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7 December 2007

Mr. Michael Daly
U.S. Environmental Protection Agency
1 Congress Street, (1100 HBT)
Boston, Massachusetts 02114-2023

Ms. Claudia Sait
Maine Department of Environmental Protection (MEDEP)
Project Manager-Federal Facilities
Bureau of Remediation & Waste Management
17 State House Station
Augusta, ME 04333-0017

Re: Contract N62472-02-D-0810, Contract Task Order No. 007
Revised Summary Letter Report for January 2006 Supplemental Sampling and April 2006, Monitoring Event 28 at Site 9, Naval Air Station, Brunswick, Maine

Dear Mr. Daly and Ms. Sait:

ECC is providing this Revised Summary Letter Report to document the analytical data collected during January and April, 2006 at Site 9, Naval Air Station, Brunswick, Maine. This letter report is a summary of two supplemental sampling events which took place subsequent to the 2005 excavation activities at the site and prior to the additional excavation activities conducted at Site 9 in summer 2006. The location of Site 9 is provided in Figure 1. The following attachments are include in this letter report: Attachment A - Field Sampling and Instrument Calibration Reports; Attachment B - Analytical Data Quality Review; Attachment C - Data Validation Reports; Attachment D – Temporal Trend Graphs; and Attachment F - December 2005 Technical Meeting Minutes.

Engineering Field Activity Northeast, Naval Facilities Engineering Command contracted with ECC to perform groundwater sampling at Site 9, Naval Air Station (NAS), Brunswick, Maine, under Contract No. N62472-02-D-0810, Contract Task Order No. 007.

The Navy is performing long-term monitoring at Site 9 as part of the long-term remedial actions required by the *Final Record of Decision for Site 9* (EA 1999a). The Site Plan for Site 9 is provided as Figure 2. Well designations and sample parameters are summarized in the *Site 9 Long-Term Monitoring Plan* (LTMP) (EA, 1999). In December 2005, the EPA and MEDEP requested that select monitoring wells at Site 9 be sampled, prior to, and in addition to, the scheduled LTMP April 2006 monitoring event for non-LTMP Total Petroleum Hydrocarbon Diesel Range Organic (TPH-DRO) and Volatile Organic Compounds (VOCs) (refer to Attachment F). The EPA and MEDEP requested this January 2006 sampling be conducted as a result of "dead vegetation" observed at the edge of the Impoundment Pond during a site walk on October 5, 2005. Therefore, the January 2006 sampling event included TPH-DRO and VOC sampling at monitoring wells MW-NASB-072, MW-NASB-071, MW-NASB-074, MW-NASB-075, and MW-NASB-076.

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On April 26, 2006, three monitoring wells, MW-NASB-227, MW-NASB-075, and MW-NASB-069 were sampled for VOCs, TPH-DRO, and cyanide, and MW-NASB-69 was sampled for Semi-Volatile Organic Compounds (SVOCs) and metals as part of the LTMP sampling event for Monitoring Event 28. It is noted that the April 2006 sampling event was conducted at the request of the project stakeholders, and the sampling of the three on-site monitoring wells was requested to be completed as soon as possible. This sampling event was limited due to the on-going excavation activities already in progress at Site 9. Table 1 provides an analytical sampling summary of the two separate monitoring events conducted in 2006 at Site 9. The excavation and removal activities at Site 9 were conducted subsequent to the groundwater sampling in summer 2006.

Groundwater Gauging

Static water levels were measured on January 31, 2006 at monitoring wells MW-NASB-072, MW-NASB-075, MW-NASB-074, and MW-NASB-076 and on April 26, 2006 at monitoring wells MW-NASB-069, MW-NASB-075, and MW-NASB-227 just prior to groundwater sampling. Water level gauging data are summarized in Table 2. The locations of the sampled monitoring wells and respective groundwater elevations are included on Figure 3 (January) and Figure 4 (April). These groundwater contour maps were interpreted based on the January and April 2006 water level measurements; however, it should be noted that only three or four gauging locations were available for each sampling event due to either decommissioning of monitoring wells, or blockage by ice over the well caps.

Groundwater Monitoring, Sampling, and Analysis

Groundwater sampling was performed on January 31, 2006 at monitoring wells MW-NASB-072, MW-NASB-074, MW-NASB-075, and MW-NASB-076. The planned sample at MW-NASB-071 could not be collected due to ice in the well riser. On April 26, 2006 monitoring wells MW-NASB-69, MW-NASB-75, and MW-NASB-227 were sampled. All groundwater sampling was performed in accordance with the general methodologies established in the Final LTMP (EA 1999b). Dedicated Grundfos Redi-Flo2® stainless steel and Teflon® submersible pumping systems were used for low-flow sample collection at Site 9 according to the U.S. Environmental Protection Agency (EPA) Region I low-flow sampling technique, in compliance with the Final LTMP (EA 1999b). Water quality indicator parameters, including pH, specific conductance, temperature, dissolved oxygen, oxidation-reduction potential (Eh), and turbidity, were monitored and recorded to ensure stabilization of water quality prior to sample collection (Table 3). Field sampling and instrument calibration reports are included as Appendix A.

All groundwater samples collected at Site 9 in January and April 2006 were analyzed by Northeast Laboratory Services (located in Winslow, Maine) for LTMP Target Compound List (TCL) VOCs by EPA Method 8260B and non-LTMP diesel range organics (DRO) by MEDEP Method 4.1.25. In addition, the April 2006 groundwater sample collected from MW-NASB-069 was analyzed by Northeast Laboratory Services for LTMP SVOCs by EPA Method 8270C and LTMP Target Analyte List (TAL) metals by inductively coupled plasma using EPA Method 6010, mercury by cold vapor atomic absorption using EPA Method 7470A, antimony by EPA Method 7041, selenium by EPA Method 7740, thallium by EPA Method 7841 in accordance with the Final LTMP (EA 1999b).

During the April 2006 sampling event, total cyanide analysis by EPA Method 9010 was performed on groundwater samples collected from MW-NASB-069, MW-NASB-075, and MW-NASB-227 to provide analytical information useful for de-watering operations in support of the upcoming removal actions. Table 4 summarizes the analytical results for the groundwater samples collected in January and April 2006 from Site 9.

Quality Assurance and Quality Control

A rigorous quality assurance/quality control program is required to meet the data quality objectives of the sampling program, as outlined in the LTMP and Quality Assurance Project Plan (QAPP) (EA 1999b). The April LTMP data presented in this letter summary report were determined to be of sufficient quality to be used to evaluate the long-term effectiveness of the remedial action (i.e., natural attenuation with monitoring). Data from the January sampling event were not intended for compliance purposes and were not validated because the rationale for sampling was only to provide quick data to potentially explain dead vegetation observed in the Fall of 2005. Two field duplicate samples were collected and analyzed as field quality control samples. The analytical data quality review is included as Appendix B, and the data validation reports are included as Appendix C.

Analytical Temporal Trends

The temporal trend graphs for groundwater chemicals of concern at Site 9 between 1988 and 2006 are presented in Appendix D.

Summary of January and April 2006 Groundwater Sampling Results.

- **Volatile Organic Compounds (VOCs)**

  Vinyl chloride was reported in concentrations above both the MEG and MCL in the April LTMP groundwater sample collected at MW-NASB-069 (and the duplicate sample) at 9.8 J ug/L, and in the January non-LTMP groundwater sample collected at MW-NASB-076 at 1.2 ug/L which is above the MEG for vinyl chloride.

- **Semi-Volatile Organic Compounds (SVOCs)**

  There were no reported exceedances of SVOC in the LTMP groundwater samples collected as part of the Spring 2006 sampling event.

- **Metals**

  The April 2006 sample collected from MW-NASB-069 was analyzed for TAL metals in accordance with LTMP (EA 1999b). Aluminum was reported at 210 J ug/L, which exceeded the MCL (200 ug/L). Iron also was reported at a concentration of 380 J ug/L, which exceeded the MCL (300 ug/L). Manganese was reported at a concentration of 320 ug/L in both the original and duplicated samples, which exceeded both the MCL (50 ug/L) and MEG (200 ug/L).

- **Total Petroleum Hydrocarbon Diesel Range Organics**

  TPH DRO was reported at concentrations above the MEG (50 ug/L) in the groundwater samples collected from MW-NASB-075 (150 ug/L) and the duplicate sample (160 ug/L) during the non-LTMP January 2006 sampling round.

  TPH DRO was reported at a concentration above the MEG in the groundwater sample collected from MW-NASB-075 (72 ug/L) during the April 2006 LTMP sampling round. There were no other reported exceedances in the other two monitoring wells sampled for TPH DRO during the Spring 2006 monitoring events.

Please contact Alexander Easterday P.G., Senior Project Manager, or Gina Calderone, P.G., C.P.G, if you have any questions regarding this January and April 2006 Analytical Summary Report for Site 9.

Sincerely,

_____
Al Easterday, P.G.
Senior Project Manager

_____
Gina Calderone P.G., C.P.G.
Project Manager/Hydrogeologist

Enclosures:

Table 1 – Analytical Sampling Summary for January and April 2006
Table 2 – Water Level Gauging Data
Table 3 – Water Quality Indicator Parameters
Table 4 – Analytical Results
Figure 1 – Site Location Map
Figure 2 – Site 9 - Site Plan Map
Figure 3 – Groundwater Contour Map, January 2006
Figure 4 – Groundwater Contour Map, April 2006
Appendix A - Field Sampling and Instrument Calibration Reports
Appendix B - Analytical Data Quality Review
Appendix C - Data Validation Reports
Appendix D – Temporal Trend Graphs

cc: (hard copy w/enclosures)

L. Monaco, Navy, BRAC PMO
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M. Daly, MEDEP
P. Golanka, Gannett Fleming
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QUALITY REVIEW STATEMENT

Contract No. N62472-02-D-0810 ECC Project No.: 5700.007
Contract Task Order No. 007
Activity: Naval Air Station, Brunswick, Maine

Description of Final Report/Deliverable:

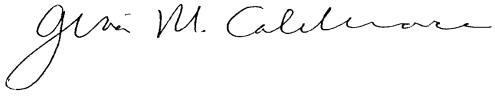
Final Monitoring Event 28 Report – April 2006 for Site 9, Naval Air Station, Brunswick, Maine

ECC CTO Senior Project Manager: Alexander C. Easterday, P.G.

As per State of Maine Department of Professional and Financial Regulations, Title 32 Chapter 73, Law, the sections of this document related to geology and geologic data interpretation have been reviewed for its technical content by the undersigned State of Maine Certified Geologist.

This document has been reviewed by the undersigned for their geological interpretive content. This statement is based upon the review of the undersigned conducted during the preparation of this report, as dated below.

State of Maine Geologist Reviewer:



Gina M. Calderone, P.G., C.P.G. Date
State of Maine Certified Geologist (No. GE442)
ECC Project Manager/Hydrogeologist

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TABLES

Table 1
Sampling Summary
January 2006 (Supplemental Sampling) and
April 2006 (Monitoring Event 28)
Site 9 – Naval Air Station, Brunswick, Maine

Well Designation	Previous Well Designation	Monitoring Frequency	January 2006	Laboratory Analyses					Field Sampling		
				VOC	DRO[b]	SVOCs	Metals	Cyanide	Field Parameters[c]	Gauged	Low-Flow Sample
Monitoring Wells											
MW-NASB-069	MW-901	Bi-Annual	NS	X		X	X		X	X	X
MW-NASB-070	MW-902	Bi-Annual	NS	X		X	X		X	X	X
MW-NASB-071	MW-903	Bi-Annual	X	X	X				X (ice)	X (ice)	
MW-NASB-072	MW-904	Bi-Annual	X	X	X				X	X	
MW-NASB-074	MW-906	Bi-Annual	X	X	X				X	X	
MW-NASB-075	MW-907	Bi-Annual	X	X	X				X	X	
MW-NASB-076	MW-908	Bi-Annual	X	X	X				X	X	
MW-NASB-079	MW-914	Decommissioned									
MW-NASB-080	MW-915	Decommissioned									
MW-NASB-021	---	Decommissioned									
MW-NASB-022	---	Bi-Annual	NS	X					X	X	
MW-NASB-227	---	Bi-Annual	NS	X					X	X	
Leachate Station											
LT-901 (SEEP)	---	Bi-Annual	NS	X					X		
Surface Water											
SW-010	---	Bi-Annual	NS	X					X		
Sediment											
SED-010	---	Bi-Annual	NS	X					X		
Pond Elevation Stations											
SG-1C	---	Bi-Annual								X	
SG-2	---	Bi-Annual								X	

Only 5 wells were required to be sampled during this supplemental sampling because of "dead vegetation" near the impoundment lot. Text in blue indicates LTMP (October 2005) requirements. Well MW-NASB-071 was not gauged or sampled due to ice in the riser.

Table 1
Sampling Summary
January 2006 (Supplemental Sampling) and
April 2006 (Monitoring Event 28)
Site 9 – Naval Air Station, Brunswick, Maine

Well Designation	Previous Well Designation	Monitoring Frequency	April 2006	Laboratory Analyses					Field Sampling		
				VOC	DRO[b]	SVOCs	Metals	Cyanide	Field Parameters[c]	Gauged	Low-Flow Sample
Monitoring Wells											
MW-NASB-069	MW-901	Bi-Annual	X	X	X	X	X	X	X	X	X
MW-NASB-070	MW-902	Bi-Annual	NS (excavation)	X		X	X		X	X (excavation)	X
MW-NASB-071	MW-903	Bi-Annual	NS (excavation)	X					X	X (excavation)	
MW-NASB-072	MW-904	Bi-Annual	NS (excavation)	X					X	X (excavation)	
MW-NASB-074	MW-906	Bi-Annual	NS (excavation)	X					X	X (excavation)	
MW-NASB-075	MW-907	Bi-Annual	X	X	X			X	X	X	
MW-NASB-076	MW-908	Bi-Annual	NS (excavation)	X					X	X (excavation)	
MW-NASB-079	MW-914	Decommissioned									
MW-NASB-080	MW-915	Decommissioned									
MW-NASB-021	---	Decommissioned									
MW-NASB-022	---	Bi-Annual	NS (excavation)	X					X	X (excavation)	
MW-NASB-227	---	Bi-Annual	X	X	X			X	X	X	X
Leachate Station											
LT-901 (SEEP)	---	Bi-Annual	NS	X					X		
Surface Water											
SW-010	---	Bi-Annual	NS	X					X		
Sediment											
SED-010	---	Bi-Annual	NS	X					X		
Pond Elevation Stations											
SG-1C	---	Bi-Annual								Not Measured	
SG-2	---	Bi-Annual								Not Measured	

Table 1
Sampling Summary
January 2006 (Supplemental Sampling) and
April 2006 (Monitoring Event 28)
Site 9 – Naval Air Station, Brunswick, Maine

NOTES:

(a) Requirements per the Long Term Monitoring Plan (ECC and EA 2005) and Draft Final Long Term Monitoring Plan (ECC 2007).
(b) DRO sampling as defined by Draft Final LTMP (ECC 2007).
(c) Determination of field parameters in accordance with EPA/600/4-79/020 using the following methods:
pH (Method 150.1), temperature (Method 170.1), specific conductance (Method 120.1), and turbidity (Method 180.1);
optional field parameters, including dissolved oxygen (Method 360.1) and ORP were also recorded.
Includes water level measurement.

ADS = aqueous diffusion sample (All VOCs collected using ADS)
LT = leachate
LTMP = Long Term Monitoring Program
NASB = Naval Air Station Brunswick
NR = procedure not required
MW = monitoring well
SED = sediment
SG = stream gauge
SVOC = semivolatile organic compound
SW = surface water
VOC = volatile organic compound
X = Well selected for sample and analysis for this parameter

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Table 2
Monitoring Well Gauging Summary, Site 9
January and April 2006

Well Designation	Measurement Date	Top of Well Riser Elevation (feet AMSL)	Depth to Well Bottom (feet below Top of PVC Riser)	Depth to Water (feet below Top of PVC Riser)	Water Table Elevation (feet AMSL)
JANUARY 2006 SAMPLING EVENT					
MW-NASB-071*	1/31/2006	46.25	NM	NM	NM
MW-NASB-072	1/31/2006	49.81	14.63	9.5	40.31
MW-NASB-074	1/31/2006	51.68	27.14	9.22	42.46
MW-NASB-075	1/31/2006	54.91	21.1	13.09	41.82
MW-NASB-076	1/31/2006	52.79	19.94	11.37	41.42
APRIL 2006 SAMPLING EVENT					
MW-NASB-069	4/26/2006	57.35	40	8.31	49.04
MW-NASB-075	4/26/2006	54.91	21.1	13.34	41.57
MW-NASB-227	4/26/2006	58.39	39.8	9.67	48.72
WELLS NOT SAMPLED					
MW-NASB-021	Decommissioned				
MW-NASB-022	NM	59.52	NM	NM	NM
MW-NASB-070	NM	58.26	NM	NM	NM
MW-NASB-073	NM	51.71	NM	NM	NM
MW-NASB-077	NM	58.89	NM	NM	NM
MW-NASB-078	NM	53.74	NM	NM	NM
MW-NASB-079	Decommissioned				
MW-NASB-080	Decommissioned				
MW-NASB-081	Decommissioned				
MW-NASB-204	NM	62.09	NM	NM	NM
Pond Elevation Stations					
SG-1C	NM				
SG-2	NM				

NOTES:
* MW-NASB-071 was not sampled as planned because it was blocked by ice at 1.46 feet below the top of the riser.
AMSL = above mean sea level
MW = monitoring well
NM = not applicable
PVC = polyvinyl chloride
SG = stream gauge

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Table 3
Summary of Water Quality Indicator Parameters - Groundwater
January and April 2006
Site 9 - Naval Air Station, Brunswick, Maine

Well Designation	Sample Date	pH	Temperature (°C)	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)
JANUARY 2006 SAMPLING							
MW-NASB-071*	1/31/2006	NS	NS	NS	NS	NS	NS
MW-NASB-072	1/31/2006	5.78	19.03	94	5.23	3	178
MW-NASB-074	1/31/2006	6.22	14.8	356	0.75	12	69
MW-NASB-075	1/31/2006	6.07	16.88	361	3.43	2	140
MW-NASB-076	1/31/2006	6.16	11.97	468	2.68	1	125
APRIL 2006 SAMPLING							
MW-NASB-069	4/26/2006	6.13	13.15	284	1.59	1	-68
MW-NASB-075	4/26/2006	5.9	14.64	402	0.47	1	499
MW-NASB-227	4/26/2006	6.11	13.11	289	1.95	0	450
WELLS NOT SAMPLED							
MW-NASB-080	NS						
MW-NASB-021	NS						
MW-NASB-022	NS						

NOTES:
°C = Degrees Celsius
µmhos/cm = micromhos per centimeter
mg/L = milligrams per liter
mV = millivolt
MW = monitoring well
NASB = Naval Air Station Brunswick
NTU = nephelometric turbidity unit
NC = not collected
ORP = Oxidation Reduction Potential
* MW-NASB-071 was not sampled as planned because it was blocked by ice at 1.46 feet below the top of the riser.
Water quality data were collected using a YSI 600XLM and a Lamotte 2020 turbidity meter.

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Table 4
Summary of Analytical Results - Site 9
VOCs, SVOCs, Total Metals, DRO, and Cyanide
Spring 2006

Site Name: Site 9

			Station ID:	MW-NASB-069	MW-NASB-069	MW-NASB-072	MW-NASB-074	MW-NASB-075
			Field Sample ID*:	MW069	MWXD1	MW-NASB-072	MW-NASB-074	MW-75
			Lab Sample ID:	AI03944	AI03945	AI00971	AI00970	AI00973
			Sample Date:	4/26/2006	4/26/2006	1/31/2006	1/31/2006	1/31/2006
			Lab Name:	NEL-ME	NEL-ME	NEL-ME	NEL-ME	NEL-ME
			Field QC:	Original data	Field duplicates	Original data	Original data	Original data
			Sampling Method:	Low-Flow	Low-Flow	Low-Flow	Low-Flow	Low-Flow
	Units	**Federal MCL**	**Maine MEG**					
VOCs								
1,1,1-Trichloroethane	ug/l	200	200	1 UJ	1 UJ	1 U	1 U	5 U
1,1,2,2-Tetrachloroethane	ug/l	NA	1.8	1 R	1 R	1 U	1 U	5 U
1,1,2-Trichloroethane	ug/l	5	6	1 UJ	1 UJ	1 U	1 U	5 U
1,1-Dichloroethane	ug/l	NA	70	1 UJ	1 UJ	1 U	1 U	5 U
1,1-Dichloroethene	ug/l	7	1	1 UJ	1 UJ	1 U	1 U	5 U
1,2-Dichlorobenzene	ug/l	NA	NA	1 UJ	1 UJ	1 U	1 U	5 U
1,2-Dichloroethane	ug/l	5	4	1 UJ	1 UJ	1 U	1 U	5 U
1,2-Dichloroethene, total	ug/l	70	70	5.6 J	6.4 J	1 U	4.5	5 U
1,2-Dichloropropane	ug/l	5	5	1 UJ	1 UJ	1 U	1 U	5 U
1,3-Dichlorobenzene	ug/l	NA	NA	1 UJ	1 UJ	1 U	1 U	5 U
1,4-Dichlorobenzene	ug/l	NA	NA	1 UJ	1 UJ	1 U	1 U	5 U
2-Chloroethyl vinyl ether	ug/l	NA	NA	1 UJ	1 UJ	1 U	1 U	5 U
2-Hexanone	ug/l	NA	NA	5 UJ	5 UJ	5 U	5 U	25 U
4-Methyl-2-pentanone	ug/l	NA	NA	5 UJ	5 UJ	5 U	5 U	25 U
Acetone	ug/l	NA	6300	5 UJ	5 UJ	5 U	5 U	25 U
Benzene	ug/l	5	6	1 UJ	1 UJ	1 U	1 U	5 U
Bromodichloromethane	ug/l	NA	6	1 UJ	1 UJ	1 U	1 U	5 U
Bromoform	ug/l	NA	44	1 UJ	1 UJ	1 U	1 U	5 U
Bromomethane	ug/l	NA	10	1 UJ	1 UJ	1 U	1 U	5 U
Carbon disulfide	ug/l	NA	600	1 UJ	1 UJ	1 U	1 U	5 U
Carbon tetrachloride	ug/l	5	3	1 UJ	1 UJ	1 U	1 U	5 U
Chlorobenzene	ug/l	100	47	1 UJ	1 UJ	1 U	1 U	5 U
Chloroethane	ug/l	NA	NA	0.87 J	0.92 J	1 U	1 U	5 U
Chloroform	ug/l	80	70	1 UJ	1 UJ	1 U	1 U	5 U

Table 4
Summary of Analytical Results - Site 9
VOCs, SVOCs, Total Metals, DRO, and Cyanide
Spring 2006

Site Name: Site 9

			Station ID:	MW-NASB-069	MW-NASB-069	MW-NASB-072	MW-NASB-074	MW-NASB-075
			Field Sample ID*:	MW069	MWXD1	MW-NASB-072	MW-NASB-074	MW-75
			Lab Sample ID:	AI03944	AI03945	AI00971	AI00970	AI00973
			Sample Date:	4/26/2006	4/26/2006	1/31/2006	1/31/2006	1/31/2006
			Lab Name:	NEL-ME	NEL-ME	NEL-ME	NEL-ME	NEL-ME
			Field QC:	Original data	Field duplicates	Original data	Original data	Original data
			Sampling Method:	Low-Flow	Low-Flow	Low-Flow	Low-Flow	Low-Flow
	Units	**Federal MCL**	**Maine MEG**					
VOCs								
Chloromethane	ug/l	NA	3	1 UJ	1 UJ	1 U	1 U	5 U
cis-1,3-Dichloropropene	ug/l	NA	4	1 UJ	1 UJ	1 U	1 U	5 U
Dibromochloromethane	ug/l	NA	4	1 UJ	1 UJ	1 U	1 U	5 U
Ethylbenzene	ug/l	700	70	1 UJ	1 UJ	1 U	1 U	5 U
Hexachlorobutadiene	ug/l	NA	NA	10 U	11 U	-	-	-
Methyl ethyl ketone	ug/l	NA	3600	5 UJ	5 UJ	5 U	5 U	25 U
Methylene chloride	ug/l	5	47	1 UJ	0.5 UJ	1 U	1 U	9.2 BD
Styrene	ug/l	100	140	1 UJ	1 UJ	1 U	1 U	5 U
Tetrachloroethene	ug/l	5	7	1 UJ	1 UJ	1 U	0.7 J	5 U
Toluene	ug/l	1000	1400	1 UJ	1 UJ	1 U	1 U	5 U
trans-1,3-Dichloropropene	ug/l	NA	4	1 UJ	1 UJ	1 U	1 U	5 U
Trichloroethene	ug/l	5	32	1 UJ	1 UJ	1 U	4.7	5 U
Trichlorofluoromethane	ug/l	NA	NA	1 UJ	1 UJ	1 U	1 U	73 D
Vinyl Acetate	ug/l	NA	NA	1 UJ	1 UJ	1 U	1 U	5 U
Vinyl Chloride	ug/l	2	0.2	**9.8 J**	**12 J**	1 U	1 U	5 U
Xylenes, Total	ug/l	10000	1400	1 UJ	1 UJ	1 U	1 U	5 U
Total VOC	ug/l	NA	NA	16.27	19.32	0	9.9	73
SVOCs								
1,2,4-Trichlorobenzene	ug/l	NA	NA	10 U	11 U	-	-	-
1,2-Dichlorobenzene	ug/l	NA	NA	10 U	11 U	-	-	-
1,3-Dichlorobenzene	ug/l	NA	NA	10 U	11 U	-	-	-
1,4-Dichlorobenzene	ug/l	NA	NA	10 U	11 U	-	-	-
2,4,5-Trichlorophenol	ug/l	NA	NA	10 U	11 U	-	-	-
2,4,6-Tribromophenol	ug/l	NA	NA	94	79	-	-	-

Table 4
Summary of Analytical Results - Site 9
VOCs, SVOCs, Total Metals, DRO, and Cyanide
Spring 2006

Site Name: Site 9

			Station ID:	MW-NASB-069	MW-NASB-069	MW-NASB-072	MW-NASB-074	MW-NASB-075
			Field Sample ID*:	MW069	MWXD1	MW-NASB-072	MW-NASB-074	MW-75
			Lab Sample ID:	AI03944	AI03945	AI00971	AI00970	AI00973
			Sample Date:	4/26/2006	4/26/2006	1/31/2006	1/31/2006	1/31/2006
			Lab Name:	NEL-ME	NEL-ME	NEL-ME	NEL-ME	NEL-ME
			Field QC:	Original data	Field duplicates	Original data	Original data	Original data
			Sampling Method:	Low-Flow	Low-Flow	Low-Flow	Low-Flow	Low-Flow
	Units	**Federal MCL**	**Maine MEG**					
SVOCs								
2,4,6-Trichlorophenol	ug/l	NA	NA	10 U	11 U	-	-	-
2,4-Dichlorophenol	ug/l	NA	NA	10 U	11 U	-	-	-
2,4-Dimethylphenol	ug/l	NA	NA	10 U	11 U	-	-	-
2,4-Dinitrophenol	ug/l	NA	NA	52 U	53 U	-	-	-
2,4-Dinitrotoluene	ug/l	NA	NA	10 U	11 U	-	-	-
2,6-Dinitrotoluene	ug/l	NA	NA	10 U	11 U	-	-	-
2-Chloronaphthalene	ug/l	NA	NA	10 U	11 U	-	-	-
2-Chlorophenol	ug/l	NA	NA	10 U	11 U	-	-	-
2-Fluorobiphenyl	ug/l	NA	NA	80	71	-	-	-
2-Fluorophenol	ug/l	NA	NA	57	44	-	-	-
2-Methylnaphthalene	ug/l	NA	NA	10 U	11 U	-	-	-
2-Methylphenol	ug/l	NA	NA	10 U	11 U	-	-	-
2-Nitroaniline	ug/l	NA	NA	10 U	11 U	-	-	-
2-Nitrophenol	ug/l	NA	NA	10 U	11 U	-	-	-
3,3'-Dichlorobenzidine	ug/l	NA	NA	21 U	21 U	-	-	-
3-Methylphenol/4-Methylphenol	ug/l	NA	NA	10 U	11 U	-	-	-
3-Nitroaniline	ug/l	NA	NA	52 U	53 U	-	-	-
4,6-Dinitro-2-methylphenol	ug/l	NA	NA	52 U	53 U	-	-	-
4-Bromophenyl phenyl ether	ug/l	NA	NA	10 U	11 U	-	-	-
4-Chloroaniline	ug/l	NA	NA	10 U	11 U	-	-	-
4-Chlorophenyl phenyl ether	ug/l	NA	NA	10 U	11 U	-	-	-
4-Nitroaniline	ug/l	NA	NA	52 U	53 U	-	-	-
4-Nitrophenol	ug/l	NA	NA	52 U	53 U	-	-	-
Acenaphthene	ug/l	NA	NA	10 U	11 U	-	-	-

Table 4
Summary of Analytical Results - Site 9
VOCs, SVOCs, Total Metals, DRO, and Cyanide
Spring 2006

Site Name: Site 9

			Station ID:	MW-NASB-069	MW-NASB-069	MW-NASB-072	MW-NASB-074	MW-NASB-075
			Field Sample ID*:	MW069	MWXD1	MW-NASB-072	MW-NASB-074	MW-75
			Lab Sample ID:	AI03944	AI03945	AI00971	AI00970	AI00973
			Sample Date:	4/26/2006	4/26/2006	1/31/2006	1/31/2006	1/31/2006
			Lab Name:	NEL-ME	NEL-ME	NEL-ME	NEL-ME	NEL-ME
			Field QC:	Original data	Field duplicates	Original data	Original data	Original data
			Sampling Method:	Low-Flow	Low-Flow	Low-Flow	Low-Flow	Low-Flow
	Units	**Federal MCL**	**Maine MEG**					
SVOCs								
Acenaphthylene	ug/l	NA	NA	10 U	11 U	-	-	-
Aniline	ug/l	NA	NA	10 U	11 U	-	-	-
Anthracene	ug/l	NA	NA	10 U	11 U	-	-	-
Benzo(a)anthracene	ug/l	NA	NA	10 U	11 U	-	-	-
Benzidine	ug/l	NA	NA	21 U	21 U	-	-	-
Benzo(a)pyrene	ug/l	NA	NA	10 U	11 U	-	-	-
Benzo(b)fluoranthene	ug/l	NA	NA	10 U	11 U	-	-	-
Benzo(g,h,i)perylene	ug/l	NA	NA	10 U	11 U	-	-	-
Benzo(k)fluoranthene	ug/l	NA	NA	10 U	11 U	-	-	-
Benzoic acid	ug/l	NA	NA	10 U	11 U	-	-	-
Benzyl alcohol	ug/l	NA	NA	10 U	11 U	-	-	-
bis(2-Chloroethoxy) methane	ug/l	NA	NA	10 U	11 U	-	-	-
bis(2-Chloroethyl) ether	ug/l	NA	NA	10 U	11 U	-	-	-
bis(2-Chloroisopropyl) ether	ug/l	NA	NA	10 U	11 U	-	-	-
bis(2-Ethylhexyl) phthalate	ug/l	NA	NA	10 U	11 U	-	-	-
Carbazole	ug/l	NA	NA	10 U	11 U	-	-	-
Chrysene	ug/l	NA	NA	10 U	11 U	-	-	-
Di-N-Butyl phthalate	ug/l	NA	NA	10 U	11 U	-	-	-
Di-N-Octyl phthalate	ug/l	NA	NA	10 U	11 U	-	-	-
Dibenzo(a,h)anthracene	ug/l	NA	NA	10 U	11 U	-	-	-
Dibenzofuran	ug/l	NA	NA	10 U	11 U	-	-	-
Diethyl phthalate	ug/l	NA	NA	10 U	11 U	-	-	-
Dimethyl phthalate	ug/l	NA	NA	10 U	11 U	-	-	-
Fluoranthene	ug/l	NA	NA	10 U	11 U	-	-	-

Table 4
Summary of Analytical Results - Site 9
VOCs, SVOCs, Total Metals, DRO, and Cyanide
Spring 2006

Site Name: Site 9

			Station ID:	MW-NASB-069	MW-NASB-069	MW-NASB-072	MW-NASB-074	MW-NASB-075
			Field Sample ID*:	MW069	MWXD1	MW-NASB-072	MW-NASB-074	MW-75
			Lab Sample ID:	AI03944	AI03945	AI00971	AI00970	AI00973
			Sample Date:	4/26/2006	4/26/2006	1/31/2006	1/31/2006	1/31/2006
			Lab Name:	NEL-ME	NEL-ME	NEL-ME	NEL-ME	NEL-ME
			Field QC:	Original data	Field duplicates	Original data	Original data	Original data
			Sampling Method:	Low-Flow	Low-Flow	Low-Flow	Low-Flow	Low-Flow
	Units	**Federal MCL**	**Maine MEG**					
SVOCs								
Fluorene	ug/l	NA	NA	10 U	11 U	-	-	-
Hexachlorobenzene	ug/l	NA	NA	10 U	11 U	-	-	-
Hexachlorocyclopentadiene	ug/l	NA	NA	10 U	11 U	-	-	-
Hexachloroethane	ug/l	NA	NA	10 U	11 U	-	-	-
Indeno(1,2,3-cd)pyrene	ug/l	NA	NA	10 U	11 U	-	-	-
Isophorone	ug/l	NA	NA	10 U	11 U	-	-	-
N-Nitroso-di-N-propylamine	ug/l	NA	NA	10 U	11 U	-	-	-
N-Nitrosodimethylamine	ug/l	NA	NA	10 U	11 U	-	-	-
N-Nitrosodiphenylamine	ug/l	NA	NA	10 U	11 U	-	-	-
Naphthalene	ug/l	NA	NA	10 U	11 U	-	-	-
Nitrobenzene	ug/l	NA	NA	10 U	11 U	-	-	-
Pentachlorophenol	ug/l	NA	NA	52 U	53 U	-	-	-
Phenanthrene	ug/l	NA	NA	10 U	11 U	-	-	-
Phenol	ug/l	NA	NA	10 U	11 U	-	-	-
Pyrene	ug/l	NA	NA	10 U	11 U	-	-	-
Metals								
Aluminum	ug/l	NA	1430	200 UJ	210 J	-	-	-
Antimony, Furnace-GW	ug/l	6	3	6 U	6 U	-	-	-
Arsenic	ug/l	10	10	10 U	10 U	-	-	-
Barium	ug/l	2000	2000	200 U	200 U	-	-	-
Beryllium	ug/l	4	NA	5 U	5 U	-	-	-
Cadmium	ug/l	5	3.5	5 U	5 U	-	-	-
Calcium	ug/l	NA	NA	5000	5100	-	-	-
Chromium	ug/l	100	40	10 U	10 U	-	-	-

Table 4
Summary of Analytical Results - Site 9
VOCs, SVOCs, Total Metals, DRO, and Cyanide
Spring 2006

Site Name: Site 9

			Station ID:	MW-NASB-069	MW-NASB-069	MW-NASB-072	MW-NASB-074	MW-NASB-075
			Field Sample ID*:	MW069	MWXD1	MW-NASB-072	MW-NASB-074	MW-75
			Lab Sample ID:	AI03944	AI03945	AI00971	AI00970	AI00973
			Sample Date:	4/26/2006	4/26/2006	1/31/2006	1/31/2006	1/31/2006
			Lab Name:	NEL-ME	NEL-ME	NEL-ME	NEL-ME	NEL-ME
			Field QC:	Original data	Field duplicates	Original data	Original data	Original data
			Sampling Method:	Low-Flow	Low-Flow	Low-Flow	Low-Flow	Low-Flow
	Units	**Federal MCL**	**Maine MEG**					
Metals								
Cobalt	ug/l	NA	NA	50 U	50 U	-	-	-
Copper	ug/l	1300	1300	25 U	25 U	-	-	-
Iron	ug/l	NA	NA	180 J	380 J	-	-	-
Lead	ug/l	15	10	3 U	3 U	-	-	-
Magnesium	ug/l	NA	NA	5000 U	5000 U	-	-	-
Manganese	ug/l	NA	500	320	320	-	-	-
Mercury by Cold Vapor GW	ug/l	2	2	0.2 U	0.2 U	-	-	-
Nickel	ug/l	NA	140	40 U	40 U	-	-	-
Potassium	ug/l	NA	NA	5000 U	5000 U	-	-	-
Selenium Furnace GW	ug/l	50	35	5 U	5 U	-	-	-
Silver	ug/l	NA	35	10 U	10 U	-	-	-
Sodium	ug/l	NA	20000	49000	49000	-	-	-
Thallium, Furnace, Groundwater	ug/l	2	0.5	2 U	2 U	-	-	-
Vanadium	ug/l	NA	NA	50 U	50 U	-	-	-
Zinc	ug/l	NA	2000	30 U	20 U	-	-	-
Hydrocarbon								
Diesel Range Organics	ug/l	NA	NA	20 U	20 U	50 U	50 U	150
Inorganics								
Cyanide	ug/l	NA	NA	10 U	-	-	-	-

Table 4
Summary of Analytical Results - Site 9
VOCs, SVOCs, Total Metals, DRO, and Cyanide
Spring 2006

Site Name: Site 9

Station ID:		MW-NASB-075	MW-NASB-075	MW-NASB-076	MW-NASB-227			
Field Sample ID*:		XD1	MW075	MW-76	MW227			
Lab Sample ID:		AI00974	AI03943	AI00972	AI03942			
Sample Date:		1/31/2006	4/26/2006	1/31/2006	4/26/2006			
Lab Name:		NEL-ME	NEL-ME	NEL-ME	NEL-ME			
Field QC:		Field duplicates	Original data	Original data	Original data			
Sampling Method:		Low-Flow	Low-Flow	Low-Flow	Low-Flow			
	Units							
VOCs								
1,1,1-Trichloroethane	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
1,1,2,2-Tetrachloroethane	ug/l	5 U	1 R	1 U	1 R	-	-	-
1,1,2-Trichloroethane	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
1,1-Dichloroethane	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
1,1-Dichloroethene	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
1,2-Dichlorobenzene	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
1,2-Dichloroethane	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
1,2-Dichloroethene, total	ug/l	5 U	1 UJ	1 U	4.8 J	-	-	-
1,2-Dichloropropane	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
1,3-Dichlorobenzene	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
1,4-Dichlorobenzene	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
2-Chloroethyl vinyl ether	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
2-Hexanone	ug/l	25 U	5 UJ	5 U	5 UJ	-	-	-
4-Methyl-2-pentanone	ug/l	25 U	5 UJ	5 U	5 UJ	-	-	-
Acetone	ug/l	25 U	5 UJ	5 U	2.5 J	-	-	-
Benzene	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
Bromodichloromethane	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
Bromoform	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
Bromomethane	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
Carbon disulfide	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
Carbon tetrachloride	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
Chlorobenzene	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
Chloroethane	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
Chloroform	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-

Table 4
Summary of Analytical Results - Site 9
VOCs, SVOCs, Total Metals, DRO, and Cyanide
Spring 2006

Site Name: Site 9

Station ID:		MW-NASB-075	MW-NASB-075	MW-NASB-076	MW-NASB-227			
Field Sample ID*:		XD1	MW075	MW-76	MW227			
Lab Sample ID:		AI00974	AI03943	AI00972	AI03942			
Sample Date:		1/31/2006	4/26/2006	1/31/2006	4/26/2006			
Lab Name:		NEL-ME	NEL-ME	NEL-ME	NEL-ME			
Field QC:		Field duplicates	Original data	Original data	Original data			
Sampling Method:		Low-Flow	Low-Flow	Low-Flow	Low-Flow			
	Units							
VOCs								
Chloromethane	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
cis-1,3-Dichloropropene	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
Dibromochloromethane	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
Ethylbenzene	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
Hexachlorobutadiene	ug/l	-	-	-	-	-	-	-
Methyl ethyl ketone	ug/l	25 U	5 UJ	5 U	5 UJ	-	-	-
Methylene chloride	ug/l	11 BD	1 UJ	1 U	1 UJ	-	-	-
Styrene	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
Tetrachloroethene	ug/l	5 U	1 UJ	1 U	0.65 J	-	-	-
Toluene	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
trans-1,3-Dichloropropene	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
Trichloroethene	ug/l	5 U	1 UJ	1 U	4.3 J	-	-	-
Trichlorofluoromethane	ug/l	92 D	92 J	1 U	1 UJ	-	-	-
Vinyl Acetate	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
Vinyl Chloride	ug/l	5 U	1 UJ	1.2	1 UJ	-	-	-
Xylenes, Total	ug/l	5 U	1 UJ	1 U	1 UJ	-	-	-
Total VOC	ug/l	92	92	1.2	9.75	-	-	-
SVOCs								
1,2,4-Trichlorobenzene	ug/l	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/l	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/l	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/l	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	ug/l	-	-	-	-	-	-	-
2,4,6-Tribromophenol	ug/l	-	-	-	-	-	-	-

Table 4
Summary of Analytical Results - Site 9
VOCs, SVOCs, Total Metals, DRO, and Cyanide
Spring 2006

Site Name: Site 9

	Station ID:	MW-NASB-075	MW-NASB-075	MW-NASB-076	MW-NASB-227			
	Field Sample ID*:	XD1	MW075	MW-76	MW227			
	Lab Sample ID:	AI00974	AI03943	AI00972	AI03942			
	Sample Date:	1/31/2006	4/26/2006	1/31/2006	4/26/2006			
	Lab Name:	NEL-ME	NEL-ME	NEL-ME	NEL-ME			
	Field QC:	Field duplicates	Original data	Original data	Original data			
	Sampling Method:	Low-Flow	Low-Flow	Low-Flow	Low-Flow			
	Units							
SVOCs								
2,4,6-Trichlorophenol	ug/l	-	-	-	-	-	-	-
2,4-Dichlorophenol	ug/l	-	-	-	-	-	-	-
2,4-Dimethylphenol	ug/l	-	-	-	-	-	-	-
2,4-Dinitrophenol	ug/l	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/l	-	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/l	-	-	-	-	-	-	-
2-Chloronaphthalene	ug/l	-	-	-	-	-	-	-
2-Chlorophenol	ug/l	-	-	-	-	-	-	-
2-Fluorobiphenyl	ug/l	-	-	-	-	-	-	-
2-Fluorophenol	ug/l	-	-	-	-	-	-	-
2-Methylnaphthalene	ug/l	-	-	-	-	-	-	-
2-Methylphenol	ug/l	-	-	-	-	-	-	-
2-Nitroaniline	ug/l	-	-	-	-	-	-	-
2-Nitrophenol	ug/l	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/l	-	-	-	-	-	-	-
3-Methylphenol/4-Methylphenol	ug/l	-	-	-	-	-	-	-
3-Nitroaniline	ug/l	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/l	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/l	-	-	-	-	-	-	-
4-Chloroaniline	ug/l	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/l	-	-	-	-	-	-	-
4-Nitroaniline	ug/l	-	-	-	-	-	-	-
4-Nitrophenol	ug/l	-	-	-	-	-	-	-
Acenaphthene	ug/l	-	-	-	-	-	-	-

Table 4
Summary of Analytical Results - Site 9
VOCs, SVOCs, Total Metals, DRO, and Cyanide
Spring 2006

Site Name: Site 9

Station ID:		MW-NASB-075	MW-NASB-075	MW-NASB-076	MW-NASB-227			
Field Sample ID*:		XD1	MW075	MW-76	MW227			
Lab Sample ID:		AI00974	AI03943	AI00972	AI03942			
Sample Date:		1/31/2006	4/26/2006	1/31/2006	4/26/2006			
Lab Name:		NEL-ME	NEL-ME	NEL-ME	NEL-ME			
Field QC:		Field duplicates	Original data	Original data	Original data			
Sampling Method:		Low-Flow	Low-Flow	Low-Flow	Low-Flow			
	Units							
SVOCs								
Acenaphthylene	ug/l	-	-	-	-	-	-	-
Aniline	ug/l	-	-	-	-	-	-	-
Anthracene	ug/l	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/l	-	-	-	-	-	-	-
Benzidine	ug/l	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/l	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/l	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/l	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/l	-	-	-	-	-	-	-
Benzoic acid	ug/l	-	-	-	-	-	-	-
Benzyl alcohol	ug/l	-	-	-	-	-	-	-
bis(2-Chloroethoxy) methane	ug/l	-	-	-	-	-	-	-
bis(2-Chloroethyl) ether	ug/l	-	-	-	-	-	-	-
bis(2-Chloroisopropyl) ether	ug/l	-	-	-	-	-	-	-
bis(2-Ethylhexyl) phthalate	ug/l	-	-	-	-	-	-	-
Carbazole	ug/l	-	-	-	-	-	-	-
Chrysene	ug/l	-	-	-	-	-	-	-
Di-N-Butyl phthalate	ug/l	-	-	-	-	-	-	-
Di-N-Octyl phthalate	ug/l	-	-	-	-	-	-	-
Dibenzo(a,h)anthracene	ug/l	-	-	-	-	-	-	-
Dibenzofuran	ug/l	-	-	-	-	-	-	-
Diethyl phthalate	ug/l	-	-	-	-	-	-	-
Dimethyl phthalate	ug/l	-	-	-	-	-	-	-
Fluoranthene	ug/l	-	-	-	-	-	-	-

Table 4
Summary of Analytical Results - Site 9
VOCs, SVOCs, Total Metals, DRO, and Cyanide
Spring 2006

Site Name: Site 9

Station ID:		MW-NASB-075	MW-NASB-075	MW-NASB-076	MW-NASB-227			
Field Sample ID*:		XD1	MW075	MW-76	MW227			
Lab Sample ID:		AI00974	AI03943	AI00972	AI03942			
Sample Date:		1/31/2006	4/26/2006	1/31/2006	4/26/2006			
Lab Name:		NEL-ME	NEL-ME	NEL-ME	NEL-ME			
Field QC:		Field duplicates	Original data	Original data	Original data			
Sampling Method:		Low-Flow	Low-Flow	Low-Flow	Low-Flow			
	Units							
SVOCs								
Fluorene	ug/l	-	-	-	-	-	-	-
Hexachlorobenzene	ug/l	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	ug/l	-	-	-	-	-	-	-
Hexachloroethane	ug/l	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/l	-	-	-	-	-	-	-
Isophorone	ug/l	-	-	-	-	-	-	-
N-Nitroso-di-N-propylamine	ug/l	-	-	-	-	-	-	-
N-Nitrosodimethylamine	ug/l	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	ug/l	-	-	-	-	-	-	-
Naphthalene	ug/l	-	-	-	-	-	-	-
Nitrobenzene	ug/l	-	-	-	-	-	-	-
Pentachlorophenol	ug/l	-	-	-	-	-	-	-
Phenanthrene	ug/l	-	-	-	-	-	-	-
Phenol	ug/l	-	-	-	-	-	-	-
Pyrene	ug/l	-	-	-	-	-	-	-
Metals								
Aluminum	ug/l	-	-	-	-	-	-	-
Antimony, Furnace-GW	ug/l	-	-	-	-	-	-	-
Arsenic	ug/l	-	-	-	-	-	-	-
Barium	ug/l	-	-	-	-	-	-	-
Beryllium	ug/l	-	-	-	-	-	-	-
Cadmium	ug/l	-	-	-	-	-	-	-
Calcium	ug/l	-	-	-	-	-	-	-
Chromium	ug/l	-	-	-	-	-	-	-

Table 4
Summary of Analytical Results - Site 9
VOCs, SVOCs, Total Metals, DRO, and Cyanide
Spring 2006

Site Name: Site 9

	Station ID:	MW-NASB-075	MW-NASB-075	MW-NASB-076	MW-NASB-227			
	Field Sample ID*:	XD1	MW075	MW-76	MW227			
	Lab Sample ID:	AI00974	AI03943	AI00972	AI03942			
	Sample Date:	1/31/2006	4/26/2006	1/31/2006	4/26/2006			
	Lab Name:	NEL-ME	NEL-ME	NEL-ME	NEL-ME			
	Field QC:	Field duplicates	Original data	Original data	Original data			
	Sampling Method:	Low-Flow	Low-Flow	Low-Flow	Low-Flow			
	Units							
Metals								
Cobalt	ug/l	-	-	-	-	-	-	-
Copper	ug/l	-	-	-	-	-	-	-
Iron	ug/l	-	-	-	-	-	-	-
Lead	ug/l	-	-	-	-	-	-	-
Magnesium	ug/l	-	-	-	-	-	-	-
Manganese	ug/l	-	-	-	-	-	-	-
Mercury by Cold Vapor GW	ug/l	-	-	-	-	-	-	-
Nickel	ug/l	-	-	-	-	-	-	-
Potassium	ug/l	-	-	-	-	-	-	-
Selenium Furnace GW	ug/l	-	-	-	-	-	-	-
Silver	ug/l	-	-	-	-	-	-	-
Sodium	ug/l	-	-	-	-	-	-	-
Thallium, Furnace, Groundwater	ug/l	-	-	-	-	-	-	-
Vanadium	ug/l	-	-	-	-	-	-	-
Zinc	ug/l	-	-	-	-	-	-	-
Hydrocarbon								
Diesel Range Organics	ug/l	160	72	50 U	22 U	-	-	-
Inorganics								
Cyanide	ug/l	-	10 U	-	10 U	-	-	-

Table 4

Notes:

MEG (Maximum Exposure Guideline) obtained from State of Maine Department of Human Services Maximum Exposure Guidelines, memorandum dated 23 October 1992.
MCL (Maximum Contaminant Level) obtained form 40 CFR Parts 141 and 142 (U.S. EPA 1998).
Screening Level for soils is the MEG.

DRO = Diesel Range Organics
J = Estimated concentration
NA = Not Available
VOC = Volatile Organic Compound
SVOC = Semivolatile Organic Compound
U = Not detected at or above the sample quantitation limit

Refer to Data Quality Review Section (Appendix B) for Method Detection Limits for referenced analytical methods.
Highlighted concentrations denote exceedance of the MCL and/or MEG.
Total VOC calculation does not include common laboratory contaminant (acetone or methylene chloride), or VOCs detected in the Trip Blank or Method Blank.

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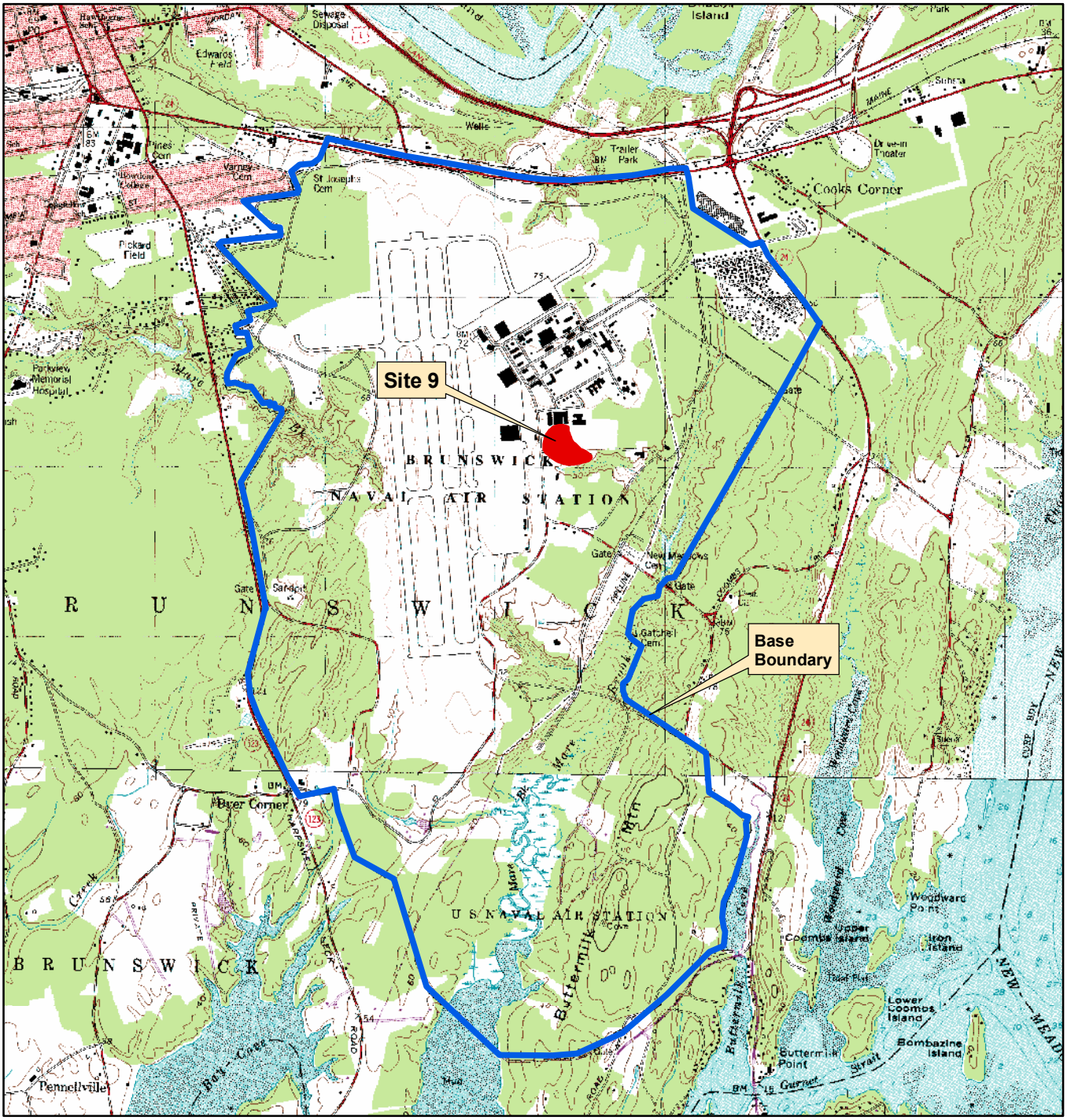
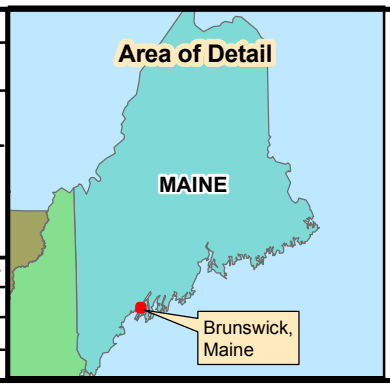
FIGURES



Contract. No.	N62472-02-D-0810
Description	Site 9, NAS Brunswick, ME
Coordinate system	NAD 1983, UTM, Zone 19 N in meters
Sources	Naval Base Boundary provided by Navy.

Date	01-MAY-2007	Rev.	Date	App. By
DB	C. Guido			
CB	G. Calderone			
AB				



Legend

- NASB Brunswick Boundary
- Site 9

Figure 1

Site 9
Site Location

Naval Air Station
Brunswick, Maine

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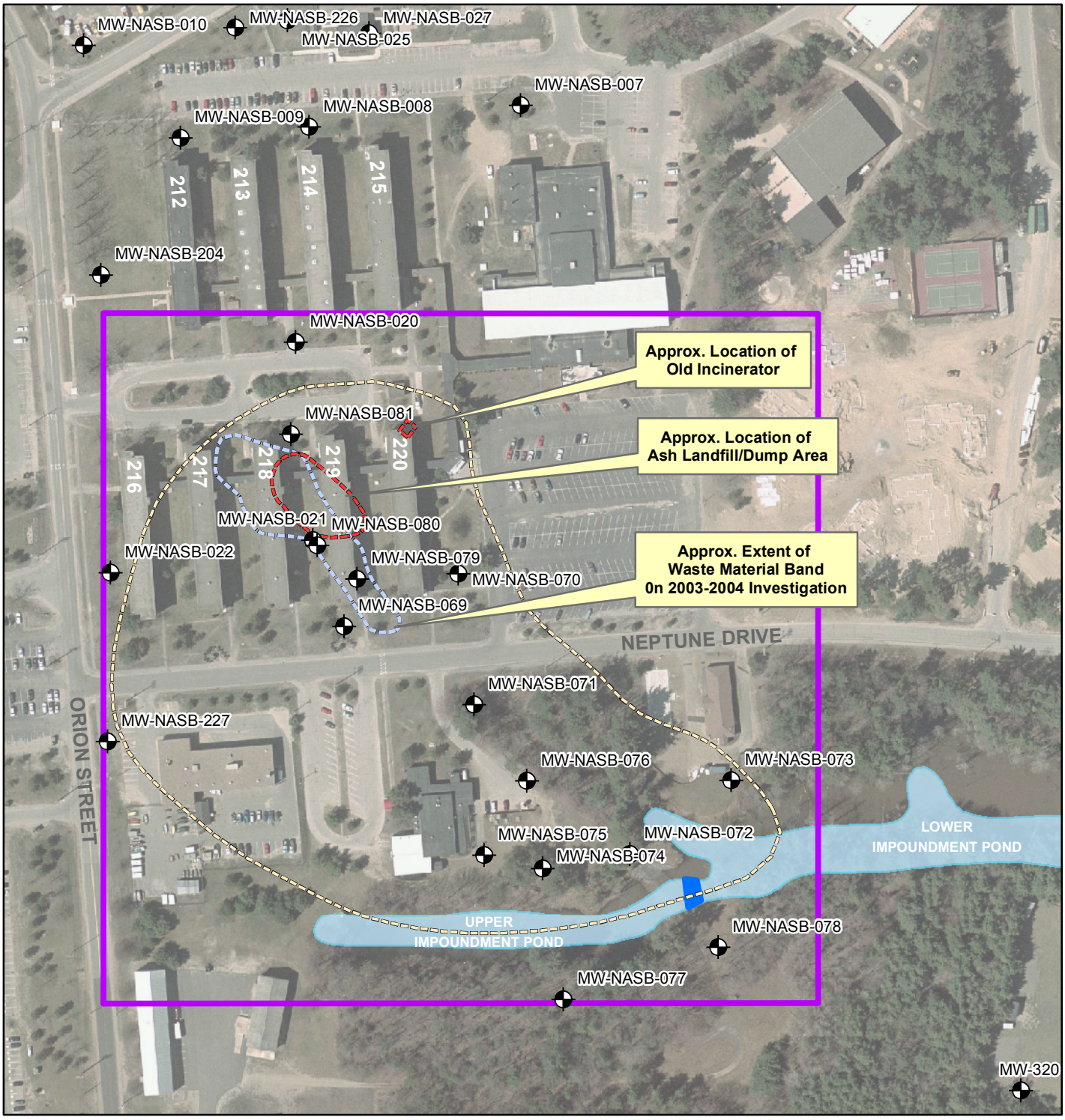
0 650 1,300 2,600 Feet



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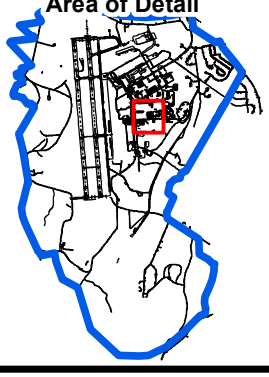
Date	01-MAY-2007	Rev.	Date	App. By
DB	C. Guido			
CB	G. Calderone			
AB				

Area of Detail



Legend

- Monitoring Wells
- Approx. Boundary of Site 9
- Institutional Control Boundary
- Dam
- Pond

Figure 2

Site 9 Site Plan

Naval Air Station Brunswick, Maine

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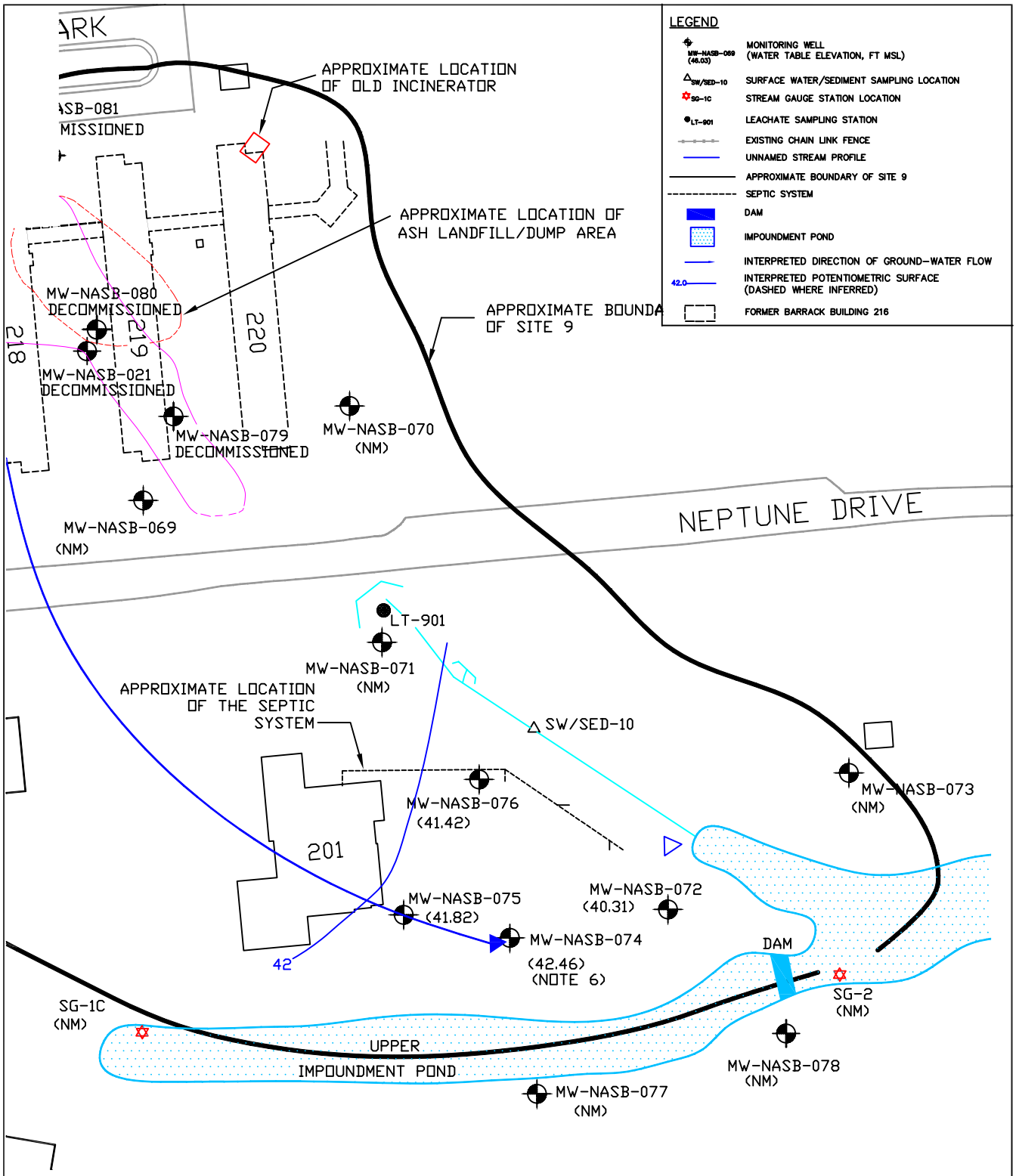
0 65 130 260 Feet

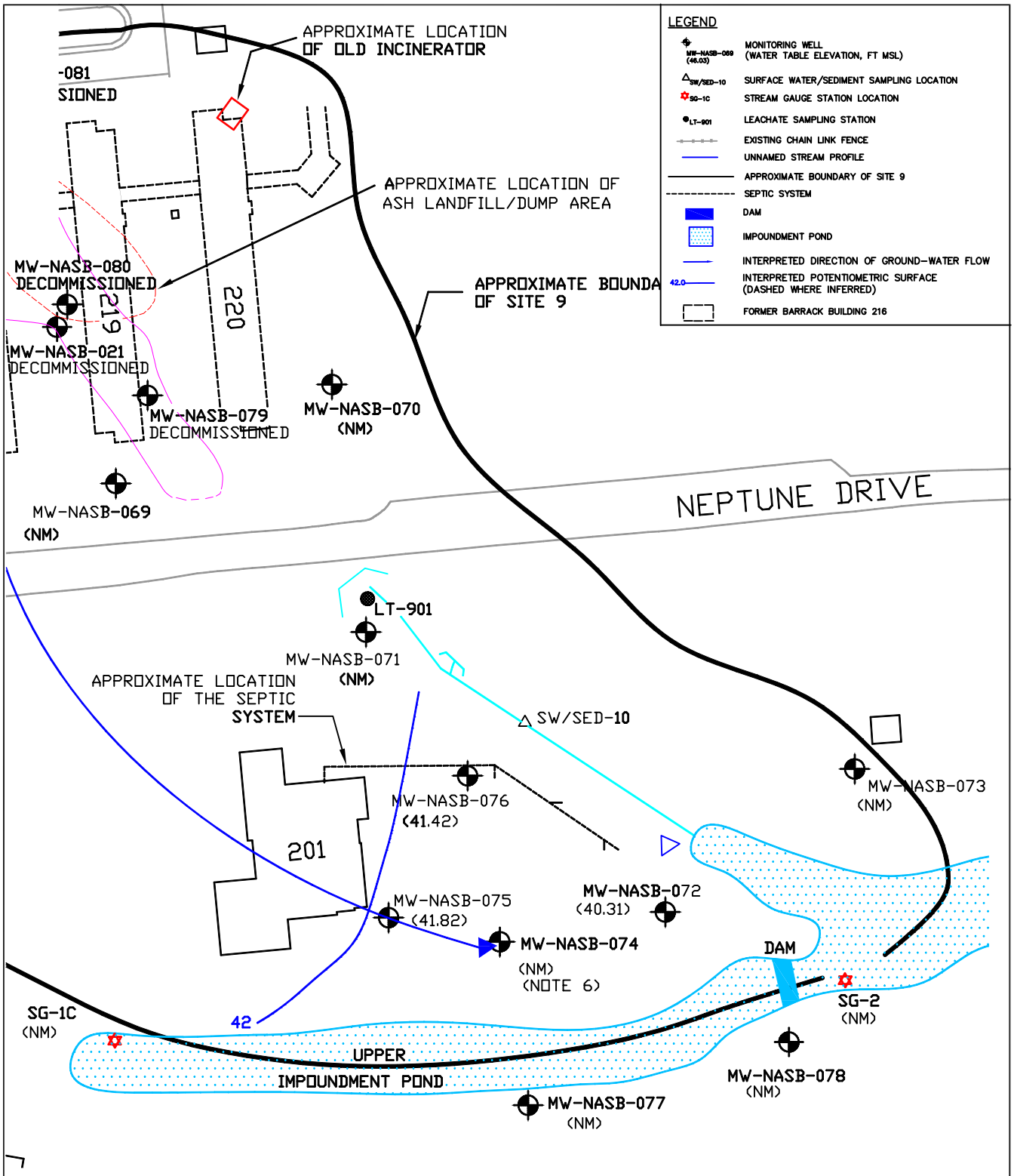


NOTES:

1. SITE PLAN TAKEN FROM THE INTERGRAPH VERSION 5 BASE-WIDE PLAN PROVIDED BY NAS BRUNSWICK PUBLIC WORKS DEPARTMENT ON 13 OCTOBER 1995.
2. SURFACE OF UPPER IMPOUNDMENT POND IS APPROXIMATELY 7.5 FT ABOVE LOWER IMPOUNDMENT POND.
3. CONTOURS REPRESENT EVALUATION OF PROBABLE CONDITIONS BASED ON PRESENTLY AVAILABLE DATA. SOME VARIATION FROM THESE CONDITIONS MUST BE EXPECTED.
4. CONTOUR INTERVAL = 2 FEET
5. MW-NASB-021, MW-NASB-226, AND MW-NASB-025 GAUGING DATA INCONSISTENT NOT USED IN CONTOURS.
6. GROUNDWATER CONTOURING IN THE VICINITY OF MW-NASB-074 AS PRESENTED IS UN-BIASED. THE WATER TABLE ELEVATION AT THIS WELL IS POSSIBLY AFFECTED BY WELL SCREEN POSITION JUST ABOVE THE CLAY UNIT.

FIGURE 3
GROUNDWATER CONTOUR MAP
JANUARY 2006
SITE 9
NAVAL AIR STATION, BRUNSWICK, MAINE

DATE 12 APRIL 2007	ECC 50 D'ANGELO DRIVE MARLBOROUGH, MA 01752	PROJECT NUMBER 5700.007
DESIGNED BY EA		SCALE 1"=140'
DRAWN BY EA		FILE NAME SITE 9.DWG
CHECKED BY DG		DRAWING NUMBER -
PROJECT MANAGER DG		SHEET NUMBER -



NOTES:

1. SITE PLAN TAKEN FROM THE INTERGRAPH VERSION 5 BASE-WIDE PLAN PROVIDED BY NAS BRUNSWICK PUBLIC WORKS DEPARTMENT ON 13 OCTOBER 1995.
2. SURFACE OF UPPER IMPOUNDMENT POND IS APPROXIMATELY 7.5 FT ABOVE LOWER IMPOUNDMENT POND.
3. CONTOURS REPRESENT EVALUATION OF PROBABLE CONDITIONS BASED ON PRESENTLY AVAILABLE DATA. SOME VARIATION FROM THESE CONDITIONS MUST BE EXPECTED.
4. CONTOUR INTERVAL = 2 FEET
5. MW-NASB-021, MW-NASB-226, AND MW-NASB-025 GAUGING DATA INCONSISTENT NOT USED IN CONTOURS.
6. GROUNDWATER CONTOURING IN THE VICINITY OF MW-NASB-074 AS PRESENTED IS UN-BIASED. THE WATER TABLE ELEVATION AT THIS WELL IS POSSIBLY AFFECTED BY WELL SCREEN POSITION JUST ABOVE THE CLAY UNIT.
7. MW-NASB-072, MW-NASB-075, AND MW-NASB-76 WERE MEASURED IN JANUARY 2006 AND ARE NOT USED TO CONTOUR

140 70 0 70 140

FIGURE 4
GROUNDWATER CONTOUR MAP
APRIL 2006
SITE 9
NAVAL AIR STATION, BRUNSWICK, MAINE

DATE 12 APRIL 2007	ECC 50 D'ANGELO DRIVE MARLBOROUGH, MA 01752	PROJECT NUMBER 5700.007
DESIGNED BY EA		SCALE 1"=140'
DRAWN BY EA		FILE NAME SITE 9.DWG
CHECKED BY DG		DRAWING NUMBER -
PROJECT MANAGER DG		SHEET NUMBER -

APPENDIX A

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Sampling Forms

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Environmental Chemical Corporation

Low Flow/Low Stress Groundwater Sampling Log

Project: Site 09
Location: NASB, Brunswick, ME
Well ID: ~~FS 8~~ MW-76

Date: 1/31/06
Sampler: FS
PID Reading: 0

Start Time: 1015 **End Time:**
Well Construction: 2" PVC
Depth to water: 10.99
Well Depth: 20.03
Water Column: 10.04
Total Volume Removed (L) 9.0

Field Testing Equipment

Make	Model	Serial #
YSI	600	01L0627
YSI	650	03C1139 AK
Lamotte	Turbidimeter	5873-1905
GroundFos	Controller	9444

Time	volume removed (liters)	Flow Rate (ml/min)	Depth To Water (ft)	Temp (celsius)	pH (STD)	SPC uS/cm c	DO (mg/L)	ORP (mV)	Turbidity (NTU)	color
1020	0.5	100	11.02	6.38	6.55	564	5.01	83	0	Clear
1030	1.0	100	11.06	4.13	6.20	541	3.02	135	2	Clear
1100	3.0	100	11.15	17.81	6.10	488	1.76	126	2	Clear
1115	1.5	100	11.16	15.03	6.13	257	2.78	122	2	Clear
1130	1.5	100	11.18	12.41	6.16	468	2.62	123	2	Clear
1135	0.5	100	11.18	12.01	6.16	470	2.66	123	1	Clear
1140	0.5	100	11.19	11.98	6.16	469	2.68	124	1	Clear
1145	0.5	100	11.19	11.97	6.16	468	2.68	125	1	Clear
Acceptance Criteria:					10%	10%	10%	10%	<10	

2" screen volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
1145	BN-9-MW76	40ml vial	3	HCL	VOC
1145	BN-9-MW76	1L Amber	2	MECl + HCL	TPH-DRO

Comments

Signature

1/31/06
Date

Environmental Chemical Corporation

Low Flow/Low Stress Groundwater Sampling Log

Project: Site 09
Location: NASB, Brunswick, ME
Well ID: MW-75

Date: 1/31/06
Sampler: FJ
PID Reading: 0

Start Time: 1300 **End Time:**
Well Construction: 2" PVC.
Depth to water: 13.09
Well Depth: 21.15
Water Column: 8.06
Total Volume Removed (L)

Field Testing Equipment

Make	Model	Serial #
YSI	600	01L0629
YSI	650	03C1139AK
Lamotte	Turbidimeter	5873-1905
Grundfos	Controller	9444

Time	volume removed (liters)	Flow Rate (ml/min)	Depth To Water (ft)	Temp (celsius)	pH (STD)	SPC uS/cm c	DO (mg/L)	ORP (mV)	Turbidity (NTU)	color
1310	1.0	100	13.25	8.70	6.15	357	3.08	87	5	Clear
1330	2.0	100	13.25	14.87	6.04	367	1.40	120	5	Clear
1345	1.5	100	13.25	16.90	6.05	371	2.19	136	1	Clear
1400	1.5	100	13.27	18.26	6.00	360	1.28	139	2	Clear
1405	0.5	100	13.27	16.90	6.06	361	3.52	139	1	Clear
1410	0.5	100	13.28	16.90	6.06	361	3.52	139	1	Clear
1415	0.5	100	13.28	16.88	6.07	360	3.49	140	1	Clear
1420	0.5	100	13.28	16.88	6.07	361	3.43	140	2	Clear
Acceptance Criteria:					10%	10%	10%	10%	<10	

2" screen volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
1420	BN-9-MW75	40 ml vial	3	HCL	VOC
1420	BN-9-MW75	1L Amber	2	MECL+HCL	TPH-DRO
0000	BN-9-XD1	40 ml vial	3	HCL	VOC
0000	BN-9-XD1	1L Amber	2	MECL+HCL	TPH-DRO

Comments MS/MSD and Field Dup collected from MW-75

Signature

1/31/06
Date

Environmental Chemical Corporation

Low Flow/Low Stress Groundwater Sampling Log

Project: Site 9
Location: NASB, Brunswick, ME
Well ID: MW-NASB-72

Date: 1/31/06
Sampler: MAC
PID Reading: —

Start Time: _____ **End Time:** _____
Well Construction: _____
Depth to water: 9.08
Well Depth: 14.58
Water Column: 5.50'
Total Volume Removed (L) _____

Field Testing Equipment

Make	Model	Serial #
YSI	650 MDS	05H1390AB
YSI	600 XLM	603-002 02H0893AD
Lamotte	20/20	5921-2405

Time	volume removed (liters)	Flow Rate (ml/min)	Depth To Water (ft)	Temp (celsius)	pH (STD)	SPC uS/cm c	DO (mg/L)	ORP (mV)	Turbidity (NTU)	color
1040	—	200	9.08	6.54	6.33	122	5.72	144	17	Clear
1050	1.0	200	9.10	8.47	5.82	106	6.28	174	8	
1100	2.5	300	9.18	14.20	5.78	101	5.90	178	6	
1105	4.0	300	9.19	17.44	5.78	98	5.47	178	4	
1110	5.5	300	9.18	19.03	5.78	94	5.23	178	3	
Acceptance Criteria:					10%	10%	10%	10%	<10	

2" screen volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
1112	BN-9-MW-NASB-72	1 Liter	2	HCL	TPH-DRO
		40ml VOA	3	HCL	VOC

Comments
1050 - Increased pump rate

Mark A. Co
Signature

1/31/06
Date

Environmental Chemical Corporation

Low Flow/Low Stress Groundwater Sampling Log

Project: Site 9
Location: NASB, Brunswick, ME
Well ID: MW-NASB-014

Date: 1/31/06
Sampler: MAC
PID Reading: –

Start Time: _____ **End Time:** _____
Well Construction: 2" PVC
Depth to water: 9.22
Well Depth: 27.14
Water Column:
Total Volume Removed (L)

Field Testing Equipment

Make	Model	Serial #
YSI	650 MDS	05H1390AB
YSI	600XLM	02H0893AD
LaMotte	20/20	5921-2405

Time	volume removed (liters)	Flow Rate (ml/min)	Depth To Water (ft)	Temp (celsius)	pH (STD)	SPC uS/cm^c	DO (mg/L)	ORP (mV)	Turbidity (NTU)	color
1140	–	300	9.49	8.86	6.41	351	2.62	68	652	
1150	3.0	300	9.45	13.96	6.49	349	1.41	46	504	
1210	9.0	300	9.41	16.21	6.48	340	0.92	43	521	
1230	17.0	400	10.88	14.55	6.38	330	0.94	53	126	
1240	21.0	400	9.73	13.85	6.32	328	0.80	49	505	
1300	29.0	400	9.72	14.80	6.28	350	0.94	63	56	
1310	33.0	400	9.71	14.77	6.27	362	0.87	62	18	
1320	37.0	400	9.72	14.82	6.25	352	0.83	63	14	
1330	41	400	9.73	14.74	6.23	355	0.82	65	12	
1350	49	400	9.74	14.80	6.22	356	0.75	69		
Acceptance Criteria:					10%	10%	10%	10%	<10	

2" screen volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
1352	BN-9-MW-NASB-014	2 Liter Amb	2	HCL	TPH-DRO
		40ML VOA	3	HCL	VOC

Comments

Signature

1/31/06
Date

Environmental Chemical Corporation

Low Flow/Low Stress Groundwater Sampling Log

Project: Site 9
Location: NASB, Brunswick, ME
Well ID: MW-71

Date: 1/31/06
Sampler: FS
PID Reading: 0

Start Time: 1230 **End Time:**
Well Construction: 2" PVC
Depth to water: Blocked at 1.46
Well Depth: —
Water Column: —
Total Volume Removed (L) —

Field Testing Equipment

Make	Model	Serial #
YSI	600	01L0629
YSI	650	05C119AK
Lamotte	Turbidimeter	5873-1905
GroundFos	Controller	9444

Time	volume removed (liters)	Flow Rate (ml/min)	Depth To Water (ft)	Temp (celsius)	pH (STD)	SPC uS/cm^c	DO (mg/L)	ORP (mV)	Turbidity (NTU)	color
Acceptance Criteria:					10%	10%	10%	10%	<10	

2" screen volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses

Comments Well frozen. Unable to place water level meter or groundfos pump past 1.46'. Small amount of ice observed at top of water level and groundfos pump. ECC needs to wait until the spring/thawing season.

Signature

1/31/06
Date

Environmental Chemical Corporation

Low Flow/Low Stress Groundwater Sampling Log

Project: Site 09
Location: NASB, Brunswick, ME
Well ID: MW-227

Date: 4/26/06
Sampler: FS
PID Reading: 0

Start Time: 1600 **End Time:**
Well Construction: 2" PVC . 3' Riser
Depth to water: 9.67
Well Depth: 39.80
Water Column: 30.13
Total Volume Removed (L) 18.25

Field Testing Equipment

Make	Model	Serial #
YSI	608	00613014B
YSI	650	00L92 07AA
Lamotte	Turbidimeter	5597
Grundfos	Controller	4632

Time	volume removed (liters)	Flow Rate (ml/min)	Depth To Water (ft)	Temp (celsius)	pH (STD)	SPC uS/cm[c]	DO (mg/L)	ORP (mV)	Turbidity (NTU)	color
1605	1.25	250	9.79	11.90	6.46	304	2.96	470	9	Clear
1615	2.0	200	9.82	11.69	6.26	298	2.35	465	8	Clear
1625	2.0	200	9.85	12.91	6.11	289	1.89	462	2	Clear
1635	2.0	200	9.86	12.99	6.10	287	1.92	462	2	Clear
1645	2.0	200	9.86	13.06	6.09	289	1.93	459	1	Clear
1655	2.0	200	9.87	13.05	6.10	288	1.96	457	0	Clear
1705	2.0	200	9.87	13.09	6.10	289	1.96	454	0	Clear
1715	2.0	200	9.88	13.11	6.10	289	1.93	451	0	Clear
1720	1.0	200	9.88	13.12	6.11	290	1.94	451	0	Clear
1725	1.0	200	9.88	13.11	6.11	289	1.95	451	0	Clear
1730	1.0	200	9.88	13.11	6.11	289	1.95	450	0	Clear
Acceptance Criteria:					10%	10%	10%	10%	<10	

2" screen volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
1730	BN-9-MW 227	1L Amber	2	HCL	DRO
↓	↓	40 ml vos	3	HCL	VOC
↓	↓	1L Poly	1	Non-Adding NaOH	Cyanide

Comments

Signature

4/26/06
Date

Environmental Chemical Corporation

Low Flow/Low Stress Groundwater Sampling Log

Project: Site 09 **Date:** 4/26/06

Location: NASB, Brunswick, ME **Sampler:** FS

Well ID: MW-75 **PID Reading:** 0

Start Time: 1420 **End Time:**

Well Construction: 2" PVC 3' Riser

Depth to water: 13.34

Well Depth: 21.10

Water Column: 7.76

Total Volume Removed (L)

Field Testing Equipment

Make	Model	Serial #
YSI	600	00613018
YSI	650	00L1207AA
Lamotte	Turbidimeter	5597
Grundfos	Rediflo Controller	4632

Time	volume removed (liters)	Flow Rate (ml/min)	Depth To Water (ft)	Temp (celsius)	pH (STD)	SPC uS/cm[c]	DO (mg/L)	ORP (mV)	Turbidity (NTU)	color
1430	1.0	100	13.41	13.96	3.61	411	4.88	521	1	Clear
1440	1.0	100	13.42	16.78	4.38	406	3.46	488	4	Clear
1450	1.0	100	13.45	17.66	5.96	403	1.09	493	3	Clear
1500	1.0	100	13.48	15.50	5.91	404	0.64	497	1	Clear
1505	0.5	100	13.51	14.80	5.90	403	0.49	498	1	Clear
1510	0.5	100	13.52	14.72	5.90	403	0.48	498	1	Clear
1515	0.5	100	13.53	14.67	5.90	402	0.47	498	1	Clear
1520	0.5	100	13.54	14.64	5.90	402	0.47	499	1	Clear
Acceptance Criteria:					10%	10%	10%	10%	<10	

2" screen volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
1520	BN-9-MW75	~~2~~ FS 1L Amber	2	HCL	DRO
1520	BN-9-MW75	40ml vial	3	HCL	VOC
1520	BN-9-MW75	1L Poly	1	None-Adding NaOH	Cyanide

Comments

Signature

4/26/06
Date

Environmental Chemical Corporation

Low Flow/Low Stress Groundwater Sampling Log

Project: Site 9
Location: NASB, Brunswick, ME
Well ID: mw-069

Date: 4/26/06
Sampler: David C.
PID Reading: 0.0ppm

Start Time: 1425 **End Time:** 1540
Well Construction: 2" Grundfos
Depth to water: 8.31'
Well Depth: 40.00'
Water Column: 31.69'
Total Volume Removed (L) 24.0

Field Testing Equipment

Make	Model	Serial #
YSI	650MDS	01G0418 AF
YSI	600XL	01A0138 AB
Lamotte	Turbidimeter	5873-1905
Redi-Flo	Controller	07028

Time	volume removed (liters)	Flow Rate (ml/min)	Depth To Water (ft)	Temp (celsius)	pH (STD)	SPC uS/cm c	DO (mg/L)	ORP (mV)	Turbidity (NTU)	color
1430	2.0	400	8.39	11.35	7.47	261	10.17	-54	85	cloudy
1440	4.0	400	8.39	12.75	6.23	278	1.62	-64	20	clear
1450	3.0	300	8.37	12.36	6.16	277	1.81	-63	15	clear
1500	3.0	300	8.36	12.77	6.13	284	1.64	-65	6	clear
1510	3.0	300	8.36	12.90	6.14	286	1.63	-66	3	clear
1520	3.0	300	8.36	13.13	6.14	284	1.59	-67	3	clear
1530	3.0	300	8.36	13.18	6.15	286	1.59	-68	1	clear
1535	1.5	300	8.36	13.22	6.13	285	1.61	-68	1	clear
1540	1.5	300	8.36	13.15	6.13	284	1.59	-68	1	clear
Acceptance Criteria:					10%	10%	10%	10%	<10	

2" screen volume = 0.163 gal/ft or 616 ml per foot

Sample Collection

Time	Sample ID	Container	# of Bottles	Preservative	Analyses
1540	BN-9-MW069	40ml vial	3	HCl	VOC
1540	BN-9-MW069	1 L Amber	2	HCl	DRO
1540	BN-9-MW069	1 L Amber	2	NONE	SVOC
1540	BN-9-MW069	500ml Poly	1	HNO3	Metals
1540	BN-9-MW069-MS				
1540	BN-9-MW069-MSD	Same Containers, Analyses as above.			
00:00	BN-9-MWXD1				

Comments

1540 ~~*~~ Added BN-9-MW069 1 L Poly 1 NONE CYANide
- NO MS/MSD, Field Dup.

Signature

4/26/06
Date

Calibration Forms

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INSTRUMENT CALIBRATION LOG

Project/Site Name Site 09 **Calibrated By** Fred Santos

Instrument/Serial Number	Pre-cal 0 (NTU)	Pre-cal 10 (NTU)	Post-cal 0 (NTU)	Post-cal 10 (NTU)	Date
Lamotte Turbidimeter 5873-1905	0	10	0.5	10	1/31/06
Lamotte Turbidimeter 5921-2405	0	10	0	10	1/31/06
Lamotte Turbidimeter					
Lamotte Turbidimeter					
Lamotte Turbidimeter					
Lamotte Turbidimeter					
Lamotte Turbidimeter					
Lamotte Turbidimeter					
Lamotte Turbidimeter					
Lamotte Turbidimeter					
Lamotte Turbidimeter					

INSTRUMENT CALIBRATION LOG

Project/Site Name Site 9 **Date** 1/31/06 **Weather** Snow 25°

Calibrated By Fred S **Instrument** YSI 600 YSI 650 **Serial Number** 01L0629 03C1139 AK

Parameters	Pre-calibration Reading	Post-calibration Reading	Temperature °C	Comments
Conductivity 1.413 ms/cm	1.411	1.407		
pH (7)	7.0	6.89		
pH (4)	4.0	3.9		
pH (10)	10.0	10.2		
ORP 240 mv	240	238		
Dissolved Oxygen %	100	97		
Barometric Pressure				

INSTRUMENT CALIBRATION LOG

Project/Site Name Site 09 **Date** 1/31/06 **Weather** Snow 25°

Calibrated By Fred S **Instrument** YSI 600 YSI 650 **Serial Number** 02H0893 AD 05H1390AB

Parameters	Pre-calibration Reading	Post-calibration Reading	Temperature °C	Comments
Conductivity 1.413 ms/cm	1.413	1.410		
pH (7)	7	7.02		
pH (4)	4	4		
pH (10)	10	10.03		
ORP 240 mv	240	238		
Dissolved Oxygen %	100	99		
Barometric Pressure				

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Chain of Custody

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Northeast Laboratory SERVICES

P.O. Box 788 • Waterville, ME 04903-0788
207-873-7711 / Fax: 207-873-7022

Shipping: 227 China Road
Winslow, Maine 04901

CHAIN OF CUSTODY RECORD

Sheet 1 of 2

Company Name: ECC

Reporting Address: 50 B Angelo Dr, Hud NH

Client Contact: Phone Fax

Billing Name:

Billing Address: Same

PO #:
Quote #
Project Name

Lab Comments:

Sample Designation	Sample Date/Time	Preservation: 1=H_2SO_4, 2=HNO_3, 3=HCL, 4=NaOH, 5=Thio, 6=4°C, 7=None	Container Size, Type	QTY	Sample Type Code: G = Grab C = Composite	Matrix Code Choose One: GW = Ground Water WW = Waste Water DW = Drinking Water SW = Surface Water O = Oil WP = Wipe S = Soil F = Food Other (Please List)	Analyses Requested	Lab Sample ID
MW-NASB-074	1/31/06 1352	3	1L Am	2	G	GW	TPH-DRO	
		3	40ml VOA	3	G	GW	VOC 8260B	
BW-9-MW-NASB-072	1/31/06 1112	3	1L Am	2	G	GW	TPH-DRO	
		3	40ml VOA	3	G	GW	VOC 8260B	
BW-9-MW-76	1/31/06 1145	3	1L Am	2	G	GW	TPH-DRO	
		3	40ml VOA	3	G	GW	VOC 8260B	
BW-9-MW-75	1/31/06 1020	3	1L Am	6	G	GW	TPH-DRO MS/MSD	
		3	40ml VOA	9	G	GW	VOC-8260B	
BW-9-[redacted]-XD1	1/31/06 0900	3	1L Am	2	G	GW	TPH-DRO	
		3	40ml VOA	3	G	GW	VOC-8260B	

Notes:

Sampled By: MAC / FS

Known hazards associated with samples: Temp Blank in a cooler

Relinquished By	Date/Time	Received By	Date/Time	pH	
[illegible]	2/1/06 0835	[illegible]	2/2/06 [illegible]		The recommended temperature of the internal container is 2-6°C. Do you authorize analysis if the temp is out of range?
Relinquished By	Date/Time	Received By	Date/Time	Rush Yes 5 days 50% surcharge 2 days 100% surcharge	
Relinquished By	Date/Time	Received By	Date/Time	Field Filtered Y / N	Yes No

Chain of Custody must be filled out completely. This includes signature, sample description, analysis requested, date and time sampled.

If not completed, samples will be rejected.

Rev. 8/04 Form #NEL 110

If a sample is hazardous or radioactive, the sample will be returned to the client at the client's expense.
Standard turn-around-time is 10 business days - depending on season.

Northeast Laboratory SERVICES

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207-873-7711 / Fax: 207-873-7022

Shipping: 227 China Road
Winslow, Maine 04901

CHAIN OF CUSTODY RECORD

Sheet 2 of 2

Company Name: ECC

Reporting Address:

Client Contact: Phone Fax

Billing Name:

Billing Address:

PO #:
Quote #
Project Name

Lab Comments:

Sample Designation	Sample Date/Time	Preservation: 1=H_2SO_4, 2=HNO_3, 3=HCL, 4=NaOH, 5=Thio, 6=4°C, 7=None	Container Size, Type	QTY	Sample Type Code: G = Grab C = Composite	Matrix Code Choose One: GW = Ground Water WW = Waste Water DW = Drinking Water SW = Surface Water O = Oil WP = Wipe S = Soil F = Food Other (Please List)	Analyses Requested	Lab Sample ID
GW-3-QS1	2/2/06 0230	3	40ml VOA	3	G	—	VOC Temp	

Notes:

Sampled By: MHC

Known hazards associated with samples:

Relinquished By	Date/Time	Received By	Date/Time	pH	
Mark C	2/2/06 0235	[illegible]	2/2/06 [illegible]		The recommended temperature of the internal container is 2-6°C. Do you authorize analysis if the temp is out of range?
Relinquished By	Date/Time	Received By	Date/Time	Rush Yes 5 days 50% surcharge 2 days 100% surcharge	
Relinquished By	Date/Time	Received By	Date/Time	Field Filtered Y / N	Yes No

Chain of Custody must be filled out completely. This includes signature, sample description, analysis requested, date and time sampled.

If not completed, samples will be rejected.

Rev. 8/04 Form #NEL 100

If a sample is hazardous or radioactive, the sample will be returned to the client at the client's expense.
Standard turn-around-time is 10 business days - depending on season.

CHAIN OF CUSTODY

Job #:

Control #:

Client Information

ame Environmental Chemical Corporation

dress 50 D'Angelo Drive

ty Marlborough, MA State 01752 Zip

nd Report to: Jackson Kiker

hone #: 508-229-2270

Facility Information

Project Name: SITE 9

Location: NASB Brunswick, Maine

Project No.: 5700.007

FAX #:

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: voc hcl	NaOH	HNO3	H2So4	None	TCL VOC	CYANIDE	TAL METALS	DRO	TCL SVOC
N-9-MW227	4/26/06	1730		GW	6	X	X				X	X		X	
N-9-MW075	4/26/06	1520		GW	6	X	X				X	X		X	
N-9-MW069 ms/msd	4/26/06	1540		GW	25	X	X	X		X	X	*X	X	X	X
N-9-MWXD1	4/26/06	0000		GW	8	X	X	X		X	X		X	X	X

Turnaround Information

- ☐ 21 Day Standard — Approved By:
- ☐ 14 Day
- ☐ 7 Days *EMERGENCY*
- ☐ Other _____ (Days)

RUSH TAT is for FAX data

Data unless previously approved.

Data Deliverable Information

- ☐ NJ Reduced
- ☐ NJ Full
- ☐ FULL CLP
- ☐ Disk Deliverable
- ☐ Other (Specify)
- ☐ Commercial "A"
- ☐ Commercial "B"
- ☐ ASP Category B
- ☐ State Forms

Comments / Remarks

*Only one cyanide sample is included. No MS/MSD or Field Dup for Cyanide from MW-69.

Sample Custody must be documented below each time samples change possesion, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	4/27/06 1530	1	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved where applica ☐	On Ice: ☐

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APPENDIX B

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APPENDIX B

ANALYTICAL DATA QUALITY REVIEW
Site 9
Spring 2006 Sampling Event

B.1 INTRODUCTION

This project utilized both field and analytical laboratory quality control measures to ensure that the data quality objectives presented in the project-specific LTMP Quality Assurance Project Plan (QAPP) (EA 1999b) were met.

The sampling program consisted of the collection of four groundwater samples. Field quality control samples consisted of one field duplicate from one monitoring well. All samples were sent to Northeast Laboratory Services in Winslow, Maine for analysis. Field quality control samples (field duplicates) were collected at the frequency required by the QAPP.

Analytical quality control was reviewed for compliance against the measurement performance criteria for precision and accuracy for each sample and analysis type, including field duplicates, as presented in the LTMP QAPP (EA 2000). Analytical precision for organics was based upon the relative percent difference (RPD) of the matrix spike/matrix spike duplicates (MS/MSD), and analytical precision for inorganics was based upon the laboratory replicate RPD. Accuracy for organics was based upon the reported spike recoveries for the laboratory control samples (LCS), MS/MSD, and surrogate recoveries. Accuracy for inorganics was based upon the MS and LCS.

The ability of the laboratory to extract organic compounds was confirmed by the recoveries of the surrogate spikes. MS/MSD and surrogate spike recoveries measure the effect of the sample matrix on organic sample preparation and measurement methodology. The accuracy of the LCS spike recoveries is used in conjunction with MS/MSD when evaluating organic analyses. Post digestion spikes, matrix spikes, or serial dilutions are used to measure the effect of the sample matrix on preparation and measurement methodology. During the MS/MSD process, known quantities of target compounds are spiked into the sample matrix, and recoveries are used to measure potential bias due to matrix effects. The MS/MSD RPD or laboratory replicate RPD is used to determine analytical precision, and the field duplicate RPD is used to determine overall precision.

Field completeness was quantified by determining the ratio of the LTMP planned number of samples to be collected to the number of samples actually collected. Data completeness was quantified by determining the ratio of the number of non-rejected analyte measurements to the total number of analyte measurements.

For clarity, the following terms are defined for use throughout this appendix:

- ***Method Detection Limit –*** The method detection limit (MDL) refers to the minimum concentration that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero. The method detection limits for aqueous media are summarized at the end of this appendix.

- ***Practical Quantitation Limit –*** The practical quantitation limit (PQL) is defined as the lowest concentration that can be reasonably achieved within specified units of precision and accuracy during routine laboratory operating conditions.

- ***Method Reporting Limit*** – The method reporting limit (MRL) is defined as the Project Quantitation Limit adjusted for any necessary sample dilutions, percent moisture, sample volume deviations, and/or extract/digestate volume deviations.

- ***Measurement Performance Criteria*** - The measurement performance criteria (MPC) define the acceptable performance for the data quality indicators- accuracy and precision. The LTMP QAPP specifies the project MPC for LCS, surrogates, MS/MSD, and MS/MSD RPD quality control checks.

- ***Precision*** - Precision is evaluated by comparing the relative percent difference (RPD) of the MS/MSD or laboratory replicate sample pairs to the QAPP RPD limits. If the RPD is outside the measurement performance criteria, the positive detect or non-detect is qualified for the affected compound in the unspiked sample (U.S. EPA 1996). The overall precision is determined by comparing the field duplicate RPD to the QAPP RPD limits.

- ***Accuracy*** - Accuracy is evaluated by comparing MS/MSD recoveries, surrogate spike recoveries, and LCS recoveries to QAPP MPC.

- ***J*** – Data qualifier indicating that the analyte was positively identified; however, the analyte magnitude is the approximate concentration of the analyte in the sample.

- ***UJ*** - The analyte was not detected above the sample reporting limit, and the reporting limit is approximate.

- ***U*** - The sample was analyzed for, but was not detected above the sample MDL

- ***R*** - The sample result is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified

B.2 LABORATORY ANALYTICAL QUALITY CONTROL PROGRAM

The aqueous samples were collected from three monitoring wells. The groundwater samples were collected from MW-069 (+ duplicate), MW-075, and MW-227. All four groundwater samples were analyzed for LTMP (EA 2000) Target Compound List (TCL) volatile organic compounds (VOCs) by EPA SW-846 Method 8260B, Maine Dept. of Environmental Protection (MEDEP) 4.2.25 diesel range organics (DRO), Total Metals 6010B/7041/7470A/7740/7841/9010, and semivolatile organic compounds (SVOCs) by EPA SW-846 Method 8270C.

The quality control measures specified in the EPA SW-846 methodology (MS/MSD, surrogates, and LCS), as well as those in the QAPP, were performed at the proper frequency by the laboratory and established proper analytical quality control. The range of results for the accuracy and precision data quality objectives are discussed in the subsections below.

B.2.1 LABORATORY ACCURACY EVALUATION

B.2.1.1 Evaluating Matrix Spike/Matrix Spike Duplicate Recoveries for Accuracy

Generally, no action is taken based on the MS/MSD data alone to qualify an entire sample delivery group. The qualification is limited to the unspiked sample associated with the MS/MSD. However, professional judgment may be used to qualify samples across a particular sample delivery group (i.e., all associated samples).

- If the matrix spike recovery is greater than the upper control limit (UCL), then corresponding analyte detects are qualified as estimated (J) and corresponding analytes with non-detects are not qualified in the unspiked sample.
- If the matrix spike recovery is greater than or equal to 10 percent, but less than the lower control limit (LCL), then corresponding analyte detects are qualified as estimated (J) and corresponding analytes with non-detects are qualified as non-detect with an estimated MRL (UJ) in the unspiked sample.
- If the matrix spike recovery is less than 10 percent for an analyte, then corresponding analyte detects are qualified as estimated (J) and corresponding analytes non-detects are qualified as unusable or rejected (R) in the unspiked sample.
- If the matrix spike concentration is not greater than four times the corresponding analyte level detected in the field sample, then the matrix spike recoveries are not used to evaluate matrix interference.

B.2.1.2 Evaluating Surrogate Recoveries for Accuracy

- If the surrogate recovery is greater than the upper limit, then all analyte detects are qualified as estimated (J) and analytes with non-detect results are not qualified.
- If the surrogate recovery is greater than or equal to 10 percent, but less than the LCL, then all analyte detects are qualified as estimated (J) and all analytes with non-detect results are qualified as non-detect with estimated MRLs (UJ).
- If the surrogate recovery is less than 10 percent, then all analyte detects are qualified as estimated (J) and all analytes with non-detect results are qualified as unusable (R).

B.2.1.3 Evaluating Laboratory Control Sample Recoveries for Accuracy

- If the LCS recovery is greater than the UCL, then corresponding analyte detects are qualified as estimated (J) and analytes with non-detect results are not qualified.
- If the LCS recovery is greater than or equal to 10 percent, but less than the LCL, then corresponding analyte detects are qualified as estimated (J) and analytes with non-detect results are qualified as non-detect with estimated MRLs (UJ).
- If the LCS recovery is less than 10 percent, the corresponding analyte detects are qualified as estimated (J) and analyte non-detects are qualified as rejected (R).

B.2.1.4 Evaluating Laboratory Method Blanks for Accuracy

- Method blank results should not have any analyte detections greater than the MRL.

B.2.2. LABORATORY ACCURACY ASSESSMENT

B.2.2.1 Volatile Organic Compounds

B.2.2.1.1 Surrogate

The surrogates recoveries associated with the aqueous analyses were within the accepted control limits. No qualifications were required. The laboratory accuracy was acceptable.

B.2.2.1.2 Matrix Spike/Matrix Spike Duplicate

The aqueous MS/MSD analysis was performed on MW-069. The MS/MSD had recoveries out of the accepted control limits for all volatile compounds except chloromethane, vinyl chloride, and acetone. The compounds with outlier recoveries were not detected in the native sample except for 1,2-dichloroethene and chloromethane. The detects for 1,2-dichloroethene and chloromethane were qualified (J) in MW-069.

B.2.2.1.3 Laboratory Control Sample/Laboratory Control Sample Duplicate

All of the LCS/LCSD percent recoveries associated with the aqueous samples were within the MPC except for the following: The LCS performed on 05/9/06 had recoveries above the UCL for acetone and chloroethane. The LCS performed on 05/10/06 also had recoveries above the UCL for acetone and chloroethane. A detect for chloroethane was qualified (J) in MW-069Dup and an acetone detect was qualified (J) in MW-227. No other qualifications were required.

B.2.2.1.4 Method Blank

Two method blanks were associated with the aqueous samples. The method blank dated 05/09/06 had detects for methylene chloride at 1.42 ug/L and 1,1,2,2-tetrachloroethane at 0.94 ug/L. The method blank dated 05/10/06 had detects for methylene chloride at 1.63 ug/L and 1,1,2,2-tetrachloroethane for 0.99 ug/L. 1,1,2,2-Tetrachloroethane results were nondetect for all samples. Methylene chloride was qualified (U) in MW-069Dup.

The laboratory accuracy was acceptable.

B.2.2.2 Target Analyte List Metals

B.2.2.2.1 Matrix Spike

The aqueous MS was performed on native sample MW-069. The MS had percent recoveries above the upper control limits for copper and iron. Results for copper were nondetect in all samples and results for iron were previously qualified J due to high LCS recovery.

B.2.2.2.2 Laboratory Control Sample

The LCS samples were analyzed at the correct frequency and the recovery limits used to evaluate the data were taken from the QAPP.

The aqueous LCSs percent recoveries were within MPC except for: aluminum, barium, iron, and zinc which were above the upper control limit. Aluminum and iron were qualified (J) in sample MW-069Dup and Fe was qualified (J) in MW-069.

B.2.2.2.3 Preparation/Method Blank

The method blank associated with the aqueous sample had non-detects for all target compounds except zinc at 0.04 ug/L. Zinc was qualified as a non-detect (U) in MW-069 and MW-069Dup.

B.2.2.3 Semivolatile Organic Compounds

B.2.2.3.1 Surrogates

The surrogate recoveries associated with aqueous samples were within the established control limits. No qualifications were required and the laboratory accuracy was acceptable.

B.2.2.3.2 Matrix Spike/Matrix Spike Duplicate

The MS/MSD associated with the aqueous samples was performed on native sample MW-069. The percent recoveries were acceptable for all compounds in both the MS and MSD. No qualifications were required and the laboratory accuracy was acceptable.

B.2.2.3.3 Laboratory Control Sample/Laboratory Control Sample Duplicate

The LCS/LCSD associated with the aqueous samples had acceptable recoveries for all compounds. No qualifications were required.

B.2.2.3.4 Method Blank

The method blank associated with the aqueous samples had non-detects for all compounds.

B.2.2.4 MEDEP Diesel Range Organics

B.2.2.4.1 Surrogates

All aqueous analyses had acceptable surrogate recoveries. Laboratory accuracy was acceptable.

B.2.2.4.2 Matrix Spike / Matrix Spike Duplicate

The MS/MSD was performed on native sample MW-069. The MS and MSD had acceptable recoveries for all compounds. Laboratory accuracy was acceptable.

B.2.2.4.3 Laboratory Control Sample / Laboratory Control Sample Duplicate

The LCS had acceptable recoveries. Laboratory accuracy was acceptable.

B.2.2.4.4 Method Blank

The laboratory blank had non-detects for all DRO's. Laboratory accuracy was acceptable.

B.2.3 LABORATORY PRECISION EVALUATION

B.2.3.1 Volatile Organic Compounds

B.2.3.1.1 Matrix Spike/Matrix Spike Duplicate

The aqueous MS/MSD had RPDs above the UCL for all compounds except 1,2-dichloroethene, chloroethane, and vinyl chloride. Vinyl chloride was qualified (J), and all other compounds except 1,2-dichloroethene, chloroethane were qualified (UJ) in MW-069.

B.2.3.1.2 Laboratory Control Sample / Laboratory Control Sample Duplicate

The LCS/LCSD associated with the aqueous samples had acceptable RPD values except for bromomethane and dichloroethane. Both compounds had values above the MPC of 20%. No qualifications were required because the two compounds were not detected in the associated samples.

B.2.3.2 Target Analyte List Metals

The aqueous analytical precision was evaluated from the LCS/LCSD RPDs. All analytes had acceptable RPDs, except zinc. Zinc was previously qualified due to method blank qualifications. No qualifications were required.

B.2.3.3 Semivolatile Organic Compounds

B.2.3.3.1 Matrix Spike/Matrix Spike Duplicate

The MS/MSD associated with the aqueous samples had acceptable RPDs for all compounds.

The Eleven LTMP QAPP and other SVOCs were used to quantify the MS/MSD RPDs. The aqueous control limits identified in the QAPP were used to qualify the MS/MSD RPDs. The MS/MSD analysis was performed on sample BN-9-25-MW-069, and all MS/MSD RPDs were within measurement performance criteria except for benzoic acid, pentachlorophenol, and benzidine were qualified non-detect estimate (UJ) for all samples.

B.2.3.3.2 Laboratory Control Sample / Laboratory Control Sample Duplicate

The LCS/LCSD associated with the aqueous samples had acceptable recoveries.

B.2.3.4 MEDEP Diesel Range Organics

The MS/MSD and LCS/LCSD associated with aqueous analyses were all acceptable. Laboratory precision was acceptable for the DRO analyses.

B.3 FIELD SAMPLING PROGRAM QUALITY CONTROL

Field sampling quality control was acceptable and conducted according to the LTMP (EA 1999b). Field duplicate samples were collected for groundwater only. The field duplicates were analyzed for the same parameters as the corresponding field samples to determine field sampling precision and overall precision. The potential for cross-contamination of volatile organics during sample storage and shipment was not assessed since trip blanks were not shipped with the sample cooler containing VOC samples.

B.3.1 FIELD PRECISION EVALUATION

Duplicate field samples were only collected during the monitoring well groundwater sampling program. The sample locations of the field duplicate samples were not identified on the sample labels to the laboratory.

The precision measurements for all analytes reported with a detection in the field sample and/or field duplicate are presented in the tables below.

B.3.1.1 Field Duplicate Sample Precision Evaluation

Field duplicate samples are used to evaluate the overall precision of both the field and laboratory. EPA Region 1 criteria for evaluating field duplicates were used to review the field duplicate collected and analyzed during the sampling event.

- Field sample and field duplicate sample results greater than twice the MRL were evaluated and a field duplicate RPD was calculated.
- A detect greater than the MRL in one but non-detect in another sample of the field duplicate pair were qualified as estimated for detects and non-detect results were qualified estimated non-detect (UJ).
- The overall precision was evaluated per EPA Region I validation criteria as being acceptable if less than 30 percent for aqueous samples.

B.3.1.2 Field Precision Assessment

The following table shows the field duplicate groundwater sample results that are associated with MW-069:

Field Sample Id	Analyte	Analytical Method	Result	Units	Qualifier	Field Duplicate Id	Result	Units	Qaulifier	FD RPD (%)
BN-9-MW069	Aluminum Total	EPA 6010B	0.2	mg/L	UJ	BN-9-MWXD1	0.21	mg/L	J	NC
BN-9-MW069	Calcium Total	EPA 6010B	5	mg/L		BN-9-MWXD1	5.1	mg/L		2
BN-9-MW069	Iron Total	EPA 6010B	0.18	mg/L		BN-9-MWXD1	0.38	mg/L		71.4
BN-9-MW069	Manganese Total	EPA 6010B	0.32	mg/L		BN-9-MWXD1	0.32	mg/L		0
BN-9-MW069	Sodium Total	EPA 6010B	49	mg/L		BN-9-MWXD1	49	mg/L		0
BN-9-MW069	1,2-Dichloroethene (total)	EPA 8260B	5.6	ug/L		BN-9-MWXD1	6.4	ug/L		13.3
BN-9-MW069	Chloroethane	EPA 8260B	0.87	ug/L		BN-9-MWXD1	0.92	ug/L		5.6
BN-9-MW069	Vinyl Chloride	EPA 8260B	9.8	ug/L		BN-9-MWXD1	12	ug/L		20.2

The precision requirements were met for the monitoring well field duplicate analyses.

B.3.2 FIELD ACCURACY EVALUATION

B.3.2.1 Rinsate Blanks

Rinsate blanks were not collected during this monitoring event, as dedicated and disposable sampling equipment was used for sample collection.

B.3.2.2 Trip Blanks

No trip blanks were associated with the volatile analyses evaluated in this sampling event.

B.3.3 FIELD ACCURACY ASSESSMENTS

Rinsate blanks were not collected as dedicated and disposable equipment was used for sample collection and no trip blank for aqueous samples were shipped VOC samples.

B.4 OVERALL EVALUATION OF DATA AND USABILITY RECOMMENDATION

The following is a summary table of the findings for the data quality review performed and discussed in detail in this appendix:

Data Quality Review		Holding Time	Field[(a)] /Method Blank Contamination	Precision		Accuracy			Completeness	
				Lab	Field	Surrogate	MS/ MSD	LCS	Analytical	Field
Groundwater	VOC	√	B	√	√	√	J	J	100%	100%
	Metals	√	B	√	√	√	√	√	100%	100%
	SVOC	√	B	√UJ	√	√	UJ/J	J	100%	100%
	DRO	√	√	√	√	√	√	√	100%	100%

(a) Field, source, trip, and rinsate blanks.

NOTE: VOC = Volatile organic compound
SVOC = Semivolatile organic compound
√ = The data are usable as reported based on the data quality review of this quality measurement.
B = Methylene chloride, zinc, or phthalates qualified U
J = The data are usable, however, some analyte concentrations should be considered estimates of the true concentrations.
UJ = The result is non-detect with approximate reporting limits.
R = The result is rejected.
NA = The quality measurement does not apply to this matrix or analytical methodology.

In general, the data collected as part of this monitoring event met the data quality objectives established in the QAPP for data usability and are usable as qualified.

B.5 COMPLETENESS

Analytes were reviewed for method and QAPP compliance, and the data were determined to be usable. The percent analytical completeness is 100%. All planned field samples and the corresponding quality control samples (duplicate) were collected per the LTMP, resulting in a percent field completeness of 100 percent.

B.6 METHOD DETECTION LIMITS FOR AQUEOUS SAMPLES

The table below provides the method detection limit for aqueous samples. The method detection limit represents the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero.

Method Detection Limits

Analytical Method	Analyte	MDL	Units
SW846 6010B	Aluminum Total	0.1706	mg/L
SW846 6010B	Arsenic Total	0.0206	mg/L
SW846 6010B	Barium Total	0.0068	mg/L
SW846 6010B	Beryllium Total	0.0053	mg/L
SW846 6010B	Cadmium Total	0.0048	mg/L
SW846 6010B	Calcium Total	1.1504	mg/L
SW846 6010B	Chromium Total	0.011	mg/L
SW846 6010B	Cobalt Total	0.0261	mg/L
SW846 6010B	Copper Total	0.0112	mg/L
SW846 6010B	Iron Total	0.0428	mg/L
SW846 6010B	Lead Total	0.0155	mg/L
SW846 6010B	Magnesium Total	0.5872	mg/L
SW846 6010B	Manganese Total	0.0053	mg/L
SW846 6010B	Nickel Total	0.0094	mg/L
SW846 6010B	Potassium Total	0.3041	mg/L
SW846 6010B	Silver Total	0.0126	mg/L
SW846 6010B	Sodium Total	1.51	mg/L
SW846 6010B	Vanadium Total	0.0293	mg/L
SW846 6010B	Zinc Total	0.0566	mg/L
SW846 7041	Antimony, Furnace-GW	0.0009305	mg/L
SW846 7470A	Mercury by Cold Vapor GW	0.0000002	mg/L
SW846 7740	Selenium Furnace GW	0.0013299	mg/L
SW846 7841	Thallium, Furnace,-GW	0.0004041	mg/L
SW846 8260B	1,1,1-Trichloroethane	0.29	µg/L
SW846 8260B	1,1,2,2-Tetrachloroethane	0.39	µg/L

Analytical Method	Analyte	MDL	Units
SW846 8260B	1,1,2-Trichloroethane	0.2	µg/L
SW846 8260B	1,1-Dichloroethane	0.28	µg/L
SW846 8260B	1,1-Dichloroethene	0.32	µg/L
SW846 8260B	1,2-Dichloroethane	0.46	µg/L
SW846 8260B	1,2-Dichloroethene (total)	0.26	µg/L
SW846 8260B	1,2-Dichloropropane	0.1	µg/L
SW846 8260B	2-Butanone	0.42	µg/L
SW846 8260B	2-Hexanone	2.42	µg/L
SW846 8260B	4-Methyl-2-pentanone	1.33	µg/L
SW846 8260B	Acetone	4.14	µg/L
SW846 8260B	Benzene	0.26	µg/L
SW846 8260B	Bromodichloromethane	0.22	µg/L
SW846 8260B	Bromoform	0.37	µg/L
SW846 8260B	Bromomethane	0.52	µg/L
SW846 8260B	Carbon Disulfide	0.27	µg/L
SW846 8260B	Carbon Tetrachloride	0.27	µg/L
SW846 8260B	Chlorobenzene	0.18	µg/L
SW846 8260B	Chloroethane	1.52	µg/L
SW846 8260B	Chloroform	0.42	µg/L
SW846 8260B	Chloromethane	0.38	µg/L
SW846 8260B	cis-1,3-Dichloropropene	0.13	µg/L
SW846 8260B	Dibromochloromethane	0.32	µg/L
SW846 8260B	Ethylbenzene	0.15	µg/L
SW846 8260B	Hexachlorobutadiene	0.27	µg/L
SW846 8260B	Methylene Chloride	1.05	µg/L
SW846 8260B	Styrene	0.15	µg/L
SW846 8260B	Tetrachloroethene	0.55	µg/L
SW846 8260B	Toluene	0.15	µg/L
SW846 8260B	trans-1,3-Dichloropropene	0.64	µg/L
SW846 8260B	Trichloroethene	0.28	µg/L
SW846 8260B	Vinyl Chloride	0.43	µg/L
SW846 8260B	Xylenes (total)	0.52	µg/L
SW846 8260B	1,1,1-Trichloroethane	0.93	µg/L
SW846 8260B	1,1,2,2-Tetrachloroethane	0.33	µg/kg
SW846 8260B	1,1,2-Trichloroethane	0.49	µg/kg
SW846 8260B	1,1-Dichloroethane	0.5	µg/kg
SW846 8260B	1,1-Dichloroethene	4.08	µg/kg
SW846 8260B	1,2-Dichlorobenzene	0.31	µg/kg
SW846 8260B	1,2-Dichloroethane	1.01	µg/kg

Analytical Method	Analyte	MDL	Units
SW846 8260B	1,2-Dichloroethene (total)	0.82	µg/kg
SW846 8260B	1,2-Dichloropropane	1.09	µg/kg
SW846 8260B	1,3-Dichlorobenzene	0.41	µg/kg
SW846 8260B	1,4-Dichlorobenzene	0.42	µg/kg
SW846 8260B	2-Butanone	2.18	µg/kg
SW846 8260B	2-Hexanone	0.72	µg/kg
SW846 8260B	4-Methyl-2-pentanone	0.48	µg/kg
SW846 8260B	Acetone	4.43	µg/kg
SW846 8260B	Benzene	1.13	µg/kg
SW846 8260B	Bromodichloromethane	0.29	µg/kg
SW846 8260B	Bromoform	0.33	µg/kg
SW846 8260B	Bromomethane	0.85	µg/kg
SW846 8260B	Carbon Disulfide	3.37	µg/kg
SW846 8260B	Carbon Tetrachloride	0.39	µg/kg
SW846 8260B	Chlorobenzene	0.29	µg/kg
SW846 8260B	Chloroethane	1.01	µg/kg
SW846 8260B	Chloroform	0.34	µg/kg
SW846 8260B	Chloromethane	1.04	µg/kg
SW846 8260B	cis-1,3-Dichloropropene	0.33	µg/kg
SW846 8260B	Dibromochloromethane	1.23	µg/kg
SW846 8260B	Ethylbenzene	0.28	µg/kg
SW846 8260B	Methylene Chloride	---	µg/kg
SW846 8260B	Styrene	0.29	µg/kg
SW846 8260B	Tetrachloroethene	1.43	µg/kg
SW846 8260B	Toluene	1.13	µg/kg
SW846 8260B	trans-1,3-Dichloropropene	0.3	µg/kg
SW846 8260B	Trichloroethene	0.29	µg/kg
SW846 8260B	Vinyl Chloride	0.93	µg/kg
SW846 8260B	Xylenes (total)	1.04	µg/kg
SW846 8270C	1,2,4-Trichlorobenzene	0.76	µg/L
SW846 8270C	1,2-Dichlorobenzene	0.25	µg/L
SW846 8270C	1,3-Dichlorobenzene	0.74	µg/L
SW846 8270C	1,4-Dichlorobenzene	0.3	µg/L
SW846 8270C	2,4,5-Trichlorophenol	0.52	µg/L
SW846 8270C	2,4,6-Trichlorophenol	1.32	µg/L
SW846 8270C	2,4-Dichlorophenol	0.6	µg/L
SW846 8270C	2,4-Dimethyl phenol	1.53	µg/L
SW846 8270C	2,4-Dinitrophenol	0.55	µg/L
SW846 8270C	2,4-Dinitrotoluene	1.43	µg/L

Analytical Method	Analyte	MDL	Units
SW846 8270C	2,6-Dinitrotoluene	0.93	µg/L
SW846 8270C	2-Chloronaphthalene	0.61	µg/L
SW846 8270C	2-Chlorophenol	0.91	µg/L
SW846 8270C	2-Methylnaphthalene	0.78	µg/L
SW846 8270C	2-Methylphenol (o-cresol)	1.25	µg/L
SW846 8270C	2-Nitroaniline	0.73	µg/L
SW846 8270C	2-Nitrophenol	0.73	µg/L
SW846 8270C	3&4-Methylphenol (m&p-cresol)	1.16	µg/L
SW846 8270C	3,3-Dichlorobenzidine	0.68	µg/L
SW846 8270C	3-Nitroaniline	1.06	µg/L
SW846 8270C	4,6-Dinitro-2-methylphenol	0.95	µg/L
SW846 8270C	4-Bromophenylphenylether	0.69	µg/L
SW846 8270C	4-Chloro-3-methylphenol	0.63	µg/L
SW846 8270C	4-Chloroaniline	1.3	µg/L
SW846 8270C	4-Chlorophenylphenylether	0.32	µg/L
SW846 8270C	4-Nitroaniline	1	µg/L
SW846 8270C	4-Nitrophenol	2.19	µg/L
SW846 8270C	Acenaphthene	1.01	µg/L
SW846 8270C	Acenaphthylene	1.02	µg/L
SW846 8270C	Aniline	1.12	µg/L
SW846 8270C	Anthracene	0.87	µg/L
SW846 8270C	Azobenzene	1.12	µg/L
SW846 8270C	Benzidine	0.32	µg/L
SW846 8270C	Benzo(a)anthracene	--	µg/L
SW846 8270C	Benzo(a)pyrene	0.59	µg/L
SW846 8270C	Benzo(b)fluoranthene	1.09	µg/L
SW846 8270C	Benzo(g,h,i)perylene	0.44	µg/L
SW846 8270C	Benzo(k)fluoranthene	0.75	µg/L
SW846 8270C	Benzoic acid	2.64	µg/L
SW846 8270C	Benzyl alcohol	1.19	µg/L
SW846 8270C	Benzylbutylphthalate	2.25	µg/L
SW846 8270C	Bis (2-ethylhexyl)phthalate	0.96	µg/L
SW846 8270C	Bis(2-chloroethoxy) methane	0.27	µg/L
SW846 8270C	Bis(2-chloroethyl) ether	0.32	µg/L
SW846 8270C	Bis(2-chloroisopropyl) ether	0.63	µg/L
SW846 8270C	Carbazole	0.65	µg/L
SW846 8270C	Chrysene	0.74	µg/L
SW846 8270C	Dibenz(a,h)anthracene	0.56	µg/L
SW846 8270C	Dibenzofuran	0.91	µg/L

Analytical Method	Analyte	MDL	Units
SW846 8270C	Diethylphthalate	0.89	µg/L
SW846 8270C	Dimethylphthalate	0.71	µg/L
SW846 8270C	Di-n-butylphthalate	1.17	µg/L
SW846 8270C	Di-n-octylphthalate	0.87	µg/L
SW846 8270C	Fluoranthene	0.44	µg/L
SW846 8270C	Fluorene	0.84	µg/L
SW846 8270C	Hexachlorobenzene	0.78	µg/L
SW846 8270C	Hexachlorobutadiene	0.68	µg/L
SW846 8270C	Hexachlorocyclopentadiene	0.51	µg/L
SW846 8270C	Hexachloroethane	0.36	µg/L
SW846 8270C	Indeno(1,2,3-cd)pyrene	0.53	µg/L
SW846 8270C	Isophorone	0.79	µg/L
SW846 8270C	Naphthalene	0.57	µg/L
SW846 8270C	Nitrobenzene	0.82	µg/L
SW846 8270C	N-Nitrosodimethylamine	1.67	µg/L
SW846 8270C	N-Nitrosodi-n-propyl amine	0.89	µg/L
SW846 8270C	N-Nitrosodiphenylamine	0.55	µg/L
SW846 8270C	Pentachlorophenol	1.21	µg/L
SW846 8270C	Phenanthrene	0.068	µg/L
SW846 8270C	Phenol	0.75	µg/L
SW846 8270C	Pyrene	0.96	µg/L

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APPENDIX C

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DATA VALIDATION MEMORANDUM
NAS BRUNSWICK SITE 09
JUNE 2006 SAMPLING ROUND 28 (SDG BNASSITE90)

TO: ENGINEERING FACILITY COMMAND NORTHEAST

FROM: JACKSON KIKER, ECC SENIOR CHEMIST, MARLBOROUGH, MA

SUBJECT: NAS BRUNSWICK SITE 09 MONITORING EVENT 28

DATE: 4/23/2007

Project data were validated using the following Validation Functional Guidelines, as modified for non-CLP methods and project-specific QAPP measurement performance criteria (MPC):

1. Region I, EPA-NE Data Validation Functional Guidelines for Evaluation of Environmental Analyses (Dec, 1996),

2. National Functional Guidelines for Evaluation Inorganic Analysis (1988), and

3. National Functional Guidelines for Evaluation Organic Analysis (October 1999).

The data were assessed against the MPC listed in the approved Site 1& 3 and Eastern Plume LTMP QAPP (May 2000). The QAPP MPC and validation guideline exceedences are assessed and documented on the method/QAPP specific data validation worksheets. On these data validation worksheets the data quality acceptance criteria are presented, analytes requiring qualification based on MPC and/or validation guidance criteria exceedences are listed, assigned qualifiers, qualifying rationale is documented, and any potential bias noted. The overall evaluation of the data generated by a method is presented in the data validation worksheet.

Standard EPA Region I data qualifiers are used to denote the assessment of data quality. The final and ranking assigned data qualifier for an analyte is presented in the data summary table. Ancillary qualifiers are noted on the data validation worksheets.

The USEPA Region I Organic Regional Data Assessment (ORDA) sheet displays the summarized results of the data validation assessment for all analytical methods reported in the SDG.

ACRONYMS AND ABBREVIATIONS

Following is a list of acronyms and abbreviations that may be used in the data validation reports.

Acronym or Abbreviation	Definition
%D	Percent difference
%R	Percent recovery
%M	Percent moisture
%S	Percent solids
Ug/L	Microgram per liter
BD	Breakdown
BEHP	2-bis(ethylhexyl)phthalate
BFB	Bromofluorobenzene
CCB	Continuing calibration Blank
CCC	Continuing Check Compound
CCV	Continuing Calibration Verfication
COC	Chain of custody
CRI	standard at RL for ICP
CVAA	Cold vapor atomic absorption
DFTPP	Decafluorotriphenylphosphine
DQO	Data quality objective
EB	Equipment blank
EPA	Environmental Protection Agency
FD	Field duplicate
GC	Gas Chromatography
GC/MS	Gas chromatography/mass spectrometry
HT	Holding time
ICAL	Initial calibration
ICS-A/AB	Interelement check standard A or AB
ICV	Initial calibration verification
IDL	Instrument detection limit
IS	Internal standards
LCL	Lower control limit
LCS	Laboratory control sample
LTMP	Long term monitoring plan
MeCl	Methylene chloride
MS	Matrix spike

Acronym or Abbreviation	Definition
MSD	Matrix spike duplicate
MPC	Measurement performance criteria
NA	Not applicable
NC	Not calculated.
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyls
PQL	Practical quantitation limit
QAPP	Quality Assurance Project Plan
QC	Quality control
RF	Response Factor
RPD	Relative percent difference
RRF	Relative response factor
RSD	Relative standard deviation
RT	Retention time
SDG	Sample Delivery Group
SOP	Standard Operation Procedure
SVOC	Semi-volatile organic compound
SPCC	System performance check compound
SQL	Sample Quantitation Limit
TB	Tripblank
TCX	Tetrachloro-m-xylene
TIC	Tentatively identified compound
UCL	Upper control limit
VOC	Volatile organic compound

DATA QUALIFIER REFERENCE TABLE

Data validation reports will summarize the samples reviewed, elements reviewed, any nonconformances with the established criteria, validation actions (including data qualifiers). Data qualifiers will be consistent with EPA Region I – New England guidelines and will consist of the following:

USEPA Region I – Data Qualifier	USEPA Region I – Qualifier Definition
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
UJ	The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
U	The sample was analyzed for, but was not detected above the sample reporting limit.
R	The sample result is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified

Region I, EPA-NE ORGANIC REGIONAL DATA ASSESSMENT

LAB NAME: Northeast Laboratory
SDG #: BNASSITE90
EPA-NE DV TIER LEVEL:___II___
SITE NAME: NAS Brunswick – Site 09

# of SAMPLES/MATRIX: 3 MW and 1 FD
VALIDATION CONTRACTOR:__ECC/ASW
VALIDATOR'S NAME: Sherri Pullar
DV Completion Date:_18 July 2006
Date Sampled__26 April 2006.

ANALYTICAL DATA QUALITY SUMMARY

		VOC	SVOC	DRO	Metals
1	Preservation and HT	O	O	O	O
2	Instrument Performance Check	M	O	O	O
3	Initial Calibration:	Z	O	O	O
4	Continuing Calibration:	M	O	O	O
5	Blanks:	O	O	O	O
6	Surrogate Compounds:	O	O	O	-
7	Internal Standards	O	O	O	-
8	Matrix Spike/Matrix Spike Duplicate:	O	O	O	O
9	Sensitivity Check:	O	O	O	O
10	PE Samples- Accuracy Check	O	O	O	M
11	Target Compound Identification:	O	O	O	O
12	Compound Quantitation and Reported QLs	O	O	O	O
13	Tentatively Identified Compounds:	-	-	-	-
14	Semivolatile/Pesticide/PCB Cleanup:	-	-	-	-
15	Data Completeness	O	O	O	M
16	Overall Evaluation of Data:	O	O	O	M

O = Data had no problems or were qualified due to minor contractual problems; M = Data were qualified due to major/systemic MPC exceedences: Z = Data were rejected as unusable due to major contractual problems.

ACTION ITEMS: (Z items): All 1,1,2,2 TCA non-detects qualified as R due to SPCC RF >MPC limits.

AREAS OF CONCERN: (M items):

SVOC: None.

VOC: MeCl qualified U in sample 945 due to method blank contamination. Chloroethane result qualified J in sample 945 and acetone result qualified J in sample 942 due to LCS %R >UCL. Results for total 1.2-dichloroethene and chloroethane,qualified J in sample 944 due to MS/MSD %R> UCL. All compounds in sample 944 qualified J for detects and UJ for non-detects due to MS/MSD RPD's > MPC limit (excluding 1,1,2,2- TCA, which was qualified R due to SPCC RF >MPC limits). All VOC detects qualified J and non-

detects qualified UJ in all samples due to1,1,2,2 TCA SPCC RF >MPC limits. Vinyl chloride, methylene chloride, and 1,2-dichloroethane detects qualified J and non-detects qualified UJ due to ICAL %RSD > MPC limits. Chloroethane qualified UJ in samples 942 & 943 due to CCV %D > MPC limits.

DRO: None.

Metals (Including cyanide): Results for Al qualified J in sample 945 and UJ in sample 944 due to field duplicate RPD's >MPC limit. Zinc results qualified U in samples 944 and 945 due to preparation blank contamination. Al results qualified J in sample 945 and Fe results qualified J in samples 944 and 945 due to LCS %R >UCL.

COMMENTS: None.

NAS BRUNSWICK- SITE 9 – JUNE 2006
DATA SUMMARY TABLE – AQUEOUS SDG BNASSITE90

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	1,1,1-Trichloroethane	1	ug/L	UJ	0.34	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	1,1,2,2-Tetrachloroethane	1	ug/L	R	0.37	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	1,1,2-Trichloroethane	1	ug/L	UJ	0.39	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	1,1-Dichloroethane	1	ug/L	UJ	0.45	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	1,1-Dichloroethene	1	ug/L	UJ	0.45	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	1,2-Dichlorobenzene	1	ug/L	UJ	0.34	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	1,2-Dichloroethane	1	ug/L	UJ	0.28	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	1,2-Dichloroethene (total)	4.8	ug/L	J	0.26	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	1,2-Dichloropropane	1	ug/L	UJ	0.3	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	1,3-Dichlorobenzene	1	ug/L	UJ	0.17	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	1,4-Dichlorobenzene	1	ug/L	UJ	0.23	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	2-Butanone	5	ug/L	UJ	0.79	5
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	2-Chloroethylvinylether	1	ug/L	UJ		1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	2-Hexanone	1	ug/L	UJ	0.53	5
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	4-Methyl-2-pentanone	1	ug/L	UJ	0.48	5
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Acetone	2.5	ug/L	J	0.59	5
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Benzene	1	ug/L	UJ	0.37	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Bromodichloromethane	1	ug/L	UJ	0.3	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Bromoform	1	ug/L	UJ	0.37	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Bromomethane	1	ug/L	UJ	0.38	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Carbon Disulfide	1	ug/L	UJ	0.33	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Carbon Tetrachloride	1	ug/L	UJ	0.39	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Chlorobenzene	1	ug/L	UJ	0.28	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Chloroethane	1	ug/L	UJ	0.39	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Chloroform	1	ug/L	UJ	0.36	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Chloromethane	1	ug/L	UJ	0.32	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	cis-1,3-Dichloropropene	1	ug/L	UJ	0.39	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Dibromochloromethane	1	ug/L	UJ	0.37	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Ethylbenzene	1	ug/L	UJ	0.29	1

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Methylene Chloride	1	ug/L	UJ	0.51	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Styrene	1	ug/L	UJ	0.26	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Tetrachloroethene	0.65	ug/L	J	0.36	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Tetrahydrofuran	1	ug/L	UJ	1.32	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Toluene	1	ug/L	UJ	0.37	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	trans-1,3-Dichloropropene	1	ug/L	UJ	0.37	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Trichloroethene	4.3	ug/L	J	0.31	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Trichlorofluoromethane	1	ug/L	UJ	0.41	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Vinyl Acetate	1	ug/L	UJ	2.1	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Vinyl Chloride	1	ug/L	UJ	0.35	1
BN-9-MW227	AI03942	EPA 8260B	4/26/2006	1	Xylenes (total)	1	ug/L	UJ	0.52	1
BN-9-MW227	AI03942	EPA 9010	4/26/2006	1	Total Cyanide-GW	0.01	mg/L	U		0.01
BN-9-MW227	AI03942	MEDEP 4.1.25	4/26/2006	1	Diesel Range Organics	22	ug/L	U	4.2	50
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	1,1,1-Trichloroethane	1	ug/L	UJ	0.34	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	1,1,2,2-Tetrachloroethane	1	ug/L	R	0.37	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	1,1,2-Trichloroethane	1	ug/L	UJ	0.39	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	1,1-Dichloroethane	1	ug/L	UJ	0.45	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	1,1-Dichloroethene	1	ug/L	UJ	0.45	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	1,2-Dichlorobenzene	1	ug/L	UJ	0.34	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	1,2-Dichloroethane	1	ug/L	UJ	0.28	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	1,2-Dichloroethene (total)	1	ug/L	UJ	0.26	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	1,2-Dichloropropane	1	ug/L	UJ	0.3	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	1,3-Dichlorobenzene	1	ug/L	UJ	0.17	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	1,4-Dichlorobenzene	1	ug/L	UJ	0.23	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	2-Butanone	5	ug/L	UJ	0.79	5
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	2-Chloroethylvinylether	1	ug/L	UJ		1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	2-Hexanone	5	ug/L	UJ	0.53	5
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	4-Methyl-2-pentanone	5	ug/L	UJ	0.48	5
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Acetone	5	ug/L	UJ	0.59	5
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Benzene	1	ug/L	UJ	0.37	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Bromodichloromethane	1	ug/L	UJ	0.3	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Bromoform	1	ug/L	UJ	0.37	1

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Bromomethane	1	ug/L	UJ	0.38	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Carbon Disulfide	1	ug/L	UJ	0.33	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Carbon Tetrachloride	1	ug/L	UJ	0.39	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Chlorobenzene	1	ug/L	UJ	0.28	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Chloroethane	1	ug/L	UJ	0.39	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Chloroform	1	ug/L	UJ	0.36	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Chloromethane	1	ug/L	UJ	0.32	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	cis-1,3-Dichloropropene	1	ug/L	UJ	0.39	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Dibromochloromethane	1	ug/L	UJ	0.37	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Ethylbenzene	1	ug/L	UJ	0.29	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Methylene Chloride	1	ug/L	UJ	0.51	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Styrene	1	ug/L	UJ	0.26	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Tetrachloroethene	1	ug/L	UJ	0.36	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Tetrahydrofuran	1	ug/L	UJ	1.32	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Toluene	1	ug/L	UJ	0.37	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	trans-1,3-Dichloropropene	1	ug/L	UJ	0.37	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Trichloroethene	1	ug/L	UJ	0.31	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Trichlorofluoromethane	92	ug/L	J	0.41	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Vinyl Acetate	1	ug/L	UJ	2.1	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Vinyl Chloride	1	ug/L	UJ	0.35	1
BN-9-MW075	AI03943	EPA 8260B	4/26/2006	1	Xylenes (total)	1	ug/L	UJ	0.52	1
BN-9-MW075	AI03943	EPA 9010	4/26/2006	1	Total Cyanide-GW	0.01	mg/L	U		0.01
BN-9-MW075	AI03943	MEDEP 4.1.25	4/26/2006	1	Diesel Range Organics	72	ug/L		4.2	50
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Aluminum Total	0.2	mg/L	UJ	0.002	0.2
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Arsenic Total	0.01	mg/L	U	0.0018	0.01
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Barium Total	0.2	mg/L	U	0.0068	0.2
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Beryllium Total	0.005	mg/L	U	0.0012	0.005
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Cadmium Total	0.005	mg/L	U	0.0018	0.005
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Calcium Total	5	mg/L		0.123	5
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Chromium Total	0.01	mg/L	U	0.0043	0.01
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Cobalt Total	0.05	mg/L	U	0.0261	0.05
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Copper Total	0.025	mg/L	U	0.0018	0.025

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Iron Total	0.18	mg/L	J	0.006	0.1
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Lead Total	0.003	mg/L	U	0.0017	0.003
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Magnesium Total	5	mg/L	U	0.5872	5
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Manganese Total	0.32	mg/L		0.0053	0.015
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Nickel Total	0.04	mg/L	U	0.003	0.04
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Potassium Total	5	mg/L	U	0.3041	5
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Silver Total	0.01	mg/L	U	0.0126	0.01
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Sodium Total	49	mg/L		0.401	5
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Vanadium Total	0.05	mg/L	U	0.0293	0.05
BN-9-MW069	AI03944	EPA 6010B	4/26/2006	1	Zinc Total	0.03	mg/L	U	0.0034	0.02
BN-9-MW069	AI03944	EPA 7041	4/26/2006	1	Antimony, Furnace-GW	0.006	mg/L	U	0.0009305	0.006
BN-9-MW069	AI03944	EPA 7470A	4/26/2006	1	Mercury by Cold Vapor GW	2E-04	mg/L	U	0.0000002	0.0002
BN-9-MW069	AI03944	EPA 7740	4/26/2006	1	Selenium Furnace GW	0.005	mg/L	U	0.0013299	0.005
BN-9-MW069	AI03944	EPA 7841	4/26/2006	1	Thallium, Furnace, Groundwater	0.002	mg/L	U	0.0004041	0.002
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	1,1,1-Trichloroethane	1	ug/L	UJ	0.34	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	1,1,2,2-Tetrachloroethane	1	ug/L	R	0.37	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	1,1,2-Trichloroethane	1	ug/L	UJ	0.39	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	1,1-Dichloroethane	1	ug/L	UJ	0.45	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	1,1-Dichloroethene	1	ug/L	UJ	0.45	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	1,2-Dichlorobenzene	1	ug/L	UJ	0.34	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	1,2-Dichloroethane	1	ug/L	UJ	0.28	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	1,2-Dichloroethene (total)	5.6	ug/L	J	0.26	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	1,2-Dichloropropane	1	ug/L	UJ	0.3	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	1,3-Dichlorobenzene	1	ug/L	UJ	0.17	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	1,4-Dichlorobenzene	1	ug/L	UJ	0.23	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	2-Butanone	5	ug/L	UJ	0.79	5
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	2-Chloroethylvinylether	1	ug/L	UJ		1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	2-Hexanone	5	ug/L	UJ	0.53	5
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	4-Methyl-2-pentanone	5	ug/L	UJ	0.48	5
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Acetone	5	ug/L	UJ	0.59	5
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Benzene	1	ug/L	UJ	0.37	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Bromodichloromethane	1	ug/L	UJ	0.3	1

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Bromoform	1	ug/L	UJ	0.37	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Bromomethane	1	ug/L	UJ	0.38	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Carbon Disulfide	1	ug/L	UJ	0.33	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Carbon Tetrachloride	1	ug/L	UJ	0.39	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Chlorobenzene	1	ug/L	UJ	0.28	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Chloroethane	0.87	ug/L	J	0.39	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Chloroform	1	ug/L	UJ	0.36	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Chloromethane	1	ug/L	UJ	0.32	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	cis-1,3-Dichloropropene	1	ug/L	UJ	0.39	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Dibromochloromethane	1	ug/L	UJ	0.37	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Ethylbenzene	1	ug/L	UJ	0.29	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Methylene Chloride	1	ug/L	UJ	0.51	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Styrene	1	ug/L	UJ	0.26	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Tetrachloroethene	1	ug/L	UJ	0.36	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Tetrahydrofuran	1	ug/L	UJ	1.32	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Toluene	1	ug/L	UJ	0.37	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	trans-1,3-Dichloropropene	1	ug/L	UJ	0.37	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Trichloroethene	1	ug/L	UJ	0.31	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Trichlorofluoromethane	1	ug/L	UJ	0.41	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Vinyl Acetate	1	ug/L	UJ	2.1	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Vinyl Chloride	9.8	ug/L	J	0.35	1
BN-9-MW069	AI03944	EPA 8260B	4/26/2006	1	Xylenes (total)	1	ug/L	UJ	0.52	1
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	1,2,4-Trichlorobenzene	10	ug/L	U	1.2	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	1,2-Dichlorobenzene	10	ug/L	U	1.06	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	1,3-Dichlorobenzene	10	ug/L	U	1.02	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	1,4-Dichlorobenzene	10	ug/L	U	1.24	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	2,4,6-Trichlorophenol	10	ug/L	U	4	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	2,4-Dichlorophenol	10	ug/L	U	2.31	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	2,4-Dimethyl phenol	10	ug/L	U	1.53	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	2,4-Dinitrophenol	52	ug/L	U	1.47	50
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	2,4-Dinitrotoluene	10	ug/L	U	2.14	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	2,6-Dinitrotoluene	10	ug/L	U	2.68	10

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	2-Chloronaphthalene	10	ug/L	U	1.43	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	2-Chlorophenol	10	ug/L	U	1.39	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	2-Methylnaphthalene	10	ug/L	U	0.53	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	2-Methylphenol (o-cresol)	10	ug/L	U	1.25	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	2-Nitroaniline	10	ug/L	U	2.76	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	2-Nitrophenol	10	ug/L	U	1.86	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	3&4-Methylphenol (m&p-cresol)	10	ug/L	U	1.16	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	3,3-Dichlorobenzidine	21	ug/L	U	0.68	20
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	3-Nitroaniline	52	ug/L	U	2.01	50
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	4,6-Dinitro-2-methylphenol	52	ug/L	U	2.33	50
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	4-Bromophenylphenylether	10	ug/L	U	2.2	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	4-Chloro-3-methylphenol	21	ug/L	U	2.27	20
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	4-Chloroaniline	10	ug/L	U	0.83	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	4-Chlorophenylphenylether	10	ug/L	U	2.06	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	4-Nitroaniline	52	ug/L	U	2.63	50
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	4-Nitrophenol	52	ug/L	U	2.35	50
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Acenaphthene	10	ug/L	U	0.64	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Acenaphthylene	10	ug/L	U	0.42	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Aniline	10	ug/L	U	1.37	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Anthracene	10	ug/L	U	0.42	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Azobenzene	52	ug/L	U	1.83	50
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Benzidine	21	ug/L	U	1.58	20
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Benzo(a)anthracene	10	ug/L	U	0	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Benzo(a)pyrene	10	ug/L	U	2.04	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Benzo(b)fluoranthene	10	ug/L	U	1.98	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Benzo(g,h,i)perylene	10	ug/L	U	0.44	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Benzo(k)fluoranthene	10	ug/L	U	1.1	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Benzoic acid	10	ug/L	U	1.04	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Benzyl alcohol	10	ug/L	U	1.55	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Benzylbutylphthalate	10	ug/L	U	2.25	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Bis (2-ethylhexyl)phthalate	10	ug/L	U	0.96	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Bis(2-chloroethoxy) methane	10	ug/L	U	0.27	10

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Bis(2-chloroethyl) ether	10	ug/L	U	0.32	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Bis(2-chloroisopropyl) ether	10	ug/L	U	0.63	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Carbazole	10	ug/L	U	0.94	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Chrysene	10	ug/L	U	0.43	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Dibenz(a,h)anthracene	10	ug/L	U	0.56	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Dibenzofuran	10	ug/L	U	0.4	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Diethylphthalate	10	ug/L	U	1.13	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Dimethylphthalate	10	ug/L	U	0.58	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Di-n-butylphthalate	10	ug/L	U	2.39	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Di-n-octylphthalate	10	ug/L	U	2.91	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Fluoranthene	10	ug/L	U	1.46	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Fluorene	10	ug/L	U	1.06	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Hexachlorobenzene	10	ug/L	U	2.7	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Hexachlorobutadiene	10	ug/L	U	1.15	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Hexachlorocyclopentadiene	10	ug/L	U	1.55	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Hexachloroethane	10	ug/L	U	1.37	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Indeno(1,2,3-cd)pyrene	10	ug/L	U	1.87	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Isophorone	10	ug/L	U	1.47	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Naphthalene	10	ug/L	U	0.76	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Nitrobenzene	10	ug/L	U	1.9	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	N-Nitrosodimethylamine	10	ug/L	U	2.41	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	N-Nitrosodi-n-propyl amine	10	ug/L	U	0.89	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	N-Nitrosodiphenylamine	10	ug/L	U	1.44	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Pentachlorophenol	52	ug/L	U	3.69	50
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Phenanthrene	10	ug/L	U	0.4	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Phenol	10	ug/L	U	1.33	10
BN-9-MW069	AI03944	EPA 8270C	4/26/2006	1	Pyrene	10	ug/L	U	1.42	10
BN-9-MW069	AI03944	EPA 9010	4/26/2006	1	Total Cyanide-GW	0.01	mg/L	U		0.01
BN-9-MW069	AI03944	MEDEP 4.1.25	4/26/2006	1	Diesel Range Organics	20	ug/L	U	4.2	50
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Aluminum Total	0.21	mg/L	J	0.002	0.2
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Arsenic Total	0.01	mg/L	U	0.0018	0.01
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Barium Total	0.2	mg/L	U	0.0068	0.2

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Beryllium Total	0.005	mg/L	U	0.0012	0.005
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Cadmium Total	0.005	mg/L	U	0.0018	0.005
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Calcium Total	5.1	mg/L		0.123	5
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Chromium Total	0.01	mg/L	U	0.0043	0.01
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Cobalt Total	0.05	mg/L	U	0.0261	0.05
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Copper Total	0.025	mg/L	U	0.0018	0.025
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Iron Total	0.38	mg/L	J	0.006	0.1
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Lead Total	0.003	mg/L	U	0.0017	0.003
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Magnesium Total	5	mg/L	U	0.5872	5
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Manganese Total	0.32	mg/L		0.0053	0.015
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Nickel Total	0.04	mg/L	U	0.003	0.04
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Potassium Total	5	mg/L	U	0.3041	5
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Silver Total	0.01	mg/L	U	0.0126	0.01
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Sodium Total	49	mg/L		0.401	5
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Vanadium Total	0.05	mg/L	U	0.0293	0.05
BN-9-MWXD1	AI03945	EPA 6010B	4/26/2006	1	Zinc Total	0.02	mg/L	U	0.0034	0.02
BN-9-MWXD1	AI03945	EPA 7041	4/26/2006	1	Antimony, Furnace-GW	0.006	mg/L	U	0.0009305	0.006
BN-9-MWXD1	AI03945	EPA 7470A	4/26/2006	1	Mercury by Cold Vapor GW	2E-04	mg/L	U	0.0000002	0.0002
BN-9-MWXD1	AI03945	EPA 7740	4/26/2006	1	Selenium Furnace GW	0.005	mg/L	U	0.0013299	0.005
BN-9-MWXD1	AI03945	EPA 7841	4/26/2006	1	Thallium, Furnace, Groundwater	0.002	mg/L	U	0.0004041	0.002
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	1,1,1-Trichloroethane	1	ug/L	UJ	0.34	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	1,1,2,2-Tetrachloroethane	1	ug/L	R	0.37	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	1,1,2-Trichloroethane	1	ug/L	UJ	0.39	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	1,1-Dichloroethane	1	ug/L	UJ	0.45	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	1,1-Dichloroethene	1	ug/L	UJ	0.45	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	1,2-Dichlorobenzene	1	ug/L	UJ	0.34	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	1,2-Dichloroethane	1	ug/L	UJ	0.28	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	1,2-Dichloroethene (total)	6.4	ug/L	J	0.26	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	1,2-Dichloropropane	1	ug/L	UJ	0.3	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	1,3-Dichlorobenzene	1	ug/L	UJ	0.17	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	1,4-Dichlorobenzene	1	ug/L	UJ	0.23	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	2-Butanone	5	ug/L	UJ	0.79	5

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	2-Chloroethylvinylether	1	ug/L	UJ		1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	2-Hexanone	5	ug/L	UJ	0.53	5
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	4-Methyl-2-pentanone	5	ug/L	UJ	0.48	5
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Acetone	5	ug/L	UJ	0.59	5
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Benzene	1	ug/L	UJ	0.37	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Bromodichloromethane	1	ug/L	UJ	0.3	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Bromoform	1	ug/L	UJ	0.37	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Bromomethane	1	ug/L	UJ	0.38	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Carbon Disulfide	1	ug/L	UJ	0.33	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Carbon Tetrachloride	1	ug/L	UJ	0.39	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Chlorobenzene	1	ug/L	UJ	0.28	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Chloroethane	0.92	ug/L	J	0.39	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Chloroform	1	ug/L	UJ	0.36	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Chloromethane	1	ug/L	UJ	0.32	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	cis-1,3-Dichloropropene	1	ug/L	UJ	0.39	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Dibromochloromethane	1	ug/L	UJ	0.37	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Ethylbenzene	1	ug/L	UJ	0.29	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Methylene Chloride	0.5	ug/L	UJ	0.51	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Styrene	1	ug/L	UJ	0.26	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Tetrachloroethene	1	ug/L	UJ	0.36	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Tetrahydrofuran	1	ug/L	UJ	1.32	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Toluene	1	ug/L	UJ	0.37	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	trans-1,3-Dichloropropene	1	ug/L	UJ	0.37	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Trichloroethene	1	ug/L	UJ	0.31	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Trichlorofluoromethane	1	ug/L	UJ	0.41	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Vinyl Acetate	1	ug/L	UJ	2.1	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Vinyl Chloride	12	ug/L	J	0.35	1
BN-9-MWXD1	AI03945	EPA 8260B	4/26/2006	1	Xylenes (total)	1	ug/L	UJ	0.52	1
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	1,2,4-Trichlorobenzene	11	ug/L	U	1.2	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	1,2-Dichlorobenzene	11	ug/L	U	1.06	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	1,3-Dichlorobenzene	11	ug/L	U	1.02	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	1,4-Dichlorobenzene	11	ug/L	U	1.24	10

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	2,4,6-Trichlorophenol	11	ug/L	U	4	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	2,4-Dichlorophenol	11	ug/L	U	2.31	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	2,4-Dimethyl phenol	11	ug/L	U	1.53	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	2,4-Dinitrophenol	53	ug/L	U	1.47	50
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	2,4-Dinitrotoluene	11	ug/L	U	2.14	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	2,6-Dinitrotoluene	11	ug/L	U	2.68	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	2-Chloronaphthalene	11	ug/L	U	1.43	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	2-Chlorophenol	11	ug/L	U	1.39	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	2-Methylnaphthalene	11	ug/L	U	0.53	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	2-Methylphenol (o-cresol)	11	ug/L	U	1.25	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	2-Nitroaniline	11	ug/L	U	2.76	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	2-Nitrophenol	11	ug/L	U	1.86	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	3&4-Methylphenol (m&p-cresol)	11	ug/L	U	1.16	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	3,3-Dichlorobenzidine	21	ug/L	U	0.68	20
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	3-Nitroaniline	53	ug/L	U	2.01	50
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	4,6-Dinitro-2-methylphenol	53	ug/L	U	2.33	50
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	4-Bromophenylphenylether	11	ug/L	U	2.2	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	4-Chloro-3-methylphenol	21	ug/L	U	2.27	20
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	4-Chloroaniline	11	ug/L	U	0.83	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	4-Chlorophenylphenylether	11	ug/L	U	2.06	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	4-Nitroaniline	53	ug/L	U	2.63	50
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	4-Nitrophenol	53	ug/L	U	2.35	50
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Acenaphthene	11	ug/L	U	0.64	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Acenaphthylene	11	ug/L	U	0.42	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Aniline	11	ug/L	U	1.37	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Anthracene	11	ug/L	U	0.42	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Azobenzene	53	ug/L	U	1.83	50
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Benzidine	21	ug/L	U	1.58	20
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Benzo(a)anthracene	11	ug/L	U	0	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Benzo(a)pyrene	11	ug/L	U	2.04	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Benzo(b)fluoranthene	11	ug/L	U	1.98	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Benzo(g,h,i)perylene	11	ug/L	U	0.44	10

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Benzo(k)fluoranthene	11	ug/L	U	1.1	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Benzoic acid	11	ug/L	U	1.04	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Benzyl alcohol	11	ug/L	U	1.55	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Benzylbutylphthalate	11	ug/L	U	2.25	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Bis (2-ethylhexyl)phthalate	11	ug/L	U	0.96	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Bis(2-chloroethoxy) methane	11	ug/L	U	0.27	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Bis(2-chloroethyl) ether	11	ug/L	U	0.32	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Bis(2-chloroisopropyl) ether	11	ug/L	U	0.63	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Carbazole	11	ug/L	U	0.94	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Chrysene	11	ug/L	U	0.43	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Dibenz(a,h)anthracene	11	ug/L	U	0.56	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Dibenzofuran	11	ug/L	U	0.4	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Diethylphthalate	11	ug/L	U	1.13	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Dimethylphthalate	11	ug/L	U	0.58	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Di-n-butylphthalate	11	ug/L	U	2.39	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Di-n-octylphthalate	11	ug/L	U	2.91	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Fluoranthene	11	ug/L	U	1.46	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Fluorene	11	ug/L	U	1.06	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Hexachlorobenzene	11	ug/L	U	2.7	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Hexachlorobutadiene	11	ug/L	U	1.15	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Hexachlorocyclopentadiene	11	ug/L	U	1.55	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Hexachloroethane	11	ug/L	U	1.37	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Indeno(1,2,3-cd)pyrene	11	ug/L	U	1.87	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Isophorone	11	ug/L	U	1.47	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Naphthalene	11	ug/L	U	0.76	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Nitrobenzene	11	ug/L	U	1.9	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	N-Nitrosodimethylamine	11	ug/L	U	2.41	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	N-Nitrosodi-n-propyl amine	11	ug/L	U	0.89	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	N-Nitrosodiphenylamine	11	ug/L	U	1.44	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Pentachlorophenol	53	ug/L	U	3.69	50
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Phenanthrene	11	ug/L	U	0.4	10
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Phenol	11	ug/L	U	1.33	10

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
BN-9-MWXD1	AI03945	EPA 8270C	4/26/2006	1	Pyrene	11	ug/L	U	1.42	10
BN-9-MWXD1	AI03945	MEDEP 4.1.25	4/26/2006	1	Diesel Range Organics	20	ug/L	U	4.2	50

FIELD DUPLICATE WORKSHEET
SDG: BNASSITE90

Field Sample Id	Analyte	Analytical Method	Result	Units	Qualifier	Field Duplicate Id	Result	Units	Qaulifier	FD RPD (%)
BN-9-MW069	Aluminum Total	EPA 6010B	0.2	mg/L	UJ	BN-9-MWXD1	0.21	mg/L	J	NC
BN-9-MW069	Calcium Total	EPA 6010B	5	mg/L		BN-9-MWXD1	5.1	mg/L		2
BN-9-MW069	Iron Total	EPA 6010B	0.18	mg/L		BN-9-MWXD1	0.38	mg/L		71.4
BN-9-MW069	Manganese Total	EPA 6010B	0.32	mg/L		BN-9-MWXD1	0.32	mg/L		0
BN-9-MW069	Sodium Total	EPA 6010B	49	mg/L		BN-9-MWXD1	49	mg/L		0
BN-9-MW069	1,2-Dichloroethene (total)	EPA 8260B	5.6	ug/L		BN-9-MWXD1	6.4	ug/L		13.3
BN-9-MW069	Chloroethane	EPA 8260B	0.87	ug/L		BN-9-MWXD1	0.92	ug/L		5.6
BN-9-MW069	Vinyl Chloride	EPA 8260B	9.8	ug/L		BN-9-MWXD1	12	ug/L		20.2

ECC Region I Data Review Worksheet (rv 3) **VOCs 5030B/5035/8260B**
Project: NAS Brunswick Site 9 ECC Job No. 5700 **Review Criteria: Site 09 QAPP & USEPA Region I Tier II Guidance**

Data Validation Level	Matrix	Preservation	Temp Sample Receipt	Laboratory	SDG Number
Tier II	**Aqueous**	**HCl,**	**2-coolers Temp (^oC): <6C C**	**Northeast Lab, Winslow, ME**	**BNASSITE90**

Field Identification and Laboratory Number of Samples Evaluated:

Field ID	Lab Sample Number
BN-9-MW227	AI03942
BN-9-MW075	AI03943
BN-9-MW069	AI03944
BN-9-MWXD1	AI03945 field duplicate to AI03944

Note: Samples are described below in the data worksheets by reference to the last three digits of the Lab Sample Number.

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inventory	QUAL	BIAS
COC	1)Unbroken custody (accept or if broken R) 2) Temp≤6° (Soil-J detects, R -nondetects 3) preserved per method (amber bottles, temperature, HCl (aq), MeOH/NAHSO4 (soils) (J, UJ, or R (function of HT and compound)	Cooler temperatures <6C. Sample preservation adequate. Sample custody transferred from Field Team Leader to lab sample courier. Unbroken Chain of Custody. No samples qualified.	X	.	
Holding Time	1) 14 Days to analysis, if preserved 2) J –detects, UJ or R –nondetects (function of time) 3) *transcription errors	All samples analyzed within holding time. No samples qualified.	X	-	
% Solids Check (SOLIDS)	30%<Solids: if no sample weight adjustment made. 1) <10% R entire sample 2) 10%.> and <30%; J-detects, NDs -R	NA	X	-	
Trip Blank	1) < 5x (<10x common) contaminants for aq samples- 2) TGT analytes <Lab QL (contact lab) -for soils indicate cross matrix TB (X rules apply to raw data) 4) MeCl & Acetone < 5 5) >RL report sample level U 6) <RL report PQL as U	Trip blank collect in different SDG.	X	-	
Equip Blank	1) < 5x (<10x common) contaminants for aq samples- 2) TGT analytes <Lab QL (contact lab) -for soils indicate TB (X rules don't apply) 3) MeCl & Acetone < 5 *Check IS area (10% of them) * recalculate surrogate (%R – 10 % of them)	Not collected/analyzed with this SDG.	-	-	
Results > Cal Range or <Cal Range	1) >Upper Cal Range J-detects - ensure instrument blank performed 2) <PQL but >MDL – J –detects (estimated) listed on data summary sheet.	Attached data summary table. Analytes with results >MDL but <PQL/RL Results greater than the upper quantitation limit are qualified J.	X	J for all samples with estimated results <MRL but >MDL.	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
*TICs (if reported)	1) *verify library search for samples and blanks 2) verify TICs were not misreported compounds (different fraction or miss in search) 3) All TICs – J estimated 4) * verify blanks do not contain TIC peaks 5) * check TIC assignment spectra to STD spectra 6) *review blank and Samples for common lab contaminants	None Reported/not evaluated	-	-	
Surrogates	1,2-Dichloroethane-d4 65-135% Dibromofluoromethane 75-129% Toluene-d8 82%-120% 4-BFB 69%-125% *check raw data for surrogated (recalculate 10% of them). *Transcription errors Qualification: >UCL J –detects, %R<10% J –detects, R –Nods, %R >10% but <70% J-detects, UJ NDs	The laboratory states that 1,2-Dichloroethane-d4 recoveries are outside the QAPP limits however QAPP limits for this surrogate are 65-135% and therefore all recoveries for this surrogate are within limits. No sample qualifications.	X	-	
Lab Blanks (method blanks)	1) < 5x (<10x common) contaminants for aq samples- 2) <10X common contaminants 3) TGT analytes <Lab QL 4) if linear range is exceeded, verify if a instrument blank was performed 5) *verify accurate transcription of times, Ids, are reported on forms 6) *verify from the raw data if the instrument blank was performed in the same vessel 7) *verify IS, RRT, and surrogate %R 8) *check 10% of raw chromatograms for false +/-, check for transcription errors	Method blank results based upon dates. MB level is followed by the 5X or 10 Qualification criteria 5/9/06; MeCl 1.42, <3.0 1,1,2,2-tetrachloroethane 0.94 < 1 5/10/06; MeCl 1.63, <3.0 1,1,2,2-tetrachloroethane 0.99 < 1 1,1,2,2-Tetrachloroethane was non-detect for all samples; no samples qualified.	X	MeCl qualified U in sample 945.	
LCS Recovery	1) Attachment A-2 of LTMP 2) All VOCs 60-140% 3) 10% and <LCL% J detects, UJ –Nods 4) >UCL% J detects <10% R NDs, J-detects 7) *Recalculate the concentrations for one compound in the LCS 8) * Recalucate the %R (within 10% of lab) Note: Tier guidance as a zero blind	All LCS %R's are within MPC, except for the following: 5/9/06; chloroethane %R>UCL; acetone %R>UCL 5/10/06 ; chloroethane %R>UCL; acetone %R>UCL	X	Chloroethane detect qualified J in sample 945. Acetone detect qualified J in sample 942.	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
LCS/LCSD RPD	1) Not a QAPP required QC sample. 2) LCS/LCSD RPD>20% 3) Use LCS/LCSD RPD to evaluate analytical precision in conjuction with the MS/MSD. 4) If MS/MSD not analyzed, then use LCS/LCSD to qualify precision.	All LCS %R's are within MPC, except for the following: 5/9/06; bromomethane and 1,1-dichloroethane RPD >20% All of these compounds were non-detect in all samples. No samples qualified.		-	
MS/MSD Recovery	5) Attachment A-2 of LTMP 6) 60-140% for all VOCs (if MS > 4X native levels) Qualification of MS sample: <10% J detects, R NDs >10% and <LCL% J detects, UJ -NDs >UCL% J detects 3) *Recalculate the concentrations for one compound in the MS/MSD 5) * Recalucate the %R (within 10% of lab)	Field samples used for MS/MSD: Native sample: 944 944: MS/MSD was out for all compounds except for chloroemathane, vinyl chloride, and acetone. All of these VOCs were non-detect except for total 1.2-dichloroethene, chloroethane, and vinyl chloride.	X	Qualify total 1.2-dichloroethene and chloroethane, detects J in sample 944.	
*MS/MSD/unspike sample RSD	1)For unspiked compounds if reported, Non- MS spike compounds <50% RSD calculated from MS/MSD/Unspiked Qualification: >50% RSD J-detects 2)*recalculate the RPD (within 10% of lab)	NA	-	-	
MS/MSD RPD	RPD ≤20% (aq/S) (when MS >QL) J – detects in MS sample UJ-non detects * recalculate RPD	Field samples used for MS/MSD RPD: 944 All MS/MSD RPDs were greater than the UCL. All of these VOCs were non-detect except for total 1.2-dichloroethene, chloroethane, and vinyl chloride. Total 1.2-dichloroethene and chloroethane results were qualified J due to high MS/MSD recoveries.	X	Vinyl chloride qualified J in sample 944. All compounds, except for total 1.2-dichloroethene, chloroethane, and vinyl chloride, qualified UJ in sample 944.	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
Field Dup RPD	1) RPD ≤ 30% aq. ≤ 50 soil for Results > PQL (FD pair only) J-detects (both > PQL) 2) Note: FD RPD not specified in QAPP. 30% will be used as the MPC, to be consistent with other NASB QAPPs. 3) If one >PQL, other ND, J-detections, UJ non-detect 4) Other conditions use judgement 5) Determine RPD for detects only. 6) *Recalculate the concentrations for one compound and the PQL	Field samples and field duplicates collected/analyzed with this SDG: Matrix Field Sample Field Duplicate MW 944 945 All FD RPDs are within MPC; no sample qualified. Overall sampling and analysis precision is acceptable for all matrices samples. See field duplicate worksheet for RPDs.	X	-	
*MDL Study	1) *In accordance with 40CFR – seven replicates %RSD < 20% 2) * IS and retention times within method requirements 6) * performed annually 7) *MDL is at least ½ of PQL 8) *tgt and surrogate 80-120% R 9) *VOA/SV-X11 (recalcuate %RSD and %R for three compounds (10% of them).	NA	-	-	
Internal Stds	1) IS are –50% to 200% of last Ical, or CCV 3) RRT<0.06 (30 sec) 4) IS>100% J-detects 5) IS<20%CCV NDs – R 6) IS>20%CCV <50%CCV NDs – UJ 7) *check for IS transcription errors 8) FBZ = fluroobenzene 9) CBZ = chlorobenzene-d5 10) DCB = 1,4 dichlorobenzene-d4	All IS %R's are within MPC. No samples qualified.	X	-	
Sensitivity	1) MDL study – 7 replicates (40 CFR) 2) Surrogates %in control limits. 7) %R <10 ND- (R) , J- detects 8) 10%> but <LCL% , judgement 9) %R>UCL% J-detects 7) QC, IS, RRT meet criteria, 8) %RSD < 20% 9) MDL< MQL (3x less ideal) 10) Lab fortitied blank (see VOA/SV Part II –section X). 11) *Check and recalculate %RSDs and %R for three compounds (with 10% of lab) 12) <u>Dilution factors for samples – impacts to sensitivity</u>	No samples required dilutions. Laboratory MRL is less than PAL.	X	-	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
*Compound Quantitation (completed as part of other steps)	1) Check sensitivy (MDL< 1/3 PQL) 2) *Recalculate one detection and quantitation limit 3) *verify concentrations have been adjusted to account for DW, DF, 4) *verifiy correct IS and RRF were used	NA	-	-	
*System Performance	1)* evaluate PES, MS//MSD, cal STDs, MDS study, and surrogates for systemic bias – high or low and access system accuracy 9) *Matrix effects- MS/MSD, surrogated, PDS. 10) *System chromatography- evaluate RRTs, peaks shapes, system impacts on data, baseline shifts. 11) *overall system contamination-review all blanks for systemic or sporadic contamination	NA	-	-	
*TGT Compound Identification	1) *Within 0.06 (30 sec) of CCV RRT 2) * compare sample Mass spectra to standard spectra; a) all ions in std spectra (with 10% rel intensity) presnent in sample spectra. B) sample ion abundance within 20% of standard spectra. 3) *chromatogram: all peaks greater than 10% of nearest IS identified.	NA	-	-	
Single Blind PE	1) Qualify associated samples in PES batch PES = ND, Detects J – ND PE analytes in samples, NDs – R 12) PES > acceptance criteria – Detects in samples J, 13) PES<acceptance criteria – Detects J, NDs –R 14) VOA/SV-XI14 other criteria 15) *% of PES sample above and below criteria 16) *Recalculate concentrations for one tgt compound per PES (10% of lab)	NA	-	-	
Tune check	1) ion abundance with method limits 2) *check for co-elution /proper background subtraction 3) *compare reported data to raw data	All tunes passed method criteria. No samples qualified.	X	-	
Initial Cal Multipoint (instrument evaluation)	1) correct calibration stds 2) within 12 hours of the tune check 3) CCCs %RSD: <30% (1,1 DCA, chloroform, 1,2dichloropropane, Toluene, EB, VC (J –detects, R or UJ NDs all samples associated with Ical) 4) SPCCs Average RRF: SPCCs Chloromethane >0.10, 1,1 DCA>0.10, bromoform >0.10, chlorobenzene>0.3, 1122TCA>0.3 (J –detects, R NDs) 5) RRF>0.05 all compounds 6) RRT < 0.06 units (all stds within 30 sec)	Instrument GC/MS Savior 4/11/05 and 4/20/05 ICAls: CCC %RSD within limits. SPCC RF for 1,1,2,2 TCA<0.3. No corrective action on the part of the laboratory	X	All VOC detects qualified J and non-detects qualified UJ 1,1,2,2 TCA non-detects qualified as R	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
	7) %RSD<15% for all non-CCCs or COD>0.99 *8) RRF exclusions: surrogates, acetone, MeCL, chloroethane/methane, CS, 1,/22/03 2-butanone, 1,2 dichloropropane, 2-hexanone (IV-8)./* 9) *verify that instrument parameters met method and that Ical and analysis used the same parameters 10) *recalculate RRF one tgt compound associated with each IS. Recalculated values within 10% of lab values. 11) *recalculate one tgt compound associated with each IS. Recalculated values within 10% 12) *option-review preparation logs to ensure cal stds are traceable to NIST stds. 13) *option-recalculate cal std concentration of one std. Must agree within 10% of lab (option if information is in data package)				
Initial Cal (Linearity)	%RSD < 15% use average RF for calibration %RSD> 15% use least squares COD (r2) > 0.990 or correlation coefficient r> 0.995 Qualification for compounds with : %RSD>30% and RRF>0.05 – J detects, UJ - NDs %RSD<30% and RRF<0.05; -J detects, R - ND %RSD>30% and RRF<0.05: J detects, R - ND (see VOA/SVIII-4)	Instrument GC/MS Saviour; ICAL; 5/06/06; %RSD<15% for all compounds except for vinyl chloride, chloroethane, acetone, 2-chloroethylvinyl ether, methylene chloride, and 1,2-dichloroethane. Lab narrative states these are linear, and curves were provided for chloroethane, acetone, 2-chloroethylvinyl ether.	X	Vinyl chloride, methylene chloride, and 1,2-dichloroethane detects qualified J and non-detects qualified UJ	
2nd Source ICV	QC check nor criteria not specified in QAPP. %D<25% or %R (between ICV and Ical) analytes 80%--120% (+ or -) once per 5 pt cal used to evaluate data sets. Qualification: J detects, R or UJ NDs	Same as CCV. Please see the CCV section below.	X	-	
CCV	1) SPCCs Average RRF: SPCCs Chloromethane >0.10, 1,1 DCA>0.10, bromoform >0.10, chlorobenzene>0.3, 1122TCA>0.3 2) RRF all compounds > 0.05 *3)* CCC: (1,1 DCA, chloroform, 1,2dichloropropane, Toluene, EB, VC) %D<20% (or all analytes if no CCCs reported). 4) Qualification-J detects, R or UJ NDs 5) *verify same instrument and parameters 6) *Recalculate RRF for one tgt cmpd associated with each IS. (within 10%) 7) *Recalculate %D for one tgt cmpd associated with each IS (within 10%)	CCV by date: 5/09/06 chloroethane 5/10/06; chloroethane acetone 2-chloroethylvinyl ether SPCC RF for 1,1,2,2 TCA<0.3. Results already qualified R due to SPCC RF below MPC limits for initial calibration.	X	Chloroethane qualified UJ in samples 942 & 943.	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
	8) *IS RRT<0.06 units (30 sec) 9) * IS area -50 % to 100 % of last ICAL 10) *option-review preparation logs to ensure cal stds are traceable to NIST stds. 11) *option-recalculate cal std concentration of one std. Must agree within 10% of lab (option if information is in data package)				
Overall Evaluation of Data	1) Appropriate method 2) Evaluate any analytical problems 3) Evaluate sampling errors – field contamination, sample hold times	Analytical Error Evaluation: Laboratory precision and accuracy acceptable. No apparent sample bias for all matrices, except the MS/MSD %R's and RPD's were greater than the UCL for several compounds. LCS %R > UCL for chloroethane and acetone. MeCl qualified U in sample 945 due to method blank contamination. SPCC compound 1,1,2,2 TCA RF<0.3, 1,1,2,2 TCA non-detects rejected. Instrument not maintained (i.e proper purge flows) prior to analysis. All samples qualified on the basis of the SPCC excedence. All tunes within MPC. ICAL; within MPC except for Vinyl chloride, methylene chloride, and 1,2-dichloroethane. ICV: see CCV. CCV: Chloroethane %D>MPC. Sampling Error Evaluation: Trip blank collect in different SDG. Field samples and field duplicates collected/analyzed with this SDG: Matrix Field Sample Field Duplicate MW 944 945 All FD RPDs are within MPC; no sample qualified. Overall sampling and analysis precision is acceptable for all matrices samples. See field duplicate worksheet for RPDs.	X	-	

* Tier III review items only.
Completeness Check: Inventory Check Sheet_____X__. Sample Quantitation Calculations (TIER III only):

Lab Correspondence: None

ECC Region I Data Review Worksheet (rv 3) **SVOCs 3510C/8270C**
Project: NAS Brunswick Site 9 ECC Job No. 5700 **Review Criteria: Site 09 QAPP & USEPA Region I Tier II Guidance**

Data Validation Level	Matrix	Preservation	Temperature Sample Receipt	Laboratory	SDG Number
Tier II	**Aqueous**	**-**	**2-coolers Temp (^{o}C): <6C C**	**Northeast Lab, Winslow, ME**	**BNASSITE90**

Field Identification of Samples Evaluated:

Field ID	Lab Sample Number
BN-9-MW069	AI03944
BN-9-MWXD1	AI03945 field duplicate to AI03944

Note: Samples are described below in the data worksheets by reference to the last three digits of the Lab Sample Number.

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
COC	1)Unbroken custody (accept or if broken R) 2) Temp≤6° (Soil-J detects, R - nondetects 3) Preserved per method (amber bottles, temperature. J, UJ, or R (function of HT and compound)	Cooler temperatures <6C. Sample preservation adequate. Sample custody transferred from Field Team Leader to lab sample courier. Unbroken Chain of Custody. No samples qualified.	X	-	
Holding Time	1) 7 Days aqueous – 14 days soil (extract 40 days) 2) J –detects, UJ or R –nondetects (function of time)	All samples extracted and analyzed within applicable holding times. No samples qualified.	X		
% Solids Check (SOLIDS)	30%<Solids: if no sample weight adjustment made (no USACE) 1) <10% R entire sample 2) 10%.> and <30%; J-detects, NDs -R	NA	-	-	
Results > Cal Range or <Cal Range	1) >Upper Cal Range J-detects - ensure instrument blank performed 2) <PQL but >MDL – J –detects (estimated)	All SVOC results are non-detect. No samples qualified.	X	-	
TICs (if reported)	1) *verify library search for samples and blanks 2) verify TICs were not misreported compounds (different fraction or miss in search) 3) All TICs – J estimated 4) * verify blanks do not contain TIC peaks 5) * check TIC assignment spectra to STD spectra 6) *review blank and Samples for	None Reported	X	-	
Internal Stds	1) IS are –50% to 100% of CCV 1) RRT<0.06 (30 sec) 2) IS>100% J-detects 3) IS<20%CCV NDs – R 4) IS>20%CCV <50%CCV NDs – UJ 5) *check for IS transcription errors	Internal standards are within MPC. No samples qualified.	X	-	

ECC Region I Data Review Worksheet (rv 3) **SVOCs 3510C/8270C**
Project: NAS Brunswick Site 9 ECC Job No. 5700 **Review Criteria: Site 09 QAPP & USEPA Region I Tier II Guidance**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
Equip Blank	< 5x (<10x common) contaminants for aq samples – for soil indicate EB (X rules don't apply)	Not collected/analyzed with this SDG.	-	-	
Surrogates	Within QAPP limits Attachment A-2 (QAPP) 2-Fluorophenol 21-100% Phenol-D5 10-94% 2,4,6 tribromophenol 10-123% Nitrobenzene-D5 35-114% 2-Fluorobiphenyl 43-116% Terphenyl-D14 33-141% Qualification: >UCL J –detects, %R<10% J –detects, R –NDs, %R >10% but <39% J-detects, UJ NDs.	All surrogate %R's are within MPC. No samples qualified. Laboratory accuracy is acceptable.	X	-	
MS/MSD Recovery	1) Within QAPP limits in Attachment A-2. Phenol 38 – 91% 2-chlorophenol 42-94% 1,4-dichlorobenzne 28-90% n-nitroso-di-n-propylamine 53-115% 1,2,4 trichlorobenzene 33-94% 4-chloro-3-methylphenol 45-97% Acenaphthene 49-103% 4-nitrophenol 52-117% 2,4 dinitrotoluene 57-115% pentachlorophenol 38-119% pyrene 45-114% (if MS > 4X native levels) Qualification of MS sample: <10% J detects, R NDs >10% and <70% J detects, UJ -NDs	Native sample – Lab ID 944 MS/MSD %R's within MPC limits; no samples qualified.	X	-	
MS/MSD RPD	1) RPD MCP per QAPP Attachment A-2 Phenol 33% 2-chlorophenol 32% 1,4-dichlorobenzne 38% n-nitroso-di-n-propylamine 38% 1,2,4 trichlorobenzene 38% 4-chloro-3-methylphenol 32% Acenaphthene 33% 4-nitrophenol 40% 2,4 dinitrotoluene 35% pentachlorophenol 50% pyrene 43% COCs not specified in the QAPP evaluated using laboratory control limits. 2) Criteria: J –detects in MS sample UJ-non detects	Native sample; Lab ID 944. All SVOCs within MPC; no samples qualified.	X	-	

ECC Region I Data Review Worksheet (rv 3) **SVOCs 3510C/8270C**
Project: NAS Brunswick Site 9 ECC Job No. 5700 **Review Criteria: Site 09 QAPP & USEPA Region I Tier II Guidance**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
LCS Recovery	1) Within QAPP limits listed in Attachment A-2 Phenol 38 – 91% 2-chlorophenol 42-94% 1,4-dichlorobenzne 28-90% n-nitroso-di-n-propylamine 53-115% 1,2,4 trichlorobenzene 33-94% 4-chloro-3-methylphenol 45-97% Acenaphthene 49-103% 4-nitrophenol 52-117% 2,4 dinitrotoluene 57-115% pentachlorophenol 38-119% pyrene 45-114% 2) Compounds not listed in the QAPP but which are site COCs will be evaluated using laboratory historical limits.	All LCS %R's within limits; no samples qualified. LCS/LCSD RPD within limits; no samples qualified.	X	-	
Lab Blanks (method Blanks)	1) < 5x (<10x common) contaminants – U 2) analytes <lab PQL (contract lab) 3) no phthalates >5X QL (QAPP)	Associated method blank non-detect for all SVOCs. No samples qualified.	X	-	
Cleanup Performance Check (if performed)	%R< 10% NDs-R detections J %R>10% <LCL (80%GPC) –detections J, NDs UJ %R>UCL (120%) – detections J Retention Time shift <5%, symmetrical peakshape. GPC check with interferants. Good surrogate recovery, GPC blank check – no carryover.(VOA/SV-IX-I6). Sulfur and High MW compounds removed. Symetrical peaks for all compounds	NA	-	-	
Tune Check	Tune check within method parameters for DFTPP.	All tunes checks within limits.	X	-	
DDT degradation Instrument performance check	1) Breakdown <20% DDT 2) benzidine and pentachlorophenol at normal response - no peak trailing (<3.0 benz. , <5.0 penta.) Detections – J	Not analyzed	-	-	
Field Dup RPD	1) RPD ≤ 30% water; Criteria not provided in QAPP. Bldg 95 criteria used for consistency. Results > PQL (FD pair only) J-detects (both > PQL) 2) If one > PQL, other ND, J-detections, UJ non-detect 3) Other conditions use judgement	Field sample: 944 Field duplicate 945. All FD pair sample results were non-detect. As similar results were found (ND) in both the field sample and field duplicate, the overall precision is acceptable.	X	-	

ECC Region I Data Review Worksheet (rv 3) **SVOCs 3510C/8270C**
Project: NAS Brunswick Site 9 ECC Job No. 5700 **Review Criteria: Site 09 QAPP & USEPA Region I Tier II Guidance**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
Initial Cal (Linearity)	Correct calibration stds %RSD < 15% use average RF for calibration %RSD> 15% use least squares COD (r2) > 0.990 or correlation coefficient r> 0.995 or alternatively mean %RSD <15% for all target analytes, with no analyte %RSD>30% or %RSD<30% each target analyte 1) CCCs %RSD: <30% (acenatphthene, 1,4 dichlorobenzene, hexachlorobutadiene, diphenylamine, di-n-octyl phthalate, fluoranthene, benzo(a)pyrene, 4-chloro-3-methylphenol, 2,4, dichlorophenol, 2-nitrophenol, phenol, pentachlorophenol, 2,4,6 trichlorophenol) J –detects, R or UJ NDs all samples associated with Ical) 2) SPCCs Average RRF > 0.05: SPCCs n-nitroso-di-n-propylamine, hexachlorcyclopentdiene, 2,4 dinitrophenol, 4-nitrophenol. (J –detects, R NDs) 3) RRF>0.05 all target compounds RRT < 0.06 units (all stds within 30 sec) 4) *verify that instrument parameters	Instrument ID: HP5890M 2/13/06 All SVOCs have %RSD<15% or COD>0.99. Linearity acceptable. CCCs and SPCC's within MPC. No samples qualified.	X		-
2nd Source ICV	%D ≤ 25%, (+ or -) once per 5 pt cal Qualification: J detects, R or UJ NDs	Instrument ID: HP5890M Same as CCV. Please see the CCV section below.	X	-	

ECC Region I Data Review Worksheet (rv 3) **SVOCs 3510C/8270C**
Project: NAS Brunswick Site 9 ECC Job No. 5700 **Review Criteria: Site 09 QAPP & USEPA Region I Tier II Guidance**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
CCV	1) SPCCs Average minimum RRF >0.05: SPCCs n-nitroso-di-n-propylamine, hexachlorcyclopentdiene, 2,4 dinitrophenol, 4-nitrophenol. 2) RRF all compounds > 0.05 3) CCC [%D<20%]: (acenatphthene, 1,4 dichlorobenzene, hexachlorobutadiene, dipheynlamin, di-n-octyl phthalate, fluoranthene, benzo(a)pyrene, 4-chloro-3-methylphenol, 2,4, dichlorophenol, 2-nitrophenol, phenol, pentachlorophenol, 2,4,6 trichlorophenol) 4) %D<20%. Non- CCCs Qualification-J detects, R or UJ Nods 5) %D<25% all compounds (Tier I). 6) RRF exclusions: surrogates, 7) *verify same instrument and parameters 8) *Recalculate RRF for one tgt cmpd associated with each IS. (within 10%) 9) *Recalculate %D for one tgt cmpd associated with each IS (within 10%) 10) *IS RRT<0.06 units (30 sec) 11) * IS area -50 % to 100 % of last ICAL 12) *option-review preparation logs to ensure cal stds are traceable to NIST stds. 13) *option-recalculate cal std concentration of one std. Must agree within 10% of lab (option if information is in data package)	All CCV within MPC limits.	X	-	
Compound Quantitation	1) Check sensitivy with respect to QAPP MRLs and ARARs	Analytical sensitivity is acceptable	X	-	
Overall Evaluation of Data	1) Appropriate method 2) Evaluate any analytical problems 3) Evaluate sampling errors – field contamination, sample hold times	Analytical Error Evaluation: The laboratory precision and accuracy are acceptable for all compounds, as indicated by the LCS %R's and surrogates. MS/MSD recoveries and RPDs within limits. No apparent sample bias for other compounds. ICAL; Within MPC limits. CCV: Within MPC Limits. ICV: see CCV.	x	-	.

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
		Sampling Error Evaluation: Field sample 944 / Field duplicate 945. All FD pair sample results were non-detect. As similar results were found (ND) in both the field sample and field duplicate, the overall precision is acceptable.			

*Tier III criteria.

Completeness Check: Inventory Check Sheet_____X__ Sample Quantitation Calculations (TIER III ONLY):

LAB CORRESPONDENCE: None

DATA VALIDATION MEMORANDUM
NAS BRUNSWICK SITE 09
JUNE 2006 SAMPLING ROUND 28 (SDG BNASSITE9060906)

TO: ENGINEERING FACILITY COMMAND NORTHEAST

FROM: JACKSON KIKER, ECC SENIOR CHEMIST, MARLBOROUGH, MA

SUBJECT: NAS BRUNSWICK SITE 09 MONITORING EVENT 28

DATE: 4/23/2007

Project data were validated using the following Validation Functional Guidelines, as modified for non-CLP methods and project-specific QAPP measurement performance criteria (MPC):

1. Region I, EPA-NE Data Validation Functional Guidelines for Evaluation of Environmental Analyses (Dec, 1996),

2. National Functional Guidelines for Evaluation Inorganic Analysis (1988), and

3. National Functional Guidelines for Evaluation Organic Analysis (October 1999).

The data were assessed against the MPC listed in the approved Site 1& 3 and Eastern Plume LTMP QAPP (May 2000). The QAPP MPC and validation guideline exceedences are assessed and documented on the method/QAPP specific data validation worksheets. On these data validation worksheets the data quality acceptance criteria are presented, analytes requiring qualification based on MPC and/or validation guidance criteria exceedences are listed, assigned qualifiers, qualifying rationale is documented, and any potential bias noted. The overall evaluation of the data generated by a method is presented in the data validation worksheet.

Standard EPA Region I data qualifiers are used to denote the assessment of data quality. The final and ranking assigned data qualifier for an analyte is presented in the data summary table. Ancillary qualifiers are noted on the data validation worksheets.

The USEPA Region I Organic Regional Data Assessment (ORDA) sheet displays the summarized results of the data validation assessment for all analytical methods reported in the SDG.

ACRONYMS AND ABBREVIATIONS

Following is a list of acronyms and abbreviations that may be used in the data validation reports.

Acronym or Abbreviation	Definition
%D	Percent difference
%R	Percent recovery
%M	Percent moisture
%S	Percent solids
Ug/L	Microgram per liter
BD	Breakdown
BEHP	2-bis(ethylhexyl)phthalate
BFB	Bromofluorobenzene
CCB	Continuing calibration Blank
CCC	Continuing Check Compound
CCV	Continuing Calibration Verfication
COC	Chain of custody
CRI	standard at RL for ICP
CVAA	Cold vapor atomic absorption
DFTPP	Decafluorotriphenylphosphine
DQO	Data quality objective
EB	Equipment blank
EPA	Environmental Protection Agency
FD	Field duplicate
GC	Gas Chromatography
GC/MS	Gas chromatography/mass spectrometry
HT	Holding time
ICAL	Initial calibration
ICS-A/AB	Interelement check standard A or AB
ICV	Initial calibration verification
IDL	Instrument detection limit
IS	Internal standards
LCL	Lower control limit
LCS	Laboratory control sample
LTMP	Long term monitoring plan
MeCl	Methylene chloride
MS	Matrix spike

Acronym or Abbreviation	Definition
MSD	Matrix spike duplicate
MPC	Measurement performance criteria
NA	Not applicable
NC	Not calculated.
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyls
PQL	Practical quantitation limit
QAPP	Quality Assurance Project Plan
QC	Quality control
RF	Response Factor
RPD	Relative percent difference
RRF	Relative response factor
RSD	Relative standard deviation
RT	Retention time
SDG	Sample Delivery Group
SOP	Standard Operation Procedure
SVOC	Semi-volatile organic compound
SPCC	System performance check compound
SQL	Sample Quantitation Limit
TB	Tripblank
TCX	Tetrachloro-m-xylene
TIC	Tentatively identified compound
UCL	Upper control limit
VOC	Volatile organic compound

DATA QUALIFIER REFERENCE TABLE

Data validation reports will summarize the samples reviewed, elements reviewed, any nonconformances with the established criteria, validation actions (including data qualifiers). Data qualifiers will be consistent with EPA Region I – New England guidelines and will consist of the following:

USEPA Region I – Data Qualifier	USEPA Region I – Qualifier Definition
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
UJ	The analyte was not detected above the sample reporting limit; and the reporting limit is approximate
U	The sample was analyzed for, but was not detected above the sample reporting limit.
R	The sample result is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified

Region I, EPA-NE ORGANIC REGIONAL DATA ASSESSMENT

LAB NAME: Northeast Laboratory
SDG #: BNASSITE9060906
EPA-NE DV TIER LEVEL:___II___
SITE NAME: NAS Brunswick – Site 09

# of SAMPLES/MATRIX: 2 Sed (Confirmatory Samples)
VALIDATION CONTRACTOR:__ECC/ASW
VALIDATOR'S NAME: Sherri Pullar
DV Completion Date:_18 July 2006
Date Sampled__7 June 2006.

ANALYTICAL DATA QUALITY SUMMARY

		VOC	SVOC	Metals
1	Preservation and HT	O	O	O
2	Instrument Performance Check	O	O	O
3	Initial Calibration:	M	O	O
4	Continuing Calibration:	M	-	O
5	Blanks:	O	M	O
6	Surrogate Compounds:	O	O	-
7	Internal Standards	O	O	-
8	Matrix Spike/Matrix Spike Duplicate:	-	M	O
9	Sensitivity Check:	O	O	O
10	PE Samples- Accuracy Check	O	O	M
11	Target Compound Identification:	O	O	O
12	Compound Quantitation and Reported QLs	O	O	O
13	Tentatively Identified Compounds:	-	-	-
14	Semivolatile/Pesticide/PCB Cleanup:	-	-	-
15	Data Completeness	O	O	M
16	Overall Evaluation of Data:	O	O	M

O = Data had no problems or were qualified due to minor contractual problems; M = Data were qualified due to major/systemic MPC exceedences: Z = Data were rejected as unusable due to major contractual problems.

ACTION ITEMS: (Z items): None.

AREAS OF CONCERN: (M items):

SVOC: MS/MSD RPD>UCL Nitrosodimethylanmine, nitrobenzene, bis(2-ethylhexyl)phthalate, and benzidine. Results for di-n-butylphthalate and bis(2-ethylhexylphthalate were qualified U in samples 544 and 545 due to method blank contamination. Results for di-n-butylphthalate were qualified U in sample 544 due to method blank contamination. LCS recovery<LCL for K; Results for K were qualified as J in both samples.

VOC: No sediment trip blank analyzed**.** VOC ICV: Acetone had %R>UCL. CCV %D>MPC for bromomethane, acetone, 2-butanone, 4-methyl-2-pentanone, and 2-hexanone in select samples.

COMMENTS: None.

NAS BRUNSWICK- SITE 9 – JUNE 2006
DATA SUMMARY TABLE – AQUEOUS SDG BNASSITE9060906

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
1-D3-13	AI05544	SW6010	6/7/2006	20	Aluminum Total	7600	MG/KG		0.0543	18
1-D3-13	AI05544	SW6010	6/7/2006	1	Antimony Total Solid	2.2	MG/KG	U		2.2
1-D3-13	AI05544	SW6010	6/7/2006	1	Arsenic Total	0.45	MG/KG	U	0.0065	0.45
1-D3-13	AI05544	SW6010	6/7/2006	1	Barium Total	26	MG/KG		0.0022	0.45
1-D3-13	AI05544	SW6010	6/7/2006	1	Beryllium Total	0.23	MG/KG	U	0.0017	0.23
1-D3-13	AI05544	SW6010	6/7/2006	1	Cadmium Total	0.45	MG/KG	U	0.0015	0.45
1-D3-13	AI05544	SW6010	6/7/2006	1	Calcium Total	930	MG/KG		0.366	45
1-D3-13	AI05544	SW6010	6/7/2006	1	Chromium Total	13	MG/KG		0.0035	0.45
1-D3-13	AI05544	SW6010	6/7/2006	1	Cobalt Total	4.4	MG/KG		0.0083	2.2
1-D3-13	AI05544	SW6010	6/7/2006	1	Copper Total	6.4	MG/KG		0.0036	0.45
1-D3-13	AI05544	SW6010	6/7/2006	20	Iron Total	12000	MG/KG		0.0136	9
1-D3-13	AI05544	SW6010	6/7/2006	1	Lead Total Solid	0.45	MG/KG	U	0.0049	0.45
1-D3-13	AI05544	SW6010	6/7/2006	1	Magnesium Total	3500	MG/KG		0.1868	45
1-D3-13	AI05544	SW6010	6/7/2006	1	Manganese Total	130	MG/KG		0.0017	0.45
1-D3-13	AI05544	SW6010	6/7/2006	1	Nickel Total	9.7	MG/KG		0.003	0.45
1-D3-13	AI05544	SW6010	6/7/2006	1	Potassium Total	1900	MG/KG	R	0.0968	45
1-D3-13	AI05544	SW6010	6/7/2006	1	Selenium Total	2.2	MG/KG	U	0.0112	2.2
1-D3-13	AI05544	SW6010	6/7/2006	1	Silver Total	0.23	MG/KG	U	0.004	0.23
1-D3-13	AI05544	SW6010	6/7/2006	1	Sodium Total	45	MG/KG	U	0.4804	45
1-D3-13	AI05544	SW6010	6/7/2006	1	Thallium Total	2.2	MG/KG	U	0.0059	2.2
1-D3-13	AI05544	SW6010	6/7/2006	1	Vanadium Total	19	MG/KG		0.0093	2.2
1-D3-13	AI05544	SW6010	6/7/2006	1	Zinc Total	20	MG/KG		0.018	0.45
1-D3-13	AI05544	SW7471	6/7/2006	1	Mercury Total	0.013	MG/KG	U	0.0001	0.013
1-D3-13	AI05544	SW8260	6/7/2006	1	1,1,1-Trichloroethane	5.5	UG/KG	U	0.93	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	1,1,2,2-Tetrachloroethane	5.5	UG/KG	U	0.33	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	1,1,2-Trichloroethane	5.5	UG/KG	U	0.49	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	1,1-Dichloroethane	5.5	UG/KG	U	0.5	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	1,1-Dichloroethene	5.5	UG/KG	U	4.08	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	1,2-Dichlorobenzene	5.5	UG/KG	U	0.31	5.5

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
1-D3-13	AI05544	SW8260	6/7/2006	1	1,2-Dichloroethane	5.5	UG/KG	U	1.01	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	1,2-Dichloroethene (total)	5.5	UG/KG	U	0.82	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	1,2-Dichloropropane	5.5	UG/KG	U	1.09	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	1,3-Dichlorobenzene	5.5	UG/KG	U	0.41	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	1,4-Dichlorobenzene	5.5	UG/KG	U	0.42	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	2-Butanone	11	UG/KG	UJ	2.18	11
1-D3-13	AI05544	SW8260	6/7/2006	1	2-Hexanone	11	UG/KG	UJ	0.72	11
1-D3-13	AI05544	SW8260	6/7/2006	1	4-Methyl-2-pentanone	11	UG/KG	UJ	0.48	11
1-D3-13	AI05544	SW8260	6/7/2006	1	Acetone	8.9	UG/KG	J	4.43	11
1-D3-13	AI05544	SW8260	6/7/2006	1	Benzene	5.5	UG/KG	U	1.13	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Bromodichloromethane	5.5	UG/KG	U	0.29	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Bromoform	5.5	UG/KG	U	0.33	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Bromomethane	5.5	UG/KG	UJ	0.85	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Carbon Disulfide	5.5	UG/KG	U	3.37	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Carbon Tetrachloride	5.5	UG/KG	U	0.39	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Chlorobenzene	5.5	UG/KG	U	0.29	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Chloroethane	5.5	UG/KG	U	1.01	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Chloroform	5.5	UG/KG	U	0.34	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Chloromethane	5.5	UG/KG	U	1.04	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	cis-1,3-Dichloropropene	5.5	UG/KG	U	0.33	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Dibromochloromethane	5.5	UG/KG	U	1.23	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Ethylbenzene	5.5	UG/KG	U	0.28	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Methylene Chloride	5.5	UG/KG	U	0	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Styrene	5.5	UG/KG	U	0.29	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Tetrachloroethene	5.5	UG/KG	U	1.43	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Toluene	5.5	UG/KG	U	1.13	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	trans-1,3-Dichloropropene	5.5	UG/KG	U	0.3	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Trichloroethene	5.5	UG/KG	U	0.29	5.5
1-D3-13	AI05544	SW8260	6/7/2006	1	Vinyl Chloride	11	UG/KG	U	0.93	11
1-D3-13	AI05544	SW8260	6/7/2006	1	Xylenes (total)	5.5	UG/KG	U	1.04	5.5
1-D3-13	AI05544	SW8270	6/7/2006	4	1,2,4-Trichlorobenzene	1.3	MG/KG	U	0.08992339	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	1,2-Dichlorobenzene	1.3	MG/KG	U	0.07985176	1.3

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
1-D3-13	AI05544	SW8270	6/7/2006	4	1,3-Dichlorobenzene	1.3	MG/KG	U	0.09590014	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	1,4-Dichlorobenzene	1.3	MG/KG	U	0.06902344	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	2,4,5-Trichlorophenol	1.3	MG/KG	U	0.08083538	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	2,4,6-Trichlorophenol	1.3	MG/KG	U	0.11080813	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	2,4-Dichlorophenol	1.3	MG/KG	U	0.14624241	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	2,4-Dimethylphenol	1.3	MG/KG	U	0.0777626	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	2,4-Dinitrophenol	6.2	MG/KG	U	0.15345775	6.2
1-D3-13	AI05544	SW8270	6/7/2006	4	2,4-Dinitrotoluene	1.3	MG/KG	U	0.0392081	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	2,6-Dinitrotoluene	1.3	MG/KG	U	0.08093096	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	2-Chloronaphthalene	1.3	MG/KG	U	0.04300723	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	2-Chlorophenol	1.3	MG/KG	U	0.09901578	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	2-Methylnaphthalene	1.3	MG/KG	U	0.03501912	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	2-Methylphenol (o-cresol)	1.3	MG/KG	U	0.05	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	2-Nitroaniline	6.2	MG/KG	U	0.06974884	6.2
1-D3-13	AI05544	SW8270	6/7/2006	4	2-Nitrophenol	1.3	MG/KG	U	0.10952287	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	3&4-Methylphenol (m&p-cresol)	1.3	MG/KG	U	0.081	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	3,3-Dichlorobenzidine	2.6	MG/KG	U	0.064	2.6
1-D3-13	AI05544	SW8270	6/7/2006	4	3-Nitroaniline	6.2	MG/KG	U	0.08224874	6.2
1-D3-13	AI05544	SW8270	6/7/2006	4	4,6-Dinitro-2-methylphenol	6.2	MG/KG	U	0.18444758	6.2
1-D3-13	AI05544	SW8270	6/7/2006	4	4-Bromophenylphenylether	1.3	MG/KG	U	0.07909413	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	4-Chloro-3-methylphenol	2.6	MG/KG	U	0.11282743	2.6
1-D3-13	AI05544	SW8270	6/7/2006	4	4-Chloroaniline	2.6	MG/KG	U	0.09276268	2.6
1-D3-13	AI05544	SW8270	6/7/2006	4	4-Chlorophenylphenylether	1.3	MG/KG	U	0.04047148	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	4-Nitroaniline	6.2	MG/KG	U	0.0721457	6.2
1-D3-13	AI05544	SW8270	6/7/2006	4	4-Nitrophenol	6.2	MG/KG	U	0.12313602	6.2
1-D3-13	AI05544	SW8270	6/7/2006	4	Acenaphthene	1.3	MG/KG	U	0.03659557	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Acenaphthylene	1.3	MG/KG	U	0.04703012	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Aniline	1.3	MG/KG	U	0.09026189	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Anthracene	1.3	MG/KG	U	0.04120865	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Azobenzene	1.3	MG/KG	U	0.04790222	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Benzidine	13	MG/KG	UJ	0.05497723	13
1-D3-13	AI05544	SW8270	6/7/2006	4	Benzo(a)anthracene	1.3	MG/KG	U	0.061	1.3

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
1-D3-13	AI05544	SW8270	6/7/2006	4	Benzo(a)pyrene	1.3	MG/KG	U	0.04917694	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Benzo(b)fluoranthene	1.3	MG/KG	U	0.04156667	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Benzo(g,h,i)perylene	1.3	MG/KG	U	0.045	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Benzo(k)fluoranthene	1.3	MG/KG	U	0.04567017	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Benzoic acid	6.2	MG/KG	U	0.10004461	6.2
1-D3-13	AI05544	SW8270	6/7/2006	4	Benzyl alcohol	2.6	MG/KG	U	0.0704868	2.6
1-D3-13	AI05544	SW8270	6/7/2006	4	Benzylbutylphthalate	1.3	MG/KG	U	0.049	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Bis(2-chloroethoxy) methane	1.3	MG/KG	U	0.045	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Bis(2-chloroethyl) ether	1.3	MG/KG	U	0.042	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Bis(2-chloroisopropyl) ether	2.6	MG/KG	U	0.055	2.6
1-D3-13	AI05544	SW8270	6/7/2006	4	Bis(2-ethylhexyl)phthalate	0.58	MG/KG	UJ	0.06501566	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Carbazole	1.3	MG/KG	U	0.04978976	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Chrysene	1.3	MG/KG	U	0.05309097	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Dibenz(a,h)anthracene	1.3	MG/KG	U	0.058	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Dibenzofuran	1.3	MG/KG	U	0.03953665	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Diethylphthalate	0.44	MG/KG	U	0.04884066	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Dimethylphthalate	1.3	MG/KG	U	0.07162547	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Di-n-butylphthalate	8.3	MG/KG	U	0.05971306	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Di-n-octylphthalate	1.3	MG/KG	U	0.10248943	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Fluoranthene	1.3	MG/KG	U	0.03582259	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Fluorene	1.3	MG/KG	U	0.03338238	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Hexachlorobenzene	1.3	MG/KG	U	0.08227734	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Hexachlorobutadiene	1.3	MG/KG	U	0.04897532	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Hexachlorocyclopentadiene	1.3	MG/KG	U	0	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Hexachloroethane	1.3	MG/KG	U	0.10188871	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Indeno(1,2,3-cd)pyrene	1.3	MG/KG	U	0.03398982	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Isophorone	1.3	MG/KG	U	0.08317293	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Naphthalene	1.3	MG/KG	U	0.03691552	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Nitrobenzene	1.3	MG/KG	UJ	0.07129964	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	N-Nitrosodimethylamine	2.6	MG/KG	UJ	0.12015456	2.6
1-D3-13	AI05544	SW8270	6/7/2006	4	N-Nitrosodi-n-propyl amine	1.3	MG/KG	U	0.04	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	N-Nitrosodiphenylamine	1.3	MG/KG	U	0.03624036	1.3

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
1-D3-13	AI05544	SW8270	6/7/2006	4	Pentachlorophenol	6.2	MG/KG	U	0.17305402	6.2
1-D3-13	AI05544	SW8270	6/7/2006	4	Phenanthrene	1.3	MG/KG	U	0.05388686	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Phenol	1.3	MG/KG	U	0.08505479	1.3
1-D3-13	AI05544	SW8270	6/7/2006	4	Pyrene	1.3	MG/KG	U	0.03627927	1.3
2-D3-11	AI05545	SW6010	6/7/2006	8	Aluminum Total	7600	MG/KG		0.0543	17
2-D3-11	AI05545	SW6010	6/7/2006	1	Antimony Total Solid	2.1	MG/KG	U		2.1
2-D3-11	AI05545	SW6010	6/7/2006	1	Arsenic Total	0.42	MG/KG	U	0.0065	0.42
2-D3-11	AI05545	SW6010	6/7/2006	1	Barium Total	27	MG/KG		0.0022	0.42
2-D3-11	AI05545	SW6010	6/7/2006	1	Beryllium Total	0.21	MG/KG	U	0.0017	0.21
2-D3-11	AI05545	SW6010	6/7/2006	1	Cadmium Total	0.42	MG/KG	U	0.0015	0.42
2-D3-11	AI05545	SW6010	6/7/2006	1	Calcium Total	470	MG/KG		0.366	42
2-D3-11	AI05545	SW6010	6/7/2006	1	Chromium Total	12	MG/KG		0.0035	0.42
2-D3-11	AI05545	SW6010	6/7/2006	1	Cobalt Total	5.7	MG/KG		0.0083	2.1
2-D3-11	AI05545	SW6010	6/7/2006	1	Copper Total	7.5	MG/KG		0.0036	0.42
2-D3-11	AI05545	SW6010	6/7/2006	20	Iron Total	12000	MG/KG		0.0136	8.4
2-D3-11	AI05545	SW6010	6/7/2006	1	Lead Total Solid	1.1	MG/KG		0.0049	0.42
2-D3-11	AI05545	SW6010	6/7/2006	1	Magnesium Total	3000	MG/KG		0.1868	42
2-D3-11	AI05545	SW6010	6/7/2006	1	Manganese Total	170	MG/KG		0.0017	0.42
2-D3-11	AI05545	SW6010	6/7/2006	1	Nickel Total	10	MG/KG		0.003	0.42
2-D3-11	AI05545	SW6010	6/7/2006	1	Potassium Total	1400	MG/KG	R	0.0968	42
2-D3-11	AI05545	SW6010	6/7/2006	1	Selenium Total	2.1	MG/KG	U	0.0112	2.1
2-D3-11	AI05545	SW6010	6/7/2006	1	Silver Total	0.21	MG/KG	U	0.004	0.21
2-D3-11	AI05545	SW6010	6/7/2006	1	Sodium Total	42	MG/KG	U	0.4804	42
2-D3-11	AI05545	SW6010	6/7/2006	1	Thallium Total	2.1	MG/KG	U	0.0059	2.1
2-D3-11	AI05545	SW6010	6/7/2006	1	Vanadium Total	18	MG/KG		0.0093	2.1
2-D3-11	AI05545	SW6010	6/7/2006	1	Zinc Total	18	MG/KG		0.018	0.42
2-D3-11	AI05545	SW7471	6/7/2006	1	Mercury Total	0.013	MG/KG	U	0.0001	0.013
2-D3-11	AI05545	SW8260	6/7/2006	1	1,1,1-Trichloroethane	5.7	UG/KG	U	0.93	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	1,1,2,2-Tetrachloroethane	5.7	UG/KG	U	0.33	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	1,1,2-Trichloroethane	5.7	UG/KG	U	0.49	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	1,1-Dichloroethane	5.7	UG/KG	U	0.5	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	1,1-Dichloroethene	5.7	UG/KG	U	4.08	5.7

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
2-D3-11	AI05545	SW8260	6/7/2006	1	1,2-Dichlorobenzene	5.7	UG/KG	U	0.31	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	1,2-Dichloroethane	5.7	UG/KG	U	1.01	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	1,2-Dichloroethene (total)	5.7	UG/KG	U	0.82	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	1,2-Dichloropropane	5.7	UG/KG	U	1.09	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	1,3-Dichlorobenzene	5.7	UG/KG	U	0.41	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	1,4-Dichlorobenzene	5.7	UG/KG	U	0.42	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	2-Butanone	11	UG/KG	UJ	2.18	11
2-D3-11	AI05545	SW8260	6/7/2006	1	2-Hexanone	11	UG/KG	UJ	0.72	11
2-D3-11	AI05545	SW8260	6/7/2006	1	4-Methyl-2-pentanone	11	UG/KG	UJ	0.48	11
2-D3-11	AI05545	SW8260	6/7/2006	1	Acetone	7.9	UG/KG	J	4.43	11
2-D3-11	AI05545	SW8260	6/7/2006	1	Benzene	5.7	UG/KG	U	1.13	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Bromodichloromethane	5.7	UG/KG	U	0.29	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Bromoform	5.7	UG/KG	U	0.33	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Bromomethane	5.7	UG/KG	UJ	0.85	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Carbon Disulfide	5.7	UG/KG	U	3.37	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Carbon Tetrachloride	5.7	UG/KG	U	0.39	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Chlorobenzene	5.7	UG/KG	U	0.29	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Chloroethane	5.7	UG/KG	U	1.01	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Chloroform	5.7	UG/KG	U	0.34	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Chloromethane	5.7	UG/KG	U	1.04	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	cis-1,3-Dichloropropene	5.7	UG/KG	U	0.33	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Dibromochloromethane	5.7	UG/KG	U	1.23	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Ethylbenzene	5.7	UG/KG	U	0.28	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Methylene Chloride	5.7	UG/KG	U	0	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Styrene	5.7	UG/KG	U	0.29	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Tetrachloroethene	5.7	UG/KG	U	1.43	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Toluene	5.7	UG/KG	U	1.13	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	trans-1,3-Dichloropropene	5.7	UG/KG	U	0.3	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Trichloroethene	5.7	UG/KG	U	0.29	5.7
2-D3-11	AI05545	SW8260	6/7/2006	1	Vinyl Chloride	11	UG/KG	U	0.93	11
2-D3-11	AI05545	SW8260	6/7/2006	1	Xylenes (total)	5.7	UG/KG	U	1.04	5.7
2-D3-11	AI05545	SW8270	6/7/2006	4	1,2,4-Trichlorobenzene	1.3	MG/KG	U	0.08992339	1.3

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
2-D3-11	AI05545	SW8270	6/7/2006	4	1,2-Dichlorobenzene	1.3	MG/KG	U	0.07985176	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	1,3-Dichlorobenzene	1.3	MG/KG	U	0.09590014	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	1,4-Dichlorobenzene	1.3	MG/KG	U	0.06902344	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	2,4,5-Trichlorophenol	1.3	MG/KG	U	0.08083538	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	2,4,6-Trichlorophenol	1.3	MG/KG	U	0.11080813	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	2,4-Dichlorophenol	1.3	MG/KG	U	0.14624241	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	2,4-Dimethylphenol	1.3	MG/KG	U	0.0777626	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	2,4-Dinitrophenol	6.3	MG/KG	U	0.15345775	6.3
2-D3-11	AI05545	SW8270	6/7/2006	4	2,4-Dinitrotoluene	1.3	MG/KG	U	0.0392081	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	2,6-Dinitrotoluene	1.3	MG/KG	U	0.08093096	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	2-Chloronaphthalene	1.3	MG/KG	U	0.04300723	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	2-Chlorophenol	1.3	MG/KG	U	0.09901578	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	2-Methylnaphthalene	1.3	MG/KG	U	0.03501912	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	2-Methylphenol (o-cresol)	1.3	MG/KG	U	0.05	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	2-Nitroaniline	6.3	MG/KG	U	0.06974884	6.3
2-D3-11	AI05545	SW8270	6/7/2006	4	2-Nitrophenol	1.3	MG/KG	U	0.10952287	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	3&4-Methylphenol (m&p-cresol)	1.3	MG/KG	U	0.081	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	3,3-Dichlorobenzidine	2.6	MG/KG	U	0.064	2.6
2-D3-11	AI05545	SW8270	6/7/2006	4	3-Nitroaniline	6.3	MG/KG	U	0.08224874	6.3
2-D3-11	AI05545	SW8270	6/7/2006	4	4,6-Dinitro-2-methylphenol	6.3	MG/KG	U	0.18444758	6.3
2-D3-11	AI05545	SW8270	6/7/2006	4	4-Bromophenylphenylether	1.3	MG/KG	U	0.07909413	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	4-Chloro-3-methylphenol	2.6	MG/KG	U	0.11282743	2.6
2-D3-11	AI05545	SW8270	6/7/2006	4	4-Chloroaniline	2.6	MG/KG	U	0.09276268	2.6
2-D3-11	AI05545	SW8270	6/7/2006	4	4-Chlorophenylphenylether	1.3	MG/KG	U	0.04047148	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	4-Nitroaniline	6.3	MG/KG	U	0.0721457	6.3
2-D3-11	AI05545	SW8270	6/7/2006	4	4-Nitrophenol	6.3	MG/KG	U	0.12313602	6.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Acenaphthene	1.3	MG/KG	U	0.03659557	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Acenaphthylene	1.3	MG/KG	U	0.04703012	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Aniline	1.3	MG/KG	U	0.09026189	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Anthracene	1.3	MG/KG	U	0.04120865	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Azobenzene	1.3	MG/KG	U	0.04790222	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Benzidine	13	MG/KG	UJ	0.05497723	13

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
2-D3-11	AI05545	SW8270	6/7/2006	4	Benzo(a)anthracene	1.3	MG/KG	U	0.061	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Benzo(a)pyrene	1.3	MG/KG	U	0.04917694	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Benzo(b)fluoranthene	1.3	MG/KG	U	0.04156667	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Benzo(g,h,i)perylene	1.3	MG/KG	U	0.045	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Benzo(k)fluoranthene	1.3	MG/KG	U	0.04567017	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Benzoic acid	6.3	MG/KG	U	0.10004461	6.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Benzyl alcohol	2.6	MG/KG	U	0.0704868	2.6
2-D3-11	AI05545	SW8270	6/7/2006	4	Benzylbutylphthalate	1.3	MG/KG	U	0.049	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Bis(2-chloroethoxy) methane	1.3	MG/KG	U	0.045	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Bis(2-chloroethyl) ether	1.3	MG/KG	U	0.042	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Bis(2-chloroisopropyl) ether	2.6	MG/KG	U	0.055	2.6
2-D3-11	AI05545	SW8270	6/7/2006	4	Bis(2-ethylhexyl)phthalate	0.55	MG/KG	UJ	0.06501566	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Carbazole	1.3	MG/KG	U	0.04978976	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Chrysene	1.3	MG/KG	U	0.05309097	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Dibenz(a,h)anthracene	1.3	MG/KG	U	0.058	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Dibenzofuran	1.3	MG/KG	U	0.03953665	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Diethylphthalate	1.3	MG/KG	U	0.04884066	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Dimethylphthalate	1.3	MG/KG	U	0.07162547	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Di-n-butylphthalate	6.4	MG/KG	U	0.05971306	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Di-n-octylphthalate	1.3	MG/KG	U	0.10248943	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Fluoranthene	1.3	MG/KG	U	0.03582259	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Fluorene	1.3	MG/KG	U	0.03338238	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Hexachlorobenzene	1.3	MG/KG	U	0.08227734	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Hexachlorobutadiene	1.3	MG/KG	U	0.04897532	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Hexachlorocyclopentadiene	1.3	MG/KG	U	0	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Hexachloroethane	1.3	MG/KG	U	0.10188871	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Indeno(1,2,3-cd)pyrene	1.3	MG/KG	U	0.03398982	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Isophorone	1.3	MG/KG	U	0.08317293	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Naphthalene	1.3	MG/KG	U	0.03691552	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Nitrobenzene	1.3	MG/KG	UJ	0.07129964	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	N-Nitrosodimethylamine	2.6	MG/KG	UJ	0.12015456	2.6
2-D3-11	AI05545	SW8270	6/7/2006	4	N-Nitrosodi-n-propyl amine	1.3	MG/KG	U	0.04	1.3

Sample Name	Lab Id	Analytical Method	Sample Date	Dilution Factor	Analyte	Result	Unit	Qualifier	MDL	QL
2-D3-11	AI05545	SW8270	6/7/2006	4	N-Nitrosodiphenylamine	1.3	MG/KG	U	0.03624036	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Pentachlorophenol	6.3	MG/KG	U	0.17305402	6.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Phenanthrene	1.3	MG/KG	U	0.05388686	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Phenol	1.3	MG/KG	U	0.08505479	1.3
2-D3-11	AI05545	SW8270	6/7/2006	4	Pyrene	1.3	MG/KG	U	0.03627927	1.3

ECC Region I Data Review Worksheet (rv 3) **VOCs 5030B/5035/8260B**
Project: NAS Brunswick Site 9 ECC Job No. 5700 **Review Criteria: Site 09 QAPP & USEPA Region I Tier II Guidance**

Data Validation Level	Matrix	Preservation	Temp Sample Receipt	Laboratory	SDG Number
Tier II	**Soil**	**HCl, MeOH, $NaHSO_4$**	**2-coolers Temp (^oC): <6C C**	**Northeast Lab, Winslow, ME**	**BNASSITE9060906**

Field Identification and Laboratory Number of Samples Evaluated:

Field ID	Lab Sample Number
1-D3-13	AI05544
2-D3-11	AI05545

Note: Samples are described below in the data worksheets by reference to the last three digits of the Lab Sample Number.

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
COC	1)Unbroken custody (accept or if broken R) 2) Temp≤6° (Soil-J detects, R -nondetects 3) preserved per method (amber bottles, temperature, HCl (aq), MeOH/NAHSO4 (soils) (J, UJ, or R (function of HT and compound)	Cooler temperatures <6C. Sample preservation adequate. Sample custody transferred from Field Team Leader to lab sample courier. Unbroken Chain of Custody. No samples qualified.	X	.	
Holding Time	1) 14 Days to analysis, if preserved 2) J –detects, UJ or R –nondetects (function of time) 3) *transcription errors	All samples analyzed within holding time. No samples qualified.	X	-	
% Solids Check (SOLIDS)	30%<Solids: if no sample weight adjustment made. 1) <10% R entire sample 2) 10%.> and <30%; J-detects, NDs -R	%M of sediment samples are greater than 30%. No samples qualified.	X	-	
Trip Blank	1) < 5x (<10x common) contaminants for aq samples- 2) TGT analytes <Lab QL (contact lab) -for soils indicate cross matrix TB (X rules apply to raw data) 4) MeCl & Acetone < 5 5) >RL report sample level U 6) <RL report PQL as U	NA	X	-	
Equip Blank	1) < 5x (<10x common) contaminants for aq samples- 2) TGT analytes <Lab QL (contact lab) -for soils indicate TB (X rules don't apply) 3) MeCl & Acetone < 5 *Check IS area (10% of them) * recalculate surrogate (%R – 10 % of them)	Not collected/analyzed with this SDG.	-	-	
Results > Cal Range or <Cal Range	1) >Upper Cal Range J-detects - ensure instrument blank performed 2) <PQL but >MDL – J –detects (estimated) listed on data summary sheet.	Attached data summary table. Analytes with results >MDL but <PQL/RL Results greater than the upper quantitation limit are qualified J.	X	J for all samples with estimated results <MRL but >MDL.	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
*TICs (if reported)	1) *verify library search for samples and blanks 2) verify TICs were not misreported compounds (different fraction or miss in search) 3) All TICs – J estimated 4) * verify blanks do not contain TIC peaks 5) * check TIC assignment spectra to STD spectra 6) *review blank and Samples for common lab contaminants	None Reported/not evaluated	-	-	
Surrogates	1,2-Dichloroethane-d4 65-135% Dibromofluoromethane 75-129% Toluene-d8 82%-120% 4-BFB 69%-125% *check raw data for surrogated (recalculate 10% of them). *Transcription errors Qualification: >UCL J –detects, %R<10% J –detects, R –Nods, %R >10% but <70% J-detects, UJ NDs	All reported surrogates within limits. No sample qualified.	X	-	
Lab Blanks (method blanks)	1) < 5x (<10x common) contaminants for aq samples- 2) <10X common contaminants 3) TGT analytes <Lab QL 4) if linear range is exceeded, verify if a instrument blank was performed 5) *verify accurate transcription of times, Ids, are reported on forms 6) *verify from the raw data if the instrument blank was performed in the same vessel 7) *verify IS, RRT, and surrogate %R 8) *check 10% of raw chromatograms for false +/-, check for transcription errors	Method blank results based upon dates. MB level is followed by the 5X or 10 Qualification criteria 6/15/06; all non-detect.	X	-	
LCS Recovery	1) Attachment A-2 of LTMP 2) All VOCs 60-140% 3) 10% and <LCL% J detects, UJ –Nods 4) >UCL% J detects <10% R NDs, J-detects 7) *Recalculate the concentrations for one compound in the LCS 8) * Recalucate the %R (within 10% of lab) Note: Tier guidance as a zero blind	All LCS %R's are within MPC, except for the following: 6/15/06; acetone & 2-hexanone %R>UCL 2-Hexanone was non-detect in all samples. No samples qualified. Acetone previously due to ICV %RSD outside MPC limits.	X	-	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
LCS/LCSD RPD	1) Not a QAPP required QC sample. 2) LCS/LCSD RPD>20% 3) Use LCS/LCSD RPD to evaluate analytical precision in conjuction with the MS/MSD. 4) If MS/MSD not analyzed, then use LCS/LCSD to qualify precision.	All LCS %R's are within MPC. No samples qualified.			
MS/MSD Recovery	5) Attachment A-2 of LTMP 6) 60-140% for all VOCs (if MS > 4X native levels) Qualification of MS sample: <10% J detects, R NDs >10% and <LCL% J detects, UJ -NDs >UCL% J detects 3) *Recalculate the concentrations for one compound in the MS/MSD 5) * Recalucate the %R (within 10% of lab)	No MS/MSD, LCS/LCSD used instead.	X	-	
*MS/MSD/unspike sample RSD	1)For unspiked compounds if reported, Non- MS spike compounds <50% RSD calculated from MS/MSD/Unspiked Qualification: >50% RSD J-detects 2)*recalculate the RPD (within 10% of lab)	NA	-	-	
MS/MSD RPD	RPD ≤20% (aq/S) (when MS >QL) J – detects in MS sample UJ-non detects * recalculate RPD	No MS/MSD, LCS/LCSD used instead.	X	-	
Field Dup RPD	1) RPD ≤ 30% aq. ≤ 50 soil for Results > PQL (FD pair only) J-detects (both > PQL) 2) Note: FD RPD not specified in QAPP. 30% will be used as the MPC, to be consistent with other NASB QAPPs. 3) If one >PQL, other ND, J-detections, UJ non-detect 4) Other conditions use judgement 5) Determine RPD for detects only. 6) *Recalculate the concentrations for one compound and the PQL	No field duplicates collected in this SDG.	X	-	
*MDL Study	1) *In accordance with 40CFR – seven replicates %RSD < 20% 2) * IS and retention times within method requirements 6) * performed annually 7) *MDL is at least ½ of PQL 8) *tgt and surrogate 80-120% R 9) *VOA/SV-X11 (recalcuate %RSD and %R for three compounds (10% of them).	NA	-	-	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
Internal Stds	1) IS are –50% to 200% of last Ical, or CCV 3) RRT<0.06 (30 sec) 4) IS>100% J-detects 5) IS<20%CCV NDs – R 6) IS>20%CCV <50%CCV NDs – UJ 7) *check for IS transcription errors 8) FBZ = fluroobenzene 9) CBZ = chlorobenzene-d5 10) DCB = 1,4 dichlorobenzene-d4	All IS %R's are within MPC.	X	-	
Sensitivity	1) MDL study – 7 replicates (40 CFR) 2) Surrogates %in control limits. 7) %R <10 ND- (R) , J- detects 8) 10%> but <LCL% , judgement 9) %R>UCL% J-detects 7) QC, IS, RRT meet criteria, 8) %RSD < 20% 9) MDL< MQL (3x less ideal) 10) Lab fortitied blank (see VOA/SV Part II –section X). 11) *Check and recalculate %RSDs and %R for three compounds (with 10% of lab) 12) <u>Dilution factors for samples – impacts to sensitivity</u>	The QAPP doesn't list any PAL or MRLs for sediments. The Sediment MRL range are >6 ppb Laboratory MRL is less than PAL. Select samples diluted.	X	-	
*Compound Quantitation (completed as part of other steps)	1) Check sensitivy (MDL< 1/3 PQL) 2) *Recalculate one detection and quantitation limit 3) *verify concentrations have been adjusted to account for DW, DF, 4) *verifiy correct IS and RRF were used	NA	-	-	
*System Performance	1)* evaluate PES, MS//MSD, cal STDs, MDS study, and surrogates for systemic bias – high or low and access system accuracy 9) *Matrix effects- MS/MSD, surrogated, PDS. 10) *System chromatography- evaluate RRTs, peaks shapes, system impacts on data, baseline shifts. 11) *overall system contamination-review all blanks for systemic or sporadic contamination	NA	-	-	
*TGT Compound Identification	1) *Within 0.06 (30 sec) of CCV RRT 2) * compare sample Mass spectra to standard spectra; a) all ions in std spectra (with 10% rel intensity) presnent in sample spectra. B) sample ion abundance within 20% of standard spectra. 3) *chromatogram: all peaks greater than 10% of nearest IS identified.	NA	-	-	
Single Blind PE	1) Qualify associated samples in PES batch PES = ND, Detects J – ND PE analytes in samples, NDs – R	NA	-	-	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
	12) PES > acceptance criteria – Detects in samples J, 13) PES<acceptance criteria – Detects J, NDs –R 14) VOA/SV-XI14 other criteria 15) *% of PES sample above and below criteria 16) *Recalculate concentrations for one tgt compound per PES (10% of lab)				
Tune check	1) ion abundance with method limits 2) *check for co-elution /proper background subtraction 3) *compare reported data to raw data	All tunes passed method criteria. No samples qualified.	X	-	
Initial Cal Multipoint (instrument evaluation)	1) correct calibration stds 2) within 12 hours of the tune check 3) CCCs %RSD: <30% (1,1 DCA, chloroform, 1,2dichloropropane, Toluene, EB, VC (J –detects, R or UJ NDs all samples associated with Ical) 4) SPCCs Average RRF: SPCCs Chloromethane >0.10, 1,1 DCA>0.10, bromoform >0.10, chlorobenzene>0.3, 1122TCA>0.3 (J –detects, R NDs) 5) RRF>0.05 all compounds 6) RRT < 0.06 units (all stds within 30 sec) 7) %RSD<15% for all non-CCCs or COD>0.99 *8) RRF exclusions: surrogates, acetone, MeCL, chloroethane/methane, CS, 1,/22/03 2-butanone, 1,2 dichloropropane, 2-hexanone (IV-8)./* 9) *verify that instrument parameters met method and that Ical and analysis used the same parameters 10) *recalculate RRF one tgt compound associated with each IS. Recalculated values within 10% of lab values. 11) *recalculate one tgt compound associated with each IS. Recalculated values within 10% 12) *option-review preparation logs to ensure cal stds are traceable to NIST stds. 13) *option-recalculate cal std concentration of one std. Must agree within 10% of lab (option if information is in data package)	Instrument GC/MS Savior 6/15/06 ICAls: CCC %RSD within limits.	X	-	
Initial Cal (Linearity)	%RSD < 15% use average RF for calibration %RSD> 15% use least squares COD (r2) > 0.990 or correlation coefficient r> 0.995 Qualification for compounds with : %RSD>30% and RRF>0.05 – J detects, UJ - NDs %RSD<30% and RRF<0.05; -J detects, R - ND %RSD>30% and RRF<0.05: J detects, R - ND (see VOA/SVIII-4)	Instrument GC/MS Saviour; ICAL; 6/15/06; %RSD<15% for all compounds except for acetone. Lab narrative states these are linear, but no documentation provided. .	X	Acetone detects qualified J in samples 544 & 545.	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED/Rationale	Inven-tory	QUAL	BIAS
2nd Source ICV	QC check nor criteria not specified in QAPP. %D<25% or %R (between ICV and Ical) analytes 80%--120% (+ or -) once per 5 pt cal used to evaluate data sets. Qualification: J detects, R or UJ NDs	Laboratory uses a second source LCS. 6/15/06; within limits	X	-	
CCV	1) SPCCs Average RRF: SPCCs Chloromethane >0.10, 1,1 DCA>0.10, bromoform >0.10, chlorobenzene>0.3, 1122TCA>0.3 2) RRF all compounds > 0.05 3) CCC: (1,1 DCA, chloroform, 1,2dichloropropane, Toluene, EB, VC) %D<20% (or all analytes if no CCCs reported). 4) Qualification-J detects, R or UJ NDs 5) *verify same instrument and parameters 6) *Recalculate RRF for one tgt cmpd associated with each IS. (within 10%) 7) *Recalculate %D for one tgt cmpd associated with each IS (within 10%) 8) *IS RRT<0.06 units (30 sec) 9) * IS area -50 % to 100 % of last ICAL 10) *option-review preparation logs to ensure cal stds are traceable to NIST stds. 11) *option-recalculate cal std concentration of one std. Must agree within 10% of lab (option if information is in data package)	CCV by date: 6/15/06 Bromomethane Acetone 2-Butanone 4-methyl-2-pentanone 2-hexanone	X	2-hexanone, 4-methyl-2-pentanone, 2-butanone, & bromomethane qualified UJ in samples 544 & 545.	
Overall Evaluation of Data	1) Appropriate method 2) Evaluate any analytical problems 3) Evaluate sampling errors – field contamination, sample hold times	Analytical Error Evaluation: Laboratory precision and accuracy acceptable for sediment. Acetone non-detects rejected due to low RF. All tunes within MPC. ICAL; within MPC. ICV: within MPC except for acetone. CCV: Bromomethane, acetone, 2-butanone, 4-methyl-2-pentanone %D>MPC. Sampling Error Evaluation: No trip blanks associated with samples. No field duplicates associated with samples. Overall sampling and analysis precision is acceptable.	X	-	

* Tier III review items only.
Completeness Check: Inventory Check Sheet_____X__. Sample Quantitation Calculations (TIER III only):

Lab Correspondence: None.

ECC Region I Data Review Worksheet (rv 3) **SVOCs 3510C/8270C**
Project: NAS Brunswick Site 9 ECC Job No. 5700 **Review Criteria: Site 09 QAPP & USEPA Region I Tier II Guidance**

Data Validation Level	Matrix	Preservation	Temperature Sample Receipt	Laboratory	SDG Number
Tier II	**Soil**	**-**	**3-coolers Temp (^{o}C): <6C C**	**Northeast Lab, Winslow, ME**	**BNASSITE9060906**

Field Identification of Samples Evaluated:

Field ID	Lab Sample Number
1-D3-13	AI05544
2-D3-11	AI05545

Note: Samples are described below in the data worksheets by reference to the last three digits of the Lab Sample Number.

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
COC	1)Unbroken custody (accept or if broken R) 2) Temp≤6° (Soil-J detects, R - nondetects 3) Preserved per method (amber bottles, temperature. J, UJ, or R (function of HT and compound)	Cooler temperatures <6C. Sample preservation adequate. Sample custody transferred from Field Team Leader to lab sample courier. Unbroken Chain of Custody. No samples qualified.	X	-	
Holding Time	1) 7 Days aqueous – 14 days soil (extract 40 days) 2) J –detects, UJ or R –nondetects (function of time)	All samples extracted and analyzed within applicable holding times. No samples qualified.	X		
% Solids Check (SOLIDS)	30%<Solids: if no sample weight adjustment made (no USACE) 1) <10% R entire sample 2) 10%.> and <30%; J-detects, NDs -R	Solids >30%; no samples qualified.	-	-	
Results > Cal Range or <Cal Range	1) >Upper Cal Range J-detects - ensure instrument blank performed 2) <PQL but >MDL – J –detects (estimated)	Attached data summary table. Analytes with results >MDL but <PQL/RL	X	J for all samples with estimated results <MRL but >MDL.	
TICs (if reported)	1) *verify library search for samples and blanks 2) verify TICs were not misreported compounds (different fraction or miss in search) 3) All TICs – J estimated 4) * verify blanks do not contain TIC peaks 5) * check TIC assignment spectra to STD spectra 6) *review blank and Samples for	None Reported	X	-	
Internal Stds	1) IS are –50% to 100% of CCV 1) RRT<0.06 (30 sec) 2) IS>100% J-detects 3) IS<20%CCV NDs – R 4) IS>20%CCV <50%CCV NDs – UJ 5) *check for IS transcription errors	Internal standards are within MPC. No samples qualified.	X	-	

ECC Region I Data Review Worksheet (rv 3) **SVOCs 3510C/8270C**
Project: NAS Brunswick Site 9 ECC Job No. 5700 **Review Criteria: Site 09 QAPP & USEPA Region I Tier II Guidance**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
Equip Blank	< 5x (<10x common) contaminants for aq samples – for soil indicate EB (X rules don't apply)	Not collected/analyzed with this SDG.	-	-	
Surrogates	Within QAPP limits Attachment A-2 (QAPP) 2-Fluorophenol 21-100% Phenol-D5 10-94% 2,4,6 tribromophenol 10-123% Nitrobenzene-D5 35-114% 2-Fluorobiphenyl 43-116% Terphenyl-D14 33-141% Qualification: >UCL J –detects, %R<10% J –detects, R –NDs, %R >10% but <39% J-detects, UJ NDs.	All surrogate %R's are within MPC. No samples qualified. Laboratory accuracy is acceptable.	X	-	
MS/MSD Recovery	1) Within QAPP limits in Attachment A-2. Phenol 38 – 91% 2-chlorophenol 42-94% 1,4-dichlorobenzne 28-90% n-nitroso-di-n-propylamine 53-115% 1,2,4 trichlorobenzene 33-94% 4-chloro-3-methylphenol 45-97% Acenaphthene 49-103% 4-nitrophenol 52-117% 2,4 dinitrotoluene 57-115% pentachlorophenol 38-119% pyrene 45-114% (if MS > 4X native levels) Qualification of MS sample: <10% J detects, R NDs >10% and <70% J detects, UJ -NDs	Analyzed LCS/LCSD in place of MS/MSD.	X	-	
MS/MSD RPD	1) RPD MCP per QAPP Attachment A-2 Phenol 33% 2-chlorophenol 32% 1,4-dichlorobenzne 38% n-nitroso-di-n-propylamine 38% 1,2,4 trichlorobenzene 38% 4-chloro-3-methylphenol 32% Acenaphthene 33% 4-nitrophenol 40% 2,4 dinitrotoluene 35% pentachlorophenol 50% pyrene 43% COCs not specified in the QAPP evaluated using laboratory control limits. 2) Criteria: J –detects in MS sample UJ-non detects	Analyzed LCS/LCSD in place of MS/MSD. LCS/LCSD RPD's were outside MPC limits for N-Nitrosodimethylanmine, nitrobenzene, benzidine, and bis(2-ethylhexyl)phthalate.	X	Non-detect results for n-Nitrosodimethylanmine, nitrobenzene, bis(2-ethylhexyl)phthalate, and benzidine were qualified as UJ in samples 544 and 545.	

ECC Region I Data Review Worksheet (rv 3) **SVOCs 3510C/8270C**
Project: NAS Brunswick Site 9 ECC Job No. 5700 **Review Criteria: Site 09 QAPP & USEPA Region I Tier II Guidance**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
LCS Recovery	1) Within QAPP limits listed in Attachment A-2 Phenol 38 – 91% 2-chlorophenol 42-94% 1,4-dichlorobenzne 28-90% n-nitroso-di-n-propylamine 53-115% 1,2,4 trichlorobenzene 33-94% 4-chloro-3-methylphenol 45-97% Acenaphthene 49-103% 4-nitrophenol 52-117% 2,4 dinitrotoluene 57-115% pentachlorophenol 38-119% pyrene 45-114% 2) Compounds not listed in the QAPP but which are site COCs will be evaluated using laboratory historical limits. 3) 10% and <LCL% J detects, UJ –NDs >UCL% J detects <10% R NDs, J-detects	All LCS/LCSD %R's within limits with the exception of di-n-butylphthalate (>UCL). Sample results for di-n-butylphthalate were qualified for method blank contamination therefore no sample results were qualified.	X	-	
Lab Blanks (method Blanks)	1) < 5x (<10x common) contaminants – U 2) analytes <lab PQL (contract lab) 3) no phthalates >5X QL (QAPP)	Associated method blank contained Di-ethylphthalate 0.23 mg/Kg Di-n-butylphhthatlate 4.5 mg/Kg Bis(2-ethylhexylphthalate 1.8 mg/Kg	X	Results for di-n-butylphthalate and bis(2-ethylhexylphthalate were qualified U in samples 544 and 545. Results for di-n-butylphthalate were qualified U in sample 544.	
Cleanup Performance Check (if performed)	%R< 10% NDs-R detections J %R>10% <LCL (80%GPC) –detections J, NDs UJ %R>UCL (120%) – detections J Retention Time shift <5%, symmetrical peakshape. GPC check with interferants. Good surrogate recovery, GPC blank check – no carryover.(VOA/SV-IX-I6). Sulfur and High MW compounds removed. Symetrical peaks for all compounds	NA	-	-	
Tune Check	Tune check within method parameters for DFTPP.	All tunes checks within limits.	X	-	
DDT degradation Instrument performance check	1) Breakdown <20% DDT 2) benzidine and pentachlorophenol at normal response - no peak trailing (<3.0 benz. , <5.0 penta.) Detections – J	Not analyzed	-	-	

ECC Region I Data Review Worksheet (rv 3) **SVOCs 3510C/8270C**
Project: NAS Brunswick Site 9 ECC Job No. 5700 **Review Criteria: Site 09 QAPP & USEPA Region I Tier II Guidance**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
Field Dup RPD	1) RPD ≤ 30% water; Criteria not provided in QAPP. Bldg 95 criteria used for consistency. Results > PQL (FD pair only) J-detects (both > PQL) 2) If one > PQL, other ND, J-detections, UJ non-detect 3) Other conditions use judgement	No field duplicates in this SDG.	X	-	
Initial Cal (Linearity)	Correct calibration stds %RSD < 15% use average RF for calibration %RSD> 15% use least squares COD (r2) > 0.990 or correlation coefficient r> 0.995 or alternatively mean %RSD <15% for all target analytes, with no analyte %RSD>30% or %RSD<30% each target analyte 1) CCCs %RSD: <30% (acenatphthene, 1,4 dichlorobenzene, hexachlorobutadiene, diphenylamine, di-n-octyl phthalate, fluoranthene, benzo(a)pyrene, 4-chloro-3-methylphenol, 2,4, dichlorophenol, 2-nitrophenol, phenol, pentachlorophenol, 2,4,6 trichlorophenol) J –detects, R or UJ NDs all samples associated with Ical) 2) SPCCs Average RRF > 0.05: SPCCs n-nitroso-di-n-propylamine, hexachlorcyclopentdiene, 2,4 dinitrophenol, 4-nitrophenol. (J –detects, R NDs) 3) RRF>0.05 all target compounds RRT < 0.06 units (all stds within 30 sec) 4) *verify that instrument parameters	Instrument ID: HP5890M 5/27/06 All SVOCs have %RSD<15% or COD>0.99. Linearity acceptable. CCCs and SPCC's within MPC. No samples qualified.	X	-	
2nd Source ICV	%D ≤ 25%, (+ or -) once per 5 pt cal Qualification: J detects, R or UJ NDs	Instrument ID: HP5890M 6/14/06 %D<25%, no sample qualified.	X	-	

ECC Region I Data Review Worksheet (rv 3) **SVOCs 3510C/8270C**
Project: NAS Brunswick Site 9 ECC Job No. 5700 **Review Criteria: Site 09 QAPP & USEPA Region I Tier II Guidance**

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
CCV	1) SPCCs Average minimum RRF >0.05: SPCCs n-nitroso-di-n-propylamine, hexachlorcyclopentdiene, 2,4 dinitrophenol, 4-nitrophenol. 2) RRF all compounds > 0.05 3) CCC [%D<20%]: (acenatphthene, 1,4 dichlorobenzene, hexachlorobutadiene, dipheynlamin, di-n-octyl phthalate, fluoranthene, benzo(a)pyrene, 4-chloro-3-methylphenol, 2,4, dichlorophenol, 2-nitrophenol, phenol, pentachlorophenol, 2,4,6 trichlorophenol) 4) %D<20%. Non- CCCs Qualification-J detects, R or UJ Nods 5) %D<25% all compounds (Tier I). 6) RRF exclusions: surrogates, 7) *verify same instrument and parameters 8) *Recalculate RRF for one tgt cmpd associated with each IS. (within 10%) 9) *Recalculate %D for one tgt cmpd associated with each IS (within 10%) 10) *IS RRT<0.06 units (30 sec) 11) * IS area -50 % to 100 % of last ICAL 12) *option-review preparation logs to ensure cal stds are traceable to NIST stds. 13) *option-recalculate cal std concentration of one std. Must agree within 10% of lab (option if information is in data package)	All %D's within MPC limits. No samples qualified.	X	-	
Compound Quantitation	1) Check sensitivy with respect to QAPP MRLs and ARARs	Analytical sensitivity is acceptable. Select samples diluted.	X	-	
Overall Evaluation of Data	1) Appropriate method 2) Evaluate any analytical problems 3) Evaluate sampling errors – field contamination, sample hold times	J for all samples with estimated results <MRL but >MDL. Analytical Error Evaluation: The laboratory precision and accuracy are acceptable for all compounds, as indicated by the LCS %R's and surrogates. LCS/LCSD recoveries and RPDs within limits except Nitrosodimethylanmine, nitrobenzene, bis(2-ethylhexyl)phthalate, and benzidine. No apparent sample bias for other compounds.	x	-	.

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative (samples listed on attached sheets)	Inven-tory	QUAL	BIAS
		Method blanks were non-detect with the exception of di-n-butylphthalate, di-n-butylphthalate and bis(2-ethylhexylphthalate. ICAL; Within MPC limits. CCV: Within MPC limits. ICV: Within MPC limits. Sampling Error Evaluation: No field duplicated associated with this SDG.			

*Tier III criteria.

Completeness Check: Inventory Check Sheet_____X__ Sample Quantitation Calculations (TIER III ONLY):

LAB CORRESPONDENCE: None.

ECC Region I Data Review Worksheet (rv 3) **Metals 6010B/7041/7470A/7740/7841**
Project: NAS Brunswick ECC Job No. 5700 **Review Criteria: Site 09 QAPP & Region I Tier II Guidance/NFG**

Data Validation Level	Matrix	Preservation	Temperature Sample Receipt	Laboratory	SDG Number
Tier II	**Solid**	**-**	**3-coolers Temp (^oC): <6C C**	**Northeast Lab, Winslow, ME**	**BNASSITE9060906**

Field Identification of Samples Evaluated:

Field ID	Lab Sample Number
1-D3-13	AI05544
2-D3-11	AI05545

Note: Samples are described below in the data worksheets by reference to the last three digits of the Lab Sample Number

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative	Inven-tory	QUAL	BIAS
COC	1)Unbroken custody (accept or if broken R) 2) Temp≤6° (Soil-J detects, R -nondetects 3) preserved per method (amber bottles, temperature. J, UJ, or R (function of HT and compound)	Cooler temperatures <6°C. Sample preservation adequate. Sample custody transferred from Field Team Leader to lab sample courier. Unbroken Chain of Custody. Sample preservation within limits. No samples qualified.	X	-	
Holding Time	1) 180 days (6010), Hg 28 Days to analysis 2) J –detects, UJ or R –nondetects (function of time)	All samples analyzed within holding time. No samples qualified.	X	-	
Field Dup RPD	1) RPD ≤ 30% water (no QAPP Criteria) for Results > X PQL (FD pair only) J-detects (both > X PQL) 2) If one >X PQL, other ND, J-detections, UJ non-detect	No field duplicates associated with this SDG.	X	.	
% Solids Check (SOLIDS)	30%<Solids: if no sample weight adjustment made 1) <10% R entire sample 2) 10%.> and <30%; J-detects, NDs –R	Solids >30%; no samples qualified.	-	-	
Results > Cal Range or <Cal Range	1) >Upper Cal Range J-detects - ensure instrument blank performed 2) <MRL but >MDL – J –detects (estimated)	All detections are greater than the MRL. No <MRL and >IDL. No samples qualified.	X	-	
Lab Blanks (method blank or preparation blank)	1) Once per sample batch 2) Results > QL; sample results <5X ; sample result U (nd) 3) Sample results >5X blank level; no action	All preparation blanks were non-detect.	X	-	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative	Inven-tory	QUAL	BIAS
LCS Recovery	1) once per sample batch 2) 80-120% ICP metals and Hg. 3) <LCL% Reject 4) >UCL% detects J	All LCS %R's were within MPC, except for K, which had a LCS %R<LCL. Laboratory precision is acceptable with the exception of K.	X	Results for K are qualified J in both samples.	
LCS/LCSD RPD	1) RPD<20%	All 6010B/Hg/Sb/ LCS/LCSD RPDs are within MPC. No samples qualified. Laboratory precision is acceptable.	X	-	
MS Recovery	1) 75-125% ICP metals and Hg if MS > 4X native levels) Qualification of MS sample: 2) <30% J detects, R NDs 3) 30%--74%, detects J, NDs UJ 4) >125% J detects	LCS/LCSD in place of MS. (See LCS)	X	-	
Laboratory Replicate RPD	RPD < 20% No QAPP criteria provided	No field duplicates associated with this SDG.	X	-	
Sensitivity*	1) MDL study – 7 replicates (40 CFR) 2) check and recalculate %RSDs and %R fir three compounds (with 10% of lab)	Select samples diluted to bring results in calibration range.	X	-	
Equip Blank	< 5x contaminants for aq samples – for soil indicate EB (X rules don't apply)	Not collected/analyzed with this SDG	-	-	
Negative blanks	If negative values are reported for an analyte with absolute value >DL and sample value is <5X the absolute value of the blank or is nondetect Qualify detects as estimated (J) Nondetects as estimated (UJ)	No negative blank detections. No samples qualified.	X	-	
Initial Cal Multipoint	1) Blank and 3 standards covering range of instrument. 2) high standard verification +/- %5 3) Hg 5-point calibration COD>0.99	ICP-AES samples. All COD's > 0.99 in all initial calibration runs for all methods. No sample qualifications. Se,Tl, Sb, Hg ICaL within limits.	X	-	
Initial Calibration Blanks (ICB)	1) Ical blank after Ical 2) Results > QL; sample results <5X ; sample result U (nd) 3) Blank concentrations < project RLs 4) Sample results >5X blank level; no action 5) ABS >RL then J qualify data	No 6010B/Hg/Sb/Se/Tl ICB detections – no samples qualified.	X	-	
Continuing Calibration Blanks (CCB)	1) CCB every 10 samples end of run 2) Blank concentrations < project RLs 3) Results > QL; sample results <5X ; sample result U 4) Sample results >5X blank level; no action ABS >RL then J qualify data.	No 6010B/Hg/Sb/Se/Tl CCB detections – no samples qualified.	X	-	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative	Inven-tory	QUAL	BIAS
Serial Dilution	1) once per digestion batch 2) Not required per QAPP- no criteria provided. 3) %D<10% 4) %D not evaluated if element results is <50X IDL 5) J detects, UJ non-detects.	No serial dilution performed. No samples qualified.	X	-	
Interelement checks ICS-A, ICS-AB Instrument performance check	1) start of sequence 2) 80-120% target analytes 3) >120% ; detects J (ICS-AB) 4) 50%-79% R ICS-AB; detects J, NDs – UJ 5) <50% R – reject data 6) ICS-A response > DL and samples have <5X ICS-A response: detects J (if DL is <10 ug/l use 2X DL). 7) Absolute value of negative ICS-A response>DL and sample detects <5X ICS-A response: detects J, NDs as UJ 8) If the ICS-A is within limits, the ICS-AB may not be analyzed (USACE Shell)	Both ICS-A and ICS-AB %R's within MPC limits.	X	-.	
ICV	1) following calibration 2) 90- 110% Recovery (6010/7000) 3) 75%-89% R – detects J, NDs – UJ 4) 111-125% R – detects J 5) outside 75-125% R – reject data (R) Hg 80-120%	6010B/Hg/ Se/Tl /Sb/ ICV %R's within MPC limits the initial calibration. No samples qualified.	X	-	
CCV	1) every 10 samples and end of run 2) 90- 110% Recovery (6010) Hg; 80-120% 3) 6010: 75%-89% R Hg, 65-79% R; – detects J, NDs – UJ. 4) 6010: 111-125%, Hg: 121-135% detects J 6010: outside 75-125%, Hg; outside 65-135%; R – reject data (R)	6010B/Hg/Sb/ Se/Tl CCV %R's within MPC limits. No samples qualified.	X	-	
Post Digestion Spike	1) Analyze if MS >MPC (QAPP) 2) 85- 115%R (QAPP Attachment A-1)	No post digestion spike necessary.	X	-	
*MDL Study	1) *In accordance with 40CFR – seven replicates %RSD < 20% 2) * IS and retention times within method requirements 3) * performed annually 4) *MDL is at least ½ of PQL *tgt and surrogate 80-120% R	NA	-	-	
*System Performance	1)* evaluate PES, MS//MSD, cal STDs, MDS study, and surrogates for systemic bias – high or low and access system accuracy 3) *Matrix effects- MS/MSD, surrogated, PDS. 4) *overall system contamination-review all blanks for systemic or sporadic contamination	K results were all qualified R due to low LCS recoveries.	X	-	

REVIEW ITEMS	ACCEPTANCE CRITERIA	SAMPLES AFFECTED Narrative	Inven-tory	QUAL	BIAS
Tune Check	Within Method limits.	NA	-		
Overall Evaluation of Data	1) Appropriate method 2) Evaluate any analytical problems 3) Evaluate sampling errors – field contamination, sample hold times	Analytical Error Evaluation: Laboratory precision and accuracy are acceptable with the exception of K. No apparent matrix bias. K results were all qualified J due to low LCS recoveries. ICAL: COD within limits. ICV: in limits CCV: in limits Sampling Error Evaluation: No field duplicate samples. Overall sampling and analysis precision is acceptable.	X	-	

*TIER III DATA VALIDATION ONLY Completeness Check: Inventory Check Sheet___X_Sample Quantitation Calculations (TIER III DATA VALIDATION ONLY):

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APPENDIX D

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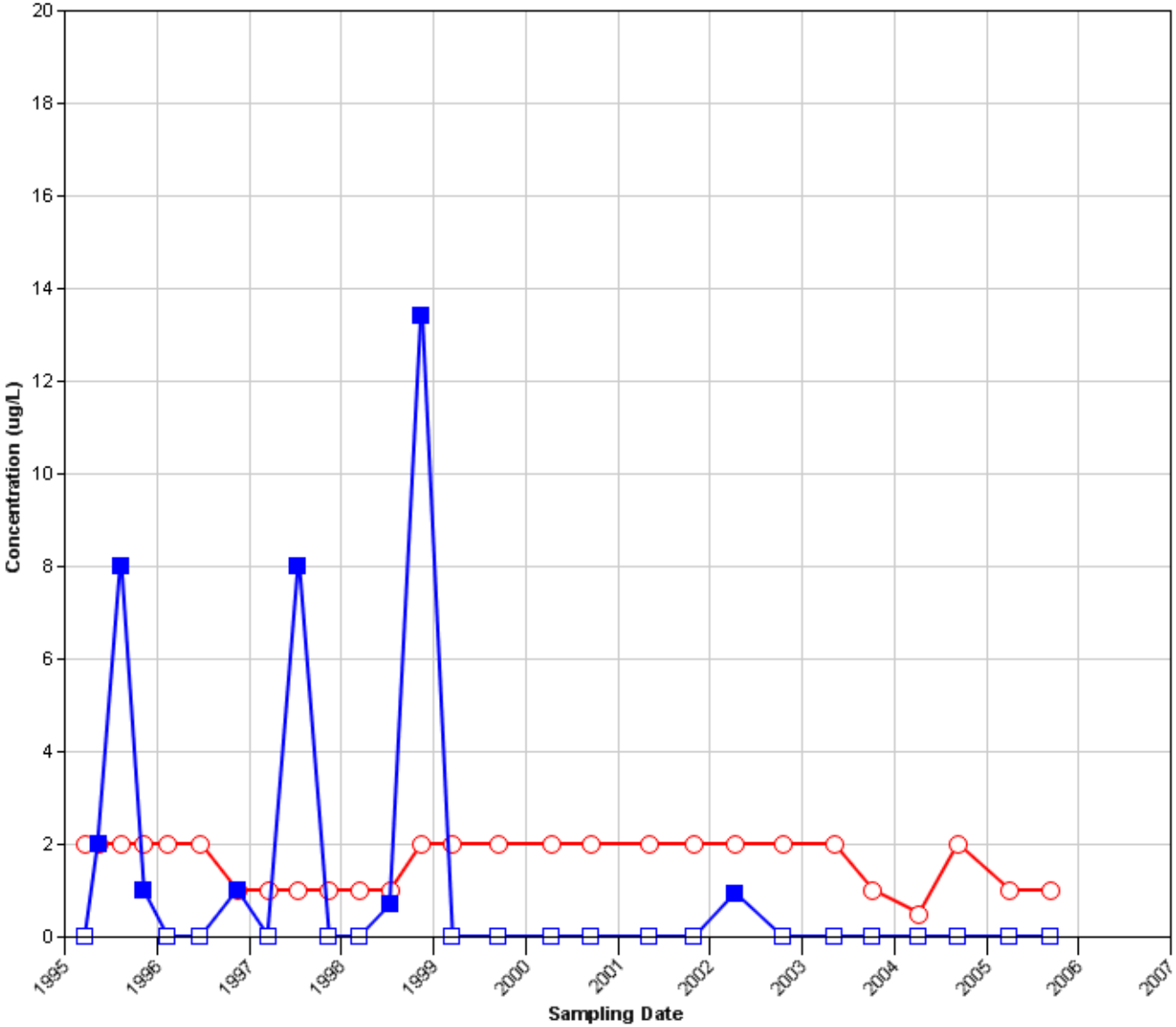
LT-901

Volatile Organic Compounds

Site 9 Leachate



Legend

Total VOC

Vinyl chloride

Notes

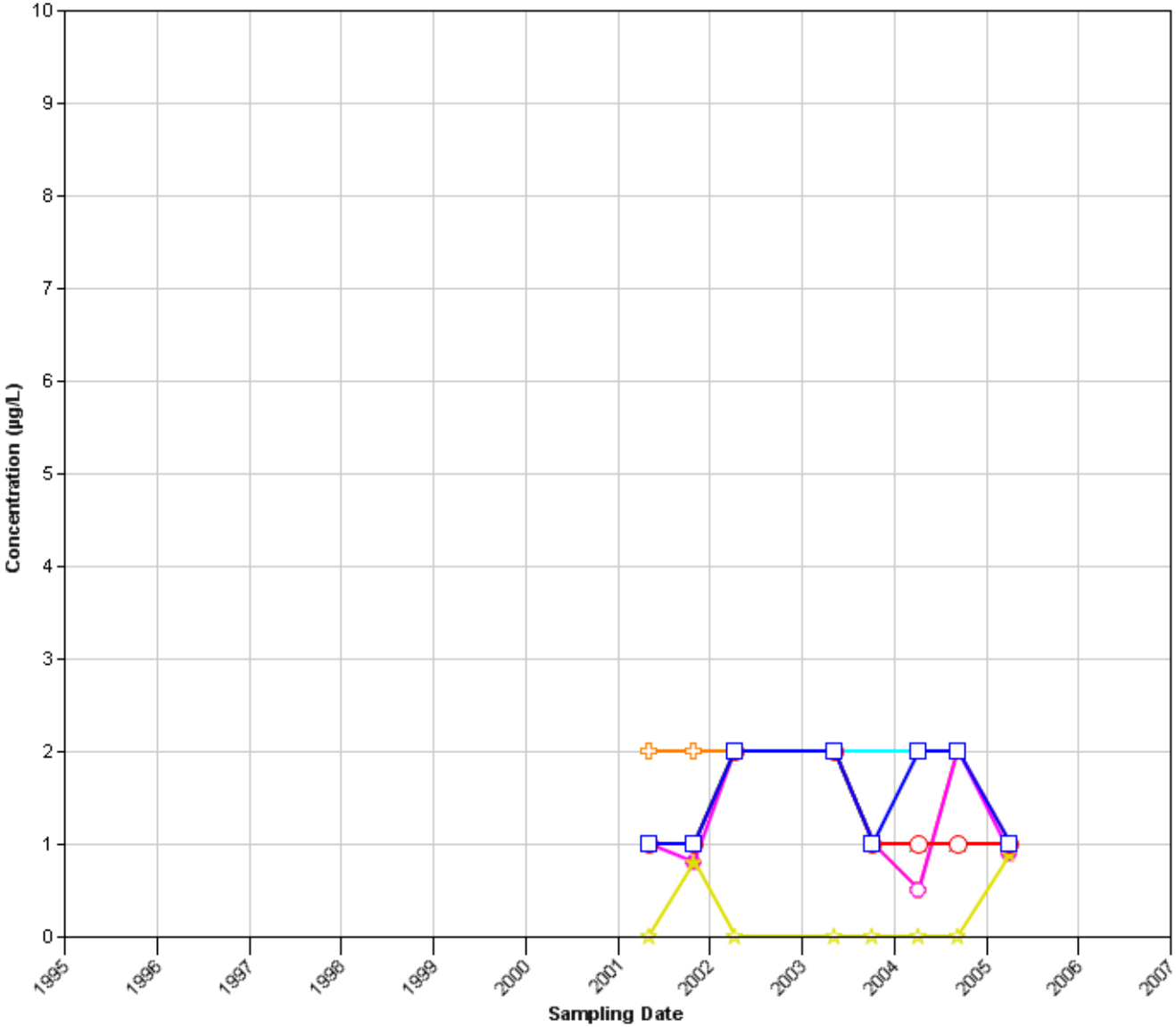
- Filled symbols denote detected results
- Hollow symbols denote non-detected results
- Non-detected results are plotted at the detection limit, or zero when the detection limit is unknown
- Total VOC is the sum of detected VOCs except Methylene Chloride, Acetone, 2-Butanone, and 1,4-Dioxane

MW-NASB-021

Volatile Organic Compounds

Deep Diffusion Sample

Site 9 Ground Water



Legend

- 1,1-Dichloroethane
- Ethylbenzene
- Toluene
- Total VOC
- trans-1,2-Dichloroethene
- Trichloroethene
- Vinyl chloride
- Xylenes, total

Notes

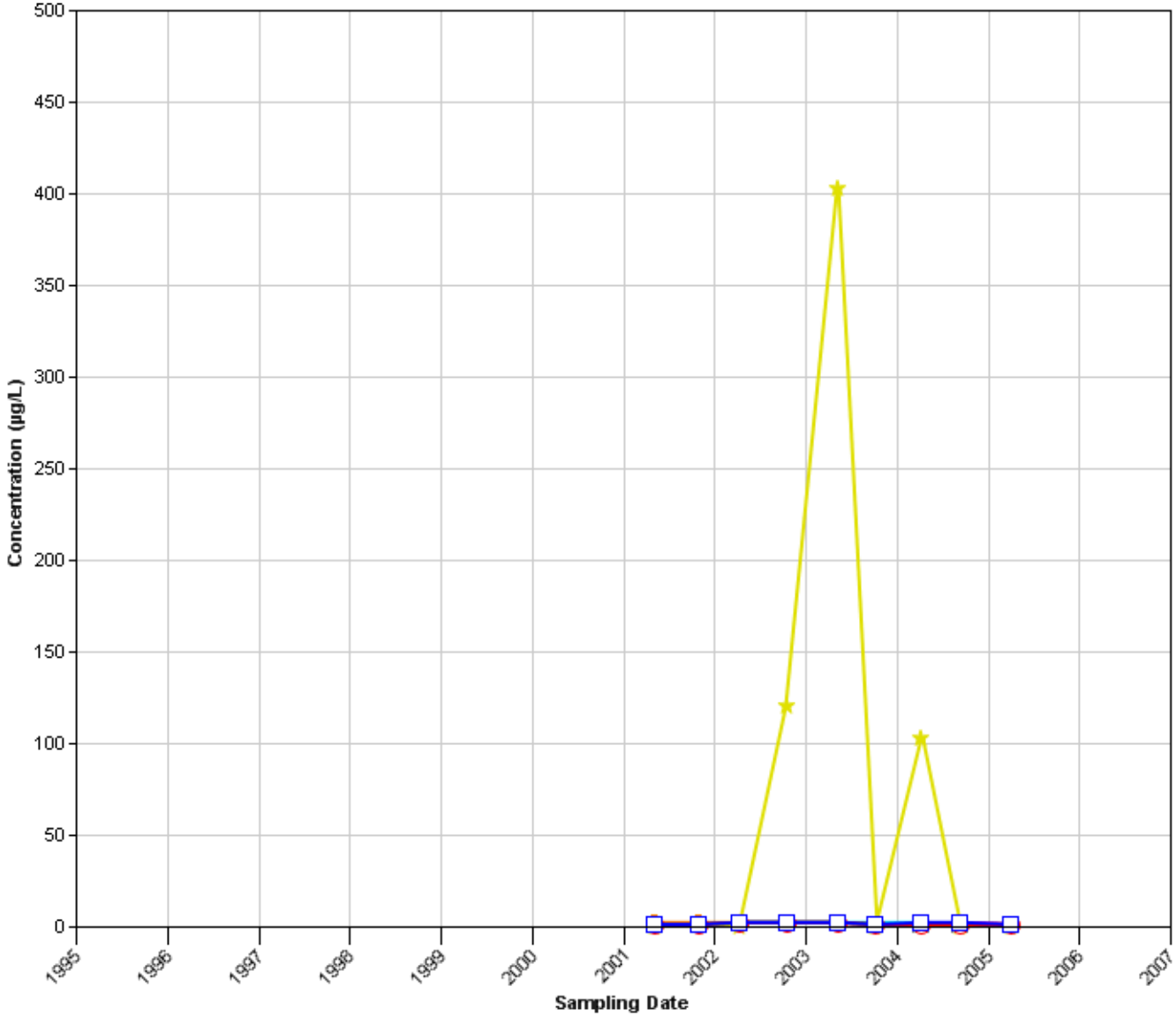
- Filled symbols denote detected results
- Hollow symbols denote non-detected results
- Non-detected results are plotted at the detection limit, or zero when the detection limit is unknown
- Total VOC is the sum of detected VOCs except Methylene Chloride, Acetone, 2-Butanone, and 1,4-Dioxane

MW-NASB-022

Volatile Organic Compounds

Deep Diffusion Sample

Site 9 Ground Water



Legend

- 1,1-Dichloroethane
- Ethylbenzene
- Toluene
- Total VOC
- trans-1,2-Dichloroethene
- Trichloroethene
- Vinyl chloride
- Xylenes, total

Notes

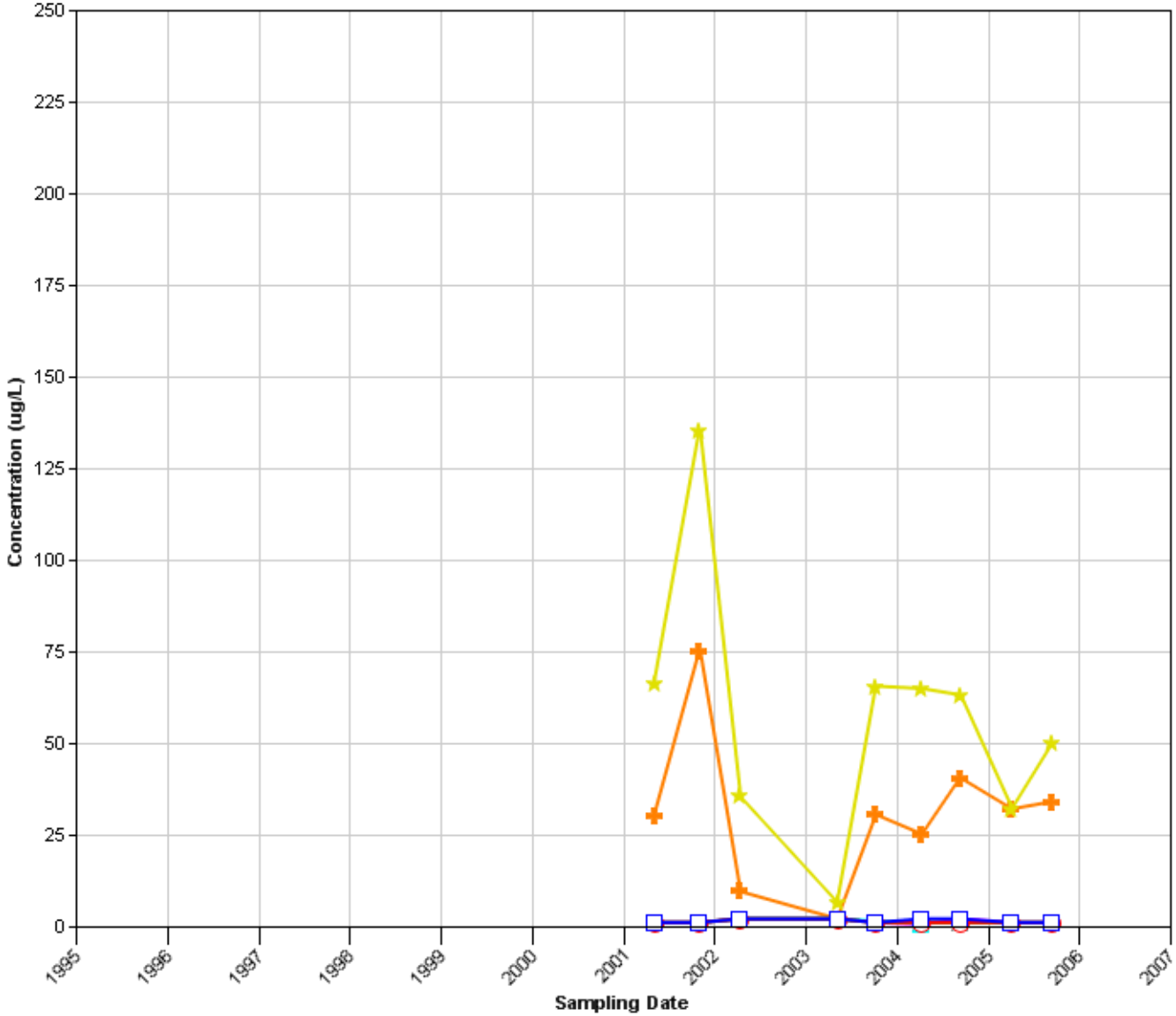
- Filled symbols denote detected results
- Hollow symbols denote non-detected results
- Non-detected results are plotted at the detection limit, or zero when the detection limit is unknown
- Total VOC is the sum of detected VOCs except Methylene Chloride, Acetone, 2-Butanone, and 1,4-Dioxane

MW-NASB-069

Volatile Organic Compounds

Shallow Diffusion Sample

Site 9 Ground Water



Legend

- 1,1-Dichloroethane
- Ethylbenzene
- Toluene
- Total VOC
- trans-1,2-Dichloroethene
- Trichloroethene
- Vinyl chloride
- Xylenes, total

Notes

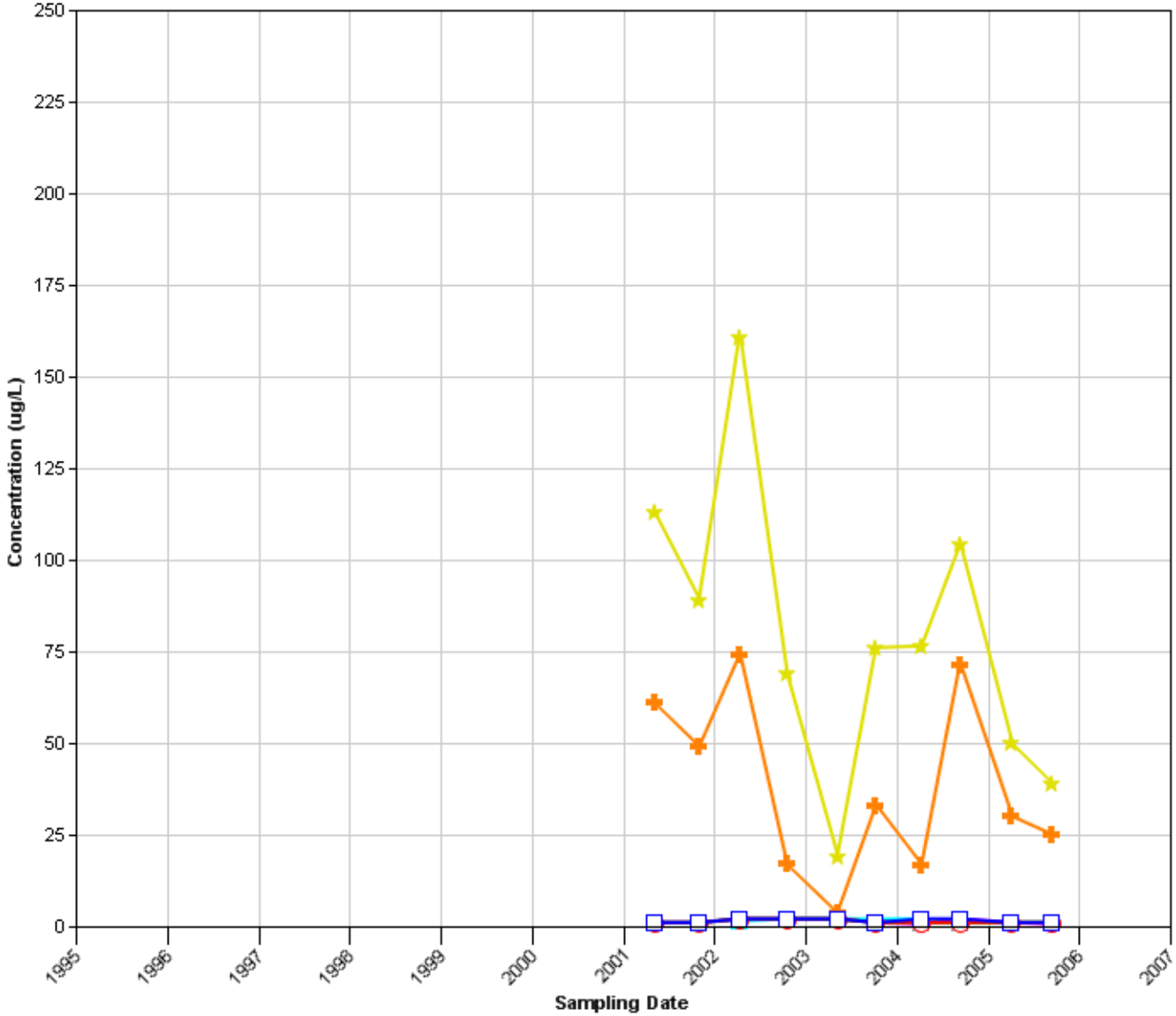
- Filled symbols denote detected results
- Hollow symbols denote non-detected results
- Non-detected results are plotted at the detection limit, or zero when the detection limit is unknown
- Total VOC is the sum of detected VOCs except Methylene Chloride, Acetone, 2-Butanone, and 1,4-Dioxane

MW-NASB-069

Volatile Organic Compounds

Deep Diffusion Sample

Site 9 Ground Water



Legend

- 1,1-Dichloroethane
- Ethylbenzene
- Toluene
- Total VOC
- trans-1,2-Dichloroethene
- Trichloroethene
- Vinyl chloride
- Xylenes, total

Notes

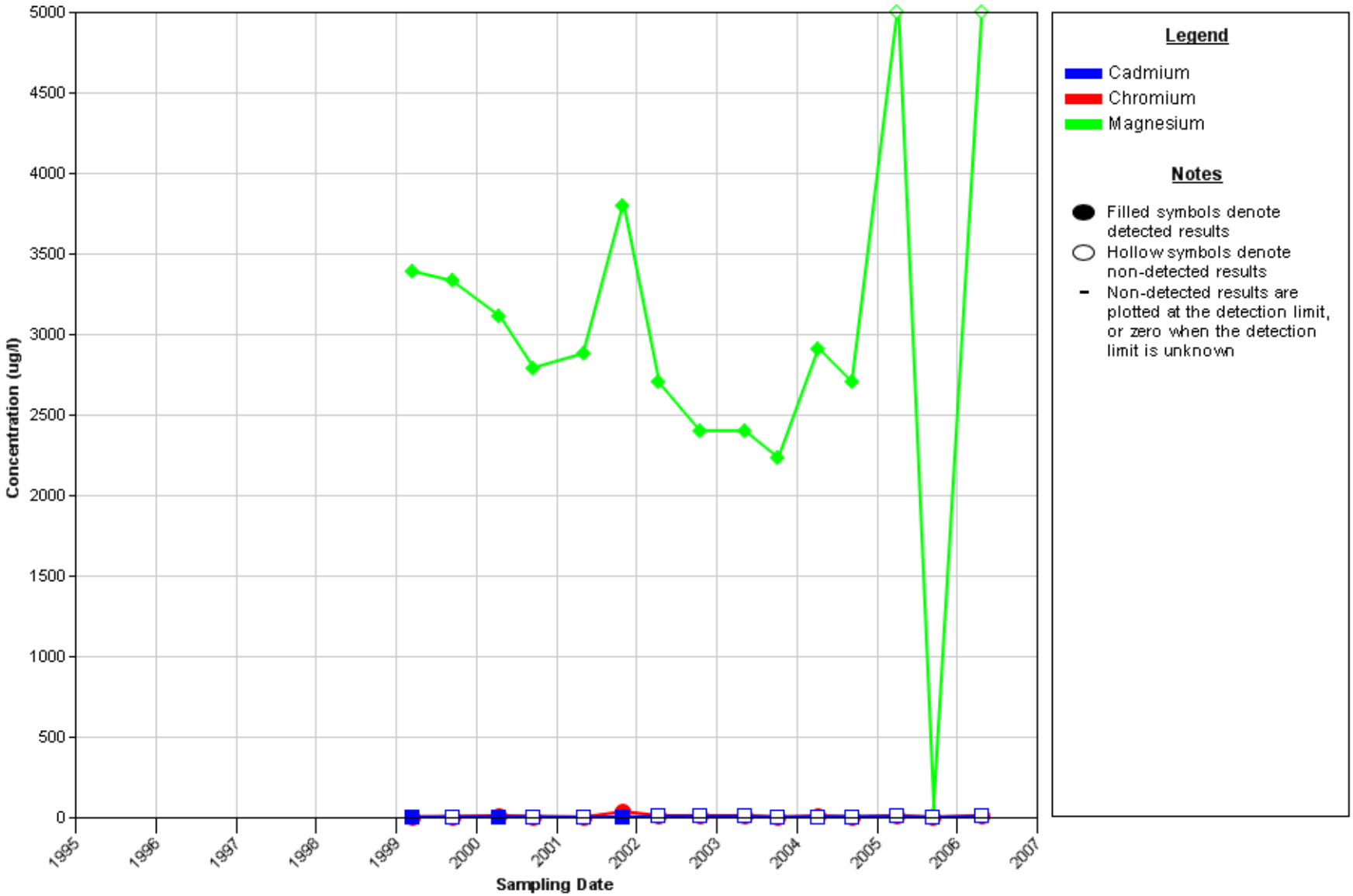
- Filled symbols denote detected results
- Hollow symbols denote non-detected results
- Non-detected results are plotted at the detection limit, or zero when the detection limit is unknown
- Total VOC is the sum of detected VOCs except Methylene Chloride, Acetone, 2-Butanone, and 1,4-Dioxane

MW-NASB-069

Inorganic Parameters

Low-flow Sample

Site 9 Ground Water

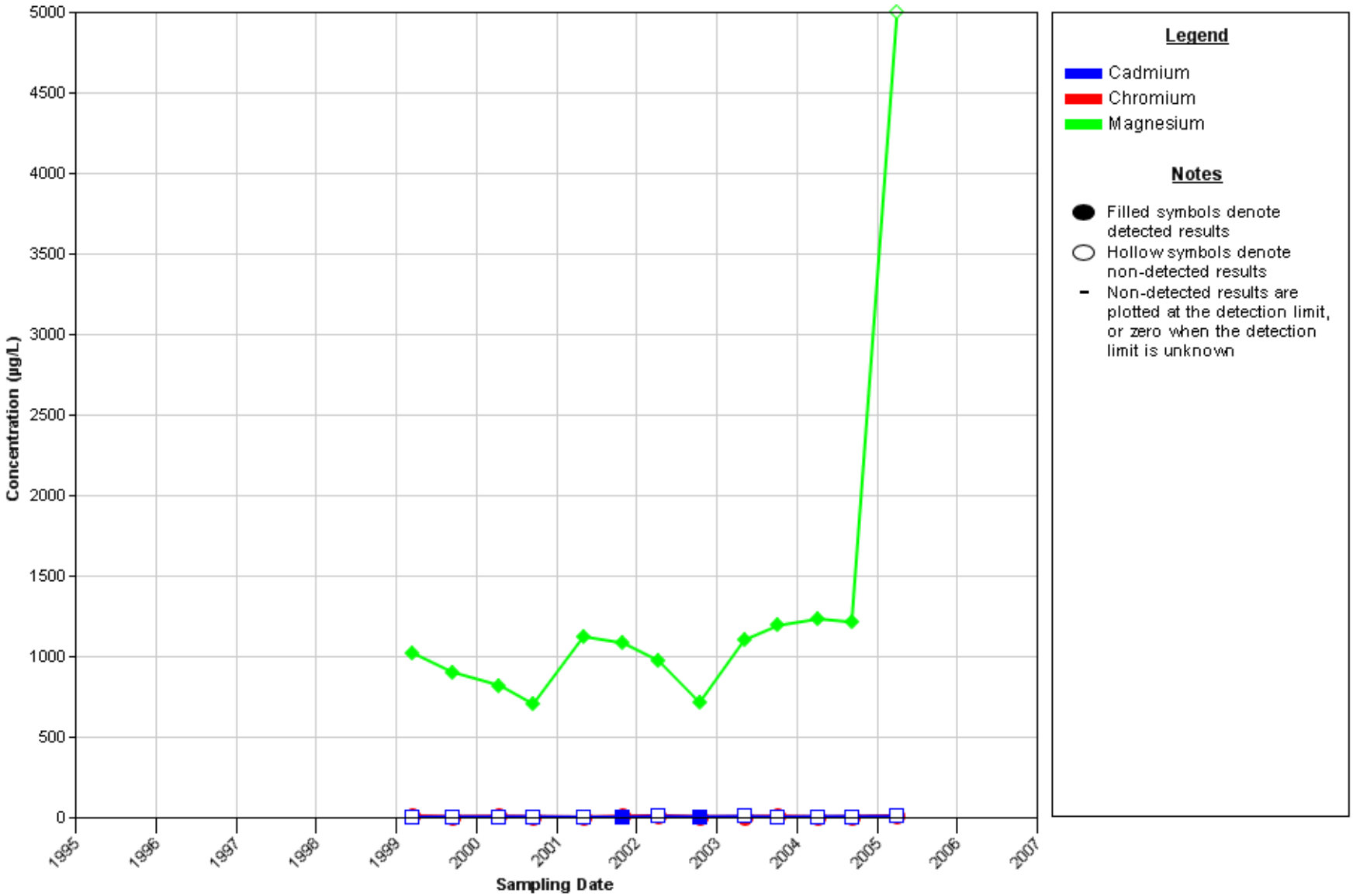


MW-NASB-070

Inorganic Parameters

Low-flow Sample

Site 9 Ground Water

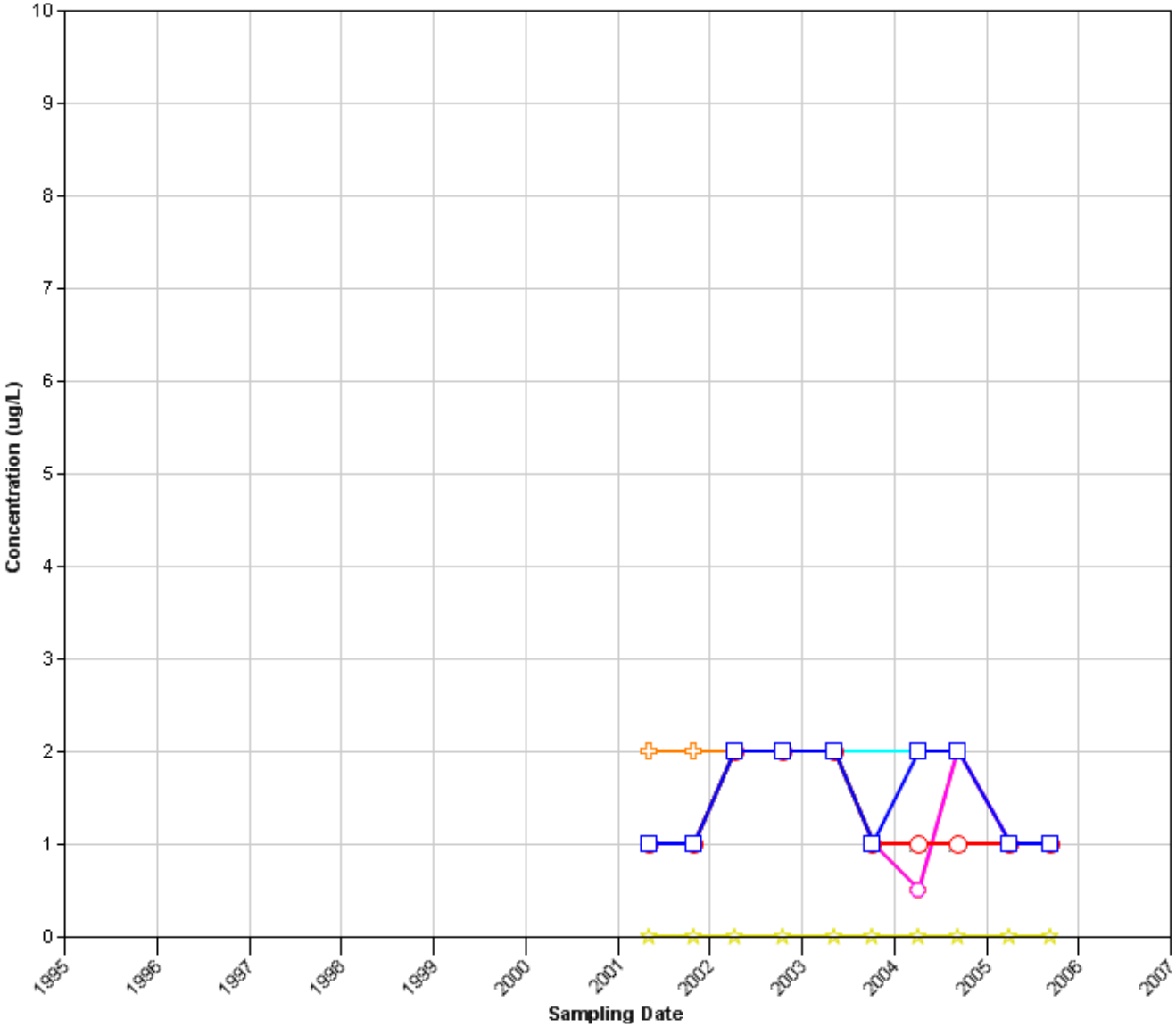


MW-NASB-071

Volatile Organic Compounds

Deep Diffusion Sample

Site 9 Ground Water



Legend

- 1,1-Dichloroethane
- Ethylbenzene
- Toluene
- Total VOC
- trans-1,2-Dichloroethene
- Trichloroethene
- Vinyl chloride
- Xylenes, total

Notes

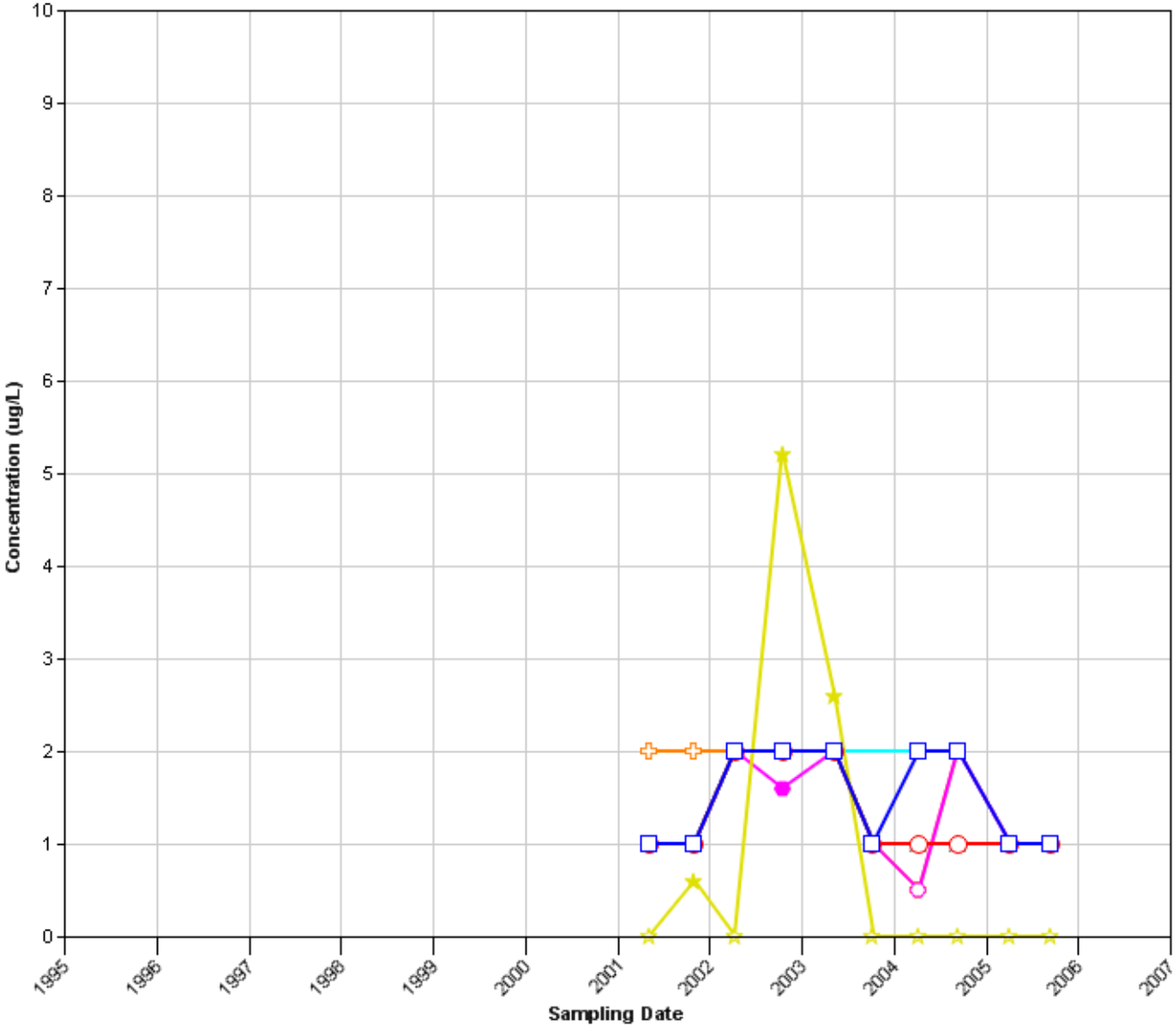
- Filled symbols denote detected results
- Hollow symbols denote non-detected results
- Non-detected results are plotted at the detection limit, or zero when the detection limit is unknown
- Total VOC is the sum of detected VOCs except Methylene Chloride, Acetone, 2-Butanone, and 1,4-Dioxane

MW-NASB-072

Volatile Organic Compounds

Deep Diffusion Sample

Site 9 Ground Water



Legend

- 1,1-Dichloroethane
- Ethylbenzene
- Toluene
- Total VOC
- trans-1,2-Dichloroethene
- Trichloroethene
- Vinyl chloride
- Xylenes, total

Notes

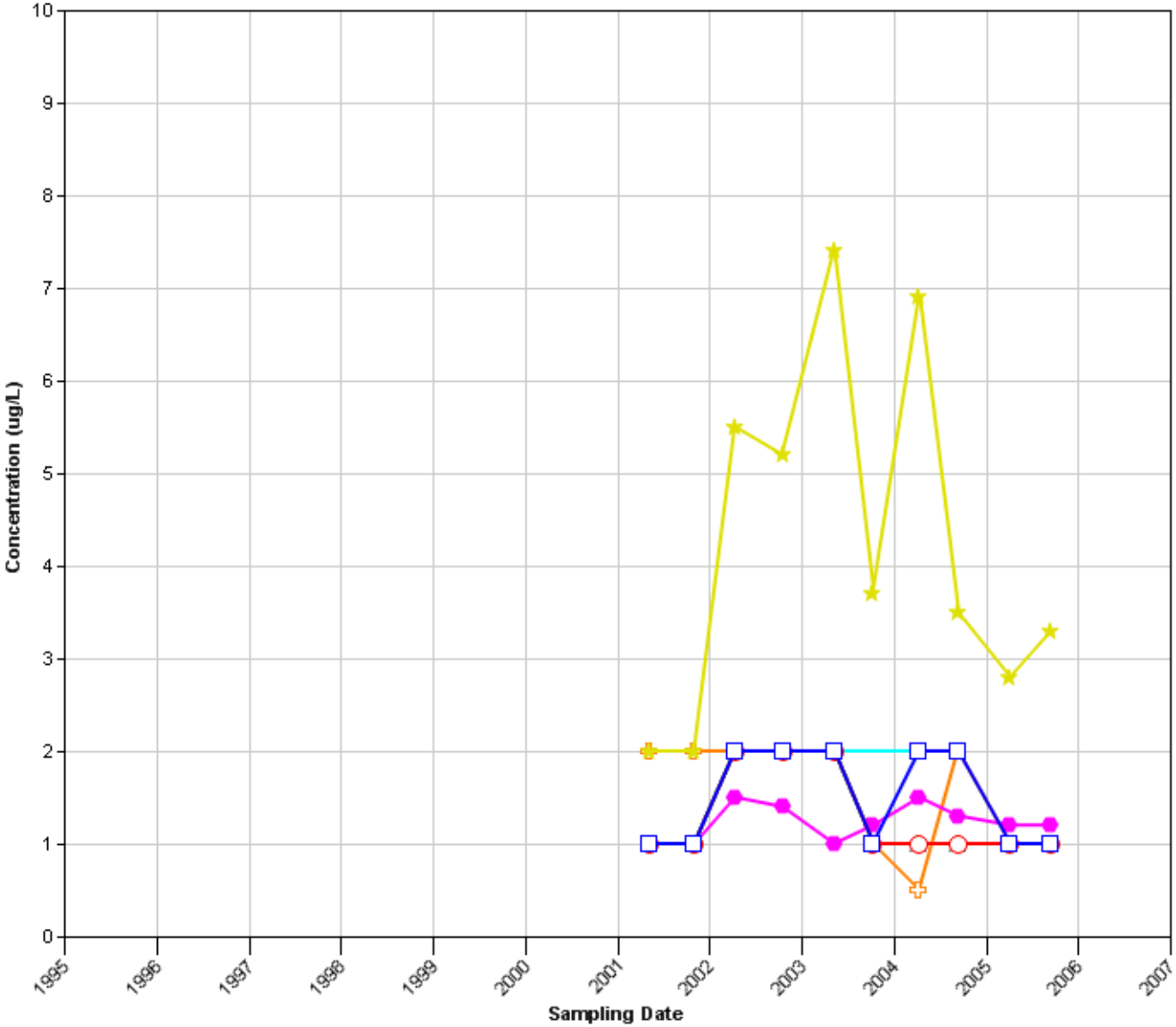
- Filled symbols denote detected results
- Hollow symbols denote non-detected results
- Non-detected results are plotted at the detection limit, or zero when the detection limit is unknown
- Total VOC is the sum of detected VOCs except Methylene Chloride, Acetone, 2-Butanone, and 1,4-Dioxane

MW-NASB-074

Volatile Organic Compounds

Deep Diffusion Sample

Site 9 Ground Water



Legend

- 1,1-Dichloroethane
- Ethylbenzene
- Toluene
- Total VOC
- trans-1,2-Dichloroethene
- Trichloroethene
- Vinyl chloride
- Xylenes, total

Notes

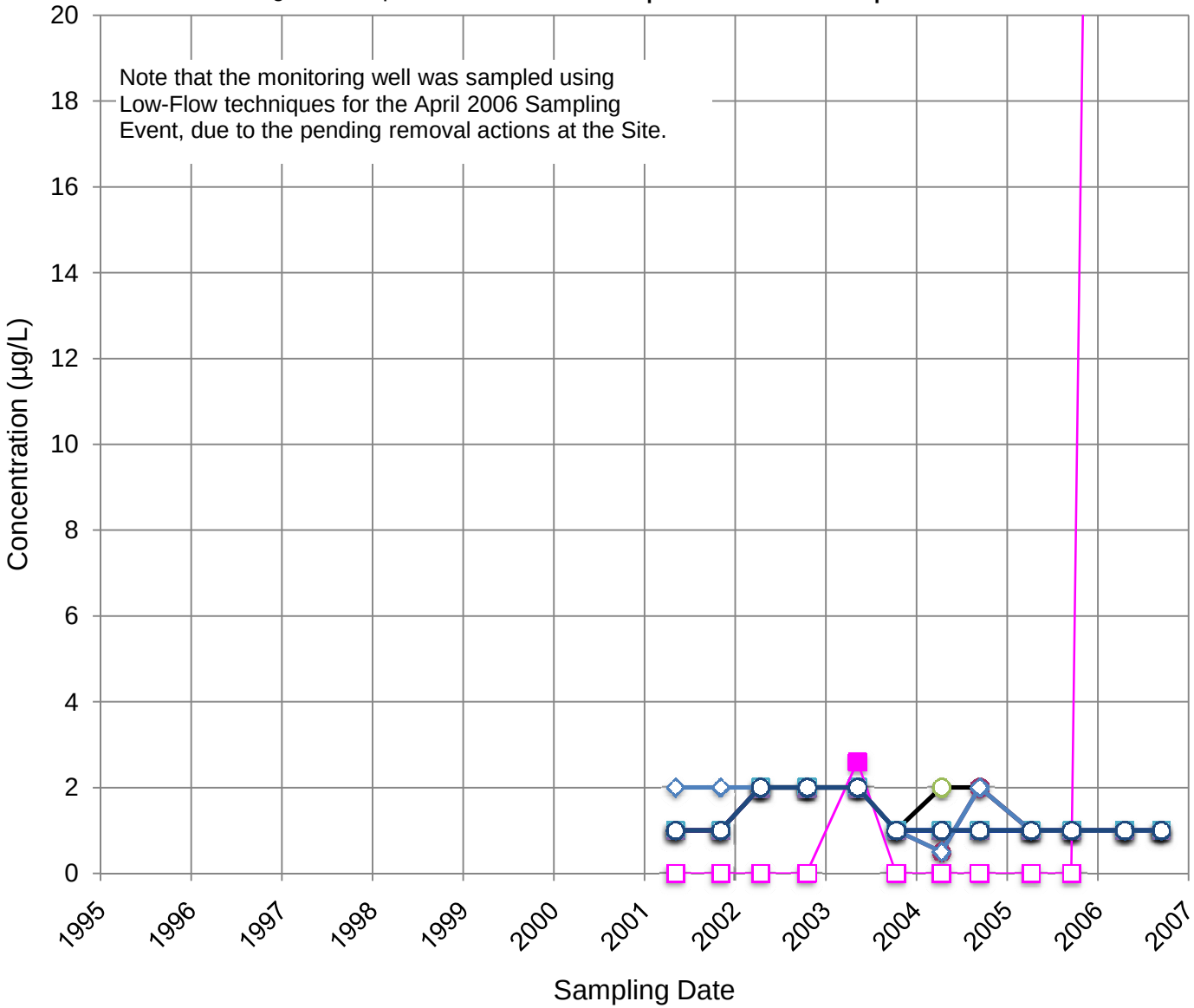
- Filled symbols denote detected results
- Hollow symbols denote non-detected results
- Non-detected results are plotted at the detection limit, or zero when the detection limit is unknown
- Total VOC is the sum of detected VOCs except Methylene Chloride, Acetone, 2-Butanone, and 1,4-Dioxane

MW-NASB-075

Deep Diffusion Sample

Volatile Organic Compounds

Site 9 Ground Water



Legend

- 1,1-Dichloroethane
- Ethylbenzene
- Toluene
- Total VOC
- trans-1,2-Dichloroethene
- Trichloroethene
- Vinyl chloride
- Xylenes, total

Notes

Filled symbols denote detected results.

Hollow symbols denote non-detected results.

Non-detected results are plotted at the detection limit, or zero when the detection limit is unknown.

Total VOC is the sum of detected VOCs except MethyleneChloride, Acetone, 2-Butanone, and 1,4-Dioxane.

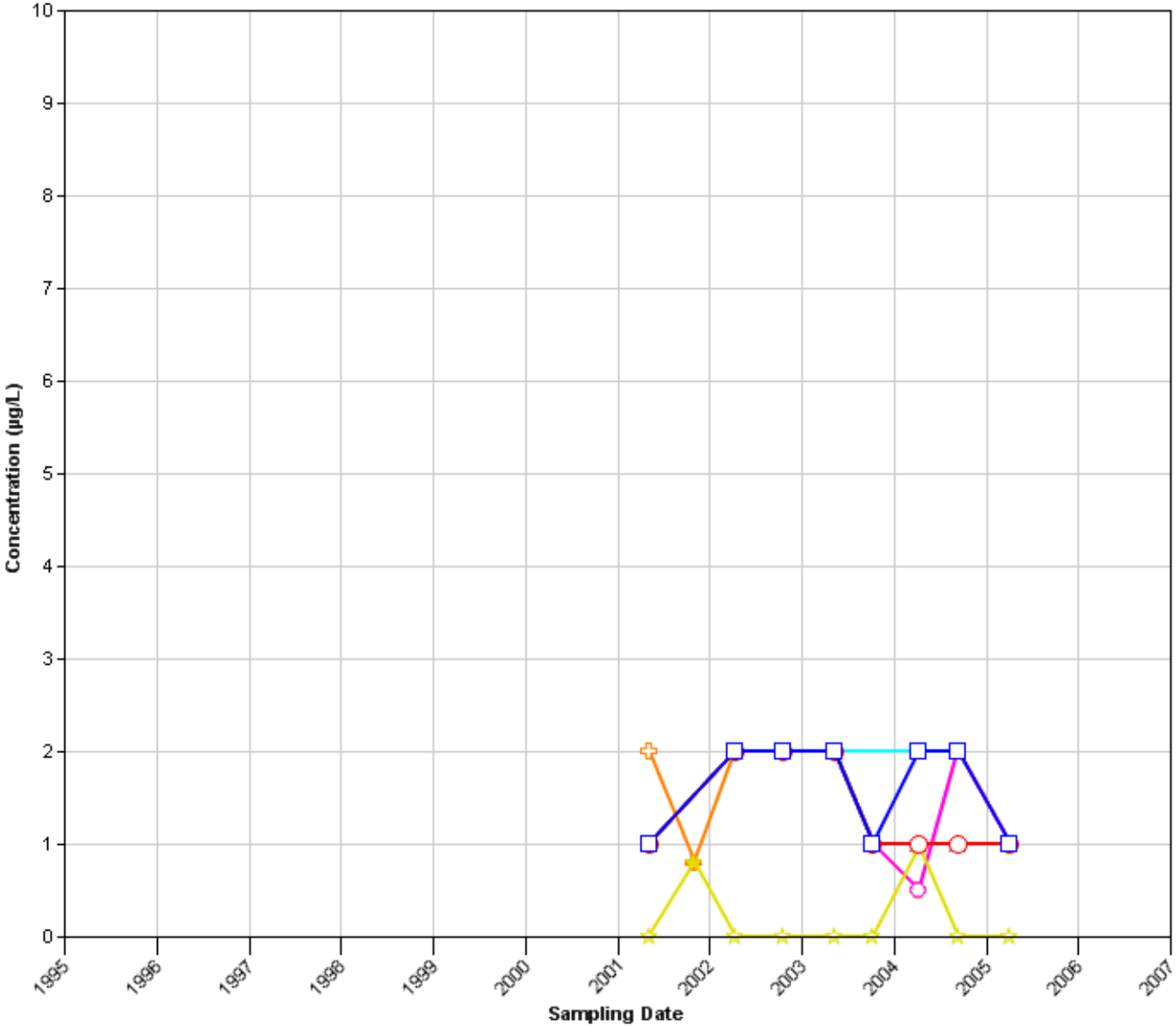
Total VOC values of 92 and 95.8 µg/L in April and November 2006 are shown off scale to preserve visual information at lower concentrations. These values are due solely to Trichlorofluormethane.

MW-NASB-076

Volatile Organic Compounds

Deep Diffusion Sample

Site 9 Ground Water



Legend

- 1,1-Dichloroethane
- Ethylbenzene
- Toluene
- Total VOC
- trans-1,2-Dichloroethene
- Trichloroethene
- Vinyl chloride
- Xylenes, total

Notes

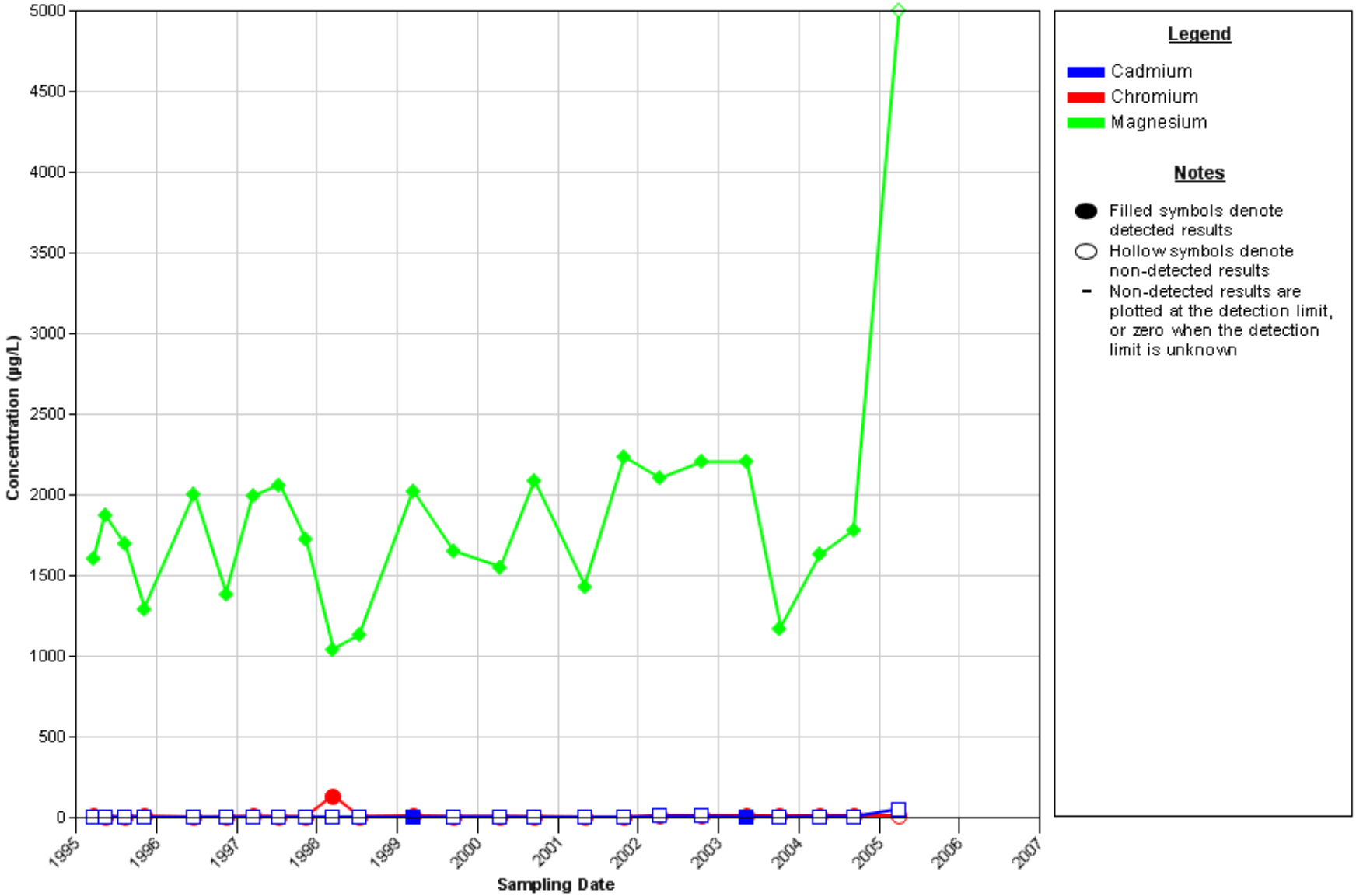
- Filled symbols denote detected results
- Hollow symbols denote non-detected results
- Non-detected results are plotted at the detection limit, or zero when the detection limit is unknown
- Total VOC is the sum of detected VOCs except Methylene Chloride, Acetone, 2-Butanone, and 1,4-Dioxane

MW-NASB-079

Inorganic Parameters

Low-flow Sample

Site 9 Ground Water

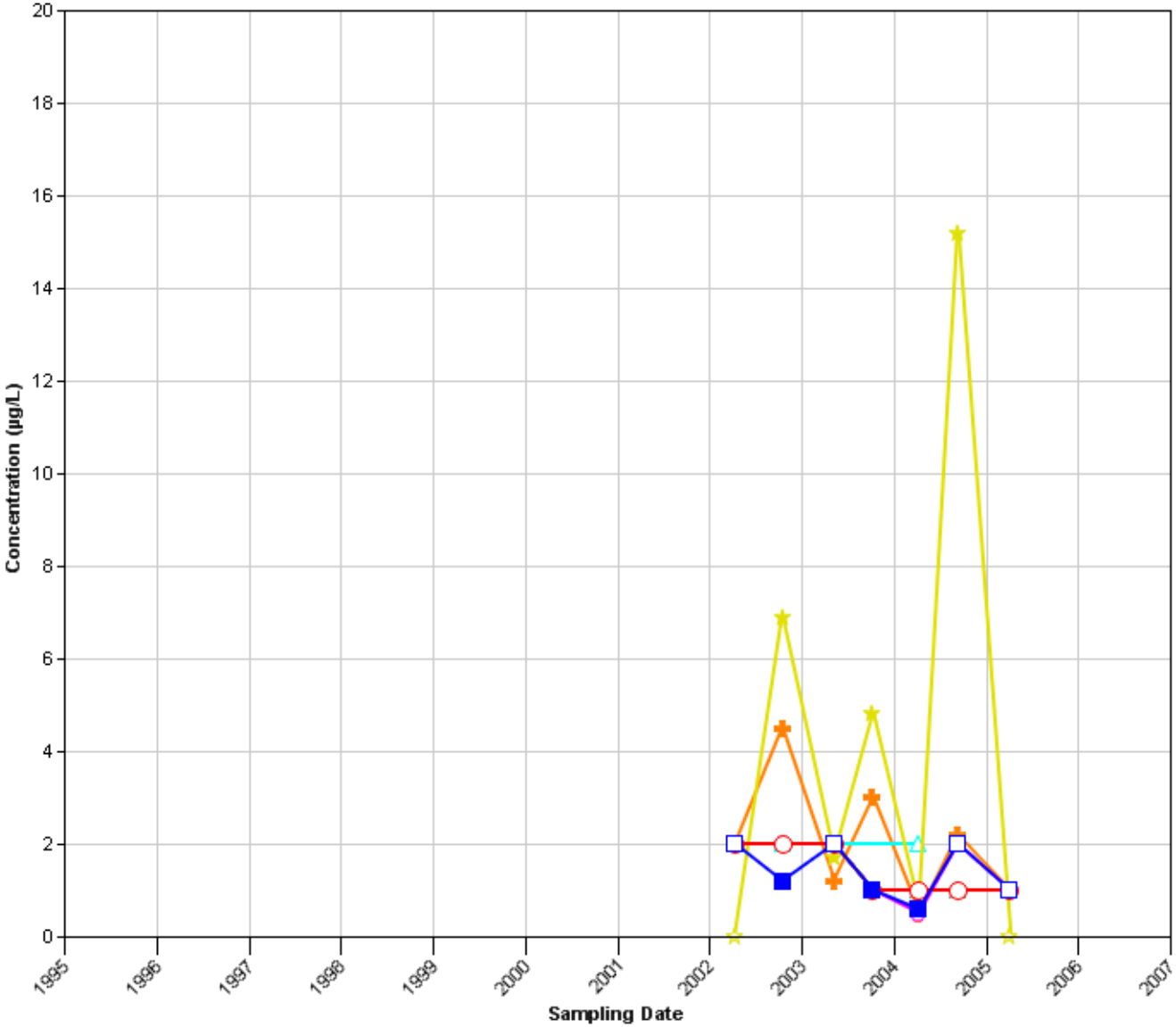


MW-NASB-080

Volatile Organic Compounds

Deep Diffusion Sample

Site 9 Ground Water



Legend

- 1,1-Dichloroethane
- Ethylbenzene
- Toluene
- Total VOC
- trans-1,2-Dichloroethene
- Trichloroethene
- Vinyl Chloride
- Xylenes, Total

Notes

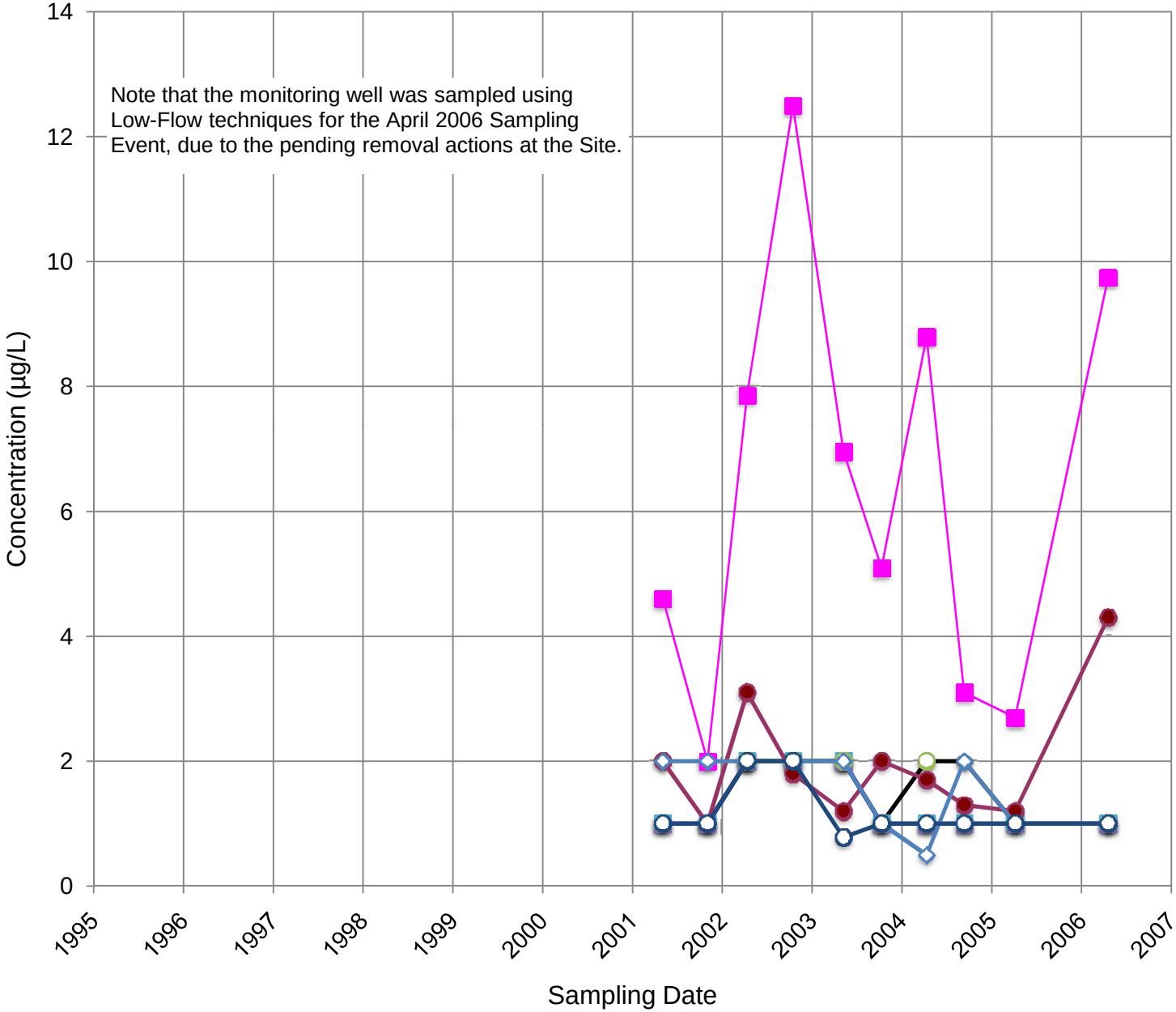
- Filled symbols denote detected results
- Hollow symbols denote non-detected results
- Non-detected results are plotted at the detection limit, or zero when the detection limit is unknown
- Total VOC is the sum of detected VOCs except Methylene Chloride, Acetone, 2-Butanone, and 1,4-Dioxane

MW-NASB-227

Deep Diffusion Sample

Volatile Organic Compounds

Site 9 Ground Water



Legend

- 1,1-Dichloroethane
- Ethylbenzene
- Toluene
- Total VOC
- trans-1,2-Dichloroethene
- Trichloroethene
- Vinyl chloride
- Xylenes, total

Notes

Filled symbols denote detected results.

Hollow symbols denote non-detected results.

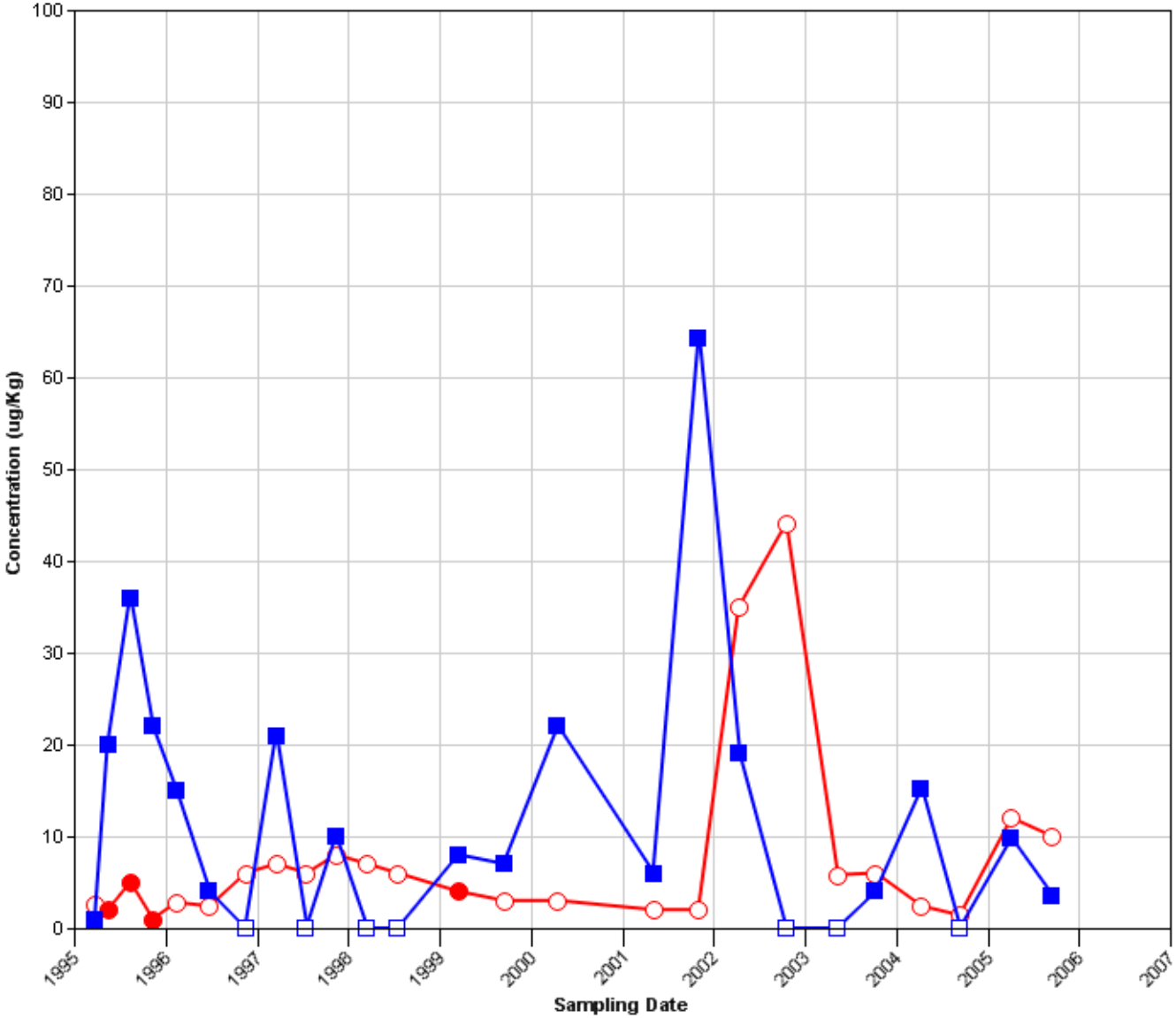
Non-detected results are plotted at the detection limit, or zero when the detection limit is unknown.

Total VOC is the sum of detected VOCs except MethyleneChloride, Acetone, 2-Butanone, and 1,4-Dioxane.

SED-10

Volatile Organic Compounds

Site 9 Sediment



Legend

Total VOC

Vinyl chloride

Notes

Filled symbols denote detected results

Hollow symbols denote non-detected results

- Non-detected results are plotted at the detection limit, or zero when the detection limit is unknown
- Total VOC is the sum of detected VOCs except Methylene Chloride, Acetone, 2-Butanone, and 1,4-Dioxane