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January 21, 2013

Jaclyne Drummond
Compliance Hydrogeologist
Solid Waste Section
Division of Waste Management
1646 Mail Service Center
Raleigh, NC 27699-1646

Re: **Groundwater Assessment Plan
Town of Kernersville Landfill (#34-04)
Forsyth County, NC**

Dear Ms. Drummond:

This letter serves as a Groundwater Assessment Plan for the Town of Kernersville Landfill (Permit #34-04) and is provided in response to your request for the plan, dated November 1, 2012. The reason for requesting the Groundwater Assessment Plan was historic and recent groundwater monitoring results that indicate the potential for impacts to groundwater at the property boundaries. In accordance with 15A NCAC 2L .0106, a groundwater assessment is required.

BACKGROUND INFORMATION

The Town of Kernersville Landfill is a closed, unlined municipal solid waste (MSW) landfill located on approximately 58.2 acres in Forsyth and Guilford Counties, North Carolina, approximately 10 miles north of the City of Kernersville. The waste disposal area comprises approximately 13.8 acres. The facility was issued a Permit to Operate on May 15, 1985 and a letter of closure was issued on December 10, 1991.

The area surrounding the landfill is zoned residential/agricultural and contains open fields and woodlands. The landfill is separated to the North from the Waste Management Piedmont Landfill and Recycling Center Facility by Freeman Road. The landfill is bounded to the south by an unnamed tributary of Belews Creek. See Drawing 1 for a map of the site.

Groundwater at the site flows to the southwest. Four monitoring wells MW-2, MW-3, MW-3D and MW-4 are located across the southwest edge of refuse and range in distance from the western boundary from approximately 130 feet to 450 feet. Since 2009, a number of volatile organic compounds (VOCs) including benzene, 1,1-dichloroethane, 1,2-dichloroethane, 1,2-dichloropropane, tetrachloroethylene, trichloroethylene, and vinyl chloride have been detected in the downgradient wells in concentrations that exceed the 15A NCAC 2L (2L) standard. Table 1 summarizes which compounds have been detected above the 2L standard and in which wells the exceedances exist.

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In addition to the VOCs, there are also isolated occurrences of metals that are periodically detected in both upgradient and downgradient monitoring wells at the site.

It is the intent of the proposed Groundwater Assessment Plan to evaluate the groundwater conditions at the site to assess fate and migration of the VOCs and metals in groundwater as well as to conduct a preliminary exposure assessment.

GROUNDWATER ASSESSMENT PLAN

Kernersville will initiate a Groundwater Assessment. The assessment will be based largely on existing information about the site, including historic groundwater quality monitoring results, groundwater flow data and definition of the hydrogeologic flow regime in the area of the landfill.

The assessment will have the following elements.

Historical Groundwater Quality Review

Historical groundwater monitoring results will be reviewed and evaluated. The contaminants of concern will be reviewed with respect to occurrence, concentrations, trends, and location. Historic groundwater quality tables and an analysis of the data will be provided.

Groundwater Flow

The groundwater flow regime will be characterized based on existing information. Existing information is limited, as historical boring logs or reports have not been located. Additional local geologic setting information may be available from reports for the Waste Management Piedmont landfill, located adjacent to the Kernersville landfill but such reports have not yet been identified or located. Using available information identified to date, this evaluation will assess depth to groundwater, groundwater flow direction, and groundwater to surface water discharge points. Slug testing will be performed in select wells to allow an approximation of hydraulic conductivity so that groundwater flow velocity can be estimated. An up to date groundwater contour map will be provided.

Historical Surface Water Quality Review

There is an un-named stream that runs from the southeast to the northwest along the downgradient side of the landfill. Upstream and downstream surface water samples are routinely collected from this stream. Given the stream's location, its water quality is significant in making an assessment of potential impacts of the landfill. Historical surface water monitoring results will be reviewed and evaluated. The contaminants of concern will be reviewed with respect to occurrence, concentrations, trends, and location. Historic surface water quality tables and an analysis of the data will be provided.

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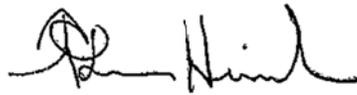
Conceptual Site Model

Based on available site information, Joyce Engineering will develop a conceptual site model for the landfill which will serve to present conclusions related to groundwater flow rate and direction, groundwater quality, nature, extent, fate and migration of groundwater impacts, surface water impacts and potential exposure scenarios.

Report

Joyce Engineering will develop a report that will describe the reviewed data and findings and present the conclusions discussed above and will include associated drawings and tables to support the findings.

Sincerely,
JOYCE ENGINEERING, INC.

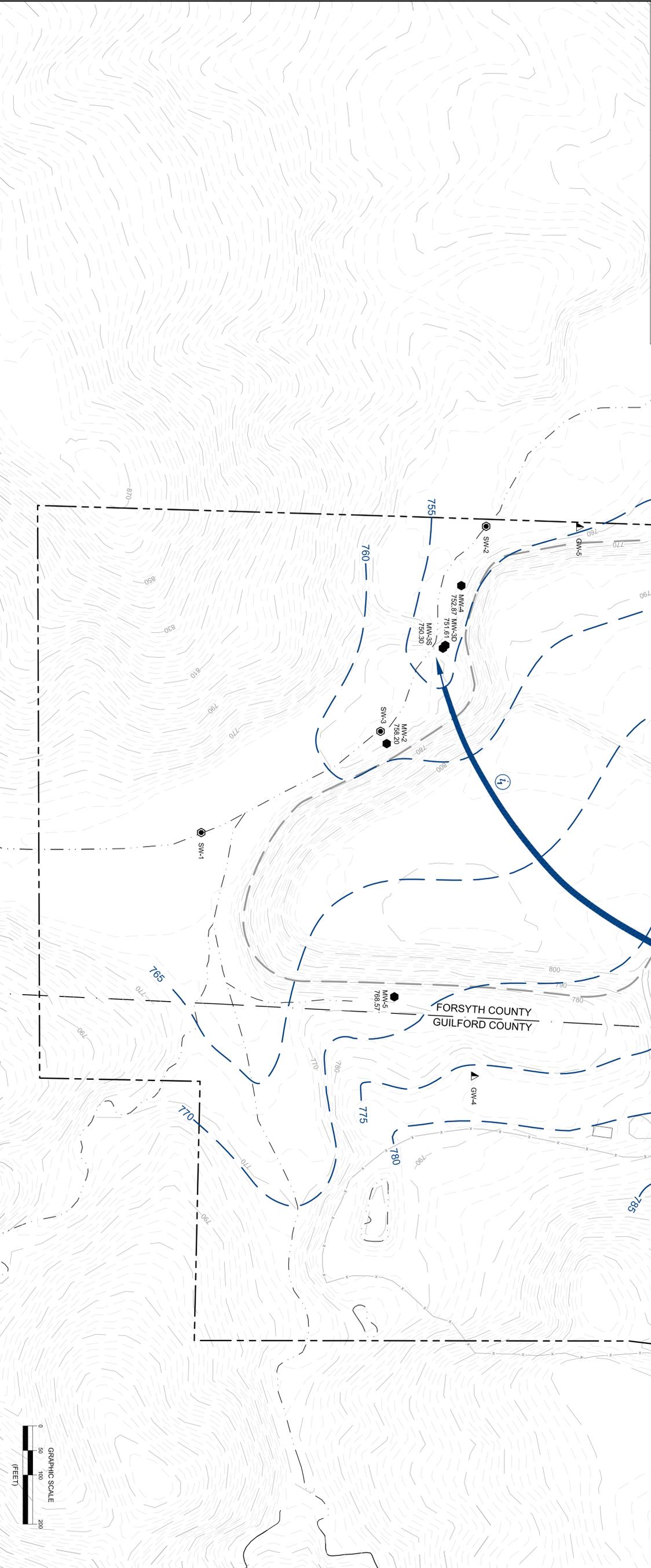
A handwritten signature in black ink, appearing to read "L. Hinline", written over a horizontal line.

Larry Hinline, PG
Technical Consultant

Cc: Thad Buck, Kernersville, NC

LEGEND

- 800 --- EXISTING 10' TOPOGRAPHIC CONTOUR
- 770 --- EXISTING 2' TOPOGRAPHIC CONTOUR
- --- PROPERTY LINE
- --- EXISTING ROAD
- --- APPROXIMATE LIMITS OF WASTE
- --- CENTERLINE OF STREAM
- --- GROUNDWATER CONTOUR AND ELEVATION
- SW-1 APPROXIMATE SURFACE WATER SAMPLING POINT LOCATION AND IDENTIFICATION
- MM-1 771.88 MONITORING WELL IDENTIFICATION AND WATER LEVEL READING
- ▲ GW-1 GROUNDWATER FLOW DIRECTION WITH GRADIENT CALCULATION SEGMENT
- ▲ GW-6 EXISTING LANDFILL GAS WELL
- ▲ GW-11 PROPOSED LANDFILL GAS WELL
- ◇ GP-1 PROPOSED LANDFILL GAS PROBE



DRAWING NO. 1	SCALE AS SHOWN	PROJECT NO. 838.1201.12	TOWN OF KERNERSVILLE LANDFILL FORSYTH COUNTY, NORTH CAROLINA	 2211 W. MEADOWVIEW ROAD GREENSBORO, NC 27407 PHONE: (336) 323-0092 NC CORP LIC: C-0782	DESIGNED ACE	© 2013 Joyce Engineering All rights reserved.	DATE	REVISIONS AND RECORD OF ISSUE	NO	BY	CK	APP
		POTENTIOMETRIC SURFACE CONTOUR MAP NOVEMBER 27, 2012	DRAWN HRW CHECKED ACE APPROVED GVB DATE 01/02/13									

TABLE 1

SUMMARY OF HISTORICAL GROUNDWATER CONSTITUENTS

Constituent	Concentration (µg/L)												Blanks				
	Date	DL	RL	Background		Downgradient											
				MW-1	MW-6	MW-2	MW-3S	MW-3D	MW-4	MW-5							
Antimony GWPS = 1.4 µg/L (10/23/07) GWPS = 1 µg/L (8/1/10)	30-Dec-09	1.2	6.0	Dry	ND	5.4	B	ND	ND	4.5	B	NS	1.4	J			
	01-Jun-10	1.2	6.0	Dry	ND	ND	ND	ND	ND	ND	NS	3.9	J				
	29-Dec-10	2.6	6.0	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND				
	29-Jun-11	5.0	6.0	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND				
	01-Nov-11	5.0	6.0	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND				
	01-May-12	5.0	6.0	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND				
	07-Nov-12	0.48	6.0	NS	Dry	ND	ND	ND	ND	ND	NS	ND	ND				
Arsenic NC 2L = 10 µg/L (1/11/10)	29-Jun-11	5.0	10.0	NS	ND	ND	ND	ND	ND	6.2	J	ND	ND				
	01-Nov-11	5.0	10.0	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND				
	01-May-12	5.0	10.0	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND				
	07-Nov-12	0.094	10.0	NS	Dry	1.43	B	1.42	B	0.87	B	1.04	B	NS	1.0	J	
Barium NC 2L = 700 µg/L (1/11/10)	30-Dec-09	1.1	100	Dry	74.1	J	496	178	18.2	J	89.0	J	NS	3.6	J		
	01-Jun-10	1.1	100	Dry	58.1	J	326	187	22.2	J	94.9	J	NS	2.0	J		
	29-Dec-10	0.20	100	NS	46.3	B	430	112	38.0	B	92.1	J	72.6	J	11.3	J	
	29-Jun-11	5.0	100	NS	77.7	J	370	128	41.2	J	98.4	J	113	ND	ND		
	01-Nov-11	5.0	100	NS	125	J	413	132	41.7	J	111	J	72.1	J	ND		
	01-May-12	5.0	100	NS	78.8	J	323	121	40.0	J	99.7	J	66.1	J	ND		
	07-Nov-12	0.39	100	NS	Dry	J	369	127	41.0	B	98.7	J	NS	12.2	J		
Beryllium GWPS = 4 µg/L (10/23/07)	30-Dec-09	0.2	1.0	Dry	ND	J	0.5	J	ND	ND	ND	NS	ND	ND			
	01-Jun-10	0.2	1.0	Dry	0.6	J	0.7	J	ND	ND	ND	NS	ND	ND			
	29-Dec-10	0.10	1.0	NS	ND	J	ND	ND	ND	ND	ND	0.48	J	ND			
	29-Jun-11	1.0	1.0	NS	ND	J	ND	ND	ND	ND	ND	ND	ND	ND			
	01-Nov-11	1.0	1.0	NS	ND	J	ND	ND	ND	ND	ND	ND	ND	ND			
	01-May-12	1.0	1.0	NS	ND	J	ND	ND	ND	ND	ND	ND	ND	ND			
	07-Nov-12	0.049	1.00	NS	Dry	J	0.34	J	ND	ND	0.099	J	NS	ND			
Cadmium NC 2L = 2 µg/L (1/11/10)	30-Dec-09	0.2	1.0	Dry	ND	J	0.5	J	5.6	ND	ND	NS	ND	ND			
	01-Jun-10	0.2	1.0	Dry	2.9	J	1.0	B	5.3	0.4	B	0.4	B	NS	0.4	J	
	29-Dec-10	0.50	1.0	NS	ND	J	ND	ND	ND	ND	ND	ND	ND	ND			
	29-Jun-11	1.0	1.0	NS	ND	J	ND	ND	ND	ND	ND	ND	ND	ND			
	01-Nov-11	1.0	1.0	NS	ND	J	ND	ND	ND	ND	ND	ND	ND	ND			
	01-May-12	1.0	1.0	NS	ND	J	ND	ND	ND	ND	ND	ND	ND	ND			
	07-Nov-12	0.026	1.00	NS	Dry	J	0.15	J	ND	ND	0.043	J	NS	ND			
Chromium NC 2L = 10 µg/L (1/11/10)	30-Dec-09	0.7	10.0	Dry	ND	J	2.7	J	9.7	J	ND	3.1	J	NS	ND		
	01-Jun-10	0.7	10.0	Dry	3.5	J	1.6	J	12.4	J	1.2	J	3.2	J	NS	ND	
	29-Dec-10	0.40	10.0	NS	0.48	J	1.3	J	0.57	J	ND	5.5	J	3.8	J	ND	
	29-Jun-11	5.0	10.0	NS	ND	J	ND	ND	ND	ND	ND	ND	ND	ND	ND		
	01-Nov-11	5.0	10.0	NS	ND	J	ND	ND	ND	ND	10.3	ND	ND	ND			
	01-May-12	5.0	10.0	NS	ND	J	ND	ND	ND	ND	5.8	J	ND	ND			
	07-Nov-12	0.030	10.0	NS	Dry	J	0.71	J	0.12	B	0.094	B	7.31	J	NS	0.099	J
Cobalt GWPS = 70 µg/L (10/23/07) GWPS = 1 µg/L (10/1/10)	30-Dec-09	0.7	10.0	Dry	ND	J	6.4	J	11.2	ND	1.8	J	NS	ND			
	01-Jun-10	0.7	10.0	Dry	1.8	J	2.5	J	8.5	J	ND	1.7	J	NS	ND		
	29-Dec-10	0.60	10.0	NS	ND	J	4.9	J	1.7	J	ND	1.6	J	10.2	ND		
	29-Jun-11	5.0	10.0	NS	ND	J	ND	ND	ND	ND	ND	9.9	J	ND			
	01-Nov-11	5.0	10.0	NS	ND	J	ND	ND	ND	ND	ND	5.2	J	ND			
	01-May-12	5.0	10.0	NS	ND	J	ND	ND	ND	ND	ND	13.9	J	ND			
	07-Nov-12	0.053	10.0	NS	Dry	J	1.98	J	3.89	J	0.43	B	2.02	J	NS	0.24	J
Copper NC 2L = 1,000 µg/L (10/23/07)	30-Dec-09	2.0	10.0	Dry	ND	J	ND	10.6	ND	1.5	J	NS	ND	ND			
	01-Jun-10	2.0	10.0	Dry	12.2	B	3.3	B	33.2	3.9	B	6.8	B	NS	4.8	J	
	29-Dec-10	0.30	10.0	NS	ND	J	ND	0.49	J	0.59	J	1.5	J	7.9	J	ND	
	29-Jun-11	5.0	10.0	NS	ND	J	ND	ND	ND	ND	ND	16.6	J	ND			
	01-Nov-11	5.0	10.0	NS	ND	J	ND	ND	ND	ND	5.4	J	ND	ND			
	01-May-12	5.0	10.0	NS	ND	J	ND	ND	ND	ND	ND	ND	ND	ND			
	07-Nov-12	0.093	10.0	NS	Dry	J	3.56	B	0.54	B	0.98	B	1.83	B	NS	1.23	J

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Constituent	Concentration (µg/L)											Blanks
	Date	DL	RL	Background		Downgradient						
				MW-1	MW-6	MW-2	MW-3S	MW-3D	MW-4	MW-5		
Lead NC 2L = 15 µg/L (10/23/07)	30-Dec-09	2.0	10.0	Dry	ND	ND	10.2	ND	ND	NS	ND	ND
	01-Jun-10	2.0	10.0	Dry	9.1 B	8.2 B	8.7 B	3.0 B	3.9 B	NS	3.2	J
	29-Dec-10	4.0	10.0	NS	ND	ND	ND	ND	ND	6.5 J	ND	
	29-Jun-11	5.0	10.0	NS	ND	ND	ND	ND	ND	19.9	ND	
	01-Nov-11	5.0	10.0	NS	5.5 J	ND	ND	ND	ND	ND	ND	
	01-May-12	5.0	10.0	NS	ND	ND	ND	ND	ND	ND	ND	
	07-Nov-12	0.025	10.0	NS	Dry	1.00 B	0.091 B	0.066 B	1.12 B	NS	0.58	J
Nickel NC 2L = 100 µg/L (10/23/07)	30-Dec-09	0.6	50.0	Dry	ND	ND	8.1 J	1.8 J	1.6 J	NS	ND	ND
	01-Jun-10	0.6	50.0	Dry	ND	ND	6.0 J	ND	0.9 J	NS	ND	ND
	29-Dec-10	1.7	50.0	NS	ND	ND	ND	ND	ND	2.0 B	3.1	J
	29-Jun-11	5.0	50.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	01-Nov-11	5.0	50.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	01-May-12	5.0	50.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	07-Nov-12	0.26	50.0	NS	Dry	0.73 B	1.19 B	0.65 B	5.57 J	Dry	0.84	J
Selenium NC 2L = 20 µg/L (1/11/10)	30-Dec-09	6.3	10.0	Dry	ND	ND	8.4 J	ND	ND	NS	ND	ND
	01-Jun-10	6.3	10.0	Dry	ND	ND	6.3 J	ND	ND	NS	ND	ND
	29-Dec-10	3.8	10.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	29-Jun-11	10.0	10.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	01-Nov-11	10.0	10.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	01-May-12	10.0	10.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	07-Nov-12	0.11	10.0	NS	Dry	0.16 J	0.38 J	0.20 J	0.25 J	NS	ND	ND
Silver NC 2L = 20 µg/L (1/11/10)	30-Dec-09	1.1	10.0	Dry	ND	1.7 B	2.2 B	ND	ND	NS	1.9	J
	01-Jun-10	1.1	10.0	Dry	ND	ND	ND	ND	ND	NS	ND	ND
	29-Dec-10	0.10	10.0	NS	ND	1.8 J	0.36 J	0.19 J	0.23 J	ND	ND	ND
	29-Jun-11	5.0	10.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	01-Nov-11	5.0	10.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	01-May-12	5.0	10.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	07-Nov-12	0.017	10.0	NS	Dry	0.18 J	ND	ND	0.078 J	NS	ND	ND
Thallium GWPS = 0.28 µg/L (10/23/07) GWPS = 0.2 µg/L (10/1/10)	30-Dec-09	2.7	5.5	Dry	ND	ND	ND	ND	NS	3.7	J	ND
	01-Jun-10	2.7	5.5	Dry	ND	ND	ND	ND	NS	ND	ND	ND
	29-Dec-10	3.0	5.5	NS	ND	3.2 J	ND	ND	4.8 J	ND	ND	ND
	29-Jun-11	5.4	5.5	NS	ND	ND	ND	ND	ND	ND	ND	ND
	01-Nov-11	5.4	5.5	NS	ND	ND	ND	ND	ND	ND	ND	ND
	01-May-12	5.4	5.5	NS	ND	ND	ND	ND	ND	ND	ND	ND
	07-Nov-12	0.060	5.50	NS	Dry	0.16 J	ND	ND	0.76 J	NS	ND	ND
Vanadium GWPS = 3.5 µg/L (10/23/07) GWPS = 0.3 µg/L (10/1/10)	30-Dec-09	0.4	25.0	Dry	ND	1.4 J	37.4	1.5 J	4.3 J	NS	ND	ND
	01-Jun-10	0.4	25.0	Dry	1.2 J	3.4 J	84.2	1.4 J	4.8 J	NS	ND	ND
	29-Dec-10	0.20	25.0	NS	1.2 B	2.8 J	2.3 J	1.6 J	5.5 J	14.5 J	0.26	J
	29-Jun-11	5.0	25.0	NS	ND	ND	ND	ND	ND	22.0 J	ND	ND
	01-Nov-11	5.0	25.0	NS	7.2 J	ND	ND	ND	12.0 J	7.2 J	ND	ND
	01-May-12	5.0	25.0	NS	ND	ND	ND	ND	7.2 J	7.6 J	ND	ND
	07-Nov-12	0.085	25.0	NS	Dry	2.48 J	2.02 J	2.35 J	4.55 J	NS	ND	ND
Zinc NC 2L = 1,000 µg/L (1/11/10)	30-Dec-09	2.7	10.0	Dry	ND	10.1 B	204	15.9 B	24.8 B	NS	5.8	J
	01-Jun-10	2.7	10.0	Dry	16.2	13.5	415	8.5 J	22.2	NS	ND	ND
	29-Dec-10	0.40	10.0	NS	12.2 B	15.8 B	8.9 B	ND	4.6 B	38.1 B	12.5	
	29-Jun-11	10.0	10.0	NS	ND	23.6 B	22.3 B	ND	15.5 B	91.2 B	10.5	
	01-Nov-11	10.0	10.0	NS	16.6	ND	40.0	ND	16.2	31.4	ND	ND
	01-May-12	10.0	10.0	NS	ND	ND	13.5	ND	10.2	12.0	ND	ND
	07-Nov-12	1.31	10.0	NS	Dry	8.61 J	5.20 J	3.98 J	4.65 J	NS	ND	ND

TABLE 1

SUMMARY OF HISTORICAL GROUNDWATER CONSTITUENTS

Constituent	Concentration (µg/L)											Blanks				
	Date	DL	RL	Background		Downgradient										
				MW-1	MW-6	MW-2	MW-3S	MW-3D	MW-4	MW-5						
Acetone NC 2L = 6,000 µg/L (1/11/10)	29-Jun-11	2.2	100	NS	ND	2.3	B	2.4	B	3.9	B	ND	3.8	B	5.3	J
	01-Nov-11	2.2	100	NS	ND	ND		ND		ND		ND			14.6	J
	01-May-12	2.2	100	NS	ND	ND		ND		ND		ND			ND	
	07-Nov-12	0.193	100	NS	Dry	ND		ND		ND		NS			ND	
Benzene NC 2L = 1 µg/L (10/23/07)	30-Dec-09	0.1	1.0	Dry	ND	8.4		0.3	J	0.4	J	0.3	J	NS		ND
	01-Jun-10	0.1	1.0	Dry	ND	2.9		ND		ND		NS				ND
	29-Dec-10	0.25	1.0	NS	ND	8.1		ND		ND		ND				ND
	29-Jun-11	0.25	1.0	NS	ND	7.2		0.38	J	0.45	J	0.42	J	ND		ND
	01-Nov-11	0.25	1.0	NS	ND	8.6		ND		ND		ND				ND
	01-May-12	0.25	1.0	NS	ND	6.7		0.36	J	0.45	J	0.42	J	ND		ND
	07-Nov-12	0.111	1.0	NS	Dry	8.63		0.430	J	0.504	J	0.478	J	NS		ND
Chlorobenzene NC 2L = 50 µg/L (10/23/07)	30-Dec-09	0.1	3.0	Dry	ND	0.5	J	0.6	J	ND		ND		NS		ND
	01-Jun-10	0.1	3.0	Dry	ND	ND		ND		ND		NS				ND
	29-Dec-10	0.23	3.0	NS	ND	0.61	J	ND		ND		ND				ND
	29-Jun-11	0.23	3.0	NS	ND	0.46	J	1.0	J	0.37	J	ND		ND		ND
	01-Nov-11	0.23	3.0	NS	ND	0.59	J	1.1	J	0.37	J	ND		ND		ND
	01-May-12	0.23	3.0	NS	ND	{0.42}	J	0.94	B	0.38	B	ND		ND		0.30 {ND}
	07-Nov-12	0.083	3.00	NS	Dry	0.468	J	1.30	J	0.476	J	ND		NS		ND
Chloroethane NC 2L = 3,000 µg/L (1/11/10)	30-Dec-09	0.1	10.0	Dry	ND	ND		0.5	J	0.5	J	ND		NS		0.1
	01-Jun-10	0.1	10.0	Dry	ND	ND		0.4	J	ND		NS				ND
	29-Dec-10	0.54	10.0	NS	ND	ND		ND		ND		ND				ND
	29-Jun-11	0.54	10.0	NS	ND	ND		0.77	J	ND		0.57	J	ND		ND
	01-Nov-11	0.54	10.0	NS	ND	ND		0.79	J	ND		ND		ND		ND
	01-May-12	0.54	10.0	NS	ND	ND		ND		ND		ND		ND		ND
	07-Nov-12	0.235	10.0	NS	Dry	ND		ND		ND		ND		NS		ND
1,4-Dichlorobenzene NC 2L = 6 µg/L (1/11/10)	30-Dec-09	0.1	1.0	Dry	ND	3.8		2.2		2.3		3.1		NS		ND
	01-Jun-10	0.1	1.0	Dry	ND	1.2		0.9	J	ND		1.2		NS		ND
	29-Dec-10	0.33	1.0	NS	ND	3.9		1.1		2.3		1.9		ND		ND
	29-Jun-11	0.33	1.0	NS	ND	3.8		2.8		3.6		3.2		ND		ND
	01-Nov-11	0.33	1.0	NS	ND	4.7		4.1		4.1		3.5		ND		ND
	01-May-12	0.33	1.0	NS	ND	4.0		2.7		4.1		3.2		ND		ND
	07-Nov-12	0.083	1.00	NS	Dry	5.12		2.93		4.08		3.64		NS		ND
1,1-Dichloroethane NC 2L = 6 µg/L (1/11/10)	30-Dec-09	0.2	5.0	Dry	ND	22.8		1.9	J	4.0	J	2.4	J	NS		ND
	01-Jun-10	0.2	5.0	Dry	ND	11.0		1.1	J	ND		1.2	J	NS		ND
	29-Dec-10	0.32	5.0	NS	ND	28.2		2.4	J	4.1	J	2.6	J	ND		ND
	29-Jun-11	0.32	5.0	NS	ND	25.0		2.5	J	3.9	J	2.6	J	ND		ND
	01-Nov-11	0.32	5.0	NS	ND	27.2		2.3	J	4.0	J	2.3	J	ND		ND
	01-May-12	0.32	5.0	NS	ND	22.6		2.0	J	3.8	J	2.0	J	ND		ND
	07-Nov-12	0.208	5.0	NS	Dry	28.1		2.06	J	4.08	J	ND		NS		ND

TABLE 1

SUMMARY OF HISTORICAL GROUNDWATER CONSTITUENTS

Constituent	Concentration (µg/L)											Blanks		
	Date	DL	RL	Background		Downgradient								
				MW-1	MW-6	MW-2	MW-3S	MW-3D	MW-4	MW-5				
1,2-Dichloroethane NC 2L = 0.4 µg/L (1/11/10)	30-Dec-09	0.1	1.0	Dry	ND	1.2	0.7	J	1.2	ND	NS	ND		
	01-Jun-10	0.1	1.0	Dry	ND	ND	ND	ND	ND	NS	ND	ND		
	29-Dec-10	0.12	1.0	NS	ND	ND	0.82	J	1.1	ND	ND	ND		
	29-Jun-11	0.12	1.0	NS	ND	0.76	J	0.86	J	1.3	ND	ND	ND	
	01-Nov-11	0.12	1.0	NS	ND	0.95	J	ND	J	1.3	ND	ND	ND	
	01-May-12	0.12	1.0	NS	ND	0.71	J	0.70	J	1.1	ND	ND	ND	
	07-Nov-12	0.171	1.00	NS	Dry	ND	ND	ND	ND	ND	NS	ND		
1,1-Dichloroethylene NC 2L = 7 µg/L (10/23/07)	30-Dec-09	0.1	5.0	Dry	ND	0.4	J	ND	ND	ND	NS	ND		
	01-Jun-10	0.1	5.0	Dry	ND	ND	ND	ND	ND	NS	ND	ND		
	29-Dec-10	0.56	5.0	NS	ND	ND	ND	ND	ND	ND	ND	ND		
	29-Jun-11	0.56	5.0	NS	ND	ND	ND	ND	ND	ND	ND	ND		
	01-Nov-11	0.56	5.0	NS	ND	ND	ND	ND	ND	ND	ND	ND		
	01-May-12	0.56	5.0	NS	ND	ND	ND	ND	ND	ND	ND	ND		
	07-Nov-12	0.208	5.00	NS	Dry	ND	ND	ND	ND	ND	NS	ND		
Cis-1,2-Dichloroethylene NC 2L = 70 µg/L (10/23/07)	30-Dec-09	0.1	5.0	Dry	ND	68.2	11.0	51.0	21.8	NS	ND	ND		
	01-Jun-10	0.1	5.0	Dry	ND	23.0	7.6	ND	10.2	NS	ND	ND		
	29-Dec-10	0.19	5.0	NS	ND	66.7	16.8	56.7	24.1	ND	ND	ND		
	29-Jun-11	0.19	5.0	NS	ND	55.1	16.5	62.7	25.1	ND	ND	ND		
	01-Nov-11	0.19	5.0	NS	ND	59.4	15.2	59.3	23.2	ND	ND	ND		
	01-May-12	0.19	5.0	NS	ND	{48.7}	14.2	59.5	22.1	ND	0.21 {ND}	J		
	07-Nov-12	0.103	5.00	NS	Dry	59.7	13.6	71.3	26.4	NS	ND	ND		
Trans-1,2-Dichloroethylene NC 2L = 100 µg/L (10/23/07)	30-Dec-09	0.1	5.0	Dry	ND	1.4	J	ND	0.2	J	0.2	J	NS	ND
	01-Jun-10	0.1	5.0	Dry	ND	0.6	J	ND	ND	ND	NS	ND	ND	
	29-Dec-10	0.49	5.0	NS	ND	1.7	J	ND	ND	ND	ND	ND	ND	
	29-Jun-11	0.49	5.0	NS	ND	1.5	J	ND	ND	ND	ND	ND	ND	
	01-Nov-11	0.49	5.0	NS	ND	1.6	J	ND	ND	ND	ND	ND	ND	
	01-May-12	0.49	5.0	NS	ND	1.4	J	ND	ND	ND	ND	ND	ND	
	07-Nov-12	0.077	5.00	NS	Dry	1.59	J	ND	ND	ND	NS	ND	ND	
1,2-Dichloropropane NC 2L = 0.6 µg/L (1/11/10)	30-Dec-09	0.1	1.0	Dry	ND	5.7	0.6	J	1.1	0.7	J	NS	ND	
	01-Jun-10	0.1	1.0	Dry	ND	1.9	ND	ND	ND	NS	ND	ND		
	29-Dec-10	0.27	1.0	NS	ND	5.3	ND	ND	ND	ND	ND	ND		
	29-Jun-11	0.27	1.0	NS	ND	4.8	0.90	J	1.3	0.73	J	ND	ND	
	01-Nov-11	0.27	1.0	NS	ND	4.9	0.76	J	1.3	ND	ND	ND	ND	
	01-May-12	0.27	1.0	NS	ND	4.4	0.76	J	1.4	0.62	J	ND	ND	
	07-Nov-12	0.150	1.0	NS	Dry	4.93	ND	1.66	ND	NS	ND	ND	ND	

TABLE 1

SUMMARY OF HISTORICAL GROUNDWATER CONSTITUENTS

Constituent	Concentration (µg/L)											
	Date	DL	RL	Background		Downgradient					Blanks	
				MW-1	MW-6	MW-2	MW-3S	MW-3D	MW-4	MW-5		
Ethyl Benzene NC 2L = 600 µg/L (10/23/07)	30-Dec-09	0.1	1.0	Dry	ND	ND	ND	0.4	J	ND	NS	ND
	01-Jun-10	0.1	1.0	Dry	ND	ND	ND	ND	ND	NS	ND	ND
	29-Dec-10	0.30	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	29-Jun-11	0.30	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	01-Nov-11	0.30	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	01-May-12	0.30	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	07-Nov-12	0.109	1.00	NS	Dry	ND	ND	ND	ND	NS	ND	ND
Tetrachloroethylene NC 2L = 0.7 µg/L (10/23/07)	30-Dec-09	0.2	1.0	Dry	ND	1.2	ND	ND	ND	NS	ND	ND
	01-Jun-10	0.2	1.0	Dry	ND	1.4	ND	ND	ND	NS	ND	ND
	29-Dec-10	0.46	1.0	NS	ND	2.8	ND	ND	ND	ND	ND	ND
	29-Jun-11	0.46	1.0	NS	ND	3.6	ND	ND	ND	ND	ND	ND
	01-Nov-11	0.46	1.0	NS	ND	2.9	ND	ND	ND	ND	ND	ND
	01-May-12	0.46	1.0	NS	ND	3.0	ND	ND	ND	ND	ND	ND
	07-Nov-12	0.193	1.00	NS	Dry	2.52	ND	ND	ND	NS	ND	ND
Toluene NC 2L = 600 µg/L (1/11/10)	29-Jun-11	0.26	1.0	NS	ND	ND	ND	ND	ND	0.76	J	ND
	01-Nov-11	0.26	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	01-May-12	0.26	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	07-Nov-12	0.122	1.00	NS	Dry	ND	ND	ND	ND	NS	ND	ND
Trichloroethylene NC 2L = 3 µg/L (1/11/10)	30-Dec-09	0.1	1.0	Dry	ND	8.0	ND	ND	0.2	J	NS	ND
	01-Jun-10	0.1	1.0	Dry	ND	6.4	ND	ND	ND	NS	ND	ND
	29-Dec-10	0.47	1.0	NS	ND	10.1	ND	ND	ND	ND	ND	ND
	29-Jun-11	0.47	1.0	NS	ND	14.6	ND	ND	ND	ND	ND	ND
	01-Nov-11	0.47	1.0	NS	ND	10.2	ND	ND	ND	ND	ND	ND
	01-May-12	0.47	1.0	NS	ND	11.6	ND	ND	ND	ND	ND	ND
	07-Nov-12	0.161	1.00	NS	Dry	9.97	ND	ND	ND	NS	ND	ND
Trichlorofluoromethane NC 2L = 2000 µg/L (1/11/10)	29-Jun-11	0.20	1.0	NS	ND	0.95	J	ND	ND	ND	ND	ND
	01-Nov-11	0.20	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	01-May-12	0.20	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	07-Nov-12	0.157	1.00	NS	Dry	ND	ND	ND	ND	NS	ND	ND
Vinyl chloride NC 2L = 0.03 µg/L (1/11/10)	30-Dec-09	0.1	1.0	Dry	ND	4.0	2.8	4.1	26.2	NS	ND	ND
	01-Jun-10	0.1	1.0	Dry	ND	2.2	3.0	ND	26.7	NS	ND	ND
	29-Dec-10	0.62	1.0	NS	ND	3.5	2.4	4.7	25.6	ND	ND	ND
	29-Jun-11	0.62	1.0	NS	ND	2.8	2.8	4.6	28.7	ND	ND	ND
	01-Nov-11	0.62	1.0	NS	ND	5.1	2.6	6.9	24.0	ND	ND	ND
	01-May-12	0.62	1.0	NS	ND	3.5	2.0	4.8	21.8	ND	ND	ND
	07-Nov-12	0.127	1.00	NS	Dry	7.94	2.73	6.99	29.9	NS	ND	ND
Xylenes NC 2L = 500 µg/L (1/11/10)	30-Dec-09	0.3	4.0	Dry	ND	ND	ND	3.5	J	ND	NS	ND
	01-Jun-10	0.3	4.0	Dry	ND	ND	ND	ND	ND	NS	ND	ND
	29-Dec-10	0.66	2.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	29-Jun-11	0.66	2.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	01-Nov-11	0.66	2.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	01-May-12	0.66	2.0	NS	ND	0.89	J	ND	ND	ND	ND	ND
	07-Nov-12	0.179	5.00	NS	Dry	ND	ND	ND	ND	NS	ND	ND

Notes:

1. RL = Reporting limit (NC SWSL).
2. All concentrations are in micrograms per liter (ug/L).
3. NC 2L Standard is the groundwater quality standard established under 15A NCAC 2L.
4. MW = Monitoring well.

TABLE 1

SUMMARY OF HISTORICAL GROUNDWATER CONSTITUENTS

Constituent	Concentration (µg/L)									
	Date	DL	RL	Background		Downgradient				Blanks
				MW-1	MW-6	MW-2	MW-3S	MW-3D	MW-4	

- 5. Blanks = Quality control blanks, including trip, field, and laboratory blanks. The listed concentration is the highest value reported in all blanks associated with the samples.
- 6. ND = Not detected at the laboratory's detection limit.
- 7. J = Estimated value since concentration is less than the laboratory's reporting limit and greater than the detection limit.
- 8. B = Probable field and/or laboratory contamination since the concentration is within five times the concentration reported in the associated quality control blanks.
- 9. Shaded values are greater than the NC 2L Standard or GWPS.
- 10. DL = Detection limit.
- 11. GWPS = Groundwater Protection Standard (GWPS is used when the NC 2L Standard has not been established.)
- 12. Dry = Monitoring well was considered dry.
- 13. NS = Not sampled.