S&ME

SEP 2002
Received
Solid Waste
Section

September 6, 2002

Bladen County Solid Waste Management
1522 Mercer Mill Road
Elizabethtown, North Carolina 28337

Attention: **Mr. Ed Dowless**

Reference: **Results of Groundwater Assessment Monitoring**
Appendix I Sampling Event - July, 2002
Bladen County Landfill
Elizabethtown, North Carolina
S&ME Project No. 1034-95-147

Dear Mr. Dowless:

This correspondence comprises a report detailing analytical results and groundwater data obtained with regard to an Appendix I sampling event conducted by S&ME, Inc. at the former Bladen County Landfill in July, 2002.

As per a letter dated May 30, 2000 from Mr. Larry Rose with the North Carolina Division of Waste Management, Solid Waste Section, permission was granted for monitoring wells MW-2, MW-6 and the surface water samples to be eliminated from the semi-annual sampling requirements. Therefore, monitoring wells MW-2, MW-6 and the surface water samples were not sampled during this sampling event.

S&ME, Inc.
409 Chicago Drive, Suite 116
Fayetteville, North Carolina 28306

(910) 323-1091
(910) 323-3499 fax
www.smeinc.com

GROUNDWATER DATA

On July 29 - 30, 2002, S&ME personnel collected groundwater data and samples from seven groundwater monitoring wells located at the former landfill site. Prior to sampling and initiation of data collection, each well was opened in order to allow water levels to equilibrate. The water level depth was then measured from the top of each well casing to the nearest .01 foot using an electronic water level indicator. The water level measurements are provided in the attached Table 1. As per our telephone conversation with Mr. Larry Rose in August 2001, a turbidity meter was used to collect turbidity readings from each well. Prior to the collection of the groundwater samples, the pH, temperature, specific conductivity and turbidity were measured for each well volume by a field meter. This data is provided in the attached Table 2 (Groundwater Parameters).

Wells were purged prior to sampling using disposable bailers. Wells were purged by bailing a quantity of water equal to a minimum of three times the volume of standing water in the well, or to dryness. Groundwater parameters (temperature, conductivity, pH and turbidity) were measured after each well volume was purged. These parameters are detailed in Table 2. As per Mr. Rose, the wells were sampled one day after they were purged to allow suspended solids in the water column to settle in order to reduce the possible interference of suspended solids with the RCRA Metal analyses.

After the completion of purging, groundwater samples were collected using the bailer. The groundwater samples were transferred to laboratory pre-prepared bottles containing hydrochloric acid and nitric acid for storage in a prechilled cooler. Hydrochloric acid and nitric acid were used to preserve samples for analysis to detect volatile compounds and metals, as per requirements set forth by US Environmental Protection Agency (EPA) protocols for individual analyses. After the sampling round was completed, samples were transported under standard chain-of-custody protocol to ENCO Laboratories, an analytical laboratory located in Orlando, Florida.

ANALYTICAL METHODOLOGY AND RESULTS

As per Mr. Larry Rose with North Carolina Division of Waste Management, Solid Waste Section, the groundwater samples were analyzed for Appendix I volatile organic compounds and RCRA Metals. Table 3 summarizes the analytical results by well and constituent for the July 2002 sampling event. A copy of the laboratory results and the associated chain-of-custody is attached. The following table shows the listed constituents, detected in the July 2002 sampling event compared to the December 2001 sampling event.

	December 2001		July 2002	
Well No.	Metals (ug/L)	Organics (ug/L)	Metals (ug/L)	Organics (ug/L)
MW-1				
MW-3			Cadmium 1.8 (total)	
MW-4				
MW-5				
MW-7				
MW-8			Cadmium 4.2 (total)	
MW-9		c-1,2-Dichloroethene 9.7	Cadmium 1.5 (total)	c-1,2-Dichloroethene 14 Chlorobenzene 12

Notes:

Constituents not listed were below the detection limit of the analytical method.
Constituents detected in quantities above regulatory levels set forth in 15A NCAC 2L, "Criteria and Standards Applicable to the Groundwaters of North Carolina" are printed in **bold** type.
For comparison purposes metal concentrations were converted from mg/L to ug/L.

S&ME appreciates the opportunity to work with you on this project. Should you have any questions or comments, or require additional information, please contact our office at (910) 323-1091.

Sincerely,

S&ME, Inc.

Jamie T. Honeycutt
Environmental Staff

Senior Review by

Michael W. Behen, P.E.
Senior Geotechnical Engineer

TABLE 1 Monitoring Well and Sampling Data: July, 2002

WELL ID	Well Depth BTOC	Water Level BTOC	Approximate Volume Purged (Gallons)
MW-1	41.19	16.65	12.00
MW-3	21.50	11.32	3.5 [A]
MW-4	44.04	35.19	4.50
MW-5	30.00	24.89	1.50[A]
MW-7	15.25	3.21	6.00
MW-8	30.60	18.17	3.00[A]
MW-9	23.00	10.52	6.00

Notes:

All measurements in feet.
BTOC Below top of casing
[A] Well bailed dry prior to removal of three wells volumes

Table 2 Groundwater Parameters: July, 2002

		MW-1	MW-3[D]	MW-4	MW-5[C]	MW-7	MW-8[c]	MW-9
Initial	Temperature[A]	72.0	74.0	75.0	73.0	77.0	71.0	71.0
	pH	7.2	6.5	7.7	7.6	7.2	5.8	6.2
	Conductivity[B]	128	593	228	343	420	271	2020
	Turbidity[E]	10.0	6.0	2.0	45.0	12.0	36.4	22.3
1st Volume	Temperature[A]	72.0	71.0	73.0	70.0	73.0	69.0	69.0
	pH	7.2	6.3	7.4	7.4	6.9	5.9	6.3
	Conductivity[B]	102	631	289	302	399	258	1906
	Turbidity[E]	35.0	80.0	15.2	178.0	15.3	40.2	41.8
2nd Volume	Temperature[A]	71.0	69.0	72.0	-	69.0	-	67.0
	pH	7.4	5.7	7.4	-	6.8	-	6.4
	Conductivity[B]	108	634	313	-	374	-	1630
	Turbidity[E]	36.0	97.0	17.6	-	18.0	-	42.3
3rd Volume	Temperature[A]	71.0	-	73.0	-	69.0	-	66.0
	pH	7.5	-	7.2	-	6.8	-	6.5
	Conductivity[B]	109	-	327	-	386	-	1680
	Turbidity[E]	42.0	-	25.0		19.4		43.9
Turbidity[E] at time of sample collection		15.0	90.0	17.0	34.0	7.2	19.6	38.4

Notes:

A Measured in degrees Fahrenheit.
B Measured in micorhms.
C Well bailed dry after one well volume.
D Well bailed dry after two well volumes.
E Measured in NTU.

Table 3 Groundwater Analytical Results: July, 2002

Constitutent	2L[A]	MW-1	MW-3	MW-4	MW-5	MW-7	MW-8	MW-9
c-1,2-Dichloroethene	70 ug/L							14
Chlorobenzene	50 ug/L							12
Cadmium (total)	0.005 mg/L		0.0018				0.0042	0.0015

Notes:

Constituents not listed were below the detection limit of the analytical method.

A Regulatory standards as set forth in 15A NCAC 2L, "Classifications and Standards Applicable to the Groundwaters of North Carolina" or in guidance documents issued by the NCDENR Solid Waste Section. **Analytical results greater than applicable standards are given in bold print.**

APPENDIX
LABORATORY DATA

Environmental Conservation Laboratories, Inc.
10207 General Drive
Orlando, Florida 32824-8529
407 / 826-5314
Fax 407 / 850-6945
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E83182

CLIENT : S&ME, Inc.
ADDRESS: 409 Chicago Dr.
Suite 116
Fayetteville, NC 28306

REPORT # : ORL22972
DATE SUBMITTED: July 31, 2002
DATE REPORTED : August 12, 2002

ATTENTION: Jamie Honeycutt

SAMPLE IDENTIFICATION

Samples submitted and
identified by client as:

REFERENCE: 1034-95-147

BLADEN CO LANDFILL

07/30/02

#1 - MW-9 @ 08:35
#2 - MW-8 @ 08:30
#3 - MW-7 @ 08:45
#4 - MW-5 @ 09:00
#5 - MW-4 @ 09:30
#6 - MW-3 @ 09:45
#7 - MW-1 @ 10:00

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. This data has been produced in accordance with NELAC Standards (July, 1999). This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

PROJECT MANAGER _____
Marcia C. Colon

ENCO LABORATORIES
REPORT # : ORL22972
DATE REPORTED: August 12, 2002
REFERENCE : 1034-95-147
PROJECT NAME : BLADEN CO LANDFILL

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I, 8260 - APPENDIX I VOLATILE COMPOUNDS	MW-9	MW-8	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	**14**	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L
Dibromomethane	10 U	10 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : ORL22972
DATE REPORTED: August 12, 2002
REFERENCE : 1034-95-147
PROJECT NAME : BLADEN CO LANDFILL

RESULTS OF ANALYSIS

PA METHOD APPENDIX I, 8260 (cont.) - PPENDIX I VOLATILE COMPOUNDS	MW-9	MW-8	Units
romodichloromethane	5.0 U	5.0 U	ug/L
-1,3-Dichloropropene	10 U	10 U	ug/L
-Methyl-2-Pentanone	100 U	100 U	ug/L
oluene	5.0 U	5.0 U	ug/L
-1,3-Dichloropropene	10 U	10 U	ug/L
,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
etrachloroethene	5.0 U	5.0 U	ug/L
-Hexanone	50 U	50 U	ug/L
ibromochloromethane	5.0 U	5.0 U	ug/L
,2-Dibromoethane	5.0 U	5.0 U	ug/L
hlorobenzene	12	5.0 U	ug/L
,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
thylbenzene	5.0 U	5.0 U	ug/L
-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
-Xylene	5.0 U	5.0 U	ug/L
tyrene	10 U	10 U	ug/L
romoform	5.0 U	5.0 U	ug/L
,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
,2,3-Trichloropropane	15 U	15 U	ug/L
-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
urrogate:	**% RECOV**	**% RECOV**	**LIMITS**
ibromofluoromethane	98	97	52-149
8-Toluene	116	111	70-132
romofluorobenzene	95	90	60-135
ate Analyzed	08/02/02 20:44	08/02/02 21:27	

J = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : ORL22972
DATE REPORTED: August 12, 2002
REFERENCE : 1034-95-147
PROJECT NAME : BLADEN CO LANDFILL

RESULTS OF ANALYSIS

OTAL METALS	METHOD	MW-9	MW-8	Units
rsenic ate Analyzed	6010	0.010 U 08/06/02 15:40	0.010 U 08/06/02 15:49	mg/L
arium ate Analyzed	6010	0.50 U 08/06/02 15:40	0.50 U 08/06/02 15:49	mg/L
admium ate Analyzed	6010	**0.0015** 08/06/02 15:40	**0.0042** 08/06/02 15:49	mg/L
hromium ate Analyzed	6010	0.010 U 08/06/02 15:40	0.010 U 08/06/02 15:49	mg/L
ead ate Analyzed	6010	0.010 U 08/06/02 15:40	0.010 U 08/06/02 15:49	mg/L
lercury ate Analyzed	7470	0.00050 U 08/03/02	0.00050 U 08/03/02	mg/L
elenium ate Analyzed	6010	0.020 U 08/06/02 15:40	0.020 U 08/06/02 15:49	mg/L
ilver ate Analyzed	6010	0.010 U 08/06/02 15:40	0.010 U 08/06/02 15:49	mg/L

J = Compound was analyzed for but not detected to the level shown.

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PROJECT NAME : BLADEN CO LANDFILL

RESULTS OF ANALYSIS

:PA METHOD APPENDIX I, 8260 - .PPENDIX I VOLATILE COMPOUNDS	MW-7	MW-5	Units
:hloromethane	10 U	10 U	ug/L
'inyl Chloride	10 U	10 U	ug/L
3romomethane	10 U	10 U	ug/L
:hloroethane	10 U	10 U	ug/L
:richlorofluoromethane	5.0 U	5.0 U	ug/L
.,1-Dichloroethene	5.0 U	5.0 U	ug/L
ıcetone	100 U	100 U	ug/L
:odomethane	10 U	10 U	ug/L
:arbon Disulfide	100 U	100 U	ug/L
1ethylene Chloride	10 U	10 U	ug/L
ıcrylonitrile	200 U	200 U	ug/L
:-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
.,1-Dichloroethane	5.0 U	5.0 U	ug/L
'inyl Acetate	50 U	50 U	ug/L
:-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
3romochloromethane	5.0 U	5.0 U	ug/L
:hloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
:arbon tetrachloride	10 U	10 U	ug/L
3enzene	5.0 U	5.0 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
'richloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L
)ibromomethane	10 U	10 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : ORL22972
DATE REPORTED: August 12, 2002
REFERENCE : 1034-95-147
PROJECT NAME : BLADEN CO LANDFILL

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I, 8260 (cont.) - APPENDIX I VOLATILE COMPOUNDS	MW-7	MW-5	Units
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	**% RECOV**	**% RECOV**	**LIMITS**
Dibromofluoromethane	99	111	52-149
D8-Toluene	108	121	70-132
Bromofluorobenzene	90	98	60-135
Date Analyzed	08/02/02 22:10	08/02/02 22:53	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : ORL22972
DATE REPORTED: August 12, 2002
REFERENCE : 1034-95-147
PROJECT NAME : BLADEN CO LANDFILL

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-7	MW-5	Units
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		08/06/02 15:57	08/06/02 16:06	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		08/06/02 15:57	08/06/02 16:06	
Cadmium	6010	0.0010 U	0.0010 U	mg/L
Date Analyzed		08/06/02 15:57	08/06/02 16:06	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		08/06/02 15:57	08/06/02 16:06	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		08/06/02 15:57	08/06/02 16:06	
Mercury	7470	0.00050 U	0.00050 U	mg/L
Date Analyzed		08/03/02	08/03/02	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		08/06/02 15:57	08/06/02 16:06	
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		08/06/02 15:57	08/06/02 16:06	

U = Compound was analyzed for but not detected to the level shown.

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REFERENCE : 1034-95-147
PROJECT NAME : BLADEN CO LANDFILL

RESULTS OF ANALYSIS

:PA METHOD APPENDIX I, 8260 - APPENDIX I VOLATILE COMPOUNDS	MW-4	MW-3	Units
:hloromethane	10 U	10 U	ug/L
/inyl Chloride	10 U	10 U	ug/L
3romomethane	10 U	10 U	ug/L
:hloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
:-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
:-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
3romochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L
Dibromomethane	10 U	10 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

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DATE REPORTED: August 12, 2002
REFERENCE : 1034-95-147
PROJECT NAME : BLADEN CO LANDFILL

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I, 8260 (cont.) - APPENDIX I VOLATILE COMPOUNDS	MW-4	MW-3	Units
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L

Surrogate:	% RECOV	% RECOV	LIMITS
Dibromofluoromethane	99	106	52-149
D8-Toluene	103	112	70-132
Bromofluorobenzene	86	101	60-135
Date Analyzed	08/03/02 14:45	08/03/02 15:28	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : ORL22972
DATE REPORTED: August 12, 2002
REFERENCE : 1034-95-147
PROJECT NAME : BLADEN CO LANDFILL

RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-4	MW-3	Units
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		08/06/02 16:15	08/06/02 16:24	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		08/06/02 16:15	08/06/02 16:24	
Cadmium	6010	0.0010 U	**0.0018**	mg/L
Date Analyzed		08/06/02 16:15	08/06/02 16:24	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		08/06/02 16:15	08/06/02 16:24	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		08/06/02 16:15	08/06/02 16:24	
Mercury	7470	0.00050 U	0.00050 U	mg/L
Date Analyzed		08/03/02	08/03/02	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		08/06/02 16:15	08/06/02 16:24	
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		08/06/02 16:15	08/06/02 16:24	

U = Compound was analyzed for but not detected to the level shown.

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REFERENCE : 1034-95-147
PROJECT NAME : BLADEN CO LANDFILL

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I, 8260 - APPENDIX I VOLATILE COMPOUNDS	MW-1	LAB BLANK	Units
Chloromethane	10 U	10 U	ug/L
Vinyl Chloride	10 U	10 U	ug/L
Bromomethane	10 U	10 U	ug/L
Chloroethane	10 U	10 U	ug/L
Trichlorofluoromethane	5.0 U	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	5.0 U	ug/L
Acetone	100 U	100 U	ug/L
Iodomethane	10 U	10 U	ug/L
Carbon Disulfide	100 U	100 U	ug/L
Methylene Chloride	10 U	10 U	ug/L
Acrylonitrile	200 U	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	5.0 U	ug/L
Vinyl Acetate	50 U	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	5.0 U	ug/L
2-Butanone	100 U	100 U	ug/L
Bromochloromethane	5.0 U	5.0 U	ug/L
Chloroform	5.0 U	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	5.0 U	ug/L
Carbon tetrachloride	10 U	10 U	ug/L
Benzene	5.0 U	5.0 U	ug/L
1,2-Dichloroethane	5.0 U	5.0 U	ug/L
Trichloroethene	5.0 U	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	5.0 U	ug/L
Dibromomethane	10 U	10 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : ORL22972
DATE REPORTED: August 12, 2002
REFERENCE : 1034-95-147
PROJECT NAME : BLADEN CO LANDFILL

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I, 8260 (cont.) - APPENDIX I VOLATILE COMPOUNDS	MW-1	LAB BLANK	Units
Bromodichloromethane	5.0 U	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	10 U	ug/L
4-Methyl-2-Pentanone	100 U	100 U	ug/L
Toluene	5.0 U	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	5.0 U	ug/L
Tetrachloroethene	5.0 U	5.0 U	ug/L
2-Hexanone	50 U	50 U	ug/L
Dibromochloromethane	5.0 U	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	5.0 U	ug/L
Chlorobenzene	5.0 U	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
Ethylbenzene	5.0 U	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	5.0 U	ug/L
o-Xylene	5.0 U	5.0 U	ug/L
Styrene	10 U	10 U	ug/L
Bromoform	5.0 U	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	25 U	ug/L
Surrogate:	% RECOV	% RECOV	LIMITS
Dibromofluoromethane	106	105	52-149
D8-Toluene	113	112	70-132
Bromofluorobenzene	91	96	60-135
Date Analyzed	08/03/02 16:10	08/02/02 14:57	

U = Compound was analyzed for but not detected to the level shown.

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RESULTS OF ANALYSIS

TOTAL METALS	METHOD	MW-1	LAB BLANK	Units
Arsenic	6010	0.010 U	0.010 U	mg/L
Date Analyzed		08/06/02 16:32	08/06/02 13:12	
Barium	6010	0.50 U	0.50 U	mg/L
Date Analyzed		08/06/02 16:32	08/06/02 13:12	
Cadmium	6010	0.0010 U	0.0010 U	mg/L
Date Analyzed		08/06/02 16:32	08/06/02 13:12	
Chromium	6010	0.010 U	0.010 U	mg/L
Date Analyzed		08/06/02 16:32	08/06/02 13:12	
Lead	6010	0.010 U	0.010 U	mg/L
Date Analyzed		08/06/02 16:32	08/06/02 13:12	
Mercury	7470	0.00050 U	0.00050 U	mg/L
Date Analyzed		08/03/02	08/03/02	
Selenium	6010	0.020 U	0.020 U	mg/L
Date Analyzed		08/06/02 16:32	08/06/02 13:12	
Silver	6010	0.010 U	0.010 U	mg/L
Date Analyzed		08/06/02 16:32	08/06/02 13:12	

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : ORL22972
DATE REPORTED: August 12, 2002
REFERENCE : 1034-95-147
PROJECT NAME : BLADEN CO LANDFILL

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I, 8260 - APPENDIX I VOLATILE COMPOUNDS	LAB BLANK	Units
Chloromethane	10 U	ug/L
Vinyl Chloride	10 U	ug/L
Bromomethane	10 U	ug/L
Chloroethane	10 U	ug/L
Trichlorofluoromethane	5.0 U	ug/L
1,1-Dichloroethene	5.0 U	ug/L
Acetone	100 U	ug/L
Iodomethane	10 U	ug/L
Carbon Disulfide	100 U	ug/L
Methylene Chloride	10 U	ug/L
Acrylonitrile	200 U	ug/L
t-1,2-Dichloroethene	5.0 U	ug/L
1,1-Dichloroethane	5.0 U	ug/L
Vinyl Acetate	50 U	ug/L
c-1,2-Dichloroethene	5.0 U	ug/L
2-Butanone	100 U	ug/L
Bromochloromethane	5.0 U	ug/L
Chloroform	5.0 U	ug/L
1,1,1-Trichloroethane	5.0 U	ug/L
Carbon tetrachloride	10 U	ug/L
Benzene	5.0 U	ug/L
1,2-Dichloroethane	5.0 U	ug/L
Trichloroethene	5.0 U	ug/L
1,2-Dichloropropane	5.0 U	ug/L
Dibromomethane	10 U	ug/L

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : ORL22972
DATE REPORTED: August 12, 2002
REFERENCE : 1034-95-147
PROJECT NAME : BLADEN CO LANDFILL

RESULTS OF ANALYSIS

EPA METHOD APPENDIX I, 8260 (cont.) - APPENDIX I VOLATILE COMPOUNDS	LAB BLANK	Units
Bromodichloromethane	5.0 U	ug/L
c-1,3-Dichloropropene	10 U	ug/L
4-Methyl-2-Pentanone	100 U	ug/L
Toluene	5.0 U	ug/L
t-1,3-Dichloropropene	10 U	ug/L
1,1,2-Trichloroethane	5.0 U	ug/L
Tetrachloroethene	5.0 U	ug/L
2-Hexanone	50 U	ug/L
Dibromochloromethane	5.0 U	ug/L
1,2-Dibromoethane	5.0 U	ug/L
Chlorobenzene	5.0 U	ug/L
1,1,1,2-Tetrachloroethane	5.0 U	ug/L
Ethylbenzene	5.0 U	ug/L
m-Xylene & p-Xylene	5.0 U	ug/L
o-Xylene	5.0 U	ug/L
Styrene	10 U	ug/L
Bromoform	5.0 U	ug/L
1,1,2,2-Tetrachloroethane	5.0 U	ug/L
1,2,3-Trichloropropane	15 U	ug/L
t-1,4-Dichloro-2-Butene	100 U	ug/L
1,4-Dichlorobenzene	5.0 U	ug/L
1,2-Dichlorobenzene	5.0 U	ug/L
1,2-Dibromo-3-Chloropropane	25 U	ug/L

Surrogate:	% RECOV	LIMITS
Dibromofluoromethane	107	52-149
D8-Toluene	121	70-132
Bromofluorobenzene	105	60-135
Date Analyzed	08/03/02 13:52	

U = Compound was analyzed for but not detected to the level shown.

LABORATORY CERTIFICATIONS

Laboratory Certification: NCDENR:424

All analyses reported with this project were analyzed by the facility indicated unless identified below.

PARAMETER	LAB CERT #'s
Silver,	NCDENR:591
Arsenic,	NCDENR:591
Barium,	NCDENR:591
Cadmium,	NCDENR:591
Chromium, Total,	NCDENR:591
Lead,	NCDENR:591
Selenium,	NCDENR:591

ENCO LABORATORIES
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REFERENCE : 1034-95-147
PROJECT NAME : BLADEN CO LANDFILL

QUALITY CONTROL DATA

Parameter	% RECOVERY MS/MSD/LCS	ACCEPT LIMITS	% RPD MS/MSD	ACCEPT LIMITS
EPA Method APPENDIX I, 8260				
1,1-Dichloroethene	109/113/106	36-185	4	34
Benzene	111/115/108	65-143	4	25
Trichloroethene	93/109/ 96	51-152	16	28
Toluene	98/ 96/ 90	62-144	2	24
Chlorobenzene	95/113/101	64-140	17	23
EPA Method APPENDIX I, 8260				
1,1-Dichloroethene	88/123/103	36-185	33	34
Benzene	96/111/105	65-143	14	25
Trichloroethene	85/108/ 96	51-152	24	28
Toluene	81/ 89/ 88	62-144	9	24
Chlorobenzene	91/112/100	64-140	21	23
TOTAL METALS				
Arsenic, 6010	107/107/ 93	64-126	<1	12
Barium, 6010	104/104/ 90	74-119	<1	11
Cadmium, 6010	106/106/ 92	68-121	<1	12
Chromium, 6010	108/108/ 94	73-120	<1	17
Lead, 6010	107/108/ 93	68-126	<1	19
Mercury, 7470	100/101/100	70-136	<1	12
Selenium, 6010	114/114/ 98	65-129	<1	10
Silver, 6010	104/105/ 92	69-121	<1	12

Environmental Conservation Laboratories Comprehensive QA Plan #960038

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

QSARF # P18273

ENVIRONMENTAL CONSERVATION LABORATORIES

4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
Ph. (904) 296-3007 • Fax (904) 296-6210

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1015 Passport Way
Cary, North Carolina 27513
Ph. (919) 677-1669 • Fax (919) 677-9846

ENCO CompQAP No.: 960038G/0

CHAIN OF CUSTODY RECORD

PROJECT REFERENCE: Blackburn Co Landfill
PROJECT NO.: 1034-95-147
P.O. NUMBER:
PAGE 1 OF 1

PROJECT LOC. (State): NC
SAMPLER(s) NAME: Jamie T Honeycutt
PHONE: 910 323-1091
FAX: 910 323-3499

CLIENT NAME: S&ME
CLIENT PROJECT MANAGER: Jamie Honeycutt

CLIENT ADDRESS (CITY, STATE, ZIP): 409 Chicago Dr #116 Fayetteville, NC 28306

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due:

MATRIX TYPE: SURFACE WATER, GROUND WATER, WASTEWATER, DRINKING WATER, SOIL/SOLID/SEDIMENT, NONAQUEOUS LIQUID (oil, solvent, etc.), AIR, SLUDGE, OTHER

REQUIRED ANALYSIS: App. I VOA, RCRA Metals

PRESERVATIVE

NUMBER OF CONTAINERS SUBMITTED

STATION	SAMPLE DATE	SAMPLE TIME	GRAB	COMP	SAMPLE IDENTIFICATION	SURFACE WATER	GROUND WATER	WASTEWATER	DRINKING WATER	SOIL/SOLID/SEDIMENT	NONAQUEOUS LIQUID	AIR	SLUDGE	OTHER	App. I VOA	RCRA Metals							REMARKS
1	7-30-02	8:35 am	X		MW-9		X								/	/							
2	↓	8:30	X		MW-8		X								/	/							
3		8:45	X		MW-7		X								/	/							
4		9:00	X		MW-5		X								/	/							
5		9:30	X		MW-4		X								/	/							
6		9:45	X		MW-3		X								/	/							
7		10:00	X		MW-1		X								/	/							
8																							
9																							
10																							
11																							
12																							
13																							
14																							

SAMPLE KIT PREPARED BY:	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
☐ JACKSONVILLE ☒ ORLANDO	7/18/02	1045	Misty Hutt	7/18/02	1045			
RELINQUISHED BY: (SIGNATURE) Jamie T Honeycutt	7-30-02	7:00 pm	RECEIVED BY: (SIGNATURE)			RELINQUISHED BY: (SIGNATURE)		
RECEIVED BY (SIGNATURE)			RELINQUISHED BY: (SIGNATURE)			RECEIVED BY: (SIGNATURE)		

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	ENCO LOG NO.	REMARKS
Dana Lisaman ☐ Jacksonville ☒ Orlando	7/31/02	09:30	☒ YES ☐ NO	01-22922	