

PREPARED FOR:

TOWN OF KERNERSVILLE
PUBLIC WORKS DEPARTMENT
P.O. Box 728
KERNERSVILLE, NORTH CAROLINA 27285-0728



**TOWN OF KERNERSVILLE LANDFILL
PERMIT NO. 34-04**

GROUNDWATER ASSESSMENT REPORT

MAY 2013

PREPARED BY:



2211 WEST MEADOWVIEW ROAD, SUITE 101
GREENSBORO, NORTH CAROLINA 27407
NC LICENSE NUMBER C-0782
PHONE: (336) 323-0092
FAX: (336) 323-0093
JOYCE PROJECT No. 00838.1301.12 TASK 04

**Groundwater Assessment Report
Town of Kernersville Landfill
Forsyth County, North Carolina**

TABLE OF CONTENTS

INTRODUCTION	1
BACKGROUND INFORMATION	1
GROUNDWATER QUALITY	1
GROUNDWATER FLOW	3
SURFACE WATER QUALITY	4
CONCEPTUAL SITE MODEL	5
CONTAMINANT FATE AND MIGRATION	5
CONCLUSIONS	6

Figures

Figure No. 1	Site Location Map
Figure No. 2	Plots of VOC Concentrations Versus Time
Figure No. 3	Cross Section A – A’

Drawings

Drawing No. 1	Potentiometric Surface Contour Map November 27, 2012
Drawing No. 2	Historical Groundwater Quality Summary

Tables

Table 1	Historical Groundwater Results
Table 2	Constituents Exceeding NC 2L Standards
Table 3	Condensed Summary of NC 2L Exceedances
Table 4	Historical Surface Water Results

**Groundwater Assessment Report
Town of Kernersville Landfill
Forsyth County, North Carolina**

INTRODUCTION

This document serves as a Groundwater Assessment Report for the Town of Kernersville Landfill. On November 1, 2012, the Town of Kernersville (the Town) received notification from the North Carolina Department of Natural Resources (NC DENR) that because of the detection of groundwater impacts at the site that could potentially be crossing the property boundary, the Town needed to submit a Phased Groundwater Assessment Plan and complete the described groundwater assessment. On January 21, 2013, Joyce Engineering (JOYCE), on behalf of the Town, submitted a Groundwater Assessment Plan. On February 14, 2013, NC DENR approved the Groundwater Assessment Plan.

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 ten miles north of the City of Kernersville. (See Figure 1, Site Location Map.) 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 from the Waste Management Piedmont Landfill and Recycling Center Facility to the north by Freeman Road. The landfill is bounded to the south and southwest by an unnamed tributary of Belews Creek. Groundwater at the site flows to the southwest toward the unnamed tributary. (See Drawing 1 for a map of the site.)

Since 2009, a number of volatile organic compounds (VOCs) including benzene, 1,1-dichloroethane (1,1-DCA), 1,2-dichloroethane (1,2-DCA), 1,2-dichloropropane (DCP), tetrachloroethylene (PCE), trichloroethylene (TCE), and vinyl chloride VC) have been detected in the downgradient wells in concentrations that exceed the 15A NCAC 2L (2L) standard. 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. Impacted monitoring wells include MW-2, MW-3, MW-3D and MW-4, which are located across the southwest edge of refuse and range in distance from the western boundary of the facility from approximately 130 feet to 450 feet.

GROUNDWATER QUALITY

Groundwater Monitoring Program

The current groundwater compliance monitoring network includes six monitoring wells, including one upgradient well (MW-6) and five downgradient wells (MW-2, MW-3, MW-3D, MW-4 and MW-5). These wells are summarized below, along with their current monitoring program status.

Monitoring Well	Classification	Monitoring Program	Total Depth from TOC (ft)
MW-1	Former Background	Water Levels Only	34.69
MW-2	Compliance	Detection (.0500)	13.18
MW-3S	Compliance	Detection (.0500)	24.00
MW-3D	Compliance	Detection (.0500)	56.96
MW-4	Compliance	Detection (.0500)	14.40
MW-5	Compliance	Detection (.0500)	11.36
MW-6	Background	Detection (.0500)	20.46

*TOC = Top of casing.

The locations of the monitoring wells are shown on Drawing No. 1. Existing monitoring well MW-6 serves as the background well for the facility. Monitoring well MW-6 replaced MW-1 as the facility's background well due to infrequent opportunities to sample the well as a result of low well volumes or the well being dry. Downgradient monitoring wells MW-2, MW-3S, MW-3D, MW-4, and MW-5 are monitored as part of the compliance network for the facility. MW-1 is monitored for water levels only, as conditions permit.

Groundwater samples are collected semiannually during the second and fourth quarters. Samples are analyzed for all constituents listed in the NCSWMR Appendix I during the first and second semiannual events.

Historical Groundwater Quality

Based on the limited records that could be located, semi-annual detection monitoring at the landfill began in May 2006. Groundwater quality data is available from two events in 2006 and one event in 2007. Data is not available for 2008, or the first event in 2009. Since December 2009, complete records exist for the semi-annual groundwater monitoring. Available data is presented on Table 1 and is summarized below.

Impacts over time were assessed in regard to identification of contaminants, frequency of occurrence and location of occurrence. Table 1 summarizes all historical results while Table 2 summarizes only those analytes that have been detected over NC 2L standards. Additionally, Drawing 2 summarizes the location and occurrence of groundwater impacts and Table 3 presents a condensed summary of the occurrence of NC 2L exceedances in groundwater.

Six different metals have been identified to occur over 2L standards. These metals include barium, cadmium, chromium cobalt, lead and vanadium. Metals have not been detected over 2L standards consistently or in a manner that could be considered to constitute a trend. Most metals

have been detected over standards only once or twice and in most cases not in recent sampling events. Exceptions to that observation include vanadium in MW-3S which has been detected over standards on four occasions, but not since 2010. Cobalt has been detected in MW-5 in four different events in the time span between 2006 and 2012.

VOCs in groundwater represent a more significant site condition. Generally, the impacts are concentrated in monitoring wells along the downgradient side of the site. Benzene, 1,1-DCA, PCE, TCE and VC all have been detected at concentrations above the 2L standard in MW-2 in virtually all sampling events, until, in some cases, recently. VC has also been consistently detected over the 2L standard in MW-3S, MW-3D and MW-4. 1,2-DCE has exceeded the 2L standard in four monitoring events in MW-3D. VC is consistently present in both MW-3S and MW-3D and 1,2-DCA and DCP are generally present in MW-3D. Figure 2 shows plots of individual VOC constituents versus time for the impacted wells.

GROUNDWATER FLOW

Site Geology

The site lies within the Piedmont Physiographic Province and is underlain by Pennsylvanian to Permian Age granitic bedrock. (Geologic map of North Carolina, 1985) There is relatively limited hydrogeological data available for the Kernersville landfill. Although total depth of well data exists, JOYCE could not locate drilling records for wells on the property through a review of both the Town of Kernersville records and NC DENR records. In 2012, JOYCE installed a number of gas probes at the site and boring records were prepared for those probe installations. In most cases, the borings for the gas probes penetrated clayey sands. These descriptions indicate that the subsurface material at the facility is a fairly uniform, homogeneous red clayey sand. Depths of borings for the probes ranged from 8 feet to 34 feet. Bedrock was not encountered in any of those borings.

Depth to Water and Groundwater Flow Direction

The measuring point elevation (elevation of the top of the well's PVC casing) is known for all of the groundwater monitoring wells at the site. Depth to water information is recorded during each groundwater monitoring event. Groundwater surface contour maps are updated regularly and flow direction is determined from those maps. Depth to groundwater at the site ranges from approximately four feet on the upgradient/east side of the site in MW-5, and on the downgradient/west side of the site in MW-2 to approximately 34 feet in MW-1 near the northeast corner of the waste mass. Groundwater elevation ranges from approximately 785 feet above mean sea level (amsl) on the upgradient side of the site (MW-6) to approximately 755 amsl feet on the down gradient side of the site. Groundwater flow direction at the site is from the northeast to the southwest. The groundwater flow direction map based on the November 27, 2012 groundwater monitoring event data is presented as Drawing 1.

Groundwater Flow Velocity

Horizontal groundwater gradients were estimated based on the November 2012 groundwater levels. Gradient was estimated from the groundwater flow arrow segment that intersects the potentiometric surface contours on Drawing 1. The horizontal gradient was estimated as approximately 0.03 ft/ft. Average hydraulic conductivity (K) was estimated from slug tests completed at the site in April 2013. Hydraulic conductivity was estimated to be 1.73 ft/day. Linear groundwater flow velocity was calculated using the following modified Darcy equation:

$$V = Ki/n = (1.73 \times 0.03)/0.3 = 0.173$$

where V = average linear velocity (ft/day), K = hydraulic conductivity (ft/day), i = horizontal hydraulic gradient, and n = effective porosity (estimated to be 30%).

The linear groundwater flow velocity estimates are approximately 0.173 ft/day.

SURFACE WATER QUALITY

Surface Water Monitoring Program

Surface water at the Town of Kernersville Landfill is monitored semiannually in conjunction with the groundwater sampling events. Samples are collected from three surface water monitoring points (SW-1, SW-2, and SW-3). The locations of the surface water monitoring points are shown on Drawing No. 1.

Surface water samples are collected and analyzed for the NCSWMR Appendix I list of constituents during both semiannual monitoring events. The results are compared to the 15A NCAC 2B (NC 2B) Surface Water Standards in a value-to-value comparison. These surface water monitoring points are summarized below, along with their current monitoring program status.

Surface Point	Classification	Monitoring Program
SW-1	Up Stream/Compliance	Surface Water
SW-2	Compliance	Surface Water
SW-3	Compliance	Surface Water

Historical Surface Water Quality Review

The surface water monitoring points are in the unnamed stream that runs from the southeast to the northwest along the downgradient side of the landfill. Given the stream's location, its water quality is significant in making an assessment of potential impacts of the landfill.

Surface water sampling results are summarized on Table 4. There have been no exceedances of NC DENR 2B standards for constituents in surface water. Trace detections of metals and VOCs

have been identified, but in most cases, the results are either blank qualified, estimated concentrations or are present at the upstream sampling location.

CONCEPTUAL SITE MODEL

Based on the data and information summarized above, JOYCE developed a conceptual site model of the Kernersville Landfill site in order to assess the fate and migration of contaminants in groundwater. The Town of Kernersville landfill occupies 13.5 acres and was operated from 1985 until 1993. The landfill was built over uniform fine clayey, sand. Groundwater at the site ranges in depth from approximately 4 feet to as much as 34 feet. Groundwater flows toward the southwest with a gradient of approximately 0.03 ft/ft and a seepage velocity of 0.173 feet/day. Groundwater flows primarily through an unconfined, clayey sand aquifer.

No historic topographic maps could be located to determine original grades, but observations made during site visits suggest that there was a uniform slope from the east, down toward the unnamed creek on the west side of the landfill and that the landfill was constructed on that slope. There may have been some excavation or trenching, but it would have been minimal given the shallow depth to water in the area.

Area topography, estimated limits of refuse and the water table are represented in Figure 3, a southwest to northeast cross section through the landfill. Across the unnamed stream on the western/downgradient side of the landfill, there is a significant increase in topographic elevation. In a distance of approximately 600 feet, there is an increase in elevation of approximately 90 feet. Given the significant elevation change to the west of the landfill, it must be concluded that the unnamed stream represents a flow boundary on the downgradient side of the landfill. Also, the unnamed stream is the ultimate receptor of groundwater discharging from the landfill.

CONTAMINANT FATE AND MIGRATION

Isolated occurrences of metals above 2L standards have been recorded in the two wells on the upgradient side of the landfill, MW-6 and MW-5. MW-5 is located within 50 feet of the waste mass and is therefore potentially impacted by some degree of radial flow out of the landfill in the upgradient direction. MW-6 is located approximately 400 feet from the landfill and should be sufficiently upgradient from the landfill to represent background conditions and has had isolated detections of cadmium and lead. The eastern boundary is approximately 690 feet to the east of MW-5 and 490 feet west of MW-6. Even though there were isolated detections of metals in MW-5, it can be assumed that there is no potential for those impacts to migrate across the eastern boundary of the site. Groundwater impacts would quickly enter the subregional flow to the west and move in that direction.

Impacts on the downgradient side of the landfill are more consistent and are comprised primarily of VOCs (1,2-DCA, DCP, VC, PCE and TCE). In MW-2, PCE and TCE have declined in concentration since the original sampling event. That decline was accompanied by an increase in VC concentration, likely demonstrating the ongoing biodegradation of those compounds. Concentrations of other VOCs have been generally consistent. Plots of the concentrations of VOCs in groundwater versus time are provided as Figure 2.

MW-2 is approximately 470 feet from the west boundary of the property and MW-3 is approximately 260 feet from the property boundary. The unnamed stream is immediately west of MW-2, MW-3 and MW-4. As discussed above, given the site hydrogeology and the site topography, the unnamed stream is in all likelihood a flow boundary, limiting the westward extent of the transport of impacts.

The landfill is located in an isolated rural area. Human receptors are limited to some residences approximately 1,200 to 1,600 feet to the west of the landfill in an area that is not hydraulically connected to the landfill. There are no other potential receptors in the area.

The only ecologic receptor is the unnamed stream, which is the discharge point for potentially impacted groundwater from the landfill. There are no exceedances of standards in the surface water.

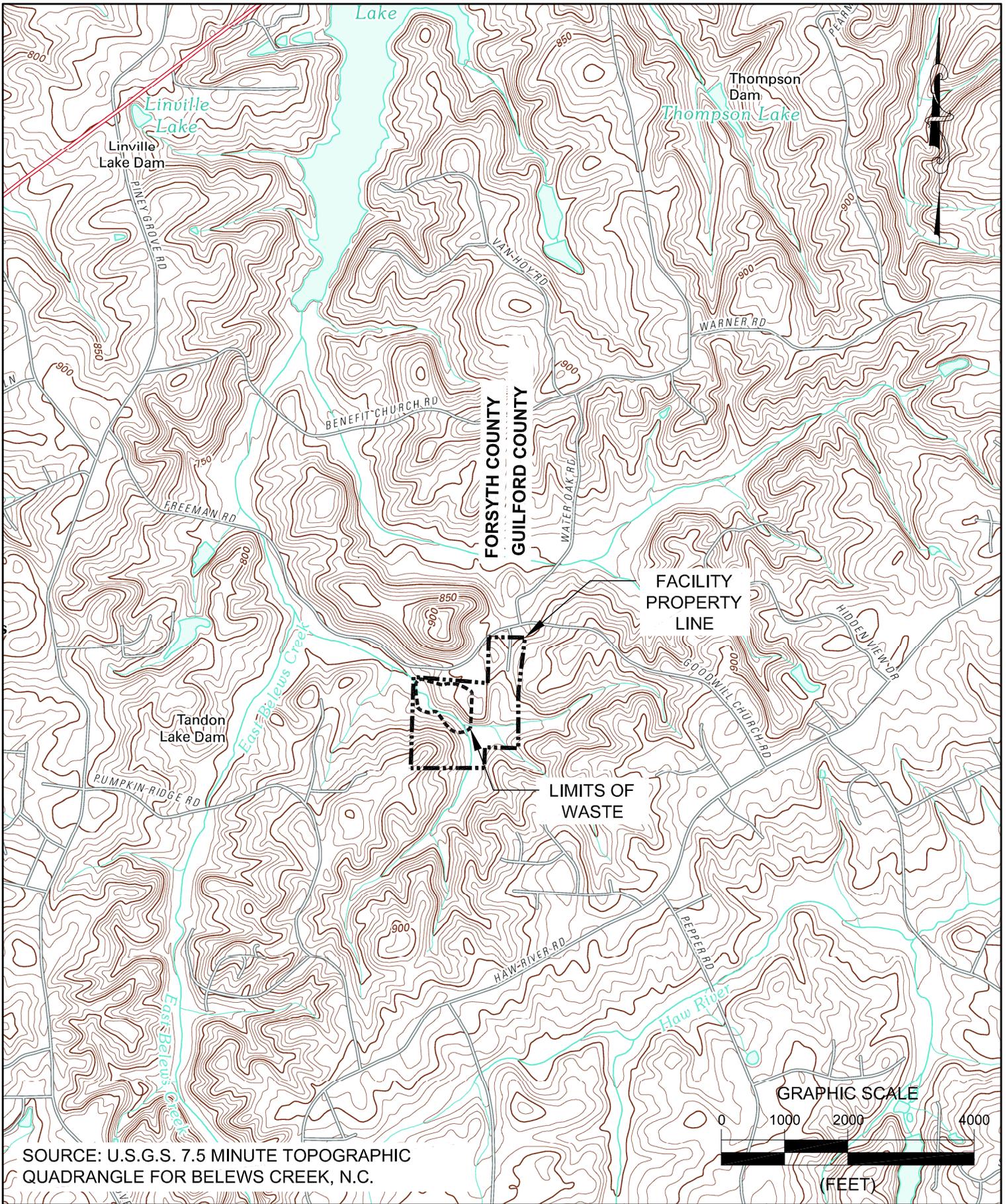
CONCLUSIONS

The Town of Kernersville received notification from the NC DENR that because of the detection of groundwater impacts at the site that could potentially be crossing the property boundary, the Town needed to submit a Phased Groundwater Assessment Plan and complete the described groundwater assessment. This Groundwater Assessment has served to demonstrate that groundwater impacts are not crossing the property boundary.

Minor and isolated impacts by metals on the upgradient side of the landfill are potentially the result of some mounding of groundwater and flow in what would generally be the upgradient direction. Flow in the eastward direction would be very limited and would not extend to the eastern boundary which is 500 to 700 feet to the east.

The migration of the consistent VOC impacts and isolated historic impacts by metals on the downgradient side of the landfill is limited by the unnamed stream that flows to the northwest along the western toe of the landfill slope. Between the presence of the stream and the significant increase in elevation to the west beyond the stream, migration beyond the stream is not likely. The western property boundary is approximately 470 feet to 260 feet from the unnamed stream. There are no impacts to the stream that exceed NC DENR 2B standards. This assessment concludes that groundwater impacts at the Kernersville landfill are not migrating beyond the site boundaries.

FIGURES



SOURCE: U.S.G.S. 7.5 MINUTE TOPOGRAPHIC QUADRANGLE FOR BELEWS CREEK, N.C.

TOWN OF KERNERSVILLE LANDFILL
 FORSYTH COUNTY, NORTH CAROLINA

SITE LOCATION MAP

JOYCE
 ENGINEERING

2211 W. MEADOWVIEW ROAD
 GREENSBORO, NC 27407
 PHONE: (336) 323-0092

DESIGNED _____ HRW
 DRAWN _____ HRW
 CHECKED _____ TLH
 APPROVED _____ TLH
 DATE 04/19/13
 © 2013 Joyce Engineering, Inc.
 All rights reserved.

SCALE
 AS SHOWN

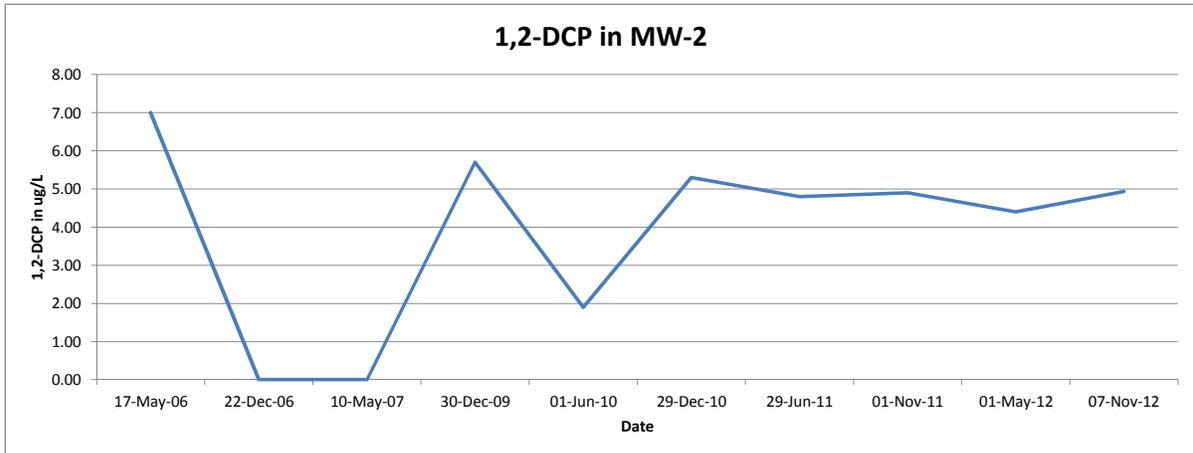
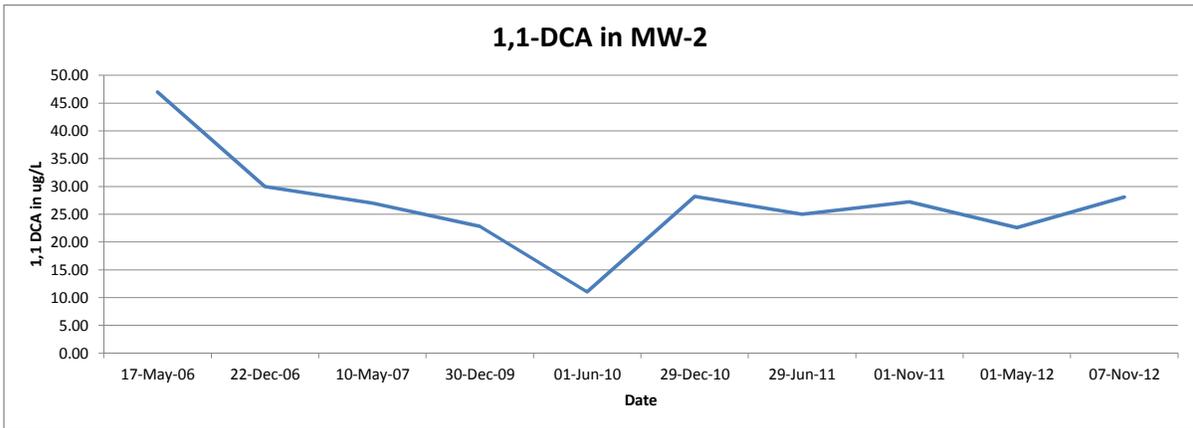
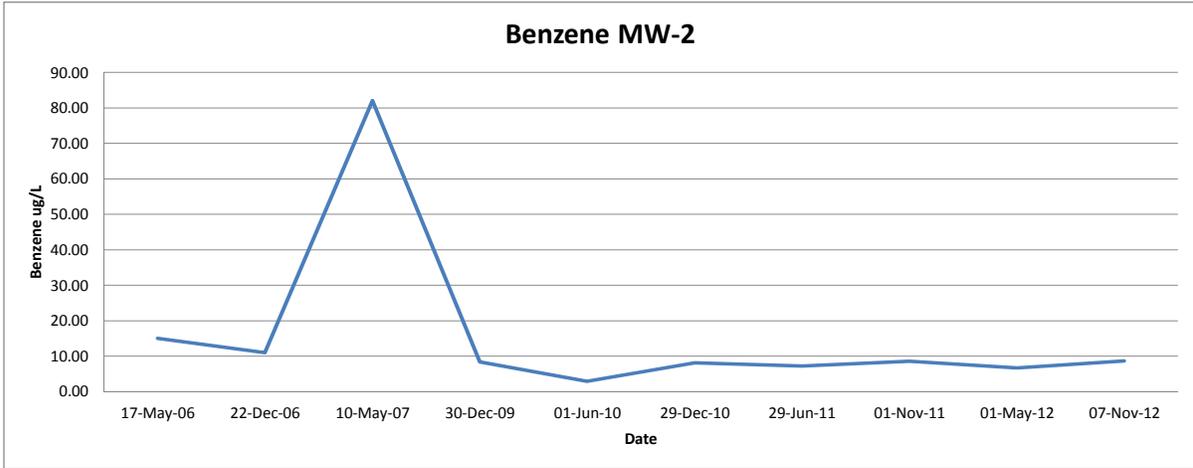
NC CORP LIC: C-0782

PROJECT NO.
 838.1301.12

FIGURE NO.

1

Figure 2
Plots of VOC Concentrations Over Time



**Figure 2
Plots of VOC Concentrations Over Time**

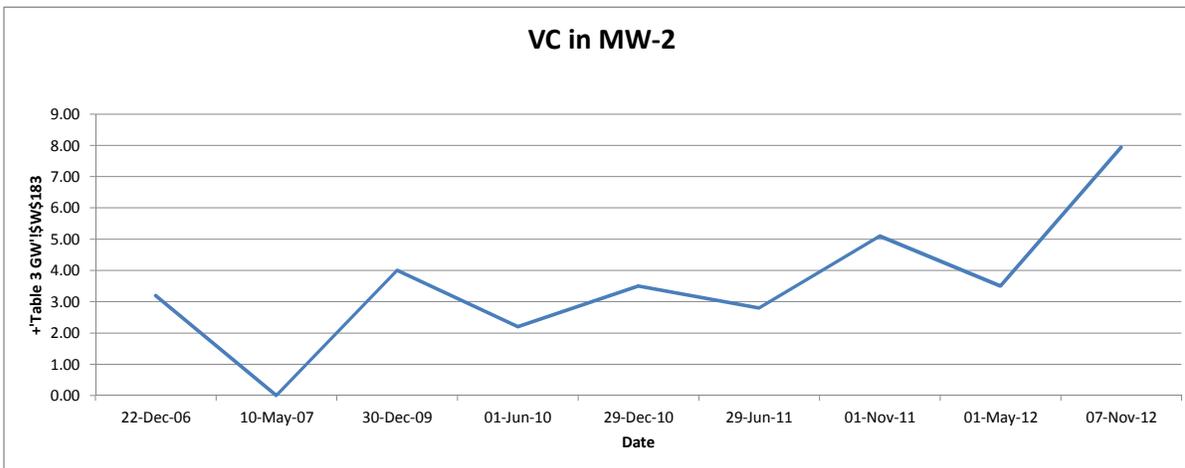
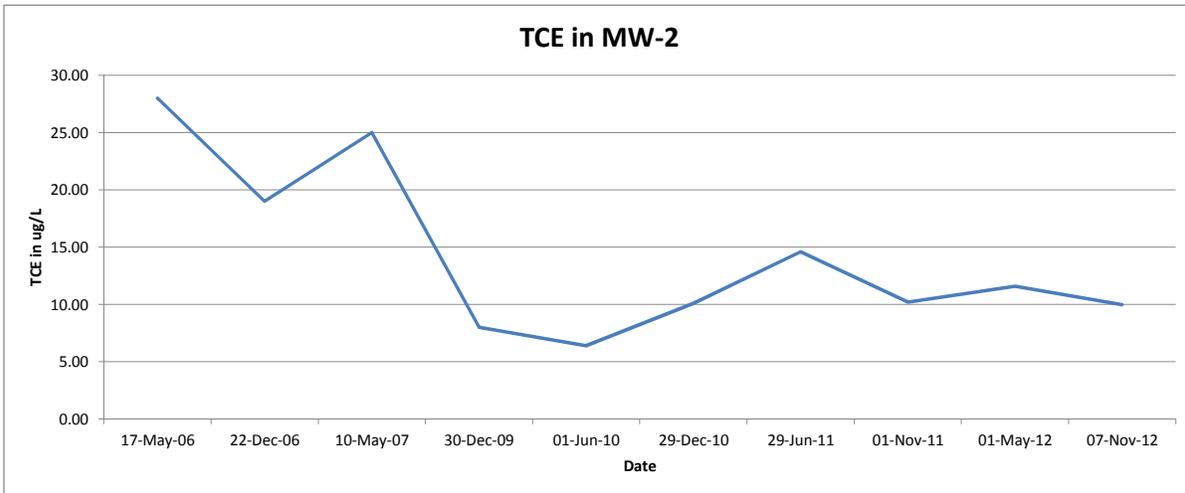
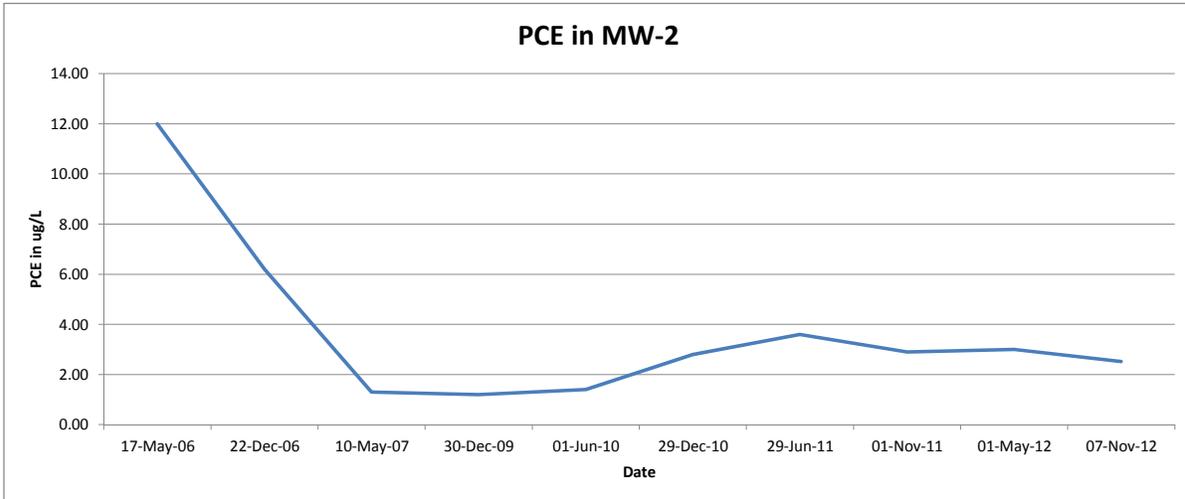
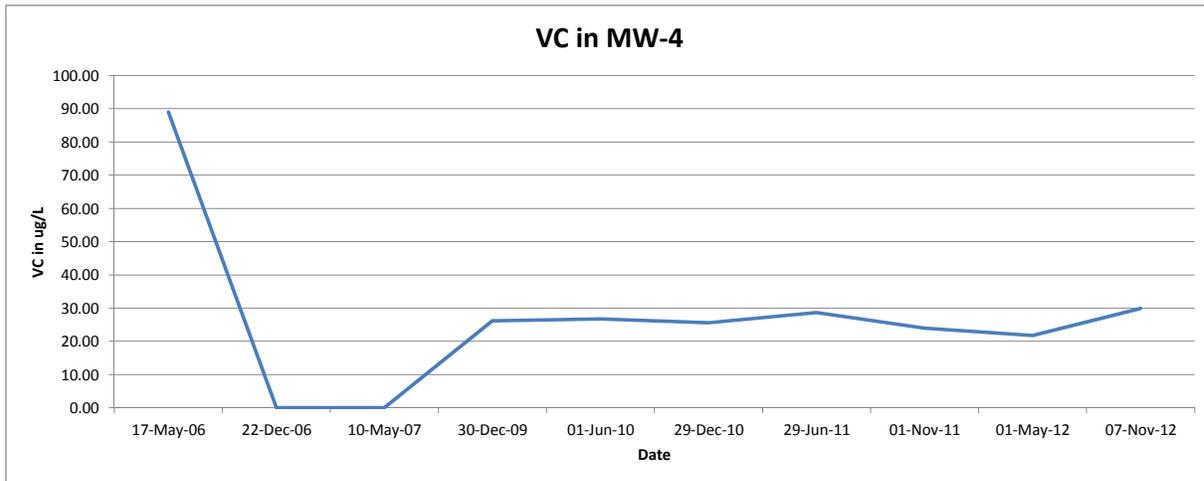
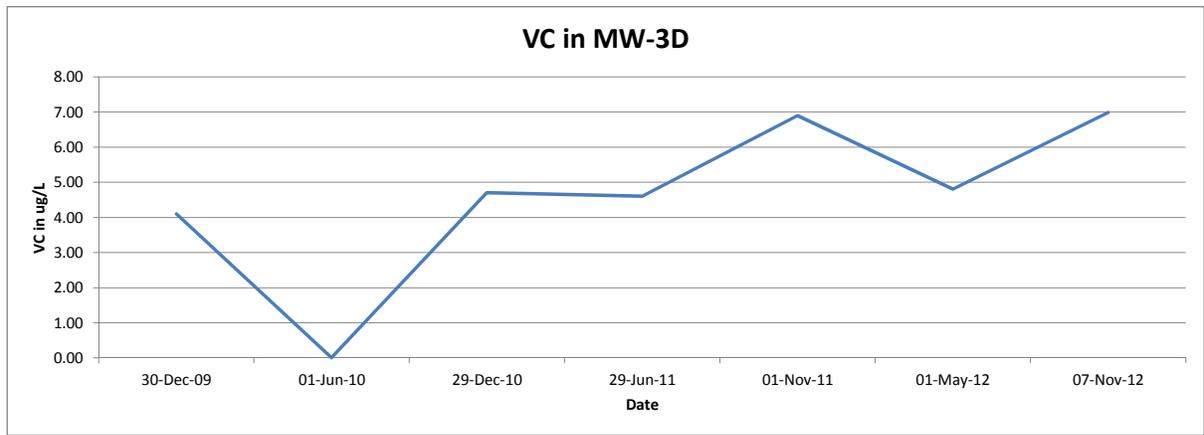
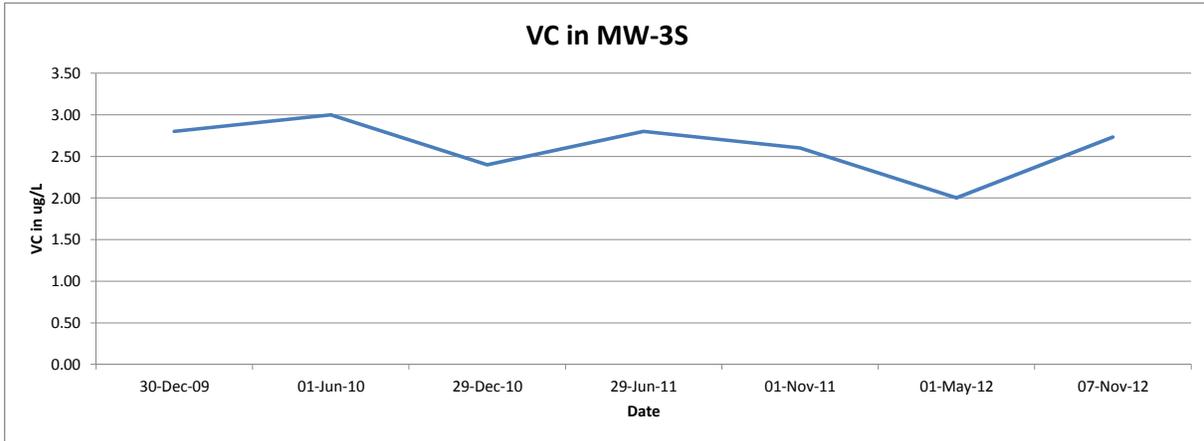
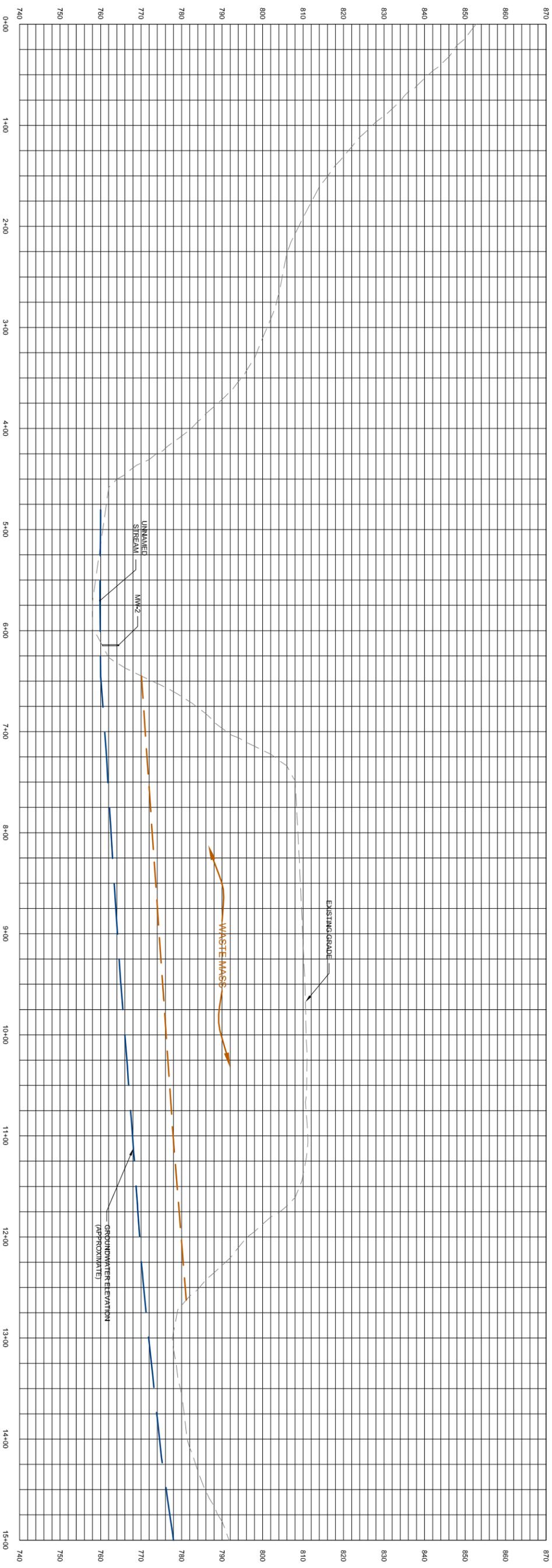


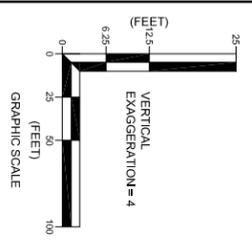
Figure 2
Plots of VOC Concentrations Over Time



- LEGEND**
- EXISTING GROUND
 - GROUNDWATER ELEVATION (NOV 2012)
 - WASTE MASS



Alignment - (A - A') PROFILE



<p>PROJECT NO. 838.1301.12</p> <p>SCALE AS SHOWN</p> <p>FIGURE NO. 3</p>	<p>TOWN OF KERNERSVILLE LANDFILL FORSYTH COUNTY, NORTH CAROLINA</p> <p>CROSS SECTION A - A' PROFILE</p>	<p>JOYCE ENGINEERING</p> <p>2211 W. MEADOWVIEW ROAD GREENSBORO, NC 27407 PHONE: (336) 323-0092</p> <p>NC CORP LIC: C-0782</p>	<p>DESIGNED <u>ACE</u></p> <p>DRAWN <u>HRW</u></p> <p>CHECKED <u>TLH</u></p> <p>APPROVED <u>TLH</u></p> <p>DATE <u>04/19/13</u></p> <p>© 2013 Joyce Engineering All rights reserved.</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>DATE</th> <th>REVISIONS AND RECORD OF ISSUE</th> <th>NO</th> <th>BY</th> <th>CK</th> <th>APP</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	DATE	REVISIONS AND RECORD OF ISSUE	NO	BY	CK	APP																																																												
DATE	REVISIONS AND RECORD OF ISSUE	NO	BY	CK	APP																																																																	

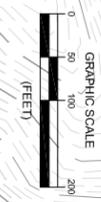
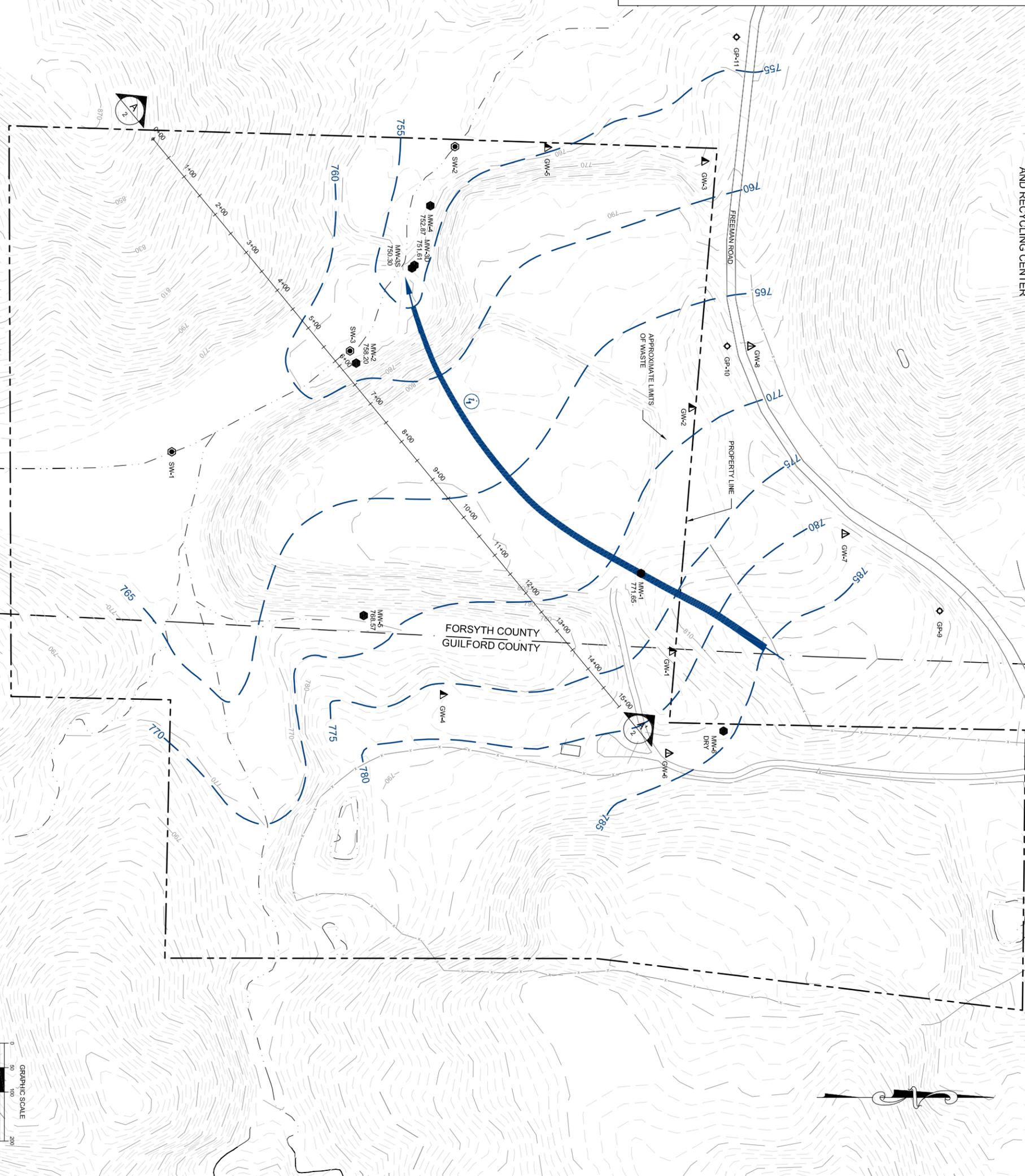
DRAWINGS

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 MONITORING WELL IDENTIFICATION AND WATER LEVEL READING
- ▲ GW-1 GROUNDWATER FLOW DIRECTION WITH GRADIENT CALCULATION SEGMENT
- ▲ GW-1 EXISTING LANDFILL GAS WELL
- ▲ GW-6 PROPOSED LANDFILL GAS WELL
- ◇ GP-1 PROPOSED LANDFILL GAS PROBE

- NOTES:**
1. GIS SURVEY DATA FOR GUILFORD COUNTY DATED SEPTEMBER 2009 AND MARCH 2010.
 2. GIS SURVEY DATA FOR FORSYTH COUNTY DATED OCTOBER, 2010.
 3. STATIC WATER LINES MEASURED ON NOVEMBER 27, 2012.
 4. GROUNDWATER CONTOURS BASED ON LINEAR INTERPOLATION BETWEEN AND EXTRAPOLATION FROM KNOWN DATA. TOPOGRAPHIC CONTOURS AND KNOWN FIELD CONDITIONS, THEREFORE, GROUNDWATER CONTOURS MAY NOT REFLECT ACTUAL GROUNDWATER CONDITIONS.
 5. LIMITS OF WASTE ARE APPROXIMATE.

PIEDMONT LANDFILL AND RECYCLING CENTER



PROJECT NO. 838.1301.12	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 DRAWN HRW CHECKED TLH APPROVED TLH DATE 04/19/13	DATE REVISIONS AND RECORD OF ISSUE NO BY CK APP
	SCALE AS SHOWN	POTENTIOMETRIC SURFACE CONTOUR MAP NOVEMBER 27, 2012		© 2013 Joyce Engineering All rights reserved.	
DRAWING NO. 1					

LEGEND

- 800 — EXISTING 10' TOPOGRAPHIC CONTOUR
- - - - - 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
- MW-1 MONITORING WELL IDENTIFICATION AND WATER LEVEL READING
- ▲ GW-1 GROUNDWATER FLOW DIRECTION WITH GRADIENT CALCULATION SEGMENT
- ▲ GW-1 EXISTING LANDFILL GAS WELL
- ▲ GW-6 PROPOSED LANDFILL GAS WELL
- ◇ GP-1 PROPOSED LANDFILL GAS PROBE

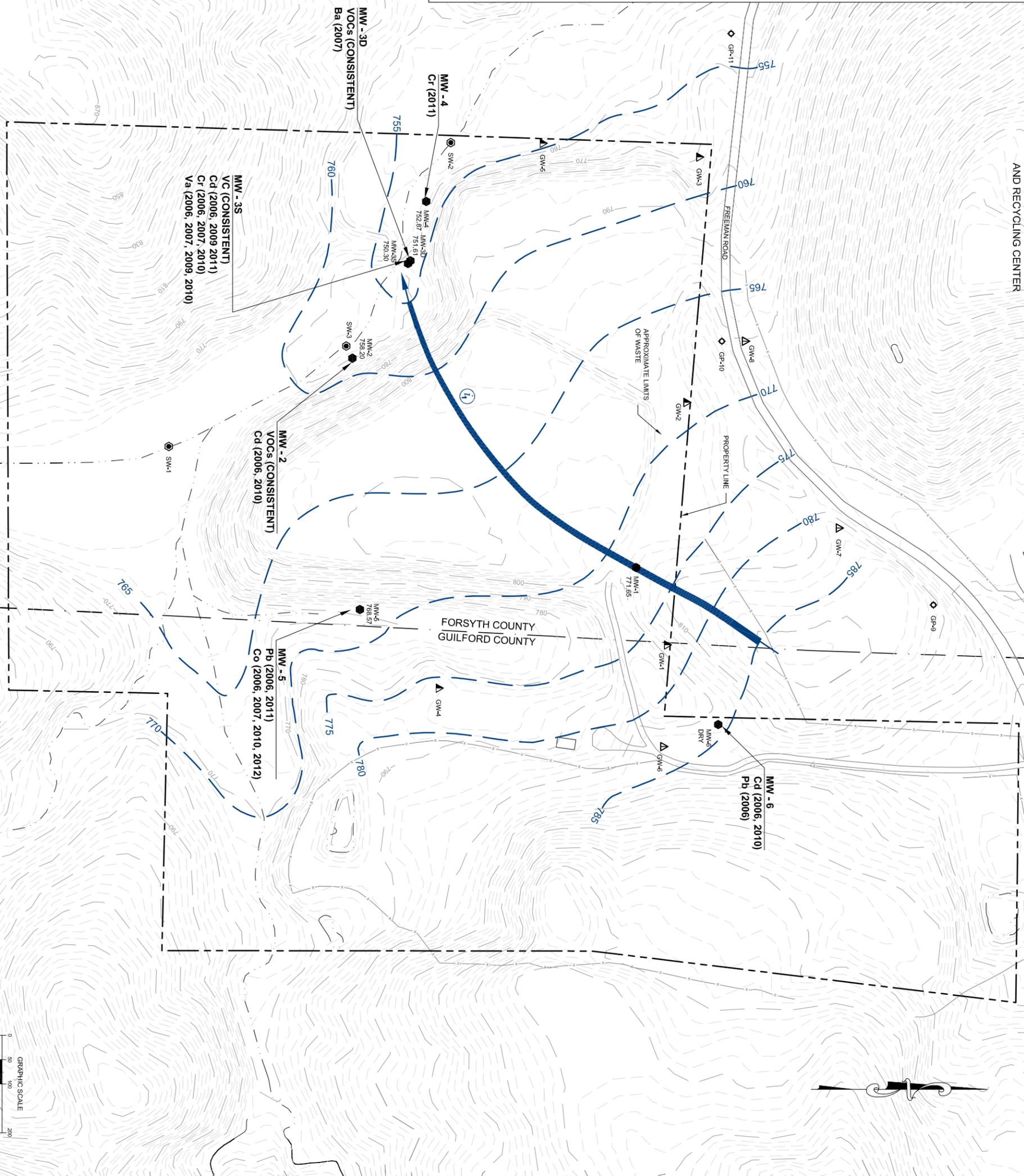
NOTES:

1. GIS SURVEY DATA FOR GUILFORD COUNTY DATED SEPTEMBER 2009 AND MARCH 2010.
2. GIS SURVEY DATA FOR FORSYTH COUNTY DATED OCTOBER, 2010.
3. STATIC WATER LINES MEASURED ON NOVEMBER 27, 2012.
4. GROUNDWATER CONTOURS BASED ON LINEAR INTERPOLATION BETWEEN AND EXTRAPOLATION FROM KNOWN DATA. TOPOGRAPHIC CONTOURS AND KNOWN FIELD CONDITIONS, THEREFORE, GROUNDWATER CONTOURS MAY NOT REFLECT ACTUAL GROUNDWATER CONDITIONS.
5. LIMITS OF WASTE ARE APPROXIMATE.

OCCURRENCES ABOVE 2L STANDARDS DENOTED AS:
 MW - #
 CONSTITUENT - (DETECTION YEARS)

CONSTITUENT ABBREVIATIONS:
 VOCs - VOLATILE ORGANIC COMPOUNDS
 VC - VINYL CHLORIDE
 Cr - CHROMIUM
 Co - COBALT
 Cd - CADMIUM
 Pb - LEAD

PIEDMONT LANDFILL
 AND RECYCLING CENTER



PROJECT NO. 838.1301.12	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 DRAWN HRW CHECKED TLH APPROVED TLH DATE 04/19/13		
HISTORICAL GROUNDWATER QUALITY SUMMARY	SCALE AS SHOWN				
DRAWING NO. 2				DATE	REVISIONS AND RECORD OF ISSUE
				NO	BY
				CK	APP

TABLES

**TABLE 1
HISTORICAL GROUNDWATER RESULTS**

Constituent	Concentration (µg/L)														
	Date	DL	RL	Background		Downgradient						Blanks			
				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)	17-May-06	0.03		NS	ND	ND	ND	ND	ND	ND	ND				
	22-Dec-06	NR	6.0	NS	ND	ND	ND	ND	ND	ND	ND	ND			
	10-May-07	NR	6.0	NS	ND	ND	ND	ND	ND	ND	ND	ND			
	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			
	29-Jun-11	5.0	6.0	NS	ND	ND	ND	ND	ND	ND	ND	ND			
	01-Nov-11	5.0	6.0	NS	ND	ND	ND	ND	ND	ND	ND	ND			
	01-May-12	5.0	6.0	NS	ND	ND	ND	ND	ND	ND	ND	ND			
	07-Nov-12	0.48	6.0	NS	Dry	ND	ND	ND	ND	ND	NS	ND			
Arsenic NC 2L = 10 µg/L (1/11/10)	17-May-06	0.01		NS	ND	ND	ND	ND	ND	ND	ND				
	22-Dec-06	NR	10.0	NS	ND	ND	ND	ND	ND	ND	ND	ND			
	10-May-07	NR	10.0	NS	ND	ND	ND	ND	ND	ND	ND	ND			
	29-Jun-11	5.0	10.0	NS	ND	ND	ND	ND	ND	6.2	J	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	0.094	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)	17-May-06	0.5		NS	ND	0.544	ND	ND	ND	ND	ND				
	22-Dec-06	NR	100	NS	104	577	203	ND	ND	ND	102	ND			
	10-May-07	NR	100	175	ND	400	227	1130	ND	ND	194	ND			
	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	
	01-Nov-11	5.0	100	NS	125	J	413	132	41.7	J	111	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	369	127	41.0	B	98.7	J	NS	12.2	J	
Beryllium GWPS = 4 µg/L (10/23/07)	17-May-06	0.5		NS	ND	ND	ND	ND	ND	ND	ND				
	22-Dec-06	NR	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND			
	10-May-07	NR	1.0	NS	ND	ND	ND	ND	ND	ND	2.0	ND			
	30-Dec-09	0.2	1.0	Dry	ND	0.5	J	ND	ND	ND	NS	ND			
	01-Jun-10	0.2	1.0	Dry	0.6	J	0.7	J	ND	ND	NS	ND			
	29-Dec-10	0.10	1.0	NS	ND	ND	ND	ND	ND	ND	0.48	J	ND		
	29-Jun-11	1.0	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND			
	01-Nov-11	1.0	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND			
	01-May-12	1.0	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND			
07-Nov-12	0.049	1.00	NS	Dry	0.34	J	ND	ND	0.099	J	NS	ND			
Cadmium NC 2L = 2 µg/L (1/11/10)	17-May-06	0.001		NS	ND	ND	0.033	ND	ND	ND	ND				
	22-Dec-06	NR	1.0	NS	4.0	3.0	26.0	ND	1	ND	ND	ND			
	10-May-07	NR	1.0	ND	ND	ND	14.0	ND	ND	ND	7.0	ND			
	30-Dec-09	0.2	1.0	Dry	ND	0.5	J	5.6	ND	ND	NS	ND			
	01-Jun-10	0.2	1.0	Dry	2.9	1.0	B	5.3	0.4	B	0.4	B	NS	0.4 J	
	29-Dec-10	0.50	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND			
	29-Jun-11	1.0	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND			
	01-Nov-11	1.0	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND			
	01-May-12	1.0	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND			
	07-Nov-12	0.026	1.00	NS	Dry	0.15	J	ND	ND	0.043	J	NS	ND		

**TABLE 1
HISTORICAL GROUNDWATER RESULTS**

Constituent	Concentration (µg/L)												
	Date	DL	RL	Background		Downgradient					Blanks		
				MW-1	MW-6	MW-2	MW-3S	MW-3D	MW-4	MW-5			
Chromium NC 2L = 10 µg/L (1/11/10)	17-May-06	0.01		NS	ND	ND	0.029	ND	0.010	ND			
	22-Dec-06	NR	10.0	NS	45.0	ND	11.0	ND	ND	ND		ND	
	10-May-07	NR	10.0	ND	ND	ND	14.0	ND	ND	ND		ND	
	30-Dec-09	0.7	10.0	Dry	ND	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	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	ND	ND	ND	ND	ND		ND	
	01-Nov-11	5.0	10.0	NS	ND	ND	ND	ND	10.3	ND		ND	
	01-May-12	5.0	10.0	NS	ND	ND	ND	ND	5.8	J ND		ND	
	07-Nov-12	0.030	10.0	NS	Dry	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)	17-May-06	0.001		NS	ND	ND	0.012	ND	ND	0.016			
	22-Dec-06	NR	10.0	NS	ND	ND	ND	ND	ND	14	?	ND	
	10-May-07	NR	10.0	62	?	ND	ND	ND	ND	22		ND	
	30-Dec-09	0.7	10.0	Dry	ND	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	4.9	J 1.7	J ND	1.6	J 10.2		ND	
	29-Jun-11	5.0	10.0	NS	ND	ND	ND	ND	ND	9.9	J	ND	
	01-Nov-11	5.0	10.0	NS	ND	ND	ND	ND	ND	5.2	J	ND	
	01-May-12	5.0	10.0	NS	ND	ND	ND	ND	ND	13.9		ND	
	07-Nov-12	0.053	10.0	NS	Dry	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)	17-May-06	NR	NR	NS	NS	NS	NS	NS	NS	NS		NS	
	22-Dec-06	NR	NR	NS	NS	NS	NS	NS	NS	NS		NS	
	10-May-07	NR	NR	NS	NS	NS	NS	NS	NS	NS		NS	
	30-Dec-09	2.0	10.0	Dry	ND	ND	10.6	ND	1.5	J NS		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	ND	0.49	J 0.59	J 1.5	J 7.9	J	ND	
	29-Jun-11	5.0	10.0	NS	ND	ND	ND	ND	ND	16.6		ND	
	01-Nov-11	5.0	10.0	NS	ND	ND	ND	ND	5.4	J ND		ND	
	01-May-12	5.0	10.0	NS	ND	ND	ND	ND	ND	ND		ND	
	07-Nov-12	0.093	10.0	NS	Dry	3.56	B 0.54	B 0.98	B 1.83	B NS		1.23	J
Lead NC 2L = 15 µg/L (10/23/07)	17-May-06	0.01		NS	ND	ND	ND	ND	ND	ND			
	22-Dec-06	NR	10.0	NS	24.0	ND	10.0	ND	ND	ND		ND	
	10-May-07	NR	10.0	ND	ND	ND	ND	ND	ND	40		ND	
	30-Dec-09	2.0	10.0	Dry	ND	ND	10.2	ND	ND	NS		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)	17-May-06	0.05		NS	ND	ND	ND	ND	ND	ND			
	22-Dec-06	NR	50.0	NS	ND	ND	ND	ND	ND	ND		ND	
	10-May-07	NR	50.0	ND	ND	ND	ND	ND	ND	ND		ND	
	30-Dec-09	0.6	50.0	Dry	ND	ND	8.1	J 1.8	J 1.6	J NS		ND	
	01-Jun-10	0.6	50.0	Dry	ND	ND	6.0	J ND	0.9	J NS		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	
	01-Nov-11	5.0	50.0	NS	ND	ND	ND	ND	ND	ND		ND	
	01-May-12	5.0	50.0	NS	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

**TABLE 1
HISTORICAL GROUNDWATER RESULTS**

Constituent	Concentration (µg/L)																	
	Date	DL	RL	Background		Downgradient					Blanks							
				MW-1	MW-6	MW-2	MW-3S	MW-3D	MW-4	MW-5								
Selenium NC 2L = 20 µg/L (1/11/10)	17-May-06	0.02		NS	ND	ND	ND	ND	ND	ND	ND							
	22-Dec-06	NR	10.0	NS	ND	ND	ND	ND	ND	ND	ND	ND						
	10-May-07	NR	10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND						
	30-Dec-09	6.3	10.0	Dry	ND	ND	8.4	J	ND	ND	NS	ND						
	01-Jun-10	6.3	10.0	Dry	ND	ND	6.3	J	ND	ND	NS	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			
Silver NC 2L = 20 µg/L (1/11/10)	17-May-06	0.01		NS	ND	ND	ND	ND	ND	ND	ND							
	22-Dec-06	NR	10.0	NS	ND	ND	ND	ND	ND	ND	ND	ND						
	10-May-07	NR	10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND						
	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	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				
	29-Jun-11	5.0	10.0	NS	ND	ND	ND	ND	ND	ND	ND	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	0.017	10.0	NS	Dry	0.18	J	ND	ND	0.078	J	NS	ND					
Thallium GWPS = 0.28 µg/L (10/23/07) GWPS = 0.2 µg/L (10/1/10)	17-May-06	0.01		NS	ND	ND	ND	ND	ND	ND	ND							
	22-Dec-06	NR	5.0	NS	ND	ND	ND	ND	ND	ND	ND	ND						
	10-May-07	NR	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND						
	30-Dec-09	2.7	5.5	Dry	ND	ND	ND	ND	ND	NS	3.7	J						
	01-Jun-10	2.7	5.5	Dry	ND	ND	ND	ND	ND	NS	ND							
	29-Dec-10	3.0	5.5	NS	ND	3.2	J	ND	ND	4.8	J	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					
Vanadium GWPS = 3.5 µg/L (10/23/07) GWPS = 0.3 µg/L (10/1/10)	17-May-06	0.01		NS	ND	ND	0.134	ND	ND	ND	ND							
	22-Dec-06	NR	25.0	NS	ND	ND	86.0	ND	ND	ND	ND	ND						
	10-May-07	NR	25.0	NS	ND	ND	106	ND	ND	ND	38.0	ND						
	30-Dec-09	0.4	25.0	Dry	ND	1.4	J	37.4	1.5	J	4.3	J	NS	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			
	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	ND	ND	22.0	J	ND				
	01-Nov-11	5.0	25.0	NS	7.2	J	ND	ND	ND	12.0	J	7.2	J	ND				
	01-May-12	5.0	25.0	NS	ND	ND	ND	ND	ND	7.2	J	7.6	J	ND				
	07-Nov-12	0.085	25.0	NS	Dry	2.48	J	2.02	J	2.35	J	4.55	J	NS	ND			
Zinc NC 2L = 1,000 µg/L (1/11/10)	17-May-06	0.01		NS	ND	ND	0.099	ND	ND	ND	ND							
	22-Dec-06	NR	10.0	NS	308	42.0	111	ND	ND	27.0	ND	ND						
	10-May-07	NR	10.0	14.0	B	ND	ND	158	ND	14.0	B	347	12					
	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						
	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	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			

**TABLE 1
HISTORICAL GROUNDWATER RESULTS**

Constituent	Concentration (µg/L)															
	Date	DL	RL	Background		Downgradient					Blanks					
				MW-1	MW-6	MW-2	MW-3S	MW-3D	MW-4	MW-5						
Acetone NC 2L = 6,000 µg/L (1/11/10)	17-May-06	1000		NS	ND	ND	ND	ND	ND	ND	ND					
	22-Dec-06	NR	100	NS	ND	ND	ND	ND	ND	ND	ND	ND				
	10-May-07	NR	100	ND	ND	ND	ND	ND	ND	ND	ND	ND				
	29-Jun-11	2.2	100	NS	ND	2.3	B	2.4	B	3.9	B	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		ND		NS	ND	
	17-May-06	0.5		NS	ND	ND		ND		ND		ND		ND		
	22-Dec-06															
10-May-07																
Benzene NC 2L = 1 µg/L (10/23/07)	17-May-06	5		NS	ND	15		ND		ND		ND		ND		
	22-Dec-06	NR	5.0	NS	ND	11.0		ND		ND		ND		ND		
	10-May-07	NR	5.0	20.0	ND	82.0		ND		ND		ND		ND		
	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		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)	17-May-06	5		NS	ND	ND		ND		ND		ND		ND		
	22-Dec-06	NR	5.0	NS	ND	ND		ND		ND		ND		ND		
	10-May-07	NR		ND	ND	ND		ND		ND		ND		ND		
	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		ND		NS	ND	
	29-Dec-10	0.23	3.0	NS	ND	0.61	J	ND		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} J	
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)	17-May-06	10		NS	ND	ND		ND		ND		ND		ND		
	22-Dec-06	NR	10.0	NS	ND	ND		ND		ND		ND		ND		
	10-May-07	NR	10.0	3.2	J	ND		ND		ND		ND		ND		
	30-Dec-09	0.1	10.0	Dry	ND	ND		0.5	J	0.5	J	ND		NS	0.1	J
	01-Jun-10	0.1	10.0	Dry	ND	ND		0.4	J	ND		ND		NS	ND	
	29-Dec-10	0.54	10.0	NS	ND	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		
17-May-06	5		NS	ND	ND		ND		ND		ND		ND			

**TABLE 1
HISTORICAL GROUNDWATER RESULTS**

Constituent	Concentration (µg/L)											Blanks			
	Date	DL	RL	Background		Downgradient									
				MW-1	MW-6	MW-2	MW-3S	MW-3D	MW-4	MW-5					
1,4-Dichlorobenzene NC 2L = 6 µg/L (1/11/10)	22-Dec-06	NR	5.0	NS	ND	3.4	J	1.9	J	3.1	J	2.5	J	ND	ND
	10-May-07	NR	5.0	17.0	ND	ND	ND	3.0	J	ND	ND	ND	ND	ND	ND
	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)	17-May-06	5		NS	ND	47.0		5.20		8.80		6.40		ND	ND
	22-Dec-06	NR	5.0	NS	ND	30.0		3.0	J	5.6		2.9	J	ND	ND
	10-May-07	NR	5.0	16	ND	27		ND		5.8		ND		ND	ND
	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	
1,2-Dichloroethane NC 2L = 0.4 µg/L (1/11/10)	17-May-06	5		NS	ND	ND		ND		ND		ND		ND	ND
	22-Dec-06	NR	1.0	NS	ND	ND		ND		ND		ND		ND	ND
	10-May-07		1.0	9.4	ND	ND		ND		ND		ND		ND	ND
	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
	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		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		NS	ND	
1,1-Dichloroethylene NC 2L = 7 µg/L (10/23/07)	17-May-06	5		NS	ND	ND		ND		ND		ND		ND	ND
	22-Dec-06	NR	5.0	NS	ND	ND		ND		ND		ND		ND	ND
	10-May-07	NR	5.0	ND	ND	ND		ND		ND		ND		ND	ND
	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
	29-Dec-10	0.56	5.0	NS	ND	ND		ND		ND		ND		ND	ND
	29-Jun-11	0.56	5.0	NS	ND	ND		ND		ND		ND		ND	ND
	01-Nov-11	0.56	5.0	NS	ND	ND		ND		ND		ND		ND	ND
	01-May-12	0.56	5.0	NS	ND	ND		ND		ND		ND		ND	ND
07-Nov-12	0.208	5.00	NS	Dry	ND		ND		ND		ND		NS	ND	
Cis-1,2-Dichloroethylene NC 2L = 70 µg/L (10/23/07)	17-May-06	5		NS	ND	76.0		21		72		33		ND	ND
	22-Dec-06	NR	5.0	NS	ND	68.0		20.0		67.0		24.0		ND	ND
	10-May-07	NR	5.0	265	ND	55.0	J	4.2	J	68.0		22.0		ND	ND
	30-Dec-09	0.1	5.0	Dry	ND	68.2		11.0		51.0		21.8		NS	ND
	01-Jun-10	0.1	5.0	Dry	ND	23.0		7.6		ND		10.2		NS	ND
	29-Dec-10	0.19	5.0	NS	ND	66.7		16.8		56.7		24.1		ND	ND
	29-Jun-11	0.19	5.0	NS	ND	55.1		16.5		62.7		25.1		ND	ND
	01-Nov-11	0.19	5.0	NS	ND	59.4		15.2		59.3		23.2		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	

**TABLE 1
HISTORICAL GROUNDWATER RESULTS**

Constituent	Concentration (µg/L)										Blanks				
	Date	DL	RL	Background		Downgradient									
				MW-1	MW-6	MW-2	MW-3S	MW-3D	MW-4	MW-5					
Trans-1,2-Dichloroethylene NC 2L = 100 µg/L (10/23/07)	17-May-06	5		NS	ND	ND	ND	ND	ND	ND					
	22-Dec-06	NR	5.0	NS	ND	ND	ND	ND	ND	ND		ND			
	10-May-07	NR	5.0	ND	ND	ND	ND	ND	ND	ND		ND			
	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		
	29-Dec-10	0.49	5.0	NS	ND	1.7	J	ND	ND	ND	ND		ND		
	29-Jun-11	0.49	5.0	NS	ND	1.5	J	ND	ND	ND	ND		ND		
	01-Nov-11	0.49	5.0	NS	ND	1.6	J	ND	ND	ND	ND		ND		
	01-May-12	0.49	5.0	NS	ND	1.4	J	ND	ND	ND	ND		ND		
	07-Nov-12	0.077	5.00	NS	Dry	1.59	J	ND	ND	ND	NS		ND		
1,2-Dichloropropane NC 2L = 0.6 µg/L (1/11/10)	17-May-06	5		NS	ND	7.0		ND	ND	ND					
	22-Dec-06	NR	1.0	NS	ND	ND		ND	ND	ND			ND		
	10-May-07	NR	1.0	ND	ND	ND		ND	ND	ND			ND		
	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	
	29-Dec-10	0.27	1.0	NS	ND	5.3		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
	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
Ethyl Benzene NC 2L = 600 µg/L (10/23/07)	17-May-06	5		NS	ND	ND		ND	ND	ND					
	22-Dec-06	NR	5.0	NS	ND	ND		ND	ND	ND				ND	
	10-May-07	NR	5.0	ND	ND	ND		ND	ND	ND				ND	
	30-Dec-09	0.1	1.0	Dry	ND	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		ND		NS	ND
Tetrachloroethylene NC 2L = 0.7 µg/L (10/23/07)	17-May-06	5		NS	ND	12		ND	ND	ND					
	22-Dec-06	NR	5.0	NS	ND	6.2		ND	ND	ND				ND	
	10-May-07	NR	5.0	9.3	ND	1.3		J	ND	ND		ND		ND	
	30-Dec-09	0.2	1.0	Dry	ND	1.2		ND	ND	ND		NS		ND	
	01-Jun-10	0.2	1.0	Dry	ND	1.4		ND	ND	ND		NS		ND	
	29-Dec-10	0.46	1.0	NS	ND	2.8		ND	ND	ND		ND		ND	
	29-Jun-11	0.46	1.0	NS	ND	3.6		ND	ND	ND		ND		ND	
	01-Nov-11	0.46	1.0	NS	ND	2.9		ND	ND	ND		ND		ND	
	01-May-12	0.46	1.0	NS	ND	3.0		ND	ND	ND		ND		ND	
	07-Nov-12	0.193	1.00	NS	Dry	2.52		ND	ND	ND		NS		ND	
Toluene NC 2L = 600 µg/L (1/11/10)	17-May-06	5		NS	ND	ND		ND	ND	ND					
	22-Dec-06	NR	5.0	NS	ND	ND		ND	ND	ND				ND	
	10-May-07	NR	5.0	6.6	ND	ND		ND	ND	ND		ND		ND	
	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	
	01-May-12	0.26	1.0	NS	ND	ND		ND	ND	ND		ND		ND	
07-Nov-12	0.122	1.00	NS	Dry	ND		ND	ND	ND		NS		ND		

**TABLE 1
HISTORICAL GROUNDWATER RESULTS**

Constituent	Concentration (µg/L)										Blanks
	Date	DL	RL	Background		Downgradient					
				MW-1	MW-6	MW-2	MW-3S	MW-3D	MW-4	MW-5	
Trichloroethylene NC 2L = 3 µg/L (1/11/10)	17-May-06	5		NS	ND	28	ND	ND	ND	ND	
	22-Dec-06	NR	5.0	NS	ND	19	ND	ND	ND	ND	ND
	10-May-07	NR	5.0	8.2	ND	25	ND	ND	ND	ND	ND
	30-Dec-09	0.1	1.0	Dry	ND	8.0	ND	ND	0.2	J	NS
	01-Jun-10	0.1	1.0	Dry	ND	6.4	ND	ND	ND	NS	ND
	29-Dec-10	0.47	1.0	NS	ND	10.1	ND	ND	ND	ND	ND
	29-Jun-11	0.47	1.0	NS	ND	14.6	ND	ND	ND	ND	ND
	01-Nov-11	0.47	1.0	NS	ND	10.2	ND	ND	ND	ND	ND
	01-May-12	0.47	1.0	NS	ND	11.6	ND	ND	ND	ND	ND
	07-Nov-12	0.161	1.00	NS	Dry	9.97	ND	ND	ND	NS	ND
Trichlororfluoromethane NC 2L = 2000 µg/L (1/11/10)	17-May-06	5		NS	ND	ND	ND	ND	ND	ND	
	22-Dec-06	NR	5.0	NS	ND	ND	ND	ND	ND	ND	ND
	10-May-07	NR	5.0	ND	ND	ND	ND	ND	ND	ND	ND
	29-Jun-11	0.20	1.0	NS	ND	0.95	J	ND	ND	ND	ND
	01-Nov-11	0.20	1.0	NS	ND	ND	ND	ND	ND	ND	ND
	01-May-12	0.20	1.0	NS	ND	ND	ND	ND	ND	ND	ND
07-Nov-12	0.157	1.00	NS	Dry	ND	ND	ND	ND	NS	ND	
Vinyl chloride NC 2L = 0.03 µg/L (1/11/10)	17-May-06	10		NS	ND	ND	ND	ND	89	ND	
	22-Dec-06	NR	5.0	NS	ND	3.2	J	7.4	8.4	51	ND
	10-May-07	NR	5.0	8.5	ND	ND	1.0	J	5.8	29.0	ND
	30-Dec-09	0.1	1.0	Dry	ND	4.0	2.8	4.1	26.2	NS	ND
	01-Jun-10	0.1	1.0	Dry	ND	2.2	3.0	ND	26.7	NS	ND
	29-Dec-10	0.62	1.0	NS	ND	3.5	2.4	4.7	25.6	ND	ND
	29-Jun-11	0.62	1.0	NS	ND	2.8	2.8	4.6	28.7	ND	ND
	01-Nov-11	0.62	1.0	NS	ND	5.1	2.6	6.9	24.0	ND	ND
	01-May-12	0.62	1.0	NS	ND	3.5	2.0	4.8	21.8	ND	ND
	07-Nov-12	0.127	1.00	NS	Dry	7.94	2.73	6.99	29.9	NS	ND
Xylenes NC 2L = 500 µg/L (1/11/10)	17-May-06	5		NS	ND	ND	ND	ND	ND	ND	
	22-Dec-06	NR	5.0	NS	ND	ND	ND	ND	ND	ND	ND
	10-May-07	NR	5.0	49	ND	ND	ND	ND	ND	ND	ND
	30-Dec-09	0.3	4.0	Dry	ND	ND	ND	3.5	J	ND	NS
	01-Jun-10	0.3	4.0	Dry	ND	ND	ND	ND	ND	NS	ND
	29-Dec-10	0.66	2.0	NS	ND	ND	ND	ND	ND	ND	ND
	29-Jun-11	0.66	2.0	NS	ND	ND	ND	ND	ND	ND	ND
	01-Nov-11	0.66	2.0	NS	ND	ND	ND	ND	ND	ND	ND
	01-May-12	0.66	2.0	NS	ND	0.89	J	ND	ND	ND	ND
07-Nov-12	0.179	5.00	NS	Dry	ND	ND	ND	ND	NS	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.
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.

**TABLE 2
CONSTITUENTS EXCEEDING NC 2L STANDARDS**

Constituent	Concentration (µg/L)										Blanks					
	Date	DL	RL	Background		Downgradient										
				MW-1	MW-6	MW-2	MW-3S	MW-3D	MW-4	MW-5						
Barium NC 2L = 700 µg/L (1/11/10)	17-May-06	0.5		NS	ND	0.54	ND	ND	ND	ND						
	22-Dec-06	NR	100	NS	104	577	203	ND	ND	102		ND				
	10-May-07	NR	100	175.00	ND	400	227	1130	ND	194		ND				
	30-Dec-09	1.1	100	Dry	74.10	J	496.00	178.00	18.20	J	89.00	J	NS	3.60	J	
	01-Jun-10	1.1	100	Dry	58.10	J	326.00	187.00	22.20	J	94.90	J	NS	2.00	J	
	29-Dec-10	0.20	100	NS	46.30	B	430.00	112.00	38.00	B	92.10	J	72.60	J	11.30	J
	29-Jun-11	5.0	100	NS	77.70	J	370.00	128.00	41.20	J	98.40	J	113.00	ND		
	01-Nov-11	5.0	100	NS	125.00		413.00	132.00	41.70	J	111.00		72.10	J	ND	
	01-May-12	5.0	100	NS	78.80	J	323.00	121.00	40.00	J	99.70	J	66.10	J	ND	
	07-Nov-12	0.39	100	NS	Dry		369.00	127.00	41.00	B	98.70	J	NS		12.20	J
Cadmium NC 2L = 2 µg/L (1/11/10)	17-May-06	0.001		NS	ND	ND	0.03	ND	ND	ND						
	22-Dec-06	NR	1.0	NS	4.0	3.0	26.0	ND	1	ND		ND				
	10-May-07	NR	1.0	ND	ND	ND	14.0	ND	ND	7.0		ND				
	30-Dec-09	0.2	1.0	Dry	ND	0.50	J	5.60	ND	NS		ND				
	01-Jun-10	0.2	1.0	Dry	2.90	1.00	B	5.30	0.40	B	0.40	B	NS	0.40	J	
	29-Dec-10	0.50	1.0	NS	ND	ND	ND	ND	ND	ND		ND				
	29-Jun-11	1.0	1.0	NS	ND	ND	ND	ND	ND	ND		ND				
	01-Nov-11	1.0	1.0	NS	ND	ND	ND	ND	ND	ND		ND				
	01-May-12	1.0	1.0	NS	ND	ND	ND	ND	ND	ND		ND				
	07-Nov-12	0.026	1.00	NS	Dry		0.15	J	ND	ND	0.04	J	NS		ND	
Chromium NC 2L = 10 µg/L (1/11/10)	17-May-06	0.01		NS	ND	ND	0.03	ND	0.01	ND						
	22-Dec-06	NR	10.0	NS	45.0	ND	11.0	ND	ND	ND		ND				
	10-May-07	NR	10.0	ND	ND	ND	14.0	ND	ND	ND		ND				
	30-Dec-09	0.7	10.0	Dry	ND	2.70	J	9.70	J	ND	3.10	J	NS	ND		
	01-Jun-10	0.7	10.0	Dry	3.50	J	1.60	J	12.40	1.20	J	3.20	J	NS	ND	
	29-Dec-10	0.40	10.0	NS	0.48	J	1.30	J	0.57	J	ND	5.50	J	3.80	J	ND
	29-Jun-11	5.0	10.0	NS	ND	ND	ND	ND	ND	ND		ND	ND	ND		
	01-Nov-11	5.0	10.0	NS	ND	ND	ND	ND	ND	10.30		ND	ND	ND		
	01-May-12	5.0	10.0	NS	ND	ND	ND	ND	ND	5.80	J	ND	ND	ND		
	07-Nov-12	0.030	10.0	NS	Dry		0.71	J	0.12	B	0.09	B	7.31	J	NS	0.10
Cobalt GWPS = 70 µg/L (10/23/07) GWPS = 1 µg/L (10/1/10)	17-May-06	0.001		NS	ND	ND	0.01	ND	ND	0.02						
	22-Dec-06	NR	10.0	NS	ND	ND	ND	ND	ND	14	?	ND				
	10-May-07	NR	10.0	62.00	?	ND	ND	ND	ND	22		ND				
	30-Dec-09	0.7	10.0	Dry	ND	6.40	J	11.20	ND	1.80	J	NS	ND			
	01-Jun-10	0.7	10.0	Dry	1.80	J	2.50	J	8.50	J	ND	1.70	J	NS	ND	
	29-Dec-10	0.60	10.0	NS	ND	4.90	J	1.70	J	ND	1.60	J	10.20	ND		
	29-Jun-11	5.0	10.0	NS	ND	ND	ND	ND	ND	ND		9.90	J	ND		
	01-Nov-11	5.0	10.0	NS	ND	ND	ND	ND	ND	ND		5.20	J	ND		
	01-May-12	5.0	10.0	NS	ND	ND	ND	ND	ND	ND		13.90	ND	ND		
	07-Nov-12	0.053	10.0	NS	Dry		1.98	J	3.89	J	0.43	B	2.02	J	NS	0.24
	17-May-06	0.01		NS	ND	ND	ND	ND	ND	ND						
	22-Dec-06	NR	10.0	NS	24.0	ND	10.0	ND	ND	ND		ND				
	10-May-07	NR	10.0	ND	ND	ND	ND	ND	ND	40		ND				

**TABLE 2
CONSTITUENTS EXCEEDING NC 2L STANDARDS**

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	10.20	ND	ND	NS	ND	ND
	01-Jun-10	2.0	10.0	Dry	9.10 B	8.20 B	8.70 B	3.00 B	3.90 B	NS	NS	3.20 J
	29-Dec-10	4.0	10.0	NS	ND	ND	ND	ND	ND	6.50 J	ND	ND
	29-Jun-11	5.0	10.0	NS	ND	ND	ND	ND	ND	19.90	ND	ND
	01-Nov-11	5.0	10.0	NS	5.50 J	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	0.025	10.0	NS	Dry	1.00 B	0.09 B	0.07 B	1.12 B	NS	NS	0.58 J
Vanadium GWPS = 3.5 µg/L (10/23/07) GWPS = 0.3 µg/L (10/1/10)	17-May-06	0.01		NS	ND	ND	0.13	ND	ND	ND	ND	ND
	22-Dec-06	NR	25.0	NS	ND	ND	86.0	ND	ND	ND	ND	ND
	10-May-07	NR	25.0	NS	ND	ND	106	ND	ND	38.00	ND	ND
	30-Dec-09	0.4	25.0	Dry	ND	1.40 J	37.40	1.50 J	4.30 J	NS	NS	ND
	01-Jun-10	0.4	25.0	Dry	1.20 J	3.40 J	84.20	1.40 J	4.80 J	NS	NS	ND
	29-Dec-10	0.20	25.0	NS	1.20 B	2.80 J	2.30 J	1.60 J	5.50 J	14.50 J	0.26 J	0.26 J
	29-Jun-11	5.0	25.0	NS	ND	ND	ND	ND	ND	22.00 J	ND	ND
01-Nov-11	5.0	25.0	NS	7.20 J	ND	ND	ND	12.00 J	7.20 J	ND	ND	
01-May-12	5.0	25.0	NS	ND	ND	ND	ND	7.20 J	7.60 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	NS	ND	
Benzene NC 2L = 1 µg/L (10/23/07)	17-May-06	5		NS	ND	15.00	ND	ND	ND	ND	ND	ND
	22-Dec-06	NR	5.0	NS	ND	11.00	ND	ND	ND	ND	ND	ND
	10-May-07	NR	5.0	20.00	ND	82.00	ND	ND	ND	ND	ND	ND
	30-Dec-09	0.1	1.0	Dry	ND	8.40	0.30 J	0.40 J	0.30 J	NS	NS	ND
	01-Jun-10	0.1	1.0	Dry	ND	2.90	ND	ND	ND	NS	NS	ND
	29-Dec-10	0.25	1.0	NS	ND	8.10	ND	ND	ND	ND	ND	ND
	29-Jun-11	0.25	1.0	NS	ND	7.20	0.38 J	0.45 J	0.42 J	ND	ND	ND
	01-Nov-11	0.25	1.0	NS	ND	8.60	ND	ND	ND	ND	ND	ND
	01-May-12	0.25	1.0	NS	ND	6.70	0.36 J	0.45 J	0.42 J	ND	ND	ND
07-Nov-12	0.111	1.0	NS	Dry	8.63	0.43 J	0.50 J	0.48 J	NS	NS	ND	
1,1-Dichloroethane NC 2L = 6 µg/L (1/11/10)	17-May-06	5		NS	ND	47.00	5.20	8.80	6.40	ND	ND	ND
	22-Dec-06	NR	5.0	NS	ND	30.00	3.0 J	5.6	2.9 J	ND	ND	ND
	10-May-07	NR	5.0	16.00	ND	27.00	ND	5.8	ND	ND	ND	ND
	30-Dec-09	0.2	5.0	Dry	ND	22.80	1.90 J	4.00 J	2.40 J	NS	NS	ND
	01-Jun-10	0.2	5.0	Dry	ND	11.00	1.10 J	ND	1.20 J	NS	NS	ND
	29-Dec-10	0.32	5.0	NS	ND	28.20	2.40 J	4.10 J	2.60 J	ND	ND	ND
	29-Jun-11	0.32	5.0	NS	ND	25.00	2.50 J	3.90 J	2.60 J	ND	ND	ND
	01-Nov-11	0.32	5.0	NS	ND	27.20	2.30 J	4.00 J	2.30 J	ND	ND	ND
	01-May-12	0.32	5.0	NS	ND	22.60	2.00 J	3.80 J	2.00 J	ND	ND	ND
07-Nov-12	0.208	5.0	NS	Dry	28.10	2.06 J	4.08 J	ND	NS	NS	ND	
	17-May-06	5		NS	ND	ND	ND	ND	ND	ND	ND	ND
	22-Dec-06	NR	1.0	NS	ND	ND	ND	ND	ND	ND	ND	ND
	10-May-07		1.0	9.40	ND	ND	ND	ND	ND	ND	ND	ND

**TABLE 2
CONSTITUENTS EXCEEDING NC 2L STANDARDS**

Constituent	Concentration (µg/L)												
	Date	DL	RL	Background		Downgradient					Blanks		
				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	1.20	0.70	J	1.20	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	1.10	ND	ND	ND	
	29-Jun-11	0.12	1.0	NS	ND	0.76	J	0.86	J	1.30	ND	ND	ND
	01-Nov-11	0.12	1.0	NS	ND	0.95	J	ND	J	1.30	ND	ND	ND
	01-May-12	0.12	1.0	NS	ND	0.71	J	0.70	J	1.10	ND	ND	ND
	07-Nov-12	0.171	1.00	NS	Dry	ND	ND	ND	ND	ND	NS	ND	
Cis-1,2-Dichloroethylene NC 2L = 70 µg/L (10/23/07)	17-May-06	5		NS	ND	76.00	21.00		72.00	33.00	ND	ND	
	22-Dec-06	NR	5.0	NS	ND	68.00	20.0		67.0	24.0	ND	ND	
	10-May-07	NR	5.0	265.00	ND	55.00	J	4.2	J	68.0	22.0	ND	
	30-Dec-09	0.1	5.0	Dry	ND	68.20	11.00		51.00	21.80	NS	ND	
	01-Jun-10	0.1	5.0	Dry	ND	23.00	7.60		ND	10.20	NS	ND	
	29-Dec-10	0.19	5.0	NS	ND	66.70	16.80		56.70	24.10	ND	ND	
	29-Jun-11	0.19	5.0	NS	ND	55.10	16.50		62.70	25.10	ND	ND	
	01-Nov-11	0.19	5.0	NS	ND	59.40	15.20		59.30	23.20	ND	ND	
	01-May-12	0.19	5.0	NS	ND	{48.7}	14.20		59.50	22.10	ND	0.21 {ND} J	
07-Nov-12	0.103	5.00	NS	Dry	59.70	13.60		71.30	26.40	NS	ND		
1,2-Dichloropropane NC 2L = 0.6 µg/L (1/11/10)	17-May-06	5		NS	ND	7.00	ND		ND	ND	ND	ND	
	22-Dec-06	NR	1.0	NS	ND	ND	ND		ND	ND	ND	ND	
	10-May-07	NR	1.0	ND	ND	ND	ND		ND	ND	ND	ND	
	30-Dec-09	0.1	1.0	Dry	ND	5.70	0.60	J	1.10	0.70	J	NS	
	01-Jun-10	0.1	1.0	Dry	ND	1.90	ND		ND	ND	NS	ND	
	29-Dec-10	0.27	1.0	NS	ND	5.30	ND		ND	ND	ND	ND	
	29-Jun-11	0.27	1.0	NS	ND	4.80	0.90	J	1.30	0.73	J	ND	
	01-Nov-11	0.27	1.0	NS	ND	4.90	0.76	J	1.30	ND	ND	ND	
	01-May-12	0.27	1.0	NS	ND	4.40	0.76	J	1.40	0.62	J	ND	
07-Nov-12	0.150	1.0	NS	Dry	4.93	ND		1.66	ND	NS	ND		
Tetrachloroethylene NC 2L = 0.7 µg/L (10/23/07)	17-May-06	5		NS	ND	12.00	ND		ND	ND	ND	ND	
	22-Dec-06	NR	5.0	NS	ND	6.20	ND		ND	ND	ND	ND	
	10-May-07	NR	5.0	9.30	ND	1.30	J		ND	ND	ND	ND	
	30-Dec-09	0.2	1.0	Dry	ND	1.20	ND		ND	ND	NS	ND	
	01-Jun-10	0.2	1.0	Dry	ND	1.40	ND		ND	ND	NS	ND	
	29-Dec-10	0.46	1.0	NS	ND	2.80	ND		ND	ND	ND	ND	
	29-Jun-11	0.46	1.0	NS	ND	3.60	ND		ND	ND	ND	ND	
	01-Nov-11	0.46	1.0	NS	ND	2.90	ND		ND	ND	ND	ND	
	01-May-12	0.46	1.0	NS	ND	3.00	ND		ND	ND	ND	ND	
07-Nov-12	0.193	1.00	NS	Dry	2.52	ND		ND	ND	NS	ND		
Trichloroethylene NC 2L = 3 µg/L (1/11/10)	17-May-06	5		NS	ND	28.00	ND		ND	ND	ND	ND	
	22-Dec-06	NR	5.0	NS	ND	19.00	ND		ND	ND	ND	ND	
	10-May-07	NR	5.0	8.20	ND	25.00	ND		ND	ND	ND	ND	
	30-Dec-09	0.1	1.0	Dry	ND	8.00	ND		ND	0.20	J	NS	
	01-Jun-10	0.1	1.0	Dry	ND	6.40	ND		ND	ND	NS	ND	
	29-Dec-10	0.47	1.0	NS	ND	10.10	ND		ND	ND	ND	ND	
	29-Jun-11	0.47	1.0	NS	ND	14.60	ND		ND	ND	ND	ND	
	01-Nov-11	0.47	1.0	NS	ND	10.20	ND		ND	ND	ND	ND	
	01-May-12	0.47	1.0	NS	ND	11.60	ND		ND	ND	ND	ND	
07-Nov-12	0.161	1.00	NS	Dry	9.97	ND		ND	ND	NS	ND		
Vinyl chloride NC 2L = 0.03 µg/L (1/11/10)	17-May-06	10		NS	ND	ND	ND		ND	89.00	ND	ND	
	22-Dec-06	NR	5.0	NS	ND	3.20	J	7.4	8.4	51	ND	ND	
	10-May-07	NR	5.0	8.50	ND	ND	1.0	J	5.8	29.0	ND	ND	
	30-Dec-09	0.1	1.0	Dry	ND	4.00	2.80		4.10	26.20	NS	ND	
	01-Jun-10	0.1	1.0	Dry	ND	2.20	3.00		ND	26.70	NS	ND	

TABLE 2
CONSTITUENTS EXCEEDING NC 2L STANDARDS

Constituent	Concentration (µg/L)										
	Date	DL	RL	Background		Downgradient					Blanks
				MW-1	MW-6	MW-2	MW-3S	MW-3D	MW-4	MW-5	
	29-Dec-10	0.62	1.0	NS	ND	3.50	2.40	4.70	25.60	ND	ND
	29-Jun-11	0.62	1.0	NS	ND	2.80	2.80	4.60	28.70	ND	ND
	01-Nov-11	0.62	1.0	NS	ND	5.10	2.60	6.90	24.00	ND	ND
	01-May-12	0.62	1.0	NS	ND	3.50	2.00	4.80	21.80	ND	ND
	07-Nov-12	0.127	1.00	NS	Dry	7.94	2.73	6.99	29.90	NS	ND

**TABLE 3
CONDENSED SUMMARY OF NC 2L EXCEEDANCES**

	Upgradient	Downgradient				
	MW-6	MW-2	MW-3S	MW-3D	MW-4	MW-5
Barium				1x 07		
Cadmium	2x 06, 10	1x 06	3x 06-10			
Chromium	1x 06		3x 06-10		1x 11	
Cobolt						4x 06-12
Lead	1x 06					2x 07,11
Vanadium			4x 06-10			1x 07
Benzene		Consistent				
11 DCA		Consistent				
12 DCA		1x 09		4x 09-12		
cis 12 DCE		1x 06		1x 06		
PCE		Consistent				
TCE		Consistent				
VC		Consistent	Consistent	Consistent	Consistent	

Key: 1x 06: 1x = one occurrence, 06 = year or years of occurrence

**TABLE 4
HISTORICAL SURFACE WATER RESULTS**

Constituent	Date	Concentration (µg/L)					
		DL	RL	Upstream SW-1	Downstream SW-2 SW-3		Blanks
Antimony NC 2B = NE µg/L (05/01/07)	22-Dec-06	NR	6.0	ND	ND	NS	ND
	10-May-07	NR	6.0	ND	ND	NS	ND
	30-Dec-09	1.2	6.0	1.5 B	6.4 B	NS	1.4 J
	01-Jun-10	1.2	6.0	6.7 B	2.5 B	NS	3.9 J
	29-Dec-10	2.6	6.0	ND	ND	ND	ND
	29-Jun-11	5.0	6.0	ND	ND	ND	ND
	01-Nov-11	5.0	6.0	ND	ND	ND	ND
	01-May-12	5.0	6.0	ND	ND	ND	ND
	07-Nov-12	0.48	6.0	ND	ND	ND	ND
Aresnic NC 2B = 50 µg/L (05/01/07)	22-Dec-06	NR	10.0	ND	ND	ND	ND
	10-May-07	NR	10.0	ND	ND	NS	ND
	07-Nov-12	0.094	10.0	0.17 B	0.26 B	0.24 B	1.0 J
Barium NC 2B = NE µg/L (05/01/07)	22-Dec-06	NR	100	ND	ND	ND	ND
	10-May-07	NR	100	ND	ND	NS	ND
	30-Dec-09	1.1	100	25.1 J	34 J	NS	3.4 J
	01-Jun-10	1.1	100	28.8 J	31.5 J	NS	2.0 J
	29-Dec-10	0.20	100	22.3 B	27.8 B	27.9 B	11.3 J
	29-Jun-11	5.0	100	40.0 J	39.4 J	39.3 J	ND
	01-Nov-11	5.0	100	30.1 J	35.2 J	34.3 J	ND
	01-May-12	5.0	100	66.1 J	35.4 J	33.3 J	ND
	07-Nov-12	0.39	100	27.6 B	31.5 B	29.9 B	12.2 J
Cadmium NC 2B = 2 µg/L (05/01/07)	22-Dec-06	NR	1.0	ND	ND	ND	ND
	10-May-07	NR	1.0	ND	ND	NS	ND
	30-Dec-09	0.2	1.0	ND	ND	NS	ND
	01-Jun-10	0.2	1.0	0.9 B	0.4 B	NS	0.4 J
	29-Dec-10	0.50	1.0	ND	ND	ND	ND
	29-Jun-11	1.0	1.0	ND	ND	ND	ND
	01-Nov-11	1.0	1.0	ND	ND	ND	ND
	01-May-12	1.0	1.0	ND	ND	ND	ND
	07-Nov-12	0.026	1.000	ND	ND	ND	ND
Chromium NC 2B = 50 µg/L (05/01/07)	22-Dec-06	NR	1.0	ND	ND	ND	ND
	10-May-07	NR	10.0	ND	ND	NS	ND
	30-Dec-09	0.7	10.0	ND	ND	NS	ND
	01-Jun-10	0.7	10.0	1.7 J	1.2 J	NS	ND
	29-Dec-10	0.40	10.0	0.69 J	0.53 J	0.41 J	ND
	29-Jun-11	5.0	10.0	ND	ND	ND	ND
	01-Nov-11	5.0	10.0	ND	ND	ND	ND
	01-May-12	5.0	10.0	ND	ND	ND	ND
	07-Nov-12	0.030	10.0	0.29 B	0.13 B	0.11 B	0.099 J
Cobalt NC 2B = NE µg/L (05/01/07)	22-Dec-06	NR	10.0	ND	ND	ND	ND
	10-May-07	NR	10.0	ND	ND	NS	ND
	30-Dec-09	0.7	10.0	ND	ND	NS	ND
	01-Jun-10	0.7	10.0	ND	ND	NS	ND
	29-Dec-10	0.60	10.0	ND	1.8 J	1.9 J	ND
	29-Jun-11	5.0	10.0	ND	ND	ND	ND
	01-Nov-11	5.0	10.0	ND	ND	ND	ND
	01-May-12	5.0	10.0	ND	ND	ND	ND
	07-Nov-12	0.053	10.0	0.34 B	0.76 B	0.76 B	0.24 J
Copper NC 2B = 7 µg/L (05/01/07)	Dec-06	NR	NR	NR	NR	NR	NR
	10-May-07	NR	NR	NR	NR	NS	NR
	30-Dec-09	2.0	10.0	ND	ND	NS	ND
	01-Jun-10	2.0	10.0	6.9 B	5.8 B	NS	4.8 J
	29-Dec-10	0.30	10.0	0.38 J	ND	ND	ND
	29-Jun-11	5.0	10.0	ND	ND	ND	ND
	01-Nov-11	5.0	10.0	ND	ND	ND	ND
	01-May-12	5.0	10.0	ND	ND	ND	ND
	07-Nov-12	0.093	10.0	0.27 B	0.38 B	0.38 B	1.23 J

**TABLE 4
HISTORICAL SURFACE WATER RESULTS**

Constituent	Date	Concentration (µg/L)					
		DL	RL	Upstream SW-1		Downstream SW-2 SW-3	
Lead NC 2B = 25 µg/L (05/01/07)	22-Dec-06	NR	10.0	ND	ND	ND	ND
	10-May-07	NR	10.0	ND	ND	NS	ND
	30-Dec-09	2.0	10.0	ND	ND	NS	ND
	01-Jun-10	2.0	10.0	2.7 B	2.8 B	NS	3.2 J
	29-Dec-10	4.0	10.0	ND	ND	ND	ND
	29-Jun-11	5.0	10.0	ND	ND	ND	ND
	01-Nov-11	5.0	10.0	ND	ND	ND	ND
	01-May-12	5.0	10.0	ND	ND	ND	ND
	07-Nov-12	0.025	10.0	0.071 B	0.049 B	0.060 B	0.58 J
	Nickel NC 2B = 88 µg/L (05/01/07)	22-Dec-06	NR	50.0	ND	ND	ND
10-May-07		NR	50.0	ND	ND	NS	ND
07-Nov-12		0.26	50.0	0.46 B	0.39 B	0.35 B	0.84 J
Vanadium NC 2B = NE µg/L (05/01/07)	22-Dec-06	NR	25.0	ND	ND	ND	ND
	10-May-07	NR	25.0	ND	ND	NS	ND
	30-Dec-09	0.4	25.0	2.0 J	0.8 J	NS	ND
	01-Jun-10	0.4	25.0	2.2 J	2.4 J	NS	ND
	29-Dec-10	0.20	25.0	0.67 B	0.37 B	0.62 B	0.26 J
	29-Jun-11	5.0	25.0	ND	ND	ND	ND
	01-Nov-11	5.0	25.0	ND	ND	ND	ND
	01-May-12	5.0	25.0	ND	ND	ND	ND
	07-Nov-12	0.085	25.0	0.63 J	0.44 J	0.52 J	ND
	Zinc NC 2B = 50 µg/L (05/01/07)	22-Dec-06	NR	10.0	ND	24	ND
10-May-07		NR	10.0	ND	ND	NS	12.0
30-Dec-09		2.7	10.0	6.7 B	ND	NS	4.7 J
01-Jun-10		2.7	10.0	6.7 J	8.7 J	NS	ND
29-Dec-10		0.40	10.0	ND	1.2 B	1.2 B	12.5
29-Jun-11		10.0	10.0	ND	ND	ND	10.5
01-Nov-11		10.0	10.0	ND	ND	ND	ND
01-May-12		10.0	10.0	ND	ND	ND	ND
07-Nov-12		1.31	10.0	ND	ND	1.56 J	ND
Acetone NC 2B = NE µg/L (05/01/07)		22-Dec-06	NR	100.0	ND	ND	ND
	10-May-07	NR	100	ND	ND	NS	ND
	29-Jun-11	2.2	100	2.8 B	3.3 B	4.4 B	5.3 J
	01-Nov-11	2.2	100	ND	ND	ND	14.6 J
	01-May-12	2.2	100	ND	ND	ND	ND
	07-Nov-12	0.193	100	ND	ND	ND	ND
Cis-1,2-Dichloroethylene NC 2B = NE µg/L (05/01/07)	22-Dec-06	NR	5.0	ND	ND	ND	ND
	10-May-07	NR	5.0	ND	ND	NS	ND
	30-Dec-09	0.1	5.0	ND	ND	NS	ND
	01-Jun-10	0.1	5.0	ND	ND	NS	ND
	29-Dec-10	0.19	5.0	ND	0.39 J	ND	ND
	29-Jun-11	0.19	5.0	0.26 J	0.30 J	0.33 J	ND
	01-Nov-11	0.19	5.0	ND	ND	ND	ND
	01-May-12	0.19	5.0	0.31 B	ND	ND	0.21 (ND) J
	07-Nov-12	0.103	5.00	ND	ND	ND	ND

Notes:

1. RL = Reporting limit (NC SWSL).
2. All concentrations are in micrograms per liter (ug/L).
3. NC 2B Standard is the surface water quality standard. Classification is currently Freshwater Aquatic Life.
4. NS = Not sampled.
5. SMP = Surface water monitoring point.
6. 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.
7. ND = Not detected at the laboratory's detection limit.
8. J = Estimated value since concentration is less than the laboratory's reporting limit and greater than the detection limit.
9. B = Probable field and/or laboratory contamination since the concentration is within five times the concentration reported in the associated quality control blanks.
10. Shaded values are greater than the established NC 2B Surface Water Quality Standards.
11. DL = Detection limit.
12. NE = Not established.