Scanned by	Date	Doc ID #
	1 1	3933

Scanned by	Date	Document ID No.
C Johnson	**January 2008**	**3933**

LEACHATE BASIN CLOSURE REPORT
LINCOLN COUNTY LANDFILL
PERMIT #: 55-03
CROUSE, NORTH CAROLINA

S&ME Project No. 1356-07-011

Prepared for:
North Carolina Department of Environment and Natural Resources
Division of Waste Management – Solid Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Prepared by:
S&ME, Inc.
9751 Southern Pine Blvd
Charlotte, NC 28273

January 8, 2008

Received
JAN 2008
Solid Waste Section

P0091
Permit 5503

S&ME

January 8, 2008

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

Attention: Larry Frost, Regional Engineer

Reference: **Leachate Basin Closure Report**
Lincoln County Landfill, Crouse, NC
Permit #: 55-03
S&ME Project No. 1356-07-011

Dear Mr. Frost:

On behalf of Lincoln County, S&ME, Inc. presents this *Leachate Basin Closure Report* for Lincoln County Landfill. The purpose of this report is to (1) outline the steps taken during the basin closure process; (2) report groundwater monitoring results and request permission to exclude the monitoring wells associated with the basin from the Facilities' *Groundwater Monitoring Plan*; and (3) request a letter of closure for the leachate basin. Please call if you have questions concerning this report or any of our services.

Respectfully submitted,

S&ME, Inc.

Julie R. Petersen, P.G.
Project Manager

NORTH CAROLINA LICENSED SEAL 1995 GEOLOGIST JULIE R. PETERSEN

Ken Daly, P.E.
Senior Project Engineer

Senior Reviewed by M. Neal McElveen, P.E., Environmental Services Manager

cc: Nancy Rickard, Lincoln County Landfill
Donald Herndon, NCDENR – SWS
Charles Gerstell, NCDENR – SWS/MRO

TABLE OF CONTENTS

SECTIONS

1. SITE AND PROJECT INFORMATION 1
2. LEACHATE BASIN CLOSURE ACTIVITIES 1
2.1 Pre-Closure Activities 1
2.2 Closure Activities 1
2.3 Post-Closure Activities 2
3. GROUNDWATER MONITORING 2
3.1 Groundwater Monitoring Results 3
3.2 Removal of Monitoring Wells from Groundwater Monitoring Plan 3

FIGURES

Figure 1 – Site Location Map

APPENDIX

I. Leachate Basin Closure Photographs
II. Laboratory Analytical Results for Soil Sampling
III. Water Quality Data Tables for Groundwater Monitoring

1. SITE AND PROJECT INFORMATION

Lincoln County Landfill recently permitted and opened Phase III of their municipal solid waste landfill. With the addition of Phase III, the facility incorporated a new leachate management system which no longer routes generated leachate to the on-site lined basin, but instead to two on-site storage tanks for pump and haul removal.

The leachate basin is located to the east of Phase II and Phase III and has been monitored by three down gradient monitoring wells (MW-8, MW-9, and MW-10) from August 1993 to the present. A site map is attached as Figure 1.

2. LEACHATE BASIN CLOSURE ACTIVITIES

The following sections summarize the events and activities associated with the leachate basin closure. Site Photographs taken during closure activities are provided in Appendix I, and the laboratory analytical report from the soil sampling activities are provided in Appendix II.

2.1 Pre-Closure Activities

Prior to initiation of the leachate basin closure activities, S&ME, on behalf of Lincoln County, submitted a *Leachate Basin Closure Plan* dated May 15, 2007 to the North Carolina Department of Environment and Natural Resources - Solid Waste Section (NCDENR-SWS) for approval. In a letter dated July 16, 2007, addressed to Ms. Nancy Rickard, Director of Solid Waste for Lincoln County, the NCDENR – SWS issued approval of the Leachate Basin Closure Plan.

2.2 Closure Activities

Existing System Removal

Prior to the new leachate management system coming on-line during the Phase III construction, the leachate basin influent line was sealed off using concrete grout, by Morgan Corp. who was performing construction of Phase III. The remaining leachate in the pond was pumped and hauled to the Lincoln County Wastewater Treatment Facility. Any remaining trace fluids were then allowed to naturally evaporate, leaving behind sediment and vegetative growth as shown in Photograph 1 in Appendix I.

On August 9, 2007, Lincoln County personnel under the guidance of S&ME, removed the sediment and vegetative growth from the basin using a Bobcat, leaving the basin's geomembrane liner exposed (See Photograph 2). The geomembrane liner was then removed from the basin using a Tracked Dozer and Track Hoe (See Photographs 3 and 4). After the geomembrane liner was removed, Lincoln County excavated the clay subbase below the liner until residual soils were encountered (See Photograph 5). Removed sediment and vegetative growth, liner, and subsoils were transported and disposed of on-site in the Phase III landfill.

Subsurface Soil Sampling

Following the existing system removal, S&ME collected four soil samples in two locations within the basin excavation. The soil samples were collected at the surface. Soil sample identification is as follows: At the first location, sample 1 is the VOC sample and sample 3 is the metals sample; at the second location, sample 2 is the VOC sample and sample 4 is the metals sample. The approximate location of the soil samples are depicted in Figure 1, Site Location Map.

The soil samples were submitted to Pace Analytical Laboratories of Huntersville, North Carolina for the analysis of TCLP volatile organic compounds (VOCs) and TCLP metals. The laboratory analytical results of the soil analysis are included in Appendix II. The results of the analysis indicate that no volatile organic constituents were detected in the soil samples; however the metals barium and cadmium were detected.

Barium was detected in both soil samples at a concentration of 0.27 mg/L. Cadmium was detected in S-3 at a concentration of 0.0091 mg/L. Both barium and cadmium are naturally occurring constituents in the soil and have both been detected in the groundwater on-site in the background monitoring well MW-1A. The results of the soil sampling did not indicate leachate contamination below the liner system.

Backfilling Procedures

After the results of the soil laboratory analysis were reviewed by S&ME, Lincoln County personnel backfilled the basin with suitable fill soils from the on-site borrow area. Fill soil was placed and compacted in approximate six inch lifts within the basin until backfilled to existing grade and sloped to drain (See Photographs 6, 7 and 8). Fill placement activities were completed in December 2007.

2.3 Post-Closure Activities

Following approval of the leachate basin closure report, Lincoln County will vegetate the fill area to control erosion, and perform periodic inspections to check for signs of settlement or erosion. Observed settlement or erosion will be corrected by Lincoln County.

3. GROUNDWATER MONITORING

Monitoring wells MW-8, MW-9, and MW-10 are part of the facility's current Water Quality Monitoring Plan. The purpose for the above mentioned monitoring wells are to monitor down gradient from the leachate basin. Monitoring wells MW-8 and MW-10 are shallow wells that are screened across the water table, and monitoring well MW-9 is a deep well located adjacent to MW-8. The facilities' background monitoring well is MW-1A. The location of monitoring well MW-8, MW-9, and MW-10 as compared to the leachate basin is shown on Figure 1.

Monitoring wells MW-1A, MW-8, MW-9, and MW-10 were installed in 1993 during the construction of the Phase I landfill and leachate basin. Baseline sampling for the wells occurred in August 1993, and the wells have been sampled semi-annually in the spring

and fall from April 1994 to the present for the analysis of Appendix I VOCs and metals. Historical water quality data from the year 1993 to the present has been tabulated and included in Appendix III.

3.1 Groundwater Monitoring Results

The results of the groundwater monitoring indicate that no volatile organic compounds (VOCs) have been detected in the groundwater samples for monitoring wells MW-8, MW-9, and MW-10. However, historically each of the Appendix I metals have been detected in one or more of the basin monitoring wells and background monitoring well. As shown in the historical water quality data in Appendix III, the metal concentrations fluctuate with time from below to above detection limits.

Total metal concentrations in groundwater sampled from wells are often dependant on the turbidity or suspended particulates (from the aquifer formation) retrieved with the groundwater sample. The turbidity is a function of the sampling method, well construction, how the well was developed, and the grain size/consolidation of the lithologic unit sampled. Since the unfiltered samples are acidified in the field at the time of collection, metals contained within the particulates are dissolved into the sample. Thus, the presence of turbidity in groundwater samples often results in elevated (false positive) analytical results for total metal concentrations. Therefore, the presence of elevated total metal concentrations does not necessarily correlate with groundwater impact.

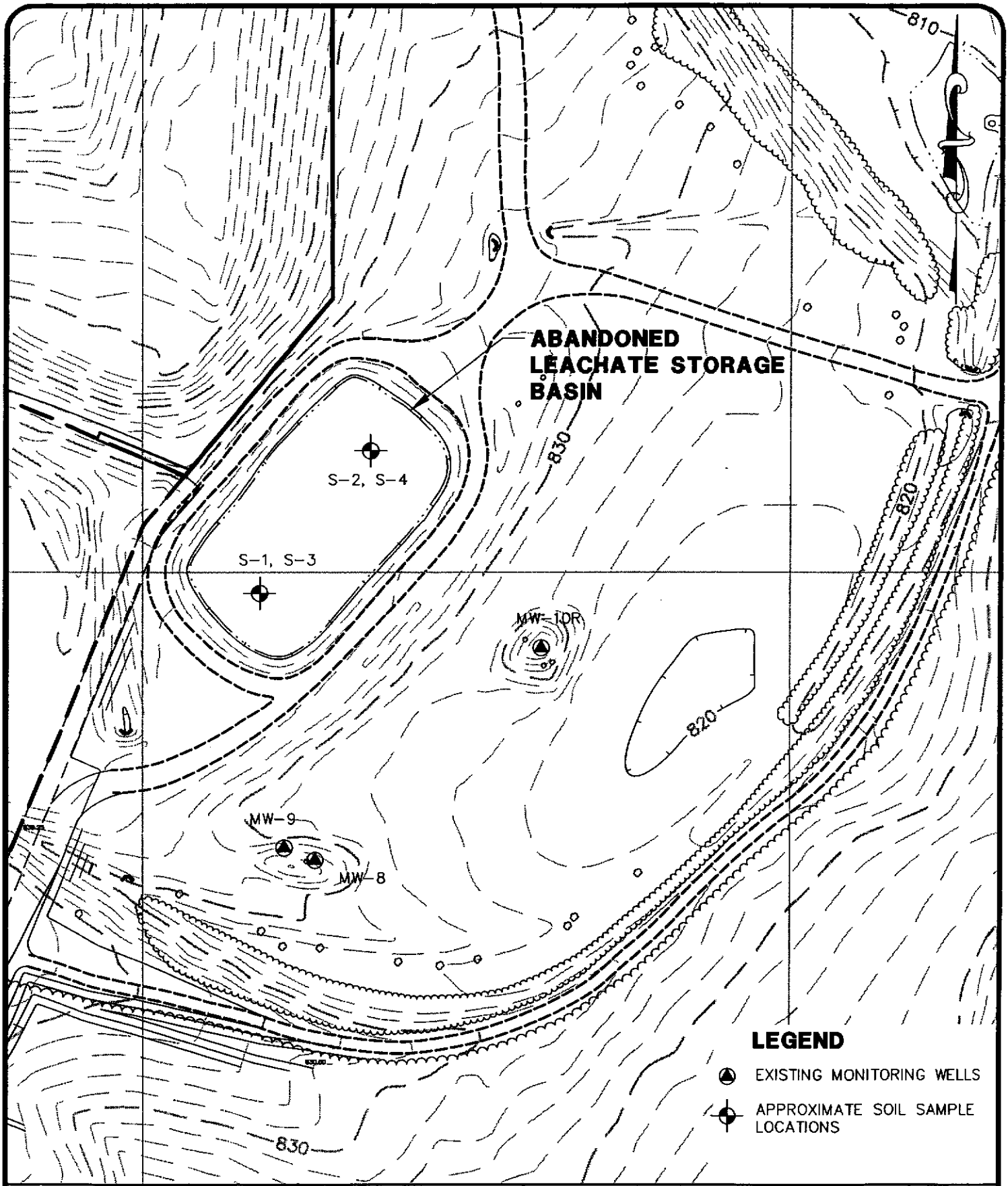
Historical water quality data indicate that the background well and each of the compliance wells on site have contained at least one total metal at concentrations above the 2L Standards. Metal concentrations in several wells including MW-8, MW-9, and MW-10 have fluctuated below and above detection limits. In the background well MW-1A, beryllium, cadmium, chromium, cobalt, lead, silver, and vanadium have been detected at concentrations above the 2L standards. Based on this data, it appears that the metals detected within monitoring well MW-8, MW-9, and MW-10 are either naturally occurring or a product of turbidity during sampling.

Based on the groundwater monitoring data, it appears that the leachate basin has not impacted the groundwater on-site.

3.2 Removal of Monitoring Wells from Groundwater Monitoring Plan

Once a letter of closure is issued from the NCDENR-SWS for the leachate basin, Lincoln County and S&ME request that monitoring wells MW-8, MW-9, and MW-10 be removed from the current Water Quality Monitoring Plan for the facility. S&ME proposes that the wells remain in-place and not be abandoned so that the wells can be used for water level data collection purposes only. The function of monitoring wells MW-8, MW-9, and MW-10 are to monitor groundwater down gradient of the leachate basin, and with the closure of the basin, laboratory analysis is no longer warrented.

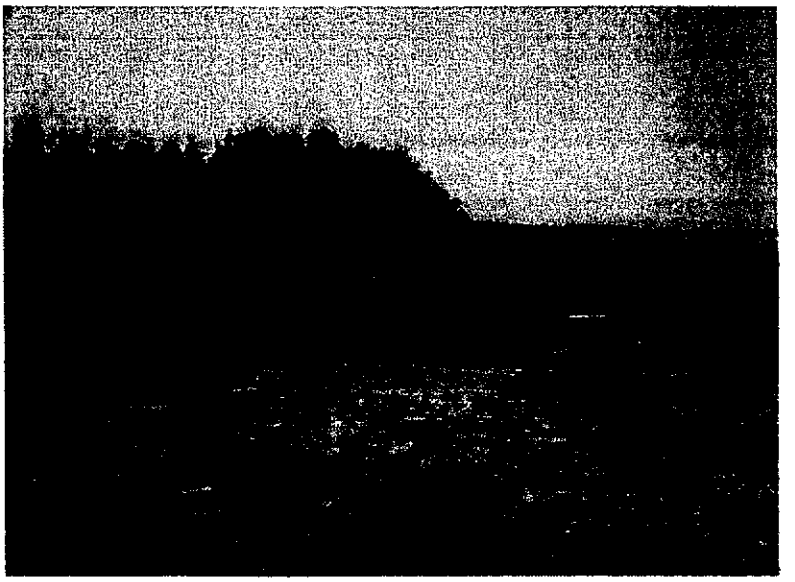
If the NCDENR-SWS allows the monitoring wells to be removed from the facilities' monitoring network, S&ME will revise the Water Quality Monitoring Plan for the site and submit the plan to the NCDENR-SWS for approval.



SCALE: 1" = 100'	S&ME WWW.SMEINC.COM	SITE LOCATION MAP	FIGURE NO.
DATE:		LINCOLN COUNTY LANDFILL	1
DRAWN BY: CLD		CROUSE, NORTH CAROLINA	
PROJECT NO: 1356-07-011			

S&ME
9751 Southern Pine Blvd
Charlotte, NC 28273-5560

Photo 1



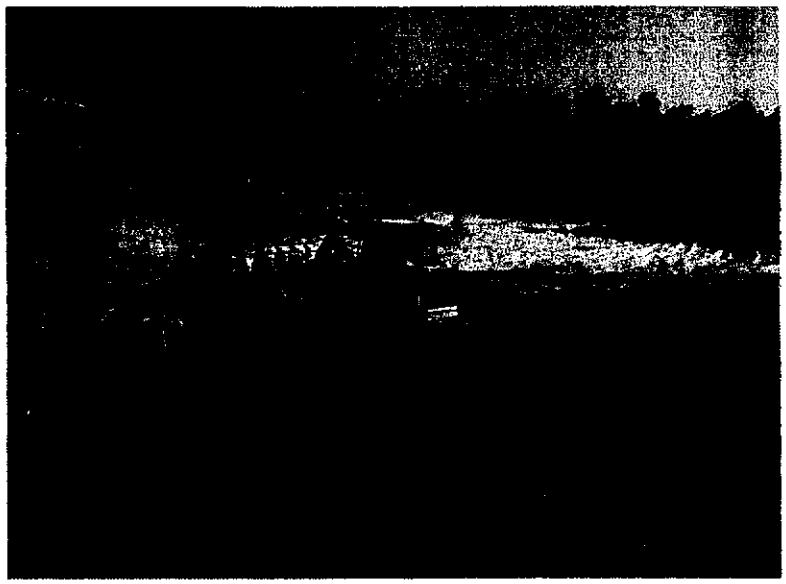
Location / Orientation	North side of embankment, looking south across basin.
Remarks	Removal of soil and vegetation within basin.

Photo 2

Location / Orientation	Northeast side of embankment, looking southwest across basin.
Remarks	View of basin after soil and vegetation has been removed.

S&ME
9751 Southern Pine Blvd
Charlotte, NC 28273-5560

Photo 3



Location / Orientation	South embankment, looking north across basin.
Remarks	Removal of geosynthetic liner.

Photo 4

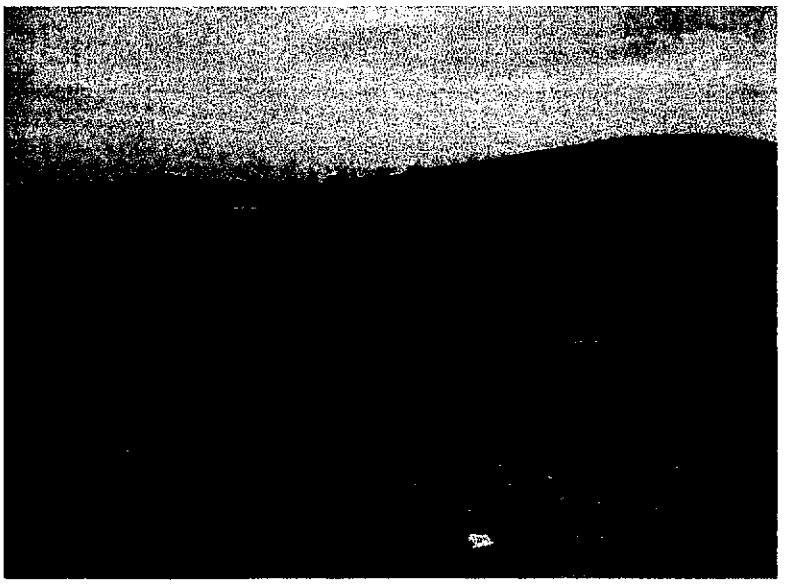
Location / Orientation	South of basin, looking west toward Phase III landfill.
Remarks	Disposal of geosynthetic liner in active Phase III landfill. ****Please note that date is incorrect on photograph****

S&ME
9751 Southern Pine Blvd
Charlotte, NC 28273-5560

Photo 5

Location / Orientation	Southwest embankment, looking northeast across basin.
Remarks	Removal of clay subbase beneath geosynthetic liner. ****Please note that date is incorrect on photograph****

Photo 6



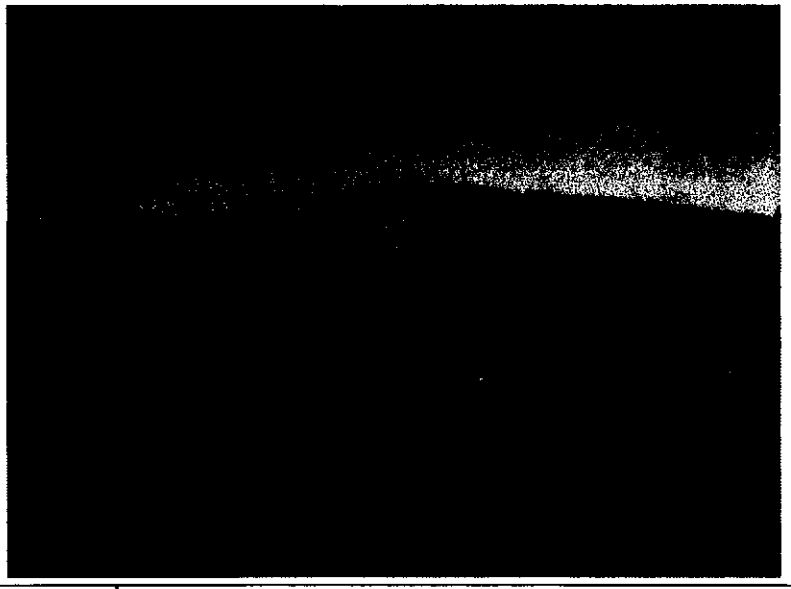
Location / Orientation	Looking west across partially backfilled basin toward Phase III landfill
Remarks	Backfilling of basin with suitable fill soils from on-site stockpiles.

S&ME
9751 Southern Pine Blvd
Charlotte, NC 28273-5560

Photo 7

Location / Orientation	Looking northeast across abandoned basin area.
Remarks	Topography after abandonment.

Photo 8



Location / Orientation	Looking northwest across abandoned basin area, toward Phase II Landfill.
Remarks	Topography after abandonment.

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

August 24, 2007

Mr. Albert Glenn
S&ME, Inc.
9751 Southern Pine Blvd.
Charlotte, NC 28273

RE: Project: LINCOLN COUNTY 135607001
Pace Project No.: 921274

Dear Mr. Glenn:
Enclosed are the analytical results for sample(s) received by the laboratory on August 10, 2007. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Bonnie McKee

Kevin Herring

kevin.herring@pacelabs.com
Project Manager

Enclosures

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: LINCOLN COUNTY 135607001
Pace Project No.: 921274

Charlotte Certification IDs
North Carolina Wastewater Certification Number: 12
North Carolina Field Services Certification Number: 5342
South Carolina Certification Number: 990060001
South Carolina Bioassay Certification Number: 990060003
Tennessee Certification Number: 04010
Virginia Certification Number: 00213
Florida/NELAP Certification Number: E87627
Kansas Certification Number: E-10364
Louisiana/LELAP Certification Number: 04034
North Carolina Drinking Water Certification Number: 37706

Asheville Certification IDs
Florida/NELAP Certification Number: E87648
Louisiana/LELAP Certification Number: 03095
New Jersey Certification Number: NC011
North Carolina Drinking Water Certification Number: 37712
North Carolina Wastewater Certification Number: 40
North Carolina Bioassay Certification Number: 9
Pennsylvania Certification Number: 68-03578
South Carolina Certification Number: 990300001
South Carolina Bioassay Certification Number: 990300002
Tennessee Certification Number: 2980
Virginia Certification Number: 00072

Eden Certification IDs
North Carolina Drinking Water Certification Number: 37738
Virginia Drinking Water Certification Number: 00424
North Carolina Wastewater Certification Number: 633

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: LINCOLN COUNTY 135607001
Pace Project No.: 921274

Sample: 1 **Lab ID: 921274001** Collected: 08/09/07 00:00 Received: 08/10/07 09:30 Matrix: Solid

Solid results reported on dry weight basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP	Analytical Method: EPA 8260							
Benzene	ND	ug/L	5.0	1		08/23/07 21:07	71-43-2	
2-Butanone (MEK)	ND	ug/L	10.0	1		08/23/07 21:07	78-93-3	
Carbon tetrachloride	ND	ug/L	5.0	1		08/23/07 21:07	56-23-5	
Chlorobenzene	ND	ug/L	5.0	1		08/23/07 21:07	108-90-7	
Chloroform	ND	ug/L	5.0	1		08/23/07 21:07	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		08/23/07 21:07	106-46-7	
1,2-Dichloroethane	ND	ug/L	5.0	1		08/23/07 21:07	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		08/23/07 21:07	75-35-4	
Tetrachloroethene	ND	ug/L	5.0	1		08/23/07 21:07	127-18-4	
Trichloroethene	ND	ug/L	5.0	1		08/23/07 21:07	79-01-6	
Vinyl chloride	ND	ug/L	5.0	1		08/23/07 21:07	75-01-4	
1,2-Dichloroethane-d4 (S)	105	%	79-120	1		08/23/07 21:07	17060-07-0	
Toluene-d8 (S)	98	%	91-105	1		08/23/07 21:07	2037-26-5	
4-Bromofluorobenzene (S)	88	%	87-109	1		08/23/07 21:07	460-00-4	
Dibromofluoromethane (S)	97	%	85-115	1		08/23/07 21:07	1868-53-7	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**23.9**	%	0.10	1		08/14/07 14:57		

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: LINCOLN COUNTY 135607001
Pace Project No.: 921274

Sample: 2 **Lab ID: 921274002** Collected: 08/09/07 00:00 Received: 08/10/07 09:30 Matrix: Solid

Solid results reported on dry weight basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP	Analytical Method: EPA 8260							
Benzene	ND	ug/L	5.0	1		08/23/07 21:25	71-43-2	
2-Butanone (MEK)	ND	ug/L	10.0	1		08/23/07 21:25	78-93-3	
Carbon tetrachloride	ND	ug/L	5.0	1		08/23/07 21:25	56-23-5	
Chlorobenzene	ND	ug/L	5.0	1		08/23/07 21:25	108-90-7	
Chloroform	ND	ug/L	5.0	1		08/23/07 21:25	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	5.0	1		08/23/07 21:25	106-46-7	
1,2-Dichloroethane	ND	ug/L	5.0	1		08/23/07 21:25	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		08/23/07 21:25	75-35-4	
Tetrachloroethene	ND	ug/L	5.0	1		08/23/07 21:25	127-18-4	
Trichloroethene	ND	ug/L	5.0	1		08/23/07 21:25	79-01-6	
Vinyl chloride	ND	ug/L	5.0	1		08/23/07 21:25	75-01-4	
1,2-Dichloroethane-d4 (S)	100	%	79-120	1		08/23/07 21:25	17060-07-0	
Toluene-d8 (S)	100	%	91-105	1		08/23/07 21:25	2037-26-5	
4-Bromofluorobenzene (S)	93	%	87-109	1		08/23/07 21:25	460-00-4	
Dibromofluoromethane (S)	88	%	85-115	1		08/23/07 21:25	1868-53-7	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**23.3**	%	0.10	1		08/14/07 14:57		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: LINCOLN COUNTY 135607001
Pace Project No.: 921274

Sample: 3 **Lab ID: 921274003** Collected: 08/09/07 00:00 Received: 08/10/07 09:30 Matrix: Solid

Solid results reported on dry weight basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	mg/L	0.025	1	08/23/07 13:45	08/24/07 02:41	7440-38-2	
Barium	**0.27**	mg/L	0.025	1	08/23/07 13:45	08/24/07 02:41	7440-39-3	
Cadmium	**0.0091**	mg/L	0.0050	1	08/23/07 13:45	08/24/07 02:41	7440-43-9	
Chromium	ND	mg/L	0.025	1	08/23/07 13:45	08/24/07 02:41	7440-47-3	
Lead	ND	mg/L	0.025	1	08/23/07 13:45	08/24/07 02:41	7439-92-1	
Selenium	ND	mg/L	0.050	1	08/23/07 13:45	08/24/07 02:41	7782-49-2	
Silver	ND	mg/L	0.025	1	08/23/07 13:45	08/24/07 02:41	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/23/07 13:15	08/23/07 13:35	7439-97-6	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**20.2**	%	0.10	1		08/14/07 14:58		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: LINCOLN COUNTY 135607001
Pace Project No.: 921274

Sample: 4 **Lab ID: 921274004** Collected: 08/09/07 00:00 Received: 08/10/07 09:30 Matrix: Solid

Solid results reported on dry weight basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	ND	mg/L	0.025	1	08/23/07 13:45	08/24/07 02:49	7440-38-2	
Barium	**0.27**	mg/L	0.025	1	08/23/07 13:45	08/24/07 02:49	7440-39-3	
Cadmium	ND	mg/L	0.0050	1	08/23/07 13:45	08/24/07 02:49	7440-43-9	
Chromium	ND	mg/L	0.025	1	08/23/07 13:45	08/24/07 02:49	7440-47-3	
Lead	ND	mg/L	0.025	1	08/23/07 13:45	08/24/07 02:49	7439-92-1	
Selenium	ND	mg/L	0.050	1	08/23/07 13:45	08/24/07 02:49	7782-49-2	
Silver	ND	mg/L	0.025	1	08/23/07 13:45	08/24/07 02:49	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	08/23/07 13:15	08/23/07 13:40	7439-97-6	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**20.7**	%	0.10	1		08/14/07 14:58		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: LINCOLN COUNTY 135607001
Pace Project No.: 921274

QC Batch: PMST/1014
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 921274001, 921274002, 921274003, 921274004

SAMPLE DUPLICATE: 1995

Parameter	Units	921275001 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	18.0	19.1	6	

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: LINCOLN COUNTY 135607001
Pace Project No.: 921274

QC Batch: MERP/1023
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury TCLP
Associated Lab Samples: 921274003, 921274004

METHOD BLANK: 6826
Associated Lab Samples: 921274003, 921274004

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Mercury	ug/L	ND	0.20	

LABORATORY CONTROL SAMPLE: 6827

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	101	80-120	

MATRIX SPIKE SAMPLE: 6828

Parameter	Units	921274003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	2.5	2.5	99	75-125	

SAMPLE DUPLICATE: 6829

Parameter	Units	921274004 Result	Dup Result	RPD	Qualifiers
Mercury	ug/L	ND	ND	0	

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: LINCOLN COUNTY 135607001
Pace Project No.: 921274

QC Batch: MPRP/1092
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET TCLP
Associated Lab Samples: 921274003, 921274004

METHOD BLANK: 6830
Associated Lab Samples: 921274003, 921274004

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Arsenic	mg/L	ND	0.025	
Barium	mg/L	ND	0.025	
Cadmium	mg/L	ND	0.0050	
Chromium	mg/L	ND	0.025	
Lead	mg/L	ND	0.025	
Selenium	mg/L	ND	0.050	
Silver	mg/L	ND	0.025	

LABORATORY CONTROL SAMPLE: 6831

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	2.5	2.5	100	80-120	
Barium	mg/L	2.5	2.0	82	80-120	
Cadmium	mg/L	2.5	2.3	93	80-120	
Chromium	mg/L	2.5	2.3	93	80-120	
Lead	mg/L	2.5	2.2	88	80-120	
Selenium	mg/L	2.5	2.5	101	80-120	
Silver	mg/L	1.2	1.2	95	80-120	

MATRIX SPIKE SAMPLE: 6832

Parameter	Units	921274003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	ND	2.5	2.5	100	75-125	
Barium	mg/L	0.27	2.5	2.3	82	75-125	
Cadmium	mg/L	0.0091	2.5	2.3	93	75-125	
Chromium	mg/L	ND	2.5	2.4	94	75-125	
Lead	mg/L	ND	2.5	2.2	90	75-125	
Selenium	mg/L	ND	2.5	2.5	101	75-125	
Silver	mg/L	ND	1.2	1.2	96	75-125	

SAMPLE DUPLICATE: 6833

Parameter	Units	921274004 Result	Dup Result	RPD	Qualifiers
Arsenic	mg/L	ND	ND	0	
Barium	mg/L	0.27	0.24	14	
Cadmium	mg/L	ND	ND	31	
Chromium	mg/L	ND	.0021J	12	
Lead	mg/L	ND	ND	94	

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ACCREDITED IN ACCORDANCE WITH NELAC

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: LINCOLN COUNTY 135607001
Pace Project No.: 921274

SAMPLE DUPLICATE: 6833

Parameter	Units	921274004 Result	Dup Result	RPD	Qualifiers
Selenium	mg/L	ND	ND	200	
Silver	mg/L	ND	ND	200	

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: LINCOLN COUNTY 135607001
Pace Project No.: 921274

QC Batch: MSV/1100
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 921274001, 921274002

METHOD BLANK: 7200
Associated Lab Samples: 921274001, 921274002

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,1-Dichloroethene	ug/L	ND	5.0	
1,2-Dichloroethane	ug/L	ND	5.0	
1,4-Dichlorobenzene	ug/L	ND	5.0	
2-Butanone (MEK)	ug/L	ND	10.0	
Benzene	ug/L	ND	5.0	
Carbon tetrachloride	ug/L	ND	5.0	
Chlorobenzene	ug/L	ND	5.0	
Chloroform	ug/L	ND	5.0	
Tetrachloroethene	ug/L	ND	5.0	
Trichloroethene	ug/L	ND	5.0	
Vinyl chloride	ug/L	ND	5.0	
1,2-Dichloroethane-d4 (S)	%	109	79-120	
4-Bromofluorobenzene (S)	%	94	87-109	
Dibromofluoromethane (S)	%	103	85-115	
Toluene-d8 (S)	%	101	91-105	

LABORATORY CONTROL SAMPLE: 7201

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	50	64.9	130	78-146	
1,2-Dichloroethane	ug/L	50	54.9	110	72-126	
1,4-Dichlorobenzene	ug/L	50	57.5	115	79-125	
2-Butanone (MEK)	ug/L	100	98.9	99	50-134	
Benzene	ug/L	50	50.6	101	78-128	
Carbon tetrachloride	ug/L	50	54.3	109	81-137	
Chlorobenzene	ug/L	50	50.0	100	82-126	
Chloroform	ug/L	50	56.9	114	77-129	
Tetrachloroethene	ug/L	50	48.7	97	78-128	
Trichloroethene	ug/L	50	49.3	99	79-127	
Vinyl chloride	ug/L	50	52.6	105	67-143	
1,2-Dichloroethane-d4 (S)	%			105	79-120	
4-Bromofluorobenzene (S)	%			90	87-109	
Dibromofluoromethane (S)	%			100	85-115	
Toluene-d8 (S)	%			98	91-105	

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: LINCOLN COUNTY 135607001
Pace Project No.: 921274

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
S - Surrogate
1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical®

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1005624

Section A Required Client Information:

Company	S&ME, Inc
Address	1751 Southern Pine Blvd. Charlotte, NC 28273
Email To:	aglenn@smeinc.com
Phone	704.523.4726
Fax	704 525-3953
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Albert Glenn
Copy To:	
Purchase Order No.:	44505
Project Name:	Lincoln County
Project Number:	135607011

Section C Invoice Information:

Attention:	Albert Glenn
Company Name:	S&ME Inc
Address:	1751 Southern Pine Blvd.
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	1372-3

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☒ RCRA ☐ Other_____

SITE LOCATION ☐GA ☐IL ☐IN ☐MI ☐MN ☒NC ☐OH ☐SC ☐WI ☐OTHER_____

Section D Required Client Information

SAMPLE ID

One Character per box. (A-Z, 0-9 / .-) Samples IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N) / Requested Analysis	Residual Chlorine (Y/N)	Pace Project Number / Lab I.D
1	1	SL	G			8/9/07		100	4	X								TCLP VOC		01
2	2	SL	G			8/9/07		100	4	X								TCLP VOC		02
3	3	SL	G			8/9/07		100	4	X								TCLP METALS		03
4	4	SL	G			8/9/07		100	4	X								TCLP METALS		04
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
			B. Flecky	8/10/17	930

SAMPLE CONDITION

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
4-1	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Albert Glenn

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM / DD / YY)

Water Quality Data Tables
Lincoln County Landfill

Parameter: ARSENIC
NCAC 2L Standard: 50
Units: µg/L

Sample Date	Results by Well Location			
	MW-1A	MW-8	MW-9	MW-10
8/5/1993	ND<42	NT	NT	NT
8/6/1993	ND<42	NT	NT	NT
8/9/1993	ND<42	NT	NT	NT
8/11/1993	ND<42	NT	NT	NT
8/24/1993	NT	ND<42	ND<42	ND<42
8/25/1993	NT	ND<42	ND<42	ND<42
8/26/1993	NT	ND<42	ND<42	ND<42
8/27/1993	NT	ND<42	ND<42	ND<42
4/15/1994	ND<42	ND<42	ND<42	ND<42
11/22/1994	ND<2.9	ND<2.9	ND<2.9	ND<2.9
4/30/1996	ND<5	ND<5	ND<5	ND<5
4/16/1997	ND<10	ND<10	ND<10	ND<10
10/29/1997	ND<10	ND<10	ND<10	**15**
5/28/1998	**11**	**80**	**18**	**49**
12/4/1998	ND<10	ND<10	**16**	ND<10
4/28/1999	ND<10	ND<10	ND<10	ND<10
10/13/1999	ND<10	ND<10	ND<10	ND<10
4/13/2000	ND<10	ND<10	ND<10	ND<10
10/31/2000	ND<10	Dry	ND<10	Dry
4/18/2001	ND<10	ND<10	ND<10	ND<10
10/18/2001	ND<10	Dry	ND<10	Dry
4/3/2002	ND<10	Dry	ND<10	ND<10
10/23/2002	ND<10	Dry	ND<10	Dry
4/23/2003	ND<10	Dry	ND<10	ND<10
10/8/2003	ND<10	ND<10	ND<10	ND<10
4/21/2004	ND<10	ND<10	ND<10	ND<10
10/6/2004	ND<10	ND<10	ND<10	ND<10
4/20/2005	ND<10	ND<10	ND<10	ND<10
10/19/2005	ND<5	ND<5	ND<5	ND<5
4/25/2006	ND<5	ND<5	ND<5	ND<5
10/4/2006	ND<5	**7.9**	ND<5	ND<5
4/11/2007	4.7 J	**3.6 J**	**4.6 J**	**3.2 J**
10/15/2007	ND<2	Dry	ND<2	ND<2

Parameter: BARIUM
NCAC 2L Standard: 2000
Units: µg/L

Sample Date	Results by Well Location			
	MW-1A	MW-8	MW-9	MW-10
8/5/1993	**150**	NT	NT	NT
8/6/1993	**81**	NT	NT	NT
8/9/1993	**85**	NT	NT	NT
8/11/1993	**80**	NT	NT	NT
8/24/1993	NT	**1400**	**620**	**250**
8/25/1993	NT	**440**	**320**	**270**
8/26/1993	NT	**280**	**300**	**88**
8/27/1993	NT	**310**	**400**	**130**
4/15/1994	**90**	**3600**	**120**	**120**
11/22/1994	**65**	**280**	**130**	**100**
4/30/1996	**38**	**160**	**230**	**100**
4/16/1997	ND<500	ND<500	ND<500	ND<500
10/29/1997	ND<500	ND<500	ND<500	**1800**
5/28/1998	ND<500	ND<500	**520**	**560**
12/4/1998	ND<500	ND<500	ND<500	**2200**
4/28/1999	ND<500	ND<500	ND<500	**820**
10/13/1999	ND<500	**1600**	ND<500	ND<500
4/13/2000	ND<500	ND<500	ND<500	ND<500
10/31/2000	ND<500	Dry	ND<500	Dry
4/18/2001	ND<500	ND<500	ND<500	ND<500
10/18/2001	ND<500	Dry	ND<500	Dry
4/3/2002	ND<500	Dry	ND<500	ND<500
10/23/2002	ND<500	Dry	ND<500	Dry
4/23/2003	ND<500	Dry	ND<500	ND<500
10/8/2003	ND<500	ND<500	ND<500	ND<500
4/21/2004	ND<500	ND<500	ND<500	ND<500
10/6/2004	ND<500	ND<500	ND<500	ND<500
4/20/2005	ND<500	ND<500	ND<500	ND<500
10/19/2005	**30**	**52**	**33**	**70**
4/25/2006	ND<25	**39**	**34**	**46**
10/4/2006	**26**	**1100**	**29**	**48**
4/11/2007	**24.7 J**	**31.6 J**	**32 J**	**44.4 J**
10/15/2007	**28.6 J**	Dry	**28.7 J**	**65.5 J**

Water Quality Data Tables
Lincoln County Landfill

Parameter: BERYLLIUM
NCAC 2L Standard: Not Established
Units: µg/L

Sample Date	Results by Well Location			
	MW-1A	MW-8	MW-9	MW-10
8/5/1993	ND<2	NT	NT	NT
8/6/1993	ND<2	NT	NT	NT
8/9/1993	ND<2	NT	NT	NT
8/11/1993	ND<2	NT	NT	NT
8/24/1993	NT	2	ND<2	ND<2
8/25/1993	NT	ND<2	ND<2	2
8/26/1993	NT	ND<2	ND<2	ND<2
8/27/1993	NT	ND<2	ND<2	ND<2
4/15/1994	ND<2	4	ND<2	ND<2
11/22/1994	ND<1.8	3.9	ND<1.8	ND<1.8
4/30/1996	ND<2	ND<2	2	ND<2
4/16/1997	ND<2	ND<2	ND<2	ND<2
10/29/1997	ND<2	2	ND<2	26
5/28/1998	2	9	3	10
12/4/1998	2	3	2	36
4/28/1999	ND<2	5	ND<2	14
10/13/1999	ND<2	20	ND<2	6
4/13/2000	ND<2	ND<2	ND<2	ND<2
10/31/2000	ND<2	Dry	ND<2	Dry
4/18/2001	ND<2	ND<2	4.4	6.6
10/18/2001	ND<2	Dry	ND<2	Dry
4/3/2002	ND<2	Dry	ND<2	ND<2
10/23/2002	ND<2	Dry	ND<2	Dry
4/23/2003	ND<2	Dry	ND<2	ND<2
10/8/2003	5.1	2.3	ND<2	ND<2
4/21/2004	ND<2	ND<2	ND<2	ND<2
10/6/2004	ND<2	ND<2	ND<2	ND<2
4/20/2005	ND<2	ND<2	ND<2	ND<2
10/19/2005	ND<4	ND<4	ND<4	ND<4
4/25/2006	ND<4	ND<4	ND<4	ND<4
10/4/2006	ND<4	6.3	ND<4	ND<4
4/11/2007	ND<0.70	ND<0.70	ND<0.70	ND<0.70
10/15/2007	ND<0.70	Dry	ND<0.70	ND<0.70

Parameter: CADMIUM
NCAC 2L Standard: 1.75
Units: µg/L

Sample Date	Results by Well Location			
	MW-1A	MW-8	MW-9	MW-10
8/5/1993	4	NT	NT	NT
8/6/1993	5	NT	NT	NT
8/9/1993	ND<4	NT	NT	NT
8/11/1993	ND<4	NT	NT	NT
8/24/1993	NT	8	ND<4	6
8/25/1993	NT	9	ND<4	13
8/26/1993	NT	ND<4	ND<4	4
8/27/1993	NT	5	4	ND<4
4/15/1994	7	24	ND<4	ND<4
11/22/1994	ND<1	ND<1	ND<1	2.5
4/30/1996	ND<1	ND<1	ND<1	ND<1
4/16/1997	ND<1	ND<1	ND<1	ND<1
10/29/1997	ND<1	ND<1	ND<1	ND<1
5/28/1998	2	9	2	7
12/4/1998	ND<1	ND<1	ND<1	17
4/28/1999	1	6	ND<1	14
10/13/1999	1	25	ND<1	5
4/13/2000	ND<10	ND<10	ND<10	ND<10
10/31/2000	1	Dry	3	Dry
4/18/2001	2	ND<1	4.8	3.9
10/18/2001	ND<1	Dry	ND<1	Dry
4/3/2002	1.7	Dry	ND<1	ND<1
10/23/2002	ND<1	Dry	ND<1	Dry
4/23/2003	1.1	Dry	ND<1	ND<1
10/8/2003	1.9	ND<1	ND<1	ND<1
4/21/2004	ND<1	ND<1	ND<1	ND<1
10/6/2004	ND<1	ND<1	ND<1	ND<1
4/20/2005	ND<1	ND<1	ND<1	ND<1
10/19/2005	ND<2	ND<2	ND<2	ND<2
4/25/2006	ND<2	ND<2	ND<2	ND<2
10/4/2006	ND<2	ND<2	ND<2	ND<2
4/11/2007	ND<0.50	ND<0.50	ND<0.50	ND<0.50
10/15/2007	ND<0.50	Dry	ND<0.50	ND<0.50

Water Quality Data Tables
Lincoln County Landfill

Parameter: CHROMIUM
NCAC 2L Standard: 50
Units: µg/L

Sample Date	Results by Well Location			
	MW-1A	MW-8	MW-9	MW-10
8/5/1993	32	NT	NT	NT
8/6/1993	13	NT	NT	NT
8/9/1993	15	NT	NT	NT
8/11/1993	17	NT	NT	NT
8/24/1993	NT	120	193	25
8/25/1993	NT	84	162	47
8/26/1993	NT	30	51	ND<8
8/27/1993	NT	59	162	14
4/15/1994	22	150	14	8
11/22/1994	13	42	14	12
4/30/1996	8	22	35	ND<10
4/16/1997	ND<10	ND<10	ND<10	ND<10
10/29/1997	16	32	10	200
5/28/1998	88	52	65	69
12/4/1998	92	41	13	330
4/28/1999	34	610	ND<10	130
10/13/1999	26	290	ND<10	58
4/13/2000	ND<10	ND<10	ND<10	ND<10
10/31/2000	24	Dry	ND<10	Dry
4/18/2001	39	ND<10	71	36
10/18/2001	ND<10	Dry	ND<10	Dry
4/3/2002	ND<10	Dry	ND<10	ND<10
10/23/2002	ND<10	Dry	ND<10	Dry
4/23/2003	ND<10	Dry	ND<10	ND<10
10/8/2003	25	16	14	ND<10
4/21/2004	ND<10	ND<10	ND<10	ND<10
10/6/2004	ND<10	ND<10	ND<10	ND<10
4/20/2005	ND<10	ND<10	ND<10	ND<10
10/19/2005	ND<5	ND<5	ND<5	6.8
4/25/2006	ND<5	ND<5	ND<5	ND<5
10/4/2006	ND<5	95	ND<5	ND<5
4/11/2007	2.2 J	ND<2.0	3.1 J	ND<2.0
10/15/2007	7.4 J	Dry	ND<2	11.4

Parameter: COBALT
NCAC 2L Standard: Not Established
Units: µg/L

Sample Date	Results by Well Location			
	MW-1A	MW-8	MW-9	MW-10
8/5/1993	ND<13	NT	NT	NT
8/6/1993	ND<13	NT	NT	NT
8/9/1993	ND<13	NT	NT	NT
8/11/1993	ND<13	NT	NT	NT
8/24/1993	NT	87	ND<13	23
8/25/1993	NT	41	ND<13	27
8/26/1993	NT	22	ND<13	ND<13
8/27/1993	NT	30	18	ND<13
4/15/1994	ND<13	130	ND<13	ND<13
11/22/1994	ND<7.1	18	ND<7.1	ND<7.1
4/30/1996	ND<5	5.9	ND<5	ND<5
4/16/1997	ND<5	11.2	ND<5	6.84
10/29/1997	ND<10	16	ND<10	140
5/28/1998	15	28	13	36
12/4/1998	14	16	ND<10	160
4/28/1999	ND<10	26	ND<10	56
10/13/1999	ND<10	160	ND<10	28
4/13/2000	ND<10	ND<10	ND<10	ND<10
10/31/2000	ND<10	Dry	ND<10	Dry
4/18/2001	ND<10	ND<10	13	18
10/18/2001	ND<10	Dry	ND<10	Dry
4/3/2002	ND<10	Dry	ND<10	ND<10
10/23/2002	ND<10	Dry	ND<10	Dry
4/23/2003	ND<10	Dry	ND<10	ND<10
10/8/2003	23	13	11	10
4/21/2004	ND<10	ND<10	ND<10	ND<10
10/6/2004	ND<10	ND<10	ND<10	ND<10
4/20/2005	ND<10	ND<10	ND<10	ND<10
10/19/2005	ND<25	ND<25	ND<25	ND<25
4/25/2006	ND<25	ND<25	ND<25	ND<25
10/4/2006	ND<25	42	ND<25	ND<25
4/11/2007	ND<2.0	ND<2.0	ND<2.0	ND<2.0
10/15/2007	ND<2.0	Dry	ND<2.0	3.2 J

Water Quality Data Tables
Lincoln County Landfill

Parameter: COPPER
NCAC 2L Standard: 1000
Units: µg/L

Sample Date	Results by Well Location			
	MW-1A	MW-8	MW-9	MW-10
8/5/1993	11	NT	NT	NT
8/6/1993	ND<8	NT	NT	NT
8/9/1993	8	NT	NT	NT
8/11/1993	ND<8	NT	NT	NT
8/24/1993	NT	51	40	17
8/25/1993	NT	30	15	26
8/26/1993	NT	11	11	ND<8
8/27/1993	NT	21	16	ND<8
4/15/1994	10	77	8	ND<8
11/22/1994	ND<30	ND<30	42	19
4/30/1996	9.1	16	30	6.1
4/16/1997	ND<200	ND<200	ND<200	ND<200
10/29/1997	ND<200	ND<200	ND<200	ND<200
5/28/1998	ND<200	ND<200	ND<200	ND<200
12/4/1998	ND<200	ND<200	ND<200	220
4/28/1999	ND<200	ND<200	ND<200	ND<200
10/13/1999	ND<200	ND<200	ND<200	ND<200
4/13/2000	ND<200	ND<200	ND<200	ND<200
10/31/2000	ND<200	Dry	ND<200	Dry
4/18/2001	ND<200	ND<200	ND<200	ND<200
10/18/2001	ND<200	Dry	ND<200	Dry
4/3/2002	ND<200	Dry	ND<200	ND<200
10/23/2002	ND<200	Dry	ND<200	Dry
4/23/2003	ND<200	Dry	ND<200	ND<200
10/8/2003	ND<200	ND<200	ND<200	ND<200
4/21/2004	ND<200	ND<200	ND<200	ND<200
10/6/2004	ND<200	ND<200	ND<200	ND<200
4/20/2005	ND<200	ND<200	ND<200	ND<200
10/19/2005	ND<5	ND<5	ND<5	ND<5
4/25/2006	ND<5	ND<5	ND<5	ND<5
10/4/2006	ND<5	52	ND<5	ND<5
4/11/2007	0.90 J	1.0 J	0.80 J	0.60 J
10/15/2007	2.7 J	Dry	ND<0.6	1.1 J

Parameter: LEAD
NCAC 2L Standard: 15
Units: µg/L

Sample Date	Results by Well Location			
	MW-1A	MW-8	MW-9	MW-10
8/5/1993	ND<37	NT	NT	NT
8/6/1993	ND<37	NT	NT	NT
8/9/1993	ND<37	NT	NT	NT
8/11/1993	ND<37	NT	NT	NT
8/24/1993	NT	ND<37	ND<37	ND<37
8/25/1993	NT	ND<37	ND<37	ND<37
8/26/1993	NT	ND<37	ND<37	ND<37
8/27/1993	NT	ND<37	ND<37	ND<37
4/15/1994	3.2	76	2.1	3.3
11/22/1994	5.5	19	6.2	6.8
4/30/1996	34	16	16	2.4
4/16/1997	ND<10	11.9	ND<10	ND<10
10/29/1997	ND<10	11	ND<10	51
5/28/1998	11	54	17	35
12/4/1998	ND<10	12	ND<10	92
4/28/1999	ND<10	27	ND<10	40
10/13/1999	ND<10	120	ND<10	15
4/13/2000	ND<10	ND<10	ND<10	ND<10
10/31/2000	ND<10	Dry	ND<10	Dry
4/18/2001	ND<10	ND<10	31	11
10/18/2001	ND<10	Dry	ND<10	Dry
4/3/2002	ND<10	Dry	ND<10	ND<10
10/23/2002	ND<10	Dry	ND<10	Dry
4/23/2003	ND<10	Dry	ND<10	ND<10
10/8/2003	ND<10	ND<10	ND<10	ND<10
4/21/2004	ND<10	ND<10	ND<10	ND<10
10/6/2004	ND<10	ND<10	ND<10	ND<10
4/20/2005	ND<10	ND<10	ND<10	ND<10
10/19/2005	ND<3	ND<3	ND<3	ND<3
4/25/2006	ND<3	ND<3	ND<3	ND<3
10/4/2006	ND<3	46	ND<3	ND<3
4/11/2007	ND<2	ND<2	ND<2	ND<2
10/15/2007	ND<2	Dry	ND<2	2.5 J

Water Quality Data Tables
Lincoln County Landfill

Parameter: NICKEL
NCAC 2L Standard: 100
Units: µg/L

Sample Date	Results by Well Location			
	MW-1A	MW-8	MW-9	MW-10
8/5/1993	**25**	NT	NT	NT
8/6/1993	ND<25	NT	NT	NT
8/9/1993	ND<25	NT	NT	NT
8/11/1993	ND<25	NT	NT	NT
8/24/1993	NT	**85**	ND<25	**26**
8/25/1993	NT	**55**	ND<25	**28**
8/26/1993	NT	ND<25	ND<25	ND<25
8/27/1993	NT	**31**	ND<25	ND<25
4/15/1994	ND<25	**110**	ND<25	ND<25
11/22/1994	**12**	**21**	ND<7.2	ND<7.2
4/30/1996	ND<10	**16**	**16**	ND<10
4/16/1997	ND<50	ND<50	ND<50	ND<50
10/29/1997	ND<50	ND<50	ND<50	**160**
5/28/1998	**63**	ND<50	ND<50	ND<50
12/4/1998	ND<50	ND<50	ND<50	ND<50
4/28/1999	ND<50	ND<50	ND<50	ND<50
10/13/1999	ND<50	**160**	ND<50	ND<50
4/13/2000	ND<50	ND<50	ND<50	ND<50
10/31/2000	ND<50	Dry	ND<50	Dry
4/18/2001	ND<50	ND<50	ND<50	ND<50
10/18/2001	ND<50	Dry	ND<50	Dry
4/3/2002	ND<50	Dry	ND<50	ND<50
10/23/2002	ND<50	Dry	ND<50	Dry
4/23/2003	ND<50	Dry	ND<50	ND<50
10/8/2003	ND<50	ND<50	ND<50	ND<50
4/21/2004	ND<50	ND<50	ND<50	ND<50
10/6/2004	ND<50	ND<50	ND<50	ND<50
4/20/2005	ND<50	ND<50	ND<50	ND<50
10/19/2005	ND<40	ND<40	ND<40	ND<40
4/25/2006	ND<40	ND<40	ND<40	ND<40
10/4/2006	ND<40	**50**	ND<40	ND<40
4/11/2007	**2.1 J**	ND<2.0	ND<2.0	ND<2.0
10/15/2007	**9.6 J**	Dry	ND<2	**5 J**

Parameter: SELENIUM
NCAC 2L Standard: 50
Units: µg/L

Sample Date	Results by Well Location			
	MW-1A	MW-8	MW-9	MW-10
8/5/1993	ND<79	NT	NT	NT
8/6/1993	ND<79	NT	NT	NT
8/9/1993	ND<79	NT	NT	NT
8/11/1993	ND<79	NT	NT	NT
8/24/1993	NT	ND<79	ND<79	ND<79
8/25/1993	NT	ND<79	ND<79	ND<79
8/26/1993	NT	ND<79	ND<79	ND<79
8/27/1993	NT	ND<79	ND<79	ND<79
4/15/1994	ND<79	ND<79	ND<79	ND<79
11/22/1994	ND<3.1	ND<3.1	ND<3.1	ND<3.1
4/30/1996	ND<5	ND<5	ND<5	ND<5
4/16/1997	ND<20	ND<20	ND<20	ND<20
10/29/1997	ND<20	ND<20	ND<20	**28**
5/28/1998	ND<20	ND<20	ND<20	ND<20
12/4/1998	ND<20	ND<20	ND<20	**56**
4/28/1999	ND<20	ND<20	ND<20	ND<20
10/13/1999	ND<20	**74**	ND<20	ND<20
4/13/2000	ND<20	ND<20	ND<20	ND<20
10/31/2000	ND<20	Dry	ND<20	Dry
4/18/2001	ND<20	ND<20	ND<20	ND<20
10/18/2001	ND<20	Dry	ND<20	Dry
4/3/2002	ND<20	Dry	ND<20	ND<20
10/23/2002	ND<20	Dry	ND<20	Dry
4/23/2003	ND<20	Dry	ND<20	ND<20
10/8/2003	ND<20	ND<20	ND<20	ND<20
4/21/2004	ND<20	ND<20	ND<20	ND<20
10/6/2004	ND<20	ND<20	ND<20	ND<20
4/20/2005	ND<20	ND<20	ND<20	ND<20
10/19/2005	ND<5	ND<5	ND<5	ND<5
4/25/2006	ND<5	ND<5	ND<5	ND<5
10/4/2006	ND<5	ND<5	ND<5	ND<5
4/11/2007	ND<2	ND<2.0	ND<2	ND<2.0
10/15/2007	ND<2	Dry	ND<2	ND<2

Water Quality Data Tables
Lincoln County Landfill

Parameter: SILVER
NCAC 2L Standard: 17.5
Units: µg/L

Sample Date	Results by Well Location			
	MW-1A	MW-8	MW-9	MW-10
8/5/1993	ND<8	NT	NT	NT
8/6/1993	ND<8	NT	NT	NT
8/9/1993	ND<8	NT	NT	NT
8/11/1993	ND<8	NT	NT	NT
8/24/1993	NT	ND<8	ND<8	ND<8
8/25/1993	NT	ND<8	ND<8	ND<8
8/26/1993	NT	ND<8	ND<8	ND<8
8/27/1993	NT	ND<8	ND<8	ND<8
4/15/1994	ND<8	ND<8	ND<8	ND<8
11/22/1994	ND<50	ND<50	ND<50	ND<50
4/30/1996	ND<2	ND<2	ND<2	ND<2
4/16/1997	ND<10	ND<10	ND<10	ND<10
10/29/1997	ND<10	ND<10	ND<10	ND<10
5/28/1998	ND<10	ND<10	ND<10	ND<10
12/4/1998	ND<10	ND<10	ND<10	ND<10
4/28/1999	ND<10	ND<10	ND<10	ND<10
10/13/1999	ND<10	ND<10	ND<10	ND<10
4/13/2000	ND<10	ND<10	ND<10	ND<10
10/31/2000	ND<10	Dry	ND<10	Dry
4/18/2001	ND<10	ND<10	ND<10	ND<10
10/18/2001	ND<10	Dry	ND<10	Dry
4/3/2002	ND<10	Dry	ND<10	ND<10
10/23/2002	ND<10	Dry	ND<10	Dry
4/23/2003	ND<10	Dry	ND<10	ND<10
10/8/2003	**32**	**18**	**16**	**11**
4/21/2004	ND<10	ND<10	ND<10	ND<10
10/6/2004	ND<10	ND<10	ND<10	ND<10
4/20/2005	ND<10	ND<10	ND<10	ND<10
10/19/2005	ND<5	ND<5	ND<5	ND<5
4/25/2006	ND<5	ND<5	ND<5	ND<5
10/4/2006	ND<5	ND<5	ND<5	ND<5
4/11/2007	ND<2.0	ND<2.0	ND<2.0	**2.1 J**
10/15/2007	ND<2	Dry	ND<2	ND<2

Parameter: THALLIUM
NCAC 2L Standard: Not Established
Units: µg/L

Sample Date	Results by Well Location			
	MW-1A	MW-8	MW-9	MW-10
8/5/1993	ND<10	NT	NT	NT
8/6/1993	ND<10	NT	NT	NT
8/9/1993	ND<10	NT	NT	NT
8/11/1993	ND<10	NT	NT	NT
8/24/1993	NT	ND<10	ND<10	ND<10
8/25/1993	NT	ND<10	ND<10	ND<10
8/26/1993	NT	ND<10	ND<10	ND<10
8/27/1993	NT	ND<10	ND<10	ND<10
4/15/1994	ND<10	**1.9**	ND<10	ND<10
11/22/1994	ND<2.2	ND<2.2	ND<2.2	ND<2.2
4/30/1996	ND<2	ND<2	ND<2	ND<2
4/16/1997	ND<10	ND<10	ND<10	ND<10
10/29/1997	ND<10	ND<10	ND<10	ND<10
5/28/1998	ND<10	**67**	ND<10	**26**
12/4/1998	ND<10	ND<10	ND<10	ND<10
4/28/1999	ND<10	ND<10	ND<10	ND<10
10/13/1999	ND<10	ND<10	ND<10	ND<10
4/13/2000	ND<10	ND<10	ND<10	ND<10
10/31/2000	ND<10	Dry	ND<10	Dry
4/18/2001	ND<10	ND<10	ND<10	ND<10
10/18/2001	ND<10	Dry	ND<10	Dry
4/3/2002	ND<10	Dry	ND<10	ND<10
10/23/2002	ND<10	Dry	ND<10	Dry
4/23/2003	ND<10	Dry	ND<10	ND<10
10/8/2003	ND<10	ND<10	ND<10	ND<10
4/21/2004	ND<10	ND<10	ND<10	ND<10
10/6/2004	ND<10	ND<10	ND<10	ND<10
4/20/2005	ND<10	ND<10	ND<10	ND<10
10/19/2005	ND<2	ND<2	ND<2	ND<2
4/25/2006	ND<2	ND<2	ND<2	ND<2
10/4/2006	ND<0.5	**1.1**	ND<0.5	ND<0.5
4/11/2007	**0.094 J**	**0.078 J**	ND<0.044	**0.064 J**
10/15/2007	**0.069 J**	Dry	ND<0.044	**0.077 J**

Water Quality Data Tables
Lincoln County Landfill

Parameter: VANADIUM
NCAC 2L Standard: Not Established
Units: µg/L

Sample Date	Results by Well Location			
	MW-1A	MW-8	MW-9	MW-10
8/5/1993	**32**	NT	NT	NT
8/6/1993	**17**	NT	NT	NT
8/9/1993	**17**	NT	NT	NT
8/11/1993	ND<10	NT	NT	NT
8/24/1993	NT	**280**	**13**	**67**
8/25/1993	NT	**190**	ND<10	**110**
8/26/1993	NT	**60**	ND<10	**17**
8/27/1993	NT	**130**	**72**	**32**
4/15/1994	**19**	**370**	**34**	**31**
11/22/1994	**12**	**99**	**23**	**32**
4/30/1996	**6.3**	**57**	**82**	**10**
4/16/1997	ND<40	ND<40	ND<40	ND<40
10/29/1997	ND<40	**50**	ND<40	**520**
5/28/1998	**68**	**110**	**160**	**180**
12/4/1998	**67**	**96**	ND<40	**850**
4/28/1999	ND<40	**130**	ND<40	**300**
10/13/1999	ND<40	**650**	ND<40	**150**
4/13/2000	ND<40	ND<40	ND<40	ND<40
10/31/2000	ND<40	Dry	ND<40	Dry
4/18/2001	ND<40	ND<40	**130**	**100**
10/18/2001	ND<40	Dry	ND<40	Dry
4/3/2002	ND<40	Dry	ND<40	ND<40
10/23/2002	ND<40	Dry	ND<40	Dry
4/23/2003	ND<40	Dry	ND<40	ND<40
10/8/2003	ND<40	ND<40	ND<40	ND<40
4/21/2004	ND<40	ND<40	ND<40	ND<40
10/6/2004	ND<40	ND<40	ND<40	ND<40
4/20/2005	ND<40	ND<40	ND<40	ND<40
10/19/2005	ND<50	ND<50	ND<50	ND<50
4/25/2006	ND<50	ND<50	ND<50	ND<50
10/4/2006	ND<50	**210**	ND<50	ND<50
4/11/2007	**1.0 J**	**3.2 J**	**2.5 J**	**3.2 J**
10/15/2007	**1 J**	Dry	ND<1	**27.7**

Parameter: ZINC
NCAC 2L Standard: 1050
Units: µg/L

Sample Date	Results by Well Location			
	MW-1A	MW-8	MW-9	MW-10
8/5/1993	**36**	NT	NT	NT
8/6/1993	**16**	NT	NT	NT
8/9/1993	**23**	NT	NT	NT
8/11/1993	**19**	NT	NT	NT
8/24/1993	NT	**300**	**38**	**74**
8/25/1993	NT	**170**	ND<7	**110**
8/26/1993	NT	**55**	ND<7	**19**
8/27/1993	NT	**120**	**75**	**41**
4/15/1994	**10**	**440**	**18**	**33**
11/22/1994	**58**	**120**	**41**	**48**
4/30/1996	**24**	**56**	**74**	**20**
4/16/1997	ND<50	**64**	ND<50	**71**
10/29/1997	**52**	ND<50	**67**	ND<50
5/28/1998	**120**	**140**	**210**	**190**
12/4/1998	**100**	**110**	**78**	**740**
4/28/1999	**50**	**170**	ND<50	**320**
10/13/1999	ND<50	**680**	ND<50	**140**
4/13/2000	ND<50	ND<50	ND<50	ND<50
10/31/2000	**140**	Dry	**60**	Dry
4/18/2001	**68**	ND<50	ND<50	ND<50
10/18/2001	ND<50	Dry	ND<50	ND<50
4/3/2002	ND<50	Dry	ND<50	ND<50
10/23/2002	ND<50	Dry	ND<50	ND<50
4/23/2003	ND<50	Dry	**50**	ND<50
10/8/2003	ND<50	ND<50	ND<50	ND<50
4/21/2004	ND<50	ND<50	ND<50	ND<50
10/6/2004	ND<50	ND<50	ND<50	ND<50
4/20/2005	ND<50	ND<50	ND<50	ND<50
10/19/2005	ND<20	ND<20	ND<20	**50**
4/25/2006	ND<20	ND<20	ND<20	**23**
10/4/2006	ND<20	**230**	ND<20	ND<20
4/11/2007	ND<1.0	ND<1.0	ND<1.0	**2.6 J**
10/15/2007	**10.1**	Dry	**2.3 J**	**29.1**