APPENDIX B
Monitored Natural Attenuation Update

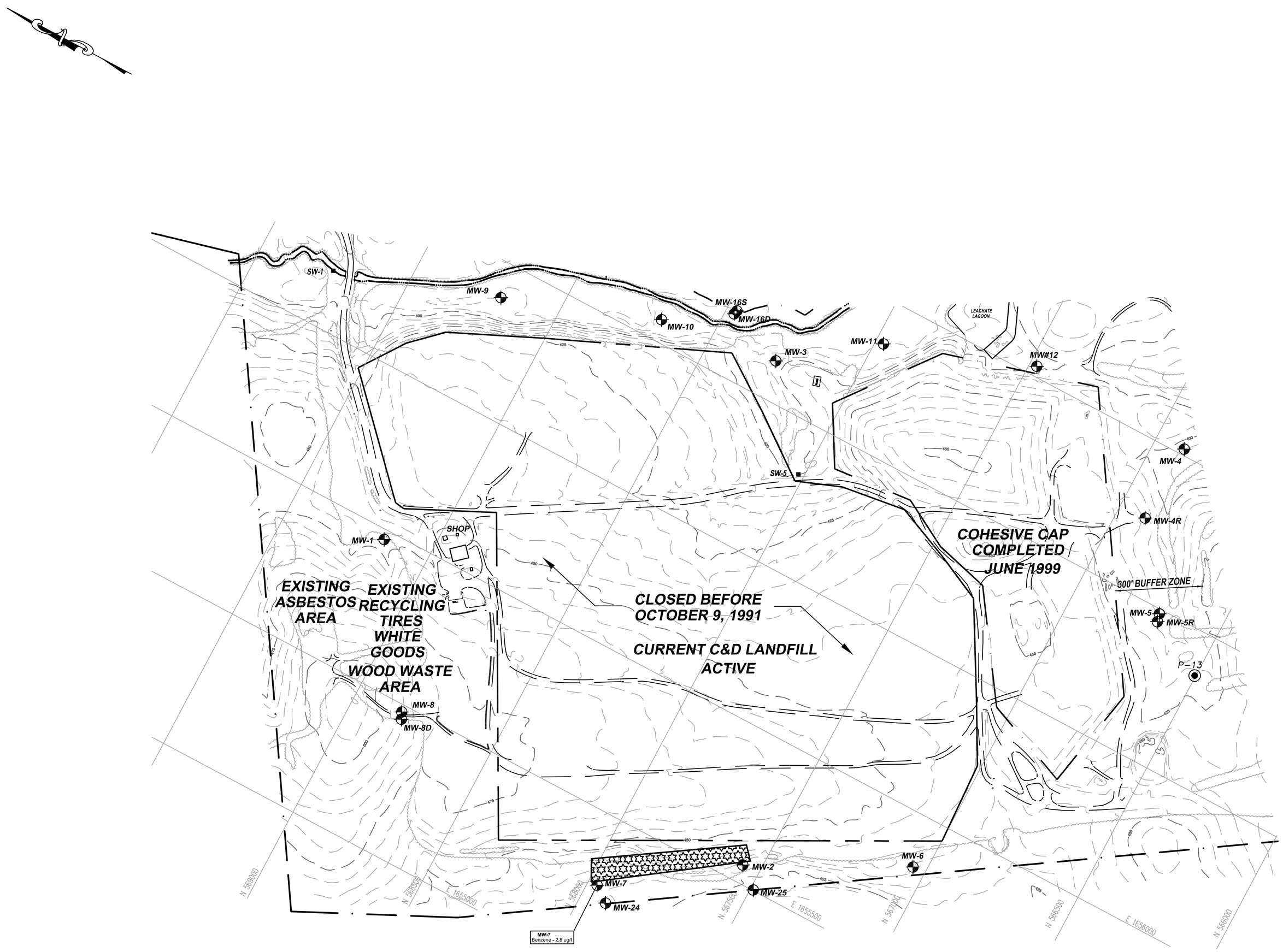
Corrective Action Summary

The City of Albemarle Closed Unlined Municipal Solid Waste Landfill (MSWLF) and Active Construction and Demolition (C&D) Landfill has progressed with Monitored Natural Attenuation (MNA) monitoring in accordance with the Corrective Action Plan (CAP) approved March 2009. This is the third MNA sampling event; collected with traditional semi-annual sampling on July 21 and 22, 2010.

As proposed in the CAP, Municipal Engineering Services Company, P.A. (MESCO) of Garner, North Carolina collected groundwater samples, to be tested for MNA parameters, from nine monitoring wells (MW-1, MW-2, MW-3, MW-6, MW-7, MW-9, MW-10, MW-24 and MW-25). Sampling was conducted per the methodology listed in the approved CAP Groundwater and Surface Water Sampling and Analysis Plan. **Plate 1,** in this Appendix, depicts the identified constituents of concern from the current sampling event above the 2L standard at each respective well. Only one constituent of concern (COC), benzene in MW-7, was detected above 2L standards. MW-7 is located within the compliance boundary.

Table 1 lists the wells with their required MNA sampling parameter results. The COCs include both hydrocarbons and chlorinated solvents; therefore, biodegradation can occur on two fronts. **Table 2** shows the breakdown of chlorinated solvents through reductive chlorination during the first two sampling events. **Table 3** establishes the conditions present for existing dissolved hydrocarbons at plume locations. The MNA wells, on **Tables 2 and 3** are grouped by plume association, in order to simplify correlations between plates and tables. The Corrective Action Evaluation Report (CAER), required by the Solid Waste Section, will be submitted following the fourth baseline sampling event.

In addition to MNA sampling, the City of Albemarle instituted phytoremediation in the area corresponding to wells MW-2, MW-7, MW-24 and MW-25. On May 4, 2009, 275 willow cuttings were planted in and around the plume field. Transducers were set in wells MW-2 and MW-7 on June 11, 2009 to monitor daily water levels. Daily precipitation levels are recovered from the State Climate Office website. MESCO personnel retrieve transducer data for analysis quarterly. Several trees were selected to monitor growth measurements. **Table 4** provides a tree growth overview for the phytoremediation area. The entire area has become overgrown and many trees have died as a result. 100-200 trees will likely be replanted in the spring. Tree photos taken in July are included as **Plate 3**. Results and analysis will be provided in the CAER.



LEGEND

- 2001 CONTOURS
- PROPERTY LINE
- EXISITING ROAD
- WATER
- P-13 PIEZOMETER LOCATION
- CLOSED MSWLF SANITARY UNIT
- EXISTING MSWLF SANITARY UNIT
- BUFFER ZONE
- SW-5 SURFACE WATER SAMPLING LOCATION
- MW-4 MONITORING WELL
- Phytoremediation Area

*CONTAMINANTS OF CONCERN LISTED FROM 7-21-10 SAMPLING EVENT

PLATE 1

Municipal Engineering Services Company, P.A.
LICENSE NUMBER: C-0281
P.O. BOX 97 GARNER, N.C. 27529 (919) 772-5393
P.O. BOX 349 BOONE, N.C. 28607 (828) 262-1767

CLOSED MSWLF AND ACTIVE C&D LANDFILL FACILITY
CITY OF ALBEMARLE
NORTH CAROLINA

DATE	BY	REV.	DESCRIPTION

ESTIMATED CONTAMINANTS OF CONCERN ABOVE 2L

SCALE:	1"=200'
DATE:	3/10/2010
DRWN. BY:	M. GERMAN
CHKD. BY:	M. BROWN
PROJECT NUMBER	G07059.0
DRAWING NO.	PLATE 1
SHEET NO.	1 of 1

TABLE 1: MNA Parameters at Monitoring Well Locations

Parameters	Method	MDL*	Units	MW-1	MW-3	MW-9	MW-10
				07/21/10	07/21/10	07/22/10	07/21/10
VFA – Acetic Acid	AM23G	70	ug/L	<70	84	<70	160
VFA – Butyric Acid	AM23G	50	ug/L	<50	<50	<50	<50
VFA – Hexanoic Acid	AM23G	50	ug/L	<50	<50	<50	<50
VFA – i-Hexanoic Acid	AM23G	50	ug/L	<50	<50	<50	<50
VFA – i-Pentanoic Acid	AM23G	150	ug/L	<150	<150	<150	<150
VFA – Lactic Acid	AM23G	100	ug/L	<100	300	<100	<100
VFA – Pentanoic Acid	AM23G	70	ug/L	<70	<70	<70	<70
VFA – Propionic Acid	AM23G	50	ug/L	<50	74	<50	<50
VFA – Pyruvic Acid	AM23G	150	ug/L	<150	<150	<150	<150
Hydrogen	AM20GAX	0.6	nM	1.7	0.89	0.88	1.0
Methane	AM20GAX	0.015	ug/L	220	210	99	310
Ethene	AM20GAX	0.01	ug/L	<0.010	<0.010	0.012	<0.010
Ethane	AM20GAX	0.01	ug/L	<0.010	<0.010	0.100	<0.010
CO2-Dissolved	Field Hach Kit	1	mg/L	30	>100	>100	30
Alkalinity	EPA 310.2	8000	ug/L	19000	420000ŧ	110000	690000Ω
Sulfate	EPA 300.0	120	ug/L	11000	100000¥	13000	9000
Sulfide	SM18 4500-S D	31	ug/L	<31	<31	<31	<31
Chloride	EPA 300.0	18	ug/L	4700	150000*	78000	320000§
TOC	SM18 5310B	320	ug/L	8400	49000	LAB	35000
COD	SM 5220D	2800	ug/L	68000	150000	16000	130000
BOD	SM5210B	2000	ug/L	2900	5600	<2000	17000
Iron	EPA 6010C	22	ug/L	21000	1330	25500	5800
Nitrate	EPA 353.2	25	ug/L	<25	34	<25	3900
Temperature	Field Instrument	0	Degrees C	18.2	18	18	20.2
ORP	Field Instrument	-900	mV	163	48	60	81
DO	Field Instrument	0	mg/L	0.8	0.4	1.1	0.9
pH	Field Instrument	0	Standard Units	5.63	6.51	6.45	6.93
Specific Conductance	Field Instrument	0	us/cm	77	710	303	342
Turbidity	Field Instrument	0	NTU	103	18.2	73.2	68.1

Notes:
VFA = Volitile Fatty Acid
MDL* = Lowest Method Detection Limit for Lab Parameters or Lowest Field Measurement Possible
LAB – Laboratory error produced invalid data
Constituents Below Quantitation Limit are shown as < MDL value
>100 = CO_2 Concentration Exceeds Maximum capability of Method Used
* Chloride analysis for MW-3 uses a dilution factor of 2 (MDL = 36)
§ Chloride analysis for MW-10 uses a dilution factor of 4 (MDL = 72)
¥ Sulfate analysis for MW-3 uses a dilution factor of 2 (MDL = 240)
ŧ Alkalinity analysis for MW-3 uses a dilution factor of 4 (MDL = 32000)

TABLE 1: MNA Parameters at Monitoring Well Locations

Parameters	Method	MDL*	Units	MW-2	MW-25	MW-7	MW-24	MW-6
				07/22/10	07/21/10	07/21/10	07/21/10	07/22/10
VFA – Acetic Acid	AM23G	70	ug/L	<70	<70	<70	<70	<70
VFA – Butyric Acid	AM23G	50	ug/L	<50	<50	<50	<50	<50
VFA – Hexanoic Acid	AM23G	50	ug/L	<50	<50	<50	<50	<50
VFA – i-Hexanoic Acid	AM23G	50	ug/L	<50	<50	<50	<50	<50
VFA – i-Pentanoic Acid	AM23G	150	ug/L	<150	<150	<150	<150	<150
VFA – Lactic Acid	AM23G	100	ug/L	200	<100	<100	<100	<100
VFA – Pentanoic Acid	AM23G	70	ug/L	<70	<70	<70	<70	<70
VFA – Propionic Acid	AM23G	50	ug/L	<50	<50	<50	<50	<50
VFA – Pyruvic Acid	AM23G	150	ug/L	<150	<150	<150	<150	<150
Hydrogen	AM20GAX	0.6	nM	1.0	1.1	1.3	0.91	1.6
Methane	AM20GAX	0.015	ug/L	120	34	630	0.96	55
Ethene	AM20GAX	0.01	ug/L	0.014	<0.010	<0.010	<0.010	<0.010
Ethane	AM20GAX	0.01	ug/L	0.038	<0.010	0.096	<0.010	<0.010
CO2-Dissolved	Field Hach Kit	1	mg/L	>100	60	>100	60	80
Alkalinity	EPA 310.2	8000	ug/L	180000	80000	560000ŧ	99000	40000
Sulfate	EPA 300.0	120	ug/L	100000¥	26000	3700	24000	8000
Sulfide	SM18 4500-S D	31	ug/L	<31	<31	<31	<31	<31
Chloride	EPA 300.0	18	ug/L	36000	51000	130000*	35000	11000
TOC	SM 5310B	320	ug/L	14000	7200	5400	4000	LAB
COD	SM 5220D	2800	ug/L	68000	66000	14000	18000	2800
BOD	SM5210B	2000	ug/L	<2000	<2000	<2000	<2000	<2000
Iron	EPA 6010C	22	ug/L	25500	13200	248.0	4640	668
Nitrate	EPA 353.2	21	ug/L	<25	<25	<25	70	10000
Temperature	Field Instrument	0	Degrees C	17.8	18	19.1	18.2	17.5
ORP	Field Instrument	-900	mV	137	168	38	119	201
DO	Field Instrument	0	mg/L	0.4	0.5	0.8	0.6	0.7
pH	Field Instrument	0	Standard Units	5.96	5.91	6.96	6.88	5.6
Specific Conductance	Field Instrument	0	us/cm	443	380	883	1070	201
Turbidity	Field Instrument	0	NTU	12.7	9.98	7.9	13.2	19.1

Notes:
VFA = Volitile Fatty Acid
MDL* = Lowest Method Detection Limit for Lab Parameters or Lowest Field Measurement Possible
LAB – Laboratory error produced invalid data
Constituents Below Quantitation Limit are shown as < MDL value
>100 = CO_2 Concentration Exceeds Maximum capability of Method Used
* Chloride analysis for MW-7 uses a dilution factor of 2 (MDL = 36)
¥ Sulfate analysis for MW-2 uses a diultion factor of 2 (MDL = 240)
ŧ Alkalinity analysis for MW-7 uses a dilution factor of 4 (MDL = 32000)

Table 2: Reductive Dechlorination Assessment

	Tetrachloroethene (Perchloroethene – PCE)				Trichloroethene (TCE)				1,1-Dichloroethene (1,1-DCE)				cis-1,2-Dichlorethene (cis-1,2-DCE)			
	Jul-09	Jan-10	Jul-10		Jul-09	Jan-10	Jul-10		Jul-09	Jan-10	Jul-10		Jul-09	Jan-10	Jul-10	
MW-1	BQL	BQL	BQL		BQL	BQL	BQL		BQL	BQL	BQL		BQL	BQL	BQL	
MW-3	BQL	BQL	BQL		BQL	BQL	BQL		BQL	BQL	BQL		BQL	BQL	BQL	
MW-9	0.8	BQL	2.4		0.7	BQL	1.8		BQL	BQL	BQL		0.7	BQL	3.2	
MW-10	BQL	BQL	BQL		BQL	BQL	BQL		BQL	BQL	BQL		BQL	BQL	BQL	
MW-2	BQL	BQL	BQL		BQL	BQL	BQL		BQL	BQL	BQL		BQL	BQL	BQL	
MW-6	1.0	BQL	0.64		BQL	BQL	BQL		BQL	BQL	BQL		BQL	BQL	BQL	
MW-7	BQL	0.54	0.65		BQL	BQL	BQL		BQL	BQL	0.43		1.0	1.4	2.1	
MW-24	BQL	BQL	BQL		BQL	BQL	BQL		BQL	BQL	BQL		BQL	BQL	BQL	
MW-25	BQL	BQL	BQL		BQL	BQL	BQL		BQL	BQL	BQL		BQL	BQL	BQL	

Notes:

1. The selected chlorinated solvents consist of the target parent compound and several target daughter compounds.
2. Analytes were analyzed per EPA Test Method 8260. Detections are presented in micrograms per liter (µg/L).
3. BQL = Below Quantitation Limit
4. Red Text identifies an increase in concentration when compared to the prior event.
5. Green Text identifies a decrease in concentratios when compared to the prior event.

Table 2: Reductive Dechlorination Assessment

	Vinyl Chloride (VC)				Ethene (ETH)				Ethane (ETH)			
	Jul-09	Jan-10	Jul-10		9-Jul	Jan-10	Jul-10		9-Jul	Jan-10	Jul-10	
MW-1	BQL	BQL	BQL		0.006	<0.010	<0.010		BQL	<0.010	<0.010	
MW-3	BQL	BQL	BQL		0.006	<0.010	<0.010		0.002	<0.010	<0.010	
MW-9	BQL	BQL	0.5		0.008	<0.010	0.012		0.008	<0.010	0.100	
MW-10	BQL	BQL	BQL		0.011	<0.010	<0.010		0.003	<0.010	<0.010	
MW-2	BQL	BQL	BQL		0.006	<0.010	0.014		0.059	0.056	0.038	
MW-6	BQL	BQL	BQL		0.031	<0.010	<0.010		0.004	<0.010	<0.010	
MW-7	BQL	0.45	0.42		0.061	<0.010	<0.010		0.061	0.041	0.096	
MW-24	BQL	BQL	BQL		0.002	<0.010	<0.010		0.002	<0.010	<0.010	
MW-25	BQL	BQL	BQL		0.170	<0.010	<0.010		0.210	<0.010	<0.010	

Table 3: Natural Attenuation Properties

	Oxygen (DO)				Nitrate (NO3)				Ferrious Iron (Fe2+)				Sulfate (SO4)				Methane			
	Jul-09	Jan-10	Jul-10		Jul-09	Jan-10	Jul-10		Jul-09	Jan-10	Jul-10		Jul-09	Jan-10	Jul-10		Jul-09	Jan-10	Jul-10	
MW-1	0.8	0.9	0.8		201	60			39100	2740	21000		10600	7300	11000		42	2.8	220	
MW-3	2.4	0.3	0.4		23000	2100			207	2960	1330		189000*	150000	100000¥		12	24	210	
MW-9	1.8	1.3	1.1		283	170			3010	8450	25500		15200	11000	13000		7.6	0.26	99	
MW-10	0.9	0.9	0.9		2700	10000			1770	1330	5800		10700	8700	9000		1.6	<0.015	310	
MW-2	1.3	0.5	0.4		3200	260			2680	8800	25500		80500*	60000	100000¥		240	1100	120	
MW-6	1.3	0.9	0.7		10000	14000			1090	1260	668		8730	31000	8000		39	9.5	55	
MW-7	0.8	0.8	0.8		BQL	38			94.3	20	248		BQL	5400	3700		240	360	630	
MW-24	1.9	0.4	0.6		BQL	190000			2180	2400	4640		29300	50000	24000		0.6	1.4	0.96	
MW-25	1.3	0.5	0.5		1680	180			3770	4670	13200		32100	47000	26000		3.1	11	34	

Note:
1. The selected parameters consist of target properties to help identify the attenuation environment.
2. Analytes were analyzed in accordance with the appropriate method, listed on Table 1.
3. DO detections are presented in milligrams per liter (mg/L); all others are presented in micrograms per liter (ug/L).
4. BQL = Below Quantitation Limit.
5. Red Text identifies an increase in concentration when compared to the prior event.
6. Green Text identifies a decrease in concentratios when compared to the prior event.

* Sulfate analysis for MW-3 uses a dilution factor of 10 (MDL = 50000)
* Sulfate analysis for MW-2 uses a dilution factor of 5 (MDL = 25000)
¥ Sulfate analysis for MW-2 & MW-3 uses a dilution factor of 2 (MDL = 240)

Table 4: General Tree Evaluation

Tree Number	Height (in)	Middle Width (in)	Trunk Circumference (in)	Height (in)	Middle Width (in)	Trunk Circumference (in)	Height (in)	Middle Width (in)	Trunk Circumference (in)
	07/29/09			04/20/10			07/20/10		
1	15	4	1.25	17	4	1.25	-	-	-
2	22	4	1.5	23	4	1.5	-	-	-
3	27	4	1.5	29	2	1.5	27	4	1.25
4	18	4	1.25	20	4	1.25	27	4	1.25
5	21	4	1.5	23	4	1.5	23	4	1.25
6	19	6	1.5	20	6	1.5	-	-	-
7	22	11	1.5	23	12	1.5	22	9	1.75
8	26	12	1.5	26	12	1.5	27.5	7	1.5
9	23	9	1.25	24	10	1.5	-	-	-
10	29	12	1.5	30	13	1.5	11	6	1.5
11	31	10	1.75	31	10	1.75	28	5.5	1.75
12	28	13	1.75	29	14	2	-	-	-
13	20	12	2	21	13	2	15	1	1.75
14	22	12	1.5	23	13	1.75	18	7	1.5
15	28	14	1.75	30	15	1.75	25.5	6.5	1.75

NOTE: All cuttings planted with approximate 12” stick-up, as bud only cuttings, tree circumference approximately 1”.

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

City of Albemarle
Western Plume
Run Name

Data Input Instructions:

115 → 1. Enter value directly....or
↑ *or* 2. Calculate by filling in gray
0.02 cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	8.9	(ft/yr)
or			
Hydraulic Conductivity	K	2.9E-05	(cm/sec)
Hydraulic Gradient	i	0.0148	(ft/ft)
Effective Porosity	n	0.05	(-)

2. DISPERSION

Alpha x*	47.5	(ft)
(Alpha y) / (Alpha x)*	0.1	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.7	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	426	(L/kg)	15.48	(-)
TCE	130	(L/kg)	5.42	(-)
DCE	125	(L/kg)	5.25	(-)
VC	30	(L/kg)	2.01	(-)
ETH	0	(L/kg)	1.00	(-)
Common R (used in model)* =			**5.25**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	1.195	0.58	0.79
TCE → DCE	0.900	0.77	0.74
DCE → VC	3.300	0.21	0.64
VC → ETH	2.567	0.27	0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	5	(yr)
Modeled Area Width*	1200	(ft)
Modeled Area Length*	475	(ft)
Zone 1 Length*	475	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

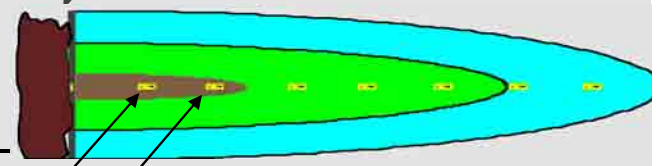
Source Options

Source Thickness in Sat. Zone* 10 (ft)

	Y1
Width* (ft)	1200
Conc. (mg/L)*	C1
PCE	.8
TCE	.0
DCE	.5
VC	.5
ETH	0

k_s* (1/yr)

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)	.64	.0									
TCE Conc. (mg/L)	.0	.0									
DCE Conc. (mg/L)	.43	.0									
VC Conc. (mg/L)	0.4	.0									
ETH Conc. (mg/L)	0.014	.0									
Distance from Source (ft)	50	100									
Date Data Collected	2010										

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore Formulas | RESET | SEE OUTPUT | Paste Example

Start Here → ◉ PCE
○ TCE
○ DCE
○ VC
○ ETH

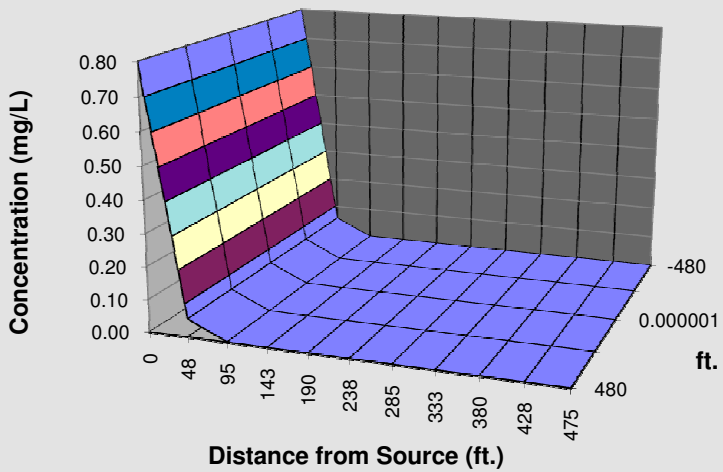
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft)	0	48	95	143	190	238	285	333	380	428	475
480	0.800	0.056	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
240	0.800	0.056	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.800	0.056	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-240	0.800	0.056	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-480	0.800	0.056	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS RATE (mg/day)	3.3E+2	2.3E+1	2.6E-1	2.5E-4	1.8E-8	4.0E-14	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Show No Degradation

Show Biotransformation

Time: 5 yr Target Level: 0.005 mg/L Displayed Model: Biotransformation Displayed Compound: PCE



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	2.2	(Kg)
- Plume Mass If Biotransformation/Production	1.9	(Kg)
Mass Removed	0.3	(Kg)
% Biotransformed =	+12.5%	
% Change in Mass Rate =	100.0 %	(source to edge)

If "Can't Calc.", make model area longer

See acre-ft

Current Volume of Ground Water in Plume	0.43	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr.	0.00	
# Pore Volumes to Clean-Up		
Clean-Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input

Start Here → ◉ PCE
○ TCE
○ DCE
○ VC
○ ETH

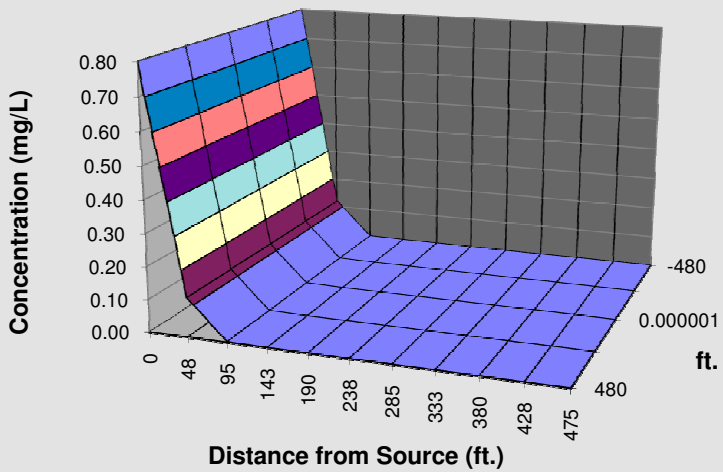
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft)	0	48	95	143	190	238	285	333	380	428	475
480	0.800	0.120	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
240	0.800	0.120	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.800	0.120	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-240	0.800	0.120	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-480	0.800	0.120	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS RATE (mg/day)	3.3E+2	5.0E+1	7.0E-1	7.1E-4	4.8E-8	1.1E-13	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Show No Degradation

Show Biotransformation

Time: 5 yr Target Level: 0.005 mg/L Displayed Model: No Degradation Displayed Compound: PCE



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	2.2	(Kg)
- Plume Mass If Biotransformation/Production	1.9	(Kg)
Mass Removed	0.3	(Kg)
% Biotransformed =	**+12.5%**	
% Change in Mass Rate =	**100.0 %**	(source to edge)

If "Can't Calc.", make model area longer

See acre-ft

Current Volume of Ground Water in Plume	0.43	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr.	0.00	
# Pore Volumes to Clean-Up		
Clean-Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input

Start Here → ○ PCE ○ TCE ◉ DCE ○ VC ○ ETH

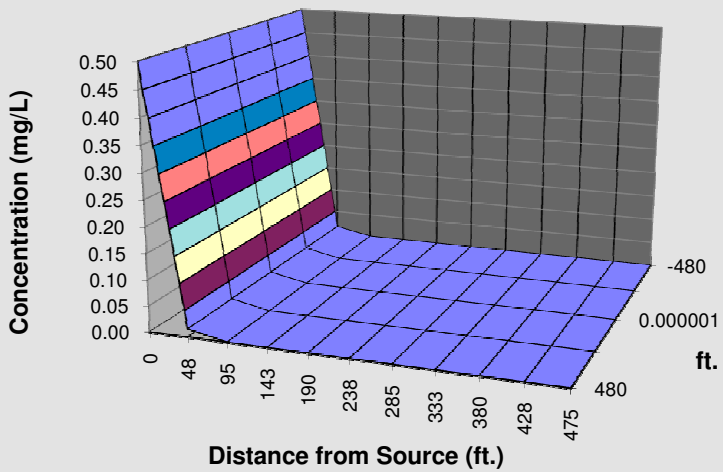
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft)	0	48	95	143	190	238	285	333	380	428	475
480	0.500	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
240	0.500	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.500	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-240	0.500	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-480	0.500	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS RATE (mg/day)	2.1E+2	6.4E+0	6.7E-2	6.3E-5	2.0E-9	1.0E-14	1.2E-21	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Show No Degradation

Show Biotransformation

Time: 5 yr Target Level: 0.070 mg/L Displayed Model: Biotransformation Displayed Compound: DCE



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	1.4	(Kg)
- Plume Mass If Biotransformation/Production	1.1	(Kg)
Mass Removed	0.3	(Kg)
% Biotransformed =	+18.5%	
% Change in Mass Rate =	100.0 %	(source to edge)

If "Can't Calc.", make model area longer

See acre-ft

Current Volume of Ground Water in Plume	0.43	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr.	0.00	
# Pore Volumes to Clean-Up		
Clean-Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input

Start Here → ○ PCE ○ TCE ◉ DCE ○ VC ○ ETH

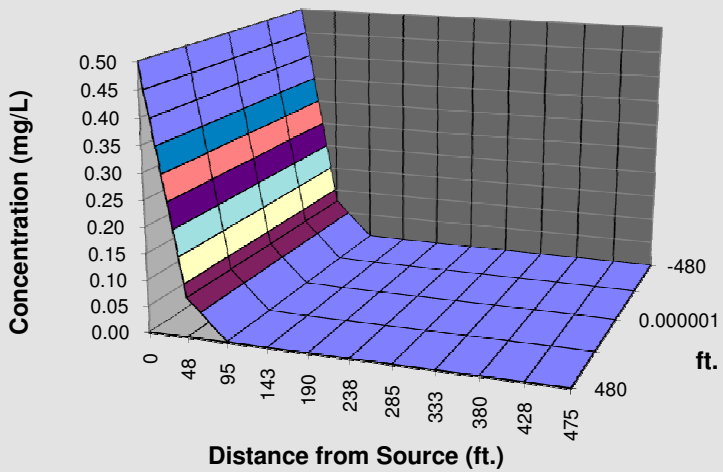
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft)	0	48	95	143	190	238	285	333	380	428	475
480	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
240	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-240	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-480	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS RATE (mg/day)	2.1E+2	3.1E+1	4.3E-1	4.4E-4	3.0E-8	6.9E-14	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Show No Degradation

Show Biotransformation

Time: 5 yr Target Level: 0.070 mg/L Displayed Model: No Degradation Displayed Compound: DCE



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	1.4	(Kg)
- Plume Mass If Biotransformation/Production	1.1	(Kg)
Mass Removed	0.3	(Kg)
% Biotransformed =	**+18.5%**	
% Change in Mass Rate =	**100.0 %**	(source to edge)

If "Can't Calc.", make model area longer

See acre-ft

Current Volume of Ground Water in Plume	0.43	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr.	0.00	
# Pore Volumes to Clean-Up		
Clean-Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input

Start Here → ○ PCE ○ TCE ○ DCE ◉ VC ○ ETH

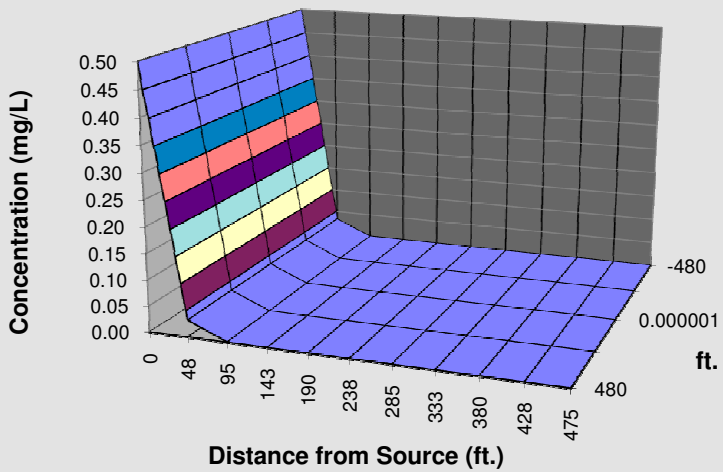
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft)	0	48	95	143	190	238	285	333	380	428	475
480	0.500	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
240	0.500	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.500	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-240	0.500	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-480	0.500	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS RATE (mg/day)	2.1E+2	1.4E+1	1.4E-1	1.3E-4	2.4E-9	2.1E-14	6.6E-21	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Show No Degradation

Show Biotransformation

Time: 5 yr Target Level: 0.002 mg/L Displayed Model: Biotransformation Displayed Compound: VC



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	1.4	(Kg)
- Plume Mass If Biotransformation/Production	1.2	(Kg)
Mass Removed	0.2	(Kg)
% Biotransformed =	**+13.2%**	
% Change in Mass Rate =	**100.0 %**	(source to edge)

If "Can't Calc.", make model area longer

See acre-ft

Current Volume of Ground Water in Plume	0.43	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr.	0.00	
# Pore Volumes to Clean-Up		
Clean-Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input

Start Here → ○ PCE ○ TCE ○ DCE ◉ VC ○ ETH

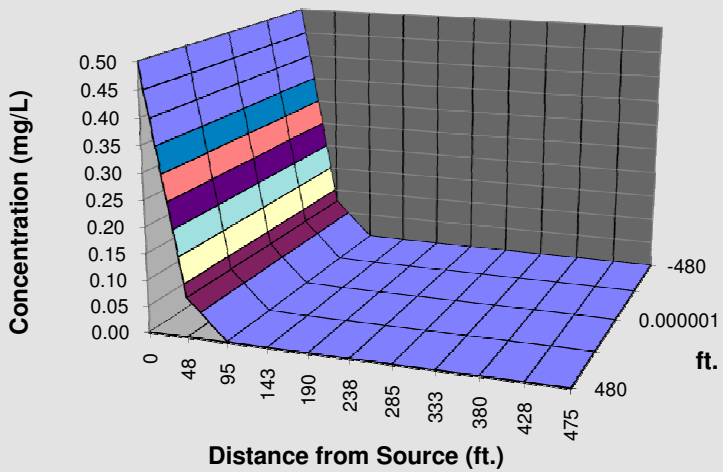
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft)	0	48	95	143	190	238	285	333	380	428	475
480	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
240	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-240	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-480	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS RATE (mg/day)	2.1E+2	3.1E+1	4.3E-1	4.4E-4	3.0E-8	6.9E-14	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Show No Degradation

Show Biotransformation

Time: 5 yr Target Level: 0.002 mg/L Displayed Model: No Degradation Displayed Compound: VC



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	1.4	(Kg)
- Plume Mass If Biotransformation/Production	1.2	(Kg)
Mass Removed	0.2	(Kg)
% Biotransformed =	**+13.2%**	
% Change in Mass Rate =	**100.0 %**	(source to edge)

If "Can't Calc.", make model area longer

See acre-ft

Current Volume of Ground Water in Plume	0.43	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr.	0.00	
# Pore Volumes to Clean-Up		
Clean-Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

City of Albemarle
Western Plume
Run Name

Data Input Instructions:

115 → 1. Enter value directly....or
↑ *or* 2. Calculate by filling in gray
0.02 cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	8.9	(ft/yr)
or			
Hydraulic Conductivity	K	2.9E-05	(cm/sec)
Hydraulic Gradient	i	0.0148	(ft/ft)
Effective Porosity	n	0.05	(-)

2. DISPERSION

Alpha x*	47.5	(ft)
(Alpha y) / (Alpha x)*	0.1	(-)
(Alpha z) / (Alpha x)*	1.E-99	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.7	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	426	(L/kg)	15.48	(-)
TCE	130	(L/kg)	5.42	(-)
DCE	125	(L/kg)	5.25	(-)
VC	30	(L/kg)	2.01	(-)
ETH	0	(L/kg)	1.00	(-)
Common R (used in model)* =			**5.25**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.070	9.90	0.79
TCE → DCE	0.050	13.90	0.74
DCE → VC	0.178	3.90	0.64
VC → ETH	0.119	5.80	0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	5	(yr)
Modeled Area Width*	1200	(ft)
Modeled Area Length*	475	(ft)
Zone 1 Length*	475	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

Source Options

Source Thickness in Sat. Zone* 10 (ft)

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations

	Y1
Width* (ft)	1200

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.8	
TCE	.0	
DCE	.5	
VC	.5	
ETH	0	

View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)	.64	.0									
TCE Conc. (mg/L)	.0	.0									
DCE Conc. (mg/L)	.43	.0									
VC Conc. (mg/L)	0.4	.0									
ETH Conc. (mg/L)	0.014	.0									
Distance from Source (ft)	50	100									
Date Data Collected	2010										

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore Formulas | RESET | SEE OUTPUT | Paste Example

Start Here → ◉ PCE
○ TCE
○ DCE
○ VC
○ ETH

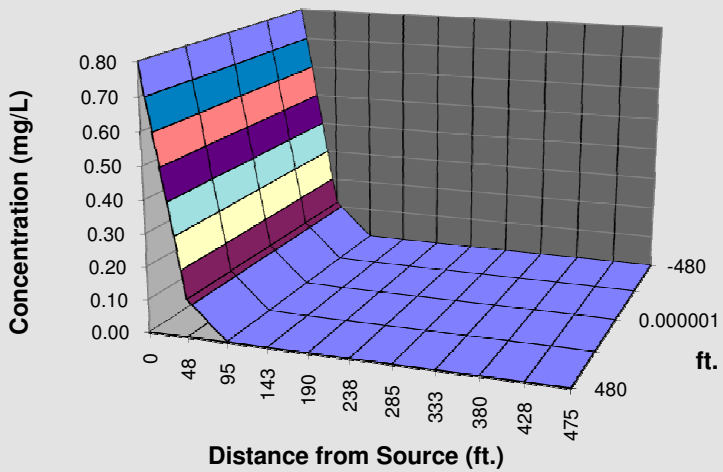
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft)	0	48	95	143	190	238	285	333	380	428	475
480	0.800	0.115	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
240	0.800	0.115	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.800	0.115	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-240	0.800	0.115	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-480	0.800	0.115	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS RATE (mg/day)	3.3E+2	4.7E+1	6.6E-1	6.7E-4	4.5E-8	1.0E-13	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Show No Degradation

Show Biotransformation

Time: 5 yr Target Level: 0.005 mg/L Displayed Model: Biotransformation Displayed Compound: PCE



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	2.2	(Kg)
- Plume Mass If Biotransformation/Production	2.2	(Kg)
Mass Removed	0.0	(Kg)
% Biotransformed =	+1.1%	
% Change in Mass Rate =	100.0 %	(source to edge)

If "Can't Calc.", make model area longer

See acre-ft

Current Volume of Ground Water in Plume	0.43	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr.	0.00	
# Pore Volumes to Clean-Up		
Clean-Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input

Start Here → ◉ PCE
○ TCE
○ DCE
○ VC
○ ETH

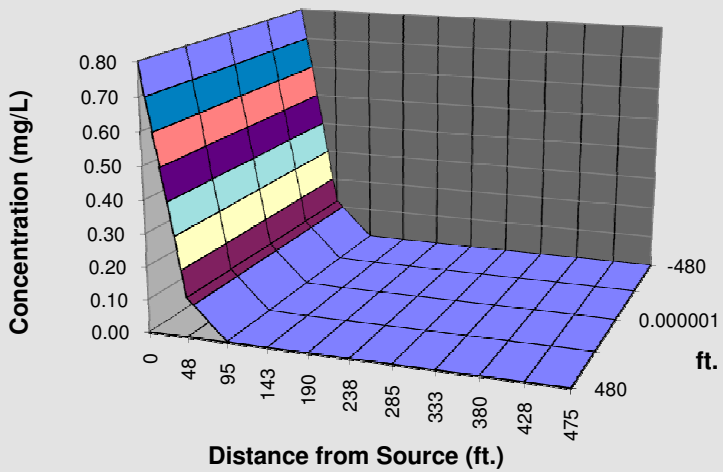
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft)	0	48	95	143	190	238	285	333	380	428	475
480	0.800	0.120	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
240	0.800	0.120	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.800	0.120	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-240	0.800	0.120	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-480	0.800	0.120	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS RATE (mg/day)	3.3E+2	5.0E+1	7.0E-1	7.1E-4	4.8E-8	1.1E-13	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Show No Degradation

Show Biotransformation

Time: 5 yr Target Level: 0.005 mg/L Displayed Model: No Degradation Displayed Compound: PCE



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	2.2	(Kg)
- Plume Mass If Biotransformation/Production	2.2	(Kg)
Mass Removed	0.0	(Kg)
% Biotransformed =	**+1.1%**	
% Change in Mass Rate =	**100.0 %**	(source to edge)

If "Can't Calc.", make model area longer

See acre-ft

Current Volume of Ground Water in Plume	0.43	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr.	0.00	
# Pore Volumes to Clean-Up		
Clean-Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input

Start Here → ○ PCE ○ TCE ◉ DCE ○ VC ○ ETH

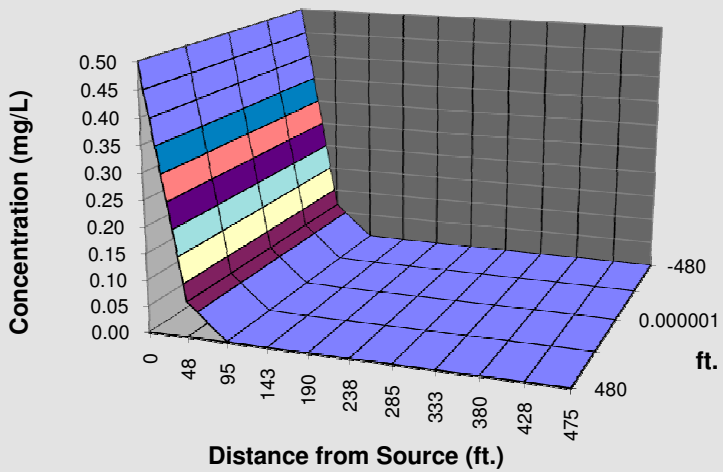
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft)	0	48	95	143	190	238	285	333	380	428	475
480	0.500	0.067	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
240	0.500	0.067	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.500	0.067	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-240	0.500	0.067	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-480	0.500	0.067	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS RATE (mg/day)	2.1E+2	2.8E+1	3.8E-1	3.8E-4	2.5E-8	5.8E-14	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Show No Degradation

Show Biotransformation

Time: 5 yr Target Level: **0.070** mg/L Displayed Model: **Biotransformation** Displayed Compound: **DCE**



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	1.4	(Kg)
- Plume Mass If Biotransformation/Production	1.3	(Kg)
Mass Removed	0.0	(Kg)
% Biotransformed =	**+2.6%**	
% Change in Mass Rate =	**100.0 %**	(source to edge)

If "Can't Calc.", make model area longer

See acre-ft

Current Volume of Ground Water in Plume	0.43	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr.	0.00	
# Pore Volumes to Clean-Up		
Clean-Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input

Start Here → ○ PCE ○ TCE ◉ DCE ○ VC ○ ETH

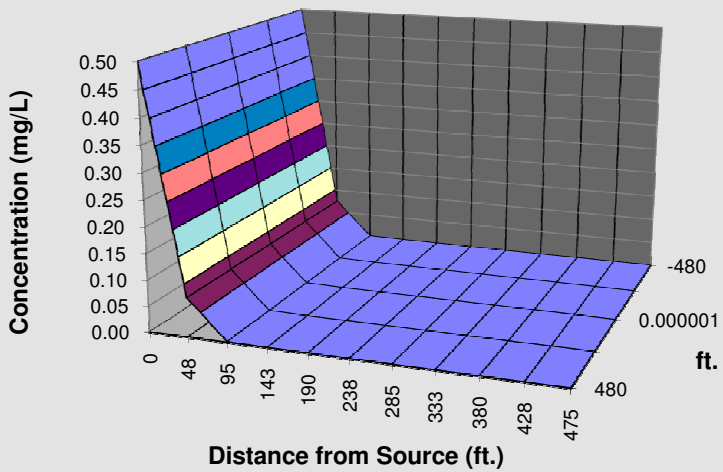
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft)	0	48	95	143	190	238	285	333	380	428	475
480	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
240	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-240	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-480	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS RATE (mg/day)	2.1E+2	3.1E+1	4.3E-1	4.4E-4	3.0E-8	6.9E-14	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Show No Degradation

Show Biotransformation

Time: 5 yr Target Level: 0.070 mg/L Displayed Model: No Degradation Displayed Compound: DCE



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	1.4	(Kg)
- Plume Mass If Biotransformation/Production	1.3	(Kg)
Mass Removed	0.0	(Kg)
% Biotransformed =	**+2.6%**	
% Change in Mass Rate =	**100.0 %**	(source to edge)

If "Can't Calc.", make model area longer

See acre-ft

Current Volume of Ground Water in Plume	0.43	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr.	0.00	
# Pore Volumes to Clean-Up		
Clean-Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input

Start Here → ○ PCE ○ TCE ○ DCE ◉ VC ○ ETH

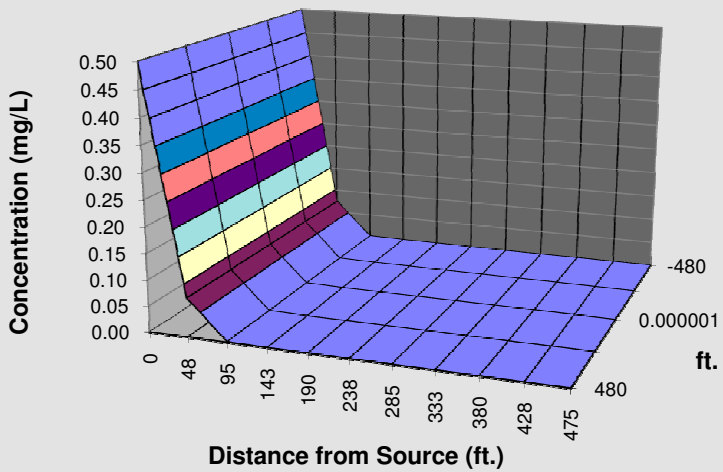
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft)	0	48	95	143	190	238	285	333	380	428	475
480	0.500	0.074	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
240	0.500	0.074	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.500	0.074	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-240	0.500	0.074	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-480	0.500	0.074	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS RATE (mg/day)	2.1E+2	3.1E+1	4.3E-1	4.4E-4	3.0E-8	6.4E-14	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Show No Degradation

Show Biotransformation

Time: 5 yr Target Level: 0.002 mg/L Displayed Model: Biotransformation Displayed Compound: VC



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	1.4	(Kg)
- Plume Mass If Biotransformation/Production	1.4	(Kg)
Mass Removed	0.0	(Kg)
% Biotransformed =	**+0.2%**	
% Change in Mass Rate =	**100.0 %**	(source to edge)

If "Can't Calc.", make model area longer

See acre-ft

Current Volume of Ground Water in Plume	0.43	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr.	0.00	
# Pore Volumes to Clean-Up		
Clean-Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input

Start Here → ○ PCE ○ TCE ○ DCE ◉ VC ○ ETH

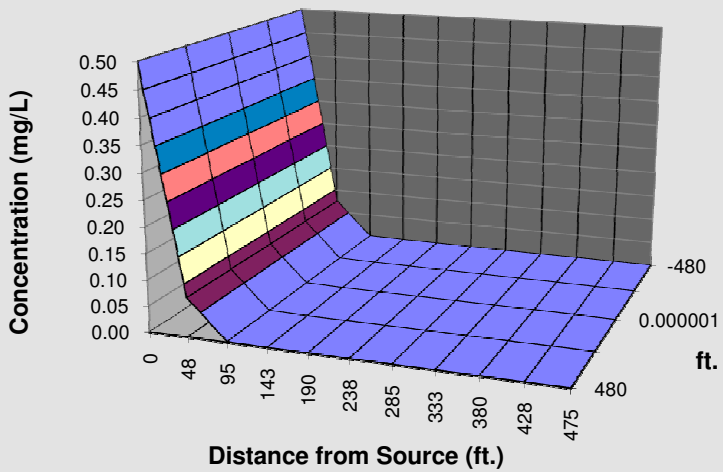
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft)	0	48	95	143	190	238	285	333	380	428	475
480	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
240	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-240	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-480	0.500	0.075	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS RATE (mg/day)	2.1E+2	3.1E+1	4.3E-1	4.4E-4	3.0E-8	6.9E-14	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Show No Degradation

Show Biotransformation

Time: 5 yr Target Level: 0.002 mg/L Displayed Model: No Degradation Displayed Compound: VC



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	1.4	(Kg)
- Plume Mass If Biotransformation/Production	1.4	(Kg)
Mass Removed	0.0	(Kg)
% Biotransformed =	**+0.2%**	
% Change in Mass Rate =	**100.0 %**	(source to edge)

If "Can't Calc.", make model area longer

See acre-ft

Current Volume of Ground Water in Plume	0.43	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr.	0.00	
# Pore Volumes to Clean-Up		
Clean-Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence — *Version 1.4*

City of Albemarle
Eastern Plume
Run Name

Data Input Instructions:

115 → *1. Enter value directly....or*
↑ *or*
0.02 → *2. Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable* → *Data used directly in model.*
20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	8.9	*(ft/yr)*
or		↑ *or*	
Hydraulic Conductivity	*K*	2.9E-05	*(cm/sec)*
Hydraulic Gradient	*i*	0.0148	*(ft/ft)*
Porosity	*n*	0.05	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	17.5	*(ft)*
Transverse Dispersivity*	*alpha y*	1.7	*(ft)*
Vertical Dispersivity*	*alpha z*	0.0	*(ft)*
or		↑ *or*	
Estimated Plume Length	*Lp*	475	*(ft)*

3. ADSORPTION

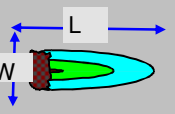
Retardation Factor*	*R*	1.0	*(-)*
or		↑ *or*	
Soil Bulk Density	*rho*		*(kg/l)*
Partition Coefficient	*Koc*		*(L/kg)*
FractionOrganicCarbon	*foc*		*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	0.35	*(per yr)*
or		↑ *or*	
Solute Half-Life	*t-half*	2.00	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	0.6	*(mg/L)*
Delta Nitrate*	*NO3*	2.03	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	8.8512	*(mg/L)*
Delta Sulfate*	*SO4*	32.34	*(mg/L)*
Observed Methane*	*CH4*	0.168	*(mg/L)*

5. GENERAL

Modeled Area Length*	475	*(ft)*
Modeled Area Width*	1200	*(ft)*
Simulation Time*	5	*(yr)*



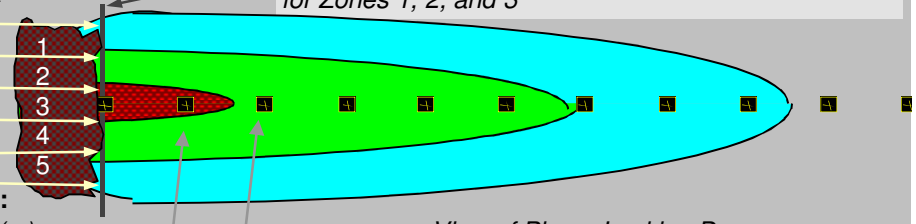
6. SOURCE DATA

Source Thickness in Sat.Zone* 10 *(ft)*

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3

Source Zones:

Width* (ft)	Conc. (mg/L)*	
		1
200	0.0013	2
500	0.0028	3
200	0.0013	4
0	0	5



View of Plume Looking Down

Source Halflife (see Help):

Infinite	Infinite	*(yr)*
Inst. React.	1st Order	
Soluble Mass	Infinite	*(Kg)*
In Source NAPL, Soil		

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)		.003									
Dist. from Source (ft)	0	48	95	143	190	238	285	333	380	428	475

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — **View Output**

RUN ARRAY — **View Output**

Help

Recalculate This Sheet

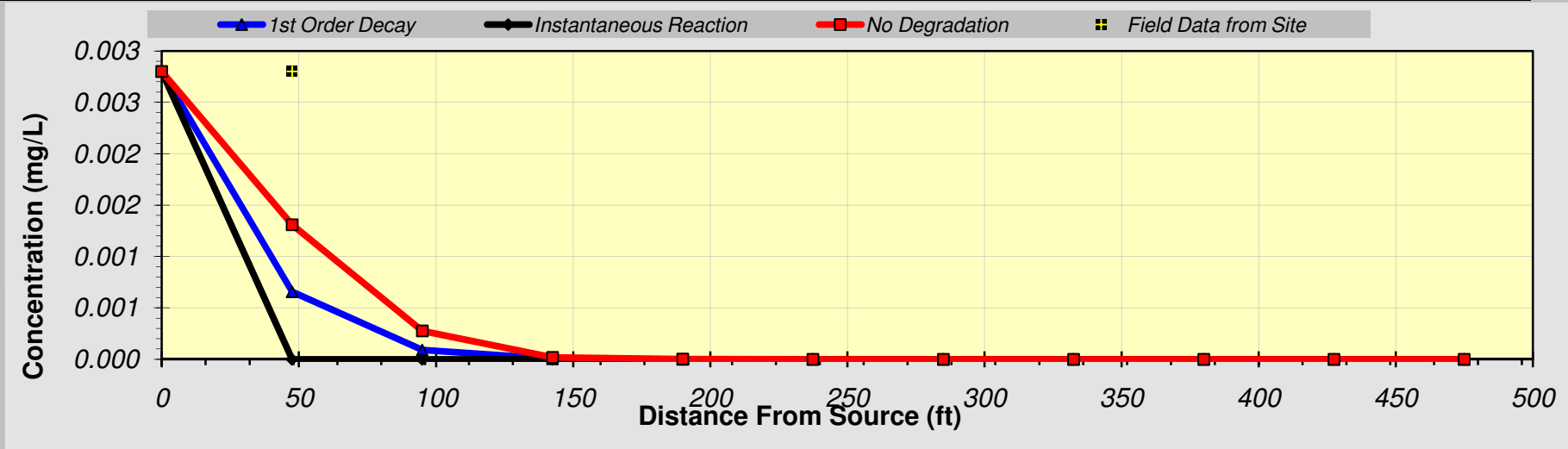
Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

Distance from Source (ft)

TYPE OF MODEL	0	48	95	143	190	238	285	333	380	428	475
No Degradation	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1st Order Decay	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Field Data from Site		0.003									



Calculate Animation

Time:

5 Years

Return to Input

Recalculate This Sheet

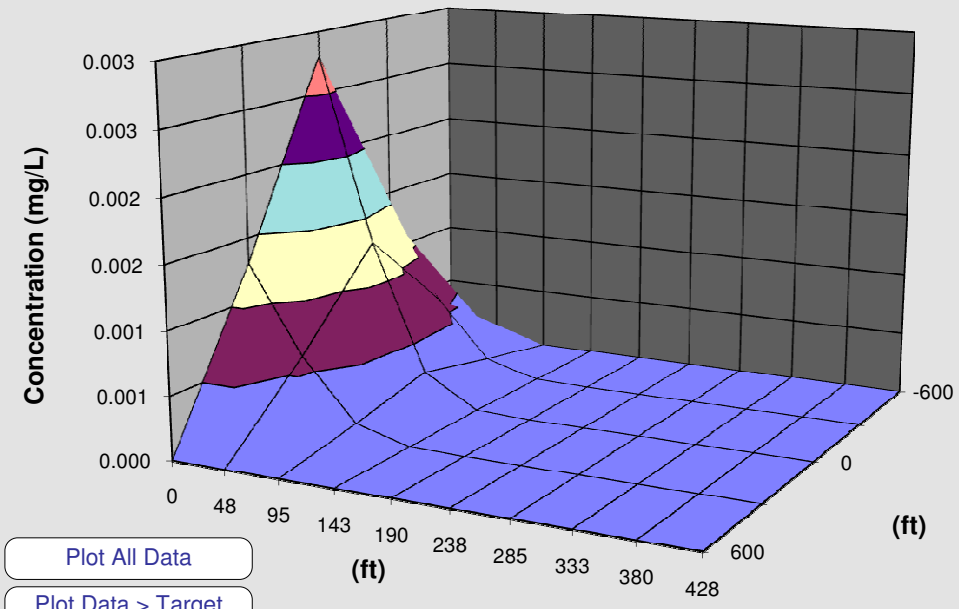
DISSOLVED HYDROCARBON CONCENTRATIONS IN PLUME (mg/L at Z=0)

Transverse Distance (ft) ↓ / Distance from Source (ft)	0	48	95	143	190	238	285	333	380	428	475
600	0.000E+00	0.000E+00	0.000E+00	7.440E-17	4.076E-16	5.697E-17	6.177E-19	8.348E-22	0.000E+00	0.000E+00	0.000E+00
300	1.300E-03	6.073E-04	1.286E-04	8.253E-06	1.418E-07	6.139E-10	6.505E-13	1.659E-16	0.000E+00	0.000E+00	0.000E+00
0	2.800E-03	1.308E-03	2.759E-04	1.752E-05	2.964E-07	1.262E-09	1.315E-12	3.301E-16	0.000E+00	0.000E+00	0.000E+00
-300	1.300E-03	6.073E-04	1.286E-04	8.253E-06	1.418E-07	6.139E-10	6.505E-13	1.659E-16	0.000E+00	0.000E+00	0.000E+00
-600	0.000E+00	0.000E+00	0.000E+00	7.440E-17	4.076E-16	5.697E-17	6.177E-19	8.348E-22	0.000E+00	0.000E+00	0.000E+00
MASS FLUX (mg/day)	6.6E-1	2.6E-1	5.5E-2	3.5E-3	6.0E-5	2.6E-7	2.7E-10	6.8E-14	0.0E+0	0.0E+0	0.0E+0

Time: **5 Years** Target Level: **0.005** mg/L Displayed Model: **No Degradation**

Model to Display:

- *No Degradation Model*
- *1st Order Decay Model*
- *Instantaneous Reaction Model*



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass if No Biodegradation	0.0	*(Kg)*
- Actual Plume Mass	0.0	*(Kg)*
= Plume Mass Removed by Biodeg	**0.0**	*(Kg)*
	0 %	

Change in Electron Acceptor/Byproduct Masses:

Oxygen	*Nitrate*	*Iron II*	*Sulfate*	*Methane*	
na	na	na	na	na	*(Kg)*

Contam. Mass in Source (t=0 Years)	Infinite	*(Kg)*
Contam. Mass in Source Now (t=5Years)	Infinite	*(Kg)*
Current Volume of Groundwater in Plume	0.0	*(ac-ft)*
Flowrate of Water Through Source Zone	0.091	*(ac-ft/yr)*

Mass HELP

Recalculate

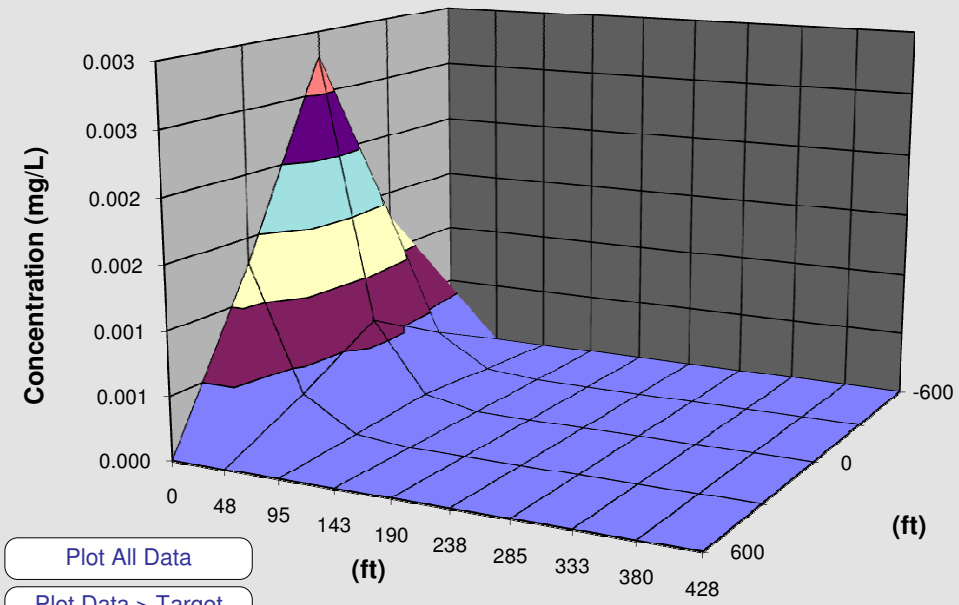
DISSOLVED HYDROCARBON CONCENTRATIONS IN PLUME (mg/L at Z=0)

Transverse Distance (ft) ↓ / Distance from Source (ft)	0	48	95	143	190	238	285	333	380	428	475
600	0.000E+00	0.000E+00	0.000E+00	1.959E-17	9.593E-17	1.255E-17	1.305E-19	1.712E-22	0.000E+00	0.000E+00	0.000E+00
300	1.300E-03	3.049E-04	4.187E-05	2.173E-06	3.336E-08	1.353E-10	1.374E-13	3.403E-17	0.000E+00	0.000E+00	0.000E+00
0	2.800E-03	6.567E-04	8.988E-05	4.614E-06	6.975E-08	2.781E-10	2.778E-13	6.772E-17	0.000E+00	0.000E+00	0.000E+00
-300	1.300E-03	3.049E-04	4.187E-05	2.173E-06	3.336E-08	1.353E-10	1.374E-13	3.403E-17	0.000E+00	0.000E+00	0.000E+00
-600	0.000E+00	0.000E+00	0.000E+00	1.959E-17	9.593E-17	1.255E-17	1.305E-19	1.712E-22	0.000E+00	0.000E+00	0.000E+00
MASS FLUX (mg/day)	6.6E-1	1.3E-1	1.8E-2	9.2E-4	1.4E-5	5.6E-8	5.7E-11	1.4E-14	0.0E+0	0.0E+0	0.0E+0

Time: **5 Years** Target Level: **0.005** mg/L Displayed Model: **1st Order Decay**

Model to Display:

- *No Degradation Model*
- *1st Order Decay Model*
- *Instantaneous Reaction Model*



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass if No Biodegradation	0.0	*(Kg)*
- Actual Plume Mass	0.0	*(Kg)*
= Plume Mass Removed by Biodeg	**0.0**	*(Kg)* (28 %)

Change in Electron Acceptor/Byproduct Masses:

Oxygen	*Nitrate*	*Iron II*	*Sulfate*	*Methane*	
na	na	na	na	na	*(Kg)*

Contam. Mass in Source (t=0 Years)	Infinite	*(Kg)*
Contam. Mass in Source Now (t=5Years)	Infinite	*(Kg)*
Current Volume of Groundwater in Plume	0.0	*(ac-ft)*
Flowrate of Water Through Source Zone	0.091	*(ac-ft/yr)*

Mass HELP

Recalculate

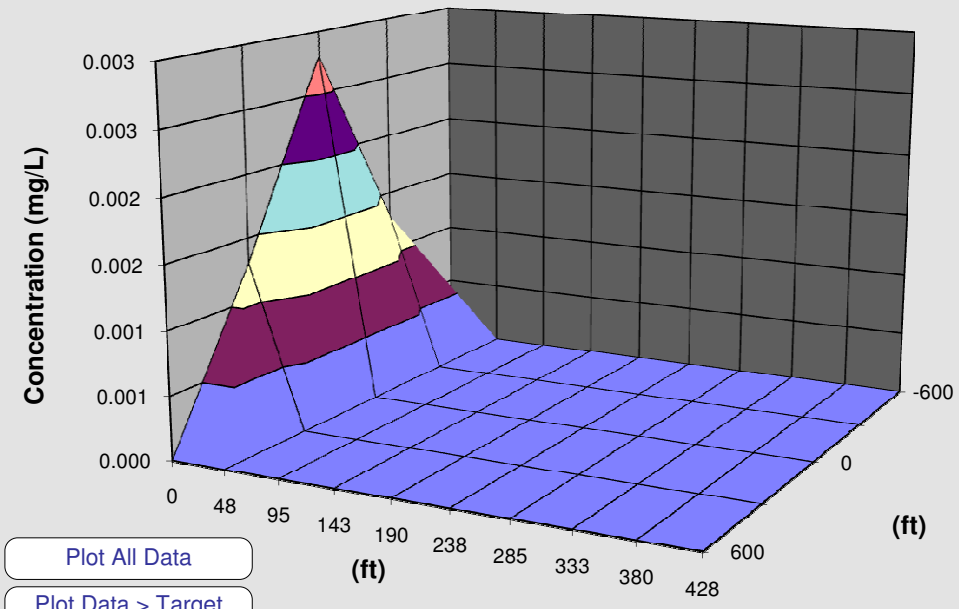
DISSOLVED HYDROCARBON CONCENTRATIONS IN PLUME (mg/L at Z=0)

Transverse Distance (ft) ↓ / Distance from Source (ft)	0	48	95	143	190	238	285	333	380	428	475
600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
300	1.300E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0	2.800E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
-300	1.300E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
-600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MASS FLUX (mg/day)	6.6E-1	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Time: **5 Years** Target Level: **0.005** mg/L Displayed Model: **Inst. Reaction**

Model to Display:

- *No Degradation Model*
- *1st Order Decay Model*
- *Instantaneous Reaction Model*



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass if No Biodegradation	4.6	*(Kg)*
- Actual Plume Mass	0.0	*(Kg)*
= Plume Mass Removed by Biodeg	**4.6**	*(Kg)* (100 %)

Change in Electron Acceptor/Byproduct Masses:

Oxygen	*Nitrate*	*Iron II*	*Sulfate*	*Methane*	
-0.3	-1.1	+5.0	-18.2	+0.1	*(Kg)*

Contam. Mass in Source (t=0 Years)	Infinite	*(Kg)*
Contam. Mass in Source Now (t=5Years)	Infinite	*(Kg)*
Current Volume of Groundwater in Plume	0.0	*(ac-ft)*
Flowrate of Water Through Source Zone	0.091	*(ac-ft/yr)*

Mass HELP

Recalculate

APPENDIX C
Laboratory Analysis Report
Chains of Custody
Field Sampling Parameter Data Sheet(s)

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

Wednesday, August 4, 2010

Municipal Engineering Services (MU001)

Attn: Jonathan Pfohl

P.O. Box 97

Garner, NC 27529

RE: Laboratory Results for
Project Number: G10055.0, Project Name/Desc: Albemarle Closed DM
ENCO Workorder: C008083

Dear Jonathan Pfohl,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, July 23, 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 22.

www.encolabs.com

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: MW-4R **Lab ID: C008083-01** **Sampled: 07/21/10 16:50** **Received: 07/23/10 11:07**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	01/17/11	07/25/10	15:46	8/2/2010 12:38
EPA 6020A	01/17/11	07/25/10	15:56	8/3/2010 12:42
EPA 8260B	08/04/10	07/28/10	09:57	7/28/2010 19:00

Client ID: MW-5R **Lab ID: C008083-02** **Sampled: 07/22/10 11:20** **Received: 07/23/10 11:07**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	01/18/11	07/25/10	15:46	8/2/2010 12:41
EPA 6020A	01/18/11	07/25/10	15:56	8/3/2010 12:45
EPA 8260B	08/05/10	07/28/10	09:57	7/28/2010 19:32

Client ID: MW-8D **Lab ID: C008083-03** **Sampled: 07/22/10 12:00** **Received: 07/23/10 11:07**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	01/18/11	07/25/10	15:46	8/2/2010 12:44
EPA 6020A	01/18/11	07/25/10	15:56	8/3/2010 12:49
EPA 8260B	08/05/10	07/28/10	09:57	7/28/2010 20:04

Client ID: MW-11 **Lab ID: C008083-04** **Sampled: 07/22/10 14:00** **Received: 07/23/10 11:07**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	01/18/11	07/25/10	15:46	8/2/2010 12:47
EPA 6020A	01/18/11	07/25/10	15:56	8/3/2010 12:52
EPA 8260B	08/05/10	07/28/10	09:57	7/28/2010 20:36

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NORTH CAROLINA SWS SAMPLE DETECTION SUMMARY

Client ID: MW-4R **Lab ID: C008083-01**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Barium - Total	2.62	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Cadmium - Total	1.96		1	0.360	1.00	1	ug/L	EPA 6010C	
Chloromethane	0.56	J	1	0.34	1.0	1	ug/L	EPA 8260B	
Chromium - Total	1.35	J	1	1.00	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	4.34	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	6.31	JB	1	1.60	10.0	10	ug/L	EPA 6010C	J-01
Lead - Total	3.24	J	1	1.90	10.0	10	ug/L	EPA 6010C	
Nickel - Total	12.2	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Zinc - Total	8.96	J	1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: MW-5R **Lab ID: C008083-02**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Arsenic - Total	4.55	J	1	2.80	10.0	10	ug/L	EPA 6010C	
Barium - Total	7.34	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Cadmium - Total	2.20		1	0.360	1.00	1	ug/L	EPA 6010C	
Cobalt - Total	2.11	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	4.87	JB	1	1.60	10.0	10	ug/L	EPA 6010C	J-01
Silver - Total	2.02	J	1	1.90	10.0	10	ug/L	EPA 6010C	
Zinc - Total	6.86	J	1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: MW-8D **Lab ID: C008083-03**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Arsenic - Total	7.70	J	1	2.80	10.0	10	ug/L	EPA 6010C	
Barium - Total	11.5	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Cobalt - Total	11.7		1	1.10	10.0	10	ug/L	EPA 6010C	
Selenium - Total	10.6		1	0.830	1.00	10	ug/L	EPA 6020A	
Silver - Total	2.11	J	1	1.90	10.0	10	ug/L	EPA 6010C	
Tetrachloroethene	0.41	J	1	0.36	1.0	1	ug/L	EPA 8260B	
Zinc - Total	4.75	J	1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: MW-11 **Lab ID: C008083-04**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	7.4		1	0.33	1.0	5	ug/L	EPA 8260B	
Barium - Total	17.9	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Cadmium - Total	0.452	J	1	0.360	1.00	1	ug/L	EPA 6010C	
Chloroethane	2.7	J	1	0.30	1.0	10	ug/L	EPA 8260B	
Chromium - Total	1.34	J	1	1.00	10.0	10	ug/L	EPA 6010C	
cis-1,2-Dichloroethene	2.8	J	1	0.36	1.0	5	ug/L	EPA 8260B	
Cobalt - Total	1.50	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Nickel - Total	4.34	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Vinyl chloride	0.65	J	1	0.30	1.0	1	ug/L	EPA 8260B	

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ANALYTICAL RESULTS

Description: MW-4R
Matrix: Ground Water
Project: Albemarle Closed DM

Lab Sample ID: C008083-01
Sampled: 07/21/10 16:50
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008083

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	07/28/10 19:00	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/28/10 19:00	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/28/10 19:00	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/28/10 19:00	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/28/10 19:00	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/28/10 19:00	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/28/10 19:00	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/28/10 19:00	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/28/10 19:00	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/28/10 19:00	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/28/10 19:00	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/28/10 19:00	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/28/10 19:00	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/28/10 19:00	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/28/10 19:00	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/28/10 19:00	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/28/10 19:00	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/28/10 19:00	JKG	
Chloromethane [74-87-3] ^	**0.56**	J	ug/L	1	0.34	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/28/10 19:00	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/28/10 19:00	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/28/10 19:00	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/28/10 19:00	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/28/10 19:00	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/28/10 19:00	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 19:00	JKG	

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Description: MW-4R
Matrix: Ground Water
Project: Albemarle Closed DM

Lab Sample ID: C008083-01
Sampled: 07/21/10 16:50
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008083

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	07/28/10 19:00	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/28/10 19:00	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/28/10 19:00	JKG	
Xylenes (Total) [1330-20-7] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	07/28/10 19:00	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*47*	*1*	*50.0*	*95 %*	*51-122*	*0G28018*	*EPA 8260B*	*07/28/10 19:00*	*JKG*	
Dibromofluoromethane	*54*	*1*	*50.0*	*108 %*	*68-117*	*0G28018*	*EPA 8260B*	*07/28/10 19:00*	*JKG*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*69-110*	*0G28018*	*EPA 8260B*	*07/28/10 19:00*	*JKG*	

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Description: MW-4R
Matrix: Ground Water
Project: Albemarle Closed DM

Lab Sample ID: C008083-01
Sampled: 07/21/10 16:50
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008083

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/03/10 12:42	VLO	
Arsenic [7440-38-2] ^	2.80	U	ug/L	1	2.80	10.0	10	EPA 6010C	08/02/10 12:38	JDH	
Barium [7440-39-3] ^	**2.62**	J	ug/L	1	1.00	10.0	100	EPA 6010C	08/02/10 12:38	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/02/10 12:38	JDH	
Cadmium [7440-43-9] ^	**1.96**		ug/L	1	0.360	1.00	1	EPA 6010C	08/02/10 12:38	JDH	
Chromium [7440-47-3] ^	**1.35**	J	ug/L	1	1.00	10.0	10	EPA 6010C	08/02/10 12:38	JDH	
Cobalt [7440-48-4] ^	**4.34**	J	ug/L	1	1.10	10.0	10	EPA 6010C	08/02/10 12:38	JDH	
Copper [7440-50-8] ^	**6.31**	JB	ug/L	1	1.60	10.0	10	EPA 6010C	08/02/10 12:38	JDH	J-01
Lead [7439-92-1] ^	**3.24**	J	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:38	JDH	
Nickel [7440-02-0] ^	**12.2**	J	ug/L	1	1.80	10.0	50	EPA 6010C	08/02/10 12:38	JDH	
Selenium [7782-49-2] ^	0.830	U	ug/L	1	0.830	1.00	10	EPA 6020A	08/03/10 12:42	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:38	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/03/10 12:42	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	08/02/10 12:38	JDH	
Zinc [7440-66-6] ^	**8.96**	J	ug/L	1	3.80	10.0	10	EPA 6010C	08/02/10 12:38	JDH	

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

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Description: MW-5R
Matrix: Ground Water
Project: Albemarle Closed DM

Lab Sample ID: C008083-02
Sampled: 07/22/10 11:20
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008083

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	07/28/10 19:32	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/28/10 19:32	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/28/10 19:32	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/28/10 19:32	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/28/10 19:32	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/28/10 19:32	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/28/10 19:32	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/28/10 19:32	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/28/10 19:32	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/28/10 19:32	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/28/10 19:32	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/28/10 19:32	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/28/10 19:32	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/28/10 19:32	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/28/10 19:32	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/28/10 19:32	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/28/10 19:32	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/28/10 19:32	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/28/10 19:32	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/28/10 19:32	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/28/10 19:32	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/28/10 19:32	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/28/10 19:32	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/28/10 19:32	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 19:32	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/28/10 19:32	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/28/10 19:32	JKG	

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Description: MW-5R
Matrix: Ground Water
Project: Albemarle Closed DM

Lab Sample ID: C008083-02
Sampled: 07/22/10 11:20
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008083

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	07/28/10 19:32	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*47*	*1*	*50.0*	*95 %*	*51-122*	*0G28018*	*EPA 8260B*	*07/28/10 19:32*	*JKG*	
Dibromofluoromethane	*55*	*1*	*50.0*	*109 %*	*68-117*	*0G28018*	*EPA 8260B*	*07/28/10 19:32*	*JKG*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*69-110*	*0G28018*	*EPA 8260B*	*07/28/10 19:32*	*JKG*	

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Description: MW-5R
Matrix: Ground Water
Project: Albemarle Closed DM

Lab Sample ID: C008083-02
Sampled: 07/22/10 11:20
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008083

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/03/10 12:45	VLO	
Arsenic [7440-38-2] ^	**4.55**	J	ug/L	1	2.80	10.0	10	EPA 6010C	08/02/10 12:41	JDH	
Barium [7440-39-3] ^	**7.34**	J	ug/L	1	1.00	10.0	100	EPA 6010C	08/02/10 12:41	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/02/10 12:41	JDH	
Cadmium [7440-43-9] ^	**2.20**		ug/L	1	0.360	1.00	1	EPA 6010C	08/02/10 12:41	JDH	
Chromium [7440-47-3] ^	1.00	U	ug/L	1	1.00	10.0	10	EPA 6010C	08/02/10 12:41	JDH	
Cobalt [7440-48-4] ^	**2.11**	J	ug/L	1	1.10	10.0	10	EPA 6010C	08/02/10 12:41	JDH	
Copper [7440-50-8] ^	**4.87**	JB	ug/L	1	1.60	10.0	10	EPA 6010C	08/02/10 12:41	JDH	J-01
Lead [7439-92-1] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:41	JDH	
Nickel [7440-02-0] ^	1.80	U	ug/L	1	1.80	10.0	50	EPA 6010C	08/02/10 12:41	JDH	
Selenium [7782-49-2] ^	0.830	U	ug/L	1	0.830	1.00	10	EPA 6020A	08/03/10 12:45	VLO	
Silver [7440-22-4] ^	**2.02**	J	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:41	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/03/10 12:45	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	08/02/10 12:41	JDH	
Zinc [7440-66-6] ^	**6.86**	J	ug/L	1	3.80	10.0	10	EPA 6010C	08/02/10 12:41	JDH	

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

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Description: MW-8D
Matrix: Ground Water
Project: Albemarle Closed DM

Lab Sample ID: C008083-03
Sampled: 07/22/10 12:00
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008083

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	07/28/10 20:04	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/28/10 20:04	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/28/10 20:04	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/28/10 20:04	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/28/10 20:04	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/28/10 20:04	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/28/10 20:04	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/28/10 20:04	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/28/10 20:04	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/28/10 20:04	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/28/10 20:04	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/28/10 20:04	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/28/10 20:04	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/28/10 20:04	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/28/10 20:04	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/28/10 20:04	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/28/10 20:04	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/28/10 20:04	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/28/10 20:04	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/28/10 20:04	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/28/10 20:04	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/28/10 20:04	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
Tetrachloroethene [127-18-4] ^	**0.41**	J	ug/L	1	0.36	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/28/10 20:04	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/28/10 20:04	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 20:04	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/28/10 20:04	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/28/10 20:04	JKG	

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Description: MW-8D
Matrix: Ground Water
Project: Albemarle Closed DM

Lab Sample ID: C008083-03
Sampled: 07/22/10 12:00
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008083

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	07/28/10 20:04	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*97 %*	*51-122*	*0G28018*	*EPA 8260B*	*07/28/10 20:04*	*JKG*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*68-117*	*0G28018*	*EPA 8260B*	*07/28/10 20:04*	*JKG*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*69-110*	*0G28018*	*EPA 8260B*	*07/28/10 20:04*	*JKG*	

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Description: MW-8D
Matrix: Ground Water
Project: Albemarle Closed DM

Lab Sample ID: C008083-03
Sampled: 07/22/10 12:00
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008083

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/03/10 12:49	VLO	
Arsenic [7440-38-2] ^	**7.70**	J	ug/L	1	2.80	10.0	10	EPA 6010C	08/02/10 12:44	JDH	
Barium [7440-39-3] ^	**11.5**	J	ug/L	1	1.00	10.0	100	EPA 6010C	08/02/10 12:44	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/02/10 12:44	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	08/02/10 12:44	JDH	
Chromium [7440-47-3] ^	1.00	U	ug/L	1	1.00	10.0	10	EPA 6010C	08/02/10 12:44	JDH	
Cobalt [7440-48-4] ^	**11.7**		ug/L	1	1.10	10.0	10	EPA 6010C	08/02/10 12:44	JDH	
Copper [7440-50-8] ^	1.60	U	ug/L	1	1.60	10.0	10	EPA 6010C	08/02/10 12:44	JDH	
Lead [7439-92-1] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:44	JDH	
Nickel [7440-02-0] ^	1.80	U	ug/L	1	1.80	10.0	50	EPA 6010C	08/02/10 12:44	JDH	
Selenium [7782-49-2] ^	**10.6**		ug/L	1	0.830	1.00	10	EPA 6020A	08/03/10 12:49	VLO	
Silver [7440-22-4] ^	**2.11**	J	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:44	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/03/10 12:49	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	08/02/10 12:44	JDH	
Zinc [7440-66-6] ^	**4.75**	J	ug/L	1	3.80	10.0	10	EPA 6010C	08/02/10 12:44	JDH	

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Description: MW-11 | **Lab Sample ID:** C008083-04 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/22/10 14:00 | **Work Order:** C008083

Project: Albemarle Closed DM | **Sampled By:** Jonathan Pfohl

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	07/28/10 20:36	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/28/10 20:36	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
1,1-Dichloroethane [75-34-3] ^	**7.4**		ug/L	1	0.33	1.0	5	EPA 8260B	07/28/10 20:36	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/28/10 20:36	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/28/10 20:36	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/28/10 20:36	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/28/10 20:36	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/28/10 20:36	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/28/10 20:36	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/28/10 20:36	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/28/10 20:36	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/28/10 20:36	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/28/10 20:36	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/28/10 20:36	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/28/10 20:36	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/28/10 20:36	JKG	
Chloroethane [75-00-3] ^	**2.7**	J	ug/L	1	0.30	1.0	10	EPA 8260B	07/28/10 20:36	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/28/10 20:36	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	**2.8**	J	ug/L	1	0.36	1.0	5	EPA 8260B	07/28/10 20:36	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/28/10 20:36	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/28/10 20:36	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/28/10 20:36	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/28/10 20:36	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/28/10 20:36	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 20:36	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/28/10 20:36	JKG	
Vinyl chloride [75-01-4] ^	**0.65**	J	ug/L	1	0.30	1.0	1	EPA 8260B	07/28/10 20:36	JKG	

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Description: MW-11 | **Lab Sample ID:** C008083-04 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/22/10 14:00 | **Work Order:** C008083

Project: Albemarle Closed DM | **Sampled By:** Jonathan Pfohl

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	07/28/10 20:36	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*96 %*	*51-122*	*0G28018*	*EPA 8260B*	*07/28/10 20:36*	*JKG*	
Dibromofluoromethane	*54*	*1*	*50.0*	*108 %*	*68-117*	*0G28018*	*EPA 8260B*	*07/28/10 20:36*	*JKG*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*69-110*	*0G28018*	*EPA 8260B*	*07/28/10 20:36*	*JKG*	

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Description: MW-11 | **Lab Sample ID:** C008083-04 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/22/10 14:00 | **Work Order:** C008083

Project: Albemarle Closed DM | **Sampled By:** Jonathan Pfohl

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/03/10 12:52	VLO	
Arsenic [7440-38-2] ^	2.80	U	ug/L	1	2.80	10.0	10	EPA 6010C	08/02/10 12:47	JDH	
Barium [7440-39-3] ^	**17.9**	J	ug/L	1	1.00	10.0	100	EPA 6010C	08/02/10 12:47	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/02/10 12:47	JDH	
Cadmium [7440-43-9] ^	**0.452**	J	ug/L	1	0.360	1.00	1	EPA 6010C	08/02/10 12:47	JDH	
Chromium [7440-47-3] ^	**1.34**	J	ug/L	1	1.00	10.0	10	EPA 6010C	08/02/10 12:47	JDH	
Cobalt [7440-48-4] ^	**1.50**	J	ug/L	1	1.10	10.0	10	EPA 6010C	08/02/10 12:47	JDH	
Copper [7440-50-8] ^	1.60	U	ug/L	1	1.60	10.0	10	EPA 6010C	08/02/10 12:47	JDH	
Lead [7439-92-1] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:47	JDH	
Nickel [7440-02-0] ^	**4.34**	J	ug/L	1	1.80	10.0	50	EPA 6010C	08/02/10 12:47	JDH	
Selenium [7782-49-2] ^	0.830	U	ug/L	1	0.830	1.00	10	EPA 6020A	08/03/10 12:52	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:47	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/03/10 12:52	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	08/02/10 12:47	JDH	
Zinc [7440-66-6] ^	3.80	U	ug/L	1	3.80	10.0	10	EPA 6010C	08/02/10 12:47	JDH	

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 0G28018 - EPA 5030B_MS

Blank (0G28018-BLK1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 12:22

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	*49*			*ug/L*	*50.0*		*99*	*51-122*			

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0G28018 - EPA 5030B_MS

Blank (0G28018-BLK1) Continued Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 12:22

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Surrogate: Dibromofluoromethane	*52*			*ug/L*	*50.0*		*105*	*68-117*			
Surrogate: Toluene-d8	*47*			*ug/L*	*50.0*		*94*	*69-110*			

LCS (0G28018-BS1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 12:56

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		97	75-133			
Benzene	18		1.0	ug/L	20.0		92	81-134			
Chlorobenzene	19		1.0	ug/L	20.0		93	83-117			
Toluene	19		1.0	ug/L	20.0		93	71-118			
Trichloroethene	19		1.0	ug/L	20.0		96	75-115			

Matrix Spike (0G28018-MS1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 13:26

Source: C009025-02

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	101	75-133			
Benzene	19		1.0	ug/L	20.0	0.20 U	96	81-134			
Chlorobenzene	20		1.0	ug/L	20.0	0.27 U	98	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	98	75-115			

Matrix Spike Dup (0G28018-MSD1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 13:55

Source: C009025-02

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	100	75-133	1	20	
Benzene	19		1.0	ug/L	20.0	0.20 U	94	81-134	2	17	
Chlorobenzene	19		1.0	ug/L	20.0	0.27 U	95	83-117	4	16	
Toluene	19		1.0	ug/L	20.0	0.27 U	95	71-118	3	17	
Trichloroethene	19		1.0	ug/L	20.0	0.38 U	97	75-115	1	18	

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G25001 - EPA 3005A

Blank (0G25001-BLK1) Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:24

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	2.80	U	10.0	ug/L							
Barium	1.00	U	10.0	ug/L							
Beryllium	0.100	U	1.00	ug/L							
Cadmium	0.360	U	1.00	ug/L							
Chromium	1.00	U	10.0	ug/L							
Cobalt	1.10	U	10.0	ug/L							
Copper	**3.50**	**J**	10.0	ug/L							
Lead	1.90	U	10.0	ug/L							
Nickel	1.80	U	10.0	ug/L							

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G25001 - EPA 3005A

Blank (0G25001-BLK1) Continued Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:24

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Silver	1.90	U	10.0	ug/L							
Vanadium	1.40	U	10.0	ug/L							
Zinc	3.80	U	10.0	ug/L							

LCS (0G25001-BS1) Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:32

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	543		10.0	ug/L	500		109	80-120			
Barium	526		10.0	ug/L	500		105	80-120			
Beryllium	275		1.00	ug/L	250		110	80-120			
Cadmium	266		1.00	ug/L	250		107	80-120			
Chromium	523		10.0	ug/L	500		105	80-120			
Cobalt	540		10.0	ug/L	500		108	80-120			
Copper	266	B	10.0	ug/L	250		106	80-120			
Lead	542		10.0	ug/L	500		108	80-120			
Nickel	528		10.0	ug/L	500		106	80-120			
Silver	264		10.0	ug/L	250		106	80-120			
Vanadium	255		10.0	ug/L	250		102	80-120			
Zinc	536		10.0	ug/L	500		107	80-120			

Matrix Spike (0G25001-MS1) Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:39

Source: C007665-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	594		10.0	ug/L	500	14.0	116	75-125			
Barium	1100		10.0	ug/L	500	470	126	75-125			QM-07
Beryllium	278		1.00	ug/L	250	0.100 U	111	75-125			
Cadmium	264		1.00	ug/L	250	0.360 U	106	75-125			
Chromium	547		10.0	ug/L	500	14.5	106	75-125			
Cobalt	550		10.0	ug/L	500	12.2	108	75-125			
Copper	286	B	10.0	ug/L	250	1.60 U	114	75-125			
Lead	550		10.0	ug/L	500	6.40	109	75-125			
Nickel	562		10.0	ug/L	500	30.8	106	75-125			
Silver	276		10.0	ug/L	250	1.90 U	110	75-125			
Vanadium	285		10.0	ug/L	250	14.1	108	75-125			
Zinc	1130		10.0	ug/L	500	494	127	75-125			QM-07

Matrix Spike Dup (0G25001-MSD1) Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:42

Source: C007665-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	598		10.0	ug/L	500	14.0	117	75-125	0.7	20	
Barium	1100		10.0	ug/L	500	470	126	75-125	0.2	20	QM-07
Beryllium	277		1.00	ug/L	250	0.100 U	111	75-125	0.5	20	
Cadmium	263		1.00	ug/L	250	0.360 U	105	75-125	0.5	20	
Chromium	546		10.0	ug/L	500	14.5	106	75-125	0.1	20	
Cobalt	558		10.0	ug/L	500	12.2	109	75-125	1	20	

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G25001 - EPA 3005A

Matrix Spike Dup (0G25001-MSD1) Continued Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:42

Source: C007665-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Copper	286	B	10.0	ug/L	250	1.60 U	114	75-125	0.09	20	
Lead	557		10.0	ug/L	500	6.40	110	75-125	1	20	
Nickel	560		10.0	ug/L	500	30.8	106	75-125	0.3	20	
Silver	278		10.0	ug/L	250	1.90 U	111	75-125	0.7	20	
Vanadium	285		10.0	ug/L	250	14.1	108	75-125	0.3	20	
Zinc	1130		10.0	ug/L	500	494	128	75-125	0.3	20	QM-07

Post Spike (0G25001-PS1) Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:44

Source: C007665-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	1.13		0.0100	mg/L	1.00	0.0140	112	80-120			
Barium	1.64		0.0100	mg/L	1.00	0.470	117	80-120			
Beryllium	0.558		0.00100	mg/L	0.500	-0.000143	112	80-120			
Cadmium	0.536		0.00100	mg/L	0.500	-3.83E-5	107	80-120			
Chromium	1.10		0.0100	mg/L	1.00	0.0145	108	80-120			
Cobalt	1.07		0.0100	mg/L	1.00	0.0122	106	80-120			
Copper	0.591	B	0.0100	mg/L	0.500	-0.000791	118	80-120			
Lead	1.06		0.0100	mg/L	1.00	0.00640	105	80-120			
Nickel	1.09		0.0100	mg/L	1.00	0.0308	106	80-120			
Silver	0.549		0.0100	mg/L	0.500	0.000971	110	80-120			
Vanadium	0.566		0.0100	mg/L	0.500	0.0141	110	80-120			
Zinc	1.67		0.0100	mg/L	1.00	0.494	118	80-120			

Batch 0G25002 - EPA 3005A

Blank (0G25002-BLK1) Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:40

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	0.220	U	2.00	ug/L							
Selenium	0.830	U	1.00	ug/L							
Thallium	0.110	U	1.00	ug/L							

LCS (0G25002-BS1) Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:43

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	25.7		2.00	ug/L	25.0		103	80-120			
Selenium	25.2		1.00	ug/L	25.0		101	80-120			
Thallium	26.2		1.00	ug/L	25.0		105	80-120			

Matrix Spike (0G25002-MS1) Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:51

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	21.3		2.00	ug/L	25.0	0.220 U	85	75-125			
Selenium	24.4		1.00	ug/L	25.0	1.04	93	75-125			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G25002 - EPA 3005A

Matrix Spike (0G25002-MS1) Continued Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:51

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Thallium	24.1		1.00	ug/L	25.0	0.110 U	96	75-125			

Matrix Spike Dup (0G25002-MSD1) Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:54

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	20.8		2.00	ug/L	25.0	0.220 U	83	75-125	2	20	
Selenium	25.3		1.00	ug/L	25.0	1.04	97	75-125	4	20	
Thallium	24.3		1.00	ug/L	25.0	0.110 U	97	75-125	1	20	

Post Spike (0G25002-PS1) Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:58

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	27.7		2.00	ug/L	25.0	0.0500	111	80-120			
Selenium	27.9		1.00	ug/L	25.0	1.04	107	80-120			
Thallium	27.1		1.00	ug/L	25.0	0.0640	108	80-120			

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.
J-01	Result is estimated due to positive results in the associated method blank.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

10775 Central Port Dr.
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102-A Woodwinds Industrial Ct.
Cary, NC 27511
(919) 467-3090 Fax (919) 467-3515

Page 1 of 1

Client Name: Municipal Engineering Services (MU001)	Project Number: G10055.0
Address: P.O. Box 97	Project Name/Desc: Albemarle Closed DM
City/ST/Zip: Garner, NC 27529	PO # / Billing Info
Tel: (919) 772-5393 Fax: (919) 772-1176	Reporting Contact: Jonathan Pfohl
Sampler(s) Name, Affiliation (Print): Jonathan Pfohl	Billing Contact: Accounts Payable
Sampler(s) Signature:	Facility # (if required)

Requested Analyses: 8260B Appendix 1; Ag, As, Ba, Be, Cd, Co, Cr, Cu, Ni, Pb, Sb, Se, Tl, V, Zn; Cyanide SM4500-CN/E

Requested Turnaround Times: Note : Rush requests subject to acceptance by the facility

✓ Standard

___ Expedited

Due ___/___/___

Lab Workorder: C008083

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	Ag, As, Ba, Be, Cd, Co, Cr, Cu, Ni, Pb, Sb, Se, Tl, V, Zn	Cyanide SM4500-CN/E								Sample Comments
	MW-4R	7/21/10	4:50	Grab	GW	4	X	X									
	MW-5R	7/22/10	11:20	↓	GW	4	X	X									
	MW-8D	↓	12:00	↓	GW	4	X	X									
	MW-11	↓	2:00	↓	GW	4	X	X									
	~~MW-~~	↓		↓	~~GW~~	4	X	X									
	~~MW-12~~	↓	~~3:50~~	~~Grab~~	~~GW~~	~~5~~	~~X~~	~~X~~	~~X~~								
	~~MW-13~~				~~GW~~	~~5~~	~~X~~	~~X~~	~~X~~								

<-- Total # of Containers

Sample Kit Prepared By: SK	Date/Time: 7/8/10	Relinquished By: /MESCO	Date/Time: 7/23/10 1107	Received By:	Date/Time: 7/23/10 1:07
Comments: SW-5 Dry; SW-12 spoke C.O.C		Relinquished By	Date/Time	Received By	Date/Time
		Relinquished By	Date/Time	Received By	Date/Time
		Cooler #'s & Temps on Receipt: C-773 1.7°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

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 5, 2010

Municipal Engineering Services (MU001)

Attn: Jonathan Pfohl

P.O. Box 97

Garner, NC 27529

RE: Laboratory Results for
Project Number: G10009.0, Project Name/Desc: Albemarle Closed MNA & DM
ENCO Workorder: C008084

Dear Jonathan Pfohl,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, July 23, 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 42.

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: MW-1 **Lab ID: C008084-01** **Sampled: 07/21/10 09:10** **Received: 07/23/10 11:07**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	01/17/11	07/26/10	16:10	8/3/2010 11:39
EPA 6020A	01/17/11	07/26/10	14:44	8/4/2010 10:15
EPA 8260B	08/04/10	07/28/10	09:57	7/28/2010 21:08

Client ID: MW-2 **Lab ID: C008084-02** **Sampled: 07/22/10 10:50** **Received: 07/23/10 11:07**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	01/18/11	07/26/10	16:10	8/3/2010 11:41
EPA 6020A	01/18/11	07/26/10	14:44	8/4/2010 10:22
EPA 8260B	08/05/10	07/28/10	09:57	7/28/2010 21:39

Client ID: MW-3 **Lab ID: C008084-03** **Sampled: 07/21/10 15:30** **Received: 07/23/10 11:07**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	01/17/11	07/26/10	16:10	8/3/2010 11:44
EPA 6020A	01/17/11	07/26/10	14:44	8/4/2010 10:25
EPA 8260B	08/04/10	07/28/10	09:57	7/28/2010 22:11

Client ID: MW-6 **Lab ID: C008084-04** **Sampled: 07/22/10 15:00** **Received: 07/23/10 11:07**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	01/18/11	07/26/10	16:10	8/3/2010 11:47
EPA 6020A	01/18/11	07/26/10	14:44	8/4/2010 10:38
EPA 8260B	08/05/10	07/28/10	13:56	7/29/2010 04:24

Client ID: MW-7 **Lab ID: C008084-05** **Sampled: 07/21/10 12:00** **Received: 07/23/10 11:07**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	01/17/11	07/26/10	16:10	8/3/2010 11:50
EPA 6020A	01/17/11	07/26/10	14:44	8/4/2010 10:41
EPA 8260B	08/04/10	07/28/10	13:56	7/29/2010 04:54

Client ID: MW-9 **Lab ID: C008084-06** **Sampled: 07/22/10 09:10** **Received: 07/23/10 11:07**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	01/18/11	07/26/10	16:10	8/3/2010 11:54
EPA 6020A	01/18/11	07/26/10	14:44	8/4/2010 10:45
EPA 8260B	08/05/10	07/28/10	13:56	7/29/2010 05:25

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Client ID: MW-10	Lab ID: C008084-07	Sampled: 07/21/10 14:00	Received: 07/23/10 11:07

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	01/17/11	07/26/10 16:10	8/3/2010 11:57
EPA 6020A	01/17/11	07/26/10 14:44	8/4/2010 10:49
EPA 8260B	08/04/10	07/28/10 13:56	7/29/2010 05:55

Client ID: MW-10	Lab ID: C008084-07RE1	Sampled: 07/21/10 14:00	Received: 07/23/10 11:07

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6020A	01/17/11	07/26/10 14:44	8/4/2010 12:55

Client ID: MW-24	Lab ID: C008084-08	Sampled: 07/21/10 10:35	Received: 07/23/10 11:07

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	01/17/11	07/26/10 16:10	8/3/2010 12:01
EPA 6020A	01/17/11	07/26/10 14:44	8/4/2010 09:58
EPA 8260B	08/04/10	07/28/10 13:56	7/29/2010 06:26

Client ID: MW-25	Lab ID: C008084-09	Sampled: 07/21/10 17:00	Received: 07/23/10 11:07

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	01/17/11	07/26/10 16:10	8/3/2010 12:03
EPA 6020A	01/17/11	07/26/10 14:44	8/4/2010 10:52
EPA 8260B	08/04/10	07/28/10 13:56	7/29/2010 06:56

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NORTH CAROLINA SWS SAMPLE DETECTION SUMMARY

Client ID: MW-1 **Lab ID: C008084-01**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Arsenic - Total	10.3		1	2.80	10.0	10	ug/L	EPA 6010C	
Barium - Total	102		1	1.00	10.0	100	ug/L	EPA 6010C	
Chromium - Total	16.5		1	1.00	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	18.6		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	59.8		1	1.60	10.0	10	ug/L	EPA 6010C	
Lead - Total	21.2		1	1.90	10.0	10	ug/L	EPA 6010C	
Nickel - Total	30.5	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Toluene	8.0		1	0.27	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	20.1	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Zinc - Total	106		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: MW-2 **Lab ID: C008084-02**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Antimony - Total	0.474	J	1	0.220	2.00	6	ug/L	EPA 6020A	
Arsenic - Total	11.6		1	2.80	10.0	10	ug/L	EPA 6010C	
Barium - Total	30.2	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Chlorobenzene	0.59	J	1	0.27	1.0	3	ug/L	EPA 8260B	
Chromium - Total	4.68	J	1	1.00	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	37.3		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	15.6		1	1.60	10.0	10	ug/L	EPA 6010C	
Lead - Total	9.98	J	1	1.90	10.0	10	ug/L	EPA 6010C	
Nickel - Total	24.4	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Selenium - Total	2.35	J	1	0.830	1.00	10	ug/L	EPA 6020A	
Vanadium - Total	4.38	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Zinc - Total	24.7		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: MW-3 **Lab ID: C008084-03**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Acetone	4.8	J	1	1.5	5.0	100	ug/L	EPA 8260B	
Antimony - Total	0.473	J	1	0.220	2.00	6	ug/L	EPA 6020A	
Arsenic - Total	16.9		1	2.80	10.0	10	ug/L	EPA 6010C	
Barium - Total	93.1	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Chromium - Total	1.10	J	1	1.00	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	35.5		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	6.02	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Nickel - Total	14.1	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Selenium - Total	49.3		1	0.830	1.00	10	ug/L	EPA 6020A	
Silver - Total	3.45	J	1	1.90	10.0	10	ug/L	EPA 6010C	
Vanadium - Total	1.70	J	1	1.40	10.0	25	ug/L	EPA 6010C	

Client ID: MW-6 **Lab ID: C008084-04**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	1.9	J	1	0.33	1.0	5	ug/L	EPA 8260B	
Acetone	14	J	1	1.5	5.0	100	ug/L	EPA 8260B	
Chlorobenzene	0.41	J	1	0.27	1.0	3	ug/L	EPA 8260B	
Chloromethane	0.61	J	1	0.34	1.0	1	ug/L	EPA 8260B	
Copper - Total	1.95	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Methylene chloride	3.0		1	0.53	1.0	1	ug/L	EPA 8260B	
Tetrachloroethene	0.64	J	1	0.36	1.0	1	ug/L	EPA 8260B	

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Client ID: MW-6 **Lab ID: C008084-04**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Trichlorofluoromethane	6.5		1	0.28	1.0	1	ug/L	EPA 8260B	

Client ID: MW-7 **Lab ID: C008084-05**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	3.5	J	1	0.33	1.0	5	ug/L	EPA 8260B	
1,1-Dichloroethene	0.43	J	1	0.24	1.0	5	ug/L	EPA 8260B	
1,4-Dichlorobenzene	2.0		1	0.38	1.0	1	ug/L	EPA 8260B	
Barium - Total	18.5	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Benzene	2.8		1	0.20	1.0	1	ug/L	EPA 8260B	
Cadmium - Total	0.472	J	1	0.360	1.00	1	ug/L	EPA 6010C	
Chlorobenzene	5.4		1	0.27	1.0	3	ug/L	EPA 8260B	
Chloroethane	0.52	J	1	0.30	1.0	10	ug/L	EPA 8260B	
cis-1,2-Dichloroethene	2.1	J	1	0.36	1.0	5	ug/L	EPA 8260B	
Copper - Total	3.55	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Nickel - Total	10.4	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Selenium - Total	3.38	J	1	0.830	1.00	10	ug/L	EPA 6020A	
Silver - Total	2.00	J	1	1.90	10.0	10	ug/L	EPA 6010C	
Tetrachloroethene	0.65	J	1	0.36	1.0	1	ug/L	EPA 8260B	
Trichlorofluoromethane	0.52	J	1	0.28	1.0	1	ug/L	EPA 8260B	
Vinyl chloride	0.42	J	1	0.30	1.0	1	ug/L	EPA 8260B	
Zinc - Total	5.04	J	1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: MW-9 **Lab ID: C008084-06**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
1,1-Dichloroethane	2.2	J	1	0.33	1.0	5	ug/L	EPA 8260B	
1,4-Dichlorobenzene	0.65	J	1	0.38	1.0	1	ug/L	EPA 8260B	
Barium - Total	16.8	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Chlorobenzene	1.2	J	1	0.27	1.0	3	ug/L	EPA 8260B	
cis-1,2-Dichloroethene	3.2	J	1	0.36	1.0	5	ug/L	EPA 8260B	
Copper - Total	1.69	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Tetrachloroethene	2.4		1	0.36	1.0	1	ug/L	EPA 8260B	
Trichloroethene	1.8		1	0.38	1.0	1	ug/L	EPA 8260B	
Vinyl chloride	0.50	J	1	0.30	1.0	1	ug/L	EPA 8260B	

Client ID: MW-10 **Lab ID: C008084-07**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Barium - Total	27.5	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Chromium - Total	1.67	J	1	1.00	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	3.03	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	8.02	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Nickel - Total	11.5	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Silver - Total	2.22	J	1	1.90	10.0	10	ug/L	EPA 6010C	
Vanadium - Total	1.48	J	1	1.40	10.0	25	ug/L	EPA 6010C	

Client ID: MW-10 **Lab ID: C008084-07RE1**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Selenium - Total	56.9	D	5	4.15	5.00	10	ug/L	EPA 6020A	

Client ID: MW-24 **Lab ID: C008084-08**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Arsenic - Total	4.75	J	1	2.80	10.0	10	ug/L	EPA 6010C	

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Client ID: MW-24								Lab ID: C008084-08	
Analyte	**Results**	**Flag**	**DF**	**MDL**	**MRL**	**NC SWSL**	**Units**	**Method**	**Notes**
Barium - Total	14.4	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Chromium - Total	3.95	J	1	1.00	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	3.40	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	6.91	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Nickel - Total	4.03	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Selenium - Total	1.36	J	1	0.830	1.00	10	ug/L	EPA 6020A	
Vanadium - Total	4.74	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Zinc - Total	6.91	J	1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: MW-25								Lab ID: C008084-09	
Analyte	**Results**	**Flag**	**DF**	**MDL**	**MRL**	**NC SWSL**	**Units**	**Method**	**Notes**
1,1-Dichloroethane	0.55	J	1	0.33	1.0	5	ug/L	EPA 8260B	
Arsenic - Total	6.82	J	1	2.80	10.0	10	ug/L	EPA 6010C	
Barium - Total	13.8	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Chromium - Total	7.34	J	1	1.00	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	5.07	J	1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	9.95	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Lead - Total	2.86	J	1	1.90	10.0	10	ug/L	EPA 6010C	
Nickel - Total	14.0	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Selenium - Total	2.84	J	1	0.830	1.00	10	ug/L	EPA 6020A	
Vanadium - Total	8.34	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Zinc - Total	11.8		1	3.80	10.0	10	ug/L	EPA 6010C	

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ANALYTICAL RESULTS

Description: MW-1 **Lab Sample ID:** C008084-01 **Received:** 07/23/10 11:07

Matrix: Ground Water **Sampled:** 07/21/10 09:10 **Work Order:** C008084

Project: Albemarle Closed MNA & DM **Sampled By:** Jonathan Pfohl

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	07/28/10 21:08	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/28/10 21:08	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/28/10 21:08	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/28/10 21:08	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/28/10 21:08	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/28/10 21:08	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/28/10 21:08	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/28/10 21:08	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/28/10 21:08	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/28/10 21:08	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/28/10 21:08	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/28/10 21:08	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/28/10 21:08	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/28/10 21:08	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/28/10 21:08	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/28/10 21:08	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/28/10 21:08	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/28/10 21:08	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/28/10 21:08	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/28/10 21:08	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/28/10 21:08	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/28/10 21:08	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
Toluene [108-88-3] ^	**8.0**		ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/28/10 21:08	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/28/10 21:08	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 21:08	JKG	

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Description: MW-1 | **Lab Sample ID:** C008084-01 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 09:10 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/28/10 21:08	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/28/10 21:08	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/28/10 21:08	JKG	
Xylenes (Total) [1330-20-7] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	07/28/10 21:08	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*97 %*	*51-122*	*0G28018*	*EPA 8260B*	*07/28/10 21:08*	*JKG*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*68-117*	*0G28018*	*EPA 8260B*	*07/28/10 21:08*	*JKG*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*69-110*	*0G28018*	*EPA 8260B*	*07/28/10 21:08*	*JKG*	

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Description: MW-1 | **Lab Sample ID:** C008084-01 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 09:10 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/04/10 10:15	VLO	
Arsenic [7440-38-2] ^	**10.3**		ug/L	1	2.80	10.0	10	EPA 6010C	08/03/10 11:39	JDH	
Barium [7440-39-3] ^	**102**		ug/L	1	1.00	10.0	100	EPA 6010C	08/03/10 11:39	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/03/10 11:39	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	08/03/10 11:39	JDH	
Chromium [7440-47-3] ^	**16.5**		ug/L	1	1.00	10.0	10	EPA 6010C	08/03/10 11:39	JDH	
Cobalt [7440-48-4] ^	**18.6**		ug/L	1	1.10	10.0	10	EPA 6010C	08/03/10 11:39	JDH	
Copper [7440-50-8] ^	**59.8**		ug/L	1	1.60	10.0	10	EPA 6010C	08/03/10 11:39	JDH	
Lead [7439-92-1] ^	**21.2**		ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 11:39	JDH	
Nickel [7440-02-0] ^	**30.5**	J	ug/L	1	1.80	10.0	50	EPA 6010C	08/03/10 11:39	JDH	
Selenium [7782-49-2] ^	0.830	U	ug/L	1	0.830	1.00	10	EPA 6020A	08/04/10 10:15	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 11:39	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/04/10 10:15	VLO	
Vanadium [7440-62-2] ^	**20.1**	J	ug/L	1	1.40	10.0	25	EPA 6010C	08/03/10 11:39	JDH	
Zinc [7440-66-6] ^	**106**		ug/L	1	3.80	10.0	10	EPA 6010C	08/03/10 11:39	JDH	

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

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Description: MW-2 | **Lab Sample ID:** C008084-02 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/22/10 10:50 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/28/10 21:39	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/28/10 21:39	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/28/10 21:39	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/28/10 21:39	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/28/10 21:39	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/28/10 21:39	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/28/10 21:39	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/28/10 21:39	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/28/10 21:39	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/28/10 21:39	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/28/10 21:39	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/28/10 21:39	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/28/10 21:39	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/28/10 21:39	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/28/10 21:39	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
Chlorobenzene [108-90-7] ^	**0.59**	J	ug/L	1	0.27	1.0	3	EPA 8260B	07/28/10 21:39	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/28/10 21:39	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/28/10 21:39	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/28/10 21:39	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/28/10 21:39	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/28/10 21:39	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/28/10 21:39	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/28/10 21:39	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/28/10 21:39	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 21:39	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/28/10 21:39	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/28/10 21:39	JKG	

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Description: MW-2 | **Lab Sample ID:** C008084-02 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/22/10 10:50 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/28/10 21:39	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*97 %*	*51-122*	*0G28018*	*EPA 8260B*	*07/28/10 21:39*	*JKG*	
Dibromofluoromethane	*54*	*1*	*50.0*	*108 %*	*68-117*	*0G28018*	*EPA 8260B*	*07/28/10 21:39*	*JKG*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*69-110*	*0G28018*	*EPA 8260B*	*07/28/10 21:39*	*JKG*	

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Description: MW-2 | **Lab Sample ID:** C008084-02 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/22/10 10:50 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	**0.474**	J	ug/L	1	0.220	2.00	6	EPA 6020A	08/04/10 10:22	VLO	
Arsenic [7440-38-2] ^	**11.6**		ug/L	1	2.80	10.0	10	EPA 6010C	08/03/10 11:41	JDH	
Barium [7440-39-3] ^	**30.2**	J	ug/L	1	1.00	10.0	100	EPA 6010C	08/03/10 11:41	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/03/10 11:41	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	08/03/10 11:41	JDH	
Chromium [7440-47-3] ^	**4.68**	J	ug/L	1	1.00	10.0	10	EPA 6010C	08/03/10 11:41	JDH	
Cobalt [7440-48-4] ^	**37.3**		ug/L	1	1.10	10.0	10	EPA 6010C	08/03/10 11:41	JDH	
Copper [7440-50-8] ^	**15.6**		ug/L	1	1.60	10.0	10	EPA 6010C	08/03/10 11:41	JDH	
Lead [7439-92-1] ^	**9.98**	J	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 11:41	JDH	
Nickel [7440-02-0] ^	**24.4**	J	ug/L	1	1.80	10.0	50	EPA 6010C	08/03/10 11:41	JDH	
Selenium [7782-49-2] ^	**2.35**	J	ug/L	1	0.830	1.00	10	EPA 6020A	08/04/10 10:22	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 11:41	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/04/10 10:22	VLO	
Vanadium [7440-62-2] ^	**4.38**	J	ug/L	1	1.40	10.0	25	EPA 6010C	08/03/10 11:41	JDH	
Zinc [7440-66-6] ^	**24.7**		ug/L	1	3.80	10.0	10	EPA 6010C	08/03/10 11:41	JDH	

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

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Description: MW-3 | **Lab Sample ID:** C008084-03 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 15:30 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/28/10 22:11	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/28/10 22:11	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/28/10 22:11	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/28/10 22:11	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/28/10 22:11	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/28/10 22:11	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/28/10 22:11	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/28/10 22:11	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/28/10 22:11	JKG	
Acetone [67-64-1] ^	**4.8**	J	ug/L	1	1.5	5.0	100	EPA 8260B	07/28/10 22:11	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/28/10 22:11	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/28/10 22:11	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/28/10 22:11	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/28/10 22:11	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/28/10 22:11	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/28/10 22:11	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/28/10 22:11	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/28/10 22:11	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/28/10 22:11	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/28/10 22:11	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/28/10 22:11	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/28/10 22:11	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/28/10 22:11	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/28/10 22:11	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 22:11	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/28/10 22:11	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/28/10 22:11	JKG	

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Description: MW-3 | **Lab Sample ID:** C008084-03 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 15:30 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/28/10 22:11	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*98 %*	*51-122*	*0G28018*	*EPA 8260B*	*07/28/10 22:11*	*JKG*	
Dibromofluoromethane	*57*	*1*	*50.0*	*113 %*	*68-117*	*0G28018*	*EPA 8260B*	*07/28/10 22:11*	*JKG*	
Toluene-d8	*49*	*1*	*50.0*	*98 %*	*69-110*	*0G28018*	*EPA 8260B*	*07/28/10 22:11*	*JKG*	

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Description: MW-3 | **Lab Sample ID:** C008084-03 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 15:30 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	**0.473**	J	ug/L	1	0.220	2.00	6	EPA 6020A	08/04/10 10:25	VLO	
Arsenic [7440-38-2] ^	**16.9**		ug/L	1	2.80	10.0	10	EPA 6010C	08/03/10 11:44	JDH	
Barium [7440-39-3] ^	**93.1**	J	ug/L	1	1.00	10.0	100	EPA 6010C	08/03/10 11:44	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/03/10 11:44	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	08/03/10 11:44	JDH	
Chromium [7440-47-3] ^	**1.10**	J	ug/L	1	1.00	10.0	10	EPA 6010C	08/03/10 11:44	JDH	
Cobalt [7440-48-4] ^	**35.5**		ug/L	1	1.10	10.0	10	EPA 6010C	08/03/10 11:44	JDH	
Copper [7440-50-8] ^	**6.02**	J	ug/L	1	1.60	10.0	10	EPA 6010C	08/03/10 11:44	JDH	
Lead [7439-92-1] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 11:44	JDH	
Nickel [7440-02-0] ^	**14.1**	J	ug/L	1	1.80	10.0	50	EPA 6010C	08/03/10 11:44	JDH	
Selenium [7782-49-2] ^	**49.3**		ug/L	1	0.830	1.00	10	EPA 6020A	08/04/10 10:25	VLO	
Silver [7440-22-4] ^	**3.45**	J	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 11:44	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/04/10 10:25	VLO	
Vanadium [7440-62-2] ^	**1.70**	J	ug/L	1	1.40	10.0	25	EPA 6010C	08/03/10 11:44	JDH	
Zinc [7440-66-6] ^	3.80	U	ug/L	1	3.80	10.0	10	EPA 6010C	08/03/10 11:44	JDH	

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Description: MW-6 | **Lab Sample ID:** C008084-04 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/22/10 15:00 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/29/10 04:24	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/29/10 04:24	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
1,1-Dichloroethane [75-34-3] ^	**1.9**	J	ug/L	1	0.33	1.0	5	EPA 8260B	07/29/10 04:24	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/29/10 04:24	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/29/10 04:24	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/29/10 04:24	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/29/10 04:24	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/29/10 04:24	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/29/10 04:24	JKG	
Acetone [67-64-1] ^	**14**	J	ug/L	1	1.5	5.0	100	EPA 8260B	07/29/10 04:24	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/29/10 04:24	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/29/10 04:24	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/29/10 04:24	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/29/10 04:24	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/29/10 04:24	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
Chlorobenzene [108-90-7] ^	**0.41**	J	ug/L	1	0.27	1.0	3	EPA 8260B	07/29/10 04:24	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/29/10 04:24	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/29/10 04:24	JKG	
Chloromethane [74-87-3] ^	**0.61**	J	ug/L	1	0.34	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/29/10 04:24	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/29/10 04:24	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/29/10 04:24	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/29/10 04:24	JKG	
Methylene chloride [75-09-2] ^	**3.0**		ug/L	1	0.53	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
Tetrachloroethene [127-18-4] ^	**0.64**	J	ug/L	1	0.36	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/29/10 04:24	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/29/10 04:24	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
Trichlorofluoromethane [75-69-4] ^	**6.5**		ug/L	1	0.28	1.0	1	EPA 8260B	07/29/10 04:24	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/29/10 04:24	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/29/10 04:24	JKG	

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Description: MW-6 | **Lab Sample ID:** C008084-04 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/22/10 15:00 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/29/10 04:24	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*39*	*1*	*50.0*	*79 %*	*51-122*	*0G28022*	*EPA 8260B*	*07/29/10 04:24*	*JKG*	
Dibromofluoromethane	*43*	*1*	*50.0*	*87 %*	*68-117*	*0G28022*	*EPA 8260B*	*07/29/10 04:24*	*JKG*	
Toluene-d8	*41*	*1*	*50.0*	*83 %*	*69-110*	*0G28022*	*EPA 8260B*	*07/29/10 04:24*	*JKG*	

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Description: MW-6 | **Lab Sample ID:** C008084-04 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/22/10 15:00 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/04/10 10:38	VLO	
Arsenic [7440-38-2] ^	2.80	U	ug/L	1	2.80	10.0	10	EPA 6010C	08/03/10 11:47	JDH	
Barium [7440-39-3] ^	1.00	U	ug/L	1	1.00	10.0	100	EPA 6010C	08/03/10 11:47	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/03/10 11:47	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	08/03/10 11:47	JDH	
Chromium [7440-47-3] ^	1.00	U	ug/L	1	1.00	10.0	10	EPA 6010C	08/03/10 11:47	JDH	
Cobalt [7440-48-4] ^	1.10	U	ug/L	1	1.10	10.0	10	EPA 6010C	08/03/10 11:47	JDH	
Copper [7440-50-8] ^	**1.95**	J	ug/L	1	1.60	10.0	10	EPA 6010C	08/03/10 11:47	JDH	
Lead [7439-92-1] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 11:47	JDH	
Nickel [7440-02-0] ^	1.80	U	ug/L	1	1.80	10.0	50	EPA 6010C	08/03/10 11:47	JDH	
Selenium [7782-49-2] ^	0.830	U	ug/L	1	0.830	1.00	10	EPA 6020A	08/04/10 10:38	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 11:47	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/04/10 10:38	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	08/03/10 11:47	JDH	
Zinc [7440-66-6] ^	3.80	U	ug/L	1	3.80	10.0	10	EPA 6010C	08/03/10 11:47	JDH	

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

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Description: MW-7 | **Lab Sample ID:** C008084-05 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 12:00 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/29/10 04:54	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/29/10 04:54	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
1,1-Dichloroethane [75-34-3] ^	**3.5**	J	ug/L	1	0.33	1.0	5	EPA 8260B	07/29/10 04:54	JKG	
1,1-Dichloroethene [75-35-4] ^	**0.43**	J	ug/L	1	0.24	1.0	5	EPA 8260B	07/29/10 04:54	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/29/10 04:54	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/29/10 04:54	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
1,4-Dichlorobenzene [106-46-7] ^	**2.0**		ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/29/10 04:54	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/29/10 04:54	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/29/10 04:54	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/29/10 04:54	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/29/10 04:54	JKG	
Benzene [71-43-2] ^	**2.8**		ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/29/10 04:54	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/29/10 04:54	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/29/10 04:54	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/29/10 04:54	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
Chlorobenzene [108-90-7] ^	**5.4**		ug/L	1	0.27	1.0	3	EPA 8260B	07/29/10 04:54	JKG	
Chloroethane [75-00-3] ^	**0.52**	J	ug/L	1	0.30	1.0	10	EPA 8260B	07/29/10 04:54	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/29/10 04:54	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	**2.1**	J	ug/L	1	0.36	1.0	5	EPA 8260B	07/29/10 04:54	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/29/10 04:54	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/29/10 04:54	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/29/10 04:54	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
Tetrachloroethene [127-18-4] ^	**0.65**	J	ug/L	1	0.36	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/29/10 04:54	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/29/10 04:54	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
Trichlorofluoromethane [75-69-4] ^	**0.52**	J	ug/L	1	0.28	1.0	1	EPA 8260B	07/29/10 04:54	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/29/10 04:54	JKG	
Vinyl chloride [75-01-4] ^	**0.42**	J	ug/L	1	0.30	1.0	1	EPA 8260B	07/29/10 04:54	JKG	

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Description: MW-7 | **Lab Sample ID:** C008084-05 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 12:00 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/29/10 04:54	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*40*	*1*	*50.0*	*80 %*	*51-122*	*0G28022*	*EPA 8260B*	*07/29/10 04:54*	*JKG*	
Dibromofluoromethane	*44*	*1*	*50.0*	*88 %*	*68-117*	*0G28022*	*EPA 8260B*	*07/29/10 04:54*	*JKG*	
Toluene-d8	*44*	*1*	*50.0*	*88 %*	*69-110*	*0G28022*	*EPA 8260B*	*07/29/10 04:54*	*JKG*	

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Description: MW-7 | **Lab Sample ID:** C008084-05 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 12:00 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/04/10 10:41	VLO	
Arsenic [7440-38-2] ^	2.80	U	ug/L	1	2.80	10.0	10	EPA 6010C	08/03/10 11:50	JDH	
Barium [7440-39-3] ^	**18.5**	J	ug/L	1	1.00	10.0	100	EPA 6010C	08/03/10 11:50	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/03/10 11:50	JDH	
Cadmium [7440-43-9] ^	**0.472**	J	ug/L	1	0.360	1.00	1	EPA 6010C	08/03/10 11:50	JDH	
Chromium [7440-47-3] ^	1.00	U	ug/L	1	1.00	10.0	10	EPA 6010C	08/03/10 11:50	JDH	
Cobalt [7440-48-4] ^	1.10	U	ug/L	1	1.10	10.0	10	EPA 6010C	08/03/10 11:50	JDH	
Copper [7440-50-8] ^	**3.55**	J	ug/L	1	1.60	10.0	10	EPA 6010C	08/03/10 11:50	JDH	
Lead [7439-92-1] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 11:50	JDH	
Nickel [7440-02-0] ^	**10.4**	J	ug/L	1	1.80	10.0	50	EPA 6010C	08/03/10 11:50	JDH	
Selenium [7782-49-2] ^	**3.38**	J	ug/L	1	0.830	1.00	10	EPA 6020A	08/04/10 10:41	VLO	
Silver [7440-22-4] ^	**2.00**	J	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 11:50	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/04/10 10:41	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	08/03/10 11:50	JDH	
Zinc [7440-66-6] ^	**5.04**	J	ug/L	1	3.80	10.0	10	EPA 6010C	08/03/10 11:50	JDH	

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

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Description: MW-9 | **Lab Sample ID:** C008084-06 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/22/10 09:10 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/29/10 05:25	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/29/10 05:25	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
1,1-Dichloroethane [75-34-3] ^	**2.2**	J	ug/L	1	0.33	1.0	5	EPA 8260B	07/29/10 05:25	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/29/10 05:25	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/29/10 05:25	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/29/10 05:25	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
1,4-Dichlorobenzene [106-46-7] ^	**0.65**	J	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/29/10 05:25	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/29/10 05:25	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/29/10 05:25	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/29/10 05:25	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/29/10 05:25	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/29/10 05:25	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/29/10 05:25	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/29/10 05:25	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/29/10 05:25	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
Chlorobenzene [108-90-7] ^	**1.2**	J	ug/L	1	0.27	1.0	3	EPA 8260B	07/29/10 05:25	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/29/10 05:25	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/29/10 05:25	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	**3.2**	J	ug/L	1	0.36	1.0	5	EPA 8260B	07/29/10 05:25	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/29/10 05:25	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/29/10 05:25	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/29/10 05:25	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
Tetrachloroethene [127-18-4] ^	**2.4**		ug/L	1	0.36	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/29/10 05:25	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/29/10 05:25	JKG	
Trichloroethene [79-01-6] ^	**1.8**		ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/29/10 05:25	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/29/10 05:25	JKG	
Vinyl chloride [75-01-4] ^	**0.50**	J	ug/L	1	0.30	1.0	1	EPA 8260B	07/29/10 05:25	JKG	

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Description: MW-9 | **Lab Sample ID:** C008084-06 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/22/10 09:10 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/29/10 05:25	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*39*	*1*	*50.0*	*79 %*	*51-122*	*0G28022*	*EPA 8260B*	*07/29/10 05:25*	*JKG*	
Dibromofluoromethane	*46*	*1*	*50.0*	*93 %*	*68-117*	*0G28022*	*EPA 8260B*	*07/29/10 05:25*	*JKG*	
Toluene-d8	*42*	*1*	*50.0*	*83 %*	*69-110*	*0G28022*	*EPA 8260B*	*07/29/10 05:25*	*JKG*	

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Description: MW-9 | **Lab Sample ID:** C008084-06 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/22/10 09:10 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/04/10 10:45	VLO	
Arsenic [7440-38-2] ^	2.80	U	ug/L	1	2.80	10.0	10	EPA 6010C	08/03/10 11:54	JDH	
Barium [7440-39-3] ^	**16.8**	J	ug/L	1	1.00	10.0	100	EPA 6010C	08/03/10 11:54	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/03/10 11:54	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	08/03/10 11:54	JDH	
Chromium [7440-47-3] ^	1.00	U	ug/L	1	1.00	10.0	10	EPA 6010C	08/03/10 11:54	JDH	
Cobalt [7440-48-4] ^	1.10	U	ug/L	1	1.10	10.0	10	EPA 6010C	08/03/10 11:54	JDH	
Copper [7440-50-8] ^	**1.69**	J	ug/L	1	1.60	10.0	10	EPA 6010C	08/03/10 11:54	JDH	
Lead [7439-92-1] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 11:54	JDH	
Nickel [7440-02-0] ^	1.80	U	ug/L	1	1.80	10.0	50	EPA 6010C	08/03/10 11:54	JDH	
Selenium [7782-49-2] ^	0.830	U	ug/L	1	0.830	1.00	10	EPA 6020A	08/04/10 10:45	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 11:54	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/04/10 10:45	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	08/03/10 11:54	JDH	
Zinc [7440-66-6] ^	3.80	U	ug/L	1	3.80	10.0	10	EPA 6010C	08/03/10 11:54	JDH	

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

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Description: MW-10 | **Lab Sample ID:** C008084-07 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 14:00 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/29/10 05:55	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/29/10 05:55	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/29/10 05:55	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/29/10 05:55	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/29/10 05:55	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/29/10 05:55	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/29/10 05:55	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/29/10 05:55	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/29/10 05:55	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/29/10 05:55	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/29/10 05:55	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/29/10 05:55	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/29/10 05:55	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/29/10 05:55	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/29/10 05:55	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/29/10 05:55	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/29/10 05:55	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/29/10 05:55	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/29/10 05:55	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/29/10 05:55	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/29/10 05:55	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/29/10 05:55	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/29/10 05:55	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/29/10 05:55	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/29/10 05:55	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/29/10 05:55	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/29/10 05:55	JKG	

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Description: MW-10 | **Lab Sample ID:** C008084-07 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 14:00 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/29/10 05:55	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*39*	*1*	*50.0*	*78 %*	*51-122*	*0G28022*	*EPA 8260B*	*07/29/10 05:55*	*JKG*	
Dibromofluoromethane	*43*	*1*	*50.0*	*87 %*	*68-117*	*0G28022*	*EPA 8260B*	*07/29/10 05:55*	*JKG*	
Toluene-d8	*42*	*1*	*50.0*	*84 %*	*69-110*	*0G28022*	*EPA 8260B*	*07/29/10 05:55*	*JKG*	

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Description: MW-10 | **Lab Sample ID:** C008084-07 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 14:00 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/04/10 10:49	VLO	
Arsenic [7440-38-2] ^	2.80	U	ug/L	1	2.80	10.0	10	EPA 6010C	08/03/10 11:57	JDH	
Barium [7440-39-3] ^	**27.5**	J	ug/L	1	1.00	10.0	100	EPA 6010C	08/03/10 11:57	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/03/10 11:57	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	08/03/10 11:57	JDH	
Chromium [7440-47-3] ^	**1.67**	J	ug/L	1	1.00	10.0	10	EPA 6010C	08/03/10 11:57	JDH	
Cobalt [7440-48-4] ^	**3.03**	J	ug/L	1	1.10	10.0	10	EPA 6010C	08/03/10 11:57	JDH	
Copper [7440-50-8] ^	**8.02**	J	ug/L	1	1.60	10.0	10	EPA 6010C	08/03/10 11:57	JDH	
Lead [7439-92-1] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 11:57	JDH	
Nickel [7440-02-0] ^	**11.5**	J	ug/L	1	1.80	10.0	50	EPA 6010C	08/03/10 11:57	JDH	
Selenium [7782-49-2] ^	**56.9**	D	ug/L	5	4.15	5.00	10	EPA 6020A	08/04/10 12:55	VLO	
Silver [7440-22-4] ^	**2.22**	J	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 11:57	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/04/10 10:49	VLO	
Vanadium [7440-62-2] ^	**1.48**	J	ug/L	1	1.40	10.0	25	EPA 6010C	08/03/10 11:57	JDH	
Zinc [7440-66-6] ^	3.80	U	ug/L	1	3.80	10.0	10	EPA 6010C	08/03/10 11:57	JDH	

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

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Description: MW-24 | **Lab Sample ID:** C008084-08 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 10:35 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/29/10 06:26	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/29/10 06:26	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/29/10 06:26	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/29/10 06:26	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/29/10 06:26	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/29/10 06:26	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/29/10 06:26	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/29/10 06:26	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/29/10 06:26	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/29/10 06:26	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/29/10 06:26	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/29/10 06:26	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/29/10 06:26	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/29/10 06:26	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/29/10 06:26	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/29/10 06:26	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/29/10 06:26	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/29/10 06:26	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/29/10 06:26	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/29/10 06:26	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/29/10 06:26	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/29/10 06:26	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/29/10 06:26	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/29/10 06:26	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/29/10 06:26	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/29/10 06:26	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/29/10 06:26	JKG	

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Description: MW-24 | **Lab Sample ID:** C008084-08 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 10:35 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/29/10 06:26	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*40*	*1*	*50.0*	*80 %*	*51-122*	*0G28022*	*EPA 8260B*	*07/29/10 06:26*	*JKG*	
Dibromofluoromethane	*44*	*1*	*50.0*	*89 %*	*68-117*	*0G28022*	*EPA 8260B*	*07/29/10 06:26*	*JKG*	
Toluene-d8	*41*	*1*	*50.0*	*83 %*	*69-110*	*0G28022*	*EPA 8260B*	*07/29/10 06:26*	*JKG*	

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Description: MW-24 | **Lab Sample ID:** C008084-08 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 10:35 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/04/10 09:58	VLO	
Arsenic [7440-38-2] ^	**4.75**	J	ug/L	1	2.80	10.0	10	EPA 6010C	08/03/10 12:01	JDH	
Barium [7440-39-3] ^	**14.4**	J	ug/L	1	1.00	10.0	100	EPA 6010C	08/03/10 12:01	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/03/10 12:01	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	08/03/10 12:01	JDH	
Chromium [7440-47-3] ^	**3.95**	J	ug/L	1	1.00	10.0	10	EPA 6010C	08/03/10 12:01	JDH	
Cobalt [7440-48-4] ^	**3.40**	J	ug/L	1	1.10	10.0	10	EPA 6010C	08/03/10 12:01	JDH	
Copper [7440-50-8] ^	**6.91**	J	ug/L	1	1.60	10.0	10	EPA 6010C	08/03/10 12:01	JDH	
Lead [7439-92-1] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 12:01	JDH	
Nickel [7440-02-0] ^	**4.03**	J	ug/L	1	1.80	10.0	50	EPA 6010C	08/03/10 12:01	JDH	
Selenium [7782-49-2] ^	**1.36**	J	ug/L	1	0.830	1.00	10	EPA 6020A	08/04/10 09:58	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 12:01	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/04/10 09:58	VLO	
Vanadium [7440-62-2] ^	**4.74**	J	ug/L	1	1.40	10.0	25	EPA 6010C	08/03/10 12:01	JDH	
Zinc [7440-66-6] ^	**6.91**	J	ug/L	1	3.80	10.0	10	EPA 6010C	08/03/10 12:01	JDH	

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

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Description: MW-25 | **Lab Sample ID:** C008084-09 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 17:00 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/29/10 06:56	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/29/10 06:56	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
1,1-Dichloroethane [75-34-3] ^	**0.55**	J	ug/L	1	0.33	1.0	5	EPA 8260B	07/29/10 06:56	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/29/10 06:56	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/29/10 06:56	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/29/10 06:56	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/29/10 06:56	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/29/10 06:56	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/29/10 06:56	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/29/10 06:56	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/29/10 06:56	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/29/10 06:56	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/29/10 06:56	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/29/10 06:56	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/29/10 06:56	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/29/10 06:56	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/29/10 06:56	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/29/10 06:56	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/29/10 06:56	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/29/10 06:56	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/29/10 06:56	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/29/10 06:56	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/29/10 06:56	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/29/10 06:56	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/29/10 06:56	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/29/10 06:56	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/29/10 06:56	JKG	

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Description: MW-25 | **Lab Sample ID:** C008084-09 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 17:00 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

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	07/29/10 06:56	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*40*	*1*	*50.0*	*79 %*	*51-122*	*0G28022*	*EPA 8260B*	*07/29/10 06:56*	*JKG*	
Dibromofluoromethane	*43*	*1*	*50.0*	*86 %*	*68-117*	*0G28022*	*EPA 8260B*	*07/29/10 06:56*	*JKG*	
Toluene-d8	*42*	*1*	*50.0*	*84 %*	*69-110*	*0G28022*	*EPA 8260B*	*07/29/10 06:56*	*JKG*	

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Description: MW-25 | **Lab Sample ID:** C008084-09 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/21/10 17:00 | **Work Order:** C008084

Project: Albemarle Closed MNA & DM | **Sampled By:** Jonathan Pfohl

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/04/10 10:52	VLO	
Arsenic [7440-38-2] ^	**6.82**	J	ug/L	1	2.80	10.0	10	EPA 6010C	08/03/10 12:03	JDH	
Barium [7440-39-3] ^	**13.8**	J	ug/L	1	1.00	10.0	100	EPA 6010C	08/03/10 12:03	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/03/10 12:03	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	08/03/10 12:03	JDH	
Chromium [7440-47-3] ^	**7.34**	J	ug/L	1	1.00	10.0	10	EPA 6010C	08/03/10 12:03	JDH	
Cobalt [7440-48-4] ^	**5.07**	J	ug/L	1	1.10	10.0	10	EPA 6010C	08/03/10 12:03	JDH	
Copper [7440-50-8] ^	**9.95**	J	ug/L	1	1.60	10.0	10	EPA 6010C	08/03/10 12:03	JDH	
Lead [7439-92-1] ^	**2.86**	J	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 12:03	JDH	
Nickel [7440-02-0] ^	**14.0**	J	ug/L	1	1.80	10.0	50	EPA 6010C	08/03/10 12:03	JDH	
Selenium [7782-49-2] ^	**2.84**	J	ug/L	1	0.830	1.00	10	EPA 6020A	08/04/10 10:52	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/03/10 12:03	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/04/10 10:52	VLO	
Vanadium [7440-62-2] ^	**8.34**	J	ug/L	1	1.40	10.0	25	EPA 6010C	08/03/10 12:03	JDH	
Zinc [7440-66-6] ^	**11.8**		ug/L	1	3.80	10.0	10	EPA 6010C	08/03/10 12:03	JDH	

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 0G28018 - EPA 5030B_MS

Blank (0G28018-BLK1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 12:22

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	*49*			*ug/L*	*50.0*		*99*	*51-122*			

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0G28018 - EPA 5030B_MS

Blank (0G28018-BLK1) Continued Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 12:22

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Surrogate: Dibromofluoromethane	*52*			*ug/L*	*50.0*		*105*	*68-117*			
Surrogate: Toluene-d8	*47*			*ug/L*	*50.0*		*94*	*69-110*			

LCS (0G28018-BS1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 12:56

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		97	75-133			
Benzene	18		1.0	ug/L	20.0		92	81-134			
Chlorobenzene	19		1.0	ug/L	20.0		93	83-117			
Toluene	19		1.0	ug/L	20.0		93	71-118			
Trichloroethene	19		1.0	ug/L	20.0		96	75-115			

Matrix Spike (0G28018-MS1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 13:26

Source: C009025-02

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	101	75-133			
Benzene	19		1.0	ug/L	20.0	0.20 U	96	81-134			
Chlorobenzene	20		1.0	ug/L	20.0	0.27 U	98	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	98	75-115			

Matrix Spike Dup (0G28018-MSD1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 13:55

Source: C009025-02

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	100	75-133	1	20	
Benzene	19		1.0	ug/L	20.0	0.20 U	94	81-134	2	17	
Chlorobenzene	19		1.0	ug/L	20.0	0.27 U	95	83-117	4	16	
Toluene	19		1.0	ug/L	20.0	0.27 U	95	71-118	3	17	
Trichloroethene	19		1.0	ug/L	20.0	0.38 U	97	75-115	1	18	

Batch 0G28022 - EPA 5030B_MS

Blank (0G28022-BLK1) Prepared: 07/28/2010 13:56 Analyzed: 07/29/2010 01:21

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							

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0G28022 - EPA 5030B_MS

Blank (0G28022-BLK1) Continued Prepared: 07/28/2010 13:56 Analyzed: 07/29/2010 01:21

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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	*40*			*ug/L*	*50.0*		*79*	*51-122*			
Surrogate: Dibromofluoromethane	*44*			*ug/L*	*50.0*		*87*	*68-117*			
Surrogate: Toluene-d8	*42*			*ug/L*	*50.0*		*83*	*69-110*			

LCS (0G28022-BS1) Prepared: 07/28/2010 13:56 Analyzed: 07/29/2010 01:52

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	21		1.0	ug/L	20.0		104	81-134			
Chlorobenzene	20		1.0	ug/L	20.0		102	83-117			
Toluene	21		1.0	ug/L	20.0		104	71-118			

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0G28022 - EPA 5030B_MS

LCS (0G28022-BS1) Continued Prepared: 07/28/2010 13:56 Analyzed: 07/29/2010 01:52

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Trichloroethene	19		1.0	ug/L	20.0		94	75-115			

Matrix Spike (0G28022-MS1) Prepared: 07/28/2010 13:56 Analyzed: 07/29/2010 02:22

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0	0.24 U	112	75-133			
Benzene	22		1.0	ug/L	20.0	0.20 U	108	81-134			
Chlorobenzene	21		1.0	ug/L	20.0	0.27 U	103	83-117			
Toluene	21		1.0	ug/L	20.0	0.27 U	105	71-118			
Trichloroethene	20		1.0	ug/L	20.0	0.38 U	100	75-115			

Matrix Spike Dup (0G28022-MSD1) Prepared: 07/28/2010 13:56 Analyzed: 07/29/2010 02:53

Source: C008677-03

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	106	75-133	5	20	
Benzene	22		1.0	ug/L	20.0	0.20 U	108	81-134	0.3	17	
Chlorobenzene	21		1.0	ug/L	20.0	0.27 U	104	83-117	1	16	
Toluene	21		1.0	ug/L	20.0	0.27 U	105	71-118	0.2	17	
Trichloroethene	19		1.0	ug/L	20.0	0.38 U	95	75-115	6	18	

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G26028 - EPA 3005A

Blank (0G26028-BLK1) Prepared: 07/26/2010 14:44 Analyzed: 08/04/2010 09:51

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	0.220	U	2.00	ug/L							
Selenium	0.830	U	1.00	ug/L							
Thallium	0.110	U	1.00	ug/L							

LCS (0G26028-BS1) Prepared: 07/26/2010 14:44 Analyzed: 08/04/2010 09:54

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	25.3		2.00	ug/L	25.0		101	80-120			
Selenium	25.2		1.00	ug/L	25.0		101	80-120			
Thallium	25.5		1.00	ug/L	25.0		102	80-120			

Matrix Spike (0G26028-MS1) Prepared: 07/26/2010 14:44 Analyzed: 08/04/2010 10:01

Source: C008084-08

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	23.2		2.00	ug/L	25.0	0.220 U	93	75-125			
Selenium	26.7		1.00	ug/L	25.0	1.36	101	75-125			
Thallium	24.3		1.00	ug/L	25.0	0.110 U	97	75-125			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G26028 - EPA 3005A

Matrix Spike Dup (0G26028-MSD1) Prepared: 07/26/2010 14:44 Analyzed: 08/04/2010 10:05

Source: C008084-08

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	23.5		2.00	ug/L	25.0	0.220 U	94	75-125	1	20	
Selenium	26.5		1.00	ug/L	25.0	1.36	101	75-125	0.8	20	
Thallium	23.9		1.00	ug/L	25.0	0.110 U	96	75-125	1	20	

Post Spike (0G26028-PS1) Prepared: 07/26/2010 14:44 Analyzed: 08/04/2010 10:08

Source: C008084-08

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	27.6		2.00	ug/L	25.0	0.0780	110	80-120			
Selenium	30.6		1.00	ug/L	25.0	1.36	117	80-120			
Thallium	26.8		1.00	ug/L	25.0	0.0250	107	80-120			

Batch 0G26030 - EPA 3005A

Blank (0G26030-BLK1) Prepared: 07/26/2010 16:10 Analyzed: 08/03/2010 10:57

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	2.80	U	10.0	ug/L							
Barium	1.00	U	10.0	ug/L							
Beryllium	0.100	U	1.00	ug/L							
Cadmium	0.360	U	1.00	ug/L							
Chromium	1.00	U	10.0	ug/L							
Cobalt	1.10	U	10.0	ug/L							
Copper	1.60	U	10.0	ug/L							
Lead	1.90	U	10.0	ug/L							
Nickel	1.80	U	10.0	ug/L							
Silver	1.90	U	10.0	ug/L							
Vanadium	1.40	U	10.0	ug/L							
Zinc	3.80	U	10.0	ug/L							

LCS (0G26030-BS1) Prepared: 07/26/2010 16:10 Analyzed: 08/03/2010 11:03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	542		10.0	ug/L	500		108	80-120			
Barium	529		10.0	ug/L	500		106	80-120			
Beryllium	276		1.00	ug/L	250		111	80-120			
Cadmium	268		1.00	ug/L	250		107	80-120			
Chromium	526		10.0	ug/L	500		105	80-120			
Cobalt	536		10.0	ug/L	500		107	80-120			
Copper	266		10.0	ug/L	250		106	80-120			
Lead	539		10.0	ug/L	500		108	80-120			
Nickel	531		10.0	ug/L	500		106	80-120			
Silver	265		10.0	ug/L	250		106	80-120			
Vanadium	257		10.0	ug/L	250		103	80-120			
Zinc	535		10.0	ug/L	500		107	80-120			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G26030 - EPA 3005A

Matrix Spike (0G26030-MS1) Prepared: 07/26/2010 16:10 Analyzed: 08/03/2010 11:09

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	552		10.0	ug/L	500	2.80 U	110	75-125			
Barium	730		10.0	ug/L	500	202	106	75-125			
Beryllium	278		1.00	ug/L	250	0.100 U	111	75-125			
Cadmium	266		1.00	ug/L	250	0.360 U	106	75-125			
Chromium	532		10.0	ug/L	500	6.12	105	75-125			
Cobalt	548		10.0	ug/L	500	8.17	108	75-125			
Copper	283		10.0	ug/L	250	13.9	108	75-125			
Lead	549		10.0	ug/L	500	1.90 U	110	75-125			
Nickel	526		10.0	ug/L	500	3.73	104	75-125			
Silver	270		10.0	ug/L	250	1.90 U	108	75-125			
Vanadium	281		10.0	ug/L	250	21.3	104	75-125			
Zinc	538		10.0	ug/L	500	9.34	106	75-125			

Matrix Spike Dup (0G26030-MSD1) Prepared: 07/26/2010 16:10 Analyzed: 08/03/2010 11:11

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	552		10.0	ug/L	500	2.80 U	110	75-125	0.02	20	
Barium	730		10.0	ug/L	500	202	106	75-125	0.02	20	
Beryllium	279		1.00	ug/L	250	0.100 U	112	75-125	0.5	20	
Cadmium	266		1.00	ug/L	250	0.360 U	106	75-125	0.2	20	
Chromium	536		10.0	ug/L	500	6.12	106	75-125	0.9	20	
Cobalt	550		10.0	ug/L	500	8.17	108	75-125	0.5	20	
Copper	285		10.0	ug/L	250	13.9	109	75-125	1	20	
Lead	547		10.0	ug/L	500	1.90 U	109	75-125	0.3	20	
Nickel	531		10.0	ug/L	500	3.73	105	75-125	0.9	20	
Silver	269		10.0	ug/L	250	1.90 U	108	75-125	0.3	20	
Vanadium	286		10.0	ug/L	250	21.3	106	75-125	1	20	
Zinc	542		10.0	ug/L	500	9.34	106	75-125	0.7	20	

Post Spike (0G26030-PS1) Prepared: 07/26/2010 16:10 Analyzed: 08/03/2010 11:14

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	1.12		0.0100	mg/L	1.00	0.00159	111	80-120			
Barium	1.29		0.0100	mg/L	1.00	0.202	109	80-120			
Beryllium	0.570		0.00100	mg/L	0.500	-0.000252	114	80-120			
Cadmium	0.549		0.00100	mg/L	0.500	0.000123	110	80-120			
Chromium	1.10		0.0100	mg/L	1.00	0.00612	109	80-120			
Cobalt	1.08		0.0100	mg/L	1.00	0.00817	107	80-120			
Copper	0.577		0.0100	mg/L	0.500	0.0139	113	80-120			
Lead	1.10		0.0100	mg/L	1.00	0.000928	110	80-120			
Nickel	1.08		0.0100	mg/L	1.00	0.00373	107	80-120			
Silver	0.538		0.0100	mg/L	0.500	0.00130	107	80-120			
Vanadium	0.565		0.0100	mg/L	0.500	0.0213	109	80-120			
Zinc	1.10		0.0100	mg/L	1.00	0.00934	109	80-120			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G26030 - EPA 3005A

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
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(904) 296-3007 Fax (904) 296-6210

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

Client Name: Municipal Engineering Services (MU001)	Project Number: G10055.0
Address: P.O. Box 97	Project Name/Desc: Albemarle Closed MNA & DM
City/ST/Zip: Garner, NC 27529	PO # / Billing Info
Tel: (919) 772-5393 Fax: (919) 772-1176	Reporting Contact: Jonathan Pfohl
Sampler(s) Name, Affiliation (Print): Jonathan Pfohl	Billing Contact: Accounts Payable
Sampler(s) Signature:	Facility # (if required)

Requested Analyses: 8260B Appendix 1; Ag, As, Ba, Be, Cd, Co, Cr, Cu, Ni, Pb, Sb, Se, Tl, V, Zn

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

✓ Standard

___ Expedited

Due ___/___/___

Lab Workorder: C008084

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	Ag, As, Ba, Be, Cd, Co, Cr, Cu, Ni, Pb, Sb, Se, Tl, V, Zn									Sample Comments
	MW-1	7/21/10	9:10	Grab	GW	4	X	X									
	MW-2	7/22/10	10:50		GW	4	X	X									
	MW-3	7/21/10	3:30		GW	4	X	X									
	MW-6	7/22/10	3:00		GW	4	X	X									
	MW-7	7/21/10	12:00		GW	4	X	X									
	MW-9	7/22/10	9:10		GW	4	X	X									
	MW-10	7/21/10	2:00		GW	4	X	X									
	MW-24	7/21/10	10:35		GW	4	X	X									
	MW-25	7/21/10	5:00		GW	4	X	X									

<-- Total # of Containers

Sample Kit Prepared By: SF	Date/Time: 7/8/10	Relinquished By: / MESCO	Date/Time: 7/23 11:07	Received By:	Date/Time: 7/23/10 1107
Comments		Relinquished By	Date/Time	Received By	Date/Time
		Relinquished By	Date/Time	Received By	Date/Time
		Cooler #'s & Temps on Receipt: C-771 1.3°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

www.encolabs.com

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

Friday, August 6, 2010

Municipal Engineering Services (MU001)

Attn: Jonathan Pfohl

P.O. Box 97

Garner, NC 27529

RE: Laboratory Results for
Project Number: [none], Project Name/Desc: Albemarle _MW-12
ENCO Workorder: C008877

Dear Jonathan Pfohl,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, July 23, 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: MW-12	Lab ID: C008877-01	Sampled: 07/22/10 15:50	Received: 07/23/10 11:07

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	01/18/11	07/26/10	13:11	8/4/2010 13:49
EPA 6020A	01/18/11	07/26/10	13:15	8/3/2010 15:28
EPA 8260B	08/05/10	07/30/10	08:05	7/30/2010 20:02

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NORTH CAROLINA SWS SAMPLE DETECTION SUMMARY

Client ID: MW-12 **Lab ID:** C008877-01

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Acetone	6.7	J	1	1.5	5.0	100	ug/L	EPA 8260B	
Barium - Total	30.6	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Cadmium - Total	1.28		1	0.360	1.00	1	ug/L	EPA 6010C	
Chloroethane	1.5	J	1	0.30	1.0	10	ug/L	EPA 8260B	
Chromium - Total	2.23	J	1	1.00	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	37.7		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	3.43	J	1	1.60	10.0	10	ug/L	EPA 6010C	
Nickel - Total	10.3	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Toluene	1.3		1	0.27	1.0	1	ug/L	EPA 8260B	
Vanadium - Total	5.25	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Zinc - Total	4.85	J	1	3.80	10.0	10	ug/L	EPA 6010C	

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ANALYTICAL RESULTS

Description: MW-12 | **Lab Sample ID:** C008877-01 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/22/10 15:50 | **Work Order:** C008877

Project: Albemarle _MW-12 | **Sampled By:** Jonathan Pfohl

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	07/30/10 20:02	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/30/10 20:02	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/30/10 20:02	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/30/10 20:02	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/30/10 20:02	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/30/10 20:02	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/30/10 20:02	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/30/10 20:02	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/30/10 20:02	JKG	
Acetone [67-64-1] ^	**6.7**	J	ug/L	1	1.5	5.0	100	EPA 8260B	07/30/10 20:02	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/30/10 20:02	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/30/10 20:02	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/30/10 20:02	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/30/10 20:02	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/30/10 20:02	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/30/10 20:02	JKG	
Chloroethane [75-00-3] ^	**1.5**	J	ug/L	1	0.30	1.0	10	EPA 8260B	07/30/10 20:02	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/30/10 20:02	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/30/10 20:02	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/30/10 20:02	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/30/10 20:02	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/30/10 20:02	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
Toluene [108-88-3] ^	**1.3**		ug/L	1	0.27	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/30/10 20:02	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/30/10 20:02	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/30/10 20:02	JKG	

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Description: MW-12
Matrix: Ground Water
Project: Albemarle _MW-12

Lab Sample ID: C008877-01
Sampled: 07/22/10 15:50
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008877

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	07/30/10 20:02	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/30/10 20:02	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/30/10 20:02	JKG	
Xylenes (Total) [1330-20-7] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	07/30/10 20:02	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*41*	*1*	*50.0*	*81 %*	*51-122*	*0G30009*	*EPA 8260B*	*07/30/10 20:02*	*JKG*	
Dibromofluoromethane	*45*	*1*	*50.0*	*89 %*	*68-117*	*0G30009*	*EPA 8260B*	*07/30/10 20:02*	*JKG*	
Toluene-d8	*43*	*1*	*50.0*	*85 %*	*69-110*	*0G30009*	*EPA 8260B*	*07/30/10 20:02*	*JKG*	

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Description: MW-12 | **Lab Sample ID:** C008877-01 | **Received:** 07/23/10 11:07

Matrix: Ground Water | **Sampled:** 07/22/10 15:50 | **Work Order:** C008877

Project: Albemarle _MW-12 | **Sampled By:** Jonathan Pfohl

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/03/10 15:28	VLO	
Arsenic [7440-38-2] ^	2.80	U	ug/L	1	2.80	10.0	10	EPA 6010C	08/04/10 13:49	JDH	
Barium [7440-39-3] ^	**30.6**	J	ug/L	1	1.00	10.0	100	EPA 6010C	08/04/10 13:49	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/04/10 13:49	JDH	
Cadmium [7440-43-9] ^	**1.28**		ug/L	1	0.360	1.00	1	EPA 6010C	08/04/10 13:49	JDH	
Chromium [7440-47-3] ^	**2.23**	J	ug/L	1	1.00	10.0	10	EPA 6010C	08/04/10 13:49	JDH	
Cobalt [7440-48-4] ^	**37.7**		ug/L	1	1.10	10.0	10	EPA 6010C	08/04/10 13:49	JDH	
Copper [7440-50-8] ^	**3.43**	J	ug/L	1	1.60	10.0	10	EPA 6010C	08/04/10 13:49	JDH	
Lead [7439-92-1] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/04/10 13:49	JDH	
Nickel [7440-02-0] ^	**10.3**	J	ug/L	1	1.80	10.0	50	EPA 6010C	08/04/10 13:49	JDH	
Selenium [7782-49-2] ^	0.830	U	ug/L	1	0.830	1.00	10	EPA 6020A	08/03/10 15:28	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/04/10 13:49	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/03/10 15:28	VLO	
Vanadium [7440-62-2] ^	**5.25**	J	ug/L	1	1.40	10.0	25	EPA 6010C	08/04/10 13:49	JDH	
Zinc [7440-66-6] ^	**4.85**	J	ug/L	1	3.80	10.0	10	EPA 6010C	08/04/10 13:49	JDH	

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 0G30009 - EPA 5030B_MS

Blank (0G30009-BLK1) Prepared: 07/30/2010 08:05 Analyzed: 07/30/2010 11:01

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	*42*			*ug/L*	*50.0*		*83*	*51-122*			

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0G30009 - EPA 5030B_MS

Blank (0G30009-BLK1) Continued Prepared: 07/30/2010 08:05 Analyzed: 07/30/2010 11:01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Surrogate: Dibromofluoromethane	*43*			*ug/L*	*50.0*		*86*	*68-117*			
Surrogate: Toluene-d8	*42*			*ug/L*	*50.0*		*83*	*69-110*			

LCS (0G30009-BS1) Prepared: 07/30/2010 08:05 Analyzed: 07/30/2010 11:32

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		104	75-133			
Benzene	20		1.0	ug/L	20.0		101	81-134			
Chlorobenzene	19		1.0	ug/L	20.0		95	83-117			
Toluene	20		1.0	ug/L	20.0		98	71-118			
Trichloroethene	18		1.0	ug/L	20.0		91	75-115			

Matrix Spike (0G30009-MS1) Prepared: 07/30/2010 08:05 Analyzed: 07/30/2010 12:04

Source: C009025-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	23		1.0	ug/L	20.0	0.24 U	116	75-133			
Benzene	22		1.0	ug/L	20.0	0.20 U	108	81-134			
Chlorobenzene	21		1.0	ug/L	20.0	0.27 U	106	83-117			
Toluene	22		1.0	ug/L	20.0	0.27 U	109	71-118			
Trichloroethene	20		1.0	ug/L	20.0	0.38 U	100	75-115			

Matrix Spike Dup (0G30009-MSD1) Prepared: 07/30/2010 08:05 Analyzed: 07/30/2010 12:35

Source: C009025-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0	0.24 U	109	75-133	6	20	
Benzene	22		1.0	ug/L	20.0	0.20 U	109	81-134	0.6	17	
Chlorobenzene	21		1.0	ug/L	20.0	0.27 U	105	83-117	0.6	16	
Toluene	21		1.0	ug/L	20.0	0.27 U	103	71-118	5	17	
Trichloroethene	20		1.0	ug/L	20.0	0.38 U	98	75-115	2	18	

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G26024 - EPA 3005A

Blank (0G26024-BLK1) Prepared: 07/26/2010 13:11 Analyzed: 08/04/2010 12:11

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	2.80	U	10.0	ug/L							
Barium	1.00	U	10.0	ug/L							
Beryllium	0.100	U	1.00	ug/L							
Cadmium	0.360	U	1.00	ug/L							
Chromium	1.00	U	10.0	ug/L							
Cobalt	1.10	U	10.0	ug/L							
Copper	1.60	U	10.0	ug/L							
Lead	1.90	U	10.0	ug/L							
Nickel	1.80	U	10.0	ug/L							

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G26024 - EPA 3005A

Blank (0G26024-BLK1) Continued Prepared: 07/26/2010 13:11 Analyzed: 08/04/2010 12:11

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Silver	1.90	U	10.0	ug/L							
Vanadium	1.40	U	10.0	ug/L							
Zinc	3.80	U	10.0	ug/L							

LCS (0G26024-BS1) Prepared: 07/26/2010 13:11 Analyzed: 08/04/2010 12:14

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	525		10.0	ug/L	500		105	80-120			
Barium	512		10.0	ug/L	500		102	80-120			
Beryllium	271		1.00	ug/L	250		108	80-120			
Cadmium	261		1.00	ug/L	250		104	80-120			
Chromium	512		10.0	ug/L	500		102	80-120			
Cobalt	521		10.0	ug/L	500		104	80-120			
Copper	258		10.0	ug/L	250		103	80-120			
Lead	522		10.0	ug/L	500		104	80-120			
Nickel	516		10.0	ug/L	500		103	80-120			
Silver	258		10.0	ug/L	250		103	80-120			
Vanadium	250		10.0	ug/L	250		100	80-120			
Zinc	523		10.0	ug/L	500		105	80-120			

Matrix Spike (0G26024-MS1) Prepared: 07/26/2010 13:11 Analyzed: 08/04/2010 12:19

Source: C007664-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	545		10.0	ug/L	500	2.80 U	109	75-125			
Barium	633		10.0	ug/L	500	78.7	111	75-125			
Beryllium	282		1.00	ug/L	250	0.575	113	75-125			
Cadmium	268		1.00	ug/L	250	0.391	107	75-125			
Chromium	538		10.0	ug/L	500	6.85	106	75-125			
Cobalt	548		10.0	ug/L	500	1.44	109	75-125			
Copper	268		10.0	ug/L	250	1.60 U	107	75-125			
Lead	549		10.0	ug/L	500	2.98	109	75-125			
Nickel	535		10.0	ug/L	500	1.80 U	107	75-125			
Silver	267		10.0	ug/L	250	1.90 U	107	75-125			
Vanadium	263		10.0	ug/L	250	4.13	103	75-125			
Zinc	542		10.0	ug/L	500	4.90	107	75-125			

Matrix Spike Dup (0G26024-MSD1) Prepared: 07/26/2010 13:11 Analyzed: 08/04/2010 12:31

Source: C007664-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	531		10.0	ug/L	500	2.80 U	106	75-125	3	20	
Barium	615		10.0	ug/L	500	78.7	107	75-125	3	20	
Beryllium	276		1.00	ug/L	250	0.575	110	75-125	2	20	
Cadmium	261		1.00	ug/L	250	0.391	104	75-125	3	20	
Chromium	523		10.0	ug/L	500	6.85	103	75-125	3	20	
Cobalt	530		10.0	ug/L	500	1.44	106	75-125	3	20	

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G26024 - EPA 3005A

Matrix Spike Dup (0G26024-MSD1) Continued Prepared: 07/26/2010 13:11 Analyzed: 08/04/2010 12:31

Source: C007664-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Copper	259		10.0	ug/L	250	1.60 U	104	75-125	3	20	
Lead	531		10.0	ug/L	500	2.98	106	75-125	3	20	
Nickel	521		10.0	ug/L	500	1.80 U	104	75-125	3	20	
Silver	261		10.0	ug/L	250	1.90 U	104	75-125	2	20	
Vanadium	256		10.0	ug/L	250	4.13	101	75-125	2	20	
Zinc	529		10.0	ug/L	500	4.90	105	75-125	2	20	

Post Spike (0G26024-PS1) Prepared: 07/26/2010 13:11 Analyzed: 08/04/2010 12:33

Source: C007664-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	1.09		0.0100	mg/L	1.00	0.000207	109	80-120			
Barium	1.16		0.0100	mg/L	1.00	0.0787	108	80-120			
Beryllium	0.556		0.00100	mg/L	0.500	0.000575	111	80-120			
Cadmium	0.545		0.00100	mg/L	0.500	0.000391	109	80-120			
Chromium	1.09		0.0100	mg/L	1.00	0.00685	108	80-120			
Cobalt	1.07		0.0100	mg/L	1.00	0.00144	106	80-120			
Copper	0.551		0.0100	mg/L	0.500	0.000583	110	80-120			
Lead	1.08		0.0100	mg/L	1.00	0.00298	108	80-120			
Nickel	1.07		0.0100	mg/L	1.00	0.000933	107	80-120			
Silver	0.525		0.0100	mg/L	0.500	0.000800	105	80-120			
Vanadium	0.536		0.0100	mg/L	0.500	0.00413	106	80-120			
Zinc	1.10		0.0100	mg/L	1.00	0.00490	109	80-120			

Batch 0G26025 - EPA 3005A

Blank (0G26025-BLK1) Prepared: 07/26/2010 13:15 Analyzed: 08/03/2010 13:29

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	0.220	U	2.00	ug/L							
Selenium	0.830	U	1.00	ug/L							
Thallium	0.110	U	1.00	ug/L							

LCS (0G26025-BS1) Prepared: 07/26/2010 13:15 Analyzed: 08/03/2010 13:32

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	25.5		2.00	ug/L	25.0		102	80-120			
Selenium	26.3		1.00	ug/L	25.0		105	80-120			
Thallium	26.5		1.00	ug/L	25.0		106	80-120			

Matrix Spike (0G26025-MS1) Prepared: 07/26/2010 13:15 Analyzed: 08/03/2010 13:39

Source: C007664-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	23.4		2.00	ug/L	25.0	0.220 U	94	75-125			
Selenium	26.2		1.00	ug/L	25.0	0.830 U	105	75-125			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G26025 - EPA 3005A

Matrix Spike (0G26025-MS1) Continued Prepared: 07/26/2010 13:15 Analyzed: 08/03/2010 13:39

Source: C007664-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Thallium	25.2		1.00	ug/L	25.0	0.110 U	101	75-125			

Matrix Spike Dup (0G26025-MSD1) Prepared: 07/26/2010 13:15 Analyzed: 08/03/2010 13:50

Source: C007664-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	24.2		2.00	ug/L	25.0	0.220 U	97	75-125	3	20	
Selenium	26.0		1.00	ug/L	25.0	0.830 U	104	75-125	0.8	20	
Thallium	25.9		1.00	ug/L	25.0	0.110 U	104	75-125	3	20	

Post Spike (0G26025-PS1) Prepared: 07/26/2010 13:15 Analyzed: 08/03/2010 13:54

Source: C007664-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	27.4		2.00	ug/L	25.0	0.0100	110	80-120			
Selenium	28.7		1.00	ug/L	25.0	-0.0300	115	80-120			
Thallium	28.2		1.00	ug/L	25.0	0.0260	113	80-120			

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.

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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	(MU001) MESCO
Address	PO Box 97
City/ST/Zip	Garner NC 27529
Tel	(919) 772-5393
Fax	
Sampler(s) Name, Affiliation (Print)	Jonathan Pfall
Sampler(s) Signature	
Project Number	
Project Name/Desc	Albemarle - MW-12
PO # / Billing Info	
Reporting Contact	Jonathan Pfall
Billing Contact	
Site Location / Time Zone	

Requested Analyses: 8260B All I; Metals All I

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

✓ Standard

___ Expedited

Due ___/___/___

Lab Workorder: C008877

Preservation (See Codes) (Combine as necessary)

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	8260B All I	Metals All I	Sample Comments
	MW-12	7/22/10	3:50	Grab	GW	4	✓	✓	

<-- Total # of Containers

Sample Kit Prepared By	Date/Time	Relinquished By: Jonathan Pfall / MESCO	Date/Time: 7/23/10 11:07	Received By: [signature]	Date/Time: 7/23/10 1107
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: C-773 1.7°C		Condition Upon Receipt: X 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
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Friday, August 6, 2010

Municipal Engineering Services (MU001)

Attn: Jonathan Pfohl

P.O. Box 97

Garner, NC 27529

RE: Laboratory Results for
Project Number: [none], Project Name/Desc: Albemarle _MW-12 (Cyanide)
ENCO Workorder: C008876

Dear Jonathan Pfohl,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, July 23, 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 7.

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: MW-12	Lab ID: C008876-01	Sampled: 07/22/10 15:50	Received: 07/23/10 11:07

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
SM18 4500-CN E	08/05/10	07/29/10 17:15	7/30/2010 10:01

SAMPLE DETECTION SUMMARY

No positive results detected.

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ANALYTICAL RESULTS

Description: MW-12
Matrix: Ground Water
Project: Albemarle _MW-12 (Cyanide)

Lab Sample ID: C008876-01
Sampled: 07/22/10 15:50
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008876

Classical Chemistry Parameters

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Cyanide (total) [57-12-5] ^	4.7	U	ug/L	1	4.7	10	10	SM18 4500-CN E	07/30/10 10:01	PEV	

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

QUALITY CONTROL

Classical Chemistry Parameters - Quality Control

Batch 0G28025 - Same

Blank (0G28025-BLK1) Prepared: 07/28/2010 18:16 Analyzed: 07/30/2010 09:27

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Cyanide (total)	4.7	U	10	ug/L							

LCS (0G28025-BS1) Prepared: 07/28/2010 18:16 Analyzed: 07/30/2010 09:29

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Cyanide (total)	150		10	ug/L	150		101	83-113			

Matrix Spike (0G28025-MS1) Prepared: 07/29/2010 17:15 Analyzed: 07/30/2010 09:39

Source: C008028-05

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Cyanide (total)	150		10	ug/L	150	4.7 U	100	83-113			

Matrix Spike Dup (0G28025-MSD1) Prepared: 07/29/2010 17:15 Analyzed: 07/30/2010 09:41

Source: C008028-05

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Cyanide (total)	150		10	ug/L	150	4.7 U	102	83-113	2	19	

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

Page 1 of 1

Client Name	MESCO (MU001)
Project Number	
Address	PO Box 97
Project Name/Desc	Albemarle_MW-12(Cyanide)
City/ST/Zip	Gonzales NC 27529
PO # / Billing Info	
Tel	(919) 772-5393
Fax	
Reporting Contact	Jonathan Pfahl
Sampler(s) Name, Affiliation (Print)	Jonathan Pfahl
Billing Contact	
Sampler(s) Signature	
Site Location / Time Zone	

Requested Analyses: Cyanide

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

✓ Standard

___ Expedited

Due ___/___/___

Lab Workorder: C008876

Preservation (See Codes) (Combine as necessary): S

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	Cyanide	Sample Comments
	MW-12	7/22/10	3:50	G	GW	1	S	

<-- Total # of Containers

Sample Kit Prepared By	Date/Time	Relinquished By: MESCO	Date/Time: 7/23/10 11:07	Received By: [signature]	Date/Time: 7/23/10 1107
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: C-773 1.7°C		Condition Upon Receipt: X 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

Wednesday, August 4, 2010

Municipal Engineering Services (MU001)

Attn: Jonathan Pfohl

P.O. Box 97

Garner, NC 27529

RE: Laboratory Results for
Project Number: G10055.0, Project Name/Desc: Albemarle SWs Shared
ENCO Workorder: C008082

Dear Jonathan Pfohl,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, July 23, 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 19.

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: SW-1	Lab ID: C008082-01	Sampled: 07/21/10 09:30	Received: 07/23/10 11:07

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	01/17/11	07/25/10 15:46	8/2/2010 12:20
EPA 6020A	01/17/11	07/25/10 15:56	8/3/2010 12:31
EPA 8260B	08/04/10	07/28/10 09:57	7/28/2010 17:25

Client ID: SW-6	Lab ID: C008082-02	Sampled: 07/21/10 13:20	Received: 07/23/10 11:07

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	01/17/11	07/25/10 15:46	8/2/2010 12:22
EPA 6020A	01/17/11	07/25/10 15:56	8/3/2010 12:34
EPA 8260B	08/04/10	07/28/10 09:57	7/28/2010 17:56

Client ID: SW-7	Lab ID: C008082-03	Sampled: 07/21/10 09:55	Received: 07/23/10 11:07

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010C	01/17/11	07/25/10 15:46	8/2/2010 12:25
EPA 6020A	01/17/11	07/25/10 15:56	8/3/2010 12:38
EPA 8260B	08/04/10	07/28/10 09:57	7/28/2010 18:28

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NORTH CAROLINA SWS SAMPLE DETECTION SUMMARY

Client ID: SW-1 **Lab ID: C008082-01**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Acetone	5.4	J	1	1.5	5.0	100	ug/L	EPA 8260B	
Arsenic - Total	5.42	J	1	2.80	10.0	10	ug/L	EPA 6010C	
Barium - Total	90.8	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Chromium - Total	5.05	J	1	1.00	10.0	10	ug/L	EPA 6010C	
Cobalt - Total	10.7		1	1.10	10.0	10	ug/L	EPA 6010C	
Copper - Total	7.73	JB	1	1.60	10.0	10	ug/L	EPA 6010C	J-01
Lead - Total	5.46	J	1	1.90	10.0	10	ug/L	EPA 6010C	
Nickel - Total	12.8	J	1	1.80	10.0	50	ug/L	EPA 6010C	
Vanadium - Total	5.41	J	1	1.40	10.0	25	ug/L	EPA 6010C	
Zinc - Total	27.7		1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: SW-6 **Lab ID: C008082-02**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Acetone	3.9	J	1	1.5	5.0	100	ug/L	EPA 8260B	
Barium - Total	17.7	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Copper - Total	2.28	JB	1	1.60	10.0	10	ug/L	EPA 6010C	J-01
Selenium - Total	1.15	J	1	0.830	1.00	10	ug/L	EPA 6020A	
Zinc - Total	7.17	J	1	3.80	10.0	10	ug/L	EPA 6010C	

Client ID: SW-7 **Lab ID: C008082-03**

Analyte	Results	Flag	DF	MDL	MRL	NC SWSL	Units	Method	Notes
Barium - Total	17.0	J	1	1.00	10.0	100	ug/L	EPA 6010C	
Selenium - Total	0.920	J	1	0.830	1.00	10	ug/L	EPA 6020A	

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ANALYTICAL RESULTS

Description: SW-1 | **Lab Sample ID:** C008082-01 | **Received:** 07/23/10 11:07

Matrix: Surface Water | **Sampled:** 07/21/10 09:30 | **Work Order:** C008082

Project: Albemarle SWs Shared | **Sampled By:** Jonathan Pfohl

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	07/28/10 17:25	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/28/10 17:25	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/28/10 17:25	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/28/10 17:25	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/28/10 17:25	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/28/10 17:25	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/28/10 17:25	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/28/10 17:25	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/28/10 17:25	JKG	
Acetone [67-64-1] ^	**5.4**	J	ug/L	1	1.5	5.0	100	EPA 8260B	07/28/10 17:25	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/28/10 17:25	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/28/10 17:25	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/28/10 17:25	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/28/10 17:25	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/28/10 17:25	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/28/10 17:25	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/28/10 17:25	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/28/10 17:25	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/28/10 17:25	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/28/10 17:25	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/28/10 17:25	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/28/10 17:25	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/28/10 17:25	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/28/10 17:25	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 17:25	JKG	

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Description: SW-1
Matrix: Surface Water
Project: Albemarle SWs Shared

Lab Sample ID: C008082-01
Sampled: 07/21/10 09:30
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008082

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	07/28/10 17:25	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/28/10 17:25	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/28/10 17:25	JKG	
Xylenes (Total) [1330-20-7] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	07/28/10 17:25	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*96 %*	*51-122*	*0G28018*	*EPA 8260B*	*07/28/10 17:25*	*JKG*	
Dibromofluoromethane	*53*	*1*	*50.0*	*106 %*	*68-117*	*0G28018*	*EPA 8260B*	*07/28/10 17:25*	*JKG*	
Toluene-d8	*48*	*1*	*50.0*	*97 %*	*69-110*	*0G28018*	*EPA 8260B*	*07/28/10 17:25*	*JKG*	

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Description: SW-1 | **Lab Sample ID:** C008082-01 | **Received:** 07/23/10 11:07

Matrix: Surface Water | **Sampled:** 07/21/10 09:30 | **Work Order:** C008082

Project: Albemarle SWs Shared | **Sampled By:** Jonathan Pfohl

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/03/10 12:31	VLO	
Arsenic [7440-38-2] ^	**5.42**	J	ug/L	1	2.80	10.0	10	EPA 6010C	08/02/10 12:20	JDH	
Barium [7440-39-3] ^	**90.8**	J	ug/L	1	1.00	10.0	100	EPA 6010C	08/02/10 12:20	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/02/10 12:20	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	08/02/10 12:20	JDH	
Chromium [7440-47-3] ^	**5.05**	J	ug/L	1	1.00	10.0	10	EPA 6010C	08/02/10 12:20	JDH	
Cobalt [7440-48-4] ^	**10.7**		ug/L	1	1.10	10.0	10	EPA 6010C	08/02/10 12:20	JDH	
Copper [7440-50-8] ^	**7.73**	JB	ug/L	1	1.60	10.0	10	EPA 6010C	08/02/10 12:20	JDH	J-01
Lead [7439-92-1] ^	**5.46**	J	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:20	JDH	
Nickel [7440-02-0] ^	**12.8**	J	ug/L	1	1.80	10.0	50	EPA 6010C	08/02/10 12:20	JDH	
Selenium [7782-49-2] ^	0.830	U	ug/L	1	0.830	1.00	10	EPA 6020A	08/03/10 12:31	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:20	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/03/10 12:31	VLO	
Vanadium [7440-62-2] ^	**5.41**	J	ug/L	1	1.40	10.0	25	EPA 6010C	08/02/10 12:20	JDH	
Zinc [7440-66-6] ^	**27.7**		ug/L	1	3.80	10.0	10	EPA 6010C	08/02/10 12:20	JDH	

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

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Description: SW-6 | **Lab Sample ID:** C008082-02 | **Received:** 07/23/10 11:07

Matrix: Surface Water | **Sampled:** 07/21/10 13:20 | **Work Order:** C008082

Project: Albemarle SWs Shared | **Sampled By:** Jonathan Pfohl

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	07/28/10 17:56	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/28/10 17:56	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/28/10 17:56	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/28/10 17:56	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/28/10 17:56	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/28/10 17:56	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/28/10 17:56	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/28/10 17:56	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/28/10 17:56	JKG	
Acetone [67-64-1] ^	**3.9**	J	ug/L	1	1.5	5.0	100	EPA 8260B	07/28/10 17:56	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/28/10 17:56	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/28/10 17:56	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/28/10 17:56	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/28/10 17:56	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/28/10 17:56	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/28/10 17:56	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/28/10 17:56	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/28/10 17:56	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/28/10 17:56	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/28/10 17:56	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/28/10 17:56	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/28/10 17:56	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/28/10 17:56	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/28/10 17:56	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 17:56	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/28/10 17:56	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/28/10 17:56	JKG	

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Description: SW-6
Matrix: Surface Water
Project: Albemarle SWs Shared

Lab Sample ID: C008082-02
Sampled: 07/21/10 13:20
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008082

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	07/28/10 17:56	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*98 %*	*51-122*	*0G28018*	*EPA 8260B*	*07/28/10 17:56*	*JKG*	
Dibromofluoromethane	*54*	*1*	*50.0*	*109 %*	*68-117*	*0G28018*	*EPA 8260B*	*07/28/10 17:56*	*JKG*	
Toluene-d8	*49*	*1*	*50.0*	*97 %*	*69-110*	*0G28018*	*EPA 8260B*	*07/28/10 17:56*	*JKG*	

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Description: SW-6 | **Lab Sample ID:** C008082-02 | **Received:** 07/23/10 11:07

Matrix: Surface Water | **Sampled:** 07/21/10 13:20 | **Work Order:** C008082

Project: Albemarle SWs Shared | **Sampled By:** Jonathan Pfohl

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/03/10 12:34	VLO	
Arsenic [7440-38-2] ^	2.80	U	ug/L	1	2.80	10.0	10	EPA 6010C	08/02/10 12:22	JDH	
Barium [7440-39-3] ^	**17.7**	J	ug/L	1	1.00	10.0	100	EPA 6010C	08/02/10 12:22	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/02/10 12:22	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	08/02/10 12:22	JDH	
Chromium [7440-47-3] ^	1.00	U	ug/L	1	1.00	10.0	10	EPA 6010C	08/02/10 12:22	JDH	
Cobalt [7440-48-4] ^	1.10	U	ug/L	1	1.10	10.0	10	EPA 6010C	08/02/10 12:22	JDH	
Copper [7440-50-8] ^	**2.28**	JB	ug/L	1	1.60	10.0	10	EPA 6010C	08/02/10 12:22	JDH	J-01
Lead [7439-92-1] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:22	JDH	
Nickel [7440-02-0] ^	1.80	U	ug/L	1	1.80	10.0	50	EPA 6010C	08/02/10 12:22	JDH	
Selenium [7782-49-2] ^	**1.15**	J	ug/L	1	0.830	1.00	10	EPA 6020A	08/03/10 12:34	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:22	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/03/10 12:34	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	08/02/10 12:22	JDH	
Zinc [7440-66-6] ^	**7.17**	J	ug/L	1	3.80	10.0	10	EPA 6010C	08/02/10 12:22	JDH	

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

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Description: SW-7 | **Lab Sample ID:** C008082-03 | **Received:** 07/23/10 11:07

Matrix: Surface Water | **Sampled:** 07/21/10 09:55 | **Work Order:** C008082

Project: Albemarle SWs Shared | **Sampled By:** Jonathan Pfohl

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	07/28/10 18:28	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/28/10 18:28	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/28/10 18:28	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/28/10 18:28	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/28/10 18:28	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/28/10 18:28	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/28/10 18:28	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/28/10 18:28	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/28/10 18:28	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/28/10 18:28	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/28/10 18:28	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/28/10 18:28	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/28/10 18:28	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/28/10 18:28	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/28/10 18:28	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/28/10 18:28	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/28/10 18:28	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/28/10 18:28	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/28/10 18:28	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/28/10 18:28	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/28/10 18:28	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/28/10 18:28	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/28/10 18:28	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/28/10 18:28	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 18:28	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/28/10 18:28	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/28/10 18:28	JKG	

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Description: SW-7
Matrix: Surface Water
Project: Albemarle SWs Shared

Lab Sample ID: C008082-03
Sampled: 07/21/10 09:55
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008082

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	07/28/10 18:28	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*97 %*	*51-122*	*0G28018*	*EPA 8260B*	*07/28/10 18:28*	*JKG*	
Dibromofluoromethane	*54*	*1*	*50.0*	*108 %*	*68-117*	*0G28018*	*EPA 8260B*	*07/28/10 18:28*	*JKG*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*69-110*	*0G28018*	*EPA 8260B*	*07/28/10 18:28*	*JKG*	

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Description: SW-7 | **Lab Sample ID:** C008082-03 | **Received:** 07/23/10 11:07

Matrix: Surface Water | **Sampled:** 07/21/10 09:55 | **Work Order:** C008082

Project: Albemarle SWs Shared | **Sampled By:** Jonathan Pfohl

Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/03/10 12:38	VLO	
Arsenic [7440-38-2] ^	2.80	U	ug/L	1	2.80	10.0	10	EPA 6010C	08/02/10 12:25	JDH	
Barium [7440-39-3] ^	**17.0**	J	ug/L	1	1.00	10.0	100	EPA 6010C	08/02/10 12:25	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/02/10 12:25	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	08/02/10 12:25	JDH	
Chromium [7440-47-3] ^	1.00	U	ug/L	1	1.00	10.0	10	EPA 6010C	08/02/10 12:25	JDH	
Cobalt [7440-48-4] ^	1.10	U	ug/L	1	1.10	10.0	10	EPA 6010C	08/02/10 12:25	JDH	
Copper [7440-50-8] ^	1.60	U	ug/L	1	1.60	10.0	10	EPA 6010C	08/02/10 12:25	JDH	
Lead [7439-92-1] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:25	JDH	
Nickel [7440-02-0] ^	1.80	U	ug/L	1	1.80	10.0	50	EPA 6010C	08/02/10 12:25	JDH	
Selenium [7782-49-2] ^	**0.920**	J	ug/L	1	0.830	1.00	10	EPA 6020A	08/03/10 12:38	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:25	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/03/10 12:38	VLO	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	08/02/10 12:25	JDH	
Zinc [7440-66-6] ^	3.80	U	ug/L	1	3.80	10.0	10	EPA 6010C	08/02/10 12:25	JDH	

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 0G28018 - EPA 5030B_MS

Blank (0G28018-BLK1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 12:22

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	*49*			*ug/L*	*50.0*		*99*	*51-122*			

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0G28018 - EPA 5030B_MS

Blank (0G28018-BLK1) Continued Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 12:22

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Surrogate: Dibromofluoromethane	*52*			*ug/L*	*50.0*		*105*	*68-117*			
Surrogate: Toluene-d8	*47*			*ug/L*	*50.0*		*94*	*69-110*			

LCS (0G28018-BS1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 12:56

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		97	75-133			
Benzene	18		1.0	ug/L	20.0		92	81-134			
Chlorobenzene	19		1.0	ug/L	20.0		93	83-117			
Toluene	19		1.0	ug/L	20.0		93	71-118			
Trichloroethene	19		1.0	ug/L	20.0		96	75-115			

Matrix Spike (0G28018-MS1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 13:26

Source: C009025-02

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	101	75-133			
Benzene	19		1.0	ug/L	20.0	0.20 U	96	81-134			
Chlorobenzene	20		1.0	ug/L	20.0	0.27 U	98	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	98	75-115			

Matrix Spike Dup (0G28018-MSD1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 13:55

Source: C009025-02

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	100	75-133	1	20	
Benzene	19		1.0	ug/L	20.0	0.20 U	94	81-134	2	17	
Chlorobenzene	19		1.0	ug/L	20.0	0.27 U	95	83-117	4	16	
Toluene	19		1.0	ug/L	20.0	0.27 U	95	71-118	3	17	
Trichloroethene	19		1.0	ug/L	20.0	0.38 U	97	75-115	1	18	

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G25001 - EPA 3005A

Blank (0G25001-BLK1) Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:24

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	2.80	U	10.0	ug/L							
Barium	1.00	U	10.0	ug/L							
Beryllium	0.100	U	1.00	ug/L							
Cadmium	0.360	U	1.00	ug/L							
Chromium	1.00	U	10.0	ug/L							
Cobalt	1.10	U	10.0	ug/L							
Copper	**3.50**	**J**	10.0	ug/L							
Lead	1.90	U	10.0	ug/L							
Nickel	1.80	U	10.0	ug/L							

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G25001 - EPA 3005A

Blank (0G25001-BLK1) Continued Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:24

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Silver	1.90	U	10.0	ug/L							
Vanadium	1.40	U	10.0	ug/L							
Zinc	3.80	U	10.0	ug/L							

LCS (0G25001-BS1) Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:32

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	543		10.0	ug/L	500		109	80-120			
Barium	526		10.0	ug/L	500		105	80-120			
Beryllium	275		1.00	ug/L	250		110	80-120			
Cadmium	266		1.00	ug/L	250		107	80-120			
Chromium	523		10.0	ug/L	500		105	80-120			
Cobalt	540		10.0	ug/L	500		108	80-120			
Copper	266	B	10.0	ug/L	250		106	80-120			
Lead	542		10.0	ug/L	500		108	80-120			
Nickel	528		10.0	ug/L	500		106	80-120			
Silver	264		10.0	ug/L	250		106	80-120			
Vanadium	255		10.0	ug/L	250		102	80-120			
Zinc	536		10.0	ug/L	500		107	80-120			

Matrix Spike (0G25001-MS1) Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:39

Source: C007665-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	594		10.0	ug/L	500	14.0	116	75-125			
Barium	1100		10.0	ug/L	500	470	126	75-125			QM-07
Beryllium	278		1.00	ug/L	250	0.100 U	111	75-125			
Cadmium	264		1.00	ug/L	250	0.360 U	106	75-125			
Chromium	547		10.0	ug/L	500	14.5	106	75-125			
Cobalt	550		10.0	ug/L	500	12.2	108	75-125			
Copper	286	B	10.0	ug/L	250	1.60 U	114	75-125			
Lead	550		10.0	ug/L	500	6.40	109	75-125			
Nickel	562		10.0	ug/L	500	30.8	106	75-125			
Silver	276		10.0	ug/L	250	1.90 U	110	75-125			
Vanadium	285		10.0	ug/L	250	14.1	108	75-125			
Zinc	1130		10.0	ug/L	500	494	127	75-125			QM-07

Matrix Spike Dup (0G25001-MSD1) Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:42

Source: C007665-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	598		10.0	ug/L	500	14.0	117	75-125	0.7	20	
Barium	1100		10.0	ug/L	500	470	126	75-125	0.2	20	QM-07
Beryllium	277		1.00	ug/L	250	0.100 U	111	75-125	0.5	20	
Cadmium	263		1.00	ug/L	250	0.360 U	105	75-125	0.5	20	
Chromium	546		10.0	ug/L	500	14.5	106	75-125	0.1	20	
Cobalt	558		10.0	ug/L	500	12.2	109	75-125	1	20	

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G25001 - EPA 3005A

Matrix Spike Dup (0G25001-MSD1) Continued Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:42

Source: C007665-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Copper	286	B	10.0	ug/L	250	1.60 U	114	75-125	0.09	20	
Lead	557		10.0	ug/L	500	6.40	110	75-125	1	20	
Nickel	560		10.0	ug/L	500	30.8	106	75-125	0.3	20	
Silver	278		10.0	ug/L	250	1.90 U	111	75-125	0.7	20	
Vanadium	285		10.0	ug/L	250	14.1	108	75-125	0.3	20	
Zinc	1130		10.0	ug/L	500	494	128	75-125	0.3	20	QM-07

Post Spike (0G25001-PS1) Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:44

Source: C007665-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	1.13		0.0100	mg/L	1.00	0.0140	112	80-120			
Barium	1.64		0.0100	mg/L	1.00	0.470	117	80-120			
Beryllium	0.558		0.00100	mg/L	0.500	-0.000143	112	80-120			
Cadmium	0.536		0.00100	mg/L	0.500	-3.83E-5	107	80-120			
Chromium	1.10		0.0100	mg/L	1.00	0.0145	108	80-120			
Cobalt	1.07		0.0100	mg/L	1.00	0.0122	106	80-120			
Copper	0.591	B	0.0100	mg/L	0.500	-0.000791	118	80-120			
Lead	1.06		0.0100	mg/L	1.00	0.00640	105	80-120			
Nickel	1.09		0.0100	mg/L	1.00	0.0308	106	80-120			
Silver	0.549		0.0100	mg/L	0.500	0.000971	110	80-120			
Vanadium	0.566		0.0100	mg/L	0.500	0.0141	110	80-120			
Zinc	1.67		0.0100	mg/L	1.00	0.494	118	80-120			

Batch 0G25002 - EPA 3005A

Blank (0G25002-BLK1) Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:40

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	0.220	U	2.00	ug/L							
Selenium	0.830	U	1.00	ug/L							
Thallium	0.110	U	1.00	ug/L							

LCS (0G25002-BS1) Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:43

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	25.7		2.00	ug/L	25.0		103	80-120			
Selenium	25.2		1.00	ug/L	25.0		101	80-120			
Thallium	26.2		1.00	ug/L	25.0		105	80-120			

Matrix Spike (0G25002-MS1) Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:51

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	21.3		2.00	ug/L	25.0	0.220 U	85	75-125			
Selenium	24.4		1.00	ug/L	25.0	1.04	93	75-125			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G25002 - EPA 3005A

Matrix Spike (0G25002-MS1) Continued Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:51

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Thallium	24.1		1.00	ug/L	25.0	0.110 U	96	75-125			

Matrix Spike Dup (0G25002-MSD1) Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:54

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	20.8		2.00	ug/L	25.0	0.220 U	83	75-125	2	20	
Selenium	25.3		1.00	ug/L	25.0	1.04	97	75-125	4	20	
Thallium	24.3		1.00	ug/L	25.0	0.110 U	97	75-125	1	20	

Post Spike (0G25002-PS1) Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:58

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	27.7		2.00	ug/L	25.0	0.0500	111	80-120			
Selenium	27.9		1.00	ug/L	25.0	1.04	107	80-120			
Thallium	27.1		1.00	ug/L	25.0	0.0640	108	80-120			

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.
J-01	Result is estimated due to positive results in the associated method blank.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

ENVIRONMENTAL CONSERVATION LABORATORIES CHAIN-OF-CUSTODY RECORD

10775 Central Port Dr.
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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: Municipal Engineering Services (MU001)	Project Number: G10055.0
Address: P.O. Box 97	Project Name/Desc: Albemarle SWs Shared
City/ST/Zip: Garner, NC 27529	PO # / Billing Info
Tel: (919) 772-5393 Fax: (919) 772-1176	Reporting Contact: Jonathan Pfohl
Sampler(s) Name, Affiliation (Print): Jonathan Pfohl	Billing Contact: Accounts Payable
Sampler(s) Signature:	Facility # (if required)

Requested Analyses: 8260B Appendix 1; Ag,As,Ba,Be,Cd,Co,Cr,Cu,Ni,Pb,Sb,Se,Tl,V,Zn

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

✓ Standard

___ Expedited

Due ___/___/___

Lab Workorder: C008082

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	Ag,As,Ba,Be,Cd,Co,Cr,Cu,Ni,Pb,Sb,Se,Tl,V,Zn									Sample Comments
	SW-1	7/21/10	9:30	Grab	SW	4	X	X									
	SW-6	↓	1:20	↓	SW	4	X	X									
	SW-7	↓	9:55	↓	SW	4	X	X									

<-- Total # of Containers

Sample Kit Prepared By: SPF	Date/Time: 7/8/10	Relinquished By: MESCO	Date/Time: 7/23/10 11:07	Received By:	Date/Time: 7/23/10 1107
Comments: Surface water that are discharge feature for Both closed & Lined facility		Relinquished By	Date/Time	Received By	Date/Time
		Relinquished By	Date/Time	Received By	Date/Time
		Cooler #'s & Temps on Receipt: C-775 C-773 1.7°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

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

Wednesday, August 4, 2010

Municipal Engineering Services (MU001)

Attn: Jonathan Pfohl

P.O. Box 97

Garner, NC 27529

RE: Laboratory Results for
Project Number: G10008.0 (Blanks), Project Name/Desc: Albemarle LF
ENCO Workorder: C008079

Dear Jonathan Pfohl,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, July 23, 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 19.

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: EB **Lab ID: C008079-01** **Sampled: 07/21/10 07:50** **Received: 07/23/10 11:07**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)
EPA 6010C	01/17/11	07/25/10	15:46	8/2/2010 12:10
EPA 6020A	01/17/11	07/25/10	15:56	8/3/2010 12:27
EPA 7470A	08/18/10	07/27/10	10:03	7/27/2010 16:00
EPA 8260B	08/04/10	07/28/10	09:57	7/28/2010 15:54

Client ID: FB **Lab ID: C008079-02** **Sampled: 07/21/10 07:55** **Received: 07/23/10 11:07**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)
EPA 8260B	08/04/10	07/28/10	09:57	7/28/2010 16:24

Client ID: TB **Lab ID: C008079-03** **Sampled: 07/21/10 07:50** **Received: 07/23/10 11:07**

Parameter	Hold Date/Time(s)	Prep Date/Time(s)		Analysis Date/Time(s)
EPA 8260B	08/04/10	07/28/10	09:57	7/28/2010 16:54

SAMPLE DETECTION SUMMARY

No positive results detected.

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ANALYTICAL RESULTS

Description: EB
Matrix: Water
Project: Albemarle LF

Lab Sample ID: C008079-01
Sampled: 07/21/10 07:50
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008079

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	07/28/10 15:54	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/28/10 15:54	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/28/10 15:54	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/28/10 15:54	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/28/10 15:54	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/28/10 15:54	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/28/10 15:54	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/28/10 15:54	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/28/10 15:54	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/28/10 15:54	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/28/10 15:54	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/28/10 15:54	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/28/10 15:54	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/28/10 15:54	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/28/10 15:54	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/28/10 15:54	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/28/10 15:54	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/28/10 15:54	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/28/10 15:54	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/28/10 15:54	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/28/10 15:54	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/28/10 15:54	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/28/10 15:54	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/28/10 15:54	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 15:54	JKG	

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Received: 07/23/10 11:07
Work Order: C008079

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	07/28/10 15:54	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/28/10 15:54	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/28/10 15:54	JKG	
Xylenes (Total) [1330-20-7] ^	0.40	U	ug/L	1	0.40	1.0	5	EPA 8260B	07/28/10 15:54	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*97 %*	*51-122*	*0G28018*	*EPA 8260B*	*07/28/10 15:54*	*JKG*	
Dibromofluoromethane	*52*	*1*	*50.0*	*104 %*	*68-117*	*0G28018*	*EPA 8260B*	*07/28/10 15:54*	*JKG*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*69-110*	*0G28018*	*EPA 8260B*	*07/28/10 15:54*	*JKG*	

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Metals by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Mercury [7439-97-6] ^	0.170	U	ug/L	1	0.170	0.200	0.2	EPA 7470A	07/27/10 16:00	NLH	

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Metals (total recoverable) by EPA 6000/7000 Series Methods

^ - ENCO Cary certified analyte [NC 591]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	MRL	NC SWSL	Method	Analyzed	By	Notes
Antimony [7440-36-0] ^	0.220	U	ug/L	1	0.220	2.00	6	EPA 6020A	08/03/10 12:27	VLO	
Arsenic [7440-38-2] ^	2.80	U	ug/L	1	2.80	10.0	10	EPA 6010C	08/02/10 12:10	JDH	
Barium [7440-39-3] ^	1.00	U	ug/L	1	1.00	10.0	100	EPA 6010C	08/02/10 12:10	JDH	
Beryllium [7440-41-7] ^	0.100	U	ug/L	1	0.100	1.00	1	EPA 6010C	08/02/10 12:10	JDH	
Cadmium [7440-43-9] ^	0.360	U	ug/L	1	0.360	1.00	1	EPA 6010C	08/02/10 12:10	JDH	
Chromium [7440-47-3] ^	1.00	U	ug/L	1	1.00	10.0	10	EPA 6010C	08/02/10 12:10	JDH	
Cobalt [7440-48-4] ^	1.10	U	ug/L	1	1.10	10.0	10	EPA 6010C	08/02/10 12:10	JDH	
Copper [7440-50-8] ^	1.60	U	ug/L	1	1.60	10.0	10	EPA 6010C	08/02/10 12:10	JDH	
Lead [7439-92-1] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:10	JDH	
Nickel [7440-02-0] ^	1.80	U	ug/L	1	1.80	10.0	50	EPA 6010C	08/02/10 12:10	JDH	
Selenium [7782-49-2] ^	0.830	U	ug/L	1	0.830	1.00	10	EPA 6020A	08/03/10 12:27	VLO	
Silver [7440-22-4] ^	1.90	U	ug/L	1	1.90	10.0	10	EPA 6010C	08/02/10 12:10	JDH	
Thallium [7440-28-0] ^	0.110	U	ug/L	1	0.110	1.00	5.5	EPA 6020A	08/03/10 12:27	VLO	
Tin [7440-31-5] ^	2.10	U	ug/L	1	2.10	10.0	100	EPA 6010C	08/02/10 12:10	JDH	
Vanadium [7440-62-2] ^	1.40	U	ug/L	1	1.40	10.0	25	EPA 6010C	08/02/10 12:10	JDH	
Zinc [7440-66-6] ^	3.80	U	ug/L	1	3.80	10.0	10	EPA 6010C	08/02/10 12:10	JDH	

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

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Description: FB
Matrix: Water
Project: Albemarle LF

Lab Sample ID: C008079-02
Sampled: 07/21/10 07:55
Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008079

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	07/28/10 16:24	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/28/10 16:24	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/28/10 16:24	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/28/10 16:24	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/28/10 16:24	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/28/10 16:24	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/28/10 16:24	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/28/10 16:24	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/28/10 16:24	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/28/10 16:24	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/28/10 16:24	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/28/10 16:24	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/28/10 16:24	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/28/10 16:24	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/28/10 16:24	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/28/10 16:24	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/28/10 16:24	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/28/10 16:24	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/28/10 16:24	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/28/10 16:24	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/28/10 16:24	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/28/10 16:24	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/28/10 16:24	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/28/10 16:24	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 16:24	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/28/10 16:24	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/28/10 16:24	JKG	

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Description: FB
Matrix: Water
Project: Albemarle LF

Lab Sample ID: C008079-02
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Sampled By: Jonathan Pfohl

Received: 07/23/10 11:07
Work Order: C008079

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	07/28/10 16:24	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*97 %*	*51-122*	*0G28018*	*EPA 8260B*	*07/28/10 16:24*	*JKG*	
Dibromofluoromethane	*52*	*1*	*50.0*	*103 %*	*68-117*	*0G28018*	*EPA 8260B*	*07/28/10 16:24*	*JKG*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*69-110*	*0G28018*	*EPA 8260B*	*07/28/10 16:24*	*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: TB
Matrix: Water
Project: Albemarle LF

Lab Sample ID: C008079-03
Sampled: 07/21/10 07:50
Sampled By: ENCO

Received: 07/23/10 11:07
Work Order: C008079

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	07/28/10 16:54	JKG	
1,1,1-Trichloroethane [71-55-6] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
1,1,2,2-Tetrachloroethane [79-34-5] ^	0.33	U	ug/L	1	0.33	1.0	3	EPA 8260B	07/28/10 16:54	JKG	
1,1,2-Trichloroethane [79-00-5] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
1,1-Dichloroethane [75-34-3] ^	0.33	U	ug/L	1	0.33	1.0	5	EPA 8260B	07/28/10 16:54	JKG	
1,1-Dichloroethene [75-35-4] ^	0.24	U	ug/L	1	0.24	1.0	5	EPA 8260B	07/28/10 16:54	JKG	
1,2,3-Trichloropropane [96-18-4] ^	0.55	U	ug/L	1	0.55	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
1,2-Dibromo-3-chloropropane [96-12-8] ^	0.48	U	ug/L	1	0.48	1.0	13	EPA 8260B	07/28/10 16:54	JKG	
1,2-Dibromoethane [106-93-4] ^	0.42	U	ug/L	1	0.42	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
1,2-Dichlorobenzene [95-50-1] ^	0.27	U	ug/L	1	0.27	1.0	5	EPA 8260B	07/28/10 16:54	JKG	
1,2-Dichloroethane [107-06-2] ^	0.65	U	ug/L	1	0.65	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
1,2-Dichloropropane [78-87-5] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
1,4-Dichlorobenzene [106-46-7] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
2-Butanone [78-93-3] ^	1.0	U	ug/L	1	1.0	5.0	100	EPA 8260B	07/28/10 16:54	JKG	
2-Hexanone [591-78-6] ^	0.69	U	ug/L	1	0.69	5.0	50	EPA 8260B	07/28/10 16:54	JKG	
4-Methyl-2-pentanone [108-10-1] ^	1.1	U	ug/L	1	1.1	5.0	100	EPA 8260B	07/28/10 16:54	JKG	
Acetone [67-64-1] ^	1.5	U	ug/L	1	1.5	5.0	100	EPA 8260B	07/28/10 16:54	JKG	
Acrylonitrile [107-13-1] ^	2.1	U	ug/L	1	2.1	10	200	EPA 8260B	07/28/10 16:54	JKG	
Benzene [71-43-2] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
Bromochloromethane [74-97-5] ^	0.42	U	ug/L	1	0.42	1.0	3	EPA 8260B	07/28/10 16:54	JKG	
Bromodichloromethane [75-27-4] ^	0.37	U	ug/L	1	0.37	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
Bromoform [75-25-2] ^	0.71	U	ug/L	1	0.71	1.0	3	EPA 8260B	07/28/10 16:54	JKG	
Bromomethane [74-83-9] ^	0.49	U	ug/L	1	0.49	1.0	10	EPA 8260B	07/28/10 16:54	JKG	
Carbon disulfide [75-15-0] ^	0.54	U	ug/L	1	0.54	5.0	100	EPA 8260B	07/28/10 16:54	JKG	
Carbon tetrachloride [56-23-5] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
Chlorobenzene [108-90-7] ^	0.27	U	ug/L	1	0.27	1.0	3	EPA 8260B	07/28/10 16:54	JKG	
Chloroethane [75-00-3] ^	0.30	U	ug/L	1	0.30	1.0	10	EPA 8260B	07/28/10 16:54	JKG	
Chloroform [67-66-3] ^	0.20	U	ug/L	1	0.20	1.0	5	EPA 8260B	07/28/10 16:54	JKG	
Chloromethane [74-87-3] ^	0.34	U	ug/L	1	0.34	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
cis-1,2-Dichloroethene [156-59-2] ^	0.36	U	ug/L	1	0.36	1.0	5	EPA 8260B	07/28/10 16:54	JKG	
cis-1,3-Dichloropropene [10061-01-5] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
Dibromochloromethane [124-48-1] ^	0.32	U	ug/L	1	0.32	1.0	3	EPA 8260B	07/28/10 16:54	JKG	
Dibromomethane [74-95-3] ^	0.37	U	ug/L	1	0.37	1.0	10	EPA 8260B	07/28/10 16:54	JKG	
Ethylbenzene [100-41-4] ^	0.20	U	ug/L	1	0.20	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
Iodomethane [74-88-4] ^	0.52	U	ug/L	1	0.52	5.0	10	EPA 8260B	07/28/10 16:54	JKG	
Methylene chloride [75-09-2] ^	0.53	U	ug/L	1	0.53	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
Styrene [100-42-5] ^	0.26	U	ug/L	1	0.26	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
Tetrachloroethene [127-18-4] ^	0.36	U	ug/L	1	0.36	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
Toluene [108-88-3] ^	0.27	U	ug/L	1	0.27	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
trans-1,2-Dichloroethene [156-60-5] ^	0.34	U	ug/L	1	0.34	1.0	5	EPA 8260B	07/28/10 16:54	JKG	
trans-1,3-Dichloropropene [10061-02-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
trans-1,4-Dichloro-2-butene [110-57-6] ^	0.54	U	ug/L	1	0.54	1.0	100	EPA 8260B	07/28/10 16:54	JKG	
Trichloroethene [79-01-6] ^	0.38	U	ug/L	1	0.38	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
Trichlorofluoromethane [75-69-4] ^	0.28	U	ug/L	1	0.28	1.0	1	EPA 8260B	07/28/10 16:54	JKG	
Vinyl acetate [108-05-4] ^	0.98	U	ug/L	1	0.98	5.0	50	EPA 8260B	07/28/10 16:54	JKG	
Vinyl chloride [75-01-4] ^	0.30	U	ug/L	1	0.30	1.0	1	EPA 8260B	07/28/10 16:54	JKG	

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Description: TB
Matrix: Water
Project: Albemarle LF

Lab Sample ID: C008079-03
Sampled: 07/21/10 07:50
Sampled By: ENCO

Received: 07/23/10 11:07
Work Order: C008079

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	07/28/10 16:54	JKG	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*47*	*1*	*50.0*	*94 %*	*51-122*	*0G28018*	*EPA 8260B*	*07/28/10 16:54*	*JKG*	
Dibromofluoromethane	*52*	*1*	*50.0*	*104 %*	*68-117*	*0G28018*	*EPA 8260B*	*07/28/10 16:54*	*JKG*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*69-110*	*0G28018*	*EPA 8260B*	*07/28/10 16:54*	*JKG*	

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QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0G28018 - EPA 5030B_MS

Blank (0G28018-BLK1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 12:22

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	*49*			*ug/L*	*50.0*		*99*	*51-122*			

QUALITY CONTROL

Volatile Organic Compounds by GCMS - Quality Control

Batch 0G28018 - EPA 5030B_MS

Blank (0G28018-BLK1) Continued Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 12:22

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Surrogate: Dibromofluoromethane	*52*			*ug/L*	*50.0*		*105*	*68-117*			
Surrogate: Toluene-d8	*47*			*ug/L*	*50.0*		*94*	*69-110*			

LCS (0G28018-BS1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 12:56

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		97	75-133			
Benzene	18		1.0	ug/L	20.0		92	81-134			
Chlorobenzene	19		1.0	ug/L	20.0		93	83-117			
Toluene	19		1.0	ug/L	20.0		93	71-118			
Trichloroethene	19		1.0	ug/L	20.0		96	75-115			

Matrix Spike (0G28018-MS1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 13:26

Source: C009025-02

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	101	75-133			
Benzene	19		1.0	ug/L	20.0	0.20 U	96	81-134			
Chlorobenzene	20		1.0	ug/L	20.0	0.27 U	98	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	98	75-115			

Matrix Spike Dup (0G28018-MSD1) Prepared: 07/28/2010 09:57 Analyzed: 07/28/2010 13:55

Source: C009025-02

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	100	75-133	1	20	
Benzene	19		1.0	ug/L	20.0	0.20 U	94	81-134	2	17	
Chlorobenzene	19		1.0	ug/L	20.0	0.27 U	95	83-117	4	16	
Toluene	19		1.0	ug/L	20.0	0.27 U	95	71-118	3	17	
Trichloroethene	19		1.0	ug/L	20.0	0.38 U	97	75-115	1	18	

Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 0G27007 - EPA 245.1

Blank (0G27007-BLK1) Prepared: 07/27/2010 10:03 Analyzed: 07/27/2010 15:23

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	0.170	U	0.200	ug/L							

LCS (0G27007-BS1) Prepared: 07/27/2010 10:03 Analyzed: 07/27/2010 15:26

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	5.64		0.200	ug/L	5.00		113	85-115			

Matrix Spike (0G27007-MS1) Prepared: 07/27/2010 10:03 Analyzed: 07/27/2010 15:32

QUALITY CONTROL

Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 0G27007 - EPA 245.1

Matrix Spike (0G27007-MS1) Continued Prepared: 07/27/2010 10:03 Analyzed: 07/27/2010 15:32

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	5.58		0.200	ug/L	5.00	0.170 U	112	85-115			

Matrix Spike Dup (0G27007-MSD1) Prepared: 07/27/2010 10:03 Analyzed: 07/27/2010 15:35

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	5.75		0.200	ug/L	5.00	0.170 U	115	85-115	3	15	

Post Spike (0G27007-PS1) Prepared: 07/27/2010 10:03 Analyzed: 07/27/2010 15:43

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Mercury	4.66		0.200	ug/L	5.00	-0.0199	94	75-125			

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G25001 - EPA 3005A

Blank (0G25001-BLK1) Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:24

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	2.80	U	10.0	ug/L							
Barium	1.00	U	10.0	ug/L							
Beryllium	0.100	U	1.00	ug/L							
Cadmium	0.360	U	1.00	ug/L							
Chromium	1.00	U	10.0	ug/L							
Cobalt	1.10	U	10.0	ug/L							
Copper	**3.50**	**J**	10.0	ug/L							
Lead	1.90	U	10.0	ug/L							
Nickel	1.80	U	10.0	ug/L							
Silver	1.90	U	10.0	ug/L							
Tin	2.10	U	10.0	ug/L							
Vanadium	1.40	U	10.0	ug/L							
Zinc	3.80	U	10.0	ug/L							

LCS (0G25001-BS1) Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:32

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	543		10.0	ug/L	500		109	80-120			
Barium	526		10.0	ug/L	500		105	80-120			
Beryllium	275		1.00	ug/L	250		110	80-120			
Cadmium	266		1.00	ug/L	250		107	80-120			
Chromium	523		10.0	ug/L	500		105	80-120			
Cobalt	540		10.0	ug/L	500		108	80-120			
Copper	266	B	10.0	ug/L	250		106	80-120			
Lead	542		10.0	ug/L	500		108	80-120			
Nickel	528		10.0	ug/L	500		106	80-120			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G25001 - EPA 3005A

LCS (0G25001-BS1) Continued Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:32

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Silver	264		10.0	ug/L	250		106	80-120			
Tin	534		10.0	ug/L	500		107	80-120			
Vanadium	255		10.0	ug/L	250		102	80-120			
Zinc	536		10.0	ug/L	500		107	80-120			

Matrix Spike (0G25001-MS1) Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:39

Source: C007665-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	594		10.0	ug/L	500	14.0	116	75-125			
Barium	1100		10.0	ug/L	500	470	126	75-125			QM-07
Beryllium	278		1.00	ug/L	250	0.100 U	111	75-125			
Cadmium	264		1.00	ug/L	250	0.360 U	106	75-125			
Chromium	547		10.0	ug/L	500	14.5	106	75-125			
Cobalt	550		10.0	ug/L	500	12.2	108	75-125			
Copper	286	B	10.0	ug/L	250	1.60 U	114	75-125			
Lead	550		10.0	ug/L	500	6.40	109	75-125			
Nickel	562		10.0	ug/L	500	30.8	106	75-125			
Silver	276		10.0	ug/L	250	1.90 U	110	75-125			
Tin	542		10.0	ug/L	500	7.38	107	75-125			
Vanadium	285		10.0	ug/L	250	14.1	108	75-125			
Zinc	1130		10.0	ug/L	500	494	127	75-125			QM-07

Matrix Spike Dup (0G25001-MSD1) Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:42

Source: C007665-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	598		10.0	ug/L	500	14.0	117	75-125	0.7	20	
Barium	1100		10.0	ug/L	500	470	126	75-125	0.2	20	QM-07
Beryllium	277		1.00	ug/L	250	0.100 U	111	75-125	0.5	20	
Cadmium	263		1.00	ug/L	250	0.360 U	105	75-125	0.5	20	
Chromium	546		10.0	ug/L	500	14.5	106	75-125	0.1	20	
Cobalt	558		10.0	ug/L	500	12.2	109	75-125	1	20	
Copper	286	B	10.0	ug/L	250	1.60 U	114	75-125	0.09	20	
Lead	557		10.0	ug/L	500	6.40	110	75-125	1	20	
Nickel	560		10.0	ug/L	500	30.8	106	75-125	0.3	20	
Silver	278		10.0	ug/L	250	1.90 U	111	75-125	0.7	20	
Tin	554		10.0	ug/L	500	7.38	109	75-125	2	20	
Vanadium	285		10.0	ug/L	250	14.1	108	75-125	0.3	20	
Zinc	1130		10.0	ug/L	500	494	128	75-125	0.3	20	QM-07

Post Spike (0G25001-PS1) Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:44

Source: C007665-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Arsenic	1.13		0.0100	mg/L	1.00	0.0140	112	80-120			
Barium	1.64		0.0100	mg/L	1.00	0.470	117	80-120			

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G25001 - EPA 3005A

Post Spike (0G25001-PS1) Continued Prepared: 07/25/2010 15:46 Analyzed: 08/02/2010 11:44

Source: C007665-01

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Beryllium	0.558		0.00100	mg/L	0.500	-0.000143	112	80-120			
Cadmium	0.536		0.00100	mg/L	0.500	-3.83E-5	107	80-120			
Chromium	1.10		0.0100	mg/L	1.00	0.0145	108	80-120			
Cobalt	1.07		0.0100	mg/L	1.00	0.0122	106	80-120			
Copper	0.591	B	0.0100	mg/L	0.500	-0.000791	118	80-120			
Lead	1.06		0.0100	mg/L	1.00	0.00640	105	80-120			
Nickel	1.09		0.0100	mg/L	1.00	0.0308	106	80-120			
Silver	0.549		0.0100	mg/L	0.500	0.000971	110	80-120			
Tin	1.01		0.0100	mg/L	1.00	0.00738	101	80-120			
Vanadium	0.566		0.0100	mg/L	0.500	0.0141	110	80-120			
Zinc	1.67		0.0100	mg/L	1.00	0.494	118	80-120			

Batch 0G25002 - EPA 3005A

Blank (0G25002-BLK1) Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:40

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	0.220	U	2.00	ug/L							
Selenium	0.830	U	1.00	ug/L							
Thallium	0.110	U	1.00	ug/L							

LCS (0G25002-BS1) Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:43

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	25.7		2.00	ug/L	25.0		103	80-120			
Selenium	25.2		1.00	ug/L	25.0		101	80-120			
Thallium	26.2		1.00	ug/L	25.0		105	80-120			

Matrix Spike (0G25002-MS1) Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:51

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	21.3		2.00	ug/L	25.0	0.220 U	85	75-125			
Selenium	24.4		1.00	ug/L	25.0	1.04	93	75-125			
Thallium	24.1		1.00	ug/L	25.0	0.110 U	96	75-125			

Matrix Spike Dup (0G25002-MSD1) Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:54

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	20.8		2.00	ug/L	25.0	0.220 U	83	75-125	2	20	
Selenium	25.3		1.00	ug/L	25.0	1.04	97	75-125	4	20	
Thallium	24.3		1.00	ug/L	25.0	0.110 U	97	75-125	1	20	

Post Spike (0G25002-PS1) Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:58

Source: C008677-03

QUALITY CONTROL

Metals (total recoverable) by EPA 6000/7000 Series Methods - Quality Control

Batch 0G25002 - EPA 3005A

Post Spike (0G25002-PS1) Continued Prepared: 07/25/2010 15:56 Analyzed: 08/03/2010 11:58

Source: C008677-03

Analyte	Result	Flag	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Antimony	27.7		2.00	ug/L	25.0	0.0500	111	80-120			
Selenium	27.9		1.00	ug/L	25.0	1.04	107	80-120			
Thallium	27.1		1.00	ug/L	25.0	0.0640	108	80-120			

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.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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: Municipal Engineering Services (MU001)	Project Number: G10008.0 (Blanks)
Address: P.O. Box 97	Project Name/Desc: Albemarle LF
City/ST/Zip: Garner, NC 27529	PO # / Billing Info
Tel: (919) 772-5393 Fax: (919) 772-1176	Reporting Contact: Jonathan Pfohl
Sampler(s) Name, Affiliation (Print): Jonathan Pfohl	Billing Contact: Accounts Payable
Sampler(s) Signature:	Facility # (if required)

Requested Analyses: 8260B Appendix 1; Metals App II

Requested Turnaround Times

Note : Rush requests subject to acceptance by the facility

✓ Standard

___ Expedited

Due ___/___/___

Lab Workorder: C008079

Item #	Sample ID (Field Identification)	Collection Date	Collection Time	Comp / Grab	Matrix (see codes)	Total # of Containers	8260B Appendix 1	Metals App II									Sample Comments
	EB	7/23/10	1150	Grab	WA	3	X	X									
	FB	7/23/10	0755	↓	WA	3	X										
	TB	ENCO Filled		↓	WA	2	X										

Preservation (See Codes) (Combine as necessary)

<-- Total # of Containers

Sample Kit Prepared By	Date/Time	Relinquished By: ME CO	Date/Time: 7/23/10 1107	Received By:	Date/Time: 7/23/10 1107
Comments: ENCO DI H_2O & Disposable Bailer "Sink Fast" for EB		Relinquished By	Date/Time	Received By	Date/Time
		Relinquished By	Date/Time	Received By	Date/Time
		Cooler #'s & Temps on Receipt: C-773 1.7°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

www.encolabs.com

Sampling Data Sheet

Municipal Services Engineering Company — Garner, NC — Boone, NC

Project: Albemarle Closed MSWLF & Active C&D LF-DM

Samplers: J. Pfohl Page 1 of 1

Monitoring Point	Sample Date	Sample Time	Sampling Parameters: Depth to Water (BTOP) 7/21/10	Depth to Water (BTOP) Static Sample Time	Lab Parameters to be analyzed for	Volume Purged (Gal)	Sample Type	Goes Dry During Purge	Total Depth Measured as expected	Total Depth Expected	Water Quality Parameters: CO2 (mg/l)	DO (mg/L)	ORP	pH	Temp. ©	Specific Cond. (us/cm	TDS (mg/L)	Turbidity	CH4 Gas Vapors (ppm)
MW-4R	7/21/10	4:50		22.20	DM	4	DB	N	Y	25	NR	0.9	32	6.03	18.9	326	163	16.3c	NR
MW-5R	7/22/10	11:20		9.14	DM	4	DB	N	Y	25		0.4	40	6.80	19.6	693	340	10.8c	
MW-8D	7/22/10	12:00		51.04	DM	10	P&DB	Y	Y	75.9		0.9	46	6.65	20.3	896	447	7.19c	
MW-11	7/22/10	2:00	7.70	7.71	DM	7	DB	N	Y	18		1.3	12	6.90	19.1	128	65	6.99c	
MW-12	7/22/10	3:50		13.02	DM	2	DB	Y	Y	22		0.8	-27	6.51	18.5	596	299	40.65c	
SW-5	NS	No Sample	DRY	-	DM	-		-	-	-									-
MW-4	–	–	NR	ABLOY, No locked key	WLR	-	-	-			-	-	-	-	-	-	-	-	
MW-8	–	–	DRY	DRY	WLR	-	-	-			-	-	-	-	-	-	-	-	

Comments

SS B=Stainless Steel Baler, D B=Disposable Baler, P=Low flow Pump, PD=Purged Dry

VT=Very Turbid, MT=Moderately Turbid, ST=Slightly Turbid, C=Clear

NR=No Reading Attempted, NS=No Sample Obtained

Sampling Data Sheet

Municipal Services Engineering Company
Garner, NC Boone, NC

Project: Albemarle Closed MSWLF & Active C&D LF-MNA

Samplers: J. Pfohl Page 1 of 1

Monitoring Point	Sample Date	Sample Time	Sampling Parameters: Depth to Water (BTOP) 7/ /10	Depth to Water (BTOP) Static Sample Time	Lab Parameters to be analyzed for	Volume Purged (Gal)	Sample Type	Goes Dry During Purge	Total Depth Measured as expected	Total Depth Expected	Water Quality Parameters: CO2 (mg/l)	DO (mg/L)	ORP	pH	Temp. ©	Specific Cond. (us/cm	TDS (mg/L)	Turbidity	CH4 Gas Vapors (ppm)
MW-1	7/21/10	9:10		15.30	MNA C	4	P&DB	Y	Y New Lock & Painted	18	30	0.8	163	5.63	18.2	77	35	103 ST	NR
MW-2	7/22/10 ~~7/21/10~~	10:35 ~~10:35~~		12.43	MNA C	3	PdDB	Y	Y New Lock & Painted	17.5	>100	0.4	137	5.96	17.8	443	218	12.7 c	
MW-3	7/21/10	3:30		12.57	MNA C	8	P&DB	N	Y Painted New Locks	22.5	>100	0.4	48	6.51	18.0	710	350	18.2 c	
MW-6	7/22/10	8:00		23.78	MNA 1	5	P&DB	N	Y	37	80	0.7	201	5.60	17.5	201	106	19.1 c	
MW-7	7/21/10	12:00		14.33	MNA 2	6	P&DB	N	Y New Paint	28.5	>100	0.8	38	6.96	19.1	883	432	7.90 c	
MW-9	7/22/10	9:10		8.50	MNA 3	4	P&DB	N	Y New Lock & Painted	17.68	>100	1.1	60	6.45	18.0	303	148	73.2 ST	
MW-10	7/21/10	2:00		6.01	MNA 4	7	P&DB	N	Y	18	30	0.9	81	6.93	20.2	342	149	68.1 ST	
MW-24	7/21/10	10:35		14.00	MNA C	4	P&DB	N	Y	21.25	60	0.6	119	6.88	18.2	1,070	583	13.2 c	
MW-25	7/21/10	5:00		10.83	MNA C	7	P&DB	N	Y	18.2	60	0.5	168	5.91	18.0	380	158	9.98 c	

Comments

SS B=Stainless Steel Baler, D B=Disposable Baler, P=Low flow Pump, PD=Purged Dry

VT=Very Turbid, MT=Moderately Turbid, ST=Slightly Turbid, C=Clear

NR=No Reading Attempted, NS=No Sample Obtained

CO_2 method w/ Hach kit maximum 100mg/l

intermittent drainage ditch west of MW-24 & MW-25 near P. Line Dry.

Sampling Data Sheet

Municipal Services Garner, NC — Engineering Company Boone, NC

Project: Albemarle MSWLF- Surface Waters Between Closed & Lined

Samplers: J. Pfohl Page 1 of 1

Monitoring Point	Sample Date	Sample Time	Sampling Parameters								Water Quality Parameters								
			Depth to Water (BTOP) ~~1/ /10~~	Depth to Water (BTOP) Static Sample Time	Lab Parameters to be analyzed for	Volume Purged (Gal)	Sample Type	Goes Dry During Purge	Total Depth Measured as expected	Total Depth Expected	CO2 (mg/l)	DO (mg/L)	ORP	pH	Temp. ©	Specific Cond. (us/cm	TDS (mg/L)	Turbidity	CH4 Gas Vapors (ppm)
SW-1	7/22/10	9:30	-	-	DM	-	Dip	-	-	-	NR	6.9	38	7.03	28.1	181	90	c	-
SW-6	7/22/10	10:20	-	-	DM	-	↓	-	-	-	↓	7.4	44	7.09	27.3	227	112	c	-
SW-7	7/22/10	9:55	-	-	DM	-	↓	-	-	-	↓	6.8	36	7.03	28.0	201	100	c	-

Comments

Jacobs Branch extremely low w/ large stretches Dry & for staguet Pools.

SS B=Stainless Steel Baler, D B=Disposable Baler, P=Low flow Pump, PD=Purged Dry

VT=Very Turbid, MT=Moderately Turbid, ST=Slightly Turbid, C=Clear

NR=No Reading Attempted, NS=No Sample Obtained