124
QC: _____ (If applicable)

Sample Method: LOW FLOW BLADDER
Depth Sampled: 45' Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/15/11 12:30 hours _____ /Dup
Sampler(s): M. Alroy
Data Recorded By: M. Alroy Signature: M Alroy
Notes:

H&S Survey Meter 0.0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 11.2 ft Post - pump insertion WL 10.98 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOC					
TOC					
MEE					

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
11:30	10.98		100	—	9.0	645.3	7.58	149.6	6.84	13.3	
11:35	11.40		"	0.5L	9.7	645.0	7.45	149.0	2.86	10.37	
11:40	11.56		"	1.0L	9.4	645.7	7.45	149.7	2.13	7.37	
11:45	11.72		"	1.5	9.7	645.7	7.45	149.7	1.64	4.99	
11:50	11.87		"	2.0	9.7	647.2	7.46	150.2	1.36	3.60	
11:55	12.0		"	2.5	9.5	645.8	7.47	150.7	1.16	2.66	
12:00	12.1		"	3.0	9.6	645.4	7.47	150.7	1.00	2.44	
12:05	12.25		"	3.5	9.6	644.6	7.48	150.7	0.90	1.67	
12:10	13.34		"	4.0							
12:15	12.4		"	4.5	9.6	644.6	7.48	150.7	0.75	1.53	
12:20	12.45		"	5.0	9.5	646.8	7.48	150.7	0.73	2.08	
12:25	12.52		"	5.5	9.6	645.6	7.48	150.4	0.68	0.75	
12:30				6.0							

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW103B-031611

Tetra Tech NUS Charge No. 112G02124
QC: _____ (If applicable)

Sample Method: LOW FLOW BLADDER
Depth Sampled: 21' Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/16/11 _____ hours _____ /Dup
Sampler(s): M. Alroy
Data Recorded By: M. Alroy Signature: M. Alroy
Notes:

H&S Survey Meter 0.0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 15.66 ft Post - pump insertion WL 15.45 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOC					

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
17:20	15.45		100	–	9.5	759.1	8.07	-14.7	2.30	114	
17:25	16.07		"	0.5	9.8	469.1	7.56	-38.8	0.93	107.9	
17:30	16.27		"	1.0	9.7	468.5	7.43	-49.6	0.81	103.2	
17:35	16.40		"	1.5	9.8	468.2	7.37	-56.8	0.70	95.3	
17:40	16.51		"	2.0	9.7	468.8	7.34	-61.7	0.66	89.5	
17:45	16.66		"	2.5	9.9	468.4	7.31	-67.0	0.58	83.1	
17:50	16.78		"	3.0	10.0	468.4	7.30	-71.0	0.51	81.4	
17:55	16.86		"	3.5	10.0	468.5	7.29	-74.5	0.49	76.4	
18:00	16.91		"	4.0	9.9	469.2	7.28	-77.4	0.50	72.4	
18:05	16.96		"	4.5	9.9	468.9	7.28	-79.5	0.47	73.2	
18:10	16.99		"	5.0	10.0	468.4	7.27	-80.6	0.44	66.6	
18:15	16.99		"	5.5	9.9	468.4	7.27	-81.5	0.43	64.1	
18:20	17.00		"	6.0	9.9	468.4	7.27	-82.7	0.42	62.9	
18:25	16.91		"	6.5	9.3	468.8	7.26	-82.2	0.55	58.8	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW103R-031611

Tetra Tech NUS Charge No. 112G02124
QC: _____ (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
18:30	16.82		100	7.0	9.5	468.2	7.26	-82.1	0.53	58.8	
18:35	16.80		"	7.5	9.4	468.3	7.25	-82.1	0.53	57.1	
18:40	16.84		"	8.0	9.9	467.9	7.25	-82.6	0.40	53.1	
18:45	16.86		"	8.5	9.8	467.6	7.24	-82.7	0.39	51.3	
18:50	16.88		"	9.0	9.9	467.0	7.24	-82.4	0.38	51.1	
18:55	16.90		"	9.5	9.9	467.2	7.23	-82.6	0.37	48.5	
19:00	16.91		"	10.0	9.9	467.2	7.23	-82.6	0.35	46.8	
19:05	16.93		"	10.5	9.9	466.7	7.24	-82.0	0.35	44.9	
19:10	16.93		"	11.0	9.9	466.9	7.24	-81.9	0.35	42.3	
19:15	16.95		"	11.5	9.9	466.7	7.23	-81.1	0.35	40.0	
19:20	16.96		"	12.0	9.9	467.1	7.24	-80.0	0.34	37.9	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW103B-031811

Tetra Tech NUS Charge No. 112G02124
QC: —— (If applicable)

Sample Method: low-flow, rental bladder
Depth Sampled: 35 Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/18/11 1140 hours —— /Dup
Sampler(s): L. Anderson
Data Recorded By: L. Anderson Signature: L. Anderson
Notes:

H&S Survey Meter 0.0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL _____ ft Post - pump insertion WL 15.49 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0925	15.49	10/5									reddish orange water
0930	15.65	↓	100								colorless
0945	16.27	↓	110		10.5	443.8	6.64	-53.3	0.47	583	~~clear~~ water
0955	16.38	10/4	80		10.3	444.2	6.81	-63.7	0.43	231	
1050	16.52	↓	70		10.8	443.8	6.97	-72.8	0.26	221	light orange color
1100	16.54	10/5	90		10.6	444.1	6.98	-74.4	0.29	192	
1110	16.58	↓	100		10.7	443.9	6.99	-77.0	0.23	175	
1115	16.60	↓	100		10.8	443.6	6.99	-76.8	0.22	175	
1120	16.60	↓	100		10.8	443.8	6.99	-77.8	0.22	167	
1125	16.60	↓	100		10.8	443.4	6.99	-79.1	0.22	170	↓

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

MW1048
Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW1048-031411

Tetra Tech NUS Charge No. 112G02124
QC: _____ (If applicable)

Sample Method: BLADDER PUMP
Depth Sampled: 20' Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/11/14 16:20 hours _____ /Dup
Sampler(s): M. Alroy
Data Recorded By: M. Alroy Signature: M. Alroy
Notes:

H&S Survey Meter 0.0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 13.66 ft Post - pump insertion WL 13.51 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOC		NITRATE		PHOSPHORUS	
TOC		NITRITE		CHLORIDE	
AMMONIA		SULPHATE		SULFIDE	

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
14:15	13.81		100	—	8.9	410.4	6.81	122.9	0.47	173	
14:20	13.90		"	500 ml	8.3	410.8	6.95	77.2	0.50	168	
14:25	13.96		"	1.0 L	8.2	410.5	7.03	23.0	0.51	159	
14:30	14.01		"	1.5	8.2	410.4	7.07	7.9	0.49	159	
14:35	14.04		"	2.0	8.3	409.8	7.10	-6.9	0.49	138	
14:40	14.12		"	2.5	8.2	409.9	7.12	-16.5	0.46	138	
14:45	14.09		"	3.0	8.3	409.8	7.12	-24.6	0.45	111	
14:50	14.10		"	3.5	8.3	409.4	7.13	-29.1	0.45	110	
14:55	14.13		"	4.0	8.3	409.6	7.12	-32.7	0.41	95.7	
15:00	14.14		"	4.5	8.2	409.5	7.13	-37.9	0.41	87.6	
15:05	14.15		"	5.0	8.3	409.4	7.13	-41.4	0.41	97.2	
15:10	14.15		"	5.5	8.2	409.5	7.13	-43.7	0.40	94.0	
15:15	14.18		"	6.0	8.2	409.2	7.13	-46.3	0.39	84.8	
15:20	14.18		"	6.5	8.2	408.9	7.12	-49.3	0.38	73.9	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC DISPOSAL AREA MW1048
Sample ID:

Tetra Tech NUS Charge No.
QC: (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
15:25	14.2		100	7.0	8.2	408.7	7.12	-51.8	0.39	71.9	
15:30	14.2		"	7.5	8.2	409.0	7.12	-52.6	0.37	69.7	
15:35	14.2		"	8.0	8.1	409.0	7.12	-53.9	0.38	67.0	
15:40	14.2		"	8.5	8.0	409.0	7.12	-54.9	0.35	63.0	
15:45	14.21		"	9.0	8.0	409.0	7.11	-55.5	0.35	57.8	
15:50	14.21		"	9.5	8.1	408.4	7.11	-56.0	0.36	57.7	
15:55	14.22		"	10.0	8.3	408.0	7.11	-56.6	0.35	53.2	
16:00	14.23		"	10.5	8.2	408.8	7.11	-56.9	0.34	51.5	
16:05	14.23		"	11.0	8.1	409.1	7.10	-57.4	0.34	50.8	
16:10	14.23		"	11.5	8.2	408.1	7.10	-57.6	0.35	48.1	
16:15	14.24		"	12.0	8.2	408.6	7.10	-58.1	0.34	47.9	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW108B-031711

Tetra Tech NUS Charge No. 112G02124
QC: MS/MSD LAB QC SAMPLE COLLECTED @ THIS LOCATION (If applicable)

Sample Method: LOW FLOW BLADDER
Depth Sampled: 16' Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/17/11 14:00 hours _____ /Dup
Sampler(s): M. Alroy
Data Recorded By: M. Alroy Signature: M. Alroy
Notes:

H&S Survey Meter 0.0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL 4.72 ft Post - pump insertion WL 4.53 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOC	NITRATE	SULFIDE	CHLORIDE		
TOC	NITRITE	Ammonia			
MEE	SULFATE	Phosphate			

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
11:55	4.85		100	—	12	429.8	6.93	116.4	1.09	120	
12:00	4.94		"	0.5	11.5	424.8	6.86	33.0	0.43	122	
12:05	5.04		"	1.0	11.3	427.8	7.00	-48.4	0.48	113	
12:10	5.05		"	1.5	11.0	426.9	7.07	-92.0	0.39	115	
12:15	5.07		"	2.0	10.9	427.5	7.10	-108.4	0.38	135	
12:20	5.07		"	2.5	11.0	427.4	7.12	-120.4	0.41	139	
12:25	5.09		"	3.0	11.1	427.6	7.15	-128.8	0.40	152	
12:30	5.09		"	3.5	11.3	426.9	7.16	-136.5	0.39	150	
12:35	5.10		"	4.0	11.2	428.3	7.17	-140.9	0.38	154	
12:40	5.11		"	4.5	11.1	428.8	7.18	-145.1	0.38	146	
12:45	5.15		"	5.0	11.2	428.3	7.19	-149.7	0.37	139	
12:50	5.16		"	5.5	11.2	428.6	7.20	-153.2	0.35	133	
12:55	5.17		"	6.0	11.1	428.9	7.20	-154.5	0.39	127	
13:00	5.19		"	6.5	11.5	427.2	7.21	-155.7	0.38	120	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC DISPOSAL AREA
Sample ID: DA-GW-MW108B-031711

Tetra Tech NUS Charge No. 112G02124
QC: MS/MSD LAB QC SAMPLE (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
13:05	5.18		100	7.0	11.4	428.6	7.21	-155.5	0.40	111	
13:10	5.17		"	7.5	11.6	427.9	7.21	-155.5	0.39	110	
13:15	5.16		"	8.0	11.7	428.3	7.21	-155.3	0.38	107	
13:20	5.14		"	8.5	11.7	428.4	7.21	-154.8	0.40	104.3	
13:25	5.14		"	9.0	11.6	429.1	7.21	-155.1	0.40	101	
13:30	5.14		"	9.5	11.7	428.1	7.21	-155.6	0.39	95.	
13:35	5.12		"	10.0	11.8	428.5	7.21	-155.2	0.38	87.4	
13:40	5.13		"	10.5	11.7	428.7	7.21	-156.1	0.36	84.5	
13:45	5.14		"	11.0	11.5	429.0	7.21	-157.8	0.34	82.1	
13:50	5.13		"	11.5	11.4	429.0	7.22	-159.4	0.32	79.9	
13:55	5.14		"	12.0	11.6	428.7	7.22	-159.8	0.30	78.1	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: MW110B

Tetra Tech NUS Charge No. 112G02124
QC: _____ (If applicable)

Sample Method: low-flow (bladder pump)
Depth Sampled: 47 Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/14/11 1545 hours _____ Dup
Sampler(s): L. Anderson
Data Recorded By: L. Anderson Signature: L. Anderson
Notes:

H&S Survey Meter 0.0 PPM Field Instrument Group A/B/C/D blue
Pre-pump insertion WL _____ ft Post - pump insertion WL 12.27 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1325	12.27										
1330	12.46	10/5	100		9.3	432.1	6.90	~~432.1~~	5.80	46.5	ORP = -75.2
1340	12.52	10/4	75		9.1	390.0	6.95	~~390.0~~	3.68	40.4	ORP = -83.8
1345	12.54	10/3.5	50		8.9	388.3	6.94	~~388.3~~	2.62	41.6	ORP = -85.6
1355	12.60	10/5	80		9.2	384.0	6.98	-88.0	1.57	41.4	
1405	12.62	↓	80		9.5	382.5	6.96	-89.5	1.23	35.4	
1415	12.65		80		9.3	380.5	6.98	-91.3	1.07	44.8	
1425	12.68		80		9.4	379.9	6.96	-93.6	0.88	43.9	
1435	12.70		80		9.3	377.9	6.95	-95.3	0.76	55.2	
1445	12.72		80		9.2	375.2	6.91	-89.3	0.76	35.4	
1455	12.74		75		9.2	374.0	6.91	-88.8	0.75	33.9	
1500	12.75		80		9.2	374.1	6.90	-88.2	0.74	27.0	
1505	12.75		80		9.0	373.4	6.91	-87.8	0.74	27.7	
1510	12.75	↓	80		9.2	373.9	6.90	-87.3	0.73	28.1	
					3%	3%	±0.1	±10	10%		

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: mw110B

Tetra Tech NUS Charge No. _____
QC: _____ (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1515	12.76	10/5	80		9.0	374.3	6.90	-87.7	0.69	40.7	
~~1510~~ 1520	12.77	↓	80		9.2	373.4	6.90	-88.6	0.66	29.4	
1525	12.77	↓	80		9.0	373.4	6.91	-88.9	0.66	25.3	
1530	12.77	↓	80	~2.5 gal	8.9	373.3	6.90	-88.3	0.65	26.6	
				end purge, 2 hour purge limit reached							

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW116B-D2 - 031711

Tetra Tech NUS Charge No. 112G02124
QC: none (If applicable)

Sample Method: Micro Bladder Pump
Depth Sampled: 37.0 Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/17/11 1257 hours NA /Dup
Sampler(s): Walt Payan
Data Recorded By: Walt Payan Signature: Waa
Notes: Sunny 40°

H&S Survey Meter 0.0 PPM Field Instrument Group ~~A/B/C/D~~ Blue
Pre-pump insertion WL 7.15 ft Post - pump insertion WL _____ ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOCs		Ammonia		Nitrite	
MEE		Sulfide		Sulfate	
TOC		Nitrate		Phos/Chloride	

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1133	7.15	—	—	—	—	—	—	—	—	—	Initial
1137	7.20	—	50	—	9.60	238.4	7.07	171.0	8.63	7.19	Clear
1142	7.20	—	50	—	9.60	237.2	6.83	167.7	7.91	9.28	
1147	7.20	—	50	—	9.60	236.0	6.76	153.3	7.80	10.93	
1152	7.20	—	50	—	9.70	236.9	6.74	92.1	7.54	11.8	
1157	7.20	—	50	—	9.70	237.2	6.74	47.4	7.37	9.55	
1202	7.20	—	50	—	10.00	240.8	6.65	14.3	6.65	8.34	
1207	7.20	—	50	—	10.00	242.1	6.61	6.2	6.24	7.30	
1212	7.20	—	50	—	10.20	244.2	6.57	1.7	5.87	5.47	
1217	7.20	—	50	—	10.30	244.1	6.57	1.1	5.48	5.50	
1222	7.20	—	50	—	10.20	245.0	6.55	-0.7	5.33	4.76	
1227	7.20	—	50	—	10.20	245.6	6.55	-1.3	5.04	5.20	
1232	7.20	—	50	—	10.40	246.1	6.53	-2.4	4.77	3.97	
1237	7.20	—	50	—	10.30	246.6	6.53	-2.7	4.66	3.55	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW116B-D2-031711

Tetra Tech NUS Charge No. 112G02124
QC: None (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1242	7.20	—	50	—	10.5	247.3	6.52	-3.5	4.28	3.47	clear
1247	7.20	—	50	—	10.5	247.7	6.50	-4.1	4.12	3.25	↓
1252	7.20	—	50	1.0 gallons	10.5	247.6	6.51	-4.0	4.12	3.30	↓
	← Well parameters stabilize →										
	← Sampling Begins →										

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW 117B-D1-031711

Tetra Tech NUS Charge No. 112G02124
QC: None (If applicable)

Sample Method: Micro Bladder pump
Depth Sampled: 25.0 Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/17/11 1455 hours NA /Dup
Sampler(s): Walt Pryor
Data Recorded By: Walt Pryor Signature: Walt Pr
Notes:

H&S Survey Meter 0.0 PPM Field Instrument Group ~~A/B/C/D~~ Blue
Pre-pump insertion WL 20.95 ft Post - pump insertion WL _____ ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOCs		Ammonia		Nitrite	
MEF		Sulfide		Sulfate	
TOC		Nitrate		Phos/Chloride	

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1343	20.95	—	—	—	—	—	—	—	—	—	Initial
1405	21.00	—	50	—	12.20	109.9	5.65	205.3	8.21	3.00	Clean
1410	21.00	—	50	—	12.00	111.4	5.64	207.5	8.27	0.98	
1415	21.00	—	50	—	11.90	109.8	5.63	211.0	7.86	1.10	
1420	21.00	—	50	—	12.10	109.5	5.62	214.6	8.17	1.28	
1425	21.00	—	50	—	12.10	111.8	5.64	217.4	7.94	1.94	
1430	21.00	—	50	—	12.10	111.6	5.64	220.0	7.88	1.48	
1435	21.00	—	50	—	12.20	110.8	5.64	223.2	8.08	1.15	
1440	21.00	—	50	—	12.10	109.6	5.63	225.8	7.97	1.10	
1445	21.00	—	50	—	12.10	108.8	5.62	228.6	7.95	1.00	
1450	21.00	—	50	—	12.10	108.0	5.61	230.0	7.80	1.05	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Well parameters stabilize
Sampling Begins

MW18B-D1

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW118B-01 - 031611

Tetra Tech NUS Charge No. 112G02124
QC: none (If applicable)

Sample Method: Micro Bladder pump
Depth Sampled: 32.0 Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/16/11 1716 hours NA /Dup
Sampler(s): Walt Ayson
Data Recorded By: Walt Ayson Signature: Walt Ayson
Notes: Overcast 48°

H&S Survey Meter 0.0 PPM Field Instrument Group ~~A/B/C/D~~ Blue
Pre-pump insertion WL 23.90 ft Post - pump insertion WL 24.20 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOCs		Ammonia		Nitrite	
MEE		Sulfide		Sulfate	
TOC		Nitrate		Phos/Chloride	

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1618	23.90	—	—	—	—	—	—	—	—	—	Initial
1621	24.20	—	50	—	10.20	211.8	6.22	136.6	2.67	1.89	Clear
1626	24.20	—	50	—	10.40	211.1	6.15	138.1	2.00	0.51	
1631	24.20	—	50	—	10.40	209.9	6.12	142.0	1.72	1.07	
1636	24.20	—	50	—	10.50	209.4	6.11	145.7	1.48	1.83	
1641	24.20	—	50	—	10.40	208.3	6.11	149.7	1.31	1.95	
1646	24.20	—	50	—	10.40	207.7	6.10	152.5	1.18	2.64	
1651	24.20	—	50	—	10.40	207.5	6.11	155.5	1.06	2.76	
1656	24.20	—	50	—	10.40	207.7	6.11	158.7	0.99	2.12	
1701	24.20	—	50	—	10.40	207.8	6.10	160.6	0.80	2.00	
1706	24.20	—	50	—	10.40	209.9	6.10	161.0	0.79	2.15	
1711	24.20	—	50		10.40	207.9	6.10	162.1	0.80	2.08	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Well Parameter Stabilize
Sampling Begins

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-MW122-031711

Tetra Tech NUS Charge No. 112G02124
QC: _____ (If applicable)

Sample Method: low-flow, peristaltic
Depth Sampled: 4.1 Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/17/11 1640 hours _____ /Dup
Sampler(s): L. Anderson
Data Recorded By: L. Anderson Signature: L. Anderson
Notes:

H&S Survey Meter 0.0 PPM Field Instrument Group A/B/C/D
Pre-pump insertion WL _____ ft Post - pump insertion WL 4.23 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP* ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1505	4.23										
1510	4.34		100								
1545	4.33		130		9.43	320	6.27	69.2	0.64	1.15	
1555	4.32		110		9.37	318	6.20	88.6	0.50	1.31	
1600	4.32		100		9.58	316	6.18	91.8	0.65	0.57	
1605	4.32		100		9.60	316	6.21	99.3	0.61	1.32	
1610	4.31		100	~2 gal	9.60	316	6.23	103.6	0.62	3.20	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

*measuring point is top of casing, which is 5.5 ft above top of riser

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW125-031511

Tetra Tech NUS Charge No. 112G02124
QC: None (If applicable)

Sample Method: Bladder Pump
Depth Sampled: 31 Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/15/11 1905 hours NA /Dup
Sampler(s): Walt Payson
Data Recorded By: Walt Payson Signature: [illegible]
Notes:

H&S Survey Meter 0.0 PPM Field Instrument Group ~~A/B/C/D~~ Blue
Pre-pump insertion WL 4.55 ft Post - pump insertion WL _____ ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOCs		Ammonia			
MEE		Nitrate			
TOC		Nitrite			

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1803	4.55	—	—	—	—	—	—	—	—	—	Initial
1805	4.70	—	300	—	10.4	617.0	6.61	-46.8	1.36	16.2	Slightly
1810	5.00	—	250	—	9.70	625.3	6.60	-64.0	1.02	17.7	
1815	5.00	—	110	—	8.30	622.1	6.60	-62.2	1.16	16.5	
1820	5.00	—	110	—	8.20	619.3	6.59	-63.0	1.03	14.7	
1825	5.10	—	110	—	9.10	617.8	6.59	-68.5	0.71	10.7	Clear
1830	5.20	—	110	—	9.30	619.0	6.59	-71.5	0.60	8.24	
1835	5.20	—	100	—	8.40	619.6	6.59	-70.6	0.68	7.65	
1840	5.20	—	100	—	8.50	619.3	6.59	-71.1	0.63	8.58	
1845	5.20	—	100	—	8.50	619.2	6.59	-72.3	0.61	8.21	
1850	5.20	—	100	—	8.60	619.1	6.59	-72.5	0.57	8.02	
1855	5.20	—	100	—	8.60	619.3	6.59	-73.1	0.57	8.00	
1900	5.20	—	100	—	8.60	619.1	6.59	-73.3	0.56	8.08	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

MW 127B

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW127B-031611

Tetra Tech NUS Charge No. 112G02124
QC: None (If applicable)

Sample Method: Micro Bladder pump
Depth Sampled: 41.0 Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/16/11 1503 hours NA /Dup
Sampler(s): Walt Payon
Data Recorded By: Walt Payon Signature: Walt Payon
Notes: Rain 35°

H&S Survey Meter 0.0 PPM Field Instrument Group ~~A/B/C/D~~ Blue
Pre-pump insertion WL 20.80 ft Post - pump insertion WL 20.80 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOCs		Ammonia		Sulfate	
MEE		Nitrate		Sulfide	
TOC		Nitrite		Phos/Chloride	

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1358	20.80	—	—	—	—	—	—	—	—	—	Initial
1403	20.80	—	50	—	9.00	404.5	7.46	208.6	4.72	7.47	Clear
1408	20.80	—	50	—	9.10	387.7	6.66	200.3	2.34	8.49	
1413	20.80	—	50	—	9.10	384.0	6.59	198.1	2.03	11.3	
1418	20.80	—	50	—	9.10	383.4	6.58	192.7	1.87	8.54	
1423	20.80	—	50	—	9.10	382.8	6.57	185.4	1.82	7.76	
1429	20.80	—	50	—	9.10	383.0	6.56	169.7	1.64	9.43	
1433	20.80	—	50	—	9.10	383.1	6.55	159.6	1.54	9.19	
1438	20.80	—	50	—	9.20	383.4	6.55	130.4	1.51	8.25	
1443	20.80	—	50	—	9.20	383.2	6.55	115.1	1.49	7.99	
1448	20.80	—	50	—	9.20	383.6	6.54	95.4	1.41	7.87	
1453	20.80	—	50	—	9.20	384.2	6.54	90.7	1.43	7.50	
1458	20.80	—	50		9.20	384.4	6.54	86.0	1.40	7.08	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

Well Parameters Stabilize
Sampling Begins

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW128B-031811

Tetra Tech NUS Charge No. 112G02124
QC: None (If applicable)

Sample Method: Micro Bladder pump
Depth Sampled: 40.0 Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/18/11 1042 hours MA /Dup
Sampler(s): Walt Payon
Data Recorded By: Walt Payon Signature: Walt Pa
Notes: Overcast 40° light wind

H&S Survey Meter 0.0 PPM Field Instrument Group ~~A/B/C/D~~ Blue
Pre-pump insertion WL 22.80 ft Post - pump insertion WL 22.80 ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #
VOCs		Ammonia		Nitrite	
MEE		Sulfide		Sulfate	
TOC		Nitrate		Ferrous/Chloride	

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
0948	22.80	—	—	—	—	—	—	—	—	—	Initial
0952	22.80	—	50	—	9.50	319.2	7.22	161.3	6.45	5.03	Clear
0957	22.80	—	50	—	9.90	319.0	6.78	159.8	5.99	2.85	
1002	22.80	—	50	—	10.00	317.6	6.71	159.2	5.59	0.73	
1007	22.80	—	50	—	10.00	317.3	6.69	159.2	5.46	0.63	
1012	22.80	—	50	—	10.00	317.2	6.68	159.7	5.46	0.50	
1017	22.80	—	50	—	10.10	317.0	6.67	160.2	5.25	0.63	
1022	22.80	—	50	—	10.20	315.6	6.63	162.7	4.22	0.61	
1027	22.80	—	50	—	10.20	313.0	6.56	162.8	3.08	0.62	
1032	22.80	—	50	—	10.20	313.7	6.53	160.9	3.00	0.61	
1037	22.80	—	50		10.20	313.6	6.53	158.9	2.98	0.63	

TtNUS Form 0009

Well Parameters Stabilize
Sampling Begins

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW129B-031511

Tetra Tech NUS Charge No. 112G02124
QC: NONE (If applicable)

Sample Method: Bladder Pump
Depth Sampled: 13.5 Feet Screened Interval Depth _____ feet
Sample Date & Time: __/__/__ _____ hours _____ /Dup
Sampler(s): Walt Payson
Data Recorded By: Walt Payson Signature: Walt
Notes:

H&S Survey Meter 0.0 PPM Field Instrument Group ~~A/B/C/D~~ Blue
Pre-pump insertion WL 4.20 ft Post - pump insertion WL _____ ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1444	4.20	—	—	—	—	—	—	—	—	—	Initial
1445	4.25	—	300	—	9.70	409.7	6.52	59.7	1.53	217	Cloudy
1450	4.20	—	140	—	9.40	413.1	6.36	59.2	1.13	204	
1455	4.20	—	140	—	9.40	415.9	6.34	56.0	0.95	168	
1505	4.20	—	140	—	9.50	427.6	6.30	52.4	0.75	127	
1515	4.20	—	140	—	9.50	437.0	6.27	53.7	0.70	103.5	
1525	4.20	—	140	—	9.40	452.1	6.26	57.2	0.65	87.8	Slightly
1535	4.20	—	140	—	9.50	452.9	6.24	58.1	0.64	75.6	
1545	4.20	—	140	—	9.40	482.3	6.19	64.6	0.57	55.4	
1555	4.20	—	140	—	9.40	475.9	6.19	65.4	0.61	48.5	
1605	4.20	—	140	—	9.40	490.7	6.16	70.1	0.59	44.0	
1615	4.20	—	140	—	9.30	489.1	6.16	71.0	0.60	44.8	
1620	4.20	—	140	—	9.30	488.9	6.17	70.0	0.61	43.9	
~~1630~~	~~4.20~~		~~140~~								

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC Disposal Area
Sample ID: DA-GW-MW130B-031511

Tetra Tech NUS Charge No. 112G02124
QC: None (If applicable)

Sample Method: Bladder Pump
Depth Sampled: 23 Feet Screened Interval Depth _____ feet
Sample Date & Time: 3/15/11 1305 hours NA /Dup
Sampler(s): Walt Payon
Data Recorded By: Walt Payon Signature: [signature]
Notes:

H&S Survey Meter 0.0 PPM Field Instrument Group ~~A/B/C/D~~ Blue
Pre-pump insertion WL 6.23 ft Post - pump insertion WL _____ ft

Analysis	Bottle Lot #	Analysis	Bottle Lot #	Analysis	Bottle Lot #

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1129	6.23	—	—	—	—	—	—	—	—	—	Initial
1130	6.40	—	300	—	12.10	1092	6.60	114.2	6.18	114	Cloudy
1135	6.35	—	190	—	11.30	1091	6.51	102.2	5.68	140	↓
1140	6.30	—	190	—	11.40	1088	6.50	101.4	5.33	71.9	↓
1145	6.30	—	190	—	11.40	1089	6.48	99.8	5.17	49.0	Slightly
1150	6.30	—	190	—	11.40	1089	6.48	99.9	5.02	31.1	
1155	6.30	—	190	—	11.60	1086	6.48	99.6	4.84	28.2	
1200	6.30	—	190	—	11.60	1087	6.47	99.9	4.85	26.0	
1205	6.30	—	190	—	11.60	1087	6.47	99.4	4.63	21.8	
1210	6.30	—	190	—	11.50	1087	6.47	99.5	4.74	17.9	
1215	6.30	—	190	—	11.60	1088	6.46	98.9	4.66	15.7	
1225	6.30	—	190	—	11.70	1089	6.45	98.9	4.64	18.3	
1235	6.30	—	190	—	11.70	1090	6.45	98.0	4.63	16.2	
1240	6.30	—	190	—	11.70	1089	6.45	98.2	4.65	12.4	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

SAMPLE LOG SHEET - "LOW FLOW" GROUNDWATER

Site Name: NUSC
Sample ID: DA-GW-MW130B-031511

Tetra Tech NUS Charge No. _____
QC: _____ (If applicable)

Clock Time 24hr	Water Depth below MP ft	Pump Dial 1	Purge Rate ml/min	Cumm. Volume Purged liters	Temp °C	Spec. Cond. 2 uS/cm	pH	ORP/Eh3 mv	DO mg/L	Turbidity NTU	Comments
1250	6.30	—	190	—	11.8	1089	6.36	98.7	4.66	10.5	Clear
1255	6.30	—	190	—	11.6	1089	6.35	98.0	4.64	9.97	
1300	6.30	—	190	5.5 gallons	11.6	1090	6.35	97.5	4.65	9.98	
	←		Well	parameters		stabilize				→	
	←			Sampling	Begins					→	

TtNUS Form 0009

1. Pump dial setting (for example: hertz, cycle/min, etc.)
2. Siemens per cm (same as umhos/cm) at 25 °C.
3. Oxidation reduction potential (stand in for Eh).

TETRA TECH NUS, INC.

Ferrous Iron Analysis
Method: Hach 1, 10-Phenanthroline

Site Name: NUSC Disposal Area **Event:** March 2011 GW

Date: 3-14-11 **Analyst:** Miki Alroy, Lori Anderson, Walt Payon

Sample ID	Fe2+ Sample Time	Fe2+ Analysis Time	Turbidity prior to Fe2+ Sample (NTUs)	Sample Color Pre-Reaction	Dilution (Final Volume ÷ Initial Volume)	Instrument Reading (mg/L)	Final Result = Reading x Dilution (mg/L)	Sample Color Post-Reaction	Initials	Zeroed using Unprepared Sample (Y/N)[3]	Comments
Zeroing the Instrument (once daily)[1]	1705	1705	NA	Colorless	1x	0.00	0.00	NA	WP	NA	DIUF
Method Blank (once daily)[2]	1705	1705	NA	Colorless	1x	0.00	0.00	Colorless	WP	Y	DIUF + Ferrous Iron Reagent
~~DA-GW-MW01B-031411~~	~~1552~~										
DA-GW-MW04B-031411	1552	1735	3.13	Clear	1x	0.09	—	Clear	WP	Y	
DA-GW-MW104B-031411	1620	1758	53.0	Slightly Cloudy	1x	1.68	1.68	Pale Orange	WP	Y	
DA-GW-MW110B-031411	1700	1808	26.3	Slightly Cloudy	1x	1.22	1.22	Pale Orange	WP	Y	
DA-GW-MWDP01-031411	1700	1813	26.5	Slightly Cloudy	1x	1.30	1.30	Pale Orange	WP	Y	

Notes:
- Rinse beakers, flasks, and pipettes thoroughly w/DIUF or distilled water prior to start, air dry.
- HACH DR/890 Colorimeter, S/N=_____; Program 33; Est. detection limit is 0.03 mg/L.
- Using HACH Ferrous Iron AccuVac Ampuls, Lot _____; Expiration_____
- Using NERL Reagent Grade Water, Lot_____; Expiration _____; or Distilled Water (Identify which.)
- Field measurements for _____task. No laboratory standard solution prepared or used.

1. Once daily before analysis, zero the instrument using a vial of DIUF (or distilled) water.
2. Once daily, analyze a method blank: Fill a Ferrous Iron Reagent Ampul with DIUF (or distilled) water and follow the same method procedures as for a field sample.
3. Indicate that before analysis of each field sample and the method blank, you zeroed the instrument using an unprepared (no ampul) vial of that field sample or method blank. (The HACH manual calls this "the blank".)

TETRA TECH NUS, INC.

Ferrous Iron Analysis
Method: Hach 1, 10-Phenanthroline

Site Name: NOSC Disposal Area **Event:**

Date: 3-15-11 **Analyst:** Miki Airoy, Walt Payton, Loni Andersen

Sample ID	Fe2+ Sample Time	Fe2+ Analysis Time	Turbidity prior to Fe2+ Sample (NTUs)	Sample Color Pre-Reaction	Dilution (Final Volume ÷ Initial Volume)	Instru-ment Reading (mg/L)	Final Result = Reading x Dilution (mg/L)	Sample Color Post-Reaction	Initials	Zeroed using Unpre-pared Sample (Y/N)[3]	Comments
Zeroing the Instrument (once daily)[1]	1220	1220	NA	Colorless	1x			NA		NA	DIUF
Method Blank (once daily)[2]	1238	1238	NA	Colorless	1x						DIUF + Ferrous Iron Reagent
DA-GW-MW 101B-031511	1248	1323		colorless	1x	0.01	0.01	Colorless	WP	Y	
DA-GW-MW 130B-031511	1305	1340		Colorless	1x	0.13	0.13	Colorless	WP	Y	
DA-GW-MW 07A-031511	1535	1640			1x	0.91	0.91	Pale orange	WP	Y	
DA-GW-MW 129B-031511	1625	1700			1x	0.60	0.60	Pale orange	WP	Y	
DA-GW-MW 125-031511	1905	1945			1x	1.10	1.10	Pale orange	WP	Y	
DA-GW-MW 07B-031511	2020	2045	26.2	Colorless	1x	0.25	0.25	colorless	WP	Y	

Notes:
- Rinse beakers, flasks, and pipettes thoroughly w/DIUF or distilled water prior to start, air dry.
- HACH DR/890 Colorimeter, S/N=_____; Program 33; Est. detection limit is 0.03 mg/L.
- Using HACH Ferrous Iron AccuVac Ampuls, Lot _____; Expiration_____
- Using NERL Reagent Grade Water, Lot_____; Expiration _____; or Distilled Water (Identify which.)
- Field measurements for _____task. No laboratory standard solution prepared or used.

1. Once daily before analysis, zero the instrument using a vial of DIUF (or distilled) water.
2. Once daily, analyze a method blank: Fill a Ferrous Iron Reagent Ampul with DIUF (or distilled) water and follow the same method procedures as for a field sample.
3. Indicate that before analysis of each field sample and the method blank, you zeroed the instrument using an unprepared (no ampul) vial of that field sample or method blank. (The HACH manual calls this "the blank".)

TETRA TECH NUS, INC.

Ferrous Iron Analysis
Method: Hach 1, 10-Phenanthroline

Site Name: NUSC Disposal Area **Event:**

Date: 3-15-11 / 3-16-11 **Analyst:** Miki Airey, Walt Payne

Sample ID	Fe2+ Sample Time	Fe2+ Analysis Time	Turbidity prior to Fe2+ Sample (NTUs)	Sample Color Pre-Reaction	Dilution (Final Volume ÷ Initial Volume)	Instru-ment Reading (mg/L)	Final Result = Reading x Dilution (mg/L)	Sample Color Post-Reaction	Initials	Zeroed using Unpre-pared Sample (Y/N)[3]	Comments
Zeroing the Instrument (once daily)[1]			NA	Colorless	1x			NA		NA	DIUF
Method Blank (once daily)[2]			NA		1x						DIUF + Ferrous Iron Reagent
DA-GW-MWDupo1-031511					1X	0.24	0.24	Colorless	WP	Y	
DA-GW-MW127B-031611	1503	1600	7.18	Clear	1x	0.89	0.89	Pale orange	WP	Y	
DA-GW-MW118B-DI-031611	1716	1800	2.08	Clear	1x	0.28	0.28	Colorless	WP	Y	
DA-GW-MW06B-031611	1610	1630	111	Cloudy	1X	0.77	0.77	Pale yellow brown	WP	Y	

Notes:
- Rinse beakers, flasks, and pipettes thoroughly w/DIUF or distilled water prior to start, air dry.
- HACH DR/890 Colorimeter, S/N=_____; Program 33; Est. detection limit is 0.03 mg/L.
- Using HACH Ferrous Iron AccuVac Ampuls, Lot _____; Expiration_____
- Using NERL Reagent Grade Water, Lot_____; Expiration _____; or Distilled Water (Identify which.)
- Field measurements for _____task. No laboratory standard solution prepared or used.

1. Once daily before analysis, zero the instrument using a vial of DIUF (or distilled) water.
2. Once daily, analyze a method blank: Fill a Ferrous Iron Reagent Ampul with DIUF (or distilled) water and follow the same method procedures as for a field sample.
3. Indicate that before analysis of each field sample and the method blank, you zeroed the instrument using an unprepared (no ampul) vial of that field sample or method blank. (The HACH manual calls this "the blank".)

TETRA TECH NUS, INC.

Ferrous Iron Analysis
Method: Hach 1, 10-Phenanthroline

Site Name: NUSC Disposal Area **Event:** March 2011 GW

Date: 3/17/11 **Analyst:** Walt Pryor, Miki Alroy, Lori Anderson

Sample ID	Fe2+ Sample Time	Fe2+ Analysis Time	Turbidity prior to Fe2+ Sample (NTUs)	Sample Color Pre-Reaction	Dilution (Final Volume ÷ Initial Volume)	Instrument Reading (mg/L)	Final Result = Reading x Dilution (mg/L)	Sample Color Post-Reaction	Initials	Zeroed using Unprepared Sample (Y/N)[3]	Comments
Zeroing the Instrument (once daily)[1]	1100	1100	NA	Colorless	1x	0.00	0.00	NA	WP	NA	DIUF
Method Blank (once daily)[2]	1105	1105	NA	colorless	1x	0.00	0.00	colorless	WP	Y	DIUF + Ferrous Iron Reagent
DA-GW-MW116B-031711	1257	1330		colorless	1x	1.50	1.50	pale orange	WP	Y	
DA-GW-MW12-031711	1320	1400		colorless	1x	0.00	0.00	colorless	WP	Y	
DA-GW-MW108B-031711	1420	1450		pale yellow brown	1x	2.24	2.24	pale orange	WP	Y	
DA-GW-MW117B-031711	1455	1525		colorless	1x	0.00	0.00	colorless	WP	Y	
DA-GW-MW03B-031711	1800	1858		colorless	1x	0.00	0.00	pale orange	WP	Y	
DA-GW-MW122B-031711	1700	1750		colorless	1x	0.22	0.22	pale yellow brown	WP	Y	

Notes:
- Rinse beakers, flasks, and pipettes thoroughly w/DIUF or distilled water prior to start, air dry.
- HACH DR/890 Colorimeter, S/N=_____; Program 33; Est. detection limit is 0.03 mg/L.
- Using HACH Ferrous Iron AccuVac Ampuls, Lot _____; Expiration_____
- Using NERL Reagent Grade Water, Lot_____; Expiration _____; or Distilled Water (Identify which.)
- Field measurements for _____task. No laboratory standard solution prepared or used.

1. Once daily before analysis, zero the instrument using a vial of DIUF (or distilled) water.
2. Once daily, analyze a method blank: Fill a Ferrous Iron Reagent Ampul with DIUF (or distilled) water and follow the same method procedures as for a field sample.
3. Indicate that before analysis of each field sample and the method blank, you zeroed the instrument using an unprepared (no ampul) vial of that field sample or method blank. (The HACH manual calls this "the blank".)

TETRA TECH NUS, INC.

Ferrous Iron Analysis
Method: Hach 1, 10-Phenanthroline

Site Name: NUSC Disposal Area **Event:** March 2011

Date: 3-18-11 **Analyst:** Walt Payan, Miki Alroy, Lori Andersen

Sample ID	Fe2+ Sample Time	Fe2+ Analysis Time	Turbidity prior to Fe2+ Sample (NTUs)	Sample Color Pre-Reaction	Dilution (Final Volume ÷ Initial Volume)	Instrument Reading (mg/L)	Final Result = Reading x Dilution (mg/L)	Sample Color Post-Reaction	Initials	Zeroed using Unprepared Sample (Y/N)[3]	Comments
Zeroing the Instrument (once daily)[1]	1230	1230	NA	Colorless	1x			NA	Zpa	NA	DIUF
Method Blank (once daily)[2]	1240	1240	NA	colorless	1x	0.00	0.00	colorless	Zpa	Y	DIUF + Ferrous Iron Reagent
DA-GW-MW128B-031811	1042	1245		colorless	1x	0.00	0.00	colorless	Zpa	Y	
DA-GW-MW103B-031811	1210	1305		~~medium~~ pale orange	1x	1.32	1.32	medium orange	Zpa	Y	sample naturally (light orange)
DA-GW-MW08B-031811	1338	1436	63.0	Pale Yellow Brown	1x	0.64	0.64	Pale Orange	VP	Y	

Notes:
- Rinse beakers, flasks, and pipettes thoroughly w/DIUF or distilled water prior to start, air dry.
- HACH DR/890 Colorimeter, S/N=_____; Program 33; Est. detection limit is 0.03 mg/L.
- Using HACH Ferrous Iron AccuVac Ampuls, Lot _____; Expiration_____
- Using NERL Reagent Grade Water, Lot_____; Expiration _____; or Distilled Water (Identify which.)
- Field measurements for _____task. No laboratory standard solution prepared or used.

1. Once daily before analysis, zero the instrument using a vial of DIUF (or distilled) water.
2. Once daily, analyze a method blank: Fill a Ferrous Iron Reagent Ampul with DIUF (or distilled) water and follow the same method procedures as for a field sample.
3. Indicate that before analysis of each field sample and the method blank, you zeroed the instrument using an unprepared (no ampul) vial of that field sample or method blank. (The HACH manual calls this "the blank".)

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: _____ Model No.: _____ Decal No.: Blank

Site Name: NUSC Disposal Area Job No.: 112G02124

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 3/16/11	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm	1039		1045			
pH=4.0	4.05		4.09			
pH=7.0	6.96		7.00			
pH=10.0	10.06		10.00			
D.O. mg/l	10.06					
REDOX mV	246.1		245.0			
Turbidity 0 NTUs	—		—			
Turbidity 100 NTUs	—		—			
Temp °C	14.3		13.5			
Salinity 0/00						

DATE: 3/17/11						
Cond. mS/cm	1.002		1081		I. Anderson	
pH=4.0	3.93		3.96			
pH=7.0	7.03		6.89			
pH=10.0	10.00		9.87			
D.O. mg/l	9.27 @ 15.1°C		9.54 @ 15.8°C			
REDOX mV	246.6		222.3			
Turbidity 0 NTUs	—		—			
Turbidity 100 NTUs	—		—			
Temp °C	13.7		19.0			
Salinity 0/00	—		—			

TtNUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: _____ Model No.: _____ Decal No.: Black

Site Name: NUSC Disposal Area Job No.: 112G02124

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 3/16/11	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm	1081					
pH=4.0	3.99					
pH=7.0	7.11					
pH=10.0	10.09					
D.O. mg/l	9.86					
REDOX mV	245.8					
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C	13.1					
Salinity 0/00						

DATE: 3/17/11						
Cond. mS/cm	964					
pH=4.0	4.23					
pH=7.0	7.27					
pH=10.0	10.15					
D.O. mg/l	9.77					
REDOX mV	249.3					
Turbidity 0 NTUs	—					
Turbidity 100 NTUs	—					
Temp °C	13.6					
Salinity 0/00						

TtNUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: _____ Model No.: _____ Decal No.: Blue

Site Name: NUSC Disposal Area Job No.: 112G02124

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 3/16/11	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm	1006		1008			
pH=4.0	3.99		3.97			
pH=7.0	7.11		6.94			
pH=10.0	10.14		10.03			
D.O. mg/l	10.00		10.86			
REDOX mV	246.6		245.6			
Turbidity 0 NTUs	—		~~26.6~~			
Turbidity 100 NTUs	—		—			
Temp °C	14.4		14.3			
Salinity 0/00						

DATE: 3/17/11						
Cond. ~~mS/cm~~ µS/cm	1001		1046		J. Andrea	
pH=4.0	4.04		4.07			
pH=7.0	7.08		7.02			
pH=10.0	10.03		10.01			
D.O. mg/l	10.32 @ 13.8°C		9.53 @ 16°C			
REDOX mV	245.7		244.1			
Turbidity 0 NTUs	—		—			
Turbidity 100 NTUs	—		—			
Temp °C	14.4		18.6			
Salinity 0/00	—		—			

TtNUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: _____ Model No.: _____ Decal No.: Blank

Site Name: NUSC Disposal Area Job No.: 112G02124

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 3/18/11	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. ~~mS/cm~~ uS/cm	1002		985		L. Andersen	Not used, no post-cal performed
pH=4.0	3.91		3.94			
pH=7.0	7.06		6.96			
pH=10.0	9.99		10.10			
D.O. mg/l	9.65 @ 14.2°C		~~4.4~~ 8.06 @ 19.5°C			
REDOX mV	244.8		239.6			
Turbidity 0 NTUs	—		—			
Turbidity 100 NTUs	—		—			
Temp °C	15.3		19.7			
Salinity 0/00	—		—			

Eka (wrote on wrong form)

DATE:						
Cond. mS/cm						
pH=4.0						
pH=7.0						
pH=10.0						
D.O. mg/l						
REDOX mV						
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C						
Salinity 0/00						

TtNUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: _____ Model No.: _____ Decal No.: Blue

Site Name: NUSC Disposal Area Job No.: 112G02124

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 3/18/11	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. ~~mS/cm~~ uS/cm	999		1008		T. Anderson	
pH=4.0	3.88		3.94			
pH=7.0	6.99		6.97			
pH=10.0	10.05		10.07			
D.O. mg/l	10.00 @ 14.2°C		8.98 @ 17.9°C			
REDOX mV	246.0		238.5			
Turbidity 0 NTUs	—		—			
Turbidity 100 NTUs	—		—			
Temp °C	14.2		14.2			
Salinity 0/00	—		—			

DATE:						
Cond. mS/cm						
pH=4.0						
pH=7.0						
pH=10.0						
D.O. mg/l						
REDOX mV						
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C						
Salinity 0/00						

TtNUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: _____ Model No.: _____ Decal No.: Black

Site Name: NUSC Disposal Area Job No.: 112G02124

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 3/18/11	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. ~~mS/cm~~ mS/cm	1000		985		J. Anderson	
pH=4.0	3.81		3.94			
pH=7.0	7.07		6.96			
pH=10.0	10.07		10.10			
D.O. mg/l	9.50 @ 14.2°C		8.06 @ 19.5°C			
REDOX mV	245.7		239.6			
Turbidity 0 NTUs	—		—			
Turbidity 100 NTUs	—		—			
Temp °C	14.6		19.7			
Salinity 0/00	—		—			

DATE:						
Cond. mS/cm						
pH=4.0						
pH=7.0						
pH=10.0						
D.O. mg/l						
REDOX mV						
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C						
Salinity 0/00						

TtNUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 99B1412AA / 04C2284 AA Model No.: 650 MDS Decal No.:

Site Name: NUSC Disposal Area Job No.: 112G02124

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 3/17/11	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. mS/cm	1000		998			
pH=4.0	4.00		4.06			
pH=7.0	6.98		6.99			
pH=10.0	9.99		10.00			
D.O. mg/l	9.52 @ 16.52°C		10.62 @ 15.31			
REDOX mV	246.5		241.9			
Turbidity 0 NTUs	—		—			
Turbidity 100 NTUs	—		—			
Temp °C	13.17		17.95			
Salinity 0/00	—					

DATE:						
Cond. mS/cm						
pH=4.0						
pH=7.0						
pH=10.0						
D.O. mg/l						
REDOX mV						
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C						
Salinity 0/00						

TtNUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 10E100334 (handset) / 03F032Q (probe) Model No.: Professional Plus Decal No.: blank

Site Name: NUSC Disposal Area Job No.: 112G02124

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 3/14/11	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. ~~mS/cm~~ µS/cm	982	999	1000	8483 (exp. 11/16/11)	Z. Amelhea	
pH=4.0	4.09	3.95	4.05	7979 (exp. 5/18/11)		
pH=7.0	7.13	7.08	7.01	7988 (exp. 5/19/11)		
pH=10.0	10.03	10.19	10.08	8468 (exp. 11/9/11)		
D.O. mg/l	9.77	9.76 @ 12.6°C	11.40 @ 11.2°C	NA		
REDOX mV	230.8	247.9	230.7	11A100125 (exp. 1/13)		zobell
Turbidity 0 NTUs	—	—	—	—		
Turbidity ~~100~~ NTUs 10	—	—	—	—		
Temp °C	12.5	NA	12.2°C	NA		
Salinity 0/00	—	—	—	—		

DATE:	3/15/11					
Cond. mS/cm	1019		985			
pH=4.0	4.07		4.10			
pH=7.0	6.96		7.15			
pH=10.0	10.14		10.02			
D.O. mg/l	11.28	10.90				
REDOX mV	244.0		134.6 @ 15.9°C			
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C	12.2	~~15.9~~ °C	15.9°C			
Salinity 0/00						

TtNUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 10F017Q

Model No.: Professional Plus

Decal No.: Blue

Site Name: NUSC Disposal Area

Job No.: 112G02124

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE:	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. ~~mS/cm~~ uS/cm	1000	1000	1002			
pH=4.0	4.00	3.99	4.00			
pH=7.0	7.00	7.02	6.97			
pH=10.0	10.3	10.0	9.99			
D.O. mg/l	11.07 @ 12.7	11.07 @ 12.6	12.14 @ 11.0°C ~~12.06~~			
REDOX mV	248.2 @ 12.7	248.2 @ 12.6	246.7 @ 12.6°C			
Turbidity 0 NTUs	—	—	—			
Turbidity 100 NTUs	—	—	—			
Temp °C	12.2°C	12.3°C	12.2°C			
Salinity 0/00						

DATE:	3/15/11					
Cond. mS/cm	1017		1017			
pH=4.0	3.94		3.99			
pH=7.0	6.74		6.96			
pH=10.0	9.78		10.12			
D.O. mg/l	~~12.07~~ 10.96	~~10.96~~				
REDOX mV	248.2		243.6 @ 15.2			
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C	10.4		15.2°C			
Salinity 0/00						

TtNUS Form 0024

TETRA TECH NUS, INC.

YSI 6820 MULTIPARAMETER METER

Serial No.: 10D101576 (handset) / 10E100784 (probe) Model No.: Professional Plus Decal No.: black

Site Name: NUSC Disposal Area Job No.: 112G02124

Instrument is calibrated in accordance with Manufacturer's Instructions

DATE: 3/14/11	Pre Calibration Readings	Post Calibration Readings	PM Check	Calibration STDs (lot #'s)	Signature	Remarks
Cond. ~~mS/cm~~ uS/cm	976	1000	1004	8483 (exp. 11/16/11)	Z. Anderson	
pH=4.0	4.03	4.02	4.06	7979 (exp. 5/18/11)		
pH=7.0	7.12	7.02	6.99	7988 (exp. 5/19/11)		
pH=10.0	9.98	9.98	9.95	8468 (exp. 11/9/11)		
D.O. mg/l	10.72	10.71 @ 12.9°C	11.43 @ 11.4	NA		
REDOX mV	246.6	247.8	247.1 @ 12.6	11A100125 (exp. 1/13)		
Turbidity 0 NTUs	—	—	—	—		
Turbidity 100 NTUs	—	—	—	—		
Temp °C	12.8	NA	12.5°C	NA		
Salinity 0/00	—	—	—	—		

DATE:	3/15/11					
Cond. mS/cm	1033					
pH=4.0	4.06					
pH=7.0	7.00					
pH=10.0	9.95					
D.O. mg/l	12.46	11.06				
REDOX mV	247.5					
Turbidity 0 NTUs						
Turbidity 100 NTUs						
Temp °C	12.0					
Salinity 0/00						

TtNUS Form 0024

ATTACHMENT B

DATA VALIDATION MEMORANDA

TETRA TECH NUS, INC **INTERNAL CORRESPONDENCE**

C-NAVY-04-11-4298W

Date: April 19, 2011 c: File G02124-4.10 (w/enc.-original)

To: J. Ropp (w/o enc.)

From: J. Cardinal (no copy)

Subject: Tier I/II Organic and Inorganic Data Validation, SDG WE19-11
Katahdin Analytical Services
CTO WE19, Supplemental Monitored Natural Attenuation Sampling, Site 08 – NUSC Disposal Area, Naval Station Newport, Newport, RI

VOC/MEE/Ammonia/Chloride/Nitrate/Nitrite/Phosphate/Sulfate/Sulfide/TOC:

15/Groundwaters/

DA-GW-DUP01-031411	DA-GW-DUP02-031511
DA-GW-DUP03-031611	DA-GW-MW04B-031411
DA-GW-MW06B-031611	DA-GW-MW07A-031511
DA-GW-MW07B-031511	DA-GW-MW101B-031511
DA-GW-MW104B-031411	DA-GW-MW110B-031411
DA-GW-MW118B-D1-031611	DA-GW-MW125B-031511
DA-GW-MW127B-031611	DA-GW-MW129B-031511
DA-GW-MW130B-031511	

(Field Duplicate Pairs:
DA-GW-MW110B-031411/DA-GW-DUP01-031411,
DA-GW-MW07B-031511/DA-GW-DUP02-031511,
DA-GW-MW06B-031611/DA-GW-DUP03-031611)

VOC:
3/Trip Blanks/

DA-GW-TB01-031411	DA-GW-TB02-031511
DA-GW-TB03-031611	

Tetra Tech NUS, Inc. (TtNUS) performed a Tier II data validation on the volatile organic compound (VOC) analytical data and a Tier I data validation on the methane/ethane/ethene (MEE), ammonia, chloride, nitrate, nitrite, orthophosphate, sulfate, sulfide, and TOC analytical data for the groundwater samples collected as part of the Supplemental Monitored Natural Attenuation Sampling at Site 08 at the Naval Undersea System Center (NUSC) Disposal Area, Naval Station Newport, Newport, Rhode Island site from March 14-16, 2011. Sample analysis was performed according to the Work Plan for Remedial Investigation Revision 2 for Site 08 – NUSC Disposal Area, Naval Station Newport, Middletown, Rhode Island dated January 2007 and the Work Plan for Supplemental Monitored Natural Attenuation Sampling, Site 08, NUSC Disposal Area, Naval Station Newport, Middletown, Rhode Island dated March 2011.

The VOC analysis was performed according to USEPA SW-846 Method 8260B. The MEE analysis was performed according to Method RSK 175, Revision 0, dated August 11, 1994. The TOC, ammonia, and sulfide analyses were analyzed according to EPA Method 415.1, EPA Method 350.1, and SM 4500S2, respectively. Chloride and sulfate were both analyzed according to EPA Method 300.0. Nitrate and

nitrite were both analyzed according to EPA Method 353.2 and phosphate was analyzed according to SM4500.

The VOC data validation was performed in accordance with the Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996. Tier I validation is for completeness only.

The sample results, validation qualifiers (VQL), and qualifier codes (QLCD) are presented in the enclosed data summary tables. A list of the qualifier codes, which provide the reasons for the validation qualifiers, is enclosed.

The data were evaluated based on the following parameters:

- Laboratory Data Completeness
- * Preservation and Technical Holding Times
- * GC/MS Instrument Performance Check (Tuning)
- Initial and Continuing Calibrations
- * Blanks
- * Surrogate Compounds
- * Internal Standards
- NA Matrix Spike/Matrix Spike Duplicate
- * Laboratory Control Sample
- * Field Duplicates
- Limits of Detection

* All criteria were met for this parameter.
NA Not applicable for this SDG.

Laboratory Data Completeness

The MEE, ammonia, chloride, nitrate, nitrite, orthophosphate, sulfate, sulfide, and TOC data are complete.

On April 14, 2011 the Tetra Tech Project Manager, J. Ropp, clarified that:

-Well MW119B could not be located; therefore, that location was not sampled.

-Trip blanks DA-GW-TB02-031511 and DA-GW-TB03-031611 were not labeled for the VOC analysis on the chain-of-custody (COC) form. The laboratory logged-in these samples for the correct analysis).

-Sample ID DA-GW-MW118B-D1-031611 is correct per the chain-of-custody form. The laboratory logged-in this sample incorrectly without the "-D1". On April 19, 2011 the laboratory resubmitted all affected forms to show the correct sample ID. The sample ID in the data summary table is correct.

-Sample times were not listed on the COC form for select samples. Sample times are as follows: DA-GW-MW127B-031611 at 15:03, DA-GW-MW118B-D1-031611 at 17:16, DA-GW-MW06B-031611 at 16:10, and DA-GW-MW103B-031611 at 19:25.

The laboratory noted that for all samples (except the trip blank) listed on COC form for work order SE1228, there were actually ten sample containers received per sample, not eight as indicated.

The containers for sample DA-GW-MW129B-031511 were received at the laboratory on March 16 and March 17, 20211 and this sample was logged with two laboratory ID numbers SE1261-3 (for nitrate, nitrite, phosphate, sulfate ammonia, and sulfide) and SE1292-6 (for TOC, MEE, and VOC analyses. The data summary table for the fraction labeled " MISC" lists only one laboratory ID SE1261-3 because of software limitations. No further action was taken.

The VOC, MEE, and TOC containers for sample DA-GW-MW129B-031**5**11 received on March 17, 2011 were logged-in incorrectly by the laboratory with the suffix "-031**6**11". On April 19, 2011 the laboratory resubmitted all affected forms to show the correct sample ID: DA-GW-MW129B-031**5**11. The sample ID in the data summary table is correct.

The laboratory noted that the VOC analysis of sample DA-GW-MW103B-031611 listed on COC form for work order SE1292 was cancelled per Tetra Tech request. On April 18, 2011 the Tetra Tech Project Manager, J. Ropp, confirmed this and noted the location was re-sampled on March 18, 2011. The results for this sample are provided in SDG WE19-12.

Nitrate/Nitrite/Phosphate

The laboratory noted that because of a malfunction of the ion chromatograph, it was not possible to perform analysis of nitrate, nitrite, and orthophosphate samples in this SDG by EPA Method 300.0 within the method-specified 48-hour holding time. At Tetra Tech request, these analyses were performed by alternate colorimetric methods within holding times (nitrate and nitrite both by EPA Method 353.2 and orthophosphate by SM4500). The samples were subsequently analyzed for these parameters by EPA Method 300.0 outside of holding time after the instrumentation was repaired. Both sets of results were reported by the laboratory.

Preservation and Technical Holding Times

Nitrate/Nitrite/Phosphate

All nitrate, nitrite, and orthophosphate samples in this SDG were analyzed by alternate colorimetric methods within holding times. The samples were subsequently analyzed for these parameters by EPA Method 300.0 outside of holding time. Tetra Tech Chemist, J. Cardinal, selected the results from alternate methods (within holding time) to be reported for the samples in this SDG. No further action was taken.

Initial and Continuing Calibrations

Volatiles

The following table summarizes the volatile compounds that failed to meet the initial calibration verification recovery criteria of 75-125%:

Compound	%R	Action		Affected Samples
		(+)	NDs	
Chloroethane	72.62	J	UJ	DA-GW-TB01-031411, DA-GW-MW04B-031411, DA-GW-MW104B-031411, DA-GW-DUP01-031411, DA-GW-MW130B-031511, DA-GW-MW101B-031511, DA-GW-MW125B-031511

Compound	%R	Action		Affected Samples
		(+)	NDs	
1,2-Dibromo-3-chloropropane	72.13		UJ	DA-GW-TB01-031411, DA-GW-MW04B-031411, DA-GW-MW104B-031411, DA-GW-DUP01-031411, DA-GW-MW130B-031511, DA-GW-MW101B-031511, DA-GW-MW07A-031511, DA-GW-MW125B-031511

The initial calibration verification recovery for chloroethane was below the QC limit; therefore, the project accuracy goals may be impacted. The positive and non-detected chloroethane results in the affected samples are usable as estimated values which may be biased low.

Although the initial calibration verification recovery for 1,2-dibromo-3-chloropropane was below the QC limit, the project accuracy goals are not impacted since there are no project action limits established for this compound. The non-detected 1,2-dibromo-3-chloropropane results in the affected samples are usable as estimated values which may be biased low.

The following table summarizes the volatile compounds that failed to meet the continuing calibration (CC) criterion of %D < 25:

Compound	%D	Action		Affected Samples
		(+)	NDs	
Chloroethane	-33.24	J	UJ	DA-GW-MW118B-D1-031611, DA-GW-MW06B-031611, DA-GW-MW129B-031511, DA-GW-DUP03-031611, DA-GW-MW127B-031611

The %D was outside of the QC limit for chloroethane; therefore, the project accuracy goals may be impacted. The positive and non-detected chloroethane results for the affected samples are usable as estimated values.

Limits of Detection

Non-detected results were reported at the limit of detection (LOD). Positive results below the limit of quantitation (LOQ) and above the method detection limit (MDL) were qualified as estimated (J) due to uncertainty below the LOQ. Project action limits are evaluated for non-detected results only (reported at the LOD).

Volatiles

The PALs were met by the LODs except for 1,2,4-trichlorobenzene, 1,2-dichloroethane, 1,4-dichlorobenzene, benzene, carbon disulfide, chloroform, methylene chloride, tetrachloroethene, trichloroethene, and vinyl chloride. Data usability may be impacted for these compounds.

Results were not reported for benzoic acid, benzyl alcohol, and pentachlorophenol as requested in the analytical specification Attachment A-1. These analytes are not reported by Method 8260B and these analytes are not contaminants of concern for this project. In addition, 1,4-dioxane was not reported for the samples in this SDG since these samples were not analyzed by Method 8260B SIM. No further action was taken.

Analytical Data Usability Assessment

The data usability assessment was performed to determine if the analytical data reported by the laboratory for this SDG met the project data quality objectives for acceptable accuracy, precision, sensitivity, and completeness; and to determine and define the impact of the exceeded quality control indicators on the technical usability of the data. Please refer to the specific sections in the above validation report for further details.

This is a partial evaluation based on laboratory quality control (QC) and limited field information available at the time of the assessment. A comprehensive project data usability assessment will be performed later when all data are available.

Volatiles

The project goals with respect to accuracy were met for the volatiles data set with the following exception. Chloroethane was qualified as estimated in select samples due to a low initial calibration verification recovery and due to instrument calibration variability. Although specific method criteria were not met in this instance, the affected positive and non-detected results are usable as estimated values which may have a minor impact on data usability. In addition, 1,2-dibromo-3-chloropropane was qualified as estimated in select samples due to a low initial calibration verification recovery. Although specific method criteria were not met in this instance, data usability was not impacted and the affected non-detected results are usable as estimated values.

The project goals with respect to sensitivity were met for the volatiles data set with the following exceptions. The PALs were met by the LODs except for 1,2,4-trichlorobenzene, 1,2-dichloroethane, 1,4-dichlorobenzene, benzene, carbon disulfide, chloroform, methylene chloride, tetrachloroethene, trichloroethene, and vinyl chloride. Data usability may be impacted for these compounds.

The project goals with respect to precision and laboratory data completeness were met for the volatiles data set. Data usability is not impacted with regards to precision and laboratory data completeness.

Tables: Data Summary Tables
Data Validation Qualifiers and Codes

Enclosures: Data Validation Worksheets

Data Validation Qualifiers and Codes

Data Validation Qualifiers:

	=	No qualifier attached to value (positive hit)
J	=	Value is estimated
U	=	Value is not detected
UJ	=	Value is not detected and estimated
R	=	Value (positive hit) is not usable
UR	=	Value was reported as ND but is not usable

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 $r < 0.995$
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 below quantitation limit (< QL but ≥ MDL)
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 DDT 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: 02124	NSAMPLE	DA-GW-DUP01-031411			DA-GW-DUP02-031511			DA-GW-DUP02-031511DL			DA-GW-DUP03-031611		
SDG: WE19-11	LAB_ID	SE1228-4			SE1261-7			SE1261-7DL			SE1292-4		
FRACTION: OV	SAMP_DATE	3/14/2011			3/15/2011			3/15/2011			3/16/2011		
MEDIA: WATER	QC_TYPE	FD			FD			FD			FD		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF	DA-GW-MW110B-031411			DA-GW-MW07B-031511			DA-GW-MW07B-031511			DA-GW-MW06B-031611		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.5	U		0.5	U					0.5	U	
1,1,1-TRICHLOROETHANE		0.5	U					470			0.5	U	
1,1,2,2-TETRACHLOROETHANE		0.5	U		0.5	U					0.5	U	
1,1,2-TRICHLOROETHANE		0.5	U		0.5	U					0.5	U	
1,1-DICHLOROETHANE		1.3						610			0.5	U	
1,1-DICHLOROETHENE		0.5	U		26						0.5	U	
1,1-DICHLOROPROPENE		0.5	U		0.5	U					0.5	U	
1,2,3-TRICHLOROBENZENE		0.5	U		0.5	U					0.5	U	
1,2,3-TRICHLOROPROPANE		0.5	U		0.5	U					0.5	U	
1,2,4-TRICHLOROBENZENE		0.5	U		0.5	U					0.5	U	
1,2,4-TRIMETHYLBENZENE		0.5	U		0.95	J	P				0.5	U	
1,2-DIBROMO-3-CHLOROPROPANE		0.75	UJ	C	0.75	U					0.75	U	
1,2-DIBROMOETHANE		0.5	U		0.5	U					0.5	U	
1,2-DICHLOROBENZENE		0.5	U		0.5	U					0.5	U	
1,2-DICHLOROETHANE		0.5	U		0.5	U					0.5	U	
1,2-DICHLOROPROPANE		0.5	U		0.5	U					0.5	U	
1,3,5-TRIMETHYLBENZENE		0.5	U		0.25	J	P				0.5	U	
1,3-DICHLOROBENZENE		0.5	U		0.5	U					0.5	U	
1,3-DICHLOROPROPANE		0.5	U		0.5	U					0.5	U	
1,4-DICHLOROBENZENE		0.5	U		0.5	U					0.5	U	
2,2-DICHLOROPROPANE		0.5	U		0.5	U					0.5	U	
2-BUTANONE		2.5	U		2.5	U					2.5	U	
2-CHLOROTOLUENE		0.5	U		0.5	U					0.5	U	
2-HEXANONE		2.5	U		2.5	U					2.5	U	
4-CHLOROTOLUENE		0.5	U		0.5	U					0.5	U	
4-ISOPROPYLTOLUENE		0.5	U		0.5	U					0.5	U	
4-METHYL-2-PENTANONE		2.5	U		2.5	U					2.5	U	
ACETONE		2.5	U		2.5	U					2.5	U	
BENZENE		0.5	U		0.5	U					0.5	U	
BROMOBENZENE		0.5	U		0.5	U					0.5	U	
BROMOCHLOROMETHANE		0.5	U		0.5	U					0.5	U	
BROMODICHLOROMETHANE		0.5	U		0.5	U					0.5	U	
BROMOFORM		0.5	U		0.5	U					0.5	U	
BROMOMETHANE		1	U		1	U					1	U	
CARBON DISULFIDE		0.5	U		0.5	U					0.5	U	

PROJ_NO: 02124	NSAMPLE	DA-GW-MW04B-031411			DA-GW-MW06B-031611			DA-GW-MW07A-031511			DA-GW-MW07A-031511DL		
SDG: WE19-11	LAB_ID	SE1228-1			SE1292-3			SE1261-4			SE1261-4DL		
FRACTION: OV	SAMP_DATE	3/14/2011			3/16/2011			3/15/2011			3/15/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.5	U		0.5	U		0.5	U				
1,1,1-TRICHLOROETHANE		0.5	U		0.5	U					180		
1,1,2,2-TETRACHLOROETHANE		0.5	U		0.5	U		0.5	U				
1,1,2-TRICHLOROETHANE		0.5	U		0.5	U		0.5	U				
1,1-DICHLOROETHANE		41			0.5	U					570		
1,1-DICHLOROETHENE		2.4			0.5	U		14					
1,1-DICHLOROPROPENE		0.5	U		0.5	U		0.5	U				
1,2,3-TRICHLOROBENZENE		0.5	U		0.5	U		0.5	U				
1,2,3-TRICHLOROPROPANE		0.5	U		0.5	U		0.5	U				
1,2,4-TRICHLOROBENZENE		0.5	U		0.5	U		0.5	U				
1,2,4-TRIMETHYLBENZENE		0.5	U		0.5	U		0.36	J	P			
1,2-DIBROMO-3-CHLOROPROPANE		0.75	UJ	C	0.75	U		0.75	UJ	C			
1,2-DIBROMOETHANE		0.5	U		0.5	U		0.5	U				
1,2-DICHLOROBENZENE		0.5	U		0.5	U		0.5	U				
1,2-DICHLOROETHANE		0.5	U		0.5	U		0.5	U				
1,2-DICHLOROPROPANE		0.5	U		0.5	U		0.5	U				
1,3,5-TRIMETHYLBENZENE		0.5	U		0.5	U		0.5	U				
1,3-DICHLOROBENZENE		0.5	U		0.5	U		0.5	U				
1,3-DICHLOROPROPANE		0.5	U		0.5	U		0.5	U				
1,4-DICHLOROBENZENE		0.5	U		0.5	U		0.5	U				
2,2-DICHLOROPROPANE		0.5	U		0.5	U		0.5	U				
2-BUTANONE		2.5	U		2.5	U		2.5	U				
2-CHLOROTOLUENE		0.5	U		0.5	U		0.5	U				
2-HEXANONE		2.5	U		2.5	U		2.5	U				
4-CHLOROTOLUENE		0.5	U		0.5	U		0.5	U				
4-ISOPROPYLTOLUENE		0.5	U		0.5	U		0.5	U				
4-METHYL-2-PENTANONE		2.5	U		2.5	U		2.5	U				
ACETONE		2.5	U		2.5	U		28					
BENZENE		0.5	U		0.5	U		0.5	U				
BROMOBENZENE		0.5	U		0.5	U		0.5	U				
BROMOCHLOROMETHANE		0.5	U		0.5	U		0.5	U				
BROMODICHLOROMETHANE		0.5	U		0.5	U		0.5	U				
BROMOFORM		0.5	U		0.5	U		0.5	U				
BROMOMETHANE		1	U		1	U		1	U				
CARBON DISULFIDE		0.5	U		0.5	U		0.5	U				

PROJ_NO: 02124	NSAMPLE	DA-GW-MW07B-031511			DA-GW-MW07B-031511DL			DA-GW-MW101B-031511			DA-GW-MW101B-031511DL		
SDG: WE19-11	LAB_ID	SE1261-6			SE1261-6DL			SE1261-2			SE1261-2DL		
FRACTION: OV	SAMP_DATE	3/15/2011			3/15/2011			3/15/2011			3/15/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.5	U					0.5	U				
1,1,1-TRICHLOROETHANE					430			76					
1,1,2,2-TETRACHLOROETHANE		0.5	U					0.5	U				
1,1,2-TRICHLOROETHANE		0.5	U					0.5	U				
1,1-DICHLOROETHANE					570						540		
1,1-DICHLOROETHENE		27						67					
1,1-DICHLOROPROPENE		0.5	U					0.5	U				
1,2,3-TRICHLOROBENZENE		0.5	U					0.5	U				
1,2,3-TRICHLOROPROPANE		0.5	U					0.5	U				
1,2,4-TRICHLOROBENZENE		0.5	U					0.5	U				
1,2,4-TRIMETHYLBENZENE		1.1						0.5	U				
1,2-DIBROMO-3-CHLOROPROPANE		0.75	U					0.75	UJ	C			
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				
1,3,5-TRIMETHYLBENZENE		0.26	J	P				0.5	U				
1,3-DICHLOROBENZENE		0.5	U					0.5	U				
1,3-DICHLOROPROPANE		0.5	U					0.5	U				
1,4-DICHLOROBENZENE		0.5	U					0.5	U				
2,2-DICHLOROPROPANE		0.5	U					0.5	U				
2-BUTANONE		2.5	U					2.5	U				
2-CHLOROTOLUENE		0.5	U					0.5	U				
2-HEXANONE		2.5	U					2.5	U				
4-CHLOROTOLUENE		0.5	U					0.5	U				
4-ISOPROPYLTOLUENE		0.5	U					0.5	U				
4-METHYL-2-PENTANONE		2.5	U					2.5	U				
ACETONE		2.5	U					2.5	U				
BENZENE		0.5	U					0.5	U				
BROMOBENZENE		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		1	U					1	U				
CARBON DISULFIDE		0.5	U					0.5	U				

PROJ_NO: 02124	NSAMPLE	DA-GW-MW104B-031411			DA-GW-MW104B-031411DL			DA-GW-MW110B-031411			DA-GW-MW118B-D1-031611		
SDG: WE19-11	LAB_ID	SE1228-2			SE1228-2DL			SE1228-3			SE1292-2		
FRACTION: OV	SAMP_DATE	3/14/2011			3/14/2011			3/14/2011			3/16/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.5	U					0.5	U		0.5	U	
1,1,1-TRICHLOROETHANE		6.5						0.5	U		0.5	U	
1,1,2,2-TETRACHLOROETHANE		0.5	U					0.5	U		0.5	U	
1,1,2-TRICHLOROETHANE		0.5	U					0.5	U		0.5	U	
1,1-DICHLOROETHANE					210			1.1			0.5	U	
1,1-DICHLOROETHENE		16						0.5	U		0.39	J	P
1,1-DICHLOROPROPENE		0.5	U					0.5	U		0.5	U	
1,2,3-TRICHLOROBENZENE		0.5	U					0.5	U		0.5	U	
1,2,3-TRICHLOROPROPANE		0.5	U					0.5	U		0.5	U	
1,2,4-TRICHLOROBENZENE		0.5	U					0.5	U		0.5	U	
1,2,4-TRIMETHYLBENZENE		0.5	U					0.5	U		0.5	U	
1,2-DIBROMO-3-CHLOROPROPANE		0.75	UJ	C				0.75	U		0.75	U	
1,2-DIBROMOETHANE		0.5	U					0.5	U		0.5	U	
1,2-DICHLOROBENZENE		0.5	U					0.5	U		0.5	U	
1,2-DICHLOROETHANE		0.5	U					0.5	U		0.5	U	
1,2-DICHLOROPROPANE		0.5	U					0.5	U		0.5	U	
1,3,5-TRIMETHYLBENZENE		0.5	U					0.5	U		0.5	U	
1,3-DICHLOROBENZENE		0.5	U					0.5	U		0.5	U	
1,3-DICHLOROPROPANE		0.5	U					0.5	U		0.5	U	
1,4-DICHLOROBENZENE		0.5	U					0.5	U		0.5	U	
2,2-DICHLOROPROPANE		0.5	U					0.5	U		0.5	U	
2-BUTANONE		2.5	U					2.5	U		2.5	U	
2-CHLOROTOLUENE		0.5	U					0.5	U		0.5	U	
2-HEXANONE		2.5	U					2.5	U		2.5	U	
4-CHLOROTOLUENE		0.5	U					0.5	U		0.5	U	
4-ISOPROPYLTOLUENE		0.5	U					0.5	U		0.5	U	
4-METHYL-2-PENTANONE		2.5	U					2.5	U		2.5	U	
ACETONE		2.5	U					2.5	U		2.5	U	
BENZENE		0.5	U					0.5	U		0.5	U	
BROMOBENZENE		0.5	U					0.5	U		0.5	U	
BROMOCHLOROMETHANE		0.5	U					0.5	U		0.5	U	
BROMODICHLOROMETHANE		0.5	U					0.5	U		0.5	U	
BROMOFORM		0.5	U					0.5	U		0.5	U	
BROMOMETHANE		1	U					1	U		1	U	
CARBON DISULFIDE		0.5	U					0.39	J	P	0.5	U	

PROJ_NO: 02124	NSAMPLE	DA-GW-MW125B-031511			DA-GW-MW127B-031611			DA-GW-MW129B-031511			DA-GW-MW130B-031511		
SDG: WE19-11	LAB_ID	SE1261-5			SE1292-1			SE1292-6			SE1261-1		
FRACTION: OV	SAMP_DATE	3/15/2011			3/16/2011			3/15/2011			3/15/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.5	U		0.5	U		0.5	U		0.5	U	
1,1,1-TRICHLOROETHANE		0.5	U		0.5	U		50			17		
1,1,2,2-TETRACHLOROETHANE		0.5	U		0.5	U		0.5	U		0.5	U	
1,1,2-TRICHLOROETHANE		0.5	U		0.5	U		0.5	U		0.5	U	
1,1-DICHLOROETHANE		0.5	U		0.5	U		50			14		
1,1-DICHLOROETHENE		0.5	U		0.5	U		2.8			1.8		
1,1-DICHLOROPROPENE		0.5	U		0.5	U		0.5	U		0.5	U	
1,2,3-TRICHLOROBENZENE		0.5	U		0.5	U		0.5	U		0.5	U	
1,2,3-TRICHLOROPROPANE		0.5	U		0.5	U		0.5	U		0.5	U	
1,2,4-TRICHLOROBENZENE		0.5	U		0.5	U		0.5	U		0.5	U	
1,2,4-TRIMETHYLBENZENE		0.5	U		0.5	U		0.23	J	P	0.5	U	
1,2-DIBROMO-3-CHLOROPROPANE		0.75	UJ	C	0.75	U		0.75	U		0.75	UJ	C
1,2-DIBROMOETHANE		0.5	U		0.5	U		0.5	U		0.5	U	
1,2-DICHLOROBENZENE		0.5	U		0.5	U		0.5	U		0.5	U	
1,2-DICHLOROETHANE		0.5	U		0.5	U		0.5	U		0.5	U	
1,2-DICHLOROPROPANE		0.5	U		0.5	U		0.5	U		0.5	U	
1,3,5-TRIMETHYLBENZENE		0.5	U		0.5	U		0.5	U		0.5	U	
1,3-DICHLOROBENZENE		0.5	U		0.5	U		0.5	U		0.5	U	
1,3-DICHLOROPROPANE		0.5	U		0.5	U		0.5	U		0.5	U	
1,4-DICHLOROBENZENE		0.5	U		0.5	U		0.5	U		0.5	U	
2,2-DICHLOROPROPANE		0.5	U		0.5	U		0.5	U		0.5	U	
2-BUTANONE		2.5	U		2.5	U		2.5	U		2.5	U	
2-CHLOROTOLUENE		0.5	U		0.5	U		0.5	U		0.5	U	
2-HEXANONE		2.5	U		2.5	U		2.5	U		2.5	U	
4-CHLOROTOLUENE		0.5	U		0.5	U		0.5	U		0.5	U	
4-ISOPROPYLTOLUENE		0.5	U		0.5	U		0.5	U		0.5	U	
4-METHYL-2-PENTANONE		2.5	U		2.5	U		2.5	U		2.5	U	
ACETONE		2.5	U		2.5	U		2.5	U		2.5	U	
BENZENE		0.5	U		0.5	U		0.5	U		0.5	U	
BROMOBENZENE		0.5	U		0.5	U		0.5	U		0.5	U	
BROMOCHLOROMETHANE		0.5	U		0.5	U		0.5	U		0.5	U	
BROMODICHLOROMETHANE		0.5	U		0.5	U		0.5	U		0.5	U	
BROMOFORM		0.5	U		0.5	U		0.5	U		0.5	U	
BROMOMETHANE		1	U		1	U		1	U		1	U	
CARBON DISULFIDE		0.5	U		0.5	U		0.5	U		0.5	U	

PROJ_NO: 02124	NSAMPLE	DA-GW-TB01-031411			DA-GW-TB02-031511			DA-GW-TB03-031611		
SDG: WE19-11	LAB_ID	SE1228-5			SE1261-8			SE1292-5		
FRACTION: OV	SAMP_DATE	3/14/2011			3/15/2011			3/16/2011		
MEDIA: WATER	QC_TYPE	TB			TB			TB		
	UNITS	UG/L			UG/L			UG/L		
	PCT_SOLIDS									
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.5	U		0.5	U		0.5	U	
1,1,1-TRICHLOROETHANE		0.5	U		0.5	U		0.5	U	
1,1,2,2-TETRACHLOROETHANE		0.5	U		0.5	U		0.5	U	
1,1,2-TRICHLOROETHANE		0.5	U		0.5	U		0.5	U	
1,1-DICHLOROETHANE		0.5	U		0.5	U		0.5	U	
1,1-DICHLOROETHENE		0.5	U		0.5	U		0.5	U	
1,1-DICHLOROPROPENE		0.5	U		0.5	U		0.5	U	
1,2,3-TRICHLOROBENZENE		0.5	U		0.5	U		0.5	U	
1,2,3-TRICHLOROPROPANE		0.5	U		0.5	U		0.5	U	
1,2,4-TRICHLOROBENZENE		0.5	U		0.5	U		0.5	U	
1,2,4-TRIMETHYLBENZENE		0.5	U		0.5	U		0.5	U	
1,2-DIBROMO-3-CHLOROPROPANE		0.75	UJ	C	0.75	U		0.75	U	
1,2-DIBROMOETHANE		0.5	U		0.5	U		0.5	U	
1,2-DICHLOROBENZENE		0.5	U		0.5	U		0.5	U	
1,2-DICHLOROETHANE		0.5	U		0.5	U		0.5	U	
1,2-DICHLOROPROPANE		0.5	U		0.5	U		0.5	U	
1,3,5-TRIMETHYLBENZENE		0.5	U		0.5	U		0.5	U	
1,3-DICHLOROBENZENE		0.5	U		0.5	U		0.5	U	
1,3-DICHLOROPROPANE		0.5	U		0.5	U		0.5	U	
1,4-DICHLOROBENZENE		0.5	U		0.5	U		0.5	U	
2,2-DICHLOROPROPANE		0.5	U		0.5	U		0.5	U	
2-BUTANONE		2.5	U		2.5	U		2.5	U	
2-CHLOROTOLUENE		0.5	U		0.5	U		0.5	U	
2-HEXANONE		2.5	U		2.5	U		2.5	U	
4-CHLOROTOLUENE		0.5	U		0.5	U		0.5	U	
4-ISOPROPYLTOLUENE		0.5	U		0.5	U		0.5	U	
4-METHYL-2-PENTANONE		2.5	U		2.5	U		2.5	U	
ACETONE		2.5	U		2.5	U		2.5	U	
BENZENE		0.5	U		0.5	U		0.5	U	
BROMOBENZENE		0.5	U		0.5	U		0.5	U	
BROMOCHLOROMETHANE		0.5	U		0.5	U		0.5	U	
BROMODICHLOROMETHANE		0.5	U		0.5	U		0.5	U	
BROMOFORM		0.5	U		0.5	U		0.5	U	
BROMOMETHANE		1	U		1	U		1	U	
CARBON DISULFIDE		0.5	U		0.5	U		0.5	U	

PROJ_NO: 02124	NSAMPLE	DA-GW-DUP01-031411			DA-GW-DUP02-031511			DA-GW-DUP02-031511DL			DA-GW-DUP03-031611		
SDG: WE19-11	LAB_ID	SE1228-4			SE1261-7			SE1261-7DL			SE1292-4		
FRACTION: OV	SAMP_DATE	3/14/2011			3/15/2011			3/15/2011			3/16/2011		
MEDIA: WATER	QC_TYPE	FD			FD			FD			FD		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF	DA-GW-MW110B-031411			DA-GW-MW07B-031511			DA-GW-MW07B-031511			DA-GW-MW06B-031611		
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON TETRACHLORIDE		0.5	U		0.5	U					0.5	U	
CHLOROBENZENE		0.5	U		0.5	U					0.5	U	
CHLORODIBROMOMETHANE		0.5	U		0.5	U					0.5	U	
CHLOROETHANE		1	UJ	C	6.1						1	UJ	C
CHLOROFORM		0.5	U		0.5	U					0.5	U	
CHLOROMETHANE		1	U		1	U					1	U	
CIS-1,2-DICHLOROETHENE		0.64	J	P	0.5	U					0.5	U	
CIS-1,3-DICHLOROPROPENE		0.5	U		0.5	U					0.5	U	
DIBROMOMETHANE		0.5	U		0.5	U					0.5	U	
DICHLORODIFLUOROMETHANE		1	U		1	U					1	U	
ETHYLBENZENE		0.5	U		0.37	J	P				0.5	U	
HEXACHLOROBUTADIENE		0.5	U		0.5	U					0.5	U	
ISOPROPYLBENZENE		0.5	U		0.28	J	P				0.5	U	
M+P-XYLENES		1	U		1	U					1	U	
METHYL TERT-BUTYL ETHER		0.5	U		0.5	U					0.5	U	
METHYLENE CHLORIDE		2.5	U		2.5	U					2.5	U	
N-BUTYLBENZENE		0.5	U		0.5	U					0.5	U	
N-PROPYLBENZENE		0.5	U		0.46	J	P				0.5	U	
O-XYLENE		0.5	U		0.34	J	P				0.5	U	
SEC-BUTYLBENZENE		0.5	U		0.34	J	P				0.5	U	
STYRENE		0.5	U		0.5	U					0.5	U	
TERT-BUTYLBENZENE		0.5	U		0.5	U					0.5	U	
TETRACHLOROETHENE		0.58	J	P	1						0.5	U	
TOLUENE		0.5	U		0.31	J	P				0.5	U	
TRANS-1,2-DICHLOROETHENE		0.5	U		0.5	U					0.5	U	
TRANS-1,3-DICHLOROPROPENE		0.5	U		0.5	U					0.5	U	
TRICHLOROETHENE		0.56	J	P	2						0.5	U	
TRICHLOROFLUOROMETHANE		1	U		1	U					1	U	
VINYL CHLORIDE		1	U		1.1	J	P				1	U	

PROJ_NO: 02124	NSAMPLE	DA-GW-MW04B-031411			DA-GW-MW06B-031611			DA-GW-MW07A-031511			DA-GW-MW07A-031511DL		
SDG: WE19-11	LAB_ID	SE1228-1			SE1292-3			SE1261-4			SE1261-4DL		
FRACTION: OV	SAMP_DATE	3/14/2011			3/16/2011			3/15/2011			3/15/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON TETRACHLORIDE		0.5	U		0.5	U		0.5	U				
CHLOROBENZENE		0.5	U		0.5	U		0.5	U				
CHLORODIBROMOMETHANE		0.5	U		0.5	U		0.5	U				
CHLOROETHANE		1	UJ	C	1	UJ	C				1300		
CHLOROFORM		0.5	U		0.5	U		0.5	U				
CHLOROMETHANE		1	U		1	U		1	U				
CIS-1,2-DICHLOROETHENE		1.4			0.5	U		4.8					
CIS-1,3-DICHLOROPROPENE		0.5	U		0.5	U		0.5	U				
DIBROMOMETHANE		0.5	U		0.5	U		0.5	U				
DICHLORODIFLUOROMETHANE		1	U		1	U		1	U				
ETHYLBENZENE		0.5	U		0.5	U		0.5	U				
HEXACHLOROBUTADIENE		0.5	U		0.5	U		0.5	U				
ISOPROPYLBENZENE		0.5	U		0.5	U		0.99	J	P			
M+P-XYLENES		1	U		1	U		1	U				
METHYL TERT-BUTYL ETHER		0.5	U		0.5	U		0.5	U				
METHYLENE CHLORIDE		2.5	U		2.5	U		2.5	U				
N-BUTYLBENZENE		0.5	U		0.5	U		0.5	U				
N-PROPYLBENZENE		0.5	U		0.5	U		0.5	U				
O-XYLENE		0.5	U		0.5	U		0.33	J	P			
SEC-BUTYLBENZENE		0.5	U		0.5	U		0.49	J	P			
STYRENE		0.5	U		0.5	U		0.5	U				
TERT-BUTYLBENZENE		0.5	U		0.5	U		0.5	U				
TETRACHLOROETHENE		1.2			0.5	U		12					
TOLUENE		0.5	U		0.5	U		0.5	U				
TRANS-1,2-DICHLOROETHENE		0.5	U		0.5	U		0.5	U				
TRANS-1,3-DICHLOROPROPENE		0.5	U		0.5	U		0.5	U				
TRICHLOROETHENE		0.88	J	P	0.5	U		4.1					
TRICHLOROFLUOROMETHANE		1	U		1	U		1	U				
VINYL CHLORIDE		1	U		1	U		1	U				

PROJ_NO: 02124	NSAMPLE	DA-GW-MW07B-031511			DA-GW-MW07B-031511DL			DA-GW-MW101B-031511			DA-GW-MW101B-031511DL		
SDG: WE19-11	LAB_ID	SE1261-6			SE1261-6DL			SE1261-2			SE1261-2DL		
FRACTION: OV	SAMP_DATE	3/15/2011			3/15/2011			3/15/2011			3/15/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON TETRACHLORIDE		0.5	U					0.5	U				
CHLOROBENZENE		0.5	U					0.5	U				
CHLORODIBROMOMETHANE		0.5	U					0.5	U				
CHLOROETHANE		6.1						110	J	C			
CHLOROFORM		0.5	U					0.5	U				
CHLOROMETHANE		1	U					1	U				
CIS-1,2-DICHLOROETHENE		0.5	U					0.41	J	P			
CIS-1,3-DICHLOROPROPENE		0.5	U					0.5	U				
DIBROMOMETHANE		0.5	U					0.5	U				
DICHLORODIFLUOROMETHANE		1	U					1	U				
ETHYLBENZENE		0.33	J	P				0.5	U				
HEXACHLOROBUTADIENE		0.5	U					0.5	U				
ISOPROPYLBENZENE		0.27	J	P				0.5	U				
M+P-XYLENES		1	U					1	U				
METHYL TERT-BUTYL ETHER		0.5	U					0.5	U				
METHYLENE CHLORIDE		2.5	U					2.5	U				
N-BUTYLBENZENE		0.5	U					0.5	U				
N-PROPYLBENZENE		0.4	J	P				0.5	U				
O-XYLENE		0.42	J	P				0.5	U				
SEC-BUTYLBENZENE		0.3	J	P				0.5	U				
STYRENE		0.5	U					0.5	U				
TERT-BUTYLBENZENE		0.5	U					0.5	U				
TETRACHLOROETHENE		1.1						0.5	U				
TOLUENE		0.32	J	P				0.5	U				
TRANS-1,2-DICHLOROETHENE		0.5	U					0.5	U				
TRANS-1,3-DICHLOROPROPENE		0.5	U					0.5	U				
TRICHLOROETHENE		1.9						3.8					
TRICHLOROFLUOROMETHANE		1	U					1	U				
VINYL CHLORIDE		1	J	P				1.5	J	P			

PROJ_NO: 02124	NSAMPLE	DA-GW-MW104B-031411			DA-GW-MW104B-031411DL			DA-GW-MW110B-031411			DA-GW-MW118B-D1-031611		
SDG: WE19-11	LAB_ID	SE1228-2			SE1228-2DL			SE1228-3			SE1292-2		
FRACTION: OV	SAMP_DATE	3/14/2011			3/14/2011			3/14/2011			3/16/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON TETRACHLORIDE		0.5	U					0.5	U		0.5	U	
CHLOROBENZENE		0.5	U					0.5	U		0.5	U	
CHLORODIBROMOMETHANE		0.5	U					0.5	U		0.5	U	
CHLOROETHANE		4.6	J	C				1	U		1	UJ	C
CHLOROFORM		0.5	U					0.5	U		0.5	U	
CHLOROMETHANE		1	U					1	U		1	U	
CIS-1,2-DICHLOROETHENE		8.3						0.54	J	P	0.93	J	P
CIS-1,3-DICHLOROPROPENE		0.5	U					0.5	U		0.5	U	
DIBROMOMETHANE		0.5	U					0.5	U		0.5	U	
DICHLORODIFLUOROMETHANE		1	U					1	U		1	U	
ETHYLBENZENE		0.5	U					0.5	U		0.5	U	
HEXACHLOROBUTADIENE		0.5	U					0.5	U		0.5	U	
ISOPROPYLBENZENE		0.5	U					0.5	U		0.5	U	
M+P-XYLENES		1	U					1	U		1	U	
METHYL TERT-BUTYL ETHER		0.5	U					0.5	U		0.5	U	
METHYLENE CHLORIDE		2.5	U					2.5	U		2.5	U	
N-BUTYLBENZENE		0.5	U					0.5	U		0.5	U	
N-PROPYLBENZENE		0.5	U					0.5	U		0.5	U	
O-XYLENE		0.5	U					0.5	U		0.5	U	
SEC-BUTYLBENZENE		0.5	U					0.5	U		0.5	U	
STYRENE		0.5	U					0.5	U		0.5	U	
TERT-BUTYLBENZENE		0.5	U					0.5	U		0.5	U	
TETRACHLOROETHENE		3.7						0.45	J	P	0.5	U	
TOLUENE		0.5	U					0.5	U		0.5	U	
TRANS-1,2-DICHLOROETHENE		0.5	U					0.5	U		0.5	U	
TRANS-1,3-DICHLOROPROPENE		0.5	U					0.5	U		0.5	U	
TRICHLOROETHENE		6.1						0.58	J	P	62		
TRICHLOROFLUOROMETHANE		1	U					1	U		1	U	
VINYL CHLORIDE		0.86	J	P				1	U		1	U	

PROJ_NO: 02124	NSAMPLE	DA-GW-MW125B-031511			DA-GW-MW127B-031611			DA-GW-MW129B-031511			DA-GW-MW130B-031511		
SDG: WE19-11	LAB_ID	SE1261-5			SE1292-1			SE1292-6			SE1261-1		
FRACTION: OV	SAMP_DATE	3/15/2011			3/16/2011			3/15/2011			3/15/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON TETRACHLORIDE		0.5	U		0.5	U		0.5	U		0.5	U	
CHLOROBENZENE		0.5	U		0.5	U		0.5	U		0.5	U	
CHLORODIBROMOMETHANE		0.5	U		0.5	U		0.5	U		0.5	U	
CHLOROETHANE		1	UJ	C	1	UJ	C	57	J	C	1	UJ	C
CHLOROFORM		0.5	U		0.5	U		0.5	U		0.36	J	P
CHLOROMETHANE		1	U		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE		0.5	U		0.26	J	P	0.36	J	P	0.5	U	
CIS-1,3-DICHLOROPROPENE		0.5	U		0.5	U		0.5	U		0.5	U	
DIBROMOMETHANE		0.5	U		0.5	U		0.5	U		0.5	U	
DICHLORODIFLUOROMETHANE		1	U		1	U		1	U		1	U	
ETHYLBENZENE		0.5	U		0.5	U		0.5	U		0.5	U	
HEXACHLOROBUTADIENE		0.5	U		0.5	U		0.5	U		0.5	U	
ISOPROPYLBENZENE		0.5	U		0.5	U		0.5	U		0.5	U	
M+P-XYLENES		1	U		1	U		1	U		1	U	
METHYL TERT-BUTYL ETHER		0.5	U		0.5	U		0.5	U		0.5	U	
METHYLENE CHLORIDE		2.5	U		2.5	U		2.5	U		2.5	U	
N-BUTYLBENZENE		0.5	U		0.5	U		0.5	U		0.5	U	
N-PROPYLBENZENE		0.5	U		0.5	U		0.5	U		0.5	U	
O-XYLENE		0.5	U		0.5	U		0.5	U		0.5	U	
SEC-BUTYLBENZENE		0.5	U		0.5	U		0.22	J	P	0.5	U	
STYRENE		0.5	U		0.5	U		0.5	U		0.5	U	
TERT-BUTYLBENZENE		0.5	U		0.5	U		0.5	U		0.5	U	
TETRACHLOROETHENE		0.5	U		0.5	U		0.5	U		0.5	U	
TOLUENE		0.5	U		0.5	U		0.5	U		0.5	U	
TRANS-1,2-DICHLOROETHENE		0.5	U		0.5	U		0.5	U		0.5	U	
TRANS-1,3-DICHLOROPROPENE		0.5	U		0.5	U		0.5	U		0.5	U	
TRICHLOROETHENE		0.5	U		12			2.3			0.78	J	P
TRICHLOROFLUOROMETHANE		1	U		1	U		1	U		1	U	
VINYL CHLORIDE		1	U		1	U		1	U		1	U	

PROJ_NO: 02124	NSAMPLE	DA-GW-TB01-031411			DA-GW-TB02-031511			DA-GW-TB03-031611		
SDG: WE19-11	LAB_ID	SE1228-5			SE1261-8			SE1292-5		
FRACTION: OV	SAMP_DATE	3/14/2011			3/15/2011			3/16/2011		
MEDIA: WATER	QC_TYPE	TB			TB			TB		
	UNITS	UG/L			UG/L			UG/L		
	PCT_SOLIDS									
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON TETRACHLORIDE		0.5	U		0.5	U		0.5	U	
CHLOROBENZENE		0.5	U		0.5	U		0.5	U	
CHLORODIBROMOMETHANE		0.5	U		0.5	U		0.5	U	
CHLOROETHANE		1	UJ	C	1	U		1	U	
CHLOROFORM		0.5	U		0.5	U		0.5	U	
CHLOROMETHANE		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE		0.5	U		0.5	U		0.5	U	
CIS-1,3-DICHLOROPROPENE		0.5	U		0.5	U		0.5	U	
DIBROMOMETHANE		0.5	U		0.5	U		0.5	U	
DICHLORODIFLUOROMETHANE		1	U		1	U		1	U	
ETHYLBENZENE		0.5	U		0.5	U		0.5	U	
HEXACHLOROBUTADIENE		0.5	U		0.5	U		0.5	U	
ISOPROPYLBENZENE		0.5	U		0.5	U		0.5	U	
M+P-XYLENES		1	U		1	U		1	U	
METHYL TERT-BUTYL ETHER		0.5	U		0.5	U		0.5	U	
METHYLENE CHLORIDE		2.5	U		2.5	U		2.5	U	
N-BUTYLBENZENE		0.5	U		0.5	U		0.5	U	
N-PROPYLBENZENE		0.5	U		0.5	U		0.5	U	
O-XYLENE		0.5	U		0.5	U		0.5	U	
SEC-BUTYLBENZENE		0.5	U		0.5	U		0.5	U	
STYRENE		0.5	U		0.5	U		0.5	U	
TERT-BUTYLBENZENE		0.5	U		0.5	U		0.5	U	
TETRACHLOROETHENE		0.5	U		0.5	U		0.5	U	
TOLUENE		0.5	U		0.5	U		0.5	U	
TRANS-1,2-DICHLOROETHENE		0.5	U		0.5	U		0.5	U	
TRANS-1,3-DICHLOROPROPENE		0.5	U		0.5	U		0.5	U	
TRICHLOROETHENE		0.5	U		0.5	U		0.5	U	
TRICHLOROFLUOROMETHANE		1	U		1	U		1	U	
VINYL CHLORIDE		1	U		1	U		1	U	

PROJ_NO: 02124	NSAMPLE	DA-GW-DUP01-031411			DA-GW-DUP02-031511			DA-GW-DUP03-031611			DA-GW-MW04B-031411		
SDG: WE19-11	LAB_ID	SE1228-4			SE1261-7			SE1292-4			SE1228-1		
FRACTION: OVG	SAMP_DATE	3/14/2011			3/15/2011			3/16/2011			3/14/2011		
MEDIA: WATER	QC_TYPE	FD			FD			FD			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF	DA-GW-MW110B-031411			DA-GW-MW07B-031511			DA-GW-MW06B-031611					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ETHANE		2	U		2	U		2	U		2	U	
ETHENE		2	U		2	U		2	U		2	U	
METHANE		11			14			2.4	J	P	11		

PROJ_NO: 02124	NSAMPLE	DA-GW-MW06B-031611			DA-GW-MW07A-031511			DA-GW-MW07B-031511			DA-GW-MW101B-031511		
SDG: WE19-11	LAB_ID	SE1292-3			SE1261-4			SE1261-6			SE1261-2		
FRACTION: OVG	SAMP_DATE	3/16/2011			3/15/2011			3/15/2011			3/15/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ETHANE		2	U		2	U		2	U		2	U	
ETHENE		2	U		2	U		2	U		2	U	
METHANE		2.1	J	P	360			19			250		

PROJ_NO: 02124	NSAMPLE	DA-GW-MW104B-031411			DA-GW-MW110B-031411			DA-GW-MW118B-D1-031611			DA-GW-MW125B-031511		
SDG: WE19-11	LAB_ID	SE1228-2			SE1228-3			SE1292-2			SE1261-5		
FRACTION: OVG	SAMP_DATE	3/14/2011			3/14/2011			3/16/2011			3/15/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ETHANE		2	U		2	U		2	U		2	U	
ETHENE		2	U		2	U		2	U		2	U	
METHANE		28			10			1.4	J	P	15		

PROJ_NO: 02124	NSAMPLE	DA-GW-MW127B-031611			DA-GW-MW129B-031511			DA-GW-MW130B-031511		
SDG: WE19-11	LAB_ID	SE1292-1			SE1292-6			SE1261-1		
FRACTION: OVG	SAMP_DATE	3/16/2011			3/15/2011			3/15/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L		
	PCT_SOLIDS									
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ETHANE		2	U		2	U		2	U	
ETHENE		1.8	J	P	2	U		2	U	
METHANE		2.3	J	P	70			3.5	J	P

PROJ_NO: 02124	NSAMPLE	DA-GW-DUP01-031411			DA-GW-DUP02-031511			DA-GW-DUP03-031611			DA-GW-MW04B-031411		
SDG: WE19-11	LAB_ID	SE1228-4			SE1261-7			SE1292-4			SE1228-1		
FRACTION: MISC	SAMP_DATE	3/14/2011			3/15/2011			3/16/2011			3/14/2011		
MEDIA: WATER	QC_TYPE	FD			FD			FD			NM		
	UNITS	MG/L			MG/L			MG/L			MG/L		
	PCT_SOLIDS												
	DUP_OF	DA-GW-MW110B-031411			DA-GW-MW07B-031511			DA-GW-MW06B-031611					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
AMMONIA-N		0.05	U		0.05	U		0.05	U		0.05	U	
CHLORIDE		16			240			79			18		
NITRATE-N		0.025	U		0.025	U		0.025	U		0.021	J	P
NITRITE-N		0.025	U		0.025	U		0.025	U		0.025	U	
ORTHOPHOSPHATE-P		0.05	U		0.05	U		0.025	U		0.067		
SULFATE		31			7.5			46			28		
SULFIDE		0.8	U		0.83	J	P	0.8	U		0.8	U	
TOTAL ORGANIC CARBON		0.47	J	P	1.5			0.57	J	P	0.35	J	P

PROJ_NO: 02124	NSAMPLE	DA-GW-MW06B-031611			DA-GW-MW07A-031511			DA-GW-MW07B-031511			DA-GW-MW101B-031511		
SDG: WE19-11	LAB_ID	SE1292-3			SE1261-4			SE1261-6			SE1261-2		
FRACTION: MISC	SAMP_DATE	3/16/2011			3/15/2011			3/15/2011			3/15/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/L			MG/L			MG/L			MG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
AMMONIA-N		0.05	U		2.6			0.05	U		0.05	U	
CHLORIDE		77			20			240			74		
NITRATE-N		0.025	U		0.04	J	P	0.025	U		0.025	U	
NITRITE-N		0.025	U		0.0097	J	P	0.025	U		0.025	U	
ORTHOPHOSPHATE-P		0.025	U		0.025	U		0.025	U		0.025	U	
SULFATE		42			8.3			7.4			13		
SULFIDE		0.8	U		0.8	U		0.8	U		0.8	U	
TOTAL ORGANIC CARBON		0.66	J	P	6.2			1.5			0.61	J	P

PROJ_NO: 02124	NSAMPLE	DA-GW-MW104B-031411			DA-GW-MW110B-031411			DA-GW-MW118B-D1-031611			DA-GW-MW125B-031511		
SDG: WE19-11	LAB_ID	SE1228-2			SE1228-3			SE1292-2			SE1261-5		
FRACTION: MISC	SAMP_DATE	3/14/2011			3/14/2011			3/16/2011			3/15/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/L			MG/L			MG/L			MG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
AMMONIA-N		0.05	U		0.05	U		0.05	U		1		
CHLORIDE		30			17			16			84		
NITRATE-N		0.028	J	P	0.025	U		0.025	U		0.025	U	
NITRITE-N		0.025	U		0.025	U		0.025	U		0.014	J	P
ORTHOPHOSPHATE-P		0.025	U		0.016	J	P	0.02	J	P	0.025	U	
SULFATE		15			31			17			11		
SULFIDE		0.8	U		0.8	U		0.8	U		0.8	U	
TOTAL ORGANIC CARBON		0.53	J	P	0.47	J	P	0.18	J	P	2.1		

PROJ_NO: 02124	NSAMPLE	DA-GW-MW127B-031611			DA-GW-MW129B-031511			DA-GW-MW130B-031511		
SDG: WE19-11	LAB_ID	SE1292-1			SE1261-3			SE1261-1		
FRACTION: MISC	SAMP_DATE	3/16/2011			3/15/2011			3/15/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM		
	UNITS	MG/L			MG/L			MG/L		
	PCT_SOLIDS									
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
AMMONIA-N		0.05	U		0.05	U		0.05	U	
CHLORIDE		36			82			210		
NITRATE-N		1			0.68			3		
NITRITE-N		0.025	U		0.025	U		0.025	U	
ORTHOPHOSPHATE-P		0.035	J	P	0.025	U		0.029	J	P
SULFATE		34			8.4			18		
SULFIDE		0.8	U		0.8	U		1.9		
TOTAL ORGANIC CARBON		0.64	J	P	1.2			1.2		

TETRA TECH NUS, INC **INTERNAL CORRESPONDENCE**

C-NAVY-04-11-4296W

Date: April 19, 2011 c: File G02124-4.10 (w/enc.-original)

To: J. Ropp (w/o enc.)

From: J. Cardinal (no copy)

Subject: Tier I/II Organic and Inorganic Data Validation, SDG WE19-12
Katahdin Analytical Services
CTO WE19, Supplemental Monitored Natural Attenuation Sampling, Site 08 – NUSC Disposal Area, Naval Station Newport, Newport, RI

VOC/MEE/Ammonia/Chloride/Nitrate/Nitrite/Phosphate/Sulfate/Sulfide/TOC:

8/Groundwaters/	DA-GW-MW08B-031811	DA-GW-MW103B-031811
	DA-GW-MW108B-031711	DA-GW-MW116B-D2-031711
	DA-GW-MW117B-D1-031711	DA-GW-MW12-031711
	DA-GW-MW122-031711	DA-GW-MW128B-031811
1/Rinsate Blank/	DA-GW-RB01-031811	

VOC:

1/Groundwater/	DA-GW-MW03B-031711	
2/Trip Blanks/	DA-GW-TB01-031811	DA-GW-TB04-031711

Tetra Tech NUS, Inc. (TtNUS) performed a Tier II data validation on the volatile organic compound (VOC) analytical data and a Tier I data validation on the methane/ethane/ethene (MEE), ammonia, chloride, nitrate, nitrite, orthophosphate, sulfate, sulfide, and TOC analytical data for the groundwater samples collected as part of the Supplemental Monitored Natural Attenuation Sampling at Site 08 at the Naval Undersea System Center (NUSC) Disposal Area, Naval Station Newport, Newport, Rhode Island site from March 17-18, 2011. Sample analysis was performed according to the Work Plan for Remedial Investigation Revision 2 for Site 08 – NUSC Disposal Area, Naval Station Newport, Middletown, Rhode Island dated January 2007 and the Work Plan for Supplemental Monitored Natural Attenuation Sampling, Site 08, NUSC Disposal Area, Naval Station Newport, Middletown, Rhode Island dated March 2011.

The VOC analysis was performed according to USEPA SW-846 Method 8260B. The MEE analysis was performed according to Method RSK 175, Revision 0, dated August 11, 1994. The TOC, ammonia, and sulfide analyses were analyzed according to EPA Method 415.1, EPA Method 350.1, and SM 4500S2, respectively. Chloride and sulfate were both analyzed according to EPA Method 300.0. Nitrate and nitrite were both analyzed according to EPA Method 353.2 and phosphate was analyzed according to SM4500.

The VOC data validation was performed in accordance with the Region I EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, December 1996. Tier I validation is for completeness only.

The sample results, validation qualifiers (VQL), and qualifier codes (QLCD) are presented in the enclosed data summary tables. A list of the qualifier codes, which provide the reasons for the validation qualifiers, is enclosed.

The data were evaluated based on the following parameters:

- Laboratory Data Completeness
- * Preservation and Technical Holding Times
- * GC/MS Instrument Performance Check (Tuning)
- Initial and Continuing Calibrations
- * Blanks
- * Surrogate Compounds
- * Internal Standards
- Matrix Spike/Matrix Spike Duplicate
- * Laboratory Control Sample
- NA Field Duplicates
- Limits of Detection

* All criteria were met for this parameter.
NA Not applicable for this SDG.

Laboratory Data Completeness

The MEE, ammonia, chloride, nitrate, nitrite, orthophosphate, sulfate, sulfide, and TOC data are complete.

Select sample IDs exceeded the 19-character limit of the laboratory's software system. Therefore, the first characters "DA-" were omitted on all forms for the affected samples. The sample IDs in the data summary tables are complete.

The laboratory noted that one VOC vial was received broken for sample DA-GW-MW122-031711.

Nitrate/Nitrite/Phosphate

The laboratory noted that because of a malfunction of the ion chromatograph, it was not possible to perform analysis of nitrate, nitrite, and orthophosphate samples in this SDG by EPA Method 300.0 within the method-specified 48-hour holding time. At Tetra Tech request, these analyses were performed by alternate colorimetric methods within holding times (nitrate and nitrite both by EPA Method 353.2 and orthophosphate by SM4500). The samples were subsequently analyzed for these parameters by EPA Method 300.0 outside of holding time after the instrumentation was repaired. Both sets of results were reported by the laboratory.

Preservation and Technical Holding Times

Nitrate/Nitrite/Phosphate

All nitrate, nitrite, and orthophosphate samples in this SDG were analyzed by alternate colorimetric methods within holding times. The samples were subsequently analyzed for these parameters by EPA Method 300.0 outside of holding time. Tetra Tech Chemist, J. Cardinal, selected the results from

alternate methods (within holding time) to be reported for the samples in this SDG. No further action was taken.

Initial and Continuing Calibrations

Volatiles

The following table summarizes the volatile compounds that failed to meet the initial calibration verification recovery criteria of 75-125%:

Compound	%R	Action		Affected Samples
		(+)	NDs	
2-Hexanone	68.92		UJ	All samples
1,2-Dibromo-3-chloropropane	70.40		UJ	

Although the initial calibration verification recoveries for 2-hexanone and 1,2-dibromo-3-chloropropane were below the QC limit, the project accuracy goals are not impacted since there are no project action limits established for these compounds. The non-detected 2-hexanone and 1,2-dibromo-3-chloropropane results in the affected samples are usable as estimated values which may be biased low.

The following table summarizes the volatile compounds that failed to meet the continuing calibration (CC) criterion of %D < 25:

Compound	%D	Action		Affected Samples
		(+)	NDs	
Dichlorodifluoromethane	-35.07		UJ	DA-GW-MW12-031711, DA-GW-MW122-031711, DA-GW-MW108B-031711, DA-GW-MW116B-D2-031711, DA-GW-MW117B-D1-031711, DA-GW-MW03B-031711, DA-GW-MW103B-031811, DA-GW-MW128B-031811
Chloromethane	-27.13		UJ	

Although the %D was outside of the QC limit for dichlorodifluoromethane and chloromethane, the project accuracy goals are not impacted since either there are no project action limits established for the affected compounds, or the affected results are more than an order of magnitude below the PALs. The non-detected dichlorodifluoromethane and chloromethane results for the affected samples are usable as estimated values.

Matrix Spike/Matrix Spike Duplicate

Volatiles

The matrix spike/matrix spike duplicate (MS/MSD) results for sample DA-GW-MW108B-031711 recovered the majority of the volatile compounds below the compound-specific recovery limits. In addition, analytes dichlorodifluoromethane, chloromethane, 1,1-dichloroethene, acetone, and methyl tert-butyl-ether had relative percent differences (RPD) above the 30% QC limit. All positive results are estimated (J) and all non-detected results are estimated (UJ) in sample DA-GW-MW108B-031711 due to low MS/MSD recoveries and poor MS/MSD precision.

The matrix spike/matrix spike duplicate recoveries for the majority of the volatile compounds did not meet the QC limits; therefore, the project accuracy goals may be impacted. The positive and non-detected results in sample DA-GW-MW108B-031711 are usable as estimated values which may be biased low.

The matrix spike/matrix spike duplicate relative percent differences for select of the volatile compounds did not meet the QC limits; therefore, the project precision goals may be impacted. The positive and non-detected results in sample DA-GW-MW108B-031711 are usable as estimated values for which the bias is indeterminate.

Limits of Detection

Non-detected results were reported at the limit of detection (LOD). Positive results below the limit of quantitation (LOQ) and above the method detection limit (MDL) were qualified as estimated (J) due to uncertainty below the LOQ. Project action limits are evaluated for non-detected results only (reported at the LOD).

Volatiles

The PALs were met by the LODs except for 1,2,4-trichlorobenzene, 1,2-dichloroethane, 1,4-dichlorobenzene, benzene, carbon disulfide, chloroform, methylene chloride, tetrachloroethene, trichloroethene, and vinyl chloride. Data usability may be impacted for these compounds.

Results were not reported for benzoic acid, benzyl alcohol, and pentachlorophenol as requested in the analytical specification Attachment A-1. These analytes are not reported by Method 8260B and these analytes are not contaminants of concern for this project. In addition, 1,4-dioxane was not reported for the samples in this SDG since these samples were not analyzed by Method 8260B SIM. No further action was taken.

Analytical Data Usability Assessment

The data usability assessment was performed to determine if the analytical data reported by the laboratory for this SDG met the project data quality objectives for acceptable accuracy, precision, sensitivity, and completeness; and to determine and define the impact of the exceeded quality control indicators on the technical usability of the data. Please refer to the specific sections in the above validation report for further details.

This is a partial evaluation based on laboratory quality control (QC) and limited field information available at the time of the assessment. A comprehensive project data usability assessment will be performed later when all data are available.

Volatiles

The project goals with respect to accuracy were met for the volatiles data set with the following exception. Sample DA-GW-MW108B-031711 was qualified as estimated due to low MS/MSD recoveries; the affected results may be biased low. Although method criteria were not met in this instance, the affected positive and non-detected results are usable as estimated values which may have a minor impact on data usability. In addition, 2-hexanone and 1,2-dibromo-3-chloropropane were qualified as estimated in all samples due to a low initial calibration verification recoveries. Dichlorodifluoromethane and chloromethane were qualified as estimated in select samples due to

instrument calibration variability. Although specific method criteria were not met in these instances, data usability was not impacted and the affected non-detected results are usable as estimated values.

The project goals with respect to precision were met for the volatiles data set with the following exception. Select analytes in sample DA-GW-MW108B-031711 was qualified as estimated due to poor MS/MSD precision. Although method criteria were not met in this instance, the affected positive and non-detected results are usable as estimated values which may have a minor impact on data usability.

The project goals with respect to sensitivity were met for the volatiles data set with the following exceptions. The PALs were met by the LODs except for 1,2,4-trichlorobenzene, 1,2-dichloroethane, 1,4-dichlorobenzene, benzene, carbon disulfide, chloroform, methylene chloride, tetrachloroethene, trichloroethene, and vinyl chloride. Data usability may be impacted for these compounds.

The project goals with respect to laboratory data completeness were met for the volatiles data set. Data usability is not impacted with regards to laboratory data completeness.

Tables: Data Summary Tables
Data Validation Qualifiers and Codes

Enclosures: Data Validation Worksheets

Data Validation Qualifiers and Codes

Data Validation Qualifiers:

	=	No qualifier attached to value (positive hit)
J	=	Value is estimated
U	=	Value is not detected
UJ	=	Value is not detected and estimated
R	=	Value (positive hit) is not usable
UR	=	Value was reported as ND but is not usable

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 $r < 0.995$
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 below quantitation limit (< QL but ≥ MDL)
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 DDT 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: 02124	NSAMPLE	DA-GW-MW03B-031711			DA-GW-MW03B-031711DL			DA-GW-MW08B-031811			DA-GW-MW103B-031811		
SDG: WE19-12	LAB_ID	SE1322-6			SE1322-6DL			SE1336-2			SE1336-1		
FRACTION: OV	SAMP_DATE	3/17/2011			3/17/2011			3/18/2011			3/18/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.5	U					0.5	U		0.5	U	
1,1,1-TRICHLOROETHANE		4.4						0.5	U		7.6		
1,1,2,2-TETRACHLOROETHANE		0.5	U					0.5	U		0.5	U	
1,1,2-TRICHLOROETHANE		0.5	U					0.5	U		0.5	U	
1,1-DICHLOROETHANE		1.9						0.5	U				
1,1-DICHLOROETHENE		0.5	U					0.5	U		11		
1,1-DICHLOROPROPENE		0.5	U					0.5	U		0.5	U	
1,2,3-TRICHLOROBENZENE		0.5	U					0.5	U		0.5	U	
1,2,3-TRICHLOROPROPANE		0.5	U					0.5	U		0.5	U	
1,2,4-TRICHLOROBENZENE		0.5	U					0.5	U		0.5	U	
1,2,4-TRIMETHYLBENZENE		0.5	U					0.5	U		0.5	U	
1,2-DIBROMO-3-CHLOROPROPANE		0.75	UJ	C				0.75	UJ	C	0.75	UJ	C
1,2-DIBROMOETHANE		0.5	U					0.5	U		0.5	U	
1,2-DICHLOROBENZENE		0.5	U					0.5	U		0.5	U	
1,2-DICHLOROETHANE		0.5	U					0.5	U		0.5	U	
1,2-DICHLOROPROPANE		0.5	U					0.5	U		0.5	U	
1,3,5-TRIMETHYLBENZENE		0.5	U					0.5	U		0.5	U	
1,3-DICHLOROBENZENE		0.5	U					0.5	U		0.5	U	
1,3-DICHLOROPROPANE		0.5	U					0.5	U		0.5	U	
1,4-DICHLOROBENZENE		0.5	U					0.5	U		0.5	U	
2,2-DICHLOROPROPANE		0.5	U					0.5	U		0.5	U	
2-BUTANONE		2.5	U					2.5	U		2.5	U	
2-CHLOROTOLUENE		0.5	U					0.5	U		0.5	U	
2-HEXANONE		2.5	UJ	C				2.5	UJ	C	2.5	UJ	C
4-CHLOROTOLUENE		0.5	U					0.5	U		0.5	U	
4-ISOPROPYLTOLUENE		0.5	U					0.5	U		0.5	U	
4-METHYL-2-PENTANONE		2.5	U					2.5	U		2.5	U	
ACETONE		2.5	U					2.5	U		2.5	U	
BENZENE		0.5	U					0.5	U		0.5	U	
BROMOBENZENE		0.5	U					0.5	U		0.5	U	
BROMOCHLOROMETHANE		0.5	U					0.5	U		0.5	U	
BROMODICHLOROMETHANE		0.5	U					0.5	U		0.5	U	
BROMOFORM		0.5	U					0.5	U		0.5	U	
BROMOMETHANE		1	U					1	U		1	U	
CARBON DISULFIDE		0.5	U					0.5	U		0.5	U	

PROJ_NO: 02124	NSAMPLE	DA-GW-MW103B-031811DL			DA-GW-MW108B-031711			DA-GW-MW116B-D2-031711			DA-GW-MW117B-D1-031711		
SDG: WE19-12	LAB_ID	SE1336-1DL			SE1322-3			SE1322-4			SE1322-5		
FRACTION: OV	SAMP_DATE	3/18/2011			3/17/2011			3/17/2011			3/17/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE					0.5	UJ	D	0.5	U		0.5	U	
1,1,1-TRICHLOROETHANE					0.5	UJ	D	0.5	U		0.5	U	
1,1,2,2-TETRACHLOROETHANE					0.5	UJ	D	0.5	U		0.5	U	
1,1,2-TRICHLOROETHANE					0.5	UJ	D	0.5	U		0.5	U	
1,1-DICHLOROETHANE		180			0.5	UJ	D	0.5	U		0.5	U	
1,1-DICHLOROETHENE					0.5	UJ	D	0.5	U		0.5	U	
1,1-DICHLOROPROPENE					0.5	UJ	D	0.5	U		0.5	U	
1,2,3-TRICHLOROBENZENE					0.5	UJ	D	0.5	U		0.5	U	
1,2,3-TRICHLOROPROPANE					0.5	UJ	D	0.5	U		0.5	U	
1,2,4-TRICHLOROBENZENE					0.5	UJ	D	0.5	U		0.5	U	
1,2,4-TRIMETHYLBENZENE					0.5	UJ	D	0.5	U		0.5	U	
1,2-DIBROMO-3-CHLOROPROPANE					0.75	UJ	CD	0.75	UJ	C	0.75	UJ	C
1,2-DIBROMOETHANE					0.5	UJ	D	0.5	U		0.5	U	
1,2-DICHLOROBENZENE					0.5	UJ	D	0.5	U		0.5	U	
1,2-DICHLOROETHANE					0.5	UJ	D	0.5	U		0.5	U	
1,2-DICHLOROPROPANE					0.5	UJ	D	0.5	U		0.5	U	
1,3,5-TRIMETHYLBENZENE					0.5	UJ	D	0.5	U		0.5	U	
1,3-DICHLOROBENZENE					0.5	UJ	D	0.5	U		0.5	U	
1,3-DICHLOROPROPANE					0.5	UJ	D	0.5	U		0.5	U	
1,4-DICHLOROBENZENE					0.5	UJ	D	0.5	U		0.5	U	
2,2-DICHLOROPROPANE					0.5	UJ	D	0.5	U		0.5	U	
2-BUTANONE					2.5	UJ	D	2.5	U		2.5	U	
2-CHLOROTOLUENE					0.5	UJ	D	0.5	U		0.5	U	
2-HEXANONE					2.5	UJ	CD	2.5	UJ	C	2.5	UJ	C
4-CHLOROTOLUENE					0.5	UJ	D	0.5	U		0.5	U	
4-ISOPROPYLTOLUENE					0.5	UJ	D	0.5	U		0.5	U	
4-METHYL-2-PENTANONE					2.5	UJ	D	2.5	U		2.5	U	
ACETONE					2.5	UJ	D	2.5	U		2.5	U	
BENZENE					0.5	UJ	D	0.5	U		0.5	U	
BROMOBENZENE					0.5	UJ	D	0.5	U		0.5	U	
BROMOCHLOROMETHANE					0.5	UJ	D	0.5	U		0.5	U	
BROMODICHLOROMETHANE					0.5	UJ	D	0.5	U		0.5	U	
BROMOFORM					0.5	UJ	D	0.5	U		0.5	U	
BROMOMETHANE					1	UJ	D	1	U		1	U	
CARBON DISULFIDE					0.5	UJ	D	0.5	U		0.5	U	

PROJ_NO: 02124	NSAMPLE	DA-GW-MW12-031711			DA-GW-MW122-031711			DA-GW-MW128B-031811			DA-GW-MW128B-031811DL		
SDG: WE19-12	LAB_ID	SE1322-1			SE1322-2			SE1336-3			SE1336-3DL		
FRACTION: OV	SAMP_DATE	3/17/2011			3/17/2011			3/18/2011			3/18/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.5	U		0.5	U		0.5	U				
1,1,1-TRICHLOROETHANE		0.5	U		0.5	U		0.5	U				
1,1,2,2-TETRACHLOROETHANE		0.5	U		0.5	U		0.5	U				
1,1,2-TRICHLOROETHANE		0.5	U		0.5	U		0.5	U				
1,1-DICHLOROETHANE		0.5	U		0.5	U		0.5	U				
1,1-DICHLOROETHENE		0.5	U		0.5	U		7.4					
1,1-DICHLOROPROPENE		0.5	U		0.5	U		0.5	U				
1,2,3-TRICHLOROBENZENE		0.5	U		0.5	U		0.5	U				
1,2,3-TRICHLOROPROPANE		0.5	U		0.5	U		0.5	U				
1,2,4-TRICHLOROBENZENE		0.5	U		0.5	U		0.5	U				
1,2,4-TRIMETHYLBENZENE		0.5	U		0.5	U		0.5	U				
1,2-DIBROMO-3-CHLOROPROPANE		0.75	UJ	C	0.75	UJ	C	0.75	UJ	C			
1,2-DIBROMOETHANE		0.5	U		0.5	U		0.5	U				
1,2-DICHLOROBENZENE		0.5	U		0.5	U		0.5	U				
1,2-DICHLOROETHANE		0.5	U		0.5	U		0.5	U				
1,2-DICHLOROPROPANE		0.5	U		0.5	U		0.5	U				
1,3,5-TRIMETHYLBENZENE		0.5	U		0.5	U		0.5	U				
1,3-DICHLOROBENZENE		0.5	U		0.5	U		0.5	U				
1,3-DICHLOROPROPANE		0.5	U		0.5	U		0.5	U				
1,4-DICHLOROBENZENE		0.5	U		0.5	U		0.5	U				
2,2-DICHLOROPROPANE		0.5	U		0.5	U		0.5	U				
2-BUTANONE		2.5	U		2.5	U		2.5	U				
2-CHLOROTOLUENE		0.5	U		0.5	U		0.5	U				
2-HEXANONE		2.5	UJ	C	2.5	UJ	C	2.5	UJ	C			
4-CHLOROTOLUENE		0.5	U		0.5	U		0.5	U				
4-ISOPROPYLTOLUENE		0.5	U		0.5	U		0.5	U				
4-METHYL-2-PENTANONE		2.5	U		2.5	U		2.5	U				
ACETONE		2.5	U		2.5	U		2.5	U				
BENZENE		0.5	U		0.5	U		0.5	U				
BROMOBENZENE		0.5	U		0.5	U		0.5	U				
BROMOCHLOROMETHANE		0.5	U		0.5	U		0.5	U				
BROMODICHLOROMETHANE		0.5	U		0.5	U		0.5	U				
BROMOFORM		0.5	U		0.5	U		0.5	U				
BROMOMETHANE		1	U		1	U		1	U				
CARBON DISULFIDE		0.5	U		0.5	U		0.5	U				

PROJ_NO: 02124	NSAMPLE	DA-GW-RB01-031811			DA-GW-TB01-031811			DA-GW-TB04-031711		
SDG: WE19-12	LAB_ID	SE1336-4			SE1336-5			SE1322-7		
FRACTION: OV	SAMP_DATE	3/18/2011			3/18/2011			3/17/2011		
MEDIA: WATER	QC_TYPE	RB			TB			TB		
	UNITS	UG/L			UG/L			UG/L		
	PCT_SOLIDS									
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
1,1,1,2-TETRACHLOROETHANE		0.5	U		0.5	U		0.5	U	
1,1,1-TRICHLOROETHANE		0.5	U		0.5	U		0.5	U	
1,1,2,2-TETRACHLOROETHANE		0.5	U		0.5	U		0.5	U	
1,1,2-TRICHLOROETHANE		0.5	U		0.5	U		0.5	U	
1,1-DICHLOROETHANE		0.5	U		0.5	U		0.5	U	
1,1-DICHLOROETHENE		0.5	U		0.5	U		0.5	U	
1,1-DICHLOROPROPENE		0.5	U		0.5	U		0.5	U	
1,2,3-TRICHLOROBENZENE		0.5	U		0.5	U		0.5	U	
1,2,3-TRICHLOROPROPANE		0.5	U		0.5	U		0.5	U	
1,2,4-TRICHLOROBENZENE		0.5	U		0.5	U		0.5	U	
1,2,4-TRIMETHYLBENZENE		0.5	U		0.5	U		0.5	U	
1,2-DIBROMO-3-CHLOROPROPANE		0.75	UJ	C	0.75	UJ	C	0.75	UJ	C
1,2-DIBROMOETHANE		0.5	U		0.5	U		0.5	U	
1,2-DICHLOROBENZENE		0.5	U		0.5	U		0.5	U	
1,2-DICHLOROETHANE		0.5	U		0.5	U		0.5	U	
1,2-DICHLOROPROPANE		0.5	U		0.5	U		0.5	U	
1,3,5-TRIMETHYLBENZENE		0.5	U		0.5	U		0.5	U	
1,3-DICHLOROBENZENE		0.5	U		0.5	U		0.5	U	
1,3-DICHLOROPROPANE		0.5	U		0.5	U		0.5	U	
1,4-DICHLOROBENZENE		0.5	U		0.5	U		0.5	U	
2,2-DICHLOROPROPANE		0.5	U		0.5	U		0.5	U	
2-BUTANONE		2.5	U		2.5	U		2.5	U	
2-CHLOROTOLUENE		0.5	U		0.5	U		0.5	U	
2-HEXANONE		2.5	UJ	C	2.5	UJ	C	2.5	UJ	C
4-CHLOROTOLUENE		0.5	U		0.5	U		0.5	U	
4-ISOPROPYLTOLUENE		0.5	U		0.5	U		0.5	U	
4-METHYL-2-PENTANONE		2.5	U		2.5	U		2.5	U	
ACETONE		2.5	U		2.5	U		2.5	U	
BENZENE		0.5	U		0.5	U		0.5	U	
BROMOBENZENE		0.5	U		0.5	U		0.5	U	
BROMOCHLOROMETHANE		0.5	U		0.5	U		0.5	U	
BROMODICHLOROMETHANE		0.5	U		0.5	U		0.5	U	
BROMOFORM		0.5	U		0.5	U		0.5	U	
BROMOMETHANE		1	U		1	U		1	U	
CARBON DISULFIDE		0.5	U		0.5	U		0.5	U	

PROJ_NO: 02124	NSAMPLE	DA-GW-MW03B-031711			DA-GW-MW03B-031711DL			DA-GW-MW08B-031811			DA-GW-MW103B-031811		
SDG: WE19-12	LAB_ID	SE1322-6			SE1322-6DL			SE1336-2			SE1336-1		
FRACTION: OV	SAMP_DATE	3/17/2011			3/17/2011			3/18/2011			3/18/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON TETRACHLORIDE		5.2						0.5	U		0.5	U	
CHLOROBENZENE		0.5	U					0.5	U		0.5	U	
CHLORODIBROMOMETHANE		0.5	U					0.5	U		0.5	U	
CHLOROETHANE		1	U					1	U		1	U	
CHLOROFORM		2.1						0.5	U		0.5	U	
CHLOROMETHANE		1	UJ	C				1	U		1	UJ	C
CIS-1,2-DICHLOROETHENE		0.5	U					0.5	U		18		
CIS-1,3-DICHLOROPROPENE		0.5	U					0.5	U		0.5	U	
DIBROMOMETHANE		0.5	U					0.5	U		0.5	U	
DICHLORODIFLUOROMETHANE		1	UJ	C				1	U		1	UJ	C
ETHYLBENZENE		0.5	U					0.5	U		0.5	U	
HEXACHLOROBUTADIENE		0.5	U					0.5	U		0.5	U	
ISOPROPYLBENZENE		0.5	U					0.5	U		0.5	U	
M+P-XYLENES		1	U					1	U		1	U	
METHYL TERT-BUTYL ETHER		0.5	U					0.5	U		0.5	U	
METHYLENE CHLORIDE		2.5	U					2.5	U		2.5	U	
N-BUTYLBENZENE		0.5	U					0.5	U		0.5	U	
N-PROPYLBENZENE		0.5	U					0.5	U		0.5	U	
O-XYLENE		0.5	U					0.5	U		0.5	U	
SEC-BUTYLBENZENE		0.5	U					0.5	U		0.5	U	
STYRENE		0.5	U					0.5	U		0.5	U	
TERT-BUTYLBENZENE		0.5	U					0.5	U		0.5	U	
TETRACHLOROETHENE		0.5	U					0.5	U		0.5	U	
TOLUENE		0.5	U					0.5	U		0.5	U	
TRANS-1,2-DICHLOROETHENE		0.5	U					0.5	U		0.5	U	
TRANS-1,3-DICHLOROPROPENE		0.5	U					0.5	U		0.5	U	
TRICHLOROETHENE					340			0.5	U		13		
TRICHLOROFLUOROMETHANE		1	U					1	U		1	U	
VINYL CHLORIDE		1	U					1	U		2.4		

PROJ_NO: 02124	NSAMPLE	DA-GW-MW103B-031811DL			DA-GW-MW108B-031711			DA-GW-MW116B-D2-031711			DA-GW-MW117B-D1-031711		
SDG: WE19-12	LAB_ID	SE1336-1DL			SE1322-3			SE1322-4			SE1322-5		
FRACTION: OV	SAMP_DATE	3/18/2011			3/17/2011			3/17/2011			3/17/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON TETRACHLORIDE					0.5	UJ	D	0.5	U		0.5	U	
CHLOROBENZENE					0.5	UJ	D	0.5	U		0.5	U	
CHLORODIBROMOMETHANE					0.5	UJ	D	0.5	U		0.5	U	
CHLOROETHANE					1	UJ	D	1	U		1	U	
CHLOROFORM					0.5	UJ	D	0.5	U		0.5	U	
CHLOROMETHANE					1	UJ	CD	1	UJ	C	1	UJ	C
CIS-1,2-DICHLOROETHENE					8	J	D	0.5	U		0.5	U	
CIS-1,3-DICHLOROPROPENE					0.5	UJ	D	0.5	U		0.5	U	
DIBROMOMETHANE					0.5	UJ	D	0.5	U		0.5	U	
DICHLORODIFLUOROMETHANE					1	UJ	CD	1	UJ	C	1	UJ	C
ETHYLBENZENE					0.5	UJ	D	0.5	U		0.5	U	
HEXACHLOROBUTADIENE					0.5	UJ	D	0.5	U		0.5	U	
ISOPROPYLBENZENE					0.5	UJ	D	0.5	U		0.5	U	
M+P-XYLENES					1	UJ	D	1	U		1	U	
METHYL TERT-BUTYL ETHER					0.5	UJ	D	0.5	U		0.5	U	
METHYLENE CHLORIDE					2.5	UJ	D	2.5	U		2.5	U	
N-BUTYLBENZENE					0.5	UJ	D	0.5	U		0.5	U	
N-PROPYLBENZENE					0.5	UJ	D	0.5	U		0.5	U	
O-XYLENE					0.5	UJ	D	0.5	U		0.5	U	
SEC-BUTYLBENZENE					0.5	UJ	D	0.5	U		0.5	U	
STYRENE					0.5	UJ	D	0.5	U		0.5	U	
TERT-BUTYLBENZENE					0.5	UJ	D	0.5	U		0.5	U	
TETRACHLOROETHENE					8.8	J	D	0.5	U		0.5	U	
TOLUENE					0.5	UJ	D	0.5	U		0.5	U	
TRANS-1,2-DICHLOROETHENE					0.5	UJ	D	0.5	U		0.5	U	
TRANS-1,3-DICHLOROPROPENE					0.5	UJ	D	0.5	U		0.5	U	
TRICHLOROETHENE					5.8	J	D	0.5	U		16		
TRICHLOROFLUOROMETHANE					1	UJ	D	1	U		1	U	
VINYL CHLORIDE					1	UJ	D	1	U		1	U	

PROJ_NO: 02124	NSAMPLE	DA-GW-MW12-031711			DA-GW-MW122-031711			DA-GW-MW128B-031811			DA-GW-MW128B-031811DL		
SDG: WE19-12	LAB_ID	SE1322-1			SE1322-2			SE1336-3			SE1336-3DL		
FRACTION: OV	SAMP_DATE	3/17/2011			3/17/2011			3/18/2011			3/18/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON TETRACHLORIDE		0.5	U		0.5	U		0.5	U				
CHLOROBENZENE		0.5	U		0.5	U		0.5	U				
CHLORODIBROMOMETHANE		0.5	U		0.5	U		0.5	U				
CHLOROETHANE		1	U		1	U		1	U				
CHLOROFORM		0.5	U		0.5	U		0.5	U				
CHLOROMETHANE		1	UJ	C	1	UJ	C	1	UJ	C			
CIS-1,2-DICHLOROETHENE		0.5	U		0.5	U		16					
CIS-1,3-DICHLOROPROPENE		0.5	U		0.5	U		0.5	U				
DIBROMOMETHANE		0.5	U		0.5	U		0.5	U				
DICHLORODIFLUOROMETHANE		1	UJ	C	1	UJ	C	1	UJ	C			
ETHYLBENZENE		0.5	U		0.5	U		0.5	U				
HEXACHLOROBUTADIENE		0.5	U		0.5	U		0.5	U				
ISOPROPYLBENZENE		0.5	U		0.5	U		0.5	U				
M+P-XYLENES		1	U		1	U		1	U				
METHYL TERT-BUTYL ETHER		0.5	U		0.5	U		0.5	U				
METHYLENE CHLORIDE		2.5	U		2.5	U		2.5	U				
N-BUTYLBENZENE		0.5	U		0.5	U		0.5	U				
N-PROPYLBENZENE		0.5	U		0.5	U		0.5	U				
O-XYLENE		0.5	U		0.5	U		0.5	U				
SEC-BUTYLBENZENE		0.5	U		0.5	U		0.5	U				
STYRENE		0.5	U		0.5	U		0.5	U				
TERT-BUTYLBENZENE		0.5	U		0.5	U		0.5	U				
TETRACHLOROETHENE		4.6			0.5	U		0.5	U				
TOLUENE		0.5	U		0.5	U		0.5	U				
TRANS-1,2-DICHLOROETHENE		0.5	U		0.5	U		2.6					
TRANS-1,3-DICHLOROPROPENE		0.5	U		0.5	U		0.5	U				
TRICHLOROETHENE		0.5	U		0.5	U					680		
TRICHLOROFLUOROMETHANE		1	U		1	U		1	U				
VINYL CHLORIDE		1	U		1	U		1	U				

PROJ_NO: 02124	NSAMPLE	DA-GW-RB01-031811			DA-GW-TB01-031811			DA-GW-TB04-031711		
SDG: WE19-12	LAB_ID	SE1336-4			SE1336-5			SE1322-7		
FRACTION: OV	SAMP_DATE	3/18/2011			3/18/2011			3/17/2011		
MEDIA: WATER	QC_TYPE	RB			TB			TB		
	UNITS	UG/L			UG/L			UG/L		
	PCT_SOLIDS									
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
CARBON TETRACHLORIDE		0.5	U		0.5	U		0.5	U	
CHLOROBENZENE		0.5	U		0.5	U		0.5	U	
CHLORODIBROMOMETHANE		0.5	U		0.5	U		0.5	U	
CHLOROETHANE		1	U		1	U		1	U	
CHLOROFORM		0.5	U		0.5	U		0.5	U	
CHLOROMETHANE		1	U		1	U		1	U	
CIS-1,2-DICHLOROETHENE		0.5	U		0.5	U		0.5	U	
CIS-1,3-DICHLOROPROPENE		0.5	U		0.5	U		0.5	U	
DIBROMOMETHANE		0.5	U		0.5	U		0.5	U	
DICHLORODIFLUOROMETHANE		1	U		1	U		1	U	
ETHYLBENZENE		0.5	U		0.5	U		0.5	U	
HEXACHLOROBUTADIENE		0.5	U		0.5	U		0.5	U	
ISOPROPYLBENZENE		0.5	U		0.5	U		0.5	U	
M+P-XYLENES		1	U		1	U		1	U	
METHYL TERT-BUTYL ETHER		0.5	U		0.5	U		0.5	U	
METHYLENE CHLORIDE		2.5	U		2.5	U		2.5	U	
N-BUTYLBENZENE		0.5	U		0.5	U		0.5	U	
N-PROPYLBENZENE		0.5	U		0.5	U		0.5	U	
O-XYLENE		0.5	U		0.5	U		0.5	U	
SEC-BUTYLBENZENE		0.5	U		0.5	U		0.5	U	
STYRENE		0.5	U		0.5	U		0.5	U	
TERT-BUTYLBENZENE		0.5	U		0.5	U		0.5	U	
TETRACHLOROETHENE		0.5	U		0.5	U		0.5	U	
TOLUENE		0.5	U		0.5	U		0.5	U	
TRANS-1,2-DICHLOROETHENE		0.5	U		0.5	U		0.5	U	
TRANS-1,3-DICHLOROPROPENE		0.5	U		0.5	U		0.5	U	
TRICHLOROETHENE		0.5	U		0.5	U		0.5	U	
TRICHLOROFLUOROMETHANE		1	U		1	U		1	U	
VINYL CHLORIDE		1	U		1	U		1	U	

PROJ_NO: 02124	NSAMPLE	DA-GW-MW08B-031811			DA-GW-MW103B-031811			DA-GW-MW108B-031711			DA-GW-MW116B-D2-031711		
SDG: WE19-12	LAB_ID	SE1336-2			SE1336-1			SE1322-3			SE1322-4		
FRACTION: OVG	SAMP_DATE	3/18/2011			3/18/2011			3/17/2011			3/17/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ETHANE		2	U		2	U		2	U		2	U	
ETHENE		2	U		2	U		2	U		2	U	
METHANE		52			120			120			1.1	J	P

PROJ_NO: 02124	NSAMPLE	DA-GW-MW117B-D1-031711			DA-GW-MW12-031711			DA-GW-MW122-031711			DA-GW-MW128B-031811		
SDG: WE19-12	LAB_ID	SE1322-5			SE1322-1			SE1322-2			SE1336-3		
FRACTION: OVG	SAMP_DATE	3/17/2011			3/17/2011			3/17/2011			3/18/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	UG/L			UG/L			UG/L			UG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
ETHANE		2	U		2	U		2	U		2	U	
ETHENE		2	U		2	U		2	U		0.84	J	P
METHANE		0.7	J	P	2	J	P	45			0.85	J	P

PROJ_NO: 02124	NSAMPLE	DA-GW-RB01-031811		
SDG: WE19-12	LAB_ID	SE1336-4		
FRACTION: OVG	SAMP_DATE	3/18/2011		
MEDIA: WATER	QC_TYPE	RB		
	UNITS	UG/L		
	PCT_SOLIDS			
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
ETHANE		2	U	
ETHENE		2	U	
METHANE		2	U	

PROJ_NO: 02124	NSAMPLE	DA-GW-MW08B-031811			DA-GW-MW103B-031811			DA-GW-MW108B-031711			DA-GW-MW116B-D2-031711		
SDG: WE19-12	LAB_ID	SE1336-2			SE1336-1			SE1322-3			SE1322-4		
FRACTION: MISC	SAMP_DATE	3/18/2011			3/18/2011			3/17/2011			3/17/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/L			MG/L			MG/L			MG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
AMMONIA-N		0.05	U		0.05	U		0.036	J	P	0.05	U	
CHLORIDE		9.8			36			19			16		
NITRATE-N		0.025	U		0.025	U		0.025	U		0.025	U	
NITRITE-N		0.025	U		0.025	U		0.025	U		0.025	U	
ORTHOPHOSPHATE-P		0.025	U		0.025	U		0.025	U		0.025	J	P
SULFATE		15			8.4			21			28		
SULFIDE		0.8	U		0.8	U		0.8	U		0.8	U	
TOTAL ORGANIC CARBON		0.29	J	P	0.7	J	P	0.82	J	P	0.34	J	P

PROJ_NO: 02124	NSAMPLE	DA-GW-MW117B-D1-031711			DA-GW-MW12-031711			DA-GW-MW122-031711			DA-GW-MW128B-031811		
SDG: WE19-12	LAB_ID	SE1322-5			SE1322-1			SE1322-2			SE1336-3		
FRACTION: MISC	SAMP_DATE	3/17/2011			3/17/2011			3/17/2011			3/18/2011		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	MG/L			MG/L			MG/L			MG/L		
	PCT_SOLIDS												
	DUP_OF												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
AMMONIA-N		0.05	U		0.05	U		0.05	U		0.05	U	
CHLORIDE		12			15			19			33		
NITRATE-N		0.44			2.8			0.44			0.025	U	
NITRITE-N		0.025	U		0.025	U		0.025	U		0.025	U	
ORTHOPHOSPHATE-P		0.027	J	P	0.034	J	P	0.025	U		0.025	U	
SULFATE		13			20			22			22		
SULFIDE		0.8	U		0.8	U		0.8	U		0.8	U	
TOTAL ORGANIC CARBON		0.32	J	P	0.5	J	P	2			0.27	J	P

PROJ_NO: 02124	NSAMPLE	DA-GW-RB01-031811		
SDG: WE19-12	LAB_ID	SE1336-4		
FRACTION: MISC	SAMP_DATE	3/18/2011		
MEDIA: WATER	QC_TYPE	RB		
	UNITS	MG/L		
	PCT_SOLIDS			
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
AMMONIA-N		0.05	U	
CHLORIDE		1	U	
NITRATE-N		0.025	U	
NITRITE-N		0.025	U	
ORTHOPHOSPHATE-P		0.021	J	P
SULFATE		0.13	J	P
SULFIDE		0.8	U	
TOTAL ORGANIC CARBON		0.18	J	P

ATTACHMENT C

INVESTIGATION-DERIVED WASTE FORMS

R.I. ANALYTICAL
Specialists in Environmental Services

CERTIFICATE OF ANALYSIS

Global Remediation Services
Attn: Mr. Paul Mastrodomenico
700 Richmond Street
East Taunton, MA 02718

Date Received: 4/6/11
Date Reported: 4/15/11
P.O. #: TRTKNEWPT3
Work Order #: 1104-06269

DESCRIPTION: NAVAL STATION NEWPORT-SITE 8 NUSC DISPOSAL AREA

Subject sample(s) has/have been analyzed by our Warwick, R.I. laboratory with the attached results.

Reference: All parameters were analyzed by U.S. EPA approved methodologies.
The specific methodologies are listed in the methods column of the Certificate Of Analysis.

Data qualifiers (if present) are explained in full at the end of a given sample's analytical results.
The Certificate of Analytsis shall not be reproduced except in full, without written approval of R.I. Analytical.
Results relate only to samples submitted ot the laboratory for analysis.
Test results are not blank corrected.

Certification #: RI-033, MA-RI015, CT-PH-0508, ME-RI015
NH-253700 A & B, USDA S-41844

This Certificate represents all data associated with the referenced work order and is paginated for completeness. The complete Certificate includes one attachment; the original Chain of Custody.

If you have any questions regarding this work, or if we may be of further assistance, please contact our customer service department.

Approved by:

Sharon Baker
MIS / Data Reporting Manager

enc: Chain of Custody

41 Illinois Avenue, Warwick, RI 02888
Phone: 401.737.8500 Fax: 401.738.1970

nelac

131 Coolidge Street, Suite 105, Hudson, MA 01749
Phone: 978.568.0041 Fax: 978.568.0078

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Global Remediation Services
Date Received: 4/6/11
Work Order #: 1104-06269

NAVAL STATION NEWPORT-SITE 8 NUSC DISPOSAL AREA

Sample # 001
SAMPLE DESCRIPTION: GROUNDWATER
SAMPLE TYPE: COMPOSITE **SAMPLE DATE/TIME:** 4/06/2011

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Volatile Organic Compounds						
Benzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Bromobenzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Bromochloromethane	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Bromodichloromethane	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Bromoform	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Bromomethane	<5	5	ug/l	SW-846 8260B	4/8/11	RGM
n-Butylbenzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Sec-butylbenzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
tert-Butylbenzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Carbon Tetrachloride	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Chlorobenzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Chloroethane	<5	5	ug/l	SW-846 8260B	4/8/11	RGM
Chloroform	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Chloromethane	<5	5	ug/l	SW-846 8260B	4/8/11	RGM
2-Chlorotoluene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
4-Chlorotoluene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Dibromochloromethane	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,2-Dibromo-3-Chloropropane	<2	2	ug/l	SW-846 8260B	4/8/11	RGM
1,2-Dibromoethane(EDB)	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Dibromomethane	<2	2	ug/l	SW-846 8260B	4/8/11	RGM
1,2-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,3-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,4-Dichlorobenzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Dichlorodifluoromethane	<5	5	ug/l	SW-846 8260B	4/8/11	RGM
1,1-Dichloroethane	12	1	ug/l	SW-846 8260B	4/8/11	RGM
1,2-Dichloroethane	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,1-Dichloroethene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
cis-1,2-Dichloroethene	1	1	ug/l	SW-846 8260B	4/8/11	RGM
trans-1,2-Dichloroethylene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,2-Dichloropropane	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,3-Dichloropropane	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
2,2-Dichloropropane	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,1-Dichloropropene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Ethylbenzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Hexachlorobutadiene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Global Remediation Services
Date Received: 4/6/11
Work Order #: 1104-06269

NAVAL STATION NEWPORT-SITE 8 NUSC DISPOSAL AREA

Sample # 001
SAMPLE DESCRIPTION: GROUNDWATER
SAMPLE TYPE: COMPOSITE **SAMPLE DATE/TIME:** 4/06/2011

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Isopropylbenzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
p-Isopropyltoluene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Methylene Chloride	<5	5	ug/l	SW-846 8260B	4/8/11	RGM
Naphthalene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
n-Propylbenzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Styrene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,1,1,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,1,2,2-Tetrachloroethane	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Tetrachloroethene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Toluene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,2,3-Trichlorobenzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,2,4-Trichlorobenzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,1,1-Trichloroethane	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,1,2-Trichloroethane	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Trichloroethene	6	1	ug/l	SW-846 8260B	4/8/11	RGM
Trichlorofluoromethane	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,2,3-Trichloropropane	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,2,4-Trimethylbenzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
1,3,5-Trimethylbenzene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Vinyl Chloride	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
o-Xylene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
m,p-Xylene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Total Xylene	<1	1	ug/l	SW-846 8260B	4/8/11	RGM
Methyl Tertiary Butyl Ether (MTBE)	<2	2	ug/l	SW-846 8260B	4/8/11	RGM
Acetone	6000	1000	ug/l	SW-846 8260B	4/12/11	RGM
Surrogates			RANGE	SW-846 8260B	4/8/11	RGM
Dibromofluoromethane	100		86-118%	SW-846 8260B	4/8/11	RGM
Toluene-d8	101		88-110%	SW-846 8260B	4/8/11	RGM
4-Bromofluorobenzene	99		86-115%	SW-846 8260B	4/8/11	RGM
1,2 Dichloroethane-d4	96		80-120%	SW-846 8260B	4/8/11	RGM
Total Metals						
Arsenic	<0.05	0.05	mg/l	EPA 200.7	4/13/11	PJC
Barium	0.013	0.005	mg/l	EPA 200.7	4/13/11	PJC
Cadmium	<0.004	0.004	mg/l	EPA 200.7	4/13/11	PJC
Chromium	<0.005	0.005	mg/l	EPA 200.7	4/13/11	PJC
Lead	<0.040	0.040	mg/l	EPA 200.7	4/13/11	PJC

R.I. Analytical Laboratories, Inc.

CERTIFICATE OF ANALYSIS

Global Remediation Services
Date Received: 4/6/11
Work Order #: 1104-06269

NAVAL STATION NEWPORT-SITE 8 NUSC DISPOSAL AREA

Sample # 001
SAMPLE DESCRIPTION: GROUNDWATER
SAMPLE TYPE: COMPOSITE **SAMPLE DATE/TIME:** 4/06/2011

PARAMETER	SAMPLE RESULTS	DET. LIMIT	UNITS	METHOD	DATE ANALYZED	ANALYST
Mercury	<0.0005	0.0005	mg/l	EPA 245.1	4/14/11	PJC
Selenium	<0.050	0.050	mg/l	EPA 200.7	4/13/11	PJC
Silver	<0.020	0.020	mg/l	EPA 200.7	4/13/11	PJC

CHAIN OF CUSTODY RECORD

R.I. Analytical Laboratories, Inc.

41 Illinois Avenue
Warwick, RI 02888
Tel: 800-937-2580
Fax: 401-738-1970

131 Coolidge St, Bldg. 2
Hudson, MA 01749
Tel: 888-228-3334
Fax: 978-568-0078

Date Collected	Time Collected	Field Sample Identification	Grab or Composite	# of Containers & Type T	Preservation Code P	Matrix Code M	VOC (8260)	Total RCRA Metals
4/6/11	0925	groundwater	C	2V	H	GW	X	
↓	↓	↓ ↓	C	1P	N	GW		X
				3				

Client Information		Project Information	
Company Name:	Global Remediation Services	Project Name:	Naval Station Newport - Site 8 NUSC Disposal Area
Address:	700 Richmond Street	P.O. Number:	TKTK Newpt 3
City / State / Zip:	East Taunton, MA 02718	Project Number:	—
Telephone:	508-828-1005	Report To:	
Fax:	508-824-2486	Phone:	
Contact Person:	Paul Mastrodomenico	Fax:	
		Sampled by:	Rick Malland
		Quote No:	
		Email address:	

Relinquished By	Date	Time	Received By	Date	Time
Rick Malland	4/6/11	1320	Malm	4.6.11	1320

Turn Around Time		
X	Normal	EMAIL Report
	5 Business days. Possible surcharge.	
	Rush _____ (business days)	

Project Comments

Circle if applicable: GW-1, GW-2, GW-3, S-1, S-2, S-3 MCP Data Enhancement QC Package? Yes No

2.2°

Lab Use Only	
	Sample Pick Up Only
	RIAL sampled; attach field hours
X	Shipped on ice
Workorder No:	1104-06269

Container Types: P=Poly, G=Glass, AG=Amber Glass, V=Vial, St=Sterile

Preservation Codes: NP=None, N=HNO_3, H=HCl, S=H_2SO_4, SH=NaOH, SB=$NaHSO_4$, M=MeOH, T=Na_2S_2C Z=ZnOAc, I=Ice

Matrix Codes: GW=Groundwater, SW=Surface Water, WW=Wastewater, DW=Drinking Water, S=Soil, Sl=Sludge, A=Air, B=Bulk/Solid, O=_____

CVCC/GENERAL CHEMICAL CORPORATION/Cycle Chem

138 LELAND STREET
FRAMINGHAM, MA 01702
PHONE: 508-782-4152
FAX: 508-875-5271
WWW.GENERALCHEMICAL.COM

BROKER NO. _____
Class In _____
Facility _____
ESH APPROVAL _____

A. GENERATOR INFORMATION

GENERATOR USEPA ID NO. RI1170024243

Gen. Name: Naval Station Newport
Mailing Address: 1 Simonpietri Drive, Newport, RI 02841
Generator Contact: Mark Rielly
Generator Phone: 401-841-1791
Site Address: Site 8 NUSC Disposal Area site, Newport, RI 02840

Billing Address: Global Remediation Services, Inc., 700 Richmond Street, East Taunton, MA 02718
Contact: Tim Burbank / Paul Mastrodomenico
Phone: (508) 828-1065 Fax: (508) 824-2486
Process Generating: onsite IDW services

Name of Waste: ground water

B. PHYSICAL CHARACTERISTICS OF WASTE

Color/Physical Description: brown / gray liquid

STRONG INCIDENTAL ODOR PRESENT: __ YES _X_ No

PHYSICAL STATE @ 70°F: __ SOLID __ SINGLE PHASE; _X_ LIQ __ BI-LAYERED; __ POWDER __ MULTI-LAYERED; __ SEMI SOLID __ SLUDGE

__ WASTEWATER; __ NONWASTEWATER

S. G.

FLASHPOINT: __ < 70°; __ 70°F – 100°F; __ 101°F – 141°F; __ 142°F – 200°F; __ > 200°F; __ NO FLASH; __ EXACT; Ignitable (Waste): __ Yes _X_ No; __ Closed Cup; __ Open Cup

LIQUID/SOLID/SLUDGE: Sludge; Suspended Solids ____; Solid/Debris ____; Free Liquids 100%

pH: __ < 2.0; __ 2.1 – 5.0; _X_ 5.0 – 9.0; __ 9.1 – 12.4; __ > 12.5; __ EXACT; __ N/A

Combustible? __ Yes __ No
Pyrophoric? _X_ Yes __ No
Reactive? _X_ Yes __ No

C. CHEMICAL COMPOSITION

Is MSDS Attached? Yes _ No Analysis Attached? X Yes No

	MINIMUM	MAXIMUM
Ground Water	0	100
(6 ppm Acetone from unknown source)		

D. REGULATORY INFORMATION

USEPA HAZARDOUS WASTE?: ___ YES _X_ NO
USEPA CODE(S): ____
APPLICABLE SUBCATEGORIES ____
STATE HAZARDOUS WASTE?: ___ YES _X_ NO
STATE CODE(S): MA99
D.O.T. HAZARDOUS WASTE: __ YES _X_ NO
PROPER SHIPPING NAME: Non RCRA / Non DOT Regulated Liquid (Ground Water)
CLASS: ____ I.D. NO: ____ P.G. ____ I.Q. ____

E. SHIPPING INFORMATION/SHIPMENT METHOD:

__ BULK LIQUID
__ BULK SOLID
__ DUMP TRAILER
__ ROLL-OFF
_X_ DRUMS/ PAILS
__ PALLETS
__ CYLINDERS

BULK VOLUME ____ GAL/YDS
UNIT # / SIZE 1 x 55
PRICE ____
FREQUENCY one time

F. SPECIAL HANDLING CONSIDERATIONS

CERCLA FACILITIES ____
NO LANDFILL ____
PROJECT CODE ____
OTHER ____
INCINERATE ONLY ____
GCC SALES CODE WED

G. TRANSPORTATION

____ CUSTOMER WILL DELIVER TO GCC _X_ GCC TO PROVIDE TRANSPORTATION

H. OTHER HAZARDOUS CHARACTERISTICS

Indicate If The Waste Is:
__ RCRA REACTIVE
__ WATER REACTIVE
__ RADIOACTIVE
__ SUBJECT TO SUBPART AA BENZENE REGULATIONS
__ ETIOLOGICAL
__ TSCA REGULATED
__ OXIDIZING MATERIAL
__ PYROPHORIC
__ EXPLOSIVE/SHOCK SENSITIVE
_X_ NONE OF THE ABOVE

Indicate If The Waste Contains Any of the Following

	None	or Less Than	or Actual
PCB's	X	< 50PPM	PPM
Cyanides	X	< 250PPM	PPM
Phenolics	X	< 50 PPM	PPM
Sulfides	X	< 500 PPM	PPM
VOC's	X	< 500 PPM	PPM

Is this waste characteristically hazardous for metals or organics (EPA Waste Codes D004-D043)? __ YES _X_ NO. If yes, please list the constituents and concentrations in Section D.

Does this waste contain underlying hazardous constituents as defined in 40 CFR 268 (2)(i) at concentrations exceeding the LDR treatment standards? __ YES _X_ NO. If yes, please list constituents and concentrations in Section D.

GENERATOR CERTIFICATION: I hereby certify that all information submitted in this and all attached documents is complete, contains true and accurate descriptions and is representative of the waste material, and that all relevant information regarding known or suspected hazards in the possession of the generator has been disclosed. If GCC discovers, after having taken delivery of the waste, that any waste does not conform to the identification and description on this MPS then GCC shall provide notice of such condition to the Generator and coordinate the return of the nonconforming waste to the point of origin to set forth on the manifest or to such other locations designated in writing by the Generator. Generator agrees to reimburse GCC for all handling, packaging, clean-up and transportation costs or charges, damage to equipment, and costs associated with lost time incurred by GCC during the receipt, handling, temporary storage and return of such nonconforming waste to point of origin or to such other location designated by Generator. I hereby authorize GCC to amend and/or correct any information on the MPS with the full understanding that if any amendment or correction is performed, I will be contacted as such to issue any approval.

AUTHORIZED SIGNATURE: M. Bailey TITLE H/W MANAGER DATE 4/26/11

Ropp, Jim

From: Campbell, Thomas
Sent: Thursday, April 28, 2011 1:42 PM
To: Ropp, Jim
Subject: FW: Disposal Facility Compliance Information Request (CERCLA site - Navy's Derecktor Shipyard, NAVSTA Newport)

FYI

-----Original Message-----
From: rota.ken@epamail.epa.gov [mailto:rota.ken@epamail.epa.gov]
Sent: Thursday, April 28, 2011 1:41 PM
To: Campbell, Thomas
Subject: Re: Disposal Facility Compliance Information Request (CERCLA site - Navy's Derecktor Shipyard, NAVSTA Newport)

Tom,

General Chemical is acceptable for the moment.

Ken R.

Kenneth B. Rota, Senior Enforcement Analyst OES Enforcement Office US EPA - New England Region
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Mail Code: OES04-04

Tel: (617) 918-1751
Fax: (617) 918-0751

From: "Campbell, Thomas" <Thomas.Campbell@tetratech.com>

To: Ken Rota/R1/USEPA/US@EPA

Date: 04/25/2011 09:48 AM

Subject: Disposal Facility Compliance Information Request (CERCLA site - Navy's Derecktor Shipyard, NAVSTA Newport)

Hello,

Please advise if the proposed disposal facility specified below is operating in compliance with RCRA or other applicable Federal or State requirements. Tetra Tech NUS, Inc. is assisting the Naval Facilities Engineering Command Mid-Atlantic (NAVFAC MIDLANT) with the

characterization and disposal of investigation derived waste (IDW) soil and purge water generated during sampling activities at Site 19 (Derecktor Shipyard) and Site 8 (NUSC) at NAVSTA Newport, Rhode Island.

1. the name of the facility or facilities to which the waste may be sent,

The wastes will first be handled at the General Chemical Corp. facility in Framingham, MA (used as a temporary transfer facility).
After that, they will be shipped for final disposal at the BFI Carbon Limestone Landfill (8100 South State Line Road, Lowellville, OH 44436, OHD987048212, phone: 216-536-8013).

2. its EPA ID number(s) or other unique identifying number(s),

The site's EPA ID # is RI1170024243

3. the city and state in which each potential receiving facility is located,

See #1 above.

4. the site from which the waste is to be sent,

Site 19 and Site 8, NAVSTA Newport, RI. The EPA RPM is Kymberlee Keckler (617- 918-1385)

5. the type of waste or wastes to be shipped,

The waste is soil cuttings and monitoring well purge water contained in 55-gallon drums. This IDW was generated during soil boring advancement at Sites 19 and 8 for purposes of installing groundwater monitoring wells. The site contaminants are polycyclic aromatic hydrocarbons, polychlorinated biphenyls, and metals. Waste characterization samples have been analyzed and were classified as non-hazardous. The analytical results are attached. The IDW is not a listed waste.

6. the amount for each waste to be sent

9 drums of dry soil and 27 drums of purge water (these are 55-gallon drums)

7. when the waste is to be shipped.

We would like to ship the drums the end of this week.

Regards,

Tom Campbell

Thomas A. Campbell, M.S. | Project Manager
Direct: 978.474.8404 | Main: 978.474.8400 | Fax: 978.474.8499 thomas.campbell@tetratech.com

Tetra Tech | Complex World, Clear Solutions™ 250 Andover Street, Suite 200 | Wilmington, MA 01887 | www.tetratech.com

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Ropp, Jim

From: Campbell, Thomas
Sent: Thursday, May 05, 2011 9:21 AM
To: Ropp, Jim
Subject: FW: Disposal Facility Compliance Information Request (CERCLA site - Navy's Derecktor Shipyard, NAVSTA

FYI

-----Original Message-----
From: Damico.William@epamail.epa.gov [mailto:Damico.William@epamail.epa.gov]
Sent: Wednesday, May 04, 2011 5:33 PM
To: Campbell, Thomas
Subject: Re: Disposal Facility Compliance Information Request (CERCLA site - Navy's Derecktor Shipyard, NAVSTA

The BFI Carbon Limestone is acceptable to receive waste regulated by the CERCLA Off-Site Rule.

William Damico
312-353-8207 (v)
312-582-5113 (f)

From: "Campbell, Thomas" <Thomas.Campbell@tetratech.com>

To: William Damico/R5/USEPA/US@EPA

Cc: "Ropp, Jim" <Jim.Ropp@tetratech.com>

Date: 05/04/2011 01:48 PM

Subject: Disposal Facility Compliance Information Request (CERCLA site - Navy's Derecktor Shipyard, NAVSTA

Hello,

Please advise if the proposed disposal facility specified below is operating in compliance with RCRA or other applicable Federal or State requirements. Tetra Tech NUS, Inc. is assisting the Naval Facilities Engineering Command Mid-Atlantic (NAVFAC MIDLANT) with the characterization and disposal of investigation derived waste (IDW) soil and purge water generated during sampling activities at Site 19 (Derecktor Shipyard) and Site 8 (NUSC) at NAVSTA Newport, Rhode Island.

1. the name of the facility or facilities to which the waste may be sent,

The wastes will first be handled at the General Chemical Corp. facility in Framingham, MA (used as a temporary transfer facility).

After that, they will be shipped for final disposal at the BFI Carbon Limestone Landfill (8100 South State Line Road, Lowellville, OH 44436, OHD987048212, phone: 216-536-8013).

2. its EPA ID number(s) or other unique identifying number(s),

The site's EPA ID # is RI1170024243

3. the city and state in which each potential receiving facility is located,

See #1 above.

4. the site from which the waste is to be sent,

Site 19 and Site 8, NAVSTA Newport, RI. The EPA RPM is Kymberlee Keckler (617- 918-1385)

5. the type of waste or wastes to be shipped,

The waste is soil cuttings and monitoring well purge water contained in 55-gallon drums. This IDW was generated during soil boring advancement at Sites 19 and 8 for purposes of installing groundwater monitoring wells. The site contaminants are polycyclic aromatic hydrocarbons, polychlorinated biphenyls, and metals. Waste characterization samples have been analyzed and were classified as non-hazardous. The analytical results are attached. The IDW is not a listed waste.

6. the amount for each waste to be sent

9 drums of dry soil and 27 drums of purge water (these are 55-gallon drums)

7. when the waste is to be shipped.

The waste was picked up this past Friday, April 29 for delivery to the temporary holding facility.

Regards,

Tom Campbell

Thomas A. Campbell, M.S. | Project Manager
Direct: 978.474.8404 | Main: 978.474.8400 | Fax: 978.474.8499 thomas.campbell@tetratech.com

Tetra Tech | Complex World, Clear Solutions™ 250 Andover Street, Suite 200 | Wilmington, MA 01887 | www.tetratech.com

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[attachment "ECOPY-41_EXCHANGE_04192011-085106.pdf" deleted by William Damico/R5/USEPA/US]
[attachment "ECOPY-41_EXCHANGE_04192011-085241.pdf"
deleted by William Damico/R5/USEPA/US]

1. Generator's US EPA ID No. R I 1 1 7 0 0 2 4 2 4 3

Manifest Document No. 6 4 3 8 5

2. Page 1 of 1

3. Generator's Name and Mailing Address
NAVAL STATION NEWPORT
1 SIMONPIETRI DRIVE (ENV DEPT CODE N8N)
NEWPORT, RI 02841

4. Generator's Phone (401) 841-1761

A.

B. State Gen. ID
SITE 9 MUSC Disposal area site
NEWPORT RI 02840

5. Transporter 1 Company Name
CLEAN VENTURE, INC.

6. US EPA ID Number
N J 0 0 0 0 0 3 7 1 9 3

C. State Trans. ID
7D H94T MT

7. Transporter 2 Company Name

8. US EPA ID Number

D. Transporter's Phone (904) 355 5700

E. State Trans. ID

9. Designated Facility Name and Site Address
GENERAL CHEMICAL CORP.
133 LELAND STREET
FRAMINGHAM, MA 01702

10. US EPA ID Number
M A D 0 1 9 3 7 1 0 7 9

F. Transporter's Phone ( )

G. State Facility's ID NOT REQUIRED

H. Facility's Phone (508) 872-5000

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. WASTE NO.
a. NON RCRA NON DOT REGULATED MATERIAL (GROUND WATER)	xx	2DM	xxx	110 G	MA99
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.)
a. 2x55
b.
c.
d.

K. Handling Codes for Wastes Listed Above
a.
b.
c.
d.

15. Special Handling Instructions and Additional Information 805766/800082/64385/20124
(508) 872-5000 (1)MA99-1 GROUND WATER

24 Hour Emergency Number

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to Federal Regulations for reporting proper disposal of hazardous waste.
Printed/Typed Name: KEITH WEBLER
Signature: Keith Webler
Date: Month 04 Day 29 Year 11

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: James S. Zanchi
Signature:
Date: Month 04 Day 29 Year 11

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19
Printed/Typed Name
Signature
Date: Month Day Year

GENERATOR

TRANSPORTER

FACILITY

T/S/D/F COPY

ATTACHMENT D

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW01B	DA-MW02B	DA-MW02B	DA-MW03B	DA-MW03B	DA-MW03B	DA-MW04B	DA-MW04B	DA-MW04B
DATE SAMPLED	09/04/03	09/03/03	05/27/08	09/05/03	05/22/08	06/28/10	09/04/03	05/23/08	06/30/10
SAMPLE ID	DA-A-MW01B-01-AVG	DA-A-MW02B-01	DA-MW02B-52708	DA-A-MW03B-01	DA-MW03B-52208	DA-MW-03B-062810-AVG	DA-A-MW04B-01	DA-MW04B-52308	DA-MW-04B-063010
SACODE	AVG					AVG			
AQUIFER	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH	40	45	45	24	24	24	45	45	45
FIELD (UG/L)									
FERROUS IRON	NA	NA	22000	NA	0 U	NA	NA	0 U	NA
MISCELLANEOUS PARAMETERS (MG/L)									
AMMONIA-N	NA	NA	3	NA	0.1 U	0.05 U	NA	0.1 U	NA
NITRATE-N	NA	NA	0.05 U	NA	1.1	0.695	NA	0.05 U	NA
NITRITE-N	NA	NA	0.05 U	NA	0.05 U	0.025 U	NA	0.05 U	NA
ORTHOPHOSPHATE-P	NA	NA	0.055	NA	0.07	0.05 U	NA	0.016 J	NA
SULFATE	NA	NA	6.5	NA	25	21	NA	30	NA
SULFIDE	NA	NA	1 U	NA	1 U	1.45	NA	1 U	NA
TOTAL ORGANIC CARBON	NA	NA	5	NA	1.3	1.7	NA	0.41 J	NA
VOLATILE GASES (UG/L)									
ETHANE	NA	NA	10 U	NA	10 U	2 U	NA	10 U	NA
ETHENE	NA	NA	10 U	NA	10 U	2 U	NA	10 U	NA
METHANE	NA	NA	260	NA	10 U	1.6 J	NA	8.8 J	NA
VOLATILES (UG/L)									
1,1,1-TRICHLOROETHANE	0.25 U	0.25 U	1 U	6.2 U	2	1.95	0.46 J	0.4 J	0.29 J
1,1,2-TRICHLOROETHANE	0.16 U	0.16 U	1 U	4 U	1 U	0.5 U	0.16 U	1 U	0.5 U
1,1-DICHLOROETHANE	0.19 U	0.19 U	1 U	4.7 U	2	2.95	49	23	24
1,1-DICHLOROETHENE	0.38 U	0.38 U	1 U	9.4 U	0.5 J	0.505 J	0.38 U	1	0.77 J
CHLOROETHANE	0.36 U	0.36 U	2 U	9 U	2 U	1 U	0.36 U	2 U	1 U
CIS-1,2-DICHLOROETHENE	2.2	0.61	0.3 J	4.6 U	1 J	1.19 J	6.4	0.6 J	0.41 J

Shaded - Detected; U - Not Detected; J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW01B	DA-MW02B	DA-MW02B	DA-MW03B	DA-MW03B	DA-MW03B	DA-MW04B	DA-MW04B	DA-MW04B
DATE SAMPLED	09/04/03	09/03/03	05/27/08	09/05/03	05/22/08	06/28/10	09/04/03	05/23/08	06/30/10
SAMPLE ID	DA-A-MW01B-01-AVG	DA-A-MW02B-01	DA-MW02B-52708	DA-A-MW03B-01	DA-MW03B-52208	DA-MW-03B-062810-AVG	DA-A-MW04B-01	DA-MW04B-52308	DA-MW-04B-063010
SACODE	AVG					AVG			
AQUIFER	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH	40	45	45	24	24	24	45	45	45
TETRACHLOROETHENE	2.2	0.43 U	1 U	11 U	1 U	0.66 J	8.4	1 U	0.5 U
TOTAL 1,2-DICHLOROETHENE	2.2	0.61	0.3 J	6.6 U	1 J	1.19 J	6.4	0.6 J	0.41 J
TOTAL CHLORINATED ETHENES	5.85	1.03 J	0.3 J	1500	191 J	152 J	19.06 J	0.6 J	1.18 J
TOTAL CHLORINATED VOCS	5.85	1.03 J	0.3 J	1500 J	197.5 J	158 J	68.52 J	25 J	25.5 J
TRANS-1,2-DICHLOROETHENE	0.34 U	0.34 U	1 U	8.5 U	1 U	0.5 U	0.34 U	1 U	0.5 U
TRICHLOROETHENE	1.45	0.42 J	1 U	1500	190	150 J	3.6	1 U	0.5 U
VINYL CHLORIDE	0.27 U	0.27 U	2 U	6.8 U	2 U	1 U	0.66 J	2 U	1 U
CONDITIONS CONDUCIVE TO OR INDICATIVE OF MNA?	NA	NA	Y	NA	N	limited	NA	N	NA

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW06A	DA-MW06B	DA-MW07A	DA-MW07A	DA-MW07B	DA-MW07B	DA-MW08A	DA-MW08B	DA-MW09B	DA-MW09B
DATE SAMPLED	06/23/10	06/17/10	05/28/08	06/22/10	05/29/08	06/23/10	06/29/10	06/22/10	05/28/08	06/29/10
SAMPLE ID	DA-MW6A-062310	DA-MW6B-061710	DA-MW07A-52808	DA-MW7A-062210	DA-MW07B-52908	DA-MW7B-062310	DA-MW-08A-062910	DA-MW8B-062210	DA-MW09B-52808	DA-MW-09B-062910
SACODE										
AQUIFER	OVERBURDEN	BEDROCK	OB-BR INTERFACE	OB-BR INTERFACE	BEDROCK	BEDROCK	OVERBURDEN	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH			10	10	28.72	28.72			21.41	21.41
FIELD (UG/L)										
FERROUS IRON	NA	NA	6800	NA	1060	NA	NA	NA	1000	NA
MISCELLANEOUS PARAMETERS (MG/L)										
AMMONIA-N	NA	NA	2.1	2.4	0.1 U	0.05 U	NA	NA	0.1 U	4.9
NITRATE-N	NA	NA	0.05 U	0.025 U	0.05 U	0.02 J	NA	NA	0.05 U	0.018 J
NITRITE-N	NA	NA	0.05 U	0.025 U	0.05 U	0.025 U	NA	NA	0.05 U	0.025 U
ORTHOPHOSPHATE-P	NA	NA	0.019 J	0.05 U	0.079	0.05 U	NA	NA	0.018 J	0.05 U
SULFATE	NA	NA	9.5	9	11	5.4	NA	NA	2	1.1
SULFIDE	NA	NA	1 U	1	1 U	0.8 U	NA	NA	1 U	0.8 U
TOTAL ORGANIC CARBON	NA	NA	5.8	10	1.3	1.8	NA	NA	0.92 J	2.8
VOLATILE GASES (UG/L)										
ETHANE	NA	NA	10 U	2 U	10 U	2 U	NA	NA	10 U	3.5 J
ETHENE	NA	NA	10 U	2 U	10 U	2 U	NA	NA	10 U	2 U
METHANE	NA	NA	3.2 J	160 J	22	14 J	NA	NA	500	6000 J
VOLATILES (UG/L)										
1,1,1-TRICHLOROETHANE	0.5 U	0.5 U	260	290	1600	440	0.5 U	0.5 U	76	41
1,1,2-TRICHLOROETHANE	0.5 U	0.5 U	1 U	0.5 U	0.3 J	0.5 U	0.5 U	0.5 U	1 U	0.5 U
1,1-DICHLOROETHANE	0.5 U	0.5 U	380	440	1000	1000	0.5 U	0.5 U	47	82 J
1,1-DICHLOROETHENE	0.5 UJ	0.5 U	4	15	58 J	11 J	0.5 U	0.5 U	14	18
CHLOROETHANE	1 U	1 U	85	1 U	22 J	1000	1 U	1 U	0.4 J	24
CIS-1,2-DICHLOROETHENE	0.5 U	0.5 U	1	0.5 U	1 U	2.2	0.5 U	0.5 U	1 U	0.5 U

Shaded - Detected; U - Not Detected; J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW06A	DA-MW06B	DA-MW07A	DA-MW07A	DA-MW07B	DA-MW07B	DA-MW08A	DA-MW08B	DA-MW09B	DA-MW09B
DATE SAMPLED	06/23/10	06/17/10	05/28/08	06/22/10	05/29/08	06/23/10	06/29/10	06/22/10	05/28/08	06/29/10
SAMPLE ID	DA-MW6A-062310	DA-MW6B-061710	DA-MW07A-52808	DA-MW7A-062210	DA-MW07B-52908	DA-MW7B-062310	DA-MW-08A-062910	DA-MW8B-062210	DA-MW09B-52808	DA-MW-09B-062910
SACODE										
AQUIFER	OVERBURDEN	BEDROCK	OB-BR INTERFACE	OB-BR INTERFACE	BEDROCK	BEDROCK	OVERBURDEN	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH			10	10	28.72	28.72			21.41	21.41
TETRACHLOROETHENE	0.5 U	0.5 U	2	0.53 J	2 J	8.3	0.5 U	0.5 U	1 U	0.5 U
TOTAL 1,2-DICHLOROETHENE	0.5 U	0.5 U	1	0.5 U	1 U	2.2	0.5 U	0.5 U	1 U	0.5 U
TOTAL CHLORINATED ETHENES	0.6 UJ	0.6 U	3.9 J	17.2 J	6.8 J	25.4 J	0.6 U	0.6 U	0.5 J	19.6 J
TOTAL CHLORINATED VOCS	0.602 UJ	0.602 U	732.9 J	747 J	2687.1 J	2470 J	0.37 J	0.602 UJ	137.9 J	167 J
TRANS-1,2-DICHLOROETHENE	0.5 U	0.5 U	1 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	1 U	0.5 U
TRICHLOROETHENE	0.5 U	0.5 U	0.9 J	1 J	4 J	3.9	0.5 U	0.5 U	0.5 J	1.2
VINYL CHLORIDE	1 U	1 U	2 U	0.7 J	0.8 J	1 U	1 U	1 U	2 U	0.37 J
CONDITIONS CONDUCIVE TO OR INDICATIVE OF MNA?	NA	NA	Y	Y	Y	Y	NA	NA	Y	Y

Shaded - Detected; U - Not Detected; J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW11	DA-MW12	DA-MW13A	DA-MW13B	DA-MW100B	DA-MW100B	DA-MW101B	DA-MW101B	DA-MW101B
DATE SAMPLED	06/29/10	06/30/10	08/04/08	06/30/10	05/13/08	09/18/08	05/30/08	07/31/08	06/23/10
SAMPLE ID	DA-MW-11-062910-AVG	DA-MW-12-063010	DA-GW-MW13A-080408	DA-MW-13B-063010	DA-MW100B-51308	DA-MW-100B-091908	DA-MW101B-53008-AVG	DA-GW-MW101B-073108	DA-MW101B-062310
SACODE	AVG		AVG				AVG		
AQUIFER	OVERBURDEN	OB-BR INTERFACE	OB-BR INTERFACE	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH		4	6	24.73	45	45	50	50	50
FIELD (UG/L)									
FERROUS IRON	NA	NA	NA	NA	NA	NA	70	NA	NA
MISCELLANEOUS PARAMETERS (MG/L)									
AMMONIA-N	0.039 J	0.05 U	NA	NA	NA	NA	0.1 U	NA	0.05 U
NITRATE-N	0.0192 J	3.4	NA	NA	NA	NA	0.0315 J	NA	0.025 U
NITRITE-N	0.025 U	0.025 U	NA	NA	NA	NA	0.05 U	NA	0.025 U
ORTHOPHOSPHATE-P	0.05 U	0.05 U	NA	NA	NA	NA	0.0795 J	NA	0.05 U
SULFATE	20	23	NA	NA	NA	NA	14	NA	14
SULFIDE	0.8 U	0.73 J	NA	NA	NA	NA	1.05	NA	2.2
TOTAL ORGANIC CARBON	1.1	1	NA	NA	NA	NA	0.615 J	NA	1.1
VOLATILE GASES (UG/L)									
ETHANE	2 U	2 U	NA	NA	NA	NA	10 U	NA	2 U
ETHENE	2 U	2 U	NA	NA	NA	NA	10 U	NA	2 U
METHANE	83.5 J	5.9 J	NA	NA	NA	NA	810	NA	400 J
VOLATILES (UG/L)									
1,1,1-TRICHLOROETHANE	0.5 U	0.5 U	1 U	0.5 U	50 U	NA	110	88	96
1,1,2-TRICHLOROETHANE	0.5 U	0.5 U	1 U	0.5 U	50 U	NA	1 U	1 U	0.5 U
1,1-DICHLOROETHANE	0.5 U	0.5 U	1 U	0.5 U	310	NA	805	740	510
1,1-DICHLOROETHENE	0.5 U	0.5 U	1 U	0.5 U	50 U	NA	79	78	52 J
CHLOROETHANE	1 U	1 U	2 U	1 U	130	NA	270	240	94
CIS-1,2-DICHLOROETHENE	0.5 U	0.23 J	1 U	0.51 J	50 U	NA	0.4 J	0.4 J	0.37 J

Shaded - Detected; U - Not Detected; J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW11	DA-MW12	DA-MW13A	DA-MW13B	DA-MW100B	DA-MW100B	DA-MW101B	DA-MW101B	DA-MW101B
DATE SAMPLED	06/29/10	06/30/10	08/04/08	06/30/10	05/13/08	09/18/08	05/30/08	07/31/08	06/23/10
SAMPLE ID	DA-MW-11-062910-AVG	DA-MW-12-063010	DA-GW-MW13A-080408	DA-MW-13B-063010	DA-MW100B-51308	DA-MW-100B-091908	DA-MW101B-53008-AVG	DA-GW-MW101B-073108	DA-MW101B-062310
SACODE	AVG		AVG				AVG		
AQUIFER	OVERBURDEN	OB-BR INTERFACE	OB-BR INTERFACE	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH		4	6	24.73	45	45	50	50	50
TETRACHLOROETHENE	0.5 U	4.5	1 UJ	1.1	50 U	NA	1 U	1 U	0.5 U
TOTAL 1,2-DICHLOROETHENE	0.5 U	0.23 J	1 U	0.51 J	50 U	NA	0.4 J	0.4 J	0.37 J
TOTAL CHLORINATED ETHENES	0.6 U	5.83 J	0.4 J	1.98 J	62 U	NA	4.4 J	11.4 J	57.5 J
TOTAL CHLORINATED VOCS	0.602 U	5.83 J	0.4 J	1.98 J	440	9 U	1268.4 J	1161.4 J	757 J
TRANS-1,2-DICHLOROETHENE	0.5 U	0.5 U	1 U	0.5 U	50 U	NA	1 U	1 U	0.5 U
TRICHLOROETHENE	0.5 U	1.1	0.40 J	0.37 J	50 U	NA	4	5	3.5
VINYL CHLORIDE	1 U	1 U	2 U	1 U	100 U	NA	2 U	6	1.6 J
CONDITIONS CONDUCIVE TO OR INDICATIVE OF MNA?	limited	limited	NA	NA	NA	NA	Y	NA	limited

Shaded - Detected; U - Not Detected; J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW102B	DA-MW102B	DA-MW103B	DA-MW103B	DA-MW103S	DA-MW104B	DA-MW104B	DA-MW105B	DA-MW105B
DATE SAMPLED	05/27/08	08/01/08	05/23/08	07/01/10	05/26/08	05/20/08	06/18/10	05/20/08	06/28/10
SAMPLE ID	DA-MW102B-52708	DA-GW-MW102B-080408	DA-MW103B-52308	DA-MW-103B-070110	DA-MW103S-52608	DA-MW104B-52008	DA-MW104B-061810	DA-MW105B-52008	DA-MW-105B-062810
SACODE									
AQUIFER	BEDROCK	BEDROCK	BEDROCK	BEDROCK	OB-BR INTERFACE	BEDROCK	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH	44	44	50	50	19.5	42	42	48	48
FIELD (UG/L)									
FERROUS IRON	3010	NA	2450	NA	2330	1730	NA	0 U	NA
MISCELLANEOUS PARAMETERS (MG/L)									
AMMONIA-N	0.1 U	NA	0.06 J	0.05 U	1.8	0.1 U	NA	0.1 U	0.05 U
NITRATE-N	0.05 U	NA	0.81	0.07	0.05 U	0.3	NA	0.048 J	0.099
NITRITE-N	0.05 U	NA	0.05 U	0.025 U	0.05 U	0.037 J	NA	0.05 U	0.025 U
ORTHOPHOSPHATE-P	0.024 J	NA	0.05 U	0.05 U	0.032 J	0.061	NA	0.023 J	0.05 U
SULFATE	5.1	NA	11	8.1	46	19	NA	28	28
SULFIDE	0.8 J	NA	1 U	0.8 U	1 U	1.4	NA	1 U	0.7 J
TOTAL ORGANIC CARBON	1.3	NA	1.7	1.1	14	0.94 J	NA	0.96 J	0.76 J
VOLATILE GASES (UG/L)									
ETHANE	10 U	NA	10 U	2 U	10 U	10 U	NA	10 U	2 U
ETHENE	10 U	NA	10 U	2 U	10 U	10 U	NA	10 U	2 U
METHANE	2.8 J	NA	49	73 J	150	9.8 J	NA	14	110 J
VOLATILES (UG/L)									
1,1,1-TRICHLOROETHANE	1 U	1 U	1	7.9	1 U	4	7.5	3	3.3
1,1,2-TRICHLOROETHANE	1 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	0.5 U
1,1-DICHLOROETHANE	1	2	19	160	1 U	130	230 J	100	110
1,1-DICHLOROETHENE	1 U	1 U	1	12	1 U	7	14	5	7.4
CHLOROETHANE	2 U	2 U	2 U	1.9 J	2 U	2 U	1 U	2 U	1 U
CIS-1,2-DICHLOROETHENE	2	3	4	21	1 U	8	8.9	3	3.8

Shaded - Detected; U - Not Detected; J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW102B	DA-MW102B	DA-MW103B	DA-MW103B	DA-MW103S	DA-MW104B	DA-MW104B	DA-MW105B	DA-MW105B
DATE SAMPLED	05/27/08	08/01/08	05/23/08	07/01/10	05/26/08	05/20/08	06/18/10	05/20/08	06/28/10
SAMPLE ID	DA-MW102B-52708	DA-GW-MW102B-080408	DA-MW103B-52308	DA-MW-103B-070110	DA-MW103S-52608	DA-MW104B-52008	DA-MW104B-061810	DA-MW105B-52008	DA-MW-105B-062810
SACODE									
AQUIFER	BEDROCK	BEDROCK	BEDROCK	BEDROCK	OB-BR INTERFACE	BEDROCK	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH	44	44	50	50	19.5	42	42	48	48
TETRACHLOROETHENE	1 U	1 UJ	1 U	0.5 U	1 U	0.5 J	2.7	3	2.6
TOTAL 1,2-DICHLOROETHENE	2	3	4	21	1 U	8	8.9	3	3.8
TOTAL CHLORINATED ETHENES	7	14.4 J	10	51.7	1.2 U	16.5 J	33.3 J	8.6 J	16.8 J
TOTAL CHLORINATED VOCS	8 J	16.4 J	31	222 J	1.3 U	157.5 J	271 J	116.6 J	130 J
TRANS-1,2-DICHLOROETHENE	1 U	1 U	1 U	0.5 U	1 U	1 U	0.5 U	1 U	0.5 U
TRICHLOROETHENE	5	11	6	15	1 U	7	6.3	2	2.4
VINYL CHLORIDE	2 U	0.4 J	2 U	3.7	2 U	1 J	1.4 J	0.6 J	0.64 J
CONDITIONS CONDUCIVE TO OR INDICATIVE OF MNA?	Y	NA	Y	Y	Y	Y	NA	limited	limited

Shaded - Detected; U - Not Detected; J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW106B	DA-MW106S	DA-MW107B	DA-MW108B	DA-MW109B	DA-MW109B	DA-MW109B	DA-MW109B	DA-MW110B
DATE SAMPLED	05/21/08	05/22/08	06/04/08	06/03/08	05/08/08	05/08/08	05/08/08	06/02/08	05/19/08
SAMPLE ID	DA-MW106B-52108	DA-MW106S-52208	DA-MW107B-6408	DA-MW108B-6308-AVG	DA-MW109-1924	DA-MW109-3035	DA-MW109-3641	DA-MW109B-6208	DA-MW110B-51908
SACODE				AVG					
AQUIFER	BEDROCK	OB-BR INTERFACE	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH	50	20	45	45	45	45	45	45	49
FIELD (UG/L)									
FERROUS IRON	3800	NA	3780	3220	NA	NA	NA	2370	3040
MISCELLANEOUS PARAMETERS (MG/L)									
AMMONIA-N	0.1 U	0.042 J	0.1 U	0.1 U	NA	NA	NA	0.04 J	0.1 U
NITRATE-N	0.05 U	4.9	0.05 U	0.05 U	NA	NA	NA	0.05 U	0.078
NITRITE-N	0.05 U	0.05 U	0.05 U	0.05 U	NA	NA	NA	0.05 U	0.0064 J
ORTHOPHOSPHATE-P	0.061	0.05 U	0.049 J	0.0245 J	NA	NA	NA	0.025 J	0.063
SULFATE	41	34	44	29	NA	NA	NA	36	33
SULFIDE	1.3	1 U	1 U	1 U	NA	NA	NA	1.2	2
TOTAL ORGANIC CARBON	0.83 J	0.64 J	0.36 J	1.8	NA	NA	NA	1.1	0.59 J
VOLATILE GASES (UG/L)									
ETHANE	10 U	10 U	10 U	10 U	NA	NA	NA	10 U	10 UJ
ETHENE	10 U	10 U	10 U	10 U	NA	NA	NA	10 U	10 UJ
METHANE	10 U	1.8 J	10 U	1.35 J	NA	NA	NA	13	8.7 J
VOLATILES (UG/L)									
1,1,1-TRICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ
1,1,2-TRICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ
1,1-DICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.7 J
1,1-DICHLOROETHENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ
CHLOROETHANE	2 U	2 U	2 U	2 U	2 UJ	2 UJ	2 UJ	2 U	2 UJ
CIS-1,2-DICHLOROETHENE	1 U	1 U	1 U	9.5	4	6	4	3	2 J

Shaded - Detected; U - Not Detected; J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW106B	DA-MW106S	DA-MW107B	DA-MW108B	DA-MW109B	DA-MW109B	DA-MW109B	DA-MW109B	DA-MW110B
DATE SAMPLED	05/21/08	05/22/08	06/04/08	06/03/08	05/08/08	05/08/08	05/08/08	06/02/08	05/19/08
SAMPLE ID	DA-MW106B-52108	DA-MW106S-52208	DA-MW107B-6408	DA-MW108B-6308-AVG	DA-MW109-1924	DA-MW109-3035	DA-MW109-3641	DA-MW109B-6208	DA-MW110B-51908
SACODE				AVG					
AQUIFER	BEDROCK	OB-BR INTERFACE	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH	50	20	45	45	45	45	45	45	49
TETRACHLOROETHENE	1 U	1 U	1 U	7	2 J	5 J	4 J	3	7 J
TOTAL 1,2-DICHLOROETHENE	1 U	1 U	1 U	9.5	4	6	4	3	2 J
TOTAL CHLORINATED ETHENES	1.2 U	1.2 U	1.2 U	18.9 J	7 J	13.6 J	9 J	7.4 J	12 J
TOTAL CHLORINATED VOCS	1.3 U	1.3 U	1.3 U	18.9 J	7 J	13.6 J	9 J	8.4 J	12.7 J
TRANS-1,2-DICHLOROETHENE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ
TRICHLOROETHENE	1 U	1 U	1 U	2	1	2	1	1	3 J
VINYL CHLORIDE	2 U	2 U	2 U	0.4 J	2 U	0.6 J	2 U	0.4 J	2 UJ
CONDITIONS CONDUCIVE TO OR INDICATIVE OF MNA?	limited	N	limited	limited	NA	NA	NA	limited	limited

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW111B	DA-MW112B	DA-MW112S	DA-MW113B	DA-MW114B	DA-MW114B	DA-MW114B	DA-MW114B	DA-MW115B
DATE SAMPLED	05/16/08	05/16/08	05/19/08	05/16/08	05/05/08	05/05/08	05/06/08	05/16/08	05/07/08
SAMPLE ID	DA-MW111B-51608	DA-MW112B-51608-AVG	DA-MW112S-51908	DA-MW113B-51608	DA-MW114-2934	DA-MW114-3439	DA-MW114-5261	DA-MW114B-51608	DA-MW115-1924
SACODE		AVG							
AQUIFER	BEDROCK	BEDROCK	OB-BR INTERFACE	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH	44	47	20	46	61	61	61	61	48
FIELD (UG/L)									
FERROUS IRON	750	10	60	600	NA	NA	NA	0 U	NA
MISCELLANEOUS PARAMETERS (MG/L)									
AMMONIA-N	0.1 U	0.1 U	0.084 J	0.047 J	NA	NA	NA	0.1 U	NA
NITRATE-N	1.7	0.05 U	2.7	0.55	NA	NA	NA	0.25	NA
NITRITE-N	0.05 U	0.05 U	0.1 U	0.05 U	NA	NA	NA	0.05 U	NA
ORTHOPHOSPHATE-P	0.034 J	0.023 J	0.048 J	0.02 J	NA	NA	NA	0.12	NA
SULFATE	27	33	27	32	NA	NA	NA	16	NA
SULFIDE	1 U	1 U	1.4	1 U	NA	NA	NA	1 U	NA
TOTAL ORGANIC CARBON	1.3	0.59 J	1.1	0.67 J	NA	NA	NA	1.1	NA
VOLATILE GASES (UG/L)									
ETHANE	10 U	10 U	10 U	10 U	NA	NA	NA	10 U	NA
ETHENE	10 U	10 U	10 U	10 U	NA	NA	NA	10 U	NA
METHANE	10 U	4.75 J	72	2.4 J	NA	NA	NA	10 U	NA
VOLATILES (UG/L)									
1,1,1-TRICHLOROETHANE	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U
1,1,2-TRICHLOROETHANE	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U
1,1-DICHLOROETHANE	1 U	1 J	1 UJ	1 UJ	1 J	1 UJ	1 UJ	0.4 J	0.7 J
1,1-DICHLOROETHENE	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U
CHLOROETHANE	2 U	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 U	2 UJ
CIS-1,2-DICHLOROETHENE	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U

Shaded - Detected; U - Not Detected; J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW111B	DA-MW112B	DA-MW112S	DA-MW113B	DA-MW114B	DA-MW114B	DA-MW114B	DA-MW114B	DA-MW115B
DATE SAMPLED	05/16/08	05/16/08	05/19/08	05/16/08	05/05/08	05/05/08	05/06/08	05/16/08	05/07/08
SAMPLE ID	DA-MW111B-51608	DA-MW112B-51608-AVG	DA-MW112S-51908	DA-MW113B-51608	DA-MW114-2934	DA-MW114-3439	DA-MW114-5261	DA-MW114B-51608	DA-MW115-1924
SACODE		AVG							
AQUIFER	BEDROCK	BEDROCK	OB-BR INTERFACE	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH	44	47	20	46	61	61	61	61	48
TETRACHLOROETHENE	1 U	1 UJ	0.5 J	0.6 J	1 UJ	1 UJ	1 UJ	1 U	1 U
TOTAL 1,2-DICHLOROETHENE	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U
TOTAL CHLORINATED ETHENES	1.2 U	1.2 UJ	0.5 J	0.6 J	1.2 UJ	1.2 UJ	1.2 UJ	1.2 U	1.2 U
TOTAL CHLORINATED VOCS	1.3 U	1 J	0.5 J	0.6 J	1 J	1.3 UJ	1.3 UJ	0.4 J	0.7 J
TRANS-1,2-DICHLOROETHENE	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U
TRICHLOROETHENE	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U
VINYL CHLORIDE	2 U	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 U	2 U
CONDITIONS CONDUCIVE TO OR INDICATIVE OF MNA?	N	N	limited	N	NA	NA	NA	N	NA

Shaded - Detected; U - Not Detected; J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW115B	DA-MW115B	DA-MW116B	DA-MW116B-D1	DA-MW116B-D2	DA-MW117B	DA-MW117B-D1	DA-MW117B-D2	DA-MW118B
DATE SAMPLED	05/07/08	05/15/08	05/15/08	08/06/10	08/06/10	05/15/08	08/11/10	08/11/10	05/15/08
SAMPLE ID	DA-MW115-2631	DA-MW115B-51508	DA-MW116B-51508	DA-GW-MW116B-D1-0810	DA-GW-MW116B-D2-0810	DA-MW117B-51508	DA-MW-117B-D1-081110	DA-MW-117B-D2-081110	DA-MW118B-51508
SACODE									
AQUIFER	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH	48	48	40	29	39	40	29	39	49
FIELD (UG/L)									
FERROUS IRON	NA	1830	2980	NA	NA	2410	NA	NA	0 U
MISCELLANEOUS PARAMETERS (MG/L)									
AMMONIA-N	NA	0.1 U	0.1 U	NA	NA	0.1 U	0.05 U	0.05 U	0.1 U
NITRATE-N	NA	0.05 U	0.05 U	NA	NA	0.05 U	0.21	0.025 U	0.05 U
NITRITE-N	NA	0.05 U	0.05 U	NA	NA	0.05 U	0.025 U	0.025 U	0.05 U
ORTHOPHOSPHATE-P	NA	0.022 J	0.038 J	NA	NA	0.032 J	0.05 U	0.05 U	0.063
SULFATE	NA	25	29	NA	NA	23	18	29	14
SULFIDE	NA	3.1	1 U	NA	NA	1 U	0.8 U	0.8 U	1 U
TOTAL ORGANIC CARBON	NA	0.38 J	0.28 J	NA	NA	0.41 J	0.59 J	0.57 J	0.28 J
VOLATILE GASES (UG/L)									
ETHANE	NA	10 U	10 U	NA	NA	10 U	2 U	2 U	10 U
ETHENE	NA	10 U	10 U	NA	NA	10 U	2 U	2 U	10 U
METHANE	NA	1.3 J	10 U	NA	NA	10 U	1.4 J	1.5 J	10 U
VOLATILES (UG/L)									
1,1,1-TRICHLOROETHANE	1 U	1 U	1 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	1 U
1,1,2-TRICHLOROETHANE	1 U	1 U	1 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	1 U
1,1-DICHLOROETHANE	0.6 J	0.8 J	1 U	0.5 U	0.5 U	0.4 J	0.28 J	0.7 J	1 U
1,1-DICHLOROETHENE	1 U	1 U	1 U	0.5 U	0.5 U	1 J	0.45 J	0.5 U	1 U
CHLOROETHANE	2 UJ	2 U	2 UJ	1 U	1 U	2 UJ	1 U	1 U	2 U
CIS-1,2-DICHLOROETHENE	1 U	1 U	1 U	0.5 U	0.5 U	2	1.4	0.79 J	0.4 J

Shaded - Detected; U - Not Detected; J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW115B	DA-MW115B	DA-MW116B	DA-MW116B-D1	DA-MW116B-D2	DA-MW117B	DA-MW117B-D1	DA-MW117B-D2	DA-MW118B
DATE SAMPLED	05/07/08	05/15/08	05/15/08	08/06/10	08/06/10	05/15/08	08/11/10	08/11/10	05/15/08
SAMPLE ID	DA-MW115-2631	DA-MW115B-51508	DA-MW116B-51508	DA-GW-MW116B-D1-0810	DA-GW-MW116B-D2-0810	DA-MW117B-51508	DA-MW-117B-D1-081110	DA-MW-117B-D2-081110	DA-MW118B-51508
SACODE									
AQUIFER	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH	48	48	40	29	39	40	29	39	49
TETRACHLOROETHENE	0.5 J	1 U	1 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	1 U
TOTAL 1,2-DICHLOROETHENE	1 U	1 U	1 U	0.5 U	0.5 U	2	1.4	0.79 J	0.4 J
TOTAL CHLORINATED ETHENES	0.5 J	1.2 U	1.2 U	0.6 U	0.6 U	732	142 J	131 J	18.4 J
TOTAL CHLORINATED VOCS	1.1 J	0.8 J	1.3 UJ	0.602 U	0.602 U	733.4 J	142 J	131 J	18.4 J
TRANS-1,2-DICHLOROETHENE	1 U	1 U	1 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	1 U
TRICHLOROETHENE	1 U	1 U	1 U	0.5 U	0.5 U	730	140	130	18
VINYL CHLORIDE	2 U	2 U	2 U	1 U	1 U	2 U	1 U	1 U	2 U
CONDITIONS CONDUCIVE TO OR INDICATIVE OF MNA?	NA	limited	N	NA	NA	limited	limited	limited	N

Shaded - Detected; U - Not Detected; J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW118B-D1	DA-MW118B-D2	DA-MW119B	DA-MW120B	DA-MW122	DA-MW122	DA-MW123	DA-MW124B	DA-MW124B
DATE SAMPLED	08/10/10	08/10/10	05/14/08	05/14/08	06/03/08	06/30/10	06/04/08	08/01/08	08/04/08
SAMPLE ID	DA-MW-118B-D1-081010	DA-MW-118B-D2-081010	DA-MW119B-51408	DA-MW120B-51408	DA-MW122B-6308-AVG	DA-MW-122-063010	DA-MW123B-6408	DA-MW124B-1020	DA-MW124B-3545
SACODE					AVG				
AQUIFER	BEDROCK	BEDROCK	BEDROCK	BEDROCK	OB-BR INTERFACE	OB-BR INTERFACE	OB-BR INTERFACE	BEDROCK	BEDROCK
WELL DEPTH	37	47	45	60	5	5	8	48.75	48.75
FIELD (UG/L)									
FERROUS IRON	NA	NA	3270	3060	0 U	NA	0 U	NA	NA
MISCELLANEOUS PARAMETERS (MG/L)									
AMMONIA-N	NA	NA	1.1	0.1 U	0.1 U	NA	0.1 U	NA	NA
NITRATE-N	NA	NA	0.05 U	0.05 U	1.7	NA	0.34	NA	NA
NITRITE-N	NA	NA	0.05 U	0.05 U	0.05 U	NA	0.014 J	NA	NA
ORTHOPHOSPHATE-P	NA	NA	0.12	0.046 J	0.043 J	NA	0.049 J	NA	NA
SULFATE	NA	NA	5	65	24	NA	26	NA	NA
SULFIDE	NA	NA	3.1	1 U	1 U	NA	1 J	NA	NA
TOTAL ORGANIC CARBON	NA	NA	2.1	0.49 J	2.2	NA	1.9	NA	NA
VOLATILE GASES (UG/L)									
ETHANE	NA	NA	50 U	10 U	10 U	NA	10 U	NA	NA
ETHENE	NA	NA	50 U	10 U	10 U	NA	10 U	NA	NA
METHANE	NA	NA	2300	2 J	10 U	NA	4.9 J	NA	NA
VOLATILES (UG/L)									
1,1,1-TRICHLOROETHANE	0.5 U	0.5 U	1 U	1 U	1	0.5 U	1 U	1 U	1 U
1,1,2-TRICHLOROETHANE	0.5 U	0.5 U	1 U	1 U	1 U	0.5 U	1 U	1 U	1 U
1,1-DICHLOROETHANE	0.5 U	0.5 U	1 U	1 U	0.4 J	0.84 J	1 U	1	18
1,1-DICHLOROETHENE	1.4	0.59 J	1 U	1 U	1 U	0.5 U	1 U	1 U	0.8 J
CHLOROETHANE	1 U	1 U	2 U	2 U	2 U	1 U	2 U	2 U	1 J
CIS-1,2-DICHLOROETHENE	3.2	1.8	1 U	1 U	1 U	0.53 J	0.4 J	5	26

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ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW118B-D1	DA-MW118B-D2	DA-MW119B	DA-MW120B	DA-MW122	DA-MW122	DA-MW123	DA-MW124B	DA-MW124B
DATE SAMPLED	08/10/10	08/10/10	05/14/08	05/14/08	06/03/08	06/30/10	06/04/08	08/01/08	08/04/08
SAMPLE ID	DA-MW-118B-D1-081010	DA-MW-118B-D2-081010	DA-MW119B-51408	DA-MW120B-51408	DA-MW122B-6308-AVG	DA-MW-122-063010	DA-MW123B-6408	DA-MW124B-1020	DA-MW124B-3545
SACODE					AVG				
AQUIFER	BEDROCK	BEDROCK	BEDROCK	BEDROCK	OB-BR INTERFACE	OB-BR INTERFACE	OB-BR INTERFACE	BEDROCK	BEDROCK
WELL DEPTH	37	47	45	60	5	5	8	48.75	48.75
TETRACHLOROETHENE	0.5 U	0.5 U	1 U	1 U	1 U	0.58 J	2	1 U	1 U
TOTAL 1,2-DICHLOROETHENE	3.56 J	1.8	1 U	1 U	1 U	0.53 J	0.4 J	5.5 J	29
TOTAL CHLORINATED ETHENES	205 J	162 J	2 J	1.2 U	1.2 U	1.68 J	3.3 J	8.5 J	64
TOTAL CHLORINATED VOCS	205 J	162 J	2 J	1.3 U	1.4 J	2.52 J	3.3 J	9.8 J	83.8 J
TRANS-1,2-DICHLOROETHENE	0.36 J	0.5 U	1 U	1 U	1 U	0.5 U	1 U	0.5 J	3
TRICHLOROETHENE	200	160	1 U	1 U	1 U	0.57 J	0.9 J	2	16
VINYL CHLORIDE	1 U	1 U	2 J	2 U	2 U	1 U	2 U	1 J	19
CONDITIONS CONDUCIVE TO OR INDICATIVE OF MNA?	NA	NA	Y	N	N	NA	limited	NA	NA

Shaded - Detected; U - Not Detected; J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW125B	DA-MW125B	DA-MW126B	DA-MW126B	DA-MW126B	DA-MW127B	DA-MW128B	DA-MW129B	DA-MW130B
DATE SAMPLED	07/31/08	08/01/08	07/30/08	07/30/08	07/30/08	08/10/10	08/09/10	08/10/10	08/09/10
SAMPLE ID	DA-MW125B-2636	DA-MW125B-3646	DA-MW126B-2227	DA-MW126B-4246	DA-MW126B-5055	DA-MW-127B-081010	DA-GW-MW128B-080910	DA-MW-129B-081010-AVG	DA-GW-MW130B-080910
SACODE								AVG	
AQUIFER	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH	50.5	50.5	60	60	60	46	45	58	60.5
FIELD (UG/L)									
FERROUS IRON	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS PARAMETERS (MG/L)									
AMMONIA-N	NA	NA	NA	NA	NA	0.05 U	0.05 U	0.17	NA
NITRATE-N	NA	NA	NA	NA	NA	0.02 J	0.02 J	0.325	NA
NITRITE-N	NA	NA	NA	NA	NA	0.025 U	0.025 U	0.025 U	NA
ORTHOPHOSPHATE-P	NA	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	NA
SULFATE	NA	NA	NA	NA	NA	39	25	11	NA
SULFIDE	NA	NA	NA	NA	NA	0.8 U	0.8 U	0.8 U	NA
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	0.66 J	0.6 J	1.9	NA
VOLATILE GASES (UG/L)									
ETHANE	NA	NA	NA	NA	NA	2 UJ	2 U	2 U	NA
ETHENE	NA	NA	NA	NA	NA	2 UJ	2 U	2 U	NA
METHANE	NA	NA	NA	NA	NA	16 J	1.7 J	79.5	NA
VOLATILES (UG/L)									
1,1,1-TRICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	0.5 U	1 J	140	10
1,1,2-TRICHLOROETHANE	1 U	1 U	1 U	1 U	1 U	0.5 U	0.48 J	0.5 U	0.5 U
1,1-DICHLOROETHANE	1 U	0.5 J	1 U	1 U	1 U	0.5 U	1.6	64.5	9.2
1,1-DICHLOROETHENE	1 U	1 U	1 U	1 U	1 U	0.5 U	13	6.15	1.3
CHLOROETHANE	2 U	2 U	2 U	2 U	2 U	1 U	1 U	75.5	1 U
CIS-1,2-DICHLOROETHENE	4	3	1 U	1 U	1 U	0.53 J	26	0.76 J	0.5 U

Shaded - Detected; U - Not Detected; J - Quantitation is approximate; R - Rejected; NA - Not Analyzed

ATTACHMENT D
HISTORICAL GROUNDWATER ANAYLTICAL RESULTS (VOCs AND MNA PARAMETERS)
SITE 08, NUSC DISPOSAL AREA
NAVAL STATION NEWPORT, RHODE ISLAND

LOCATION ID	DA-MW125B	DA-MW125B	DA-MW126B	DA-MW126B	DA-MW126B	DA-MW127B	DA-MW128B	DA-MW129B	DA-MW130B
DATE SAMPLED	07/31/08	08/01/08	07/30/08	07/30/08	07/30/08	08/10/10	08/09/10	08/10/10	08/09/10
SAMPLE ID	DA-MW125B-2636	DA-MW125B-3646	DA-MW126B-2227	DA-MW126B-4246	DA-MW126B-5055	DA-MW-127B-081010	DA-GW-MW128B-080910	DA-MW-129B-081010-AVG	DA-GW-MW130B-080910
SACODE								AVG	
AQUIFER	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK	BEDROCK
WELL DEPTH	50.5	50.5	60	60	60	46	45	58	60.5
TETRACHLOROETHENE	12	8	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	0.5 U
TOTAL 1,2-DICHLOROETHENE	4	3	1 U	1 U	1 U	0.53 J	29.7	0.76 J	0.5 U
TOTAL CHLORINATED ETHENES	20.3 J	13	1.2 U	1.2 U	1.2 U	6.02 J	1240 J	11.4 J	2.01 J
TOTAL CHLORINATED VOCS	20.3 J	13.5 J	7 J	1.3 UJ	16	6.02 J	1250 J	291 J	21.2 J
TRANS-1,2-DICHLOROETHENE	1 U	1 U	1 U	1 U	1 U	0.5 U	3.7	0.5 U	0.5 U
TRICHLOROETHENE	4	2	1 U	1 U	1 U	4.8	1200	4.5	0.71 J
VINYL CHLORIDE	0.3 J	2 U	2 U	2 U	2 U	0.69 J	0.31 J	1 U	1 U
CONDITIONS CONDUCIVE TO OR INDICATIVE OF MNA?	NA	NA	NA	NA	NA	limited	limited	Y	NA

Shaded - Detected; U - Not Detected; J - Quantitation is approximate; R - Rejected; NA - Not Analyzed