CDM

Wake County, North Carolina

North Wake Unlined Landfill Air Sparging Pilot Test Report

September 2010

WAKE COUNTY
NORTH CAROLINA

Report

CDM
5400 Glenwood Avenue, Suite 300
Raleigh, North Carolina 27612
tel: 919 787-5620
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September 7, 2010

Mr. John Roberson, P.E.
Wake County
Facilities Design and Construction
P.O. Box 550
Raleigh, North Carolina 27602

Subject: Air Sparging Pilot Test Report
North Wake Unlined Landfill
Facility Permit # - 92-09

Dear Mr. Roberson:

This letter report presents the results of the recently completed air sparging pilot test performed by CDM at the North Wake Unlined Landfill. As described in the approved Corrective Action Plan, the pilot test was conducted near monitoring wells MW-6 and -6d and ran for approximately one month. Drilling activities, pilot test set-up, monitoring, and test results are discussed below.

Drilling Activities and Well Installation
Drilling was performed by SAEDACCO, Inc, under supervision of a CDM geologist, from June 14-21, 2010. Five 6-inch boreholes approximately 70 feet northwest of MW-6/6d were completed using hollow-stem auger and air rotary methods. Boreholes were spaced at approximate 7 ft intervals and terminated when the first water-bearing fractures in bedrock were encountered. In all 5 wells, the total depth was approximately 70 ft. Borehole locations are provided on **Figure 1**.

Two 1-inch PVC wells with 5 feet of screen were installed in each borehole. One well was installed in partially weathered rock (PWR) and the other installed in the shallow fractured bedrock (BR). The wells were completed with 12-inch diameter flush-mounted covers and 12-inch by 17-inch vaults. Bore logs and well construction records are provided in **Appendix A**.

Pilot Test Set-Up and Monitoring
A 4.5-gallon, 110-volt air compressor was placed near landfill gas extraction well EXW-75 to inject air into PT-1 BR via ¼-inch compressed air hose. The remaining 9 wells were fitted with pressure gauges.

Electricity for the compressor was provided from the adjacent condensate sump for the perimeter landfill gas migration vacuum system. A transformer, separate breaker and circuit were installed by Starr Electric Company, Inc. on July 7, 2010. The transformer was necessary to step-down the voltage from a reported 480 volts to 120 volts.

The pilot test was started on July 7, 2010. Prior to beginning the test, background dissolved oxygen readings were collected from each of the pilot test wells and monitoring wells MW-6 and MW-6d. In addition, groundwater samples from MW-6 and MW-6d were collected for laboratory analysis of volatile organic compounds (VOC). Once all background data were collected, the compressor was turned on and set to discharge air at 30 psi. At some time between July 8, 2010 and July 9, 2010 the connection to the injection well PT-1 BR became disconnected. Due to excessive air flow and heat over that period, the air compressor failed.

On July 14, 2010 a new compressor was installed and the connection to PT-1 BR was secured. In addition, a flow control valve and flow meter were installed in the vault box at PT-1 to regulate flow. The test was restarted on July 14, 2010 and concluded on August 13, 2010. The compressor was set at 20 psi and flow into PT-1 BR was maintained around 0.15 scfm (4.25 L/min). During the last week of the pilot test, flow was increased to 0.2 to 0.25 scfm (5.6 to 7 L/min). Daily visits were made to empty any moisture that had accumulated in the compressor, adjust air flow, repair any broken fixtures, and monitor pressure changes in the wells. Dissolved oxygen (DO) readings were collected weekly from each pilot test well using a YSI 550. MW-6 and -6d were also monitored weekly for DO and sampled before, during, and after the pilot test to monitor any changes in volatile organic compounds (VOCs).

Results

As mentioned previously, air flow into PT-1 BR was adjusted daily to keep the flow between 0.1 and 0.2 scfm (around 4 L/min). **Figure 2** shows the daily fluctuations in the flow into PT-1 BR and the pressure in PT-1 PWR. As expected, flow in PT-1 BR and pressure in PT-1 PWR were directly related, with increases in flow causing an increase in pressure. No increases in pressure were recorded in any of the other gauges even when the flow was increased during the last week of the test.

DO readings (**Table 1**) were collected six times throughout the pilot test starting with background readings on July 7, 2010 and ending on August 13, 2010 when the system was turned off. Each of the PWR wells showed an increase in DO throughout the test with the largest increases occurring in PT-1 PWR and PT-2 PWR. DO increases in the bedrock

wells was limited to PT-2 BR. As air moved away from the injection point (PT-1 BR) it was easier for air to travel upward to the PWR rather than outward within the bedrock fractures.

Groundwater samples were collected on July 7, July 29, and August 13, 2010 from MW-6 and -6d using a peristaltic pump. The samples were analyzed by ENCO Laboratories, Inc. in Cary, North Carolina for Appendix I Volatile Organics. A complete summary of the pilot test results along with historic data is presented on **Table 2**. Copies of the laboratory reports are provided in **Appendix B**. There were no significant changes in VOC concentrations during the pilot test. This is likely due to the short duration of the pilot test and the large distance between the injection point (PT-1 BR) and MW-6/-6d (approximately 80 ft).

Recommendations

Based on the DO results from the pilot test observation wells, a conservative well spacing of 40 feet for the full-scale air sparging system has been determined. A radius of influence (ROI) of 20 ft was calculated by averaging the 30 ft perceived ROI seen in the PWR wells and the 10 ft perceived ROI seen in the bedrock wells. In the final system, air will be injected simultaneously into the bedrock and PWR at similar pressures and flow. This will minimize the air injected into the bedrock from moving upwards to the PWR and maximize the effectiveness of the system to remediate both the surficial aquifer and shallow fractured bedrock.

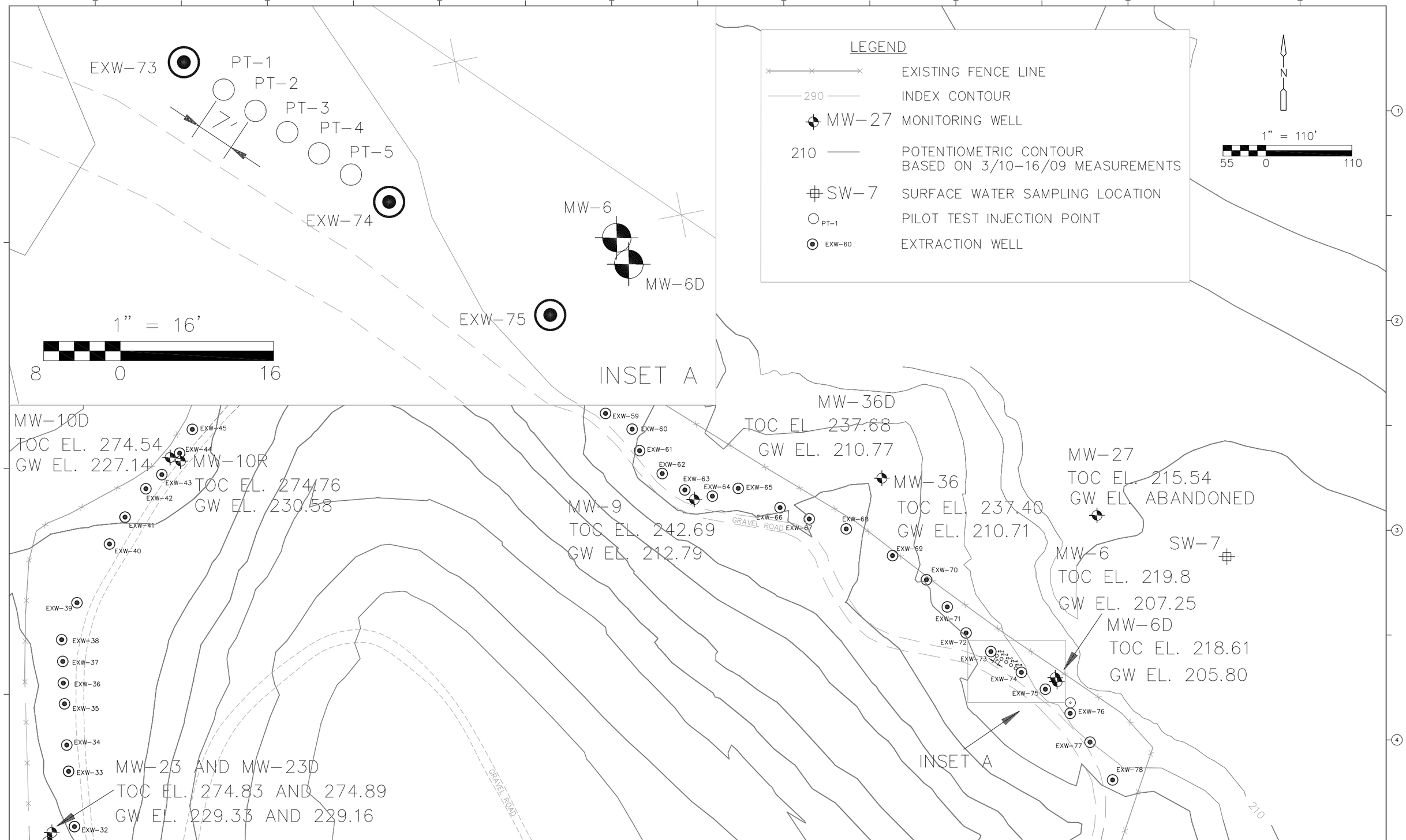
If you have any questions or require further explanation, do not hesitate to call me at 787-5620.

Very truly yours,

Mat Colone

Mathew F. Colone, P.G.
Camp Dresser & McKee

cc: Tommy Esqueda, P.E., WCSWM
Elliott Cornell, P.G., WCSWM
Lee Squires, P.E., WCSWM
Jaclynne Drummond, NCDENR



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: A. WEISPFENNING
DRAWN BY: J. KILLINGSWORTH
SHEET CHK'D BY: M. COLONE
CROSS CHK'D BY:
APPROVED BY:
DATE: AUGUST 2010

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WAKE COUNTY
NORTH CAROLINA
NORTH WAKE UNLINED LANDFILL
CORRECTIVE ACTION PLAN

PILOT TEST
AIR SPARGING SYSTEM LAYOUT

PROJECT NO. 6172-77575
FILE NAME: WAKE PILOT.DWG

FIGURE
1

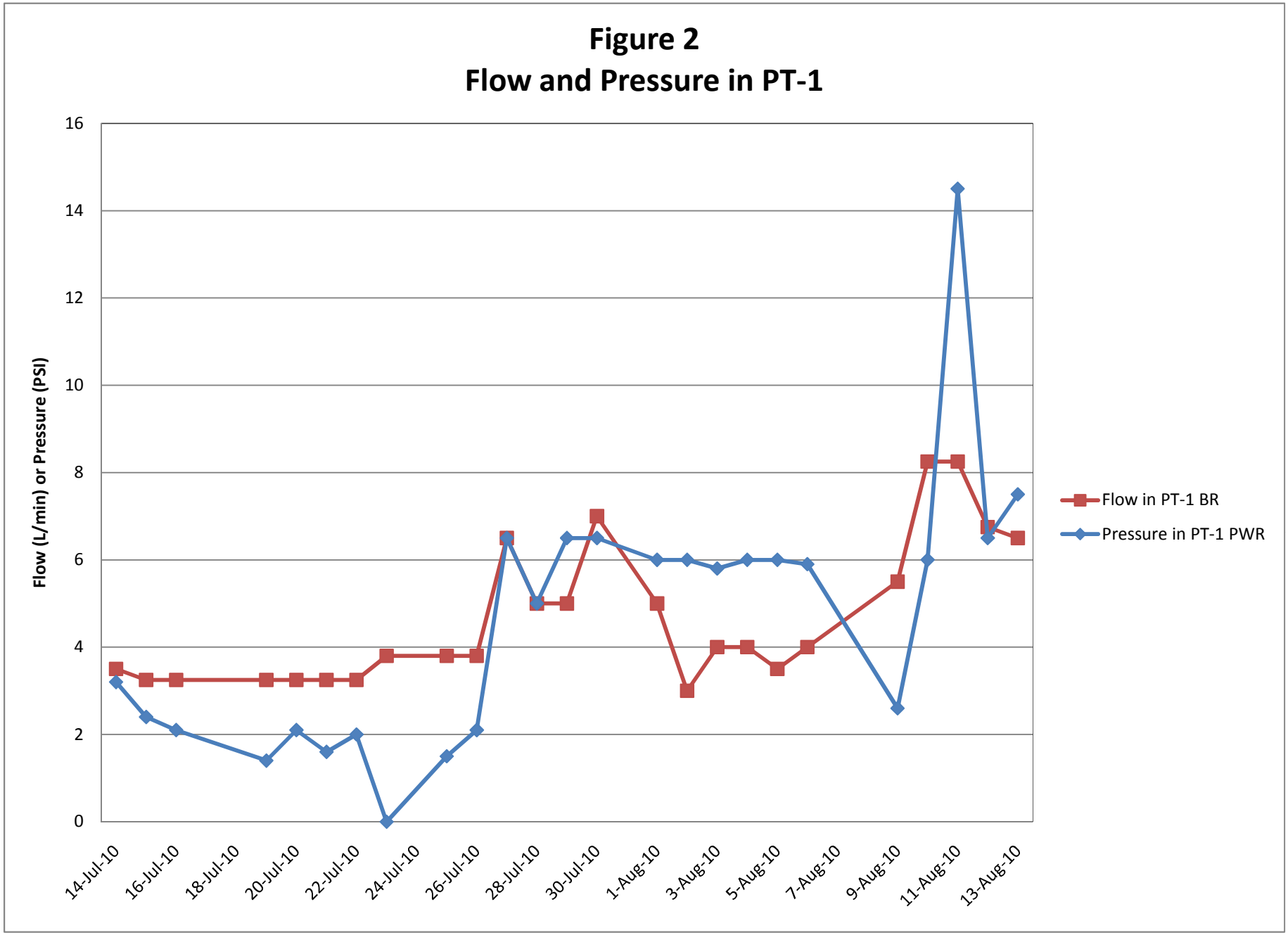
Figure 2
Flow and Pressure in PT-1
Flow (L/min) or Pressure (PSI)
16
14
12
10
8
6
4
2
0
14-Jul-10
16-Jul-10
18-Jul-10
20-Jul-10
22-Jul-10
24-Jul-10
26-Jul-10
28-Jul-10
30-Jul-10
1-Aug-10
3-Aug-10
5-Aug-10
7-Aug-10
9-Aug-10
11-Aug-10
13-Aug-10
Flow in PT-1 BR
Pressure in PT-1 PWR

Table 1
Dissolved Oxygen Readings - Pilot Test
North Wake Unlined Landfill

Sample Date	PT-1 PWR	PT-1 Bedrock	PT-2 PWR	PT-2 Bedrock	PT-3 PWR	PT-3 Bedrock	PT-4 PWR	PT-4 Bedrock	PT-5 PWR	PT-5 Bedrock	MW-6	MW-6d
7-Jul-10	0.14	1.01	0.11	0.05	0.14	0.93	0.08	0.52	0.10	1.29	0.37	0.62
16-Jul-10	6.59	--	0.82	0.06	0.13	0.66	0.11	0.18	0.16	0.66	--	--
23-Jul-10	15.14	--	0.30	0.10	0.16	0.16	0.13	0.11	0.13	0.11	--	--
29-Jul-10	16.97	--	0.83	0.78	0.72	0.64	0.33	0.19	0.19	0.15	1.12	0.82
6-Aug-10	17.40	--	0.72	0.59	0.33	0.34	0.40	0.28	0.26	0.23	0.39	0.29
13-Aug-10	15.33	--	0.57	0.28	0.23	0.23	0.19	0.18	0.17	0.18	0.48	0.29

1. All units are in milligrams per liter
2. The July 7th and 16th readings were completed using a YSI 550 with a 50 ft cable. All other readings were recorded 2 ft from the bottom of the well using a YSI 550 with a 100 ft cable.
3. -- Indicates readings not recorded. PT-1 Bedrock served as the injection well.

Table 2
Detected Groundwater Constituents - Volatile and Semi-Volatile Organic Compounds
North Wake Unlined Landfill

Monitor Well	Sample Date	Acetone	Benzene	Bromodichloromethane	Bromomethane	1,2-Dibromoethane	Carbon Disulfide	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	p-Dichlorobenzene	o-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans 1,2-Dichloroethene	1,2-Dichloropropane	Ethylbenzene	Iodomethane	Isopropylbenzene	Methylene Chloride	MEK (2-Butanone)	MTBE	Naphthalene	Styrene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Trichlorofluoromethane	1,2,3-Trichloropropane	Vinyl Chloride	Total Xylenes	bis(2-ethylhexyl) Phthalate	Diethylphthalate	Di-n-Butylphthalate	Dimethylphthalate	3&4-Methylphenol
NC2L		6000	1	0.6	NE	0.02	700	50	3,000	70	3	6	20	1,000	6	0.4	7	70	100	0.6	600	NE	70	5	4,000	20	6	70	0.7	600	200	3	2,000	0.005	0.03	500	3	6,000	700	NE	40
SWSL		100	1	1	10	1	100	3	10	5	1.0	1	5	5	5	1	5	5	5	1	1	10	NE	1	100	NE	10	1	1	1	1	1	1	1	1	5	15	10	10	10	10
MW-6	6-Mar-94		1.7							0.83					34									37					3.4		5.9	4.6	3.9			2.42					
MW-6	15-Apr-94								8.5		1.2				12.5									21					1.9			2.1	2.6								
MW-6	11-May-94								18.4		1.2				28.7									64.2					2.3			4.9	2.6								
MW-6 (dup)	1-Jun-94		3.7							4.3					50									130					7		14	7.5	11			16.6					
MW-6	25-Aug-94								22						36									79.8																	
MW-6	29-Sep-94		2						18		66				34									6.1					3		1.4										
MW-6	13-Jun-95								19						28									61								6									
MW-6	28-Sep-95	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	31-Oct-95								22						32									56								6									
MW-6	30-Jan-96		6						37						61																	11									
MW-6	29-Nov-96								34						41									91								16									
MW-6	22-Apr-97		5.4						37						29			6.7						88								15									
MW-6	2-Nov-97		6.1						28						28			7.8						90					5.2			16									
MW-6	6-May-98								29						34			13						140								17									
MW-6 (dup)	6-May-98								30						35			14						140								19									
MW-6	8-Dec-98								26						40			14						180								19									
MW-6	16-Apr-99		5						16						26									110								11									
MW-6	2-Dec-99														12			7						67								6									
MW-6	11-Apr-00														12			7						63								6									
MW-6	19-Dec-00														6									20																	
MW-6	16-Apr-01														8			6						46																	
MW-6	3-Dec-01																	6																							
MW-6	12-Apr-02														7			5						26																	
MW-6	5-Nov-02																	5						10																	
MW-6	17-Apr-03																																				13				
MW-6	4-Nov-03																	6																							
MW-6	14-Apr-04																	5.7																							
MW-6	18-Nov-04																																								
MW-6	21-Apr-05																																								
MW-6	11-Nov-05																																								
MW-6	14-Apr-06																																								
MW-6	9-Nov-06																																								
MW-6	19-Apr-07																																								
MW-6	8-Nov-07		3.3									7.4																							3.4						
MW-6	20-May-08		3.85					1J	3.85J			2.07			1.22J			2.3J						0.62J						0.14J		0.9J			3.29		2.17J	1.86J		1.06J	
MW-6	11-Nov-08		4.12					1.29J	3.90J			2.72		0.33J	1.27J			2.22J						1.08						0.20J		0.98J			4.01						
MW-6	11-Mar-09		3.3					1.22J	2.43J			2.02			0.75J			2.21J												0.11J		0.71J			3.61						
MW-6	3-Dec-09		2.56					1.7J	1.79J			1.78			0.79J			1.49J						0.28J						0.14J		0.6J			2.24						
MW-6	12-May-10	6.5J	1.3					2.8J				2.80			0.95J			1.7J																	3.0						
MW-6	7-Jul-10		3.9					2.3J	2.3J			2.70			0.85J			1.5J					1.1			2.1									2.6						
MW-6	29-Jul-10		3.7					2.6J	2.0J			3.20			0.86J			1.1J																	2.5						
MW-6	13-Aug-10		4.3					2.5J	2.1J			3.00			0.97J			1.3J																	2.5						

Table 2
Detected Groundwater Constituents - Volatile and Semi-Volatile Organic Compounds
North Wake Unlined Landfill

Monitor Well	Sample Date	Acetone	Benzene	Bromodichloromethane	Bromomethane	1,2-Dibromoethane	Carbon Disulfide	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	p-Dichlorobenzene	o-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans 1,2-Dichloroethene	1,2-Dichloropropane	Ethylbenzene	Iodomethane	Isopropylbenzene	Methylene Chloride	MEK (2-Butanone)	MTBE	Naphthalene	Styrene	Tetrachloroethene	Toluene	1,1,1-Trichloroethane	Trichloroethene	Trichlorofluoromethane	1,2,3-Trichloropropane	Vinyl Chloride	Total Xylenes	bis(2-ethylhexyl) Phthalate	Diethylphthalate	Di-n-Butylphthalate	Dimethylphthalate	3&4-Methylphenol
NC2L		6000	1	0.6	NE	0.02	700	50	3,000	70	3	6	20	1,000	6	0.4	7	70	100	0.6	600	NE	70	5	4,000	20	6	70	0.7	600	200	3	2,000	0.005	0.03	500	3	6,000	700	NE	40
SWSL		100	1	1	10	1	100	3	10	5	1.0	1	5	5	5	1	5	5	5	1	1	10	NE	1	100	NE	10	1	1	1	1	1	1	1	1	5	15	10	10	10	10
MW-6d	8-Jun-01														8			6																							
MW-6d	4-Dec-01																																								
MW-6d	9-Apr-02																																								
MW-6d	7-Nov-02																																								
MW-6d	16-Apr-03																																								
MW-6d	4-Nov-03																																								
MW-6d	21-Apr-04																																								
MW-6d	18-Nov-04																																								
MW-6d	21-Apr-05																																								
MW-6d	11-Nov-05																																								
MW-6d	11-Apr-06																																								
MW-6d	9-Nov-06																																								
MW-6d	20-Apr-07																																								
MW-6d	8-Nov-07																																								
MW-6d	20-May-08									0.49J				3.04J	5.7			0.85J						0.34J					0.71J			0.91J	0.91J								
MW-6d	6-Nov-08		0.23J							0.57J		0.44J		2.76J	**6.12**			1.10J						0.77J					**1.06**			1.13	1.10								
MW-6d (dup)	6-Nov-08		0.25J							0.61J		0.45J		2.69J	**6.16**			1.00J						0.68J					**1.08**			1.13	0.99J								
MW-6d	12-Mar-09									0.43J				1.47J	3.24J			0.54J						0.33J					**0.77J**			0.49J	0.55J								
MW-6d	3-Dec-09									0.58J		0.28J		1.86J	5.51			0.9J						0.42J					0.69J			0.86J	0.75J								
MW-6d	12-May-10									0.92J				1.9J	**6.2**			1.1J						0.81J					**0.70J**			0.77J	0.79J								
MW-6d	7-Jul-10		0.42J							0.91J		0.55J		2.9J	**8**			1.9J						0.78J		2.9			**0.97J**			1.2	1.1								
MW-6d	29-Jul-10									1J		0.68J			**7.6**			1.5J											**1.2**			1.3	1.4								
MW-6d	13-Aug-10									1.1J		0.61J			**7.8**			1.7J						1.1					**1.2**			1.3	1.1								

Notes:
All units are in micrograms per liter (parts per billion)
- Concentration exceeds NC Groundwater Standards (2L)
- Indicates result below detection limits
NS - Not Sampled; NE - Standard Not Established; dup - Duplicate Sample
J - Indicates the analytical result is an estimated concentration between the Method Detection Limit and the Solid Waste Section Reporting Limit (SWSL)

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(919) 781-5730 fax

FIELD BOREHOLE LOG

BOREHOLE NO.: **PT-1**

TOTAL DEPTH: **68 ft**

PROJECT INFORMATION

PROJECT: **North Wake Closed Unlined Landfill**

SITE LOCATION: **Air Sparging Pilot Test**

JOB NO.: **6172-77575**

GEOLOGIST: **Mat Colone**

PROJECT MANAGER: **Mat Colone**

DATE DRILLED: **6/18/2010**

DRILLING INFORMATION

DRILLING CO.: **SAEDACCO**

DRILLER: **Steve Poloneiwicz**

RIG TYPE: **Gus Pech 1000E**

METHOD OF DRILLING: **Hollow Stem Auger/Air Rotary**

SAMPLING METHODS: **NA**

HAMMER WT./DROP **NA**

Depth	Soil Symbol	Soil Description	Sample	PID (ppm)	Boring Completion	Well Description
0		SILTY SAND: Moist, reddish brown to tan				12" Flush-mounted manhole cover
-5						1-inch Schedule 40 PVC riser and screen
-10		SILTY SAND: Moist, light brown. SILTY SAND: Moist, gray.				Cement grout
-15						
-20		SILTY SAND: Moist, reddish brown.				
-25		PARTIALLY WEATHERED ROCK: Moist to wet, tan to gray as fine to medium sand, some silt.				
-30						
-35						
-40						
-45						
-50						Bentonite
-55						#2 Silica sand filter pack
-60						Screen from 53' to 58' bls (PT-1 PWR)
-65		BEDROCK: Biotite Gneiss				Bentonite
-70						#2 Silica sand filter pack
						Screen from 63' to 68' bls (PT-1 BR)

Notes: Auger Refusal @ 61 ft bls.

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FIELD BOREHOLE LOG

BOREHOLE NO.: **PT-2**

TOTAL DEPTH: **70 ft**

PROJECT INFORMATION

PROJECT: **North Wake Closed Unlined Landfill**

SITE LOCATION: **Air Sparging Pilot Test**

JOB NO.: **6172-77575**

GEOLOGIST: **Mat Colone**

PROJECT MANAGER: **Mat Colone**

DATE DRILLED: **6/17/2010**

DRILLING INFORMATION

DRILLING CO.: **SAEDACCO**

DRILLER: **Steve Poloneiwicz**

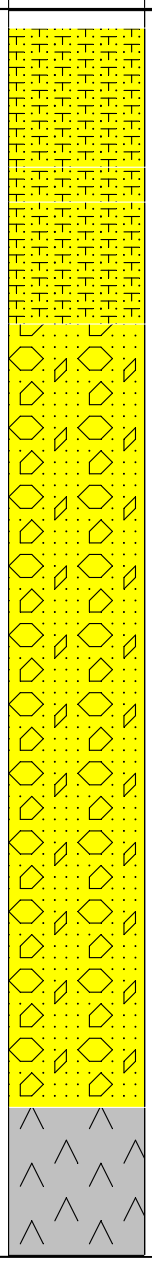
RIG TYPE: **Gus Pech 1000E**

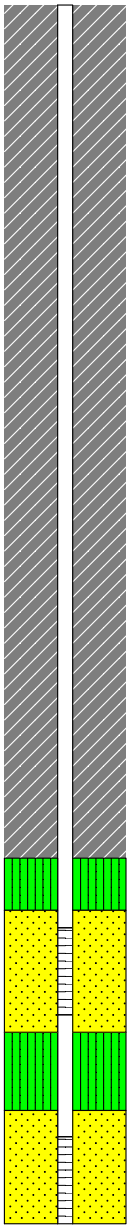
METHOD OF DRILLING: **Hollow Stem Auger/Air Rotary**

SAMPLING METHODS: **NA**

HAMMER WT./DROP **NA**

Depth	Soil Symbol	Soil Description	Sample	PID (ppm)	Boring Completion	Well Description
0		SILTY SAND: Moist, reddish brown to tan				12" Flush-mounted manhole cover
-5						1-inch Schedule 40 PVC riser and screen
-10		SILTY SAND: Moist, light brown.				
		SILTY SAND: Moist, gray.				Cement grout
-15						
-20		PARTIALLY WEATHERED ROCK: Moist to wet, tan to gray as fine to medium sand, some silt.				
-25						
-30						
-35						
-40						
-45						
-50						Bentonite
-55						#2 Silica sand filter pack Screen from 53' to 58' bls (PT-2 PWR)
-60						Bentonite
-65		BEDROCK: Biotite Gneiss				#2 Silica sand filter pack Screen from 65' to 70' bls (PT-2 BR)
-70						





Notes: Auger Refusal @ 62 ft bls. Well shown as single well, but is actually 2 individual wells in single borehole.

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FIELD BOREHOLE LOG

BOREHOLE NO.: **PT-3**

TOTAL DEPTH: **70 ft**

PROJECT INFORMATION

PROJECT: **North Wake Closed Unlined Landfill**

SITE LOCATION: **Air Sparging Pilot Test**

JOB NO.: **6172-77575**

GEOLOGIST: **Mat Colone**

PROJECT MANAGER: **Mat Colone**

DATE DRILLED: **6/16/2010**

DRILLING INFORMATION

DRILLING CO.: **SAEDACCO**

DRILLER: **Steve Poloneiwicz**

RIG TYPE: **Gus Pech 1000E**

METHOD OF DRILLING: **Hollow Stem Auger/Air Rotary**

SAMPLING METHODS: **NA**

HAMMER WT./DROP **NA**

Depth	Soil Symbol	Soil Description	Sample	PID (ppm)	Boring Completion	Well Description
0		SILTY SAND: Moist, reddish brown to tan				12" Flush-mounted manhole cover
-5						1-inch Schedule 40 PVC riser and screen
-10		SILTY SAND: Moist, light brown.				
		SILTY SAND: Moist, gray.				Cement grout
-15						
		SILTY SAND: Moist to wet, tan to grey.				
-20						
-25						
-30						
-35		PARTIALLY WEATHERED ROCK: Moist to wet, tan to gray as fine to medium sand, some silt.				
-40						
-45						
-50						Bentonite
-55						#2 Silica sand filter pack Screen from 53' to 58' bls (PT-3 PWR)
-60						Bentonite
-65		BEDROCK: Biotite Gneiss				#2 Silica sand filter pack Screen from 65' to 70' bls (PT-3 BR)
-70						

Notes: Auger Refusal @ 62 ft bls. Well shown as single well, but is actually 2 individual wells in single borehole.

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5400 Glenwood Avenue Suite 300
Raleigh, North Carolina 27612
(919) 787-5620 tel
(919) 781-5730 fax

FIELD BOREHOLE LOG

BOREHOLE NO.: **PT-4**

TOTAL DEPTH: **69 ft**

PROJECT INFORMATION

PROJECT: **North Wake Closed Unlined Landfill**

SITE LOCATION: **Air Sparging Pilot Test**

JOB NO.: **6172-77575**

GEOLOGIST: **Mat Colone**

PROJECT MANAGER: **Mat Colone**

DATE DRILLED: **6/15/2010**

DRILLING INFORMATION

DRILLING CO.: **SAEDACCO**

DRILLER: **Steve Poloneiwicz**

RIG TYPE: **Gus Pech 1000E**

METHOD OF DRILLING: **Hollow Stem Auger/Air Rotary**

SAMPLING METHODS: **NA**

HAMMER WT./DROP **NA**

Depth	Soil Symbol	Soil Description	Sample	PID (ppm)	Boring Completion	Well Description
0		SILTY SAND: Moist, reddish brown to tan				12" Flush-mounted manhole cover
-5						1-inch Schedule 40 PVC riser and screen
-10		SILTY SAND: Moist, light brown.				
		SILTY SAND: Moist, gray.				Cement grout
-15						
		SILTY SAND: Moist to wet, tan to grey.				
-20						
-25						
-30						
-35						
-40						
-45						
		PARTIALLY WEATHERED ROCK: Moist to wet, tan to gray as fine to medium sand, some silt.				Bentonite
-50						#2 Silica sand filter pack
-55						Screen from 53' to 58' bls (PT-4 PWR)
-60						Bentonite
-65		BEDROCK: Biotite Gneiss				#2 Silica sand filter pack Screen from 64' to 69' bls (PT-4 BR)
-70						

Notes: Auger Refusal @ 63 ft bls. Well shown as single well, but is actually 2 individual wells in single borehole.

CDM
5400 Glenwood Avenue Suite 300
Raleigh, North Carolina 27612
(919) 787-5620 tel
(919) 781-5730 fax

FIELD BOREHOLE LOG

BOREHOLE NO.: **PT-5**

TOTAL DEPTH: **70 ft**

PROJECT INFORMATION

PROJECT: **North Wake Closed Unlined Landfill**

SITE LOCATION: **Air Sparging Pilot Test**

JOB NO.: **6172-77575**

GEOLOGIST: **Dan Forbes**

PROJECT MANAGER: **Mat Colone**

DATE DRILLED: **6/14/2010**

DRILLING INFORMATION

DRILLING CO.: **SAEDACCO**

DRILLER: **Steve Poloneiwicz**

RIG TYPE: **Gus Pech 1000E**

METHOD OF DRILLING: **Hollow Stem Auger/Air Rotary**

SAMPLING METHODS: **NA**

HAMMER WT./DROP **NA**

Depth	Soil Symbol	Soil Description	Sample	PID (ppm)	Boring Completion	Well Description
0		SILTY SAND: Moist, reddish brown to tan				12" Flush-mounted manhole cover
-5						1-inch Schedule 40 PVC riser and screen
-10		SILTY SAND: Moist, light brown.				
		SILTY SAND: Moist, gray.				Cement grout
-15						
		SILTY SAND: Moist to wet, tan to grey.				
-20						
-25						
-30						
-35						
-40						
-45		PARTIALLY WEATHERED ROCK: Moist to wet, tan to gray as fine to medium sand, some silt.				
-50						Bentonite
-55						#2 Silica sand filter pack Screen from 55' to 60' bls (PT-5 PWR)
-60						Bentonite
-65		BEDROCK: Biotite Gneiss				#2 Silica sand filter pack Screen from 63' to 68' bls (PT-5 BR)
-70						

Notes: Auger Refusal @ 62 ft bls. Well shown as single well, but is actually 2 individual wells in single borehole.

#8084

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2284

1. WELL CONTRACTOR:

Steve Poloniewicz
Well Contractor (Individual) Name

SAEDACCO Inc
Well Contractor Company Name

STREET ADDRESS 9088 North Field DR

Fort Mill | SC | 29707
City or Town | State | Zip Code

( ) - (803) 548-2180
Area code- Phone number

2. WELL INFORMATION:

SITE WELL ID #(if applicable) PT-1

STATE WELL PERMIT#(if applicable)

DWQ or OTHER PERMIT #(if applicable)

WELL USE (Check Applicable Box) Monitoring ☒ Municipal/Public ☐

Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐

Irrigation ☐ Other ☐ (list use)

DATE DRILLED 6-17-2010

TIME COMPLETED 5:45 AM ☐ PM ☒

3. WELL LOCATION:

CITY: Raliegh COUNTY Wake

900 Deponie Drive
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:

☒ Slope ☐ Valley ☐ Flat ☐ Ridge ☐ Other
(check appropriate box)

LATITUDE 35.90383

LONGITUDE 78.58462

May be in degrees, minutes, seconds or in a decimal format

Latitude/longitude source: ☒ GPS ☐ Topographic map

(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

4. FACILITY- is the name of the business where the well is located.

FACILITY ID #(if applicable)

NAME OF FACILITY Wake County Landfill

STREET ADDRESS 9000 Deponie Dr

Raleigh | NC
City or Town | State | Zip Code

CONTACT PERSON Matt Colone

MAILING ADDRESS Camp Dresser & McKee 5400 Glenwood Ave

Raleigh | NC | 27612
City or Town | State | Zip Code

((919))- 787-5620
Area code - Phone number

5. WELL DETAILS:

a. **TOTAL DEPTH:** 68

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☒

c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 0.0 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** _____ **METHOD OF TEST** _____

f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

From ____ To ____ From ____ To ____
From ____ To ____ From ____ To ____
From ____ To ____ From ____ To ____

6. CASING:

	Depth		Diameter	Thickness/ Weight	Material
From 0.6	To 63'	Ft.	1"	SCH 40	PVC
From 0.6	To 53'	Ft.	1"	SCH 40	PVC
From	To	Ft.			

7. GROUT:

	Depth		Material	Method
From 59'	To 61'	Ft.	bentonite pellet	pour
From 1'	To 49'	Ft.	portland cement	trimmie
From	To	Ft.		

8. SCREEN:

	Depth		Diameter	Slot Size	Material
From 63'	To 68'	Ft.	1" in.	.010 in.	PVC
From 53'	To 58'	Ft.	1" in.	.010 in.	PVC
From	To	Ft.	in.	in.	

9. SAND/GRAVEL PACK:

	Depth		Size	Material
From 61'	To 68'	Ft.	pour	silica sand
From 51'	To 59'	Ft.	pour	silica sand
From	To	Ft.		

10. DRILLING LOG

From	To	Formation Description
0.0	25'	red silty clay
25'	68'	bedrock
	68'	

11. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Steve Poloniewicz — 7/07/2010
SIGNATURE OF CERTIFIED WELL CONTRACTOR — DATE

PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 733-7015 ext 568.

Form GW-1b
Rev. 7/05

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2284

1. WELL CONTRACTOR:

Steve Poloniewicz
Well Contractor (Individual) Name

SAEDACCO Inc
Well Contractor Company Name

STREET ADDRESS 9088 North Field DR

Fort Mill | SC | 29707
City or Town | State | Zip Code

( ) - (803) 548-2180
Area code- Phone number

2. WELL INFORMATION:

SITE WELL ID #(if applicable) PT-2

STATE WELL PERMIT#(if applicable)

DWQ or OTHER PERMIT #(if applicable)

WELL USE (Check Applicable Box) Monitoring ☒ Municipal/Public ☐

Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐

Irrigation ☐ Other ☐ (list use)

DATE DRILLED 6-17-2010

TIME COMPLETED 11:30 AM ☒ PM ☐

3. WELL LOCATION:

CITY: Raliegh COUNTY Wake

900 Deponie Drive
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:

☒ Slope ☐ Valley ☐ Flat ☐ Ridge ☐ Other
(check appropriate box)

LATITUDE 35.90383

LONGITUDE 78.58462

May be in degrees, minutes, seconds or in a decimal format

Latitude/longitude source: ☒ GPS ☐ Topographic map

(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

4. FACILITY- is the name of the business where the well is located.

FACILITY ID #(if applicable)

NAME OF FACILITY Wake County Landfill

STREET ADDRESS 9000 Deponie Dr

Raleigh | NC
City or Town | State | Zip Code

CONTACT PERSON Matt Colone

MAILING ADDRESS Camp Dresser & McKee 5400 Glenwood Ave

Raleigh | NC | 27612
City or Town | State | Zip Code

((919))- 787-5620
Area code - Phone number

5. WELL DETAILS:

a. **TOTAL DEPTH:** 70

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☒

c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 0.0 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** _____ **METHOD OF TEST** _____

f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

From ____ To ____ From ____ To ____
From ____ To ____ From ____ To ____
From ____ To ____ From ____ To ____

6. CASING:

	Depth		Diameter	Thickness/ Weight	Material
From 0.6	To 65'	Ft.	1"	SCH 40	PVC
From 0.6	To 53'	Ft.	1"	SCH 40	PVC
From	To	Ft.			

7. GROUT:

	Depth		Material	Method
From 59'	To 63'	Ft.	bentonite pellet	pour
From 1'	To 51'	Ft.	portland cement	trimmie
From	To	Ft.		

8. SCREEN:

	Depth		Diameter	Slot Size	Material
From 65'	To 70'	Ft.	1" in.	.010 in.	PVC
From 53'	To 58'	Ft.	1" in.	.010 in.	PVC
From	To	Ft.	in.	in.	

9. SAND/GRAVEL PACK:

	Depth		Size	Material
From 63'	To 70'	Ft.	pour	silica sand
From 51'	To 59'	Ft.	pour	silica sand
From	To	Ft.		

10. DRILLING LOG

From	To	Formation Description
0.0	55'	red silty clay
55'	70'	bedrock
	70'	

11. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Steve Poloniewicz — 7/07/2010
SIGNATURE OF CERTIFIED WELL CONTRACTOR — DATE

PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 733-7015 ext 568.

Form GW-1b
Rev. 7/05

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2284

1. WELL CONTRACTOR:

Steve Poloniewicz
Well Contractor (Individual) Name

SAEDACCO Inc
Well Contractor Company Name

STREET ADDRESS 9088 North Field DR

Fort Mill | SC | 29707
City or Town | State | Zip Code

( )- (803) 548-2180
Area code- Phone number

2. WELL INFORMATION:

SITE WELL ID #(if applicable) PT-3

STATE WELL PERMIT#(if applicable)

DWQ or OTHER PERMIT #(if applicable)

WELL USE (Check Applicable Box) Monitoring ☒ Municipal/Public ☐

Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐

Irrigation☐ Other ☐ (list use)

DATE DRILLED 6-16-2010

TIME COMPLETED 5:00 AM ☐ PM ☒

3. WELL LOCATION:

CITY: Raliegh COUNTY Wake

900 Deponie Drive
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:

☒Slope ☐Valley ☐Flat ☐Ridge ☐ Other
(check appropriate box)

LATITUDE 35.90383

LONGITUDE 78.58462

May be in degrees, minutes, seconds or in a decimal format

Latitude/longitude source: ☒GPS ☐Topographic map

(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

4. FACILITY- is the name of the business where the well is located.

FACILITY ID #(if applicable)

NAME OF FACILITY Wake County Landfill

STREET ADDRESS 9000 Deponie Dr

Raleigh | NC
City or Town | State | Zip Code

CONTACT PERSON Matt Colone

MAILING ADDRESS Camp Dresser & McKee 5400 Glenwood Ave

Raleigh | NC | 27612
City or Town | State | Zip Code

((919))- 787-5620
Area code - Phone number

5. WELL DETAILS:

a. **TOTAL DEPTH:** 70

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☒

c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" If Above Top of Casing)

d. **TOP OF CASING IS** 0.0 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** _____ **METHOD OF TEST** _____

f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

From ____ To ____ From ____ To ____
From ____ To ____ From ____ To ____
From ____ To ____ From ____ To ____

6. CASING:

	Depth		Diameter	Thickness/ Weight	Material
From 0.6	To 65'	Ft.	1"	SCH 40	PVC
From 0.6	To 53'	Ft.	1"	SCH 40	PVC
From	To	Ft.			

7. GROUT:

	Depth		Material	Method
From 59'	To 62'	Ft.	bentonite pellet	pour
From 1'	To 51'	Ft.	portland cement	trimmie
From	To	Ft.		

8. SCREEN:

	Depth		Diameter	Slot Size	Material
From 65'	To 70'	Ft.	1" in.	.010 in.	PVC
From 53'	To 58'	Ft.	1" in.	.010 in.	PVC
From	To	Ft.	in.	in.	

9. SAND/GRAVEL PACK:

	Depth		Size	Material
From 62'	To 70'	Ft.	pour	silica sand
From 51'	To 59'	Ft.	pour	silica sand
From	To	Ft.		

10. DRILLING LOG

From	To	Formation Description
0.0	54'	red silty clay
54'	70'	bedrock
	70'	

11. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Steve Poloniewicz — 7/07/2010
SIGNATURE OF CERTIFIED WELL CONTRACTOR — DATE

PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 733-7015 ext 568.

Form GW-1b
Rev. 7/05

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2284

1. WELL CONTRACTOR:

Steve Poloniewicz

Well Contractor (individual) Name

SAEDACCO Inc

Well Contractor Company Name

STREET ADDRESS 9088 North Field DR

Fort Mill | SC | 29707

City or Town | State | Zip Code

( ) - (803) 548-2180

Area code- Phone number

2. WELL INFORMATION:

SITE WELL ID #(if applicable) PT-4

STATE WELL PERMIT#(if applicable)

DWQ or OTHER PERMIT #(if applicable)

WELL USE (Check Applicable Box) Monitoring ☒ Municipal/Public ☐

Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐

Irrigation ☐ Other ☐ (list use)

DATE DRILLED 6-15-2010

TIME COMPLETED 2:00 AM ☐ PM ☒

3. WELL LOCATION:

CITY: Raliegh COUNTY Wake

900 Deponie Drive

(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:

☒ Slope ☐ Valley ☐ Flat ☐ Ridge ☐ Other

(check appropriate box)

LATITUDE 35.90383

LONGITUDE 78.58462

May be in degrees, minutes, seconds or in a decimal format

Latitude/longitude source: ☒ GPS ☐ Topographic map

(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

4. FACILITY- is the name of the business where the well is located.

FACILITY ID #(if applicable)

NAME OF FACILITY Wake County Landfill

STREET ADDRESS 9000 Deponie Dr

Raleigh | NC

City or Town | State | Zip Code

CONTACT PERSON Matt Colone

MAILING ADDRESS Camp Dresser & McKee 5400 Glenwood Ave

Raleigh | NC | 27612

City or Town | State | Zip Code

((919))- 787-5620

Area code - Phone number

5. WELL DETAILS:

a. **TOTAL DEPTH:** 69

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☒

c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 0.0 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** _____ **METHOD OF TEST** _____

f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

From ____ To ____ From ____ To ____

From ____ To ____ From ____ To ____

From ____ To ____ From ____ To ____

6. CASING:

	Depth		Diameter	Thickness/ Weight	Material
From 0.6	To 64'	Ft.	1"	SCH 40	PVC
From 0.6	To 53'	Ft.	1"	SCH 40	PVC
From	To	Ft.			

7. GROUT:

	Depth		Material	Method
From 59'	To 62'	Ft.	bentonite pellets	pour
From 1'	To 49'	Ft.	portland cement	trimmie
From	To	Ft.		

8. SCREEN:

	Depth		Diameter	Slot Size	Material
From 64'	To 69'	Ft.	1" in.	.010 in.	PVC
From 53'	To 58'	Ft.	1" in.	.010 in.	PVC
From	To	Ft.	in.	in.	

9. SAND/GRAVEL PACK:

	Depth		Size	Material
From 62'	To 69'	Ft.	pour	silica sand
From 51'	To 59'	Ft.	pour	silica sand
From	To	Ft.		

10. DRILLING LOG

From	To	Formation Description
0.0	63'	red silty clay
63'	70'	bedrock
	70'	

11. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Steve Poloniewicz — 7/07/2010

SIGNATURE OF CERTIFIED WELL CONTRACTOR — DATE

PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 733-7015 ext 568.

Form GW-1b
Rev. 7/05

NON RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 2284

1. WELL CONTRACTOR:

Steve Poloniewicz
Well Contractor (Individual) Name

SAEDACCO Inc
Well Contractor Company Name

STREET ADDRESS 9088 North Field DR

Fort Mill | SC | 29707
City or Town | State | Zip Code

( ) - (803) 548-2180
Area code- Phone number

2. WELL INFORMATION:

SITE WELL ID #(if applicable) PT-5

STATE WELL PERMIT#(if applicable)

DWQ or OTHER PERMIT #(if applicable)

WELL USE (Check Applicable Box) Monitoring ☒ Municipal/Public ☐ Industrial/Commercial ☐ Agricultural ☐ Recovery ☐ Injection ☐ Irrigation ☐ Other ☐ (list use)

DATE DRILLED 6-15-2010

TIME COMPLETED 10:00 AM ☒ PM ☐

3. WELL LOCATION:

CITY: Raliegh COUNTY Wake

900 Deponie Drive
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:
☒ Slope ☐ Valley ☐ Flat ☐ Ridge ☐ Other
(check appropriate box)

LATITUDE 35.90383

LONGITUDE 78.58462

May be in degrees, minutes, seconds or in a decimal format

Latitude/longitude source: ☒ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

4. FACILITY- Is the name of the business where the well is located.

FACILITY ID #(if applicable)

NAME OF FACILITY Wake County Landfill

STREET ADDRESS 9000 Deponie Dr

Raleigh | NC
City or Town | State | Zip Code

CONTACT PERSON Matt Colone

MAILING ADDRESS Camp Dresser & McKee 5400 Glenwood Ave

Raleigh | NC | 27612
City or Town | State | Zip Code

((919)) - 787-5620
Area code - Phone number

5. WELL DETAILS:

a. **TOTAL DEPTH:** 70

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☒

c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 0.0 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** _____ **METHOD OF TEST** _____

f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

From ____ To ____ From ____ To ____
From ____ To ____ From ____ To ____
From ____ To ____ From ____ To ____

6. CASING:

	Depth		Diameter	Thickness/ Weight	Material
From 0.6	To 63'	Ft.	1"	SCH 40	PVC
From 0.6	To 55'	Ft.	1"	SCH 40	PVC
From	To	Ft.			

7. GROUT:

	Depth		Material	Method
From 60'	To 61'	Ft.	bentonite pellet	pour
From 1'	To 53'	Ft.	portland cement	trimmie
From	To	Ft.		

8. SCREEN:

	Depth		Diameter		Slot Size		Material
From 63'	To 68'	Ft.	1"	in.	.010	in.	PVC
From 55'	To 60'	Ft.	1"	in.	.010	in.	PVC
From	To	Ft.		in.		in.	

9. SAND/GRAVEL PACK:

	Depth		Size	Material
From 61'	To 70'	Ft.	pour	silica sand
From 53'	To 60'	Ft.	pour	silica sand
From	To	Ft.		

10. DRILLING LOG

From	To	Formation Description
0.0	53'	red silty clay
53'	70'	bedrock
	70'	

11. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C; WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Steve Poloniewicz — 7/07/2010
SIGNATURE OF CERTIFIED WELL CONTRACTOR — DATE

PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 733-7015 ext 568.

Form GW-1b
Rev. 7/05

Environmental Conservation Laboratories, Inc.
102-A Woodwinds Industrial Court
Cary NC, 27511
Phone: 919.467.3090 FAX: 919.467.3515
www.encolabs.com

Wednesday, July 21, 2010

CDM (CD004)

Attn: Aaron Weispfenning

5400 GLENWOOD AVE SUITE 300

RALEIGH, NC 27612-

RE: Laboratory Results for
Project Number: [none], Project Name/Desc: North Wake Unlined Landfill
ENCO Workorder: C008199

Dear Aaron Weispfenning,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, July 8, 2010.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Cary. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Chuck Smith

Project Manager

Enclosure(s)

The total number of pages in this report, including this page is 14.

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID:	9209-MW6D	Lab ID: C008199-01	Sampled: 07/07/10 10:00	Received: 07/08/10 12:50

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	07/21/10	07/14/10 12:12	7/15/2010 00:37

Client ID:	9209-MW6	Lab ID: C008199-02	Sampled: 07/07/10 10:45	Received: 07/08/10 12:50

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	07/21/10	07/14/10 12:12	7/15/2010 01:07

Client ID:	9209-TripBlank	Lab ID: C008199-03	Sampled: 07/07/10 10:00	Received: 07/08/10 12:50

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	07/21/10	07/14/10 12:12	7/15/2010 01:37

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NORTH CAROLINA SWS SAMPLE DETECTION SUMMARY

Client ID: 9209-MW6D **Lab ID: C008199-01**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	8.0		1	0.33	1.0	5	ug/L	EPA 8260B	
1,4-Dichlorobenzene	0.55	J	1	0.38	1.0	1	ug/L	EPA 8260B	
Benzene	0.42	J	1	0.20	1.0	1	ug/L	EPA 8260B	
Chloroform	0.91	J	1	0.20	1.0	5	ug/L	EPA 8260B	
cis-1,2-Dichloroethene	1.9	J	1	0.36	1.0	5	ug/L	EPA 8260B	
Dichlorodifluoromethane	2.9	J	1	0.38	1.0	5	ug/L	EPA 8260B	
Methylene chloride	0.78	J	1	0.53	1.0	1	ug/L	EPA 8260B	
Methyl-tert-Butyl Ether	2.9		1	0.38	1.0	NE	ug/L	EPA 8260B	
Tetrachloroethene	0.97	J	1	0.36	1.0	1	ug/L	EPA 8260B	
Trichloroethene	1.2		1	0.38	1.0	1	ug/L	EPA 8260B	
Trichlorofluoromethane	1.1		1	0.28	1.0	1	ug/L	EPA 8260B	

Client ID: 9209-MW6 **Lab ID: C008199-02**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	0.85	J	1	0.33	1.0	5	ug/L	EPA 8260B	
1,4-Dichlorobenzene	2.7		1	0.38	1.0	1	ug/L	EPA 8260B	
Benzene	3.9		1	0.20	1.0	1	ug/L	EPA 8260B	
Chlorobenzene	2.3	J	1	0.27	1.0	3	ug/L	EPA 8260B	
Chloroethane	2.3	J	1	0.30	1.0	10	ug/L	EPA 8260B	
cis-1,2-Dichloroethene	1.5	J	1	0.36	1.0	5	ug/L	EPA 8260B	
Isopropylbenzene	1.1		1	0.24	1.0	NE	ug/L	EPA 8260B	
Methyl-tert-Butyl Ether	2.1		1	0.38	1.0	NE	ug/L	EPA 8260B	
Vinyl chloride	2.6		1	0.30	1.0	1	ug/L	EPA 8260B	

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ANALYTICAL RESULTS

Description: 9209-MW6D
Matrix: Ground Water
Project: North Wake Unlined Landfill

Lab Sample ID: C008199-01
Sampled: 07/07/10 10:00
Sampled By: Aaron Weispfenning

Received: 07/08/10 12:50
Work Order: C008199

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	07/15/10 00:37	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/15/10 00:37	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
1,1-Dichloroethane [75-34-3] ^	**8.0**		ug/L	1	0.33	1.0	5	EPA 8260B	07/15/10 00:37	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/15/10 00:37	JKG	
1,1-Dichloropropene [563-58-6] ^	0.32	U	ug/L	1	0.32	1.0	5	EPA 8260B	07/15/10 00:37	JKG	
1,2,3-Trichlorobenzene [87-61-6] ^	0.25	U	ug/L	1	0.25	1.0	NE	EPA 8260B	07/15/10 00:37	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
1,2,4-Trichlorobenzene [120-82-1] ^	0.36	U	ug/L	1	0.36	1.0	10	EPA 8260B	07/15/10 00:37	JKG	
1,2,4-Trimethylbenzene [95-63-6] ^	0.20	U	ug/L	1	0.20	1.0	NE	EPA 8260B	07/15/10 00:37	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/15/10 00:37	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/15/10 00:37	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
1,3,5-Trimethylbenzene [108-67-8] ^	0.25	U	ug/L	1	0.25	1.0	NE	EPA 8260B	07/15/10 00:37	JKG	
1,3-Dichlorobenzene [541-73-1] ^	0.30	U	ug/L	1	0.30	1.0	5	EPA 8260B	07/15/10 00:37	JKG	
1,3-Dichloropropane [142-28-9] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
1,4-Dichlorobenzene [106-46-7] ^	**0.55**	J	ug/L	1	0.38	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
2,2-Dichloropropane [594-20-7] ^	0.55	U	ug/L	1	0.55	1.0	15	EPA 8260B	07/15/10 00:37	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/15/10 00:37	JKG	
2-Chloroethyl Vinyl Ether [110-75-8] ^	0.94	U	ug/L	1	0.94	5.0		EPA 8260B	07/15/10 00:37	JKG	
2-Chlorotoluene [95-49-8] ^	0.20	U	ug/L	1	0.20	1.0		EPA 8260B	07/15/10 00:37	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/15/10 00:37	JKG	
4-Chlorotoluene [106-43-4] ^	0.25	U	ug/L	1	0.25	1.0		EPA 8260B	07/15/10 00:37	JKG	
4-Isopropyltoluene [99-87-6] ^	0.26	U	ug/L	1	0.26	1.0	NE	EPA 8260B	07/15/10 00:37	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/15/10 00:37	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/15/10 00:37	JKG	
Benzene [71-43-2] ^	**0.42**	J	ug/L	1	0.20	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
Bromobenzene [108-86-1] ^	0.28	U	ug/L	1	0.28	1.0	NE	EPA 8260B	07/15/10 00:37	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/15/10 00:37	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/15/10 00:37	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/15/10 00:37	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/15/10 00:37	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/15/10 00:37	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/15/10 00:37	JKG	
Chloroform [67-66-3] ^	**0.91**	J	ug/L	1	0.20	1.0	5	EPA 8260B	07/15/10 00:37	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	**1.9**	J	ug/L	1	0.36	1.0	5	EPA 8260B	07/15/10 00:37	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/15/10 00:37	JKG	

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Description: 9209-MW6D
Matrix: Ground Water
Project: North Wake Unlined Landfill

Lab Sample ID: C008199-01
Sampled: 07/07/10 10:00
Sampled By: Aaron Weispfenning

Received: 07/08/10 12:50
Work Order: C008199

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/15/10 00:37	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/15/10 00:37	JKG	
Dichlorodifluoromethane [75-71-8] ^	**2.9**	J	ug/L	1	0.38	1.0	5	EPA 8260B	07/15/10 00:37	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
Hexachlorobutadiene [87-68-3] ^	0.35	U	ug/L	1	0.35	1.0	10	EPA 8260B	07/15/10 00:37	JKG	
Isopropylbenzene [98-82-8] ^	0.24	U	ug/L	1	0.24	1.0	NE	EPA 8260B	07/15/10 00:37	JKG	
m,p-Xylenes [108-38-3/106-42-3] ^	0.48	U	ug/L	1	0.48	2.0	NE	EPA 8260B	07/15/10 00:37	JKG	
Methylene chloride [75-09-2] ^	**0.78**	J	ug/L	1	0.53	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
Methyl-tert-Butyl Ether [1634-04-4] ^	**2.9**		ug/L	1	0.38	1.0	NE	EPA 8260B	07/15/10 00:37	JKG	
Naphthalene [91-20-3] ^	0.39	U	ug/L	1	0.39	1.0	10	EPA 8260B	07/15/10 00:37	JKG	
n-Butyl Benzene [104-51-8] ^	0.20	U	ug/L	1	0.20	1.0		EPA 8260B	07/15/10 00:37	JKG	
n-Propyl Benzene [103-65-1] ^	0.30	U	ug/L	1	0.30	1.0		EPA 8260B	07/15/10 00:37	JKG	
o-Xylene [95-47-6] ^	0.27	U	ug/L	1	0.27	1.0	NE	EPA 8260B	07/15/10 00:37	JKG	
sec-Butylbenzene [135-98-8] ^	0.24	U	ug/L	1	0.24	1.0	NE	EPA 8260B	07/15/10 00:37	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
tert-Butylbenzene [98-06-6] ^	0.28	U	ug/L	1	0.28	1.0	NE	EPA 8260B	07/15/10 00:37	JKG	
Tetrachloroethene [127-18-4] ^	**0.97**	J	ug/L	1	0.36	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/15/10 00:37	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
Trichloroethene [79-01-6] ^	**1.2**		ug/L	1	0.38	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
Trichlorofluoromethane [75-69-4] ^	**1.1**		ug/L	1	0.28	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/15/10 00:37	JKG	
Xylenes (Total) [1330-20-7] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	07/15/10 00:37	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*41*	*1*	*50.0*	*82 %*	*51-122*	*0G14039*	*EPA 8260B*	*07/15/10 00:37*	*JKG*	
Dibromofluoromethane	*41*	*1*	*50.0*	*83 %*	*68-117*	*0G14039*	*EPA 8260B*	*07/15/10 00:37*	*JKG*	
Toluene-d8	*42*	*1*	*50.0*	*84 %*	*69-110*	*0G14039*	*EPA 8260B*	*07/15/10 00:37*	*JKG*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 9209-MW6 | **Lab Sample ID:** C008199-02 | **Received:** 07/08/10 12:50

Matrix: Ground Water | **Sampled:** 07/07/10 10:45 | **Work Order:** C008199

Project: North Wake Unlined Landfill | **Sampled By:** Aaron Weispfenning

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	07/15/10 01:07	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/15/10 01:07	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
1,1-Dichloroethane [75-34-3] ^	**0.85**	J	ug/L	1	0.33	1.0	5	EPA 8260B	07/15/10 01:07	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/15/10 01:07	JKG	
1,1-Dichloropropene [563-58-6] ^	0.32	U	ug/L	1	0.32	1.0	5	EPA 8260B	07/15/10 01:07	JKG	
1,2,3-Trichlorobenzene [87-61-6] ^	0.25	U	ug/L	1	0.25	1.0	NE	EPA 8260B	07/15/10 01:07	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
1,2,4-Trichlorobenzene [120-82-1] ^	0.36	U	ug/L	1	0.36	1.0	10	EPA 8260B	07/15/10 01:07	JKG	
1,2,4-Trimethylbenzene [95-63-6] ^	0.20	U	ug/L	1	0.20	1.0	NE	EPA 8260B	07/15/10 01:07	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/15/10 01:07	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/15/10 01:07	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
1,3,5-Trimethylbenzene [108-67-8] ^	0.25	U	ug/L	1	0.25	1.0	NE	EPA 8260B	07/15/10 01:07	JKG	
1,3-Dichlorobenzene [541-73-1] ^	0.30	U	ug/L	1	0.30	1.0	5	EPA 8260B	07/15/10 01:07	JKG	
1,3-Dichloropropane [142-28-9] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
1,4-Dichlorobenzene [106-46-7] ^	**2.7**		ug/L	1	0.38	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
2,2-Dichloropropane [594-20-7] ^	0.55	U	ug/L	1	0.55	1.0	15	EPA 8260B	07/15/10 01:07	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/15/10 01:07	JKG	
2-Chloroethyl Vinyl Ether [110-75-8] ^	0.94	U	ug/L	1	0.94	5.0		EPA 8260B	07/15/10 01:07	JKG	
2-Chlorotoluene [95-49-8] ^	0.20	U	ug/L	1	0.20	1.0		EPA 8260B	07/15/10 01:07	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/15/10 01:07	JKG	
4-Chlorotoluene [106-43-4] ^	0.25	U	ug/L	1	0.25	1.0		EPA 8260B	07/15/10 01:07	JKG	
4-Isopropyltoluene [99-87-6] ^	0.26	U	ug/L	1	0.26	1.0	NE	EPA 8260B	07/15/10 01:07	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/15/10 01:07	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/15/10 01:07	JKG	
Benzene [71-43-2] ^	**3.9**		ug/L	1	0.20	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
Bromobenzene [108-86-1] ^	0.28	U	ug/L	1	0.28	1.0	NE	EPA 8260B	07/15/10 01:07	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/15/10 01:07	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/15/10 01:07	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/15/10 01:07	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/15/10 01:07	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
Chlorobenzene [108-90-7] ^	**2.3**	J	ug/L	1	0.27	1.0	3	EPA 8260B	07/15/10 01:07	JKG	
Chloroethane [75-00-3] ^	**2.3**	J	ug/L	1	0.30	1.0	10	EPA 8260B	07/15/10 01:07	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/15/10 01:07	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	**1.5**	J	ug/L	1	0.36	1.0	5	EPA 8260B	07/15/10 01:07	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/15/10 01:07	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/15/10 01:07	JKG	
Dichlorodifluoromethane [75-71-8] ^	0.38	U	ug/L	1	0.38	1.0	5	EPA 8260B	07/15/10 01:07	JKG	

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Description: 9209-MW6 | **Lab Sample ID:** C008199-02 | **Received:** 07/08/10 12:50

Matrix: Ground Water | **Sampled:** 07/07/10 10:45 | **Work Order:** C008199

Project: North Wake Unlined Landfill | **Sampled By:** Aaron Weispfenning

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
Hexachlorobutadiene [87-68-3] ^	0.35	U	ug/L	1	0.35	1.0	10	EPA 8260B	07/15/10 01:07	JKG	
Isopropylbenzene [98-82-8] ^	**1.1**		ug/L	1	0.24	1.0	NE	EPA 8260B	07/15/10 01:07	JKG	
m,p-Xylenes [108-38-3/106-42-3] ^	0.48	U	ug/L	1	0.48	2.0	NE	EPA 8260B	07/15/10 01:07	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
Methyl-tert-Butyl Ether [1634-04-4] ^	**2.1**		ug/L	1	0.38	1.0	NE	EPA 8260B	07/15/10 01:07	JKG	
Naphthalene [91-20-3] ^	0.39	U	ug/L	1	0.39	1.0	10	EPA 8260B	07/15/10 01:07	JKG	
n-Butyl Benzene [104-51-8] ^	0.20	U	ug/L	1	0.20	1.0		EPA 8260B	07/15/10 01:07	JKG	
n-Propyl Benzene [103-65-1] ^	0.30	U	ug/L	1	0.30	1.0		EPA 8260B	07/15/10 01:07	JKG	
o-Xylene [95-47-6] ^	0.27	U	ug/L	1	0.27	1.0	NE	EPA 8260B	07/15/10 01:07	JKG	
sec-Butylbenzene [135-98-8] ^	0.24	U	ug/L	1	0.24	1.0	NE	EPA 8260B	07/15/10 01:07	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
tert-Butylbenzene [98-06-6] ^	0.28	U	ug/L	1	0.28	1.0	NE	EPA 8260B	07/15/10 01:07	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/15/10 01:07	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
Vinyl chloride [75-01-4] ^	**2.6**		ug/L	1	0.30	1.0	1	EPA 8260B	07/15/10 01:07	JKG	
Xylenes (Total) [1330-20-7] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	07/15/10 01:07	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*41*	*1*	*50.0*	*82 %*	*51-122*	*0G14039*	*EPA 8260B*	*07/15/10 01:07*	*JKG*	
Dibromofluoromethane	*42*	*1*	*50.0*	*83 %*	*68-117*	*0G14039*	*EPA 8260B*	*07/15/10 01:07*	*JKG*	
Toluene-d8	*42*	*1*	*50.0*	*84 %*	*69-110*	*0G14039*	*EPA 8260B*	*07/15/10 01:07*	*JKG*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 9209-TripBlank
Matrix: Water
Project: North Wake Unlined Landfill

Lab Sample ID: C008199-03
Sampled: 07/07/10 10:00
Sampled By: Aaron Weispfenning

Received: 07/08/10 12:50
Work Order: C008199

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	07/15/10 01:37	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/15/10 01:37	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/15/10 01:37	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/15/10 01:37	JKG	
1,1-Dichloropropene [563-58-6] ^	0.32	U	ug/L	1	0.32	1.0	5	EPA 8260B	07/15/10 01:37	JKG	
1,2,3-Trichlorobenzene [87-61-6] ^	0.25	U	ug/L	1	0.25	1.0	NE	EPA 8260B	07/15/10 01:37	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
1,2,4-Trichlorobenzene [120-82-1] ^	0.36	U	ug/L	1	0.36	1.0	10	EPA 8260B	07/15/10 01:37	JKG	
1,2,4-Trimethylbenzene [95-63-6] ^	0.20	U	ug/L	1	0.20	1.0	NE	EPA 8260B	07/15/10 01:37	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/15/10 01:37	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/15/10 01:37	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
1,3,5-Trimethylbenzene [108-67-8] ^	0.25	U	ug/L	1	0.25	1.0	NE	EPA 8260B	07/15/10 01:37	JKG	
1,3-Dichlorobenzene [541-73-1] ^	0.30	U	ug/L	1	0.30	1.0	5	EPA 8260B	07/15/10 01:37	JKG	
1,3-Dichloropropane [142-28-9] ^	0.32	U	ug/L	1	0.32	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
2,2-Dichloropropane [594-20-7] ^	0.55	U	ug/L	1	0.55	1.0	15	EPA 8260B	07/15/10 01:37	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/15/10 01:37	JKG	
2-Chloroethyl Vinyl Ether [110-75-8] ^	0.94	U	ug/L	1	0.94	5.0		EPA 8260B	07/15/10 01:37	JKG	
2-Chlorotoluene [95-49-8] ^	0.20	U	ug/L	1	0.20	1.0		EPA 8260B	07/15/10 01:37	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/15/10 01:37	JKG	
4-Chlorotoluene [106-43-4] ^	0.25	U	ug/L	1	0.25	1.0		EPA 8260B	07/15/10 01:37	JKG	
4-Isopropyltoluene [99-87-6] ^	0.26	U	ug/L	1	0.26	1.0	NE	EPA 8260B	07/15/10 01:37	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/15/10 01:37	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/15/10 01:37	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
Bromobenzene [108-86-1] ^	0.28	U	ug/L	1	0.28	1.0	NE	EPA 8260B	07/15/10 01:37	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/15/10 01:37	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/15/10 01:37	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/15/10 01:37	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/15/10 01:37	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/15/10 01:37	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/15/10 01:37	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/15/10 01:37	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/15/10 01:37	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/15/10 01:37	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/15/10 01:37	JKG	
Dichlorodifluoromethane [75-71-8] ^	0.38	U	ug/L	1	0.38	1.0	5	EPA 8260B	07/15/10 01:37	JKG	

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Description: 9209-TripBlank
Matrix: Water
Project: North Wake Unlined Landfill

Lab Sample ID: C008199-03
Sampled: 07/07/10 10:00
Sampled By: Aaron Weispfenning

Received: 07/08/10 12:50
Work Order: C008199

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
Hexachlorobutadiene [87-68-3] ^	0.35	U	ug/L	1	0.35	1.0	10	EPA 8260B	07/15/10 01:37	JKG	
Isopropylbenzene [98-82-8] ^	0.24	U	ug/L	1	0.24	1.0	NE	EPA 8260B	07/15/10 01:37	JKG	
m,p-Xylenes [108-38-3/106-42-3] ^	0.48	U	ug/L	1	0.48	2.0	NE	EPA 8260B	07/15/10 01:37	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
Methyl-tert-Butyl Ether [1634-04-4] ^	0.38	U	ug/L	1	0.38	1.0	NE	EPA 8260B	07/15/10 01:37	JKG	
Naphthalene [91-20-3] ^	0.39	U	ug/L	1	0.39	1.0	10	EPA 8260B	07/15/10 01:37	JKG	
n-Butyl Benzene [104-51-8] ^	0.20	U	ug/L	1	0.20	1.0		EPA 8260B	07/15/10 01:37	JKG	
n-Propyl Benzene [103-65-1] ^	0.30	U	ug/L	1	0.30	1.0		EPA 8260B	07/15/10 01:37	JKG	
o-Xylene [95-47-6] ^	0.27	U	ug/L	1	0.27	1.0	NE	EPA 8260B	07/15/10 01:37	JKG	
sec-Butylbenzene [135-98-8] ^	0.24	U	ug/L	1	0.24	1.0	NE	EPA 8260B	07/15/10 01:37	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
tert-Butylbenzene [98-06-6] ^	0.28	U	ug/L	1	0.28	1.0	NE	EPA 8260B	07/15/10 01:37	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/15/10 01:37	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/15/10 01:37	JKG	
Xylenes (Total) [1330-20-7] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	07/15/10 01:37	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*41*	*1*	*50.0*	*82 %*	*51-122*	*0G14039*	*EPA 8260B*	*07/15/10 01:37*	*JKG*	
Dibromofluoromethane	*42*	*1*	*50.0*	*84 %*	*68-117*	*0G14039*	*EPA 8260B*	*07/15/10 01:37*	*JKG*	
Toluene-d8	*42*	*1*	*50.0*	*83 %*	*69-110*	*0G14039*	*EPA 8260B*	*07/15/10 01:37*	*JKG*	

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QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0G14039 - EPA 5030B_MS

Blank (0G14039-BLK1) Prepared: 07/14/2010 12:12 Analyzed: 07/14/2010 15:54

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	0.40	U	1.0	ug/L							
1,1,1-Trichloroethane	0.27	U	1.0	ug/L							
1,1,2,2-Tetrachloroethane	0.33	U	1.0	ug/L							
1,1,2-Trichloroethane	0.37	U	1.0	ug/L							
1,1-Dichloroethane	0.33	U	1.0	ug/L							
1,1-Dichloroethene	0.24	U	1.0	ug/L							
1,1-Dichloropropene	0.32	U	1.0	ug/L							
1,2,3-Trichlorobenzene	0.25	U	1.0	ug/L							
1,2,3-Trichloropropane	0.55	U	1.0	ug/L							
1,2,4-Trichlorobenzene	0.36	U	1.0	ug/L							
1,2,4-Trimethylbenzene	0.20	U	1.0	ug/L							
1,2-Dibromo-3-chloropropane	0.48	U	1.0	ug/L							
1,2-Dibromoethane	0.42	U	1.0	ug/L							
1,2-Dichlorobenzene	0.27	U	1.0	ug/L							
1,2-Dichloroethane	0.65	U	1.0	ug/L							
1,2-Dichloropropane	0.20	U	1.0	ug/L							
1,3,5-Trimethylbenzene	0.25	U	1.0	ug/L							
1,3-Dichlorobenzene	0.30	U	1.0	ug/L							
1,3-Dichloropropane	0.32	U	1.0	ug/L							
1,4-Dichlorobenzene	0.38	U	1.0	ug/L							
2,2-Dichloropropane	0.55	U	1.0	ug/L							
2-Butanone	1.0	U	5.0	ug/L							
2-Chloroethyl Vinyl Ether	0.94	U	5.0	ug/L							
2-Chlorotoluene	0.20	U	1.0	ug/L							
2-Hexanone	0.69	U	5.0	ug/L							
4-Chlorotoluene	0.25	U	1.0	ug/L							
4-Isopropyltoluene	0.26	U	1.0	ug/L							
4-Methyl-2-pentanone	1.1	U	5.0	ug/L							
Acetone	1.5	U	5.0	ug/L							
Benzene	0.20	U	1.0	ug/L							
Bromobenzene	0.28	U	1.0	ug/L							
Bromochloromethane	0.42	U	1.0	ug/L							
Bromodichloromethane	0.37	U	1.0	ug/L							
Bromoform	0.71	U	1.0	ug/L							
Bromomethane	0.49	U	1.0	ug/L							
Carbon disulfide	0.54	U	5.0	ug/L							
Carbon tetrachloride	0.38	U	1.0	ug/L							
Chlorobenzene	0.27	U	1.0	ug/L							
Chloroethane	0.30	U	1.0	ug/L							
Chloroform	0.20	U	1.0	ug/L							
Chloromethane	0.34	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.36	U	1.0	ug/L							
cis-1,3-Dichloropropene	0.28	U	1.0	ug/L							
Dibromochloromethane	0.32	U	1.0	ug/L							
Dibromomethane	0.37	U	1.0	ug/L							
Dichlorodifluoromethane	0.38	U	1.0	ug/L							
Ethylbenzene	0.20	U	1.0	ug/L							
Hexachlorobutadiene	0.35	U	1.0	ug/L							
Isopropylbenzene	0.24	U	1.0	ug/L							

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0G14039 - EPA 5030B_MS

Blank (0G14039-BLK1) Continued Prepared: 07/14/2010 12:12 Analyzed: 07/14/2010 15:54

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
m,p-Xylenes	0.48	U	2.0	ug/L							
Methylene chloride	0.53	U	1.0	ug/L							
Methyl-tert-Butyl Ether	0.38	U	1.0	ug/L							
Naphthalene	0.39	U	1.0	ug/L							
n-Butyl Benzene	0.20	U	1.0	ug/L							
n-Propyl Benzene	0.30	U	1.0	ug/L							
o-Xylene	0.27	U	1.0	ug/L							
sec-Butylbenzene	0.24	U	1.0	ug/L							
Styrene	0.26	U	1.0	ug/L							
tert-Butylbenzene	0.28	U	1.0	ug/L							
Tetrachloroethene	0.36	U	1.0	ug/L							
Toluene	0.27	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.34	U	1.0	ug/L							
trans-1,3-Dichloropropene	0.38	U	1.0	ug/L							
Trichloroethene	0.38	U	1.0	ug/L							
Trichlorofluoromethane	0.28	U	1.0	ug/L							
Vinyl chloride	0.30	U	1.0	ug/L							
Xylenes (Total)	0.40	U	1.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*42*			*ug/L*	*50.0*		*84*	*51-122*			
Surrogate: Dibromofluoromethane	*40*			*ug/L*	*50.0*		*79*	*68-117*			
Surrogate: Toluene-d8	*41*			*ug/L*	*50.0*		*83*	*69-110*			

LCS (0G14039-BS1) Prepared: 07/14/2010 12:12 Analyzed: 07/14/2010 16:24

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	20		1.0	ug/L	20.0		98	75-133			
Benzene	20		1.0	ug/L	20.0		100	81-134			
Chlorobenzene	20		1.0	ug/L	20.0		99	83-117			
Toluene	20		1.0	ug/L	20.0		101	71-118			
Trichloroethene	18		1.0	ug/L	20.0		90	75-115			
Surrogate: 4-Bromofluorobenzene	*43*			*ug/L*	*50.0*		*86*	*51-122*			
Surrogate: Dibromofluoromethane	*40*			*ug/L*	*50.0*		*80*	*68-117*			
Surrogate: Toluene-d8	*41*			*ug/L*	*50.0*		*81*	*69-110*			

Matrix Spike (0G14039-MS1) Prepared: 07/14/2010 12:12 Analyzed: 07/14/2010 16:55

Source: C008379-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	20		1.0	ug/L	20.0	0.24 U	99	75-133			
Benzene	20		1.0	ug/L	20.0	0.20 U	100	81-134			
Chlorobenzene	19		1.0	ug/L	20.0	0.27 U	97	83-117			
Toluene	20		1.0	ug/L	20.0	0.27 U	99	71-118			
Trichloroethene	18		1.0	ug/L	20.0	0.38 U	92	75-115			
Surrogate: 4-Bromofluorobenzene	*43*			*ug/L*	*50.0*		*86*	*51-122*			
Surrogate: Dibromofluoromethane	*40*			*ug/L*	*50.0*		*81*	*68-117*			
Surrogate: Toluene-d8	*41*			*ug/L*	*50.0*		*82*	*69-110*			

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0G14039 - EPA 5030B_MS

Matrix Spike Dup (0G14039-MSD1) Prepared: 07/14/2010 12:12 Analyzed: 07/14/2010 17:26

Source: C008379-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	19		1.0	ug/L	20.0	0.24 U	95	75-133	4	20	
Benzene	19		1.0	ug/L	20.0	0.20 U	96	81-134	3	17	
Chlorobenzene	19		1.0	ug/L	20.0	0.27 U	95	83-117	2	16	
Toluene	19		1.0	ug/L	20.0	0.27 U	97	71-118	2	17	
Trichloroethene	17		1.0	ug/L	20.0	0.38 U	87	75-115	5	18	
Surrogate: 4-Bromofluorobenzene	*42*			*ug/L*	*50.0*		*84*	*51-122*			
Surrogate: Dibromofluoromethane	*40*			*ug/L*	*50.0*		*80*	*68-117*			
Surrogate: Toluene-d8	*40*			*ug/L*	*50.0*		*80*	*69-110*			

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL), adjusted for actual sample preparation data and moisture content, where applicable.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
MRL	Method Reporting Limit. The MRL is roughly equivalent to the practical quantitation limit (PQL) and is based on the low point of the calibration curve, when applicable, sample preparation factor, dilution factor, and, in the case of soil samples, moisture content.

ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

10775 Central Port Dr.
Orlando, FL 32824
(407) 826-5314 Fax (407) 850-6945

4810 Executive Park Court, Suite 211
Jacksonville, FL 32216-6069
(904) 296-3007 Fax (904) 296-6210

102-A Woodwinds Industrial Ct.
Cary, NC 27511
(919) 467-3090 Fax (919) 467-3515

Page 1 of 1

Client Name	CDM
Address	5400 Glenwood Ave, Suite 300
City/ST/Zip	Raleigh, NC 27612
Tel	919-325-3500
Fax	on file
Sampler(s) Name, Affiliation (Print)	Aaron Weisofferring, CDM
Sampler(s) Signature	
Project Number	
Project Name/Desc	N Wake Holland
PO # / Billing Info	
Reporting Contact	Aaron Weisofferring
Billing Contact	Aaron Weisofferring
Facility # (if required)	

Requested Analyses: VOC - 8260B

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

X Standard

___ Expedited

Due __/__/__

Lab Workorder: C008199

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	HCl	Sample Comments
	MW-6d	7-7-10	1000	G	GW	3	X	Provide edd in
	MW-6	7-7-10	1045	G	GW	3	X	SWS format
	~~Trip Blank~~ MFC	—	—	—	—	~~2~~ MFC	X	Report results
								according to SWS
								guidelines
								Report "J" values
								~~NO TRIP BLANK~~
								~~ANALYSIS~~ MFC
						8	<-- Total # of Containers	

Preservation (See Codes) (Combine as necessary)

Sample Kit Prepared By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time
		Matt Malone	7/8/2010 1022		7/8/10 1022
Comments		Relinquished By	Date/Time	Received By	Date/Time
		Relinquished By	Date/Time	Received By	Date/Time 1250

Cooler #'s & Temps on Receipt: 3.4°C

Condition Upon Receipt: X Acceptable ___ Unacceptable

Matrix : GW-Groundwater SO-Soil SE-Sediment SW-Surface Water WW-Wastewater A-Air O-Other (detail in comments)

Preservation: I-Ice H-HCl N-HNO3 S-H2SO4 NO-NaOH O-Other (detail in comments)

Note : All samples submitted to ENCO Labs are in accordance with the terms and conditions listed on the reverse of this form, unless prior written agreements exist

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Environmental Conservation Laboratories, Inc.
102-A Woodwinds Industrial Court
Cary NC, 27511
Phone: 919.467.3090 FAX: 919.467.3515
www.encolabs.com

Thursday, August 12, 2010

CDM (CD004)

Attn: Dan Forbes

5400 GLENWOOD AVE SUITE 300

RALEIGH, NC 27612-

RE: Laboratory Results for
Project Number: [none], Project Name/Desc: North Wake Unlined LF - CAS
ENCO Workorder: C008994

Dear Dan Forbes,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, July 30, 2010.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Cary. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Chuck Smith

Project Manager

Enclosure(s)

The total number of pages in this report, including this page is 13.

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: 9209-MW6	Lab ID: C008994-01	Sampled: 07/29/10 13:00	Received: 07/30/10 08:20

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	08/12/10	08/04/10 12:29	8/5/2010 04:37

Client ID: 9209-MW6d	Lab ID: C008994-02	Sampled: 07/29/10 13:35	Received: 07/30/10 08:20

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	08/12/10	08/04/10 12:29	8/5/2010 05:06

Client ID: 9209-TripBlank	Lab ID: C008994-03	Sampled: 07/29/10 13:00	Received: 07/30/10 08:20

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	08/12/10	08/04/10 12:29	8/5/2010 05:35

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NORTH CAROLINA SWS SAMPLE DETECTION SUMMARY

Client ID: 9209-MW6 **Lab ID: C008994-01**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	0.86	J	1	0.33	1.0	5	ug/L	EPA 8260B	
1,4-Dichlorobenzene	3.2		1	0.38	1.0	1	ug/L	EPA 8260B	
Benzene	3.7		1	0.20	1.0	1	ug/L	EPA 8260B	
Chlorobenzene	2.6	J	1	0.27	1.0	3	ug/L	EPA 8260B	
Chloroethane	2.0	J	1	0.30	1.0	10	ug/L	EPA 8260B	
cis-1,2-Dichloroethene	1.1	J	1	0.36	1.0	5	ug/L	EPA 8260B	
Vinyl chloride	2.5		1	0.30	1.0	1	ug/L	EPA 8260B	

Client ID: 9209-MW6d **Lab ID: C008994-02**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	7.6		1	0.33	1.0	5	ug/L	EPA 8260B	
1,4-Dichlorobenzene	0.68	J	1	0.38	1.0	1	ug/L	EPA 8260B	
Chloroform	1.0	J	1	0.20	1.0	5	ug/L	EPA 8260B	
cis-1,2-Dichloroethene	1.5	J	1	0.36	1.0	5	ug/L	EPA 8260B	
Tetrachloroethene	1.2		1	0.36	1.0	1	ug/L	EPA 8260B	
Trichloroethene	1.3		1	0.38	1.0	1	ug/L	EPA 8260B	
Trichlorofluoromethane	1.4		1	0.28	1.0	1	ug/L	EPA 8260B	

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ANALYTICAL RESULTS

Description: 9209-MW6 | **Lab Sample ID:** C008994-01 | **Received:** 07/30/10 08:20

Matrix: Ground Water | **Sampled:** 07/29/10 13:00 | **Work Order:** C008994

Project: North Wake Unlined LF - CAS | **Sampled By:** Daniel Forbes

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	08/05/10 04:37	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	08/05/10 04:37	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
1,1-Dichloroethane [75-34-3] ^	**0.86**	J	ug/L	1	0.33	1.0	5	EPA 8260B	08/05/10 04:37	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	08/05/10 04:37	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	08/05/10 04:37	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	08/05/10 04:37	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
1,4-Dichlorobenzene [106-46-7] ^	**3.2**		ug/L	1	0.38	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	08/05/10 04:37	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	08/05/10 04:37	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	08/05/10 04:37	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	08/05/10 04:37	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	08/05/10 04:37	JKG	
Benzene [71-43-2] ^	**3.7**		ug/L	1	0.20	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	08/05/10 04:37	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	08/05/10 04:37	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	08/05/10 04:37	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	08/05/10 04:37	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
Chlorobenzene [108-90-7] ^	**2.6**	J	ug/L	1	0.27	1.0	3	EPA 8260B	08/05/10 04:37	JKG	
Chloroethane [75-00-3] ^	**2.0**	J	ug/L	1	0.30	1.0	10	EPA 8260B	08/05/10 04:37	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	08/05/10 04:37	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	**1.1**	J	ug/L	1	0.36	1.0	5	EPA 8260B	08/05/10 04:37	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	08/05/10 04:37	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	08/05/10 04:37	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	08/05/10 04:37	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	08/05/10 04:37	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	08/05/10 04:37	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/05/10 04:37	JKG	

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Description: 9209-MW6 | **Lab Sample ID:** C008994-01 | **Received:** 07/30/10 08:20

Matrix: Ground Water | **Sampled:** 07/29/10 13:00 | **Work Order:** C008994

Project: North Wake Unlined LF - CAS | **Sampled By:** Daniel Forbes

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	08/05/10 04:37	JKG	
Vinyl chloride [75-01-4] ^	**2.5**		ug/L	1	0.30	1.0	1	EPA 8260B	08/05/10 04:37	JKG	
Xylenes (Total) [1330-20-7] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	08/05/10 04:37	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*99 %*	*51-122*	*0H04028*	*EPA 8260B*	*08/05/10 04:37*	*JKG*	
Dibromofluoromethane	*48*	*1*	*50.0*	*97 %*	*68-117*	*0H04028*	*EPA 8260B*	*08/05/10 04:37*	*JKG*	
Toluene-d8	*46*	*1*	*50.0*	*93 %*	*69-110*	*0H04028*	*EPA 8260B*	*08/05/10 04:37*	*JKG*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 9209-MW6d
Matrix: Ground Water
Project: North Wake Unlined LF - CAS

Lab Sample ID: C008994-02
Sampled: 07/29/10 13:35
Sampled By: Daniel Forbes

Received: 07/30/10 08:20
Work Order: C008994

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	08/05/10 05:06	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	08/05/10 05:06	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
1,1-Dichloroethane [75-34-3] ^	**7.6**		ug/L	1	0.33	1.0	5	EPA 8260B	08/05/10 05:06	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	08/05/10 05:06	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	08/05/10 05:06	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	08/05/10 05:06	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
1,4-Dichlorobenzene [106-46-7] ^	**0.68**	J	ug/L	1	0.38	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	08/05/10 05:06	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	08/05/10 05:06	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	08/05/10 05:06	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	08/05/10 05:06	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	08/05/10 05:06	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	08/05/10 05:06	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	08/05/10 05:06	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	08/05/10 05:06	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	08/05/10 05:06	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	08/05/10 05:06	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	08/05/10 05:06	JKG	
Chloroform [67-66-3] ^	**1.0**	J	ug/L	1	0.20	1.0	5	EPA 8260B	08/05/10 05:06	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	**1.5**	J	ug/L	1	0.36	1.0	5	EPA 8260B	08/05/10 05:06	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	08/05/10 05:06	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	08/05/10 05:06	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	08/05/10 05:06	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
Tetrachloroethene [127-18-4] ^	**1.2**		ug/L	1	0.36	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	08/05/10 05:06	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	08/05/10 05:06	JKG	
Trichloroethene [79-01-6] ^	**1.3**		ug/L	1	0.38	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
Trichlorofluoromethane [75-69-4] ^	**1.4**		ug/L	1	0.28	1.0	1	EPA 8260B	08/05/10 05:06	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	08/05/10 05:06	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	08/05/10 05:06	JKG	

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Description: 9209-MW6d
Matrix: Ground Water
Project: North Wake Unlined LF - CAS

Lab Sample ID: C008994-02
Sampled: 07/29/10 13:35
Sampled By: Daniel Forbes

Received: 07/30/10 08:20
Work Order: C008994

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	08/05/10 05:06	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*99 %*	*51-122*	*0H04028*	*EPA 8260B*	*08/05/10 05:06*	*JKG*	
Dibromofluoromethane	*49*	*1*	*50.0*	*98 %*	*68-117*	*0H04028*	*EPA 8260B*	*08/05/10 05:06*	*JKG*	
Toluene-d8	*47*	*1*	*50.0*	*93 %*	*69-110*	*0H04028*	*EPA 8260B*	*08/05/10 05:06*	*JKG*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 9209-TripBlank
Matrix: Water
Project: North Wake Unlined LF - CAS

Lab Sample ID: C008994-03
Sampled: 07/29/10 13:00
Sampled By: ENCO

Received: 07/30/10 08:20
Work Order: C008994

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	08/05/10 05:35	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	08/05/10 05:35	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	08/05/10 05:35	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	08/05/10 05:35	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	08/05/10 05:35	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	08/05/10 05:35	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	08/05/10 05:35	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	08/05/10 05:35	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	08/05/10 05:35	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	08/05/10 05:35	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	08/05/10 05:35	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	08/05/10 05:35	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	08/05/10 05:35	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	08/05/10 05:35	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	08/05/10 05:35	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	08/05/10 05:35	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	08/05/10 05:35	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	08/05/10 05:35	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	08/05/10 05:35	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	08/05/10 05:35	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	08/05/10 05:35	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	08/05/10 05:35	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	08/05/10 05:35	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	08/05/10 05:35	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	08/05/10 05:35	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	08/05/10 05:35	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	08/05/10 05:35	JKG	

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Description: 9209-TripBlank
Matrix: Water
Project: North Wake Unlined LF - CAS

Lab Sample ID: C008994-03
Sampled: 07/29/10 13:00
Sampled By: ENCO

Received: 07/30/10 08:20
Work Order: C008994

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	08/05/10 05:35	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*97 %*	*51-122*	*0H04028*	*EPA 8260B*	*08/05/10 05:35*	*JKG*	
Dibromofluoromethane	*49*	*1*	*50.0*	*99 %*	*68-117*	*0H04028*	*EPA 8260B*	*08/05/10 05:35*	*JKG*	
Toluene-d8	*47*	*1*	*50.0*	*95 %*	*69-110*	*0H04028*	*EPA 8260B*	*08/05/10 05:35*	*JKG*	

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QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0H04028 - EPA 5030B_MS

Blank (0H04028-BLK1) Prepared: 08/04/2010 12:29 Analyzed: 08/04/2010 21:51

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	0.40	U	1.0	ug/L							
1,1,1-Trichloroethane	0.27	U	1.0	ug/L							
1,1,2,2-Tetrachloroethane	0.33	U	1.0	ug/L							
1,1,2-Trichloroethane	0.37	U	1.0	ug/L							
1,1-Dichloroethane	0.33	U	1.0	ug/L							
1,1-Dichloroethene	0.24	U	1.0	ug/L							
1,2,3-Trichloropropane	0.55	U	1.0	ug/L							
1,2-Dibromo-3-chloropropane	0.48	U	1.0	ug/L							
1,2-Dibromoethane	0.42	U	1.0	ug/L							
1,2-Dichlorobenzene	0.27	U	1.0	ug/L							
1,2-Dichloroethane	0.65	U	1.0	ug/L							
1,2-Dichloropropane	0.20	U	1.0	ug/L							
1,4-Dichlorobenzene	0.38	U	1.0	ug/L							
2-Butanone	1.0	U	5.0	ug/L							
2-Hexanone	0.69	U	5.0	ug/L							
4-Methyl-2-pentanone	1.1	U	5.0	ug/L							
Acetone	1.5	U	5.0	ug/L							
Acrylonitrile	2.1	U	10	ug/L							
Benzene	0.20	U	1.0	ug/L							
Bromochloromethane	0.42	U	1.0	ug/L							
Bromodichloromethane	0.37	U	1.0	ug/L							
Bromoform	0.71	U	1.0	ug/L							
Bromomethane	0.49	U	1.0	ug/L							
Carbon disulfide	0.54	U	5.0	ug/L							
Carbon tetrachloride	0.38	U	1.0	ug/L							
Chlorobenzene	0.27	U	1.0	ug/L							
Chloroethane	0.30	U	1.0	ug/L							
Chloroform	0.20	U	1.0	ug/L							
Chloromethane	0.34	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.36	U	1.0	ug/L							
cis-1,3-Dichloropropene	0.28	U	1.0	ug/L							
Dibromochloromethane	0.32	U	1.0	ug/L							
Dibromomethane	0.37	U	1.0	ug/L							
Ethylbenzene	0.20	U	1.0	ug/L							
Iodomethane	0.52	U	5.0	ug/L							
Methylene chloride	0.53	U	1.0	ug/L							
Styrene	0.26	U	1.0	ug/L							
Tetrachloroethene	0.36	U	1.0	ug/L							
Toluene	0.27	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.34	U	1.0	ug/L							
trans-1,3-Dichloropropene	0.38	U	1.0	ug/L							
trans-1,4-Dichloro-2-butene	0.54	U	1.0	ug/L							
Trichloroethene	0.38	U	1.0	ug/L							
Trichlorofluoromethane	0.28	U	1.0	ug/L							
Vinyl acetate	0.98	U	5.0	ug/L							
Vinyl chloride	0.30	U	1.0	ug/L							
Xylenes (Total)	0.40	U	1.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*48*			*ug/L*	*50.0*		*96*	*51-122*			

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QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0H04028 - EPA 5030B_MS

Blank (0H04028-BLK1) Continued Prepared: 08/04/2010 12:29 Analyzed: 08/04/2010 21:51

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Surrogate: Dibromofluoromethane	*46*			*ug/L*	*50.0*		*92*	*68-117*			
Surrogate: Toluene-d8	*46*			*ug/L*	*50.0*		*92*	*69-110*			

LCS (0H04028-BS1) Prepared: 08/04/2010 12:29 Analyzed: 08/04/2010 22:20

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	19		1.0	ug/L	20.0		96	75-133			
Benzene	18		1.0	ug/L	20.0		92	81-134			
Chlorobenzene	19		1.0	ug/L	20.0		97	83-117			
Toluene	20		1.0	ug/L	20.0		99	71-118			
Trichloroethene	19		1.0	ug/L	20.0		93	75-115			
Surrogate: 4-Bromofluorobenzene	*49*			*ug/L*	*50.0*		*98*	*51-122*			
Surrogate: Dibromofluoromethane	*46*			*ug/L*	*50.0*		*92*	*68-117*			
Surrogate: Toluene-d8	*47*			*ug/L*	*50.0*		*94*	*69-110*			

Matrix Spike (0H04028-MS1) Prepared: 08/04/2010 12:29 Analyzed: 08/04/2010 22:50

Source: C007654-04

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	21		1.0	ug/L	20.0	0.24 U	104	75-133			
Benzene	20		1.0	ug/L	20.0	0.20 U	101	81-134			
Chlorobenzene	23		1.0	ug/L	20.0	2.3	103	83-117			
Toluene	21		1.0	ug/L	20.0	0.27 U	106	71-118			
Trichloroethene	20		1.0	ug/L	20.0	0.38 U	100	75-115			
Surrogate: 4-Bromofluorobenzene	*49*			*ug/L*	*50.0*		*98*	*51-122*			
Surrogate: Dibromofluoromethane	*46*			*ug/L*	*50.0*		*91*	*68-117*			
Surrogate: Toluene-d8	*47*			*ug/L*	*50.0*		*93*	*69-110*			

Matrix Spike Dup (0H04028-MSD1) Prepared: 08/04/2010 12:29 Analyzed: 08/04/2010 23:19

Source: C007654-04

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	20		1.0	ug/L	20.0	0.24 U	102	75-133	2	20	
Benzene	20		1.0	ug/L	20.0	0.20 U	98	81-134	3	17	
Chlorobenzene	23		1.0	ug/L	20.0	2.3	102	83-117	1	16	
Toluene	21		1.0	ug/L	20.0	0.27 U	103	71-118	3	17	
Trichloroethene	20		1.0	ug/L	20.0	0.38 U	98	75-115	3	18	
Surrogate: 4-Bromofluorobenzene	*49*			*ug/L*	*50.0*		*97*	*51-122*			
Surrogate: Dibromofluoromethane	*46*			*ug/L*	*50.0*		*91*	*68-117*			
Surrogate: Toluene-d8	*47*			*ug/L*	*50.0*		*94*	*69-110*			

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL), adjusted for actual sample preparation data and moisture content, where applicable.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
MRL	Method Reporting Limit. The MRL is roughly equivalent to the practical quantitation limit (PQL) and is based on the low point of the calibration curve, when applicable, sample preparation factor, dilution factor, and, in the case of soil samples, moisture content.

ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

10775 Central Port Dr.
Orlando, FL 32824
(407) 826-5314 Fax (407) 850-6945

4810 Executive Park Court, Suite 211
Jacksonville, FL 32216-6069
(904) 296-3007 Fax (904) 296-6210

102-A Woodwinds Industrial Ct.
Cary, NC 27511
(919) 467-3090 Fax (919) 467-3515

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Page 1 of 1

Client Name: CDM (CD004)	Project Number: [none]
Address: 5400 GLENWOOD AVE SUITE 300	Project Name/Desc: North Wake Unlined LF - CAS
City/ST/Zip: RALEIGH, NC 27612-	PO # / Billing Info
Tel: 325-3566 Fax: () -	Reporting Contact: Dan Forbes
Sampler(s) Name, Affiliation (Print): DANIEL FORBES / CDM	Billing Contact: Anarosa Jones
Sampler(s) Signature: [signature]	Site Location / Time Zone

Requested Analyses: 8260B Appendix 1

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

X Standard

___ Expedited

Due __/__/__

Lab Workorder: C008994

Preservation (See Codes) (Combine as necessary)

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	8260B Appendix 1	Sample Comments
	9209-MW6	7/29/10	1300	G	GW	3	X	
	9209-MW6d	7/29/10	1335	G	GW	3	X	
	9209-TripBlank	—	—	G	WA	2	X	
						8	<-- Total # of Containers	

Sample Kit Prepared By	Date/Time	Relinquished By: [signature]	Date/Time: 7-30-10 8:20	Received By: [signature]	Date/Time: 7-30-10 8:20
Comments/Special Reporting Requirements		Relinquished By	Date/Time	Received By	Date/Time
		Relinquished By	Date/Time	Received By	Date/Time
		Cooler #'s & Temps on Receipt: 1.4°C		Condition Upon Receipt: ✓ Acceptable ___ Unacceptable	

Matrix : GW-Groundwater SO-Soil DW-Drinking Water SE-Sediment SW-Surface Water WW-Wastewater A-Air O-Other (detail in comments) Preservation: I-Ice H-HCl N-HNO3 S-H2SO4 NO-NaOH O-Other (detail in comments)

Note : All samples submitted to ENCO Labs are in accordance with the terms and conditions listed on the reverse of this form, unless prior written agreements exist

Environmental Conservation Laboratories, Inc.
102-A Woodwinds Industrial Court
Cary NC, 27511
Phone: 919.467.3090 FAX: 919.467.3515
www.encolabs.com

Tuesday, August 17, 2010

CDM (CD004)

Attn: Dan Forbes

5400 GLENWOOD AVE SUITE 300

RALEIGH, NC 27612-

RE: Laboratory Results for
Project Number: [none], Project Name/Desc: North Wake Unlined LF - CAS
ENCO Workorder: C009506

Dear Dan Forbes,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, August 13, 2010.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Cary. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Chuck Smith

Project Manager

Enclosure(s)

The total number of pages in this report, including this page is 13.

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: 9209-MW6	Lab ID: C009506-01	Sampled: 08/13/10 10:40	Received: 08/13/10 13:10

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	08/27/10	08/14/10 09:11	8/14/2010 15:29

Client ID: 9209-MW6d	Lab ID: C009506-02	Sampled: 08/13/10 11:35	Received: 08/13/10 13:10

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	08/27/10	08/14/10 09:11	8/14/2010 16:00

Client ID: 9209-TripBlank	Lab ID: C009506-03	Sampled: 08/13/10 10:40	Received: 08/13/10 13:10

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	08/27/10	08/14/10 09:11	8/14/2010 16:31

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NORTH CAROLINA SWS SAMPLE DETECTION SUMMARY

Client ID: 9209-MW6 **Lab ID: C009506-01**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	0.97	J	1	0.33	1.0	5	ug/L	EPA 8260B	
1,4-Dichlorobenzene	3.0		1	0.38	1.0	1	ug/L	EPA 8260B	
Benzene	4.3		1	0.20	1.0	1	ug/L	EPA 8260B	
Chlorobenzene	2.5	J	1	0.27	1.0	3	ug/L	EPA 8260B	
Chloroethane	2.1	J	1	0.30	1.0	10	ug/L	EPA 8260B	
cis-1,2-Dichloroethene	1.3	J	1	0.36	1.0	5	ug/L	EPA 8260B	
Vinyl chloride	2.5		1	0.30	1.0	1	ug/L	EPA 8260B	

Client ID: 9209-MW6d **Lab ID: C009506-02**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	7.8		1	0.33	1.0	5	ug/L	EPA 8260B	
1,4-Dichlorobenzene	0.61	J	1	0.38	1.0	1	ug/L	EPA 8260B	
Acetone	3.1	J	1	1.5	5.0	100	ug/L	EPA 8260B	
Chloroform	1.1	J	1	0.20	1.0	5	ug/L	EPA 8260B	
cis-1,2-Dichloroethene	1.7	J	1	0.36	1.0	5	ug/L	EPA 8260B	
Methylene chloride	1.1		1	0.53	1.0	1	ug/L	EPA 8260B	
Tetrachloroethene	1.2		1	0.36	1.0	1	ug/L	EPA 8260B	
Trichloroethene	1.3		1	0.38	1.0	1	ug/L	EPA 8260B	
Trichlorofluoromethane	1.1		1	0.28	1.0	1	ug/L	EPA 8260B	

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ANALYTICAL RESULTS

Description: 9209-MW6 | **Lab Sample ID:** C009506-01 | **Received:** 08/13/10 13:10

Matrix: Ground Water | **Sampled:** 08/13/10 10:40 | **Work Order:** C009506

Project: North Wake Unlined LF - CAS | **Sampled By:** Aaron Weispfenning

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	08/14/10 15:29	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	08/14/10 15:29	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
1,1-Dichloroethane [75-34-3] ^	**0.97**	J	ug/L	1	0.33	1.0	5	EPA 8260B	08/14/10 15:29	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	08/14/10 15:29	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	08/14/10 15:29	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	08/14/10 15:29	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
1,4-Dichlorobenzene [106-46-7] ^	**3.0**		ug/L	1	0.38	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	08/14/10 15:29	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	08/14/10 15:29	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	08/14/10 15:29	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	08/14/10 15:29	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	08/14/10 15:29	JKG	
Benzene [71-43-2] ^	**4.3**		ug/L	1	0.20	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	08/14/10 15:29	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	08/14/10 15:29	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	08/14/10 15:29	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	08/14/10 15:29	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
Chlorobenzene [108-90-7] ^	**2.5**	J	ug/L	1	0.27	1.0	3	EPA 8260B	08/14/10 15:29	JKG	
Chloroethane [75-00-3] ^	**2.1**	J	ug/L	1	0.30	1.0	10	EPA 8260B	08/14/10 15:29	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	08/14/10 15:29	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	**1.3**	J	ug/L	1	0.36	1.0	5	EPA 8260B	08/14/10 15:29	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	08/14/10 15:29	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	08/14/10 15:29	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	08/14/10 15:29	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	08/14/10 15:29	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	08/14/10 15:29	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/14/10 15:29	JKG	

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Description: 9209-MW6 | **Lab Sample ID:** C009506-01 | **Received:** 08/13/10 13:10

Matrix: Ground Water | **Sampled:** 08/13/10 10:40 | **Work Order:** C009506

Project: North Wake Unlined LF - CAS | **Sampled By:** Aaron Weispfenning

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	08/14/10 15:29	JKG	
Vinyl chloride [75-01-4] ^	**2.5**		ug/L	1	0.30	1.0	1	EPA 8260B	08/14/10 15:29	JKG	
Xylenes (Total) [1330-20-7] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	08/14/10 15:29	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*39*	*1*	*50.0*	*77 %*	*51-122*	*0H14002*	*EPA 8260B*	*08/14/10 15:29*	*JKG*	
Dibromofluoromethane	*45*	*1*	*50.0*	*90 %*	*68-117*	*0H14002*	*EPA 8260B*	*08/14/10 15:29*	*JKG*	
Toluene-d8	*44*	*1*	*50.0*	*88 %*	*69-110*	*0H14002*	*EPA 8260B*	*08/14/10 15:29*	*JKG*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 9209-MW6d
Matrix: Ground Water
Project: North Wake Unlined LF - CAS

Lab Sample ID: C009506-02
Sampled: 08/13/10 11:35
Sampled By: Aaron Weispfenning

Received: 08/13/10 13:10
Work Order: C009506

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	08/14/10 16:00	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	08/14/10 16:00	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
1,1-Dichloroethane [75-34-3] ^	**7.8**		ug/L	1	0.33	1.0	5	EPA 8260B	08/14/10 16:00	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	08/14/10 16:00	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	08/14/10 16:00	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	08/14/10 16:00	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
1,4-Dichlorobenzene [106-46-7] ^	**0.61**	J	ug/L	1	0.38	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	08/14/10 16:00	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	08/14/10 16:00	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	08/14/10 16:00	JKG	
Acetone [67-64-1] ^	**3.1**	J	ug/L	1	1.5	5.0	100	EPA 8260B	08/14/10 16:00	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	08/14/10 16:00	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	08/14/10 16:00	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	08/14/10 16:00	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	08/14/10 16:00	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	08/14/10 16:00	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	08/14/10 16:00	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	08/14/10 16:00	JKG	
Chloroform [67-66-3] ^	**1.1**	J	ug/L	1	0.20	1.0	5	EPA 8260B	08/14/10 16:00	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	**1.7**	J	ug/L	1	0.36	1.0	5	EPA 8260B	08/14/10 16:00	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	08/14/10 16:00	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	08/14/10 16:00	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	08/14/10 16:00	JKG	
Methylene chloride [75-09-2] ^	**1.1**		ug/L	1	0.53	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
Tetrachloroethene [127-18-4] ^	**1.2**		ug/L	1	0.36	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	08/14/10 16:00	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	08/14/10 16:00	JKG	
Trichloroethene [79-01-6] ^	**1.3**		ug/L	1	0.38	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
Trichlorofluoromethane [75-69-4] ^	**1.1**		ug/L	1	0.28	1.0	1	EPA 8260B	08/14/10 16:00	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	08/14/10 16:00	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	08/14/10 16:00	JKG	

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Description: 9209-MW6d
Matrix: Ground Water
Project: North Wake Unlined LF - CAS

Lab Sample ID: C009506-02
Sampled: 08/13/10 11:35
Sampled By: Aaron Weispfenning

Received: 08/13/10 13:10
Work Order: C009506

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	08/14/10 16:00	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*40*	*1*	*50.0*	*79 %*	*51-122*	*0H14002*	*EPA 8260B*	*08/14/10 16:00*	*JKG*	
Dibromofluoromethane	*45*	*1*	*50.0*	*89 %*	*68-117*	*0H14002*	*EPA 8260B*	*08/14/10 16:00*	*JKG*	
Toluene-d8	*44*	*1*	*50.0*	*88 %*	*69-110*	*0H14002*	*EPA 8260B*	*08/14/10 16:00*	*JKG*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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Description: 9209-TripBlank
Matrix: Water
Project: North Wake Unlined LF - CAS

Lab Sample ID: C009506-03
Sampled: 08/13/10 10:40
Sampled By: ENCO

Received: 08/13/10 13:10
Work Order: C009506

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
1,1,1,2-Tetrachloroethane [630-20-6] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	08/14/10 16:31	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	08/14/10 16:31	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	08/14/10 16:31	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	08/14/10 16:31	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	08/14/10 16:31	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	08/14/10 16:31	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	08/14/10 16:31	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	08/14/10 16:31	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	08/14/10 16:31	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	08/14/10 16:31	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	08/14/10 16:31	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	08/14/10 16:31	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	08/14/10 16:31	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	08/14/10 16:31	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	08/14/10 16:31	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	08/14/10 16:31	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	08/14/10 16:31	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	08/14/10 16:31	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	08/14/10 16:31	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	08/14/10 16:31	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	08/14/10 16:31	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	08/14/10 16:31	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	08/14/10 16:31	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	08/14/10 16:31	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	08/14/10 16:31	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	08/14/10 16:31	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	08/14/10 16:31	JKG	

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Description: 9209-TripBlank
Matrix: Water
Project: North Wake Unlined LF - CAS

Lab Sample ID: C009506-03
Sampled: 08/13/10 10:40
Sampled By: ENCO

Received: 08/13/10 13:10
Work Order: C009506

Volatile Organic Compounds by GCMS

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Xylenes (Total) [1330-20-7] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	08/14/10 16:31	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*40*	*1*	*50.0*	*79 %*	*51-122*	*0H14002*	*EPA 8260B*	*08/14/10 16:31*	*JKG*	
Dibromofluoromethane	*45*	*1*	*50.0*	*90 %*	*68-117*	*0H14002*	*EPA 8260B*	*08/14/10 16:31*	*JKG*	
Toluene-d8	*43*	*1*	*50.0*	*86 %*	*69-110*	*0H14002*	*EPA 8260B*	*08/14/10 16:31*	*JKG*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0H14002 - EPA 5030B_MS

Blank (0H14002-BLK1) Prepared: 08/14/2010 09:11 Analyzed: 08/14/2010 11:51

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1,1,2-Tetrachloroethane	0.40	U	1.0	ug/L							
1,1,1-Trichloroethane	0.27	U	1.0	ug/L							
1,1,2,2-Tetrachloroethane	0.33	U	1.0	ug/L							
1,1,2-Trichloroethane	0.37	U	1.0	ug/L							
1,1-Dichloroethane	0.33	U	1.0	ug/L							
1,1-Dichloroethene	0.24	U	1.0	ug/L							
1,2,3-Trichloropropane	0.55	U	1.0	ug/L							
1,2-Dibromo-3-chloropropane	0.48	U	1.0	ug/L							
1,2-Dibromoethane	0.42	U	1.0	ug/L							
1,2-Dichlorobenzene	0.27	U	1.0	ug/L							
1,2-Dichloroethane	0.65	U	1.0	ug/L							
1,2-Dichloropropane	0.20	U	1.0	ug/L							
1,4-Dichlorobenzene	0.38	U	1.0	ug/L							
2-Butanone	1.0	U	5.0	ug/L							
2-Hexanone	0.69	U	5.0	ug/L							
4-Methyl-2-pentanone	1.1	U	5.0	ug/L							
Acetone	1.5	U	5.0	ug/L							
Acrylonitrile	2.1	U	10	ug/L							
Benzene	0.20	U	1.0	ug/L							
Bromochloromethane	0.42	U	1.0	ug/L							
Bromodichloromethane	0.37	U	1.0	ug/L							
Bromoform	0.71	U	1.0	ug/L							
Bromomethane	0.49	U	1.0	ug/L							
Carbon disulfide	0.54	U	5.0	ug/L							
Carbon tetrachloride	0.38	U	1.0	ug/L							
Chlorobenzene	0.27	U	1.0	ug/L							
Chloroethane	0.30	U	1.0	ug/L							
Chloroform	0.20	U	1.0	ug/L							
Chloromethane	0.34	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.36	U	1.0	ug/L							
cis-1,3-Dichloropropene	0.28	U	1.0	ug/L							
Dibromochloromethane	0.32	U	1.0	ug/L							
Dibromomethane	0.37	U	1.0	ug/L							
Ethylbenzene	0.20	U	1.0	ug/L							
Iodomethane	0.52	U	5.0	ug/L							
Methylene chloride	0.53	U	1.0	ug/L							
Styrene	0.26	U	1.0	ug/L							
Tetrachloroethene	0.36	U	1.0	ug/L							
Toluene	0.27	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.34	U	1.0	ug/L							
trans-1,3-Dichloropropene	0.38	U	1.0	ug/L							
trans-1,4-Dichloro-2-butene	0.54	U	1.0	ug/L							
Trichloroethene	0.38	U	1.0	ug/L							
Trichlorofluoromethane	0.28	U	1.0	ug/L							
Vinyl acetate	0.98	U	5.0	ug/L							
Vinyl chloride	0.30	U	1.0	ug/L							
Xylenes (Total)	0.40	U	1.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*39*			*ug/L*	*50.0*		*79*	*51-122*			

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0H14002 - EPA 5030B_MS

Blank (0H14002-BLK1) Continued Prepared: 08/14/2010 09:11 Analyzed: 08/14/2010 11:51

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Surrogate: Dibromofluoromethane	*42*			*ug/L*	*50.0*		*84*	*68-117*			
Surrogate: Toluene-d8	*43*			*ug/L*	*50.0*		*86*	*69-110*			

LCS (0H14002-BS1) Prepared: 08/14/2010 09:11 Analyzed: 08/14/2010 12:22

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	21		1.0	ug/L	20.0		106	75-133			
Benzene	23		1.0	ug/L	20.0		113	81-134			
Chlorobenzene	21		1.0	ug/L	20.0		106	83-117			
Toluene	22		1.0	ug/L	20.0		108	71-118			
Trichloroethene	21		1.0	ug/L	20.0		104	75-115			
Surrogate: 4-Bromofluorobenzene	*41*			*ug/L*	*50.0*		*83*	*51-122*			
Surrogate: Dibromofluoromethane	*44*			*ug/L*	*50.0*		*89*	*68-117*			
Surrogate: Toluene-d8	*46*			*ug/L*	*50.0*		*92*	*69-110*			

Matrix Spike (0H14002-MS1) Prepared: 08/14/2010 09:11 Analyzed: 08/14/2010 12:52

Source: C009537-10

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	19		1.0	ug/L	20.0	0.24 U	97	75-133			
Benzene	21		1.0	ug/L	20.0	0.20 U	105	81-134			
Chlorobenzene	19		1.0	ug/L	20.0	0.27 U	97	83-117			
Toluene	20		1.0	ug/L	20.0	0.27 U	99	71-118			
Trichloroethene	20		1.0	ug/L	20.0	0.38 U	99	75-115			
Surrogate: 4-Bromofluorobenzene	*40*			*ug/L*	*50.0*		*80*	*51-122*			
Surrogate: Dibromofluoromethane	*43*			*ug/L*	*50.0*		*85*	*68-117*			
Surrogate: Toluene-d8	*43*			*ug/L*	*50.0*		*86*	*69-110*			

Matrix Spike Dup (0H14002-MSD1) Prepared: 08/14/2010 09:11 Analyzed: 08/14/2010 13:23

Source: C009537-10

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	19		1.0	ug/L	20.0	0.24 U	95	75-133	2	20	
Benzene	21		1.0	ug/L	20.0	0.20 U	104	81-134	0.8	17	
Chlorobenzene	19		1.0	ug/L	20.0	0.27 U	97	83-117	0.05	16	
Toluene	19		1.0	ug/L	20.0	0.27 U	97	71-118	2	17	
Trichloroethene	19		1.0	ug/L	20.0	0.38 U	97	75-115	1	18	
Surrogate: 4-Bromofluorobenzene	*41*			*ug/L*	*50.0*		*81*	*51-122*			
Surrogate: Dibromofluoromethane	*43*			*ug/L*	*50.0*		*86*	*68-117*			
Surrogate: Toluene-d8	*44*			*ug/L*	*50.0*		*88*	*69-110*			

FLAGS/NOTES AND DEFINITIONS

B	The analyte was detected in the associated method blank.
D	The sample was analyzed at dilution.
J	The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL), adjusted for actual sample preparation data and moisture content, where applicable.
U	The analyte was analyzed for but not detected to the level shown, adjusted for actual sample preparation data and moisture content, where applicable.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
MRL	Method Reporting Limit. The MRL is roughly equivalent to the practical quantitation limit (PQL) and is based on the low point of the calibration curve, when applicable, sample preparation factor, dilution factor, and, in the case of soil samples, moisture content.

ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

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Page 1 of 1

Client Name	CDM (CD004)
Project Number	[none]
Address	5400 GLENWOOD AVE SUITE 300
Project Name/Desc	North Wake Unlined LF - CAS
City/ST/Zip	RALEIGH, NC 27612-
PO # / Billing Info	
Tel	325-3566
Fax	() -
Reporting Contact	Dan Forbes
Sampler(s) Name, Affiliation (Print)	Aaron Weisperning, CDM
Billing Contact	Anarosa Jones
Sampler(s) Signature	
Site Location / Time Zone	

Requested Analyses: 8260B Appendix 1

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

___ Standard

X Expedited 48 hrs

Due __/__/__

Lab Workorder: C009506

Preservation (See Codes) (Combine as necessary)

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	8260B Appendix 1	Sample Comments
	9209-MW6	8-13-10	1040	G	GW	3	X	- provide edd
	9209-MW6d	8-13-10	1135	G	GW	3	X	- report results
	9209-TripBlank	—	—	—	WA	2	X	according to SWS
								guidelines
								- report "J" values
								- email results
								to Matt Colone, CDM
						8	<-- Total # of Containers	

Sample Kit Prepared By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time
BJG	8/11/10		8-13-10 1310		8/13/10 13:10
Comments/Special Reporting Requirements		Relinquished By	Date/Time	Received By	Date/Time
		Relinquished By	Date/Time	Received By	Date/Time
		Cooler #'s & Temps on Receipt	JX-164 1.3°C	Condition Upon Receipt	✓ Acceptable ___ Unacceptable

Matrix : GW-Groundwater SO-Soil DW-Drinking Water SE-Sediment SW-Surface Water WW-Wastewater A-Air O-Other (detail in comments)

Preservation: I-Ice H-HCl N-HNO3 S-H2SO4 NO-NaOH O-Other (detail in comments)

Note : All samples submitted to ENCO Labs are in accordance with the terms and conditions listed on the reverse of this form, unless prior written agreements exist