

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):

Municipal Engineering Services Co., PA

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

Name: Jonathan Pfohl Phone: (919) 772-5393
E-mail: jpfohl@mesco.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Wayne County Active C&D upon Closed MSWLF	460-B South Landfill Road Dudley, NC 28333	96-01	.1600	August 11-12, 2010

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

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.

Mark Brown, LG, PG Senior Professional Geologist (919) 772-5393

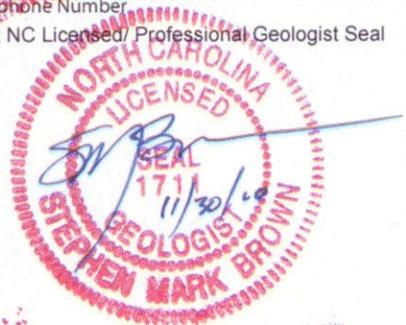
Facility Representative Name (Print) Mark Brown Title Senior Professional Geologist (Area Code) Telephone Number 919 772-5393
 Signature [Signature] Date 11/30/10 Affix NC Licensed Professional Geologist Seal

P.O. Box 97, Garner NC 27529

Facility Representative Address

C-0281

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



Semi-Annual Water Quality Monitoring and Statistical Analysis Report

Prepared for

Wayne County Active C&D Upon Closed MSWLF
Dudley, North Carolina

August 2010

Permit Number: 96-01

MESCO Project Number: G10016.0

Submittal Date: December 3, 2010



Municipal Engineering Services Company, P.A.
Garner, Boone and Morehead City, North Carolina

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**Municipal
Services****Engineering
Company, P.A.**

November 30, 2010

Ms. Jaclynne Drummond
Solid Waste Section
Division of Waste Management
North Carolina Department of Environment and Natural Resources
401 Oberlin Road, Suite 150
Raleigh, NC 27605

Re: Semi-Annual Water Quality Report and Statistical Analysis
Wayne County Active C&D over Closed MSWLF
Permit No. 96-01
MESCO Project No. G10016.0

Dear Ms. Drummond:

Introduction

The groundwater and surface water quality at the Wayne County Active Construction and Demolition (C&D) landfill constructed over the unlined Closed Municipal Solid Waste Landfill (MSWLF) located near Dudley NC, was analyzed in general accordance with the NC Solid Waste Section (SWS) monitoring program. Municipal Engineering Services Company, P.A. (MESCO) of Garner NC performed this monitoring event on August 11-12, 2010 and prepared this water quality report and statistical analysis in accordance with the semi-annual monitoring schedule prescribed by the SWS rules/regulations as promulgated in 15A NCAC 13B.1600. The monitored natural attenuation (MNA) analyses, which were also performed during this event, will be discussed in **Appendix B**.

The closed unlined MSWLF, which operates under Permit No. 96-01, is located south of the active lined MSWLF which is separated by an unnamed tributary of Edward's Branch. The facility location topographic map is depicted in **Plate 1**. The closed MSWLF ceased operation prior to 1998 and the C&D landfill continues operation on the west phase of the closed MSWLF. Since they are one contiguous landfill they are combined and treated as a single unit for overall continuity in reporting.

As specified in 15A NCAC 13B.1632(j) and on the SWS *Environmental Monitoring Report Form* this report presents our sampling procedures, field and laboratory results, statistical analysis, groundwater and surface water characterization, and findings. A "Detections Compared to Standards" table, laboratory and field data results, a single-day potentiometric map, groundwater flow directions and flow rates table, monitoring network field observations table, quality assurance/quality control data, statistical analysis, and laboratory analytical data results with chains of custody (C-O-C) are attached.

Sampling Procedure

During this event, samples were collected from monitoring locations listed in the approved Ground and Surface Water Sampling & Analysis Plan (SAP) contained in the *Corrective Action Plan* (CAP). The site-specific SAP includes collection and analysis of water samples from 10 downgradient groundwater monitoring wells (MW-2 through MW-11), one background well (MW-1), three surface water sampling points, which monitor both the unlined closed and lined active MSWLFs (SW-1, SW-2, SW-3), and a surface water sampling point located upstream of the closed MSWLF (SW-2). Quality control measures, which included submittal

and analysis of equipment blank samples (EB), field blank samples (FB), and trip blank samples (TB) were also implemented during this event. Monitoring locations are depicted on the enclosed single-day potentiometric map (**Plate 2**).

Sampling was performed in accordance with the SAP using portable monitoring methodology outlined in the SWS guidance document *Solid Waste Section Guidelines for Groundwater, Soil, and Surface Water Sampling* revised April 2008. The function and integrity of monitoring locations were visually evaluated and preventive maintenance was performed. Documentation is provided in the enclosed **Table 4**. The depth to the static water level in each well was electronically gaged prior to purging. Low-flow pumping methodology or baling was used to adequately purge the wells to a minimum of three times the volume of standing water in the well or until dry. During purging, field parameters (dissolved oxygen, oxidation-reduction potential, total dissolved solids, and visual turbidity) were recorded in addition to required parameters (pH, specific conductance, temperature). Samples were placed into laboratory-prepared, pre-preserved containers via a new disposable polyethylene bailer. Samples were collected/separated based on potential cross-contamination, kept on ice, and transported to two State of NC-certified laboratories (Environmental Conservation Laboratories (ENCO), Cary, NC and Pace Analytical Laboratories (Pace), Huntersville, NC) under proper C-O-C protocol within the specified hold times for each analysis.

Field and Laboratory Results

Pace Analytical analyzed groundwater and surface water samples for the Appendix II list of volatile organic compounds (VOCs) via EPA Test Method 8260, for total metals via EPA Test Method 6010, mercury via EPA Test Method 7470, semi-volatile organics via EPA Test Method 8270, chlorinated herbicides via EPA Test Method 8151, cyanide via Test Method SM 4500-CN-E, and sulfide via Test Method SM 4500-52D. Quality control samples, TB and FB, were analyzed for VOCs; the EB was analyzed for VOCs and metals including mercury. ENCO analyzed groundwater and surface water samples for chlorinated pesticides via EPA Test Method 8081B and for polychlorinated biphenyls (PCBs) via EPA Test Method 8082A.

Samples collected from MW-2, MW-8, and background well MW-1 were additionally analyzed by Pace for the MNA performance parameters outlined in the *CAP*, including: nitrogen/nitrate via EPA Test Method 353.2, sulfate via Test Method ASTM D516-90, alkalinity via Test Method SM 2320B, chloride via Test Method SM 4500-Cl-E, BOD via Test Method SM 5120B, COD via Test Method 5220D and TOC via Test Method 5310B. Selected MNA data was also analyzed by Microseeps using methods AM20 GAX and AM23G.

Water samples were analyzed to the laboratory-established Method Detection Limits (MDL) Detections were compared to the Solid Waste Section detection limit (SWSL), Groundwater Protection Standards (GWP), North Carolina Groundwater Standards (2L) or the applicable North Carolina Surface Water Standards (2B) for a Class C water body. Detections reported above the SWSL, GWP, 2L, or 2B are summarized in **Table 1**. The laboratory analytical reports and C-O-Cs are presented in **Appendix C**.

Field Parameter Data

The field parameter data appears to be generally consistent relative to each other and congruent with historically reported data. The field parameter data summary is presented in **Table 5** and the field sampling data sheet is in **Appendix C**.

Quality Control Samples

Quality control samples (EB, FB, and TB) did not contain VOCs indicating the validity of the latest data set is not effected by false positives or high bias attributed to the laboratory artifact contamination.

Groundwater Samples

Arsenic in MW-2 was the only metal constituent detected in exceedance of its 2L Standard. Benzene was also detected in concentrations above its 2L Standard in well MW-2.

Surfacewater Samples

A sample collected from surface water point SW-3, located on the unnamed tributary of Edward's Branch between the active lined and unlined MSWLF, contained a low, non-quantifiable concentration of silver above

its 2B Standard. No surface water samples contained VOCs in quantifiable concentrations during this event.

Statistical Analysis

Statistical analysis was performed on constituents detected in quantifiable concentrations (above SWSL) from the monitoring wells. The statistical comparison between baseline and current groundwater analytical data is consistent with US EPA guidance documents and meets or exceeds the performance criteria specified in 15A NCAC 13B.1362. An overview of the statistical analysis methodologies, summary tables, graphs, and worksheets are presented in **Appendix A**.

There does not appear to be any statistical outliers or current evidence of seasonality in the latest data set. The numbers and types of both metal and VOC detections continue to be consistent with historical results.

Arsenic in MW-2 was the only inorganic constituent that exhibited a statistically significant increase (SSI) in concentration at a 95% confidence level through both inter-well and intra-well analysis.

Due to the lack of historical VOC detections in the background wells, the detection of any quantifiable VOC in a downgradient well is considered a statistically significant number of detections per Poisson Prediction Interval analysis. MW-2 contained a statistically significant number of Appendix I VOCs. VOCs detected during this event have previously been found at MW-2 and concentrations were reported within their historically-identified range. A qualitative evaluation of VOC concentrations over time indicate that none of the VOC concentrations exhibited an increasing trend over time, and chlorobenzene concentrations in MW-2 are decreasing.

Groundwater and Surface Water Characterization

A single-day potentiometric map of the uppermost aquifer was constructed from groundwater elevation data recorded during this monitoring event (**Plate 1**). The single-day potentiometric map was utilized to determine the groundwater flow rates and directions, included in the Hydrologic Properties Table (**Table 3**). Flow directions were calculated generally southwesterly towards Edward's Branch with an average rate of 82 feet/year ranging from approximately 2 feet/year (MW-7) to 476 feet/year (MW-3). The calculated flow directions and gradients are consistent with historical observations.

Streams located within the facility boundaries were visually observed to be of moderate volume and flow. Upstream location SW-2 contained enough water to be sampled for the first time since 2008.

Findings

The surface waters appear to remain unimpacted from landfill activities. The silver 2B Standard exceedance in SW-3 is likely naturally inherent rather than an indication of leachate release. No surface water points have yielded VOC detections in quantifiable concentrations during this and previous historical events.

None of the Appendix II exclusive target analytes were detected at levels above their respective 2L Standard during this sampling event.

The water quality analysis and subsequent statistical analysis indicate that the groundwater monitored at MW-2 contained benzene at statistically significant levels above its 2L Standard that may be attributed to leachate and/or landfill gas.

The MW-2 groundwater sample also contained arsenic concentrations above its 2L Standard that exhibited a SSI, however the origin may be a product of erosion of natural deposits. According to NCDENR geochemical data reviewed on line, arsenic reportedly may occur naturally at elevated levels in this portion of the state.

MW-2 also contained aromatic VOCs, including benzene in a concentration above its 2L Standard. However, benzene is apparently not exhibiting an increasing trend in MW-2 per the statistical analysis results. The impact of the surficial groundwater south of the closed MSWLF monitored by MW-2 appears to be low and isolated in close proximity to the waste boundary as evidenced by the lack of detections in MW-11 located north of MW-2. Current findings continue to indicate that the small impacted portion of the surficial aquifer monitored by MW-2 should remain isolated within the relevant compliance boundary.

Closing

Water quality monitoring will continue at the facility; the next sampling event is tentatively scheduled for

February 2011. Please contact us by phone at (919) 772-5393 or by email at jpfohl@mesco.com or mbrown@mesco.com with questions or comments.

Sincerely,
MUNICIPAL ENGINEERING SERVICES CO., P.A.



Madeline German for Jonathan Pfohl
Environmental Specialist

Enclosures

cc: Mr. Tim Rogers
Wayne County



Mark Brown, L.C., P.E.
NC License 1711

Plates

PLATE 1

Topographic Map with Site Location

Semi- Annual Sampling

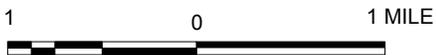
Wayne County Dudley

Date Completed	05/04/2010
Created By	M. Clement
Project Name	Semi – Annual Sampling
Site Name	Wayne County Dudley
Project Number	G10016.0

Municipal Engineering Services Company, PA

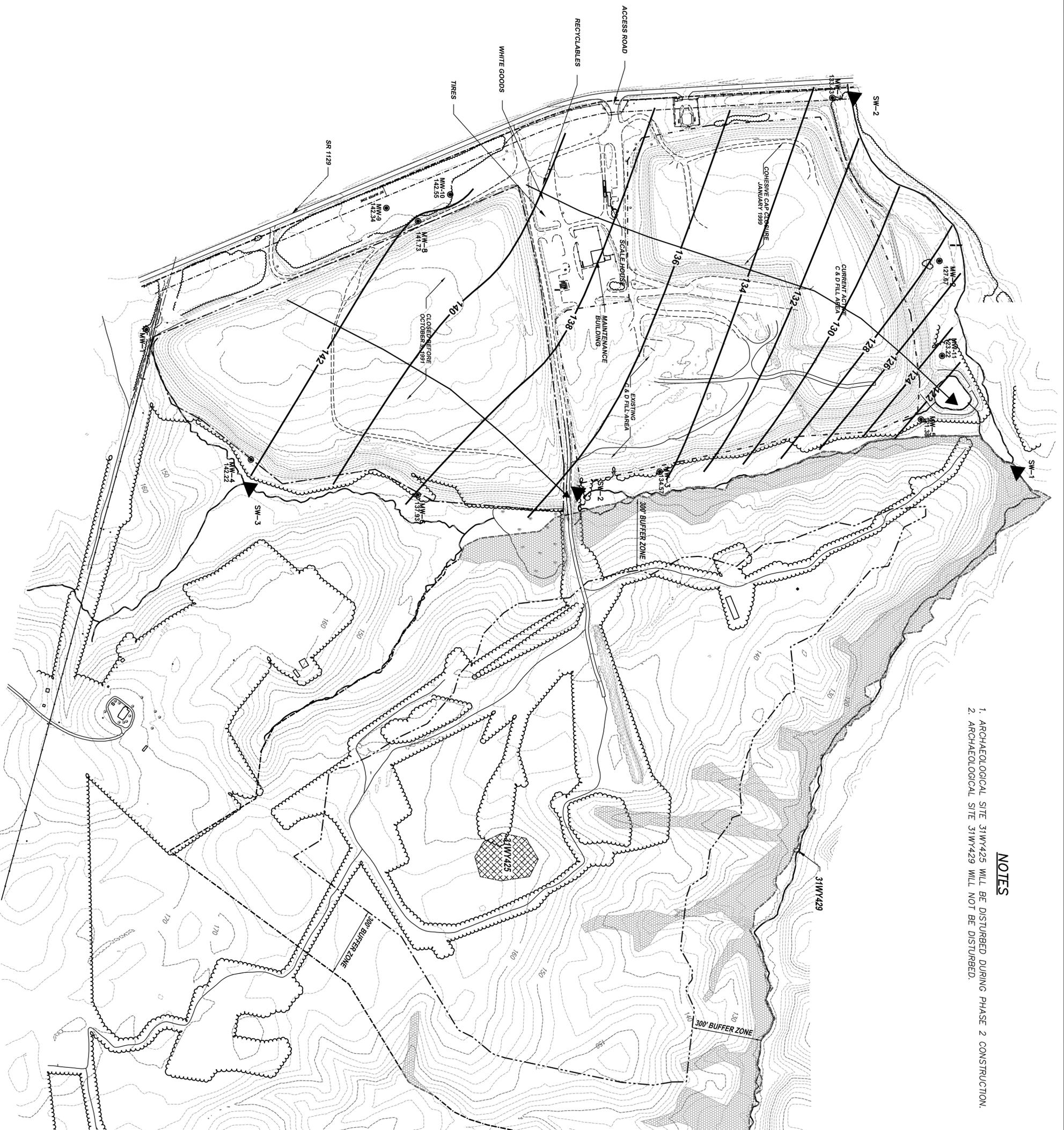


QUADRANGLE LEGEND



ROAD CLASSIFICATION

- Primary highway, hard surface
- Secondary highway, hard surface
- Light-duty road, hard or improved surface
- Unimproved road
- Interstate Route
- U. S. Route
- State Route



- NOTES**
1. ARCHAEOLOGICAL SITE 31WY425 WILL BE DISTURBED DURING PHASE 2 CONSTRUCTION.
 2. ARCHAEOLOGICAL SITE 31WY429 WILL NOT BE DISTURBED.

- LEGEND**
- EXISTING CONTOURS
 - PROPERTY LINE
 - EXISTING ROAD
 - WATER
 - MONITORING WELL LOCATION
 - ▲ SURFACE WATER MONITORING LOCATION
 - EXISTING MSWLF SANITARY UNIT
 - 300' BUFFER ZONE
 - ARCHAEOLOGICAL SITES
 - WETLANDS
 - 122 --- GROUNDWATER CONTOUR (August 2010)

Wayne County Active C&D over Closed MSWLF (Dudley)
August 12, 2010

WELL #	TOP OF PIPE ELEVATION (FT)	DEPTH TO WATER (FT)	WATER ELEVATION (FT)
MW-1	-	19.75	-
MW-2	134.52	6.85	127.67
MW-3	134.81	0.24	134.57
MW-4	150.20	7.98	142.22
MW-5	124.78	3.40	121.38
MW-6	145.53	7.80	137.73
MW-7	143.59	10.16	133.43
MW-8	161.88	20.15	141.73
MW-9	162.96	20.62	142.34
MW-10	162.90	20.35	142.55
MW-11	127.23	4.01	123.22

**ACTIVE C&D OVER MSW
LANDFILL FACILITY
WAYNE COUNTY
NORTH CAROLINA**

SINGLE DAY POTENTIOMETRIC MAP
UPPERMOST AQUIFER 08/12/2010

LICENSE NUMBER: C-0281
Municipal Services Engineering Company, P.A.
 P.O. BOX 97 GARNER, N.C. 27529 (919) 772-5393
 P.O. BOX 349 BOONE, N.C. 28607 (704) 262-1767

DATE	BY	REV.	DESCRIPTION

SCALE: 1"=200'
 DATE: 11/20/10
 DRAWN BY: M. GERMAN
 CHECKED BY: M. GERMAN
 PROJECT NUMBER: G10016.0
 DRAWING NO.: 1 OF 1
 SHEET NO.: 1 OF 1

Tables

Table 1
Appendix I Detections above SWSL, GWP, 2L, or 2B
Wayne County Active C&D Over Closed MSWLF (Dudley)

Well ID	Parameter Name ¹	Sample Date	Result	Unit	MDL ²	SWSL ³	2L ⁴	2B ⁵	GWP ⁶	Exceedance	Preliminary Cause
MW-1	Vanadium	8/12/10	6.6j	ug/L	0.2	25			3.5	3.1	
MW-1	Zinc	8/12/10	18.5	ug/L	0.4	10	1050				
MW-2	1,4-Dichlorobenzene	8/12/10	3.6	ug/L	0.33	1	6				
MW-2	Arsenic	8/12/10	24.2	ug/L	2.7	10	10			14.2	N
MW-2	Barium	8/12/10	176	ug/L	0.2	100	700				
MW-2	Benzene	8/12/10	2	ug/L	0.25	1	1			1	L &/or LFG
MW-2	Chlorobenzene	8/12/10	15.6	ug/L	0.23	3	50				
MW-2	Cobalt	8/12/10	44.8	ug/L	0.6	10			70		
MW-2	Vanadium	8/12/10	14.4j	ug/L	0.2	25			3.5	10.9	
MW-3	Vanadium	8/12/10	40.4	ug/L	0.2	25			3.5	36.9	
MW-4	Barium	8/12/10	117	ug/L	0.2	100	700				
MW-5	Vanadium	8/12/10	13.4j	ug/L	0.2	25			3.5	9.9	
MW-5	Zinc	8/12/10	10.4	ug/L	0.4	10	1050				
MW-6	Barium	8/12/10	183	ug/L	0.2	100	700				
MW-7	Zinc	8/12/10	12.6	ug/L	0.4	10	1050				
MW-8	Vanadium	08/12/2010	4.3j	ug/L	0.2	25			3.5	0.8	
SW-2	Silver	8/12/10	0.2j	ug/L	0.1	10		0.06		0.14	N
SW-5	Barium	8/12/10	115	ug/L	0.2	100		200000			
SW-5	Thallium	8/12/10	9.3	ug/L	3	5.5			0.28	9.02	

¹ Table contains only Appendix I constituents detected above SWSL, GWP, 2L, or 2B

² MDL = Method Detection Limit

³ SWSL = Solid Waste Section Reporting Limit (Current as of Sampling Event)

⁴ 2L = North Carolina 15A NCAC 2L Groundwater Quality Standard (Current as of Sampling Event)

⁵ 2B = North Carolina 15 NCAC 2B Surface Water Quality Standard for this Specific Stream Classification (Current as of Sampling Event)

⁶ GWP = Groundwater Protection Standard (Current as of Sampling Event)

⁷ j = The reported value is between the laboratory method detection limit (MDL) and the laboratory method reporting limit (MRL), adjusted for actual sample preparation data and moisture content, where applicable.

A = Artifact Contamination from Field &/or Laboratory

L = Leachate

LFG = Landfill Gas

N = Natural from erosion of natural deposits

B = Background

BOLD = Concentration > 2L, or 2B Standard (Current as of Sampling Event)

Table 2
App II Exclusive Detections
Wayne County Active C&D Over Closed MSWLF (Dudley)

Sample ID	Parameter Name ¹	Sample Date	Result	Unit	MDL ²	SWSL ³	2L ⁴	2B ⁶	GWP ⁷	Exceedance	Preliminary Cause
MW-1	2,4-D	8/12/10	69.2	ug/L	2.3	2	70				
MW-2	Cyanide	8/12/10	6.9j	ug/L	5	10	70				
MW-2	Tin	8/12/10	1.9j	ug/L	1.8	100	NE		NE		
MW-2	Isobutanol	8/12/10	216	ug/L	35	100	NE		NE		
MW-2	1,3-Dichlorobenzene	8/12/10	0.31j	ug/L	0.24	5	170				
MW-11	Dichlorodifluoromethane	8/12/10	0.68j	ug/L	0.21	5	1400				
MW-4	Sulfide	8/11/10	477j	ug/L	100	1000					

¹ Table contains all detected App II exclusive constituents

² MDL = Method Detection Limit

³ SWSL = Solid Waste Section Reporting Limit (Current as of Sampling Event)

⁴ 2L = North Carolina 15A NCAC 2L Groundwater Quality Standard (Current as of Sampling Event)

⁶ 2B = North Carolina 15 NCAC 2B Surface Water Quality Standard for this Specific Stream Classification (Current as of Sampling Event)

⁷ GWP = Groundwater Protection Standard (Current as of Sampling Event)

^j =The reported value is estimated & between the laboratory MDL & the SWSL, adjusted for actual sample preparation data and moisture content.

L = Leachate

LFG = Landfill Gas

NE = Not Established

BOLD = Concentration >2L, or 2B Standard (Current as of Sampling Event)

Table 3
Hydrologic Properties at Monitoring Well Locations
Wayne County Active C&D Over Closed MSWLF (Dudley)

Monitoring Well	Hydraulic Conductivity (cm/sec)	Effective Porosity (%)	Hydraulic Gradient	Linear Velocity (ft/yr)	Flow Direction	Water Table Depth (ft)	Water Table Elev. (ft)
MW-1	5.40E-04	20	1.89298	-	-	19.75*	-
MW-2	3.00E-04	20	0.01234	19	N54W	6.85	127.67
MW-3	6.40E-03	20	0.01438	476	N65W	0.24	134.57
MW-4	9.90E-04	20	0.00655	34	N51W	7.98	142.22
MW-5	3.10E-05	20	0.02122	3	N47W	3.40	121.38
MW-6	1.60E-04	20	0.00763	6	N46W	7.60	137.93
MW-7	7.30E-05	20	0.00654	2	N69W	10.16	133.43
MW-8	3.40E-04	20	0.01698	30	N40W	20.15	141.73

NOTE: Data for conductivities and effective porosity obtained from GAI Consultants' Water Sampling Report (January, 1995).
Hydrologic Gradient taken from the August 11, 2010 sampling event.

Linear Velocity (Q) is defined by the equation:

where
$$Q = - \frac{K}{n_e} \cdot \frac{dh}{dl}$$

K = hydraulic conductivity
 n_e = effective porosity
 dh = head difference
 dl = horizontal distance

Min v_x : 2
Mean v_x : 82
Median v_x : 19
Max v_x : 476

Table 4
Field Observations of Monitoring Locations
Wayne County Active C&D Over Closed MSWLF (Dudley)
August 11-12, 2010 Sampling Event

Sample Location	Viable Monitoring Location	Lack of Any Evidence of Tampering	Locked	Hinge/Hasp Operational	Tagged or Labeled	Concrete Surface Pad Effective	Degree of Visual Turbidity of Collected Sample	Comments
MW-1	Yes	Yes	Yes	Yes	Yes	Yes	Clear	Repaired on 8/11/10
MW-2	Yes	Yes	Yes	Yes	Yes	Yes	Clear	
MW-3	Yes	Yes	Yes	Yes	Yes	Yes	Clear	Artesian
MW-4	Yes	Yes	Yes	Yes	Yes	Yes	Clear	
MW-5	Yes	Yes	Yes	Yes	Yes	Yes	Slight	
MW-6	Yes	Yes	Yes	Yes	Yes	Yes	Clear	Wasps nest in case
MW-7	Yes	Yes	Yes	Yes	Yes	Yes	Clear	
MW-8	Yes	Yes	Yes	Yes	Yes	Yes	Clear	
MW-9	Yes	Yes	Yes	Yes	Yes	Yes	Very	
MW-10	Yes	Yes	Yes	Yes	Yes	Yes	Very	
MW-11	Yes	Yes	Yes	Yes	Yes	Yes	Very	
SW-2	No	-	-	-	-	-	-	Dry-Upstream nearest MW-7
SW-2	Yes	-	-	-	-	-	Clear	Shared nearest lined MW-2
SW-3	Yes	-	-	-	-	-	Clear	Shared downstream of SW-2

Any unusual field conditions, observations, or events:

None to note.

Table 5
Summary of Field Parameter Data
Wayne County Active C&D Over Closed MSWLF (Dudley)
August 11-12, 2010 Sampling Event

Parameter	WLR (BTOC)	Water Elevation	TOC Elevation	Temp.	ORP	DO	pH	Specific Conductance	TDS	Turbidity
Units	ft	ft (amsl)	ft (amsl)	C	mV	mg/L	SU	umhos/cm	mg/L	NTU
MW-1	19.75	-	*	20.9	167	6.5	5.9	33	16	14.6
MW-2	6.85	127.67	134.52	21.9	-46	2.5	6.46	1192	595	15.2
MW-3	0.24	134.57	134.81	16.8	124	0.1	6.21	42	20	8.91
MW-4	7.98	142.22	150.20	16.5	103	0.5	5.03	123	62	9.26
MW-5	3.40	121.38	124.78	17.8	226	1.8	4.91	63	28	96.1
MW-6	7.60	137.93	145.53	18	91	1.7	5.89	228	110	11.3
MW-7	10.16	133.43	143.59	18.3	226	2.3	5.03	125	60	62.5
MW-8	20.15	141.73	161.88	17.8	265	2.1	4.54	26	14	10.7
MW-9	20.62	142.34	162.96	18.1	273	4.7	5.06	63	28	>1,000
MW-10	20.35	142.55	162.90	17	300	4.5	4.66	56	27	>1,000
MW-11	4.01	123.22	127.23	19.1	163	1.8	5.46	631	306	>1,000
Minimum	0.24	121.38	124.78	16.5	-46	0.1	4.54	26	14	8.91
Maximum	20.62	142.55	162.96	21.9	300	6.5	6.46	1192	595	>1,000
Average	11.01	134.70	144.84	18.38	172	2.59	5.38	234.73	115.09	28.57
SW-2	-	-	-	23.6	101	6.3	6.89	371	159	Clear
SW-3	-	-	-	23.7	95	6.2	6.92	420	206	Clear
Minimum	-	-	-	23.6	95	6.2	6.89	371	159	Clear
Maximum	-	-	-	23.7	101	6.3	6.92	420	206	Clear
Average	-	-	-	23.65	98	6.25	6.91	395.5	182.5	Clear

NR = No Reading Attempted

* MW-1: Needs re-survey due to recent repairs, will be completed by next sampling event