North Wake C&D Landfill
Facility Permit No. 92-09
Semi-Annual Sampling Report
(April 2014 Sampling Event)

Wake County

Report

June 2014

WAKE COUNTY
NORTH CAROLINA

CDM Smith

DENR USE ONLY: ☐ Paper Report ☐ Electronic Data - Email CD (data loaded: Yes / No) Doc/Event #:

NC DENR
Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

Notice: This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

Instructions:

- **Prepare one form for each individually monitored unit.**
- **Please type or print legibly.**
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i).
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

Consultant - CDM Smith Inc.

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Mathew F. Colone Phone: 919-787-5620

E-mail: colonemf@cdmsmith.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Wake County - North Wake C&D Landfill	9004 Deponie Drive Raleigh, NC 27615	92-09	.0500	April 2-3, 2014

Environmental Status: (Check all that apply)

☐ Initial/Background Monitoring ☒ Detection Monitoring ☐ Assessment Monitoring ☐ Corrective Action

Type of data submitted: (Check all that apply)

☒ Groundwater monitoring data from monitoring wells
☐ Groundwater monitoring data from private water supply wells
☐ Leachate monitoring data
☐ Surface water monitoring data
☐ Methane gas monitoring data
☐ Corrective action data (specify) _____
☐ Other(specify) _____

Notification attached?

☒ No. No groundwater or surface water standards were exceeded.
☐ Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
☐ Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

Mathew F. Colone — Facility Representative Name (Print)
Consultant — Title
(919) 787-5620 — (Area Code) Telephone Number

Signature
6/25/2014 — Date
Affix NC Licensed Professional Geologist Seal

NORTH CAROLINA LICENSED SEAL 1851 GEOLOGIST MATHEW F. COLONE

6/25/14

5400 Glenwood Ave, Suite 300, Raleigh, NC 27612
Facility Representative Address

F-0412
NC PE Firm License Number (if applicable effective May 1, 2009)

Revised 6/2009

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

June 25, 2014

Ms. Jaclynne Drummond
North Carolina Department of Environment and
Natural Resources
Division of Waste Management
Solid Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Subject: April 2014 Semi-Annual Groundwater Monitoring Report
North Wake C&D Landfill
Facility Permit No. 92-09

Dear Ms. Drummond:

CDM Smith Inc. (CDM Smith), on behalf of Wake County, is submitting an electronic copy of the April 2014 semi-annual sampling event report. This letter report presents the results of the most recent semi-annual sampling event at the North Wake C&D Landfill and constitutes the first sampling event for 2014. The approved groundwater monitoring network consists of the background well (i.e. MW-1) and three downgradient compliance wells (i.e. CD-1, -2, and -3). Field activities and sampling results from the April 2014 event are discussed below.

Field Activities

Groundwater samples from the North Wake C&D Landfill were collected on April 2-3, 2014, by use of disposable, laboratory decontaminated bailers. Monitoring well locations for the North Wake C&D Landfill are shown on **Figure 1**. Groundwater elevations were measured at each well prior to sampling and are presented in **Table 1**. These groundwater elevations were used to construct a potentiometric surface map for this sampling event. The potentiometric contours are shown on **Figure 1**.

After depth to groundwater was measured, three well volumes of water were removed from each well prior to sampling to provide fresh formation water within the well water column. Each well volume was measured in the field for pH, conductivity, temperature, turbidity, dissolved oxygen, and oxidation-reduction potential using a YSI-556 multi-parameter water quality meter and a HANNA HI 98703 turbidity meter. Monitoring wells with elevated turbidity were allowed to stabilize prior to sample collection. The water quality parameters at the time of sampling and groundwater elevations are presented in **Table 1**.

Sampling Results

ALS Environmental, Inc. located in Jacksonville, Florida analyzed the groundwater samples for North Carolina Appendix I volatile organic compounds (VOCs) and Resource and Conservation Recovery Act metals (i.e. arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver). In accordance with Solid Waste Section (SWS) guidelines the analytical results were reported to the laboratory specific method detection limit (MDL) and are quantifiable at or below SWS Limits (SWSLs). All monitoring wells for the C&D Landfill had detections of analytes above the MDL but below SWSLs with the exception of barium in CD-1 and chromium in MW-1. Detections above the MDL but below the SWSL were qualified with estimated or "J" flags.

No Appendix I VOCs or metals were detected above the North Carolina 2L Standards (NC 2L) with the exception of chromium. Chromium was detected above the NC 2L Standard in samples collected from MW-1 and the equipment blank. The chromium detection is likely from elevated turbidity (123 Nephelometric Turbidity Units) at the time of sample collection instead of a release from the landfill. This is supported by the absence of an increasing trend in historical concentrations of chromium detected in MW-1. CDM Smith will monitor future analytical results to determine if a trend appears.

A complete summary of all detected constituents, including detections above the MDL, is presented in **Table 2**. A copy of the analytical results from the April 2014 semi-annual sampling event is provided in **Appendix A**.

Quality Assurance/Quality Control Sample Results

The equipment blank had "J" flag detections of barium and 2-butanone (MEK) below NC 2L Standards. There was also a "J" flag detection of o-xylene below the NC 2L Standard. No VOCs were detected in the trip blank.

The next semi-annual sampling event will be completed in the fall of 2014. If you have any questions or require further explanation, do not hesitate to call me at (919) 787-5620.

Very truly yours,

Mathew F. Colone, P.G.
CDM Smith Inc.

cc: John Roberson, WCSWM
Elliott Cornell, WCSWM

Table 1
Water Quality Parameters
April 2014 Semi-Annual Sampling Event
North Wake C&D Landfill

Monitoring Well Code	Water Quality Parameters						Groundwater Elevations		
	pH	Conductivity	Temperature	Turbidity	DO	ORP	TOC Elevation	Depth to Groundwater	Groundwater Elevation
	(S.U.)	(uS/cm)	(degrees Celsius)	(NTUs)	(mg/L)	(mV)	(feet AMSL)	(feet)	(feet AMSL)
MW-1	4.41	85	16.2	52	5.54	73.4	333.80	46.55	287.25
CD-1	5.36	104	15.9	123	5.22	132.9	296.26	14.08	282.18
CD-2	5.05	108	14.4	69	3.29	126.1	282.64	10.79	271.85
CD-3	5.02	77	17.8	31	2.38	77.1	301.49	21.29	280.20

Notes:

1. AMSL - Above Mean Sea Level
2. TOC - Top of Casing
3. uS/cm - Microsiemens per centimeter
4. mg/L - Milligrams per liter
5. ORP - Oxidation-Reduction Potential
6. NTUs - Nephelometric Turbidity Units
7. mV - Millivolts
8. S.U. - Standard Units
9. DO - Dissolved Oxygen
10. Monitoring wells with high turbidity were allowed to settle prior to sampling; turbidity shown in table was recorded at the time of sampling.

Table 2
Detected Groundwater Constituents - Metals and Volatile Organic Compounds
April 2014 Semi-Annual Sampling Event
North Wake C&D Landfill

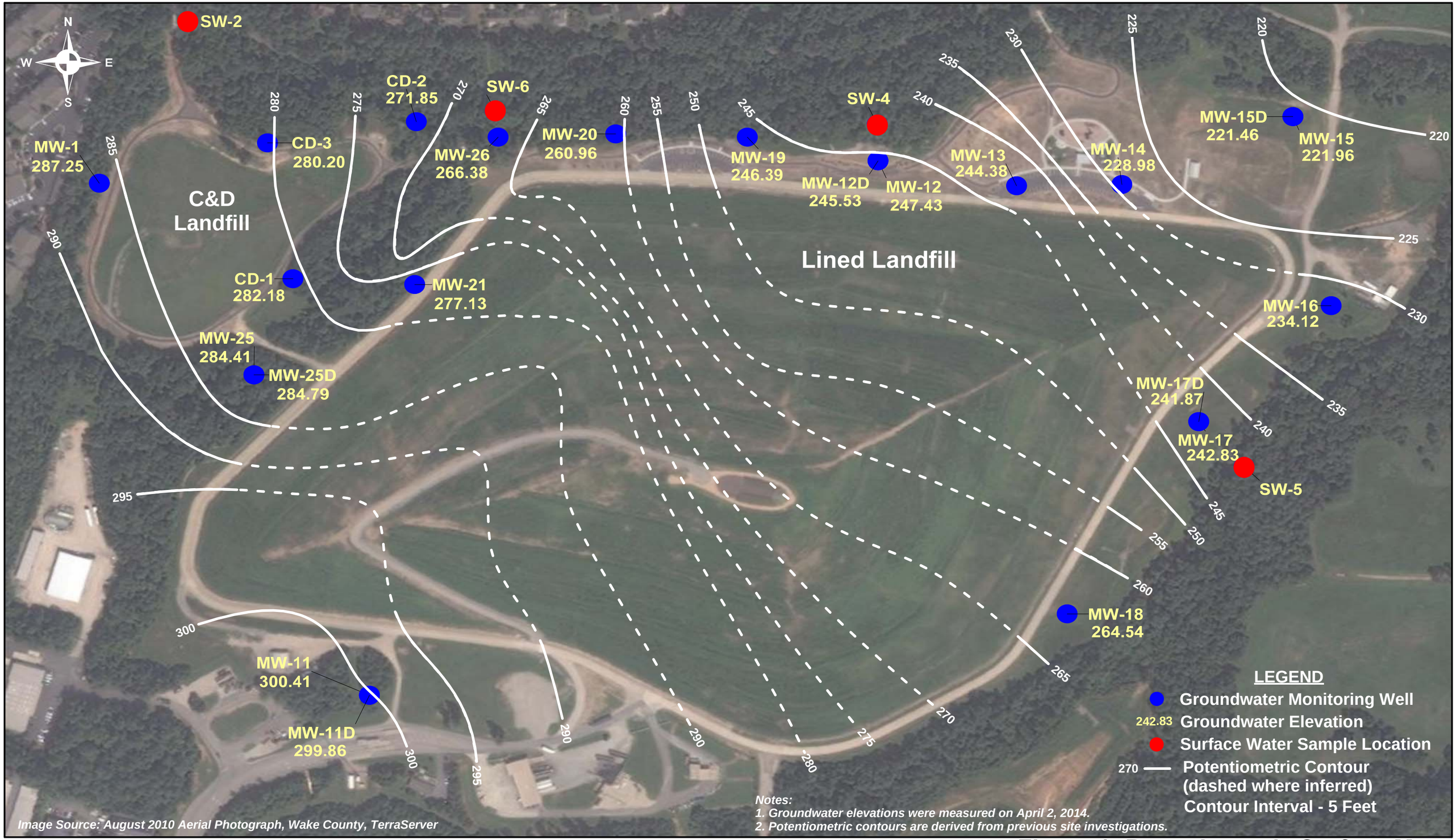
		Metals								Volatile Organic Compounds		
Monitoring Well Code	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Acetone	Chloroform	Toluene
North Carolina 2L Standard		**0.01**	**0.7**	**0.002**	**0.01**	**0.015**	**0.001**	**0.02**	**0.02**	**6,000**	**70**	**600**
Solid Waste Section Limit		**0.01**	**0.1**	**0.001**	**0.01**	**0.01**	**0.0002**	**0.01**	**0.01**	**100**	**5**	**1**
MW-1	5-Jun-01											
MW-1	29-Nov-01											
MW-1	5-Apr-02											
MW-1	7-Nov-02											
MW-1	16-Apr-03											
MW-1	30-Oct-03											
MW-1	7-Apr-04											
MW-1	19-Nov-04											
MW-1	22-Apr-05					**0.016**						
MW-1	10-Nov-05					**0.015**						
MW-1	13-Apr-06											
MW-1	8-Nov-06											
MW-1	18-Apr-07											
MW-1	7-Nov-07		0.151		**0.011**	**0.028**						
MW-1	13-May-08	0.00187JB	0.0452JB		0.00263J							
MW-1	3-Nov-08		0.0329J						0.00123JB			
MW-1	18-Mar-09		0.0308J						0.00127JB			
MW-1	19-Oct-09		0.0418J		0.00265J				0.00091JB			
MW-1	7-May-10		0.0439J		0.00132J	0.00236J						
MW-1	28-Oct-10		0.0378J									
MW-1	14-Mar-11		0.0421J									
MW-1	20-Oct-11		0.0444J					0.00619J				
MW-1	11-Apr-12		0.0384J									
MW-1	26-Oct-12		0.0431J			0.00387J						
MW-1	11-Apr-13		0.040J									
MW-1	2-Oct-13		0.050J		0.001J							
MW-1	3-Apr-14		0.040J		**0.016**					8.1J		
CD-1	5-Jun-01		0.102									
CD-1	29-Nov-01		0.371									
CD-1	5-Apr-02											
CD-1	7-Nov-02											
CD-1	16-Apr-03											
CD-1	30-Oct-03											
CD-1	7-Apr-04											
CD-1	19-Nov-04			0.001								
CD-1	22-Apr-05		**0.735**		**0.011**	**0.015**						
CD-1	10-Nov-05											
CD-1	13-Apr-06											
CD-1	8-Nov-06					0.011						
CD-1	18-Apr-07		0.501		0.015	0.011						
CD-1	7-Nov-07		0.501		0.013	0.011						
CD-1	13-May-08	0.00417JB	0.257B		0.0138	**0.015**						
CD-1	3-Nov-08		0.131		0.00739J	0.00691J						
CD-1	18-Mar-08		0.135		0.00632J				0.00148JB			
CD-1	19-Oct-09		0.258		**0.0148**	0.00871J			0.00612J		0.11J	
CD-1	7-May-10		0.195		0.0095J	0.00272J						
CD-1	28-Oct-10		0.136		0.00717J							
CD-1	14-Mar-11	0.00312J	0.174		0.00978J	0.00434J						
CD-1	20-Oct-11		0.0629J		0.00306J							
CD-1	11-Apr-12		0.0731J		0.00372J							
CD-1	26-Oct-12		0.227		0.00793J	0.00669J						
CD-1	11-Apr-13		0.130		0.007J							
CD-1	2-Oct-13		0.220		**0.013**							
CD-1	3-Apr-14		0.130		0.009J							

Table 2
Detected Groundwater Constituents - Metals and Volatile Organic Compounds
April 2014 Semi-Annual Sampling Event
North Wake C&D Landfill

		Metals								Volatile Organic Compounds		
Monitoring Well Code	Sample Date	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	Acetone	Chloroform	Toluene
North Carolina 2L Standard		**0.01**	**0.7**	**0.002**	**0.01**	**0.015**	**0.001**	**0.02**	**0.02**	**6,000**	**70**	**600**
Solid Waste Section Limit		**0.01**	**0.1**	**0.001**	**0.01**	**0.01**	**0.0002**	**0.01**	**0.01**	**100**	**5**	**1**
CD-2	5-Jun-01											
CD-2	29-Nov-01		0.357									
CD-2	5-Apr-02											
CD-2	7-Nov-02											
CD-2	16-Apr-03											
CD-2	30-Oct-03											
CD-2	7-Apr-04											
CD-2	19-Nov-04				**0.015**	0.011						
CD-2	22-Apr-05					**0.018**						
CD-2	10-Nov-05											
CD-2	13-Apr-06											
CD-2	8-Nov-06					**0.016**						
CD-2	18-Apr-07		0.192									
CD-2	7-Nov-07		0.224			0.012						
CD-2	13-May-08		0.0451JB		0.0049J	0.00552J			0.00112J			
CD-2	3-Nov-08		0.0357J		0.00401J				0.00126JB			
CD-2	18-Mar-09		0.0418J		0.00116J				0.00124JB		0.00572	
CD-2	19-Oct-09		0.0637J		0.00716J				0.00333J		0.38J	
CD-2	7-May-10		0.137		0.00743J	0.00197J						
CD-2	28-Oct-10		0.0824J		0.00381J						0.98J	0.5J
CD-2	14-Mar-11		0.0569J		0.00174J			0.00274J			0.97J	
CD-2	20-Oct-11		0.0532J		0.00378J					5.9J	1.8J	
CD-2	11-Apr-12		0.340		**0.0156**	0.0142			0.00247J		0.80J	
CD-2	26-Oct-12		0.102		0.00481J	0.00389J						
CD-2	11-Apr-13		0.120		0.004J							
CD-2	2-Oct-13		0.080J		0.005J							
CD-2	3-Apr-14		0.060J		0.006J						0.61J	
CD-3	5-Jun-01											
CD-3	29-Nov-01											
CD-3	5-Apr-02											
CD-3	7-Nov-02											
CD-3	16-Apr-03											
CD-3	30-Oct-03											
CD-3	7-Apr-04											
CD-3	19-Nov-04											
CD-3	22-Apr-05											
CD-3	10-Nov-05											
CD-3	13-Apr-06											
CD-3	8-Nov-06											
CD-3	18-Apr-07		0.109									
CD-3	7-Nov-07		0.269			**0.015**						
CD-3	13-May-08		0.0312JB		0.00197J							
CD-3	3-Nov-08		0.0265J		0.00124J	0.0041J			0.00119JB			
CD-3	18-Mar-09		0.0423J						0.00109JB			
CD-3	19-Oct-09		0.0461J					0.00351J			0.15J	
CD-3	7-May-10		0.122		0.00161J	0.00517J				11J		0.63J
CD-3	28-Oct-10		0.872J									
CD-3	14-Mar-11		0.0507J									
CD-3	20-Oct-11		0.0453J									
CD-3	11-Apr-12		0.0675J			0.00226J						
CD-3	26-Oct-12		0.0731J			0.00361J						
CD-3	11-Apr-13		0.050J									
CD-3	1-Oct-13		0.030J				0.00003J					
CD-3	3-Apr-14		0.040J		0.001J							

Notes:
1. Metal detections are in milligrams per liter (parts per million).
2. Volatile organic compound detections are in micrograms per liter (parts per billion).
3. J - Indicates the analytical result is an estimated concentration between the method detection limit and the Solid Waste Section Reporting Limit.
4. B - Indicates the analyte was detected in the associated method blank.

- Concentration exceeds the North Carolina 2L Groundwater Standard
- Indicates the result is below the detection limit



Scale in Feet

0 175 350 525 700

CDM Smith

Figure 1: Potentiometric Surface Map

April 2014 Semi-Annual Sampling Event
North Wake Lined and C&D Landfills
Raleigh, North Carolina

Appendix A

April 21, 2014 Service Request No:J1402444

Aaron Weispfenning
CDM Smith, Inc.
5400 Glenwood Ave
Suite 300
Raleigh, NC 27612

Laboratory Results for: North Wake C&D Landfill

Dear Aaron,

Enclosed are the results of the sample(s) submitted to our laboratory April 04, 2014
For your reference, these analyses have been assigned our service request number **J1402444.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 4409. You may also contact me via email at Craig.Myers@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Craig Myers
Project Manager

ADDRESS 9143 Philips Highway, Suite 200, Jacksonville, FL 32256
PHONE +1 904 739 2277 | FAX +1 904 739 2011
ALS Group USA, Corp.
dba ALS Environmental

SAMPLE DETECTION SUMMARY

CLIENT ID: MW1	Lab ID: J1402444-001					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Barium, Total Recoverable	40	J	0.3	100	ug/L	6010C
Chromium, Total Recoverable	16		0.5	10	ug/L	6010C
Acetone	8.1	J	5.6	100	ug/L	8260B

CLIENT ID: CD1	Lab ID: J1402444-002					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Barium, Total Recoverable	130		0.3	100	ug/L	6010C
Chromium, Total Recoverable	9	J	0.5	10	ug/L	6010C

CLIENT ID: CD2	Lab ID: J1402444-003					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Barium, Total Recoverable	60	J	0.3	100	ug/L	6010C
Chromium, Total Recoverable	6	J	0.5	10	ug/L	6010C
Chloroform	0.61	J	0.35	5.0	ug/L	8260B

CLIENT ID: CD3	Lab ID: J1402444-004					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Barium, Total Recoverable	40	J	0.3	100	ug/L	6010C
Chromium, Total Recoverable	1	J	0.5	10	ug/L	6010C

CLIENT ID: EQ Blank	Lab ID: J1402444-005					
Analyte	**Results**	**Flag**	**MDL**	**PQL**	**Units**	**Method**
Barium, Total Recoverable	1	J	0.3	100	ug/L	6010C
Chromium, Total Recoverable	881		0.5	10	ug/L	6010C
2-Butanone (MEK)	15	J	3.8	100	ug/L	8260B
o-Xylene	0.31	J	0.14	1.0	ug/L	8260B

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Florida Department of Health	E82502	6/30/2014
North Carolina Department of Environment and Natural Resources	527	12/31/2014
Virginia Environmental Accreditation Program	460191	12/14/2014
Louisiana Department of Environmental Quality	02086	6/30/2014
Georgia Department of Natural Resources	958	6/30/2014
Kentucky Division of Waste Management	63	6/30/2014
South Carolina Department of Health and Environmental Control	96021001	6/30/2014
Texas Commision on Environmental Quality	T104704197-13-5	5/31/2014
Maine Department of Health and Human Services	2011006	2/3/2015
Department of Defense	66206	5/31/2014
Pennsylvania Department of Environmental Protection	68-04835	8/31/2014

Data Qualifiers

CAS Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
H1	Sample analysis performed past holding time. See case narrative.
H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
H3	Sample was received and analyzed past holding time.
H4	Sample was extracted past required extraction holding time, but analyzed within analysis holding time. See case narrative.
I	Internal standard not within the specified limits. See case narrative.
J	Estimated Value. Concentration found below MRL.
K	A deflection in the QC ion may indicate interference with the quantitation of this ion. The concentration of this analyte should be considered as an estimate.
K	Analyte was detected above the method reporting limit prior to normalization.
L1	Laboratory control sample recovery outside the specified limits; results may be biased high.
L2	Laboratory control sample recovery outside the specified limits; results may be biased low.
L3	Laboratory control sample recovery outside the specified limits.
M	Matrix interference; results may be biased high.
M	The duplicate injection precision not met.
M1	Matrix interference due to coelution with a non-target compound; results may be biased high.
N	Presumptive evidence of a compound for TICs that have been identified based on a mass spectral library search.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
P	Indicates chlorodiphenyl ether interference present at the retention time of the target compound.
P	Pesticide/Aroclor target analyte > 40% difference for detected concentrations between GC columns
Q	Indicates as estimated value because the P and P + 2 theoretical abundance ratio does not meet method criteria.
R	Duplicate Precision not met.
R1	Duplicate precision not within the specified limits; however, the results are below the MRL and considered estimated.
S	Surrogate recovery not within specified limits.

Data Qualifiers

CAS Standard

S	The reported value was determined by the Method of Standard Additions (MSA).
T	Analyte is a tentatively identified compound, result is estimated.
U	Compound was analyzed for, but was not detected (ND).
V1	The continuing calibration verification standard was outside (biased high) the specified limits for this compound.
V2	The continuing calibration verification standard was outside (biased low) the specified limits for this compound.
W	Result quantified, but the corresponding peak was detected outside the generated retention time window.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
X	See case narrative.
Y	Recovery outside limits
Y	The chromatogram resembles a petroleum product but does not match the calibration standard.
Z	The chromatogram does not resemble a petroleum product.
i	The MRL/MDL has been elevated due to a matrix interference.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: Wake County Solid Waste Management **Service Request:**J1402444
Project: North Wake C&D Landfill

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
J1402444-001	MW1	4/3/2014	0715
J1402444-002	CD1	4/3/2014	0800
J1402444-003	CD2	4/3/2014	0745
J1402444-004	CD3	4/3/2014	0730
J1402444-005	EQ Blank	4/3/2014	0815
J1402444-006	Trip Blank	4/3/2014	0000

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 07:15
Sample Matrix:	Ground Water	**Date Received:**	04/04/14 10:05
Sample Name:	MW1	**Units:**	ug/L
Lab Code:	J1402444-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	0.19 U	5.0	0.19	1	04/11/14 17:34	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	04/11/14 17:34	
1,1,2,2-Tetrachloroethane	0.29 U	3.0	0.29	1	04/11/14 17:34	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	04/11/14 17:34	
1,1-Dichloroethane (1,1-DCA)	0.30 U	5.0	0.30	1	04/11/14 17:34	
1,1-Dichloroethene (1,1-DCE)	0.16 U	5.0	0.16	1	04/11/14 17:34	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	04/11/14 17:34	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	13	2.3	1	04/11/14 17:34	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	04/11/14 17:34	
1,2-Dichlorobenzene	0.48 U	5.0	0.48	1	04/11/14 17:34	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	04/11/14 17:34	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	04/11/14 17:34	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	04/11/14 17:34	
2-Butanone (MEK)	3.8 U	100	3.8	1	04/11/14 17:34	
2-Hexanone	2.2 U	50	2.2	1	04/11/14 17:34	
4-Methyl-2-pentanone (MIBK)	1.1 U	100	1.1	1	04/11/14 17:34	
Acetone	**8.1 J**	100	5.6	1	04/11/14 17:34	
Acrylonitrile	1.5 U	200	1.5	1	04/11/14 17:34	
Benzene	0.21 U	1.0	0.21	1	04/11/14 17:34	
Bromochloromethane	0.27 U	5.0	0.27	1	04/11/14 17:34	
Bromodichloromethane	0.22 U	1.0	0.22	1	04/11/14 17:34	
Bromoform	0.42 U	3.0	0.42	1	04/11/14 17:34	
Bromomethane	0.23 U	10	0.23	1	04/11/14 17:34	
Carbon Disulfide	2.4 U	100	2.4	1	04/11/14 17:34	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	04/11/14 17:34	
Chlorobenzene	0.16 U	3.0	0.16	1	04/11/14 17:34	
Chloroethane	0.52 U	10	0.52	1	04/11/14 17:34	
Chloroform	0.35 U	5.0	0.35	1	04/11/14 17:34	
Chloromethane	0.36 U	1.0	0.36	1	04/11/14 17:34	
cis-1,2-Dichloroethene	0.36 U	5.0	0.36	1	04/11/14 17:34	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	04/11/14 17:34	
Dibromochloromethane	0.21 U	3.0	0.21	1	04/11/14 17:34	
Dibromomethane	0.36 U	10	0.36	1	04/11/14 17:34	
Ethylbenzene	0.21 U	1.0	0.21	1	04/11/14 17:34	
Iodomethane	2.7 U	10	2.7	1	04/11/14 17:34	
m,p-Xylenes	0.31 U	2.0	0.31	1	04/11/14 17:34	
Methylene Chloride	0.21 U	5.0	0.21	1	04/11/14 17:34	
o-Xylene	0.14 U	1.0	0.14	1	04/11/14 17:34	
Styrene	0.29 U	1.0	0.29	1	04/11/14 17:34	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	04/11/14 17:34	
Tetrahydrofuran	5.3 U	20	5.3	1	04/11/14 17:34	
Toluene	0.19 U	1.0	0.19	1	04/11/14 17:34	
trans-1,2-Dichloroethene	0.19 U	5.0	0.19	1	04/11/14 17:34	

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Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 07:15
Sample Matrix:	Ground Water	**Date Received:**	04/04/14 10:05
Sample Name:	MW1	**Units:**	ug/L
Lab Code:	J1402444-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	04/11/14 17:34	
trans-1,4-Dichloro-2-butene	2.2 U	100	2.2	1	04/11/14 17:34	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	04/11/14 17:34	
Trichlorofluoromethane	0.24 U	20	0.24	1	04/11/14 17:34	
Vinyl Acetate	1.9 U	50	1.9	1	04/11/14 17:34	
Vinyl Chloride	0.36 U	1.0	0.36	1	04/11/14 17:34	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	97	72 - 121	04/11/14 17:34	
4-Bromofluorobenzene	92	86 - 113	04/11/14 17:34	
Dibromofluoromethane	101	86 - 112	04/11/14 17:34	
Toluene-d8	98	88 - 115	04/11/14 17:34	

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Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 07:15
Sample Matrix:	Ground Water	**Date Received:**	04/04/14 10:05
Sample Name:	MW1	**Basis:**	NA
Lab Code:	J1402444-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total Recoverable	6010C	4	U	ug/L	10	4	1	04/11/14 23:48	04/09/14	
Barium, Total Recoverable	6010C	**40**	**J**	ug/L	100	0.3	1	04/11/14 23:48	04/09/14	
Cadmium, Total Recoverable	6010C	0.2	U	ug/L	5.0	0.2	1	04/11/14 23:48	04/09/14	
Chromium, Total Recoverable	6010C	**16**		ug/L	10	0.5	1	04/11/14 23:48	04/09/14	
Lead, Total Recoverable	6010C	4	U	ug/L	10	4	1	04/11/14 23:48	04/09/14	
Mercury, Total	7470A	0.02	U	ug/L	0.20	0.02	1	04/17/14 13:39	04/15/14	
Selenium, Total Recoverable	6010C	7	U	ug/L	10	7	1	04/11/14 23:48	04/09/14	
Silver, Total Recoverable	6010C	2	U	ug/L	10	2	1	04/11/14 23:47	04/09/14	

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Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 08:00
Sample Matrix:	Ground Water	**Date Received:**	04/04/14 10:05
Sample Name:	CD1	**Units:**	ug/L
Lab Code:	J1402444-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	0.19 U	5.0	0.19	1	04/11/14 18:00	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	04/11/14 18:00	
1,1,2,2-Tetrachloroethane	0.29 U	3.0	0.29	1	04/11/14 18:00	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	04/11/14 18:00	
1,1-Dichloroethane (1,1-DCA)	0.30 U	5.0	0.30	1	04/11/14 18:00	
1,1-Dichloroethene (1,1-DCE)	0.16 U	5.0	0.16	1	04/11/14 18:00	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	04/11/14 18:00	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	13	2.3	1	04/11/14 18:00	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	04/11/14 18:00	
1,2-Dichlorobenzene	0.48 U	5.0	0.48	1	04/11/14 18:00	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	04/11/14 18:00	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	04/11/14 18:00	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	04/11/14 18:00	
2-Butanone (MEK)	3.8 U	100	3.8	1	04/11/14 18:00	
2-Hexanone	2.2 U	50	2.2	1	04/11/14 18:00	
4-Methyl-2-pentanone (MIBK)	1.1 U	100	1.1	1	04/11/14 18:00	
Acetone	5.6 U	100	5.6	1	04/11/14 18:00	
Acrylonitrile	1.5 U	200	1.5	1	04/11/14 18:00	
Benzene	0.21 U	1.0	0.21	1	04/11/14 18:00	
Bromochloromethane	0.27 U	5.0	0.27	1	04/11/14 18:00	
Bromodichloromethane	0.22 U	1.0	0.22	1	04/11/14 18:00	
Bromoform	0.42 U	3.0	0.42	1	04/11/14 18:00	
Bromomethane	0.23 U	10	0.23	1	04/11/14 18:00	
Carbon Disulfide	2.4 U	100	2.4	1	04/11/14 18:00	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	04/11/14 18:00	
Chlorobenzene	0.16 U	3.0	0.16	1	04/11/14 18:00	
Chloroethane	0.52 U	10	0.52	1	04/11/14 18:00	
Chloroform	0.35 U	5.0	0.35	1	04/11/14 18:00	
Chloromethane	0.36 U	1.0	0.36	1	04/11/14 18:00	
cis-1,2-Dichloroethene	0.36 U	5.0	0.36	1	04/11/14 18:00	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	04/11/14 18:00	
Dibromochloromethane	0.21 U	3.0	0.21	1	04/11/14 18:00	
Dibromomethane	0.36 U	10	0.36	1	04/11/14 18:00	
Ethylbenzene	0.21 U	1.0	0.21	1	04/11/14 18:00	
Iodomethane	2.7 U	10	2.7	1	04/11/14 18:00	
m,p-Xylenes	0.31 U	2.0	0.31	1	04/11/14 18:00	
Methylene Chloride	0.21 U	5.0	0.21	1	04/11/14 18:00	
o-Xylene	0.14 U	1.0	0.14	1	04/11/14 18:00	
Styrene	0.29 U	1.0	0.29	1	04/11/14 18:00	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	04/11/14 18:00	
Tetrahydrofuran	5.3 U	20	5.3	1	04/11/14 18:00	
Toluene	0.19 U	1.0	0.19	1	04/11/14 18:00	
trans-1,2-Dichloroethene	0.19 U	5.0	0.19	1	04/11/14 18:00	

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Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 08:00
Sample Matrix:	Ground Water	**Date Received:**	04/04/14 10:05
Sample Name:	CD1	**Units:**	ug/L
Lab Code:	J1402444-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	04/11/14 18:00	
trans-1,4-Dichloro-2-butene	2.2 U	100	2.2	1	04/11/14 18:00	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	04/11/14 18:00	
Trichlorofluoromethane	0.24 U	20	0.24	1	04/11/14 18:00	
Vinyl Acetate	1.9 U	50	1.9	1	04/11/14 18:00	
Vinyl Chloride	0.36 U	1.0	0.36	1	04/11/14 18:00	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	97	72 - 121	04/11/14 18:00	
4-Bromofluorobenzene	92	86 - 113	04/11/14 18:00	
Dibromofluoromethane	100	86 - 112	04/11/14 18:00	
Toluene-d8	96	88 - 115	04/11/14 18:00	

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Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 08:00
Sample Matrix:	Ground Water	**Date Received:**	04/04/14 10:05
Sample Name:	CD1	**Basis:**	NA
Lab Code:	J1402444-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total Recoverable	6010C	4	U	ug/L	10	4	1	04/11/14 23:52	04/09/14	
Barium, Total Recoverable	6010C	**130**		ug/L	100	0.3	1	04/11/14 23:51	04/09/14	
Cadmium, Total Recoverable	6010C	0.2	U	ug/L	5.0	0.2	1	04/11/14 23:52	04/09/14	
Chromium, Total Recoverable	6010C	**9**	**J**	ug/L	10	0.5	1	04/11/14 23:52	04/09/14	
Lead, Total Recoverable	6010C	4	U	ug/L	10	4	1	04/11/14 23:52	04/09/14	
Mercury, Total	7470A	0.02	U	ug/L	0.20	0.02	1	04/17/14 13:40	04/15/14	
Selenium, Total Recoverable	6010C	7	U	ug/L	10	7	1	04/11/14 23:52	04/09/14	
Silver, Total Recoverable	6010C	2	U	ug/L	10	2	1	04/11/14 23:51	04/09/14	

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 07:45
Sample Matrix:	Ground Water	**Date Received:**	04/04/14 10:05
Sample Name:	CD2	**Units:**	ug/L
Lab Code:	J1402444-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	0.19 U	5.0	0.19	1	04/11/14 18:25	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	04/11/14 18:25	
1,1,2,2-Tetrachloroethane	0.29 U	3.0	0.29	1	04/11/14 18:25	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	04/11/14 18:25	
1,1-Dichloroethane (1,1-DCA)	0.30 U	5.0	0.30	1	04/11/14 18:25	
1,1-Dichloroethene (1,1-DCE)	0.16 U	5.0	0.16	1	04/11/14 18:25	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	04/11/14 18:25	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	13	2.3	1	04/11/14 18:25	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	04/11/14 18:25	
1,2-Dichlorobenzene	0.48 U	5.0	0.48	1	04/11/14 18:25	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	04/11/14 18:25	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	04/11/14 18:25	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	04/11/14 18:25	
2-Butanone (MEK)	3.8 U	100	3.8	1	04/11/14 18:25	
2-Hexanone	2.2 U	50	2.2	1	04/11/14 18:25	
4-Methyl-2-pentanone (MIBK)	1.1 U	100	1.1	1	04/11/14 18:25	
Acetone	5.6 U	100	5.6	1	04/11/14 18:25	
Acrylonitrile	1.5 U	200	1.5	1	04/11/14 18:25	
Benzene	0.21 U	1.0	0.21	1	04/11/14 18:25	
Bromochloromethane	0.27 U	5.0	0.27	1	04/11/14 18:25	
Bromodichloromethane	0.22 U	1.0	0.22	1	04/11/14 18:25	
Bromoform	0.42 U	3.0	0.42	1	04/11/14 18:25	
Bromomethane	0.23 U	10	0.23	1	04/11/14 18:25	
Carbon Disulfide	2.4 U	100	2.4	1	04/11/14 18:25	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	04/11/14 18:25	
Chlorobenzene	0.16 U	3.0	0.16	1	04/11/14 18:25	
Chloroethane	0.52 U	10	0.52	1	04/11/14 18:25	
Chloroform	**0.61 J**	5.0	0.35	1	04/11/14 18:25	
Chloromethane	0.36 U	1.0	0.36	1	04/11/14 18:25	
cis-1,2-Dichloroethene	0.36 U	5.0	0.36	1	04/11/14 18:25	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	04/11/14 18:25	
Dibromochloromethane	0.21 U	3.0	0.21	1	04/11/14 18:25	
Dibromomethane	0.36 U	10	0.36	1	04/11/14 18:25	
Ethylbenzene	0.21 U	1.0	0.21	1	04/11/14 18:25	
Iodomethane	2.7 U	10	2.7	1	04/11/14 18:25	
m,p-Xylenes	0.31 U	2.0	0.31	1	04/11/14 18:25	
Methylene Chloride	0.21 U	5.0	0.21	1	04/11/14 18:25	
o-Xylene	0.14 U	1.0	0.14	1	04/11/14 18:25	
Styrene	0.29 U	1.0	0.29	1	04/11/14 18:25	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	04/11/14 18:25	
Tetrahydrofuran	5.3 U	20	5.3	1	04/11/14 18:25	
Toluene	0.19 U	1.0	0.19	1	04/11/14 18:25	
trans-1,2-Dichloroethene	0.19 U	5.0	0.19	1	04/11/14 18:25	

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Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 07:45
Sample Matrix:	Ground Water	**Date Received:**	04/04/14 10:05
Sample Name:	CD2	**Units:**	ug/L
Lab Code:	J1402444-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	04/11/14 18:25	
trans-1,4-Dichloro-2-butene	2.2 U	100	2.2	1	04/11/14 18:25	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	04/11/14 18:25	
Trichlorofluoromethane	0.24 U	20	0.24	1	04/11/14 18:25	
Vinyl Acetate	1.9 U	50	1.9	1	04/11/14 18:25	
Vinyl Chloride	0.36 U	1.0	0.36	1	04/11/14 18:25	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	97	72 - 121	04/11/14 18:25	
4-Bromofluorobenzene	92	86 - 113	04/11/14 18:25	
Dibromofluoromethane	102	86 - 112	04/11/14 18:25	
Toluene-d8	96	88 - 115	04/11/14 18:25	

Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 07:45
Sample Matrix:	Ground Water	**Date Received:**	04/04/14 10:05
Sample Name:	CD2	**Basis:**	NA
Lab Code:	J1402444-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total Recoverable	6010C	4	U	ug/L	10	4	1	04/11/14 23:56	04/09/14	
Barium, Total Recoverable	6010C	**60**	**J**	ug/L	100	0.3	1	04/11/14 23:56	04/09/14	
Cadmium, Total Recoverable	6010C	0.2	U	ug/L	5.0	0.2	1	04/11/14 23:56	04/09/14	
Chromium, Total Recoverable	6010C	**6**	**J**	ug/L	10	0.5	1	04/11/14 23:56	04/09/14	
Lead, Total Recoverable	6010C	4	U	ug/L	10	4	1	04/11/14 23:56	04/09/14	
Mercury, Total	7470A	0.02	U	ug/L	0.20	0.02	1	04/17/14 13:41	04/15/14	
Selenium, Total Recoverable	6010C	7	U	ug/L	10	7	1	04/11/14 23:56	04/09/14	
Silver, Total Recoverable	6010C	2	U	ug/L	10	2	1	04/11/14 23:55	04/09/14	

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 07:30
Sample Matrix:	Ground Water	**Date Received:**	04/04/14 10:05
Sample Name:	CD3	**Units:**	ug/L
Lab Code:	J1402444-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	0.19 U	5.0	0.19	1	04/11/14 18:51	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	04/11/14 18:51	
1,1,2,2-Tetrachloroethane	0.29 U	3.0	0.29	1	04/11/14 18:51	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	04/11/14 18:51	
1,1-Dichloroethane (1,1-DCA)	0.30 U	5.0	0.30	1	04/11/14 18:51	
1,1-Dichloroethene (1,1-DCE)	0.16 U	5.0	0.16	1	04/11/14 18:51	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	04/11/14 18:51	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	13	2.3	1	04/11/14 18:51	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	04/11/14 18:51	
1,2-Dichlorobenzene	0.48 U	5.0	0.48	1	04/11/14 18:51	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	04/11/14 18:51	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	04/11/14 18:51	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	04/11/14 18:51	
2-Butanone (MEK)	3.8 U	100	3.8	1	04/11/14 18:51	
2-Hexanone	2.2 U	50	2.2	1	04/11/14 18:51	
4-Methyl-2-pentanone (MIBK)	1.1 U	100	1.1	1	04/11/14 18:51	
Acetone	5.6 U	100	5.6	1	04/11/14 18:51	
Acrylonitrile	1.5 U	200	1.5	1	04/11/14 18:51	
Benzene	0.21 U	1.0	0.21	1	04/11/14 18:51	
Bromochloromethane	0.27 U	5.0	0.27	1	04/11/14 18:51	
Bromodichloromethane	0.22 U	1.0	0.22	1	04/11/14 18:51	
Bromoform	0.42 U	3.0	0.42	1	04/11/14 18:51	
Bromomethane	0.23 U	10	0.23	1	04/11/14 18:51	
Carbon Disulfide	2.4 U	100	2.4	1	04/11/14 18:51	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	04/11/14 18:51	
Chlorobenzene	0.16 U	3.0	0.16	1	04/11/14 18:51	
Chloroethane	0.52 U	10	0.52	1	04/11/14 18:51	
Chloroform	0.35 U	5.0	0.35	1	04/11/14 18:51	
Chloromethane	0.36 U	1.0	0.36	1	04/11/14 18:51	
cis-1,2-Dichloroethene	0.36 U	5.0	0.36	1	04/11/14 18:51	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	04/11/14 18:51	
Dibromochloromethane	0.21 U	3.0	0.21	1	04/11/14 18:51	
Dibromomethane	0.36 U	10	0.36	1	04/11/14 18:51	
Ethylbenzene	0.21 U	1.0	0.21	1	04/11/14 18:51	
Iodomethane	2.7 U	10	2.7	1	04/11/14 18:51	
m,p-Xylenes	0.31 U	2.0	0.31	1	04/11/14 18:51	
Methylene Chloride	0.21 U	5.0	0.21	1	04/11/14 18:51	
o-Xylene	0.14 U	1.0	0.14	1	04/11/14 18:51	
Styrene	0.29 U	1.0	0.29	1	04/11/14 18:51	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	04/11/14 18:51	
Tetrahydrofuran	5.3 U	20	5.3	1	04/11/14 18:51	
Toluene	0.19 U	1.0	0.19	1	04/11/14 18:51	
trans-1,2-Dichloroethene	0.19 U	5.0	0.19	1	04/11/14 18:51	

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Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 07:30
Sample Matrix:	Ground Water	**Date Received:**	04/04/14 10:05
Sample Name:	CD3	**Units:**	ug/L
Lab Code:	J1402444-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	04/11/14 18:51	
trans-1,4-Dichloro-2-butene	2.2 U	100	2.2	1	04/11/14 18:51	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	04/11/14 18:51	
Trichlorofluoromethane	0.24 U	20	0.24	1	04/11/14 18:51	
Vinyl Acetate	1.9 U	50	1.9	1	04/11/14 18:51	
Vinyl Chloride	0.36 U	1.0	0.36	1	04/11/14 18:51	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	97	72 - 121	04/11/14 18:51	
4-Bromofluorobenzene	91	86 - 113	04/11/14 18:51	
Dibromofluoromethane	101	86 - 112	04/11/14 18:51	
Toluene-d8	96	88 - 115	04/11/14 18:51	

Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 07:30
Sample Matrix:	Ground Water	**Date Received:**	04/04/14 10:05
Sample Name:	CD3	**Basis:**	NA
Lab Code:	J1402444-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total Recoverable	6010C	4	U	ug/L	10	4	1	04/12/14 00:01	04/09/14	
Barium, Total Recoverable	6010C	**40**	**J**	ug/L	100	0.3	1	04/12/14 00:01	04/09/14	
Cadmium, Total Recoverable	6010C	0.2	U	ug/L	5.0	0.2	1	04/12/14 00:01	04/09/14	
Chromium, Total Recoverable	6010C	**1**	**J**	ug/L	10	0.5	1	04/12/14 00:01	04/09/14	
Lead, Total Recoverable	6010C	4	U	ug/L	10	4	1	04/12/14 00:01	04/09/14	
Mercury, Total	7470A	0.02	U	ug/L	0.20	0.02	1	04/17/14 13:42	04/15/14	
Selenium, Total Recoverable	6010C	7	U	ug/L	10	7	1	04/12/14 00:01	04/09/14	
Silver, Total Recoverable	6010C	2	U	ug/L	10	2	1	04/12/14 00:00	04/09/14	

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Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 08:15
Sample Matrix:	Ground Water	**Date Received:**	04/04/14 10:05
Sample Name:	EQ Blank	**Units:**	ug/L
Lab Code:	J1402444-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	0.19	U	5.0	0.19	1	04/11/14 15:51	
1,1,1-Trichloroethane (TCA)	0.17	U	1.0	0.17	1	04/11/14 15:51	
1,1,2,2-Tetrachloroethane	0.29	U	3.0	0.29	1	04/11/14 15:51	
1,1,2-Trichloroethane	0.40	U	1.0	0.40	1	04/11/14 15:51	
1,1-Dichloroethane (1,1-DCA)	0.30	U	5.0	0.30	1	04/11/14 15:51	
1,1-Dichloroethene (1,1-DCE)	0.16	U	5.0	0.16	1	04/11/14 15:51	
1,2,3-Trichloropropane	0.42	U	2.0	0.42	1	04/11/14 15:51	
1,2-Dibromo-3-chloropropane (DBCP)	2.3	U	13	2.3	1	04/11/14 15:51	
1,2-Dibromoethane (EDB)	0.46	U	1.0	0.46	1	04/11/14 15:51	
1,2-Dichlorobenzene	0.48	U	5.0	0.48	1	04/11/14 15:51	
1,2-Dichloroethane	0.22	U	1.0	0.22	1	04/11/14 15:51	
1,2-Dichloropropane	0.19	U	1.0	0.19	1	04/11/14 15:51	
1,4-Dichlorobenzene	0.16	U	1.0	0.16	1	04/11/14 15:51	
2-Butanone (MEK)	**15**	**J**	100	3.8	1	04/11/14 15:51	
2-Hexanone	2.2	U	50	2.2	1	04/11/14 15:51	
4-Methyl-2-pentanone (MIBK)	1.1	U	100	1.1	1	04/11/14 15:51	
Acetone	5.6	U	100	5.6	1	04/11/14 15:51	
Acrylonitrile	1.5	U	200	1.5	1	04/11/14 15:51	
Benzene	0.21	U	1.0	0.21	1	04/11/14 15:51	
Bromochloromethane	0.27	U	5.0	0.27	1	04/11/14 15:51	
Bromodichloromethane	0.22	U	1.0	0.22	1	04/11/14 15:51	
Bromoform	0.42	U	3.0	0.42	1	04/11/14 15:51	
Bromomethane	0.23	U	10	0.23	1	04/11/14 15:51	
Carbon Disulfide	2.4	U	100	2.4	1	04/11/14 15:51	
Carbon Tetrachloride	0.34	U	1.0	0.34	1	04/11/14 15:51	
Chlorobenzene	0.16	U	3.0	0.16	1	04/11/14 15:51	
Chloroethane	0.52	U	10	0.52	1	04/11/14 15:51	
Chloroform	0.35	U	5.0	0.35	1	04/11/14 15:51	
Chloromethane	0.36	U	1.0	0.36	1	04/11/14 15:51	
cis-1,2-Dichloroethene	0.36	U	5.0	0.36	1	04/11/14 15:51	
cis-1,3-Dichloropropene	0.20	U	1.0	0.20	1	04/11/14 15:51	
Dibromochloromethane	0.21	U	3.0	0.21	1	04/11/14 15:51	
Dibromomethane	0.36	U	10	0.36	1	04/11/14 15:51	
Ethylbenzene	0.21	U	1.0	0.21	1	04/11/14 15:51	
Iodomethane	2.7	U	10	2.7	1	04/11/14 15:51	
m,p-Xylenes	0.31	U	2.0	0.31	1	04/11/14 15:51	
Methylene Chloride	0.21	U	5.0	0.21	1	04/11/14 15:51	
o-Xylene	**0.31**	**J**	1.0	0.14	1	04/11/14 15:51	
Styrene	0.29	U	1.0	0.29	1	04/11/14 15:51	
Tetrachloroethene (PCE)	0.22	U	1.0	0.22	1	04/11/14 15:51	
Tetrahydrofuran	5.3	U	20	5.3	1	04/11/14 15:51	
Toluene	0.19	U	1.0	0.19	1	04/11/14 15:51	
trans-1,2-Dichloroethene	0.19	U	5.0	0.19	1	04/11/14 15:51	

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Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 08:15
Sample Matrix:	Ground Water	**Date Received:**	04/04/14 10:05
Sample Name:	EQ Blank	**Units:**	ug/L
Lab Code:	J1402444-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	04/11/14 15:51	
trans-1,4-Dichloro-2-butene	2.2 U	100	2.2	1	04/11/14 15:51	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	04/11/14 15:51	
Trichlorofluoromethane	0.24 U	20	0.24	1	04/11/14 15:51	
Vinyl Acetate	1.9 U	50	1.9	1	04/11/14 15:51	
Vinyl Chloride	0.36 U	1.0	0.36	1	04/11/14 15:51	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	97	72 - 121	04/11/14 15:51	
4-Bromofluorobenzene	92	86 - 113	04/11/14 15:51	
Dibromofluoromethane	100	86 - 112	04/11/14 15:51	
Toluene-d8	98	88 - 115	04/11/14 15:51	

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Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 08:15
Sample Matrix:	Ground Water	**Date Received:**	04/04/14 10:05
Sample Name:	EQ Blank	**Basis:**	NA
Lab Code:	J1402444-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total Recoverable	6010C	4	U	ug/L	10	4	1	04/12/14 00:05	04/09/14	
Barium, Total Recoverable	6010C	**1**	**J**	ug/L	100	0.3	1	04/12/14 00:05	04/09/14	
Cadmium, Total Recoverable	6010C	0.2	U	ug/L	5.0	0.2	1	04/12/14 00:05	04/09/14	
Chromium, Total Recoverable	6010C	**881**		ug/L	10	0.5	1	04/12/14 00:05	04/09/14	
Lead, Total Recoverable	6010C	4	U	ug/L	10	4	1	04/12/14 00:05	04/09/14	
Mercury, Total	7470A	0.02	U	ug/L	0.20	0.02	1	04/17/14 13:43	04/15/14	
Selenium, Total Recoverable	6010C	7	U	ug/L	10	7	1	04/12/14 00:05	04/09/14	
Silver, Total Recoverable	6010C	2	U	ug/L	10	2	1	04/12/14 00:05	04/09/14	

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 00:00
Sample Matrix:	Water	**Date Received:**	04/04/14 10:05
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	J1402444-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	0.19 U	5.0	0.19	1	04/11/14 14:33	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	04/11/14 14:33	
1,1,2,2-Tetrachloroethane	0.29 U	3.0	0.29	1	04/11/14 14:33	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	04/11/14 14:33	
1,1-Dichloroethane (1,1-DCA)	0.30 U	5.0	0.30	1	04/11/14 14:33	
1,1-Dichloroethene (1,1-DCE)	0.16 U	5.0	0.16	1	04/11/14 14:33	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	04/11/14 14:33	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	13	2.3	1	04/11/14 14:33	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	04/11/14 14:33	
1,2-Dichlorobenzene	0.48 U	5.0	0.48	1	04/11/14 14:33	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	04/11/14 14:33	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	04/11/14 14:33	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	04/11/14 14:33	
2-Butanone (MEK)	3.8 U	100	3.8	1	04/11/14 14:33	
2-Hexanone	2.2 U	50	2.2	1	04/11/14 14:33	
4-Methyl-2-pentanone (MIBK)	1.1 U	100	1.1	1	04/11/14 14:33	
Acetone	5.6 U	100	5.6	1	04/11/14 14:33	
Acrylonitrile	1.5 U	200	1.5	1	04/11/14 14:33	
Benzene	0.21 U	1.0	0.21	1	04/11/14 14:33	
Bromochloromethane	0.27 U	5.0	0.27	1	04/11/14 14:33	
Bromodichloromethane	0.22 U	1.0	0.22	1	04/11/14 14:33	
Bromoform	0.42 U	3.0	0.42	1	04/11/14 14:33	
Bromomethane	0.23 U	10	0.23	1	04/11/14 14:33	
Carbon Disulfide	2.4 U	100	2.4	1	04/11/14 14:33	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	04/11/14 14:33	
Chlorobenzene	0.16 U	3.0	0.16	1	04/11/14 14:33	
Chloroethane	0.52 U	10	0.52	1	04/11/14 14:33	
Chloroform	0.35 U	5.0	0.35	1	04/11/14 14:33	
Chloromethane	0.36 U	1.0	0.36	1	04/11/14 14:33	
cis-1,2-Dichloroethene	0.36 U	5.0	0.36	1	04/11/14 14:33	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	04/11/14 14:33	
Dibromochloromethane	0.21 U	3.0	0.21	1	04/11/14 14:33	
Dibromomethane	0.36 U	10	0.36	1	04/11/14 14:33	
Ethylbenzene	0.21 U	1.0	0.21	1	04/11/14 14:33	
Iodomethane	2.7 U	10	2.7	1	04/11/14 14:33	
m,p-Xylenes	0.31 U	2.0	0.31	1	04/11/14 14:33	
Methylene Chloride	0.21 U	5.0	0.21	1	04/11/14 14:33	
o-Xylene	0.14 U	1.0	0.14	1	04/11/14 14:33	
Styrene	0.29 U	1.0	0.29	1	04/11/14 14:33	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	04/11/14 14:33	
Tetrahydrofuran	5.3 U	20	5.3	1	04/11/14 14:33	
Toluene	0.19 U	1.0	0.19	1	04/11/14 14:33	
trans-1,2-Dichloroethene	0.19 U	5.0	0.19	1	04/11/14 14:33	

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Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	04/03/14 00:00
Sample Matrix:	Water	**Date Received:**	04/04/14 10:05
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	J1402444-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	04/11/14 14:33	
trans-1,4-Dichloro-2-butene	2.2 U	100	2.2	1	04/11/14 14:33	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	04/11/14 14:33	
Trichlorofluoromethane	0.24 U	20	0.24	1	04/11/14 14:33	
Vinyl Acetate	1.9 U	50	1.9	1	04/11/14 14:33	
Vinyl Chloride	0.36 U	1.0	0.36	1	04/11/14 14:33	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	95	72 - 121	04/11/14 14:33	
4-Bromofluorobenzene	91	86 - 113	04/11/14 14:33	
Dibromofluoromethane	101	86 - 112	04/11/14 14:33	
Toluene-d8	97	88 - 115	04/11/14 14:33	

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dba ALS Environmental

Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	JQ1402725-03	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	0.19 U	5.0	0.19	1	04/11/14 13:42	
1,1,1-Trichloroethane (TCA)	0.17 U	1.0	0.17	1	04/11/14 13:42	
1,1,2,2-Tetrachloroethane	0.29 U	3.0	0.29	1	04/11/14 13:42	
1,1,2-Trichloroethane	0.40 U	1.0	0.40	1	04/11/14 13:42	
1,1-Dichloroethane (1,1-DCA)	0.30 U	5.0	0.30	1	04/11/14 13:42	
1,1-Dichloroethene (1,1-DCE)	0.16 U	5.0	0.16	1	04/11/14 13:42	
1,2,3-Trichloropropane	0.42 U	2.0	0.42	1	04/11/14 13:42	
1,2-Dibromo-3-chloropropane (DBCP)	2.3 U	13	2.3	1	04/11/14 13:42	
1,2-Dibromoethane (EDB)	0.46 U	1.0	0.46	1	04/11/14 13:42	
1,2-Dichlorobenzene	0.48 U	5.0	0.48	1	04/11/14 13:42	
1,2-Dichloroethane	0.22 U	1.0	0.22	1	04/11/14 13:42	
1,2-Dichloropropane	0.19 U	1.0	0.19	1	04/11/14 13:42	
1,4-Dichlorobenzene	0.16 U	1.0	0.16	1	04/11/14 13:42	
2-Butanone (MEK)	3.8 U	100	3.8	1	04/11/14 13:42	
2-Hexanone	2.2 U	50	2.2	1	04/11/14 13:42	
4-Methyl-2-pentanone (MIBK)	1.1 U	100	1.1	1	04/11/14 13:42	
Acetone	5.6 U	100	5.6	1	04/11/14 13:42	
Acrylonitrile	1.5 U	200	1.5	1	04/11/14 13:42	
Benzene	0.21 U	1.0	0.21	1	04/11/14 13:42	
Bromochloromethane	0.27 U	5.0	0.27	1	04/11/14 13:42	
Bromodichloromethane	0.22 U	1.0	0.22	1	04/11/14 13:42	
Bromoform	0.42 U	3.0	0.42	1	04/11/14 13:42	
Bromomethane	0.23 U	10	0.23	1	04/11/14 13:42	
Carbon Disulfide	2.4 U	100	2.4	1	04/11/14 13:42	
Carbon Tetrachloride	0.34 U	1.0	0.34	1	04/11/14 13:42	
Chlorobenzene	0.16 U	3.0	0.16	1	04/11/14 13:42	
Chloroethane	0.52 U	10	0.52	1	04/11/14 13:42	
Chloroform	0.35 U	5.0	0.35	1	04/11/14 13:42	
Chloromethane	0.36 U	1.0	0.36	1	04/11/14 13:42	
cis-1,2-Dichloroethene	0.36 U	5.0	0.36	1	04/11/14 13:42	
cis-1,3-Dichloropropene	0.20 U	1.0	0.20	1	04/11/14 13:42	
Dibromochloromethane	0.21 U	3.0	0.21	1	04/11/14 13:42	
Dibromomethane	0.36 U	10	0.36	1	04/11/14 13:42	
Ethylbenzene	0.21 U	1.0	0.21	1	04/11/14 13:42	
Iodomethane	2.7 U	10	2.7	1	04/11/14 13:42	
m,p-Xylenes	0.31 U	2.0	0.31	1	04/11/14 13:42	
Methylene Chloride	0.21 U	5.0	0.21	1	04/11/14 13:42	
o-Xylene	0.14 U	1.0	0.14	1	04/11/14 13:42	
Styrene	0.29 U	1.0	0.29	1	04/11/14 13:42	
Tetrachloroethene (PCE)	0.22 U	1.0	0.22	1	04/11/14 13:42	
Tetrahydrofuran	5.3 U	20	5.3	1	04/11/14 13:42	
Toluene	0.19 U	1.0	0.19	1	04/11/14 13:42	
trans-1,2-Dichloroethene	0.19 U	5.0	0.19	1	04/11/14 13:42	

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Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	JQ1402725-03	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
trans-1,3-Dichloropropene	0.23 U	1.0	0.23	1	04/11/14 13:42	
trans-1,4-Dichloro-2-butene	2.2 U	100	2.2	1	04/11/14 13:42	
Trichloroethene (TCE)	0.36 U	1.0	0.36	1	04/11/14 13:42	
Trichlorofluoromethane	0.24 U	20	0.24	1	04/11/14 13:42	
Vinyl Acetate	1.9 U	50	1.9	1	04/11/14 13:42	
Vinyl Chloride	0.36 U	1.0	0.36	1	04/11/14 13:42	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
1,2-Dichloroethane-d4	97	72 - 121	04/11/14 13:42	
4-Bromofluorobenzene	91	86 - 113	04/11/14 13:42	
Dibromofluoromethane	101	86 - 112	04/11/14 13:42	
Toluene-d8	97	88 - 115	04/11/14 13:42	

Analytical Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	J1402444-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Total Recoverable	6010C	4	U	ug/L	10	4	1	04/09/14 21:39	04/09/14	
Barium, Total Recoverable	6010C	0.3	U	ug/L	100	0.3	1	04/11/14 22:41	04/09/14	
Cadmium, Total Recoverable	6010C	0.2	U	ug/L	5.0	0.2	1	04/09/14 21:39	04/09/14	
Chromium, Total Recoverable	6010C	0.5	U	ug/L	10	0.5	1	04/09/14 21:39	04/09/14	
Lead, Total Recoverable	6010C	4	U	ug/L	10	4	1	04/09/14 21:39	04/09/14	
Mercury, Total	7470A	0.02	U	ug/L	0.20	0.02	1	04/17/14 13:20	04/15/14	
Selenium, Total Recoverable	6010C	7	U	ug/L	10	7	1	04/09/14 21:39	04/09/14	
Silver, Total Recoverable	6010C	2	U	ug/L	10	2	1	04/11/14 22:40	04/09/14	

Client: Wake County Solid Waste Management **Service Request:** J1402444
Project: North Wake C&D Landfill
Sample Matrix: Ground Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Sample Name	Lab Code	1,2-Dichloroethane-d4	4-Bromofluorobenzene	Dibromofluoromethane
		72 - 121	86 - 113	86 - 112
MW1	J1402444-001	97	92	101
CD1	J1402444-002	97	92	100
CD2	J1402444-003	97	92	102
CD3	J1402444-004	97	91	101
EQ Blank	J1402444-005	97	92	100
Trip Blank	J1402444-006	95	91	101
Lab Control Sample	JQ1402725-01	95	93	101
Duplicate Lab Control Sample	JQ1402725-02	95	94	102
Method Blank	JQ1402725-03	97	91	101

Client: Wake County Solid Waste Management **Service Request:** J1402444
Project: North Wake C&D Landfill
Sample Matrix: Ground Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260B

Sample Name	Lab Code	Toluene-d8 88 - 115
MW1	J1402444-001	98
CD1	J1402444-002	96
CD2	J1402444-003	96
CD3	J1402444-004	96
EQ Blank	J1402444-005	98
Trip Blank	J1402444-006	97
Lab Control Sample	JQ1402725-01	99
Duplicate Lab Control Sample	JQ1402725-02	100
Method Blank	JQ1402725-03	97

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Analyzed:**	04/11/14
Sample Matrix:	Ground Water		

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260B	**Units:**	ug/L
		Basis:	NA
		Analysis Lot:	387813

	Lab Control Sample JQ1402725-01			Duplicate Lab Control Sample JQ1402725-02					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	51.7	50.0	103	53.6	50.0	107	77-118	3	30
1,1,1-Trichloroethane (TCA)	50.8	50.0	102	52.9	50.0	106	70-122	4	30
1,1,2,2-Tetrachloroethane	49.4	50.0	99	49.5	50.0	99	66-135	<1	30
1,1,2-Trichloroethane	49.1	50.0	98	49.9	50.0	100	75-122	2	30
1,1-Dichloroethane (1,1-DCA)	49.6	50.0	99	51.7	50.0	103	79-117	4	30
1,1-Dichloroethene (1,1-DCE)	48.9	50.0	98	51.0	50.0	102	72-128	4	30
1,2,3-Trichloropropane	50.8	50.0	102	50.8	50.0	102	70-123	<1	30
1,2-Dibromo-3-chloropropane (DBCP)	45.5	50.0	91	46.5	50.0	93	60-122	2	30
1,2-Dibromoethane (EDB)	50.9	50.0	102	51.8	50.0	104	76-118	2	30
1,2-Dichlorobenzene	49.4	50.0	99	51.5	50.0	103	81-115	4	30
1,2-Dichloroethane	48.3	50.0	97	49.0	50.0	98	70-117	1	30
1,2-Dichloropropane	49.2	50.0	98	51.1	50.0	102	79-117	4	30
1,4-Dichlorobenzene	49.6	50.0	99	51.1	50.0	102	82-115	3	30
2-Butanone (MEK)	48.4	50.0	97	47.2	50.0	94	62-138	2	30
2-Hexanone	46.2	50.0	92	46.1	50.0	92	74-127	<1	30
4-Methyl-2-pentanone (MIBK)	45.2	50.0	90	44.9	50.0	90	77-120	<1	30
Acetone	48.9	50.0	98	50.7	50.0	101	42-161	4	30
Acrylonitrile	44.3	50.0	88	44.7	50.0	89	63-132	1	30
Benzene	51.1	50.0	102	53.1	50.0	106	80-117	4	30
Bromochloromethane	53.3	50.0	107	54.2	50.0	108	78-118	2	30
Bromodichloromethane	51.3	50.0	103	52.8	50.0	106	75-118	3	30
Bromoform	51.3	50.0	103	51.6	50.0	103	63-121	<1	30
Bromomethane	45.1	50.0	90	47.2	50.0	94	31-153	5	30
Carbon Disulfide	54.0	50.0	108	55.8	50.0	112	72-128	3	30
Carbon Tetrachloride	47.1	50.0	94	49.5	50.0	99	67-124	5	30
Chlorobenzene	53.1	50.0	106	54.7	50.0	109	83-118	3	30
Chloroethane	48.2	50.0	96	50.7	50.0	101	68-132	5	30
Chloroform	49.6	50.0	99	51.4	50.0	103	77-116	4	30
Chloromethane	44.1	50.0	88	46.5	50.0	93	60-128	5	30
cis-1,2-Dichloroethene	49.1	50.0	98	50.3	50.0	101	78-117	2	30
cis-1,3-Dichloropropene	47.9	50.0	96	49.6	50.0	99	80-119	4	30
Dibromochloromethane	51.0	50.0	102	52.4	50.0	105	74-121	3	30
Dibromomethane	49.9	50.0	100	51.1	50.0	102	76-117	2	30
Ethylbenzene	52.2	50.0	104	54.1	50.0	108	82-119	4	30
Iodomethane	53.0	50.0	106	54.3	50.0	109	51-137	2	30
m,p-Xylenes	105	100	105	108	100	108	79-122	2	30
Methylene Chloride	51.4	50.0	103	52.4	50.0	105	75-123	2	30
o-Xylene	51.8	50.0	104	53.3	50.0	107	80-119	3	30
Styrene	53.4	50.0	107	54.8	50.0	110	80-121	3	30
Tetrachloroethene (PCE)	54.8	50.0	110	57.3	50.0	115	75-126	5	30
Tetrahydrofuran	96.5	100	96	95.1	100	95	40-152	1	30

ALS Group USA, Corp.
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QA/QC Report

Client:	Wake County Solid Waste Management	**Service Request:**	J1402444
Project:	North Wake C&D Landfill	**Date Analyzed:**	04/11/14
Sample Matrix:	Ground Water		

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260B	**Units:**	ug/L
		Basis:	NA
		Analysis Lot:	387813

	Lab Control Sample JQ1402725-01			Duplicate Lab Control Sample JQ1402725-02					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Toluene	52.6	50.0	105	54.4	50.0	109	52-152	3	30
trans-1,2-Dichloroethene	50.6	50.0	101	53.1	50.0	106	75-121	5	30
trans-1,3-Dichloropropene	48.8	50.0	98	50.0	50.0	100	76-118	2	30
trans-1,4-Dichloro-2-butene	39.3	50.0	79	40.1	50.0	80	10-198	2	30
Trichloroethene (TCE)	54.9	50.0	110	57.2	50.0	114	78-122	4	30
Trichlorofluoromethane	49.9	50.0	100	52.1	50.0	104	58-134	4	30
Vinyl Acetate	45.4	50.0	91	46.0	50.0	92	36-169	1	30
Vinyl Chloride	47.5	50.0	95	50.1	50.0	100	69-138	5	30

Client: Wake County Solid Waste Management
Project: North Wake C&D Landfill
Sample Matrix: Ground Water

Service Request:J1402444
Date Analyzed:04/09/14 - 04/17/14

Lab Control Sample Summary
Inorganic Parameters

Units:ug/L
Basis:NA

Lab Control Sample
J1402444-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Arsenic, Total Recoverable	6010C	521	500	104	80-120
Barium, Total Recoverable	6010C	494	500	99	80-120
Cadmium, Total Recoverable	6010C	252	250	101	80-120
Chromium, Total Recoverable	6010C	502	500	100	80-120
Lead, Total Recoverable	6010C	476	500	95	80-120
Mercury, Total	7470A	1.24	1.25	99	80-120
Selenium, Total Recoverable	6010C	484	500	97	80-120
Silver, Total Recoverable	6010C	504	500	101	80-120

ALS Environmental

Cooler Receipt Form

Client: CDM Smith

Service Request #: J1402444

Project: North Wake C&D Landfill

Cooler received on 4-4-14 and opened on 4-4-14 by TA

COURIER: ALS UPS FEDEX Client Other _____ Airbill # 7949 3658 1749

1	Were custody seals on outside of cooler?	Yes	No		
	If yes, how many and where?	#: 1 on lid	other		
2	Were seals intact and signature and date correct?	Yes	No	N/A	
3	Were custody papers properly filled out?	Yes	No	N/A	
4	Temperature of cooler(s) upon receipt (Should be > 0°C and < 6°C)	3.7°C			
5	Thermometer ID	T81			
6	Temperature Blank Present?	Yes	No		
7	Were Ice or Ice Packs present	Ice	Ice Packs	No	
8	Did all bottles arrive in good condition (unbroken, etc....)?	Yes	No	N/A	
9	Type of packing material present	Netting	Vial Holder	Bubble Wrap	
		Paper	Styrofoam	Other	N/A
10	Were all bottle labels complete (sample ID, preservation, etc....)?	Yes	No	N/A	
11	Did all bottle labels and tags agree with custody papers?	Yes	No	N/A	
12	Were the correct bottles used for the tests indicated?	Yes	No	N/A	
13	Were all of the preserved bottles received with the appropriate preservative?	Yes	No	N/A	
	HNO3 pH<2 H2SO4 pH<2 ZnAc2/NaOH pH>9 NaOH pH>12 HCl pH<2				
	Preservative additions noted below				
14	Were all samples received within analysis holding times?	Yes	No	N/A	
15	Were all VOA vials free of air bubbles? If present, note below	Yes	No	N/A	
16	Where did the bottles originate?	ALS	Client		

Sample ID	Reagent	Lot #	ml added	Initials Date/Time

Additional comments and/or explanation of all discrepancies noted above:

Client approval to run samples if discrepancies noted: Date:

CHAIN OF CUSTODY / LABORATORY ANALYSIS REQUEST FORM

ALS

9143 Philips Highway, Suite 200 Jacksonville, FL 32256 / Ph(904) 739-2277 / FAX (904) 739-2011

SR # J1402444
ALS Contact

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J1402444 5
CDM Smith, Inc.
North Wake C&D Landfill

Project Name: North Wake C&D Landfill	Project Number:
Report To: Aaron Weisrfenning	Report CC:
Company/Address: CDM Smith, 5400 Glenwood Ave, Suite 300, Raleigh, NC 27612	
Phone #: 919-325-3532	FAX #:
Sampler's Signature: [signature]	Sampler's Printed Name: Aaron Weisrfenning

ANALYSIS REQUESTED (Include Method Number):

Preservative: 1. HCL; 2. HNO3; 3. H2SO4; 4. NaOH; 5. Zn. Acetate; 6. MeOH; 7. NaHSO4; 8. Other

CLIENT SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	Matrix	NUMBER OF CONTAINERS	Appendix I VOCs+THF	8 RCRA Metals	REMARKS
9209-MW1		4-3-14	715	GW	4	X	X	- provide cdd
9209-CD1		4-3-14	800	GW	4	X	X	- report according to NC SWSB guidelines
9209-CD2		4-3-14	745	GW	4	X	X	
9209-CD3		4-3-14	730	GW	4	X	X	
EQ Blank		4-3-14	815	GW	4	X	X	
Trip Blank		—	—	GW	3	X		

Special Instructions/Comments: 3.7°C

TURNAROUND REQUIREMENTS
- RUSH (SURCHARGES APPLY)
- X STANDARD
- REQUESTED FAX DATE
- REQUESTED REPORT DATE

REPORT REQUIREMENTS
- I. Results Only
- X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
- III. Results + QC and Calibration Summaries
- IV. Data Validation Report with Raw Data
- Edata: X Yes ___ No

INVOICE INFORMATION
- P.O. #
- Bill to: Wake County

Relinquished By	Received By	Relinquished By	Received By	Relinquished By	Received By
Signature: [signature]	Signature: [signature]	Signature	Signature	Signature	Signature
Printed Name: Aaron Weisrfenning	Printed Name: T. Pillington	Printed Name	Printed Name	Printed Name	Printed Name
Firm: CDM Smith	Firm: ALS	Firm	Firm	Firm	Firm
Date/Time: 4-3-14 / 1500	Date/Time: 4-4-14 1005	Date/Time	Date/Time	Date/Time	Date/Time

CDM Smith

cdmsmith.com