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April 27, 2007

Mr. Edward Kreul
Environmental Performance Manager
International Paper
Riegelwood Mill
865 John L. Riegel Road
Riegelwood, North Carolina 28456

Subject: **Semi-Annual Groundwater Compliance Monitoring Results (MARCH 2007) Permit No. 24-02 International Paper, Riegelwood, North Carolina MACTEC Project No. 6550-07-0402**

Dear Mr. Kreul:

MACTEC Engineering and Consulting, Inc. (MACTEC), is pleased to provide the attached results of the 2007 initial semi-annual groundwater compliance-monitoring event in the vicinity of International Paper's solid waste landfill. These activities were conducted in general accordance with those outlined in MACTEC's Proposal No. PROP07WILM14, dated February 26, 2007. International Paper authorized this work with Purchase Order No. S066112561, dated March 4, 2007.

The sampling event was conducted on March 8 and 9, 2007. This work consisted of collecting samples for analysis from six monitoring wells: MW-1A, MW-1B, MW-4A, MW-5A, MW-7A, and MW-8A; and three water samples, designated as: Primary, Secondary and Under-Drain, obtained from the New Landfill Cell 1. These samples were submitted to Environmental Science Corporation, Inc. (a North Carolina certified laboratory) for analysis of select compounds.

In addition to copies of the original laboratory reports and chain-of-custody documentation (Appendix A), we have provided summary data tables of the following: Table 1 - groundwater analytical results; Table 2 – historical groundwater sample results;

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and Table 3 – landfill Cell 1 sample results. The documentation of field activities including measurements of water levels, pH, specific conductance, and temperature are contained in the field sampling reports (Appendix B). A vicinity location map is provided as Figure 1. A plan-view map showing well locations is attached as Figure 2.

It continues to be our pleasure to serve as International Paper's environmental consultant for this project. Should you have questions concerning the enclosed information, please contact us.

Sincerely,

MACTEC ENGINNERING AND CONSULTING, INC.

Allen McCauley
Project Scientist

B. Walker Jones, REM
Principal Scientist

Attachments

TABLES

TABLE 1
SEMI-ANNUAL GROUNDWATER ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
MACTEC JOB NO. 6550-07-0402
MARCH 2007 EVENT

Montioring Well			MW 1A		MW 1B		MW 4A		MW 5A		MW 7A		MW 8A		NCAC STD.
Collect Date			3/9/07		3/9/07		3/9/07		3/9/07		3/9/07		3/9/07		
Method	Parameter	Units	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	
SM5210B	BOD	mg/l	<5.0	J4	<5.0	J4	<5.0	J4	6.3	J4	<5.0	J4	<5.0	J4	NS
410.4	COD	mg/l	<20		<20		<20		120		140		<20		NS
9020	TOX	mg/l	<0.10		<0.10		<0.10		<0.10		0.51		0.56		NS
415.1	TOC	mg/l	1.9		1.5		5.6		<1.0		35		2.9		NS
160.1	Dissolved Solids	mg/l	86		180		110		**1100**		**1200**		300		500
9040A	pH	su	**4.4**		**6.8**		**5.2**		6.7		7.0		7.0		6.5-8.5
120.1	Conductance	umhos/cm	170		290		190		1900		2000		600		NS
300	Sulfate	mg/l	42		20		54		<5.0		41		13		250
300	Chloride	mg/l	15		4.8		10		220		200		2.8		250
300	Fluoride	mg/l	<0.10		0.12		<0.10		<0.10		<0.10		0.2		2
300	Nitrate	mg/l	<0.10		<0.10		<0.10		<0.10		<0.10		<0.10		10
200.7	Arsenic	mg/l	<0.020		<0.020		<0.020		<0.020		**0.026**		<0.020		0.01
200.7	Barium	mg/l	0.12		0.016		0.039		0.13		0.056		0.1		2
200.7	Cadmium	mg/l	<0.0050		<0.0050		<0.0050		<0.0050		<0.0050		<0.0050		0.00175
200.7	Chromium	mg/l	<0.010		<0.010		<0.010		<0.010		<0.010		<0.010		0.05
200.7	Copper	mg/l	<0.020		<0.020		<0.020		<0.020		<0.020		<0.020		1
200.7	Iron	mg/l	**1.7**		**3.5**		**8.6**		**1.5**		**30**		**0.82**		0.3
200.7	Lead	mg/l	<0.0050		<0.0050		<0.0050		<0.0050		0.0072		<0.0050		0.015
200.7	Manganese	mg/l	0.014		0.05		0.04		**0.45**		**0.51**		0.04		0.05
245.1	Mercury	mg/l	<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		<0.00020		0.00105
200.7	Selenium	mg/l	<0.020		<0.020		<0.020		<0.020		<0.020		<0.020		0.05
200.7	Silver	mg/l	<0.010		<0.010		<0.010		<0.010		<0.010		<0.010		0.0175
200.7	Vanadium	mg/l	0.012		<0.010		<0.010		<0.010		0.028		<0.010		NS
200.7	Zinc	mg/l	<0.030		<0.030		<0.030		<0.030		<0.030		<0.030		1.05

Notes

Samples were collected on 03/09/07.

A less than symbol (<) indicates the parameter was not detected above laboratory quanitation limits.

NCAC STD. - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standards

NS = No Standard

Bold values indicate values in excess of the 15A NCAC 2L standards

Shaded cells with no bold are laboratory detection limits above the 2L Standards

Qualifiers (Q):

J4 The associated batch QC was outside the established quality control range for accuracy.

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ESC Note: Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

TABLE 2
ANNUAL GROUNDWATER ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
MACTEC JOB NO. 6550-07-0402

PARAMETER	MONITORING WELL MW-1A																			NCAC STD
	1997	1998		1999		2000		2001		2002		2003		2004		2005		2006		2007	
	SEPT	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	
BOD, mg/L	<2	<2	<2	<2	5	12	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5	< 2	<5	<2.00	<5.0	<5.0	<5.0	NS
COD, mg/L	<5	6.34	6.27	<5	46	<5.0	<5.0	<5.0	<5.0	25	<5.0	7	<20.0	< 20	< 20	<20	21	<20	<20	<20	NS
TOX, mg/L	0.0179	0.0119	0.02	<0.005	0.015	<0.010	0.022	0.0271	0.0173	0.0299	0.0156	0.022	<.010	0.013	< 0.100	<0.100	<0.100	<0.10	<0.10	<0.10	NS
TOC, as C, mg/L	4.99	2.01	2.46	1.72	7	3.3	2.1	3.64	3.40	2.90	<0.5	4.3	2.3	2.6	1.3	1.8	3.8	2.3	2.8	1.9	NS
TDS, mg/L	90	110	110	113	96.4	31	103	123	116	112	133	111	110	100	99	94	210	62	90	86	500
pH	4.75	4.37	4.22	4.19	4.34	3.97	4.23	4.03	3.82	3.90	4.02	3.72	4.20	6.6	4.1	4.4	6.8	3.9	5.2	4.4	6.5-8.5
Conductivity, umohs/cm	159	189	194	188	178	187.5	176	190	193	188	198	194	190	200	170	170	320	170	150	170	NS
Sulfate, mg/L	29.2	52.2	53.9	61.7	63.5	39	36	61	58	35	59	49	62	55	50	54	38	40	33	42	250.0
Chloride, as Cl, mg/L	20.8	12.9	19.7	13.3	14.5	20.5	22.5	9.2	8.2	11.0	8.4	8.8	6.2	9.6	8.3	10.0	11.0	13	12	15	250.0
Fluoride, as F, mg/L	<0.1	<0.1	<0.1	<0.1	0.14	0.49	0.17	<0.2	0.17	0.16	0.12	0.2	0.2	< 0.100	0.11	<0.100	<0.100	<0.10	0.32	<0.10	2.0
Nitrate, as NO3-N, mg/L	<0.1	<0.5	<0.5	<0.1	0.09	0.17	0.15	<0.2	<0.2	<0.2	<0.2	<0.2	<0.1	< 0.100	< 0.100	<0.100	<0.100	<0.10	<0.10	<0.10	10.0
Arsenic, as As, mg/L	<0.025	<0.025	<0.025	<0.025	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<.01	< 0.010	< 0.010	**0.026**	**0.031**	<0.020	<0.020	<0.020	0.01
Barium, as Ba, mg/L	0.082	0.129	0.114	0.152	0.141	0.121	<0.1	0.148	0.156	0.148	0.148	0.139	0.16	0.150	0.140	0.120	0.020	0.11	0.12	0.12	2.0
Cadmium, as Cd, mg/L	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0050	<0.005	<0.0100	<0.005	< 0.0050	< 0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.005
Chromium, as Cr, mg/L	0.01	<0.010	<0.010	<0.010	<0.01	<0.01	<0.02	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	< 0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.05
Copper, as Cu, mg/L	0.009	<0.005	<0.005	<0.005	<0.02	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	< 0.010	<0.020	<0.020	<0.020	<0.020	<0.020	1.0
Iron, as Fe, mg/L	**0.834**	**1.5**	**1.96**	**2.52**	**2.28**	**1.97**	**2.63**	**2.73**	**3.31**	**2.35**	**2.34**	**2.56**	**2.6**	**2.80**	**1.90**	**1.60**	**12.00**	**0.34**	**1.2**	**1.7**	0.3
Lead, as Pb, mg/L	<0.020	<0.020	<0.020	<0.020	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	< 0.005	< 0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.015
Manganese, as Mn, mg/L	<0.010	0.017	0.0225	0.0212	0.0244	0.0169	0.017	**0.0757**	0.0249	0.0208	0.0195	0.0201	0.03	0.020	0.017	0.018	**0.330**	0.016	0.02	0.014	0.05
Mercury, as Hg, mg/L	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020	<0.00020	0.0011
Selenium, as Se, mg/L	<0.100	<0.100	<0.100	<0.100	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	0.01	<0.020	<0.020	<0.020	<0.020	<0.020	0.05
Silver, as Ag, mg/L	<0.015	<0.015	<0.015	<0.015	<0.01	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	< 0.0050	< 0.0050	<0.010	<0.010	<0.010	<0.010	<0.010	0.018
Vanadium, mg/L	NA	NA	NA	NA	NA	<0.05	<0.05	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.010	< 0.010	< 0.010	<0.010	<0.010	<0.010	<0.010	0.012	NS
Zinc, as Zn, mg/L	0.01	0.01	<0.100	0.0218	<0.02	<0.02	<0.02	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	0.044	0.032	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	2.1

NOTES:

NCAC STD. - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.

< Symbol = Below Laboratory Detectable Limits

Bold text denotes results that exceed NC ground-water standards

Data is reported in milligrams per liter (mg/L) unless otherwise noted

NA = Not Analyzed

Refer to laboratory reports for actual sample dates

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TABLE 2 Continued
ANNUAL GROUNDWATER ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
MACTEC JOB NO. 6550-07-0402

PARAMETER	MONITORING WELL MW-1B																			NCAC STD
	1997	1998		1999		2000		2001		2002		2003		2004		2005		2006		2007	
	SEPT.	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	
BOD, mg/L	<2	<2	<2	<2	>27*	2	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5	< 2	<5	<2.00	<5.0	<5.0	<5.0	NS
COD, mg/L	9.47	8.46	6.55	5.18	6.00	9	5	<5.0	<5.0	<5.0	27	6	<20	< 20	94	<20	<20	<20	<20	<20	NS
TOX, mg/L	0.007	0.0	0.01	<0.005	<0.01	<0.020	<0.01	0.0463	0.0171	0.0443	0.0195	0.03	<0.010	NR	< 0.100	<0.100	<0.100	<0.10	<0.10	<0.10	NS
TOC, as C, mg/L	8.19	1.54	<0.100	1.02	8.40	5.3	1.7	3.18	16.80	<0.5	<0.5	5.50	1.90	2.3	1.3	1.0	2.1	1.6	2.4	1.5	NS
TDS, mg/L	293	367	352	391	387	290	411	360	394	339	364	293	320	280	320	310	100	160	190	180	500
pH	7.38	7.42	7.19	7.35	7.27	7.37	7.26	7.47	7.64	7.35	7.42	7.41	7.30	6.4	6.9	7.4	5.0	6.5	6.8	6.8	6.5-8.5
Conductivity, umohs/cm	449	499	554	564	543	583	599	501	610	513	596	442	540	480	540	500	160	310	280	290	NS
Sulfate Turbidimetric, mg/L	30	48.2	55.2	56.7	49.0	50.0	44.5	49	51	38	60.0	35	42	39	40	34	38	20	15	20	250.0
Chloride, as Cl, mg/L	9.01	7.40	12.60	10.00	12.90	13.5	14.0	7.9	6.1	8.1	6.4	12.0	8.0	6.4	5.6	6.4	11.0	6.5	4.2	4.8	250.0
Fluoride, as F, mg/L	0.138	0.155	0.145	0.162	0.150	0.44	0.15	<0.2	0.15	0.13	0.12	0.19	0.15	0.18	0.18	0.14	<0.100	<0.10	0.11	0.12	2.0
Nitrate, as NO3-N, mg/L	0.11	<0.5	<0.5	<0.1	0.08	0.33	0.13	<0.2	<0.2	0.38	0.2	0.45	<0.1	< 0.100	0.22	<0.100	<0.100	<0.10	<0.10	<0.10	10.0
Arsenic, as As, mg/L	<0.025	<0.025	<0.025	<0.025	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	0.01
Barium, as Ba, mg/L	0.054	0.041	0.044	0.038	<0.1	<0.1	<0.1	<0.100	<0.100	<0.100	<0.100	<0.0100	0.022	0.016	0.049	0.024	0.095	0.013	0.018	0.016	2.0
Cadmium, as Cd, mg/L	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0050	<0.005	<0.0100	<0.005	< 0.005	< 0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.005
Chromium, as Cr, mg/L	0.012	<0.010	<0.010	<0.010	<0.01	<0.01	<0.02	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	0.028	<0.010	<0.010	<0.010	<0.010	<0.010	0.05
Copper, as Cu, mg/L	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0101	<0.0100	<0.010	< 0.010	< 0.010	<0.020	<0.020	<0.020	<0.020	<0.020	1.0
Iron, as Fe, mg/L	**1.30**	**0.665**	**1.79**	**0.37**	<0.1	**1.28**	<0.1	0.212	**0.508**	**1.37**	<0.0102	**0.38**	**0.38**	0.29	**11.00**	**3.70**	**5.40**	**3.00**	**3.1**	**3.5**	0.3
Lead, as Pb, mg/L	**0.023**	<0.020	<0.020	<0.020	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0103	<0.0100	<0.005	< 0.0050	< 0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.015
Manganese, as Mn, mg/L	**0.077**	0.046	**0.072**	0.028	0.026	0.0486	<0.01	<0.0100	0.0161	0.0429	<0.0104	0.0136	<0.01	0.010	**0.130**	**0.300**	0.015	0.047	**0.16**	0.05	0.05
Mercury, as Hg, mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0003	<0.0003	<0.0003	<0.0105	<0.0003	<0.0002	< 0.0002	< 0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.0011
Selenium, as Se, mg/L	<0.100	<0.100	<0.100	<0.100	<0.01	<0.01	<0.01	<0.0100	0.0142	<0.0100	<0.0106	<0.0100	<0.010	< 0.010	< 0.010	<0.020	<0.020	<0.020	<0.020	<0.020	0.05
Silver, as Ag, mg/L	<0.015	<0.015	<0.015	<0.015	<0.01	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0107	<0.0100	<0.005	< 0.005	< 0.0050	<0.010	<0.010	<0.010	<0.010	<0.010	0.018
Vanadium, mg/L	NA	NA	NA	NA	NA	<0.05	<0.05	<0.0500	<0.0500	<0.0500	<0.0108	<0.0500	<0.010	< 0.010	< 0.010	<0.010	0.015	<0.010	<0.010	<0.010	NS
Zinc, as Zn, mg/L	0.021	0.012	<0.100	0.0149	<0.02	<0.02	<0.02	<0.0200	<0.0200	<0.0200	<0.0109	<0.0200	<0.030	< 0.030	0.054	<0.030	<0.030	<0.030	<0.030	<0.030	2.1

NOTES:
NCAC STD. - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.
< Symbol = Below Laboratory Detectable Limits
Bold text denotes results that exceed NC ground-water standards
Data is reported in milligrams per liter (mg/L) unless otherwise noted
* = The QC requirement of having a final DO of at least 1mg/l was not met.
NA = Not Analyzed
NS = No current NCAC STAN is available

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CHECKED BY: LAD 04/20/07
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TABLE 2 Continued
ANNUAL GROUNDWATER ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
MACTEC JOB NO. 6550-07-0402

PARAMETER	MONITORING WELL MW-4A																				NCAC STD
	1997	1998		1999		2000		2001		2002		2003		2004		2005		2006		2007	
	SEPT	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	
BOD, mg/L	<2	<2	<2	<2	4	4	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	< 5	<2	<5	<2.00	<5.0	<5.0	<5.0	NS
COD, mg/L	16.7	9.52	11.3	14.5	10	16	9.8	12	6	22	41	<5.0	<20	< 20	27	24	< 20	<20	<20	<20	NS
TOX, mg/L	0.047	0.039	0.041	0.013	<0.01	0.037	0.019	0.0329	0.0297	0.0255	0.0215	0.027	<0.010	0.018	<0.100	<0.100	<0.100	<0.10	<0.10	<0.10	NS
TOC, as C, mg/L	6.33	4.65	2.06	3.24	7.2	5.3	5	4.99	4.7	3.1	2.7	3.4	4.4	6.7	6.2	6.3	3.4	6.7	5.7	5.6	NS
TDS, mg/L	104	155	131	170	117	35	108	153	112	104	186	77	120	190	160	200	200	180	210	110	500
pH	5.00	5.72	5.31	5.08	5.60	5.17	4.72	5.05	4.64	4.65	4.61	4.66	5.40	5.9	4.7	4.8	4.8	5.0	4.7	5.2	6.5-8.5
Conductivity, umohs/cm	158	224	202	269	222	198.4	157	216.7	179	152	125	122	200	270	280	310	240	320	310	190	NS
Sulfate Turbidimetric, mg/L	30.6	36.4	40	72.4	48.8	39	34	60	41	35	28	29	46	60	51	75	52	82	77	54	250.0
Chloride, as Cl, mg/L	20.2	28.9	29	29	26.5	25.5	29.5	19	17	16	13	9.8	19	24	34	34	24	31	28	10	250.0
Fluoride, as F, mg/L	<0.1	<0.1	<0.1	<0.1	0.29	0.42	0.2	<0.2	0.15	0.11	<0.10	0.18	<0.10	< 0.100	< 0.100	0.110	0.120	0.180	0.12	<0.10	2.0
Nitrate, as NO3-N, mg/L	<0.1	<0.1	<0.1	<0.1	0.06	0.22	0.26	<0.2	<0.2	0.38	<0.2	<0.2	<0.1	< 0.100	< 0.100	<0.100	<0.100	<0.10	<0.10	<0.10	10.0
Arsenic, as As, mg/L	<0.025	<0.025	<0.025	<0.025	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	< 0.010	<0.020	<0.020	<0.020	<0.020	<0.020	0.01
Barium, as Ba, mg/L	0.093	0.04	0.0344	0.0683	<0.1	<0.1	<0.1	<0.100	<0.100	<0.100	<0.100	<0.0100	0.043	0.075	0.066	0.081	0.074	0.071	0.087	0.039	2.0
Cadmium, as Cd, mg/L	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0050	<0.005	<0.0100	<0.005	< 0.0050	< 0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.005
Chromium, as Cr, mg/L	<0.010	<0.010	<0.010	<0.010	<0.01	<0.01	<0.02	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	0.02	<0.010	<0.010	<0.010	<0.010	<0.010	0.05
Copper, as Cu, mg/L	0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	< 0.010	<0.020	<0.020	<0.020	<0.020	<0.020	1.0
Iron, as Fe, mg/L	13.3	1.67	5.32	2.09	2.59	5.61	1.2	3.51	0.345	0.239	<0.100	0.519	6.1	10	9.2	9.3	3.8	11.0	9	8.6	0.3
Lead, as Pb, mg/L	<0.020	<0.020	<0.020	<0.020	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	< 0.0050	< 0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.015
Manganese, as Mn, mg/L	0.076	0.096	0.053	0.058	0.055	0.0472	0.0397	0.0480	0.0394	0.0423	0.0301	0.0276	0.054	0.078	0.120	0.110	0.048	0.061	0.064	0.04	0.05
Mercury, as Hg, mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0002	< 0.0002	< 0.00020	< 0.00020	< 0.00020	<0.00020	<0.00020	<0.00020	0.0011
Selenium, as Se, mg/L	<0.100	<0.100	<0.100	<0.100	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	< 0.010	<0.020	<0.020	<0.020	<0.020	<0.020	0.05
Silver, as Ag, mg/L	<0.015	<0.015	<0.015	<0.015	<0.01	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	< 0.0050	< 0.0050	<0.010	<0.010	<0.010	<0.010	<0.010	0.018
Vanadium, mg/L	NA	NA	NA	NA	NA	<0.05	<0.05	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.010	< 0.010	< 0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NS
Zinc, as Zn, mg/L	0.035	0.038	<0.100	0.019	<0.02	0.0473	<0.02	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.030	< 0.030	< 0.030	<0.030	<0.030	<0.030	<0.030	<0.030	2.1

NOTES:
NCAC STD. - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.
< Symbol = Below Laboratory Detectable Limits
Bold text denotes results that exceed NC ground-water standards
Data is reported in milligrams per liter (mg/L) unless otherwise noted
NA = Not Analyzed
Refer to laboratory reports for actual sample dates

PREPARED BY: BWJ 3/29/07
CHECKED BY: LAD 04/20/07
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TABLE 2 Continued
ANNUAL GROUNDWATER ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
MACTEC JOB NO. 6550-07-0402

PARAMETER	MONITORING WELL MW-5A																			NCAC STD
	1997	1998		1999		2000		2001		2002		2003		2004		2005		2006		2007	
	SEPT.	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	
BOD, mg/L	11.5	4.23	8.96	10.9	9	12	4	4	<2.0	3	10	16	4	< 5	<5	<5	3	<5.0	<5.0	6.3	NS
COD, mg/L	203	193	99.9	181	107	212	125	222	171	93	166	66	160	110	190	52	93	95	120	120	NS
TOX, mg/L	3.58	2.5	1.4	3.37	0.099	2.46	1.22	2.68	1.4	0.502	0.574	0.25	1.6	0.870	<4.0	0.170	< 1.00	<5.0	<5.0	<0.10	NS
TOC, as C, mg/L	105	62.2	23	46.3	23.5	81.5	22.3	90.3	75.6	7.5	<0.5	30.1	49	40	56	16	13	27	33	<1.0	NS
TDS, mg/L	**2390**	**1700**	**954**	**1820**	**1116**	**1599**	**1216**	**2220**	**1847**	**1540**	**879**	**704**	**1400**	160	**1,600**	**640**	**970**	**850**	**960**	**1100**	500
pH	6.81	6.87	6.51	6.72	6.67	6.71	6.61	6.71	6.96	7.53	7.24	7.54	6.9	**6.4**	6.5	7.3	6.9	6.8	6.7	6.7	6.5-8.5
Conductivity, umohs/cm	3260	2880	1590	3170	1703	3146	1792	2581	2564	1557	1808	1126	2300	1,900	2,900	1,100	1,800	1,500	1700	1900	NS
Sulfate Turbidimetric, mg/L	25.6	65.2	55.9	26.7	42	62.0	78.0	49	29	21	43.0	32	57	110	<5.0	9.5	<5.00	<5.0	5	<5.0	250.0
Chloride, as Cl, mg/L	**600**	**265**	249	479	**119**	**396**	211	**440**	**300**	130	150	95	**280**	170	**410**	64	180	170	170	220	250.0
Fluoride, as F, mg/L	0.104	<0.1	<0.1	<0.1	0.17	0.34	0.21	<0.2	0.27	<0.10	0.1	0.46	0.13	< 0.100	< 0.100	<0.100	<0.100	<0.10	<0.10	<0.10	2.0
Nitrate, as NO3-N, mg/L	0.835	0.948	0.344	5.09	0.57	0.13	0.22	<0.2	<0.2	<0.2	<0.2	<0.2	<0.100	< 0.100	< 0.100	<0.100	0.26	<0.10	<0.10	<0.10	10.0
Arsenic, as As, mg/L	<0.025	<0.025	<0.025	<0.025	<0.01	<0.01	<0.01	<0.0100	<0.0100	**0.0113**	<0.0100	<0.0100	<0.010	< 0.010	< 0.010	<0.020	<0.020	<0.020	<0.020	<0.020	0.01
Barium, as Ba, mg/L	0.181	0.193	0.0583	0.032	<0.1	0.139	<0.1	0.112	0.159	<0.100	0.111	<0.0100	0.18	0.140	0.190	0.052	0.032	0.088	0.12	0.13	2.0
Cadmium, as Cd, mg/L	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0050	<0.005	<0.0100	<.005	< 0.0050	< 0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.005
Chromium, as Cr, mg/L	0.014	0.012	<0.010	<0.010	<0.01	<0.01	<0.02	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	0.015	<0.010	<0.010	<0.010	<0.010	<0.010	0.05
Copper, as Cu, mg/L	0.005	<0.005	<0.005	<0.010	<0.02	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	< 0.010	<0.020	<0.020	<0.020	<0.020	<0.020	1.0
Iron, as Fe, mg/L	**3.01**	**6.05**	**2.6**	**1.93**	**1.36**	**3.79**	**0.805**	**5.15**	**17.9**	**1.71**	**4.21**	0.248	**1.8**	**21**	**4.7**	**0.6**	0.1	**1.5**	**2**	**1.5**	0.3
Lead, as Pb, mg/L	**0.036**	<0.020	<0.020	<0.020	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	< 0.0050	< 0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.015
Manganese, as Mn, mg/L	**0.650**	**0.745**	**0.183**	**0.386**	**0.273**	**0.279**	**0.166**	**0.995**	**0.572**	**0.252**	**0.259**	**0.235**	**0.730**	**0.540**	**0.730**	**0.190**	0.016	**0.270**	**0.37**	**0.45**	0.05
Mercury, as Hg, mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	<0.00020	<0.00020	0.0011
Selenium, as Se, mg/L	<0.100	<0.100	<0.100	<0.100	<0.01	<0.01	<0.01	0.0117	0.0159	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	< 0.010	<0.020	<0.020	<0.020	<0.020	<0.020	0.05
Silver, as Ag, mg/L	<0.015	<0.015	<0.015	<0.015	<0.01	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	< 0.0050	< 0.0050	<0.010	<0.010	<0.010	**0.046**	<0.010	0.018
Vanadium, mg/L	NA	NA	NA	NA	NA	<0.05	<0.05	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.010	0.014	0.012	<0.010	<0.010	<0.010	<0.010	<0.010	NS
Zinc, as Zn, mg/L	<0.010	0.029	<0.100	<0.01	<0.02	<0.02	<0.02	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.030	< 0.030	0.063	<0.030	<0.030	<0.030	<0.030	<0.030	2.1

NOTES:

NCAC STD. - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.

< Symbol = Below Laboratory Detectable Limits

Bold text denotes results that exceed NC ground-water standards

Data is reported in milligrams per liter (mg/L) unless otherwise noted

NA = Not Analyzed

Refer to laboratory reports for actual sample dates

PREPARED BY: BWJ 3/29/07

CHECKED BY: LAD 04/20/07

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TABLE 2 Continued
ANNUAL GROUNDWATER ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
MACTEC JOB NO. 6550-07-0402

PARAMETER	MONITORING WELL MW-7A																				NCAC STD
	1997	1998		1999		2000		2001		2002		2003		2004		2005		2006		2007	
	SEPT	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	
BOD, mg/L	4.02	6.02	<2	<2	3	2	<1.0	2	<2.0	<2.0	<2.0	3	<2.0	< 5	<5	<5	<2.00	<5.0	<5.0	<5.0	NS
COD, mg/L	115	179	156	154	108	118	114	154	96	132	157	61	110	110	120	130	130	120	120	140	NS
TOX, mg/L	2.560	2.28	1.97	2.21	0.540	1.02	1.4	1.79	0.976	0.914	0.964	0.91	1.5	1.30	12.00	1.60	< 5.0	<5.0	<5.0	0.51	NS
TOC, as C, mg/L	47.2	35	28.6	25.8	43.1	31.3	50.2	55.8	41.4	22.4	<0.5	29.7	32	42	34	37	50	35	35	35	NS
TDS, mg/L	**1370**	**1390**	**1190**	**1230**	**1200**	**832**	**1596**	**1740**	**1501**	**2110**	**1354**	**1168**	**1100**	**1,400**	**1,200**	**1,400**	**1,100**	**1,000**	**1200**	**1200**	500
pH	6.79	6.83	6.59	6.7	6.74	6.94	6.79	6.86	7.07	6.86	6.84	6.66	6.9	6.7	6.9	6.8	6.9	6.9	7.2	7.0	6.5-8.5
Conductivity, umohs/cm	2190	2520	2290	2160	2250	1456	1445	2096	1628	1546	1928	1784	1800	2,200	2,100	2,200	1,600	1,800	2000	2000	NS
Sulfate Turbidimetric, mg/L	0.395	2.26	0.824	7.22	<5.0	<5.0	<5.0	31	38	23	36	28	61	81	71	78	61	45	59	41	250.0
Chloride, as Cl, mg/L	**515**	**527**	**550**	**437**	**477**	**274**	**281**	**360**	230	**260**	**330**	**320**	250	**290**	250	**260**	180	170	200	200	250.0
Fluoride, as F, mg/L	0.134	0.101	0.108	0.103	0.58	0.49	0.26	0.28	0.32	0.27	0.1	0.25	<0.100	0.140	0.120	<0.100	<0.100	0.110	0.13	<0.10	2.0
Nitrate, as NO3-N, mg/L	<0.1	<0.1	<0.1	<0.1	0.03	0.16	0.39	<0.2	<0.2	<0.2	<0.2	<0.2	<0.100	< 0.100	< 0.100	<0.100	0.17	<0.10	<0.10	<0.10	10.0
Arsenic, as As, mg/L	<0.025	<0.025	<0.025	**0.0338**	<0.01	**0.0191**	**0.0105**	**0.017**	<0.0100	**0.0109**	**0.0136**	<0.0100	**0.016**	**0.013**	<0.010	<0.020	**0.035**	<0.020	**0.024**	**0.026**	0.01
Barium, as Ba, mg/L	0.073	0.075	0.0704	0.0876	<0.1	<0.1	<0.1	<0.100	<0.100	<0.100	<0.100	<0.0100	0.052	0.062	0.042	0.059	0.065	0.037	0.054	0.056	2.0
Cadmium, as Cd, mg/L	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0050	<0.005	<0.0100	<0.005	< 0.0050	< 0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.005
Chromium, as Cr, mg/L	<0.010	<0.010	0.0106	0.0288	<0.01	<0.01	<0.02	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	0.032	<0.010	<0.010	<0.010	<0.010	<0.010	0.05
Copper, as Cu, mg/L	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	< 0.010	<0.020	<0.020	<0.020	<0.020	<0.020	1.0
Iron, as Fe, mg/L	**39.8**	**40.9**	**37**	**57.4**	**23.2**	**21.4**	**11.4**	**24.4**	**16.1**	**15.6**	**17.3**	**33.7**	**23**	**30**	**15**	**22.0**	**31.0**	**14.0**	**21**	**30**	0.3
Lead, as Pb, mg/L	0.027	<0.020	<0.020	<0.020	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	< 0.0050	< 0.0050	<0.0050	<0.0050	<0.0050	0.0051	0.0072	0.015
Manganese, as Mn, mg/L	**0.795**	**0.794**	**0.691**	**0.759**	**0.522**	**0.352**	**0.267**	**0.404**	**0.402**	**0.396**	**0.463**	**0.447**	**0.490**	**0.610**	**0.360**	**0.520**	**0.230**	**0.340**	**0.34**	**0.51**	0.05
Mercury, as Hg, mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	<0.0002	<0.00020	0.0011
Selenium, as Se, mg/L	<0.100	<0.100	<0.100	<0.100	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	< 0.010	<0.020	<0.020	<0.020	<0.020	<0.020	0.05
Silver, as Ag, mg/L	<0.015	<0.015	<0.015	<0.015	<0.02	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	0.0064	< 0.0050	< 0.0050	<0.010	<0.010	<0.010	<0.010	<0.010	0.018
Vanadium, mg/L	NA	NA	NA	NA	NA	<0.05	<0.05	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	0.011	0.022	0.01	0.014	0.017	0.014	0.014	0.028	NS
Zinc, as Zn, mg/L	<0.010	0.017	<0.100	0.0348	<0.02	<0.02	<0.02	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	0.072	< 0.030	< 0.030	<0.030	<0.030	<0.030	<0.030	<0.030	2.1

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Data is reported in milligrams per liter (mg/L) unless otherwise noted
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Refer to laboratory reports for actual sample dates

PREPARED BY: BWJ 3/29/07
CHECKED BY: LAD 04/20/07
h:\CLIENTS\IPLANDFILL\07DATA\07 Mar TBLS.XLS

TABLE 2 Continued
ANNUAL GROUNDWATER ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
MACTEC JOB NO. 6550-07-0402

PARAMETER	MONITORING WELL MW-8A																				NCAC STD
	1997	1998		1999		2000		2001		2002		2003		2004		2005		2006		2007	
	SEPT	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	
BOD, mg/L	3.48	<2	<2	<2	4	4	<1.0	<2.0	<2.0	6	<2.0	<2.0	<2.0	< 5	<5	<5	<2.00	<5.0	<5.0	<5.0	NS
COD, mg/L	110	19.3	12.6	9.96	46	8	<5.0	6	<5.0	7	59	8	<20	< 20	30	<20	<20	<20	<20	<20	NS
TOX, mg/L	0.012	0.028	0.014	0.028	<0.01	<0.010	0.018	0.0217	0.0198	0.0397	0.041	0.014	<0.01	< 0.010	<100	<0.100	<0.100	<5.0	<0.10	0.56	NS
TOC, as C, mg/L	5.04	4.65	3.42	2.11	8.4	3.4	3.9	4	3.3	<0.5	<0.5	4.4	5.9	4	5.2	3.4	6.5	3.0	4	2.9	NS
TDS, mg/L	448	407	464	346	337	256	448	295	480	418	**862**	399	**500**	**1,100**	**580**	400	480	330	350	300	500
pH	7.32	7.24	7.02	7.03	6.86	7.13	6.89	7.39	7.49	7.44	7.04	7.47	7.1	6.5	6.5	6.9	7.0	6.8	6.8	7.0	6.5-8.5
Conductivity, umohs/cm	662	634	701	547	526	619	667	505	670	602	965	442	790	710	830	670	780	600	600	600	NS
Sulfate Turbidimetric, mg/L	134	26.5	111	80.3	33	43	74	32	100	30	**290**	28	91	70	130	68	38	21	9.8	13	250.0
Chloride, as Cl, mg/L	9.6	3.82	12.2	6.76	11	13.5	8.5	2.0	3.9	3.9	4.0	2.1	4.4	3	3.0	3.0	4.4	3.8	1.7	2.8	250.0
Fluoride, as F, mg/L	0.118	0.183	0.168	0.187	0.23	0.45	0.26	<0.2	0.35	0.17	<0.10	0.3	<0.100	0.220	0.320	0.240	0.360	0.220	0.16	0.2	2.0
Nitrate, as NO3-N, mg/L	<0.1	<0.1	<0.1	<0.1	0.07	0.19	0.37	<0.2	<0.2	0.38	0.22	<0.2	<0.100	< 0.100	< 0.100	<0.100	<0.100	<0.10	<0.10	<0.10	10.0
Arsenic, as As, mg/L	<0.025	<0.025	<0.025	<0.025	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	**0.011**	<0.0100	<0.010	< 0.010	< 0.010	<0.020	**0.021**	<0.020	<0.020	<0.020	0.01
Barium, as Ba, mg/L	0.09	0.054	0.0601	0.0691	<0.1	<0.1	<0.1	<0.100	<0.100	<0.100	0.164	<0.0100	0.081	0.080	0.110	0.072	0.100	0.079	0.13	0.1	2.0
Cadmium, as Cd, mg/L	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0050	<0.005	<0.0100	<0.005	< 0.0050	< 0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.005
Chromium, as Cr, mg/L	<0.010	<0.010	<0.010	<0.010	<0.01	<0.01	<0.02	<0.0100	<0.0100	<0.0100	0.0259	<0.0100	<0.010	< 0.010	0.012	<0.010	<0.010	<0.010	<0.010	<0.010	0.05
Copper, as Cu, mg/L	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	< 0.010	<0.020	<0.020	<0.020	<0.020	<0.020	1.0
Iron, as Fe, mg/L	**0.832**	**4.24**	**0.68**	**0.85**	**0.25**	0.258	0.198	0.230	0.289	**0.310**	**4.33**	0.190	**0.390**	**0.68**	**5.50**	**2.30**	**8.40**	**0.47**	1	**0.82**	0.3
Lead, as Pb, mg/L	0.02	<0.020	<0.020	<0.020	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	< 0.0050	< 0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.015
Manganese, as Mn, mg/L	**0.123**	**0.171**	**0.172**	**0.016**	0.035	0.0109	**0.066**	0.0134	0.0231	0.0158	**2.29**	**0.275**	**0.500**	**0.280**	**2.000**	**0.068**	**0.800**	**0.180**	**0.1**	0.04	0.05
Mercury, as Hg, mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	<0.00020	<0.00020	0.0011
Selenium, as Se, mg/L	<0.100	<0.100	<0.100	<0.100	<0.01	<0.01	<0.01	<0.0100	0.0114	<0.0100	<0.0100	<0.0100	<0.010	< 0.010	< 0.010	<0.020	<0.020	<0.020	<0.020	<0.020	0.05
Silver, as Ag, mg/L	<0.015	<0.015	<0.015	<0.015	<0.01	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	< 0.0050	< 0.0050	<0.010	<0.010	<0.010	<0.010	<0.010	0.018
Vanadium, mg/L	NA	NA	NA	NA	NA	<0.05	<0.05	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.010	< 0.010	< 0.010	<0.010	<0.010	<0.010	<0.010	<0.010	NS
Zinc, as Zn, mg/L	<0.010	0.015	<0.100	<0.01	<0.02	<0.02	<0.02	<0.0200	<0.0200	<0.0200	0.0244	<0.0200	<0.030	< 0.030	< 0.030	<0.030	<0.030	<0.030	<0.030	<0.030	2.1

NOTES:

NCAC STD. - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.

< Symbol = Below Laboratory Detectable Limits

Bold text denotes results that exceed NC ground-water standards

Data is reported in milligrams per liter (mg/L) unless otherwise noted

NA = Not Analyzed

Refer to laboratory reports for actual sample dates

PREPARED BY: BWJ 3/29/07

CHECKED BY: LAD 04/20/07

h:\CLIENTSUP\LANDFILL\07DATA\07 Mar TBLS.XLS

TABLE 3
NEW LANDFILL CELL 1 ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
MACTEC JOB NO. 6550-07-0402

		Client Sample ID	Primary Leachate Collection System		Secondary Leachate Collection System		Under-Drain Leachate Collection System		NCAC STD.
		Collect Date	3/9/07		3/9/07		3/9/07		
Method	Parameter	Units	Value	Q	Value	Q	Value	Q	
SM5210B	BOD	mg/l	23	J4	16	J4	9.8	J4	NS
410.4	COD	mg/l	250		74		270		NS
9020	TOX	mg/l	<0.40	O	<0.10		0.22		NS
9060	TOC	mg/l	93		28		140		NS
160.1	Dissolved Solids	mg/l	**2600**		**2800**		**2800**		500
9040A	pH	su	7.0		6.8		6.8		6.8-8.5
9050A	Specific Conductance	umhos/cm	3700		4000		4100		NS
9056	Sulfate	mg/l	**250**		**640**		170		250.0
9056	Chloride	mg/l	79		63		190		250.0
9056	Fluoride	mg/l	0.6		0.5		0.14		2.0
9056	Nitrate	mg/l	<0.10		<0.10		<0.10		10.0
4500P-E	Phosphate,Ortho*	mg/l	0.61		1.1		0.43		NS
6010B	Arsenic	mg/l	<0.020		<0.020		<0.020		0.010
6010B	Barium	mg/l	0.19		0.18		0.12		2.0
6010B	Cadmium	mg/l	<0.0050		<0.0050		<0.0050		0.005
6010B	Chromium	mg/l	<0.010		<0.010		0.034		0.05
6010B	Copper	mg/l	<0.020		<0.020		<0.020		1.0
6010B	Iron	mg/l	**9.2**		**8.9**		**18**		0.3
6010B	Lead	mg/l	<0.0050		<0.0050		<0.0050		0.015
6010B	Manganese	mg/l	**0.57**		**1.3**		**0.84**		0.05
7470A	Mercury	mg/l	<0.00020		<0.00020		<0.00020		0.0011
6010B	Selenium	mg/l	<0.020		<0.020		<0.020		0.05
6010B	Silver	mg/l	<0.010		<0.010		<0.010		0.018
6010B	Vanadium	mg/l	0.048		<0.010		0.088		NS
6010B	Zinc	mg/l	0.034		<0.030		<0.030		2.1

NOTES:

Samples were collected on 9/7/06, with the exception of orthophosphate collected on 10/18/06.

A less than symbol (<) indicates the parameter was not detected above laboratory quantitation limits.

NCAC STD. - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standards

NS = No Standard

Bold values exceed the NCAC STD.

Shaded cells with no bold are laboratory detection limits above the 2L Standards

* Phosphate, Ortho

PREPARED BY: BWJ 3/29/07

CHECKED BY: LAD 04/20/07

h:\CLIENTS\IP\LANDFILL\07DATA\07 Mar TBLS.XLS

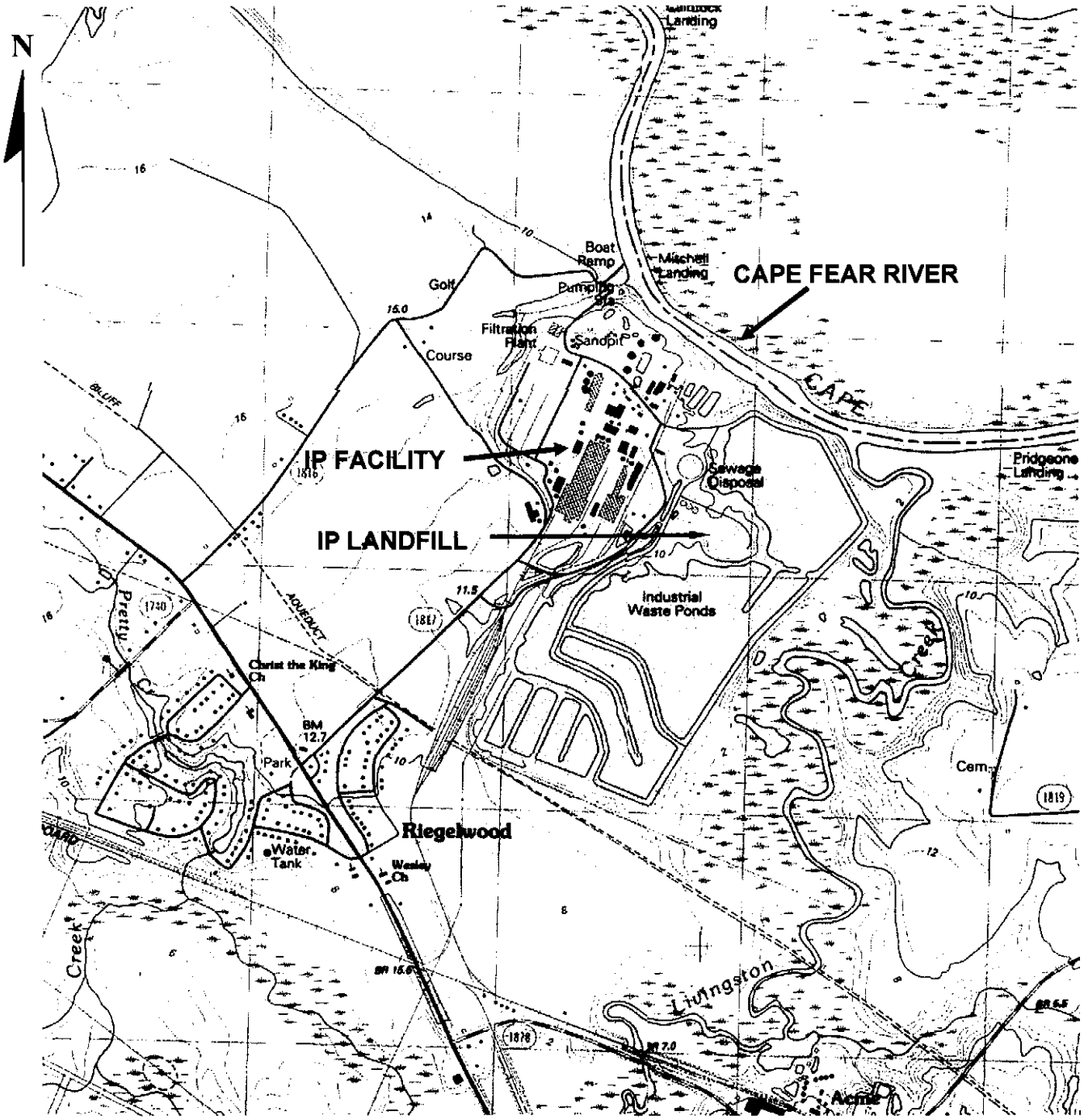
Qualifiers (Q):

J4 The associated batch QC was outside the established quality control range for accuracy.

O (ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.

ESC Note: Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

FIGURES



0 2000' 4000'

APPROX. SCALE IN FEET

MACTEC
ENGINEERING & CONSULTING SERVICES, INC.
5710 OLEANDER DRIVE, SUITE 110
WILMINGTON, NC 28403
PHONE (910) 452-1185
FAX (910) 793-1338

TOPOGRAPHIC SITE MAP

INTERNATIONAL PAPER

REIGLEWOOD, NC

USGS - ACME TOPOGRAPHIC MAP, 1984

DRAWN: WBM	JOB #: 6550-06-0311
APPROVAL: BWJ	DATE: 1/27/07
SCALE: AS SHOWN	FIG. NO. 1

APPENDIX A

ENVIRONMENTAL
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MAR 2 0 REC'D

Mr. B. Walker Jones
MACTEC - Wilmington, NC
5710 Oleander Drive, Suite 110

Wilmington, NC 28403

Report Summary

Monday March 19, 2007

Report Number: L283947
Samples Received: 03/10/07
Client Project: 6550-07 0402-01

Description: IP Landfill

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Reviewed By: Jimmy Hunt

Jimmy Hunt, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 09227, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140
NJ - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, WA - C1915

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REPORT OF ANALYSIS

March 19, 2007

Mr. B. Walker Jones
MACTEC - Wilmington, NC
5710 Oleander Drive, Suite 110
Wilmington, NC 28403

ESC Sample # : L283947-01

Date Received : March 10, 2007
Description : IP Landfill

Site ID :

Sample ID : MW-7A

Project # : 6550-07 0402-01

Collected By : A J M
Collection Date : 03/09/07 09:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	200	10.	mg/l	300.0	03/10/07	10
Fluoride	BDL	0.10	mg/l	300.0	03/10/07	1
Nitrate	BDL	0.10	mg/l	300.0	03/10/07	1
Sulfate	41.	5.0	mg/l	300.0	03/10/07	1
BOD	BDL	5.0	mg/l	SM5210B	03/10/07	1
COD	140	20.	mg/l	410.4	03/14/07	1
pH	7.0		su	9040A	03/12/07	1
Specific Conductance	2000		umhos/cm	120.1	03/15/07	1
TOC (Total Organic Carbon)	35.	1.0	mg/l	415.1	03/17/07	1
TOX	0.51	0.10	mg/l	5320B	03/15/07	1
Dissolved Solids	1200	1.0	mg/l	160.1	03/15/07	1
Mercury	BDL	0.00020	mg/l	245.1	03/12/07	1
Arsenic	0.026	0.020	mg/l	200.7	03/13/07	1
Barium	0.056	0.0050	mg/l	200.7	03/13/07	1
Cadmium	BDL	0.0050	mg/l	200.7	03/13/07	1
Chromium	BDL	0.010	mg/l	200.7	03/13/07	1
Copper	BDL	0.020	mg/l	200.7	03/13/07	1
Iron	30.	0.10	mg/l	200.7	03/13/07	1
Lead	0.0072	0.0050	mg/l	200.7	03/13/07	1
Manganese	0.51	0.010	mg/l	200.7	03/13/07	1
Selenium	BDL	0.020	mg/l	200.7	03/13/07	1
Silver	BDL	0.010	mg/l	200.7	03/13/07	1
Vanadium	0.028	0.010	mg/l	200.7	03/13/07	1
Zinc	BDL	0.030	mg/l	200.7	03/13/07	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 03/19/07 16:42 Printed: 03/19/07 16:44

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REPORT OF ANALYSIS

Mr. B. Walker Jones
MACTEC - Wilmington, NC
5710 Oleander Drive, Suite 110
Wilmington, NC 28403

March 19, 2007

ESC Sample # : L283947-02

Date Received : March 10, 2007
Description : IP Landfill

Site ID :

Sample ID : MW-4A

Project # : 6550-07 0402-01

Collected By : A J M
Collection Date : 03/09/07 10:10

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	10.	1.0	mg/l	300.0	03/10/07	1
Fluoride	BDL	0.10	mg/l	300.0	03/10/07	1
Nitrate	BDL	0.10	mg/l	300.0	03/10/07	1
Sulfate	54.	5.0	mg/l	300.0	03/10/07	1
BOD	BDL	5.0	mg/l	SM5210B	03/10/07	1
COD	BDL	20.	mg/l	410.4	03/14/07	1
pH	5.2		su	9040A	03/12/07	1
Specific Conductance	190		umhos/cm	120.1	03/15/07	1
TOC (Total Organic Carbon)	5.6	1.0	mg/l	415.1	03/17/07	1
TOX	BDL	0.10	mg/l	5320B	03/16/07	1
Dissolved Solids	110	1.0	mg/l	160.1	03/16/07	1
Mercury	BDL	0.00020	mg/l	245.1	03/12/07	1
Arsenic	BDL	0.020	mg/l	200.7	03/13/07	1
Barium	0.039	0.0050	mg/l	200.7	03/13/07	1
Cadmium	BDL	0.0050	mg/l	200.7	03/13/07	1
Chromium	BDL	0.010	mg/l	200.7	03/13/07	1
Copper	BDL	0.020	mg/l	200.7	03/13/07	1
Iron	8.6	0.10	mg/l	200.7	03/13/07	1
Lead	BDL	0.0050	mg/l	200.7	03/13/07	1
Manganese	0.040	0.010	mg/l	200.7	03/13/07	1
Selenium	BDL	0.020	mg/l	200.7	03/13/07	1
Silver	BDL	0.010	mg/l	200.7	03/13/07	1
Vanadium	BDL	0.010	mg/l	200.7	03/13/07	1
Zinc	BDL	0.030	mg/l	200.7	03/13/07	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

March 19, 2007

Mr. B. Walker Jones
MACTEC - Wilmington, NC
5710 Oleander Drive, Suite 110
Wilmington, NC 28403

ESC Sample # : L283947-03

Date Received : March 10, 2007
Description : IP Landfill

Site ID :

Sample ID : MW-8A

Project # : 6550-07 0402-01

Collected By : A J M
Collection Date : 03/09/07 10:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	2.8	1.0	mg/l	300.0	03/10/07	1
Fluoride	0.20	0.10	mg/l	300.0	03/10/07	1
Nitrate	BDL	0.10	mg/l	300.0	03/10/07	1
Sulfate	13.	5.0	mg/l	300.0	03/10/07	1
BOD	BDL	5.0	mg/l	SM5210B	03/10/07	1
COD	BDL	20.	mg/l	410.4	03/14/07	1
pH	7.0		su	9040A	03/12/07	1
Specific Conductance	600		umhos/cm	120.1	03/15/07	1
TOC (Total Organic Carbon)	2.9	1.0	mg/l	415.1	03/17/07	1
TOX	0.56	0.40	mg/l	5320B	03/16/07	4
Dissolved Solids	300	1.0	mg/l	160.1	03/16/07	1
Mercury	BDL	0.00020	mg/l	245.1	03/12/07	1
Arsenic	BDL	0.020	mg/l	200.7	03/13/07	1
Barium	0.10	0.0050	mg/l	200.7	03/13/07	1
Cadmium	BDL	0.0050	mg/l	200.7	03/13/07	1
Chromium	BDL	0.010	mg/l	200.7	03/13/07	1
Copper	BDL	0.020	mg/l	200.7	03/13/07	1
Iron	0.82	0.10	mg/l	200.7	03/13/07	1
Lead	BDL	0.0050	mg/l	200.7	03/13/07	1
Manganese	0.040	0.010	mg/l	200.7	03/13/07	1
Selenium	BDL	0.020	mg/l	200.7	03/13/07	1
Silver	BDL	0.010	mg/l	200.7	03/13/07	1
Vanadium	BDL	0.010	mg/l	200.7	03/13/07	1
Zinc	BDL	0.030	mg/l	200.7	03/13/07	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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REPORT OF ANALYSIS

Mr. B. Walker Jones
MACTEC - Wilmington, NC
5710 Oleander Drive, Suite 110
Wilmington, NC 28403

March 19, 2007

ESC Sample # : L283947-04

Site ID :

Project # : 6550-07 0402-01

Date Received : March 10, 2007
Description : IP Landfill

Sample ID : MW-5A

Collected By : A J M
Collection Date : 03/09/07 11:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	220	10.	mg/l	300.0	03/10/07	10
Fluoride	BDL	0.10	mg/l	300.0	03/10/07	1
Nitrate	BDL	0.10	mg/l	300.0	03/10/07	1
Sulfate	BDL	5.0	mg/l	300.0	03/10/07	1
BOD	6.3	5.0	mg/l	SM5210B	03/10/07	1
COD	120	20.	mg/l	410.4	03/14/07	1
pH	6.7		su	9040A	03/12/07	1
Specific Conductance	1900		umhos/cm	120.1	03/15/07	1
TOC (Total Organic Carbon)	BDL	1.0	mg/l	415.1	03/17/07	1
TOX	BDL	0.10	mg/l	5320B	03/16/07	1
Dissolved Solids	1100	1.0	mg/l	160.1	03/16/07	1
Mercury	BDL	0.00020	mg/l	245.1	03/12/07	1
Arsenic	BDL	0.020	mg/l	200.7	03/13/07	1
Barium	0.13	0.0050	mg/l	200.7	03/13/07	1
Cadmium	BDL	0.0050	mg/l	200.7	03/13/07	1
Chromium	BDL	0.010	mg/l	200.7	03/13/07	1
Copper	BDL	0.020	mg/l	200.7	03/13/07	1
Iron	1.5	0.10	mg/l	200.7	03/13/07	1
Lead	BDL	0.0050	mg/l	200.7	03/13/07	1
Manganese	0.45	0.010	mg/l	200.7	03/13/07	1
Selenium	BDL	0.020	mg/l	200.7	03/13/07	1
Silver	BDL	0.010	mg/l	200.7	03/13/07	1
Vanadium	BDL	0.010	mg/l	200.7	03/13/07	1
Zinc	BDL	0.030	mg/l	200.7	03/13/07	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

March 19, 2007

Mr. B. Walker Jones
MACTEC - Wilmington, NC
5710 Oleander Drive, Suite 110
Wilmington, NC 28403

ESC Sample # : L283947-05

Date Received : March 10, 2007
Description : IP Landfill

Site ID :

Sample ID : MW-1A

Project # : 6550-07 0402-01

Collected By : A J M
Collection Date : 03/09/07 12:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	15.	1.0	mg/l	300.0	03/10/07	1
Fluoride	BDL	0.10	mg/l	300.0	03/10/07	1
Nitrate	BDL	0.10	mg/l	300.0	03/10/07	1
Sulfate	42.	5.0	mg/l	300.0	03/10/07	1
BOD	BDL	5.0	mg/l	SM5210B	03/10/07	1
COD	BDL	20.	mg/l	410.4	03/14/07	1
pH	4.4		su	9040A	03/12/07	1
Specific Conductance	170		umhos/cm	120.1	03/15/07	1
TOC (Total Organic Carbon)	1.9	1.0	mg/l	415.1	03/17/07	1
TOX	BDL	0.10	mg/l	5320B	03/16/07	1
Dissolved Solids	86.	1.0	mg/l	160.1	03/16/07	1
Mercury	BDL	0.00020	mg/l	245.1	03/12/07	1
Arsenic	BDL	0.020	mg/l	200.7	03/13/07	1
Barium	0.12	0.0050	mg/l	200.7	03/13/07	1
Cadmium	BDL	0.0050	mg/l	200.7	03/13/07	1
Chromium	BDL	0.010	mg/l	200.7	03/13/07	1
Copper	BDL	0.020	mg/l	200.7	03/13/07	1
Iron	1.7	0.10	mg/l	200.7	03/13/07	1
Lead	BDL	0.0050	mg/l	200.7	03/13/07	1
Manganese	0.014	0.010	mg/l	200.7	03/13/07	1
Selenium	BDL	0.020	mg/l	200.7	03/13/07	1
Silver	BDL	0.010	mg/l	200.7	03/13/07	1
Vanadium	0.012	0.010	mg/l	200.7	03/13/07	1
Zinc	BDL	0.030	mg/l	200.7	03/13/07	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

March 19, 2007

Mr. B. Walker Jones
MACTEC - Wilmington, NC
5710 Oleander Drive, Suite 110
Wilmington, NC 28403

ESC Sample # : L283947-06

Date Received : March 10, 2007
Description : IP Landfill

Site ID :

Sample ID : MW-1B

Project # : 6550-07 0402-01

Collected By : A J M
Collection Date : 03/09/07 12:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	4.8	1.0	mg/l	300.0	03/10/07	1
Fluoride	0.12	0.10	mg/l	300.0	03/10/07	1
Nitrate	BDL	0.10	mg/l	300.0	03/10/07	1
Sulfate	20.	5.0	mg/l	300.0	03/10/07	1
BOD	BDL	5.0	mg/l	SM5210B	03/10/07	1
COD	BDL	20.	mg/l	410.4	03/14/07	1
pH	6.8		su	9040A	03/12/07	1
Specific Conductance	290		umhos/cm	120.1	03/15/07	1
TOC (Total Organic Carbon)	1.5	1.0	mg/l	415.1	03/17/07	1
TOX	BDL	0.10	mg/l	5320B	03/16/07	1
Dissolved Solids	180	1.0	mg/l	160.1	03/16/07	1
Mercury	BDL	0.00020	mg/l	245.1	03/12/07	1
Arsenic	BDL	0.020	mg/l	200.7	03/13/07	1
Barium	0.016	0.0050	mg/l	200.7	03/13/07	1
Cadmium	BDL	0.0050	mg/l	200.7	03/13/07	1
Chromium	BDL	0.010	mg/l	200.7	03/13/07	1
Copper	BDL	0.020	mg/l	200.7	03/13/07	1
Iron	3.5	0.10	mg/l	200.7	03/13/07	1
Lead	BDL	0.0050	mg/l	200.7	03/13/07	1
Manganese	0.050	0.010	mg/l	200.7	03/13/07	1
Selenium	BDL	0.020	mg/l	200.7	03/13/07	1
Silver	BDL	0.010	mg/l	200.7	03/13/07	1
Vanadium	BDL	0.010	mg/l	200.7	03/13/07	1
Zinc	BDL	0.030	mg/l	200.7	03/13/07	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

March 19, 2007

Mr. B. Walker Jones
MACTEC - Wilmington, NC
5710 Oleander Drive, Suite 110
Wilmington, NC 28403

ESC Sample # : L283947-07

Date Received : March 10, 2007
Description : IP Landfill

Site ID :

Sample ID : PRIMARY

Project # : 6550-07 0402-01

Collected By : A J M
Collection Date : 03/09/07 11:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	79.	1.0	mg/l	300.0	03/10/07	1
Fluoride	0.60	0.10	mg/l	300.0	03/10/07	1
Nitrate	BDL	0.10	mg/l	300.0	03/10/07	1
Sulfate	250	50.	mg/l	300.0	03/10/07	10
BOD	23.	5.0	mg/l	SM5210B	03/10/07	1
COD	250	20.	mg/l	410.4	03/14/07	1
pH	7.0		su	9040A	03/12/07	1
Specific Conductance	3700		umhos/cm	120.1	03/15/07	1
TOC (Total Organic Carbon)	93.	1.0	mg/l	415.1	03/17/07	1
TOX	BDL	0.40	mg/l	5320B	03/16/07	4
Dissolved Solids	2600	1.0	mg/l	160.1	03/16/07	1
Mercury	BDL	0.00020	mg/l	245.1	03/12/07	1
Arsenic	BDL	0.020	mg/l	200.7	03/13/07	1
Barium	0.19	0.0050	mg/l	200.7	03/13/07	1
Cadmium	BDL	0.0050	mg/l	200.7	03/13/07	1
Chromium	BDL	0.010	mg/l	200.7	03/13/07	1
Copper	BDL	0.020	mg/l	200.7	03/13/07	1
Iron	9.2	0.10	mg/l	200.7	03/13/07	1
Lead	BDL	0.0050	mg/l	200.7	03/13/07	1
Manganese	0.57	0.010	mg/l	200.7	03/13/07	1
Selenium	BDL	0.020	mg/l	200.7	03/13/07	1
Silver	BDL	0.010	mg/l	200.7	03/13/07	1
Vanadium	0.048	0.010	mg/l	200.7	03/13/07	1
Zinc	0.034	0.030	mg/l	200.7	03/13/07	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

Mr. B. Walker Jones
MACTEC - Wilmington, NC
5710 Oleander Drive, Suite 110
Wilmington, NC 28403

March 19, 2007

ESC Sample # : L283947-08

Site ID :

Project # : 6550-07 0402-01

Date Received : March 10, 2007
Description : IP Landfill

Sample ID : SECONDARY

Collected By : A J M
Collection Date : 03/09/07 11:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	63.	1.0	mg/l	300.0	03/10/07	1
Fluoride	0.50	0.10	mg/l	300.0	03/10/07	1
Nitrate	BDL	0.10	mg/l	300.0	03/10/07	1
Sulfate	640	50.	mg/l	300.0	03/10/07	10
BOD	16.	5.0	mg/l	SM5210B	03/10/07	1
COD	74.	20.	mg/l	410.4	03/14/07	1
pH	6.8		su	9040A	03/12/07	1
Specific Conductance	4000		umhos/cm	120.1	03/15/07	1
TOC (Total Organic Carbon)	28.	1.0	mg/l	415.1	03/17/07	1
TOX	BDL	0.10	mg/l	5320B	03/19/07	1
Dissolved Solids	2800	1.0	mg/l	160.1	03/16/07	1
Mercury	BDL	0.00020	mg/l	245.1	03/12/07	1
Arsenic	BDL	0.020	mg/l	200.7	03/13/07	1
Barium	0.18	0.0050	mg/l	200.7	03/13/07	1
Cadmium	BDL	0.0050	mg/l	200.7	03/13/07	1
Chromium	BDL	0.010	mg/l	200.7	03/13/07	1
Copper	BDL	0.020	mg/l	200.7	03/13/07	1
Iron	8.9	0.10	mg/l	200.7	03/13/07	1
Lead	BDL	0.0050	mg/l	200.7	03/13/07	1
Manganese	1.3	0.010	mg/l	200.7	03/13/07	1
Selenium	BDL	0.020	mg/l	200.7	03/13/07	1
Silver	BDL	0.010	mg/l	200.7	03/13/07	1
Vanadium	BDL	0.010	mg/l	200.7	03/13/07	1
Zinc	BDL	0.030	mg/l	200.7	03/13/07	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
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REPORT OF ANALYSIS

March 19, 2007

Mr. B. Walker Jones
MACTEC - Wilmington, NC
5710 Oleander Drive, Suite 110
Wilmington, NC 28403

ESC Sample # : L283947-09

Date Received : March 10, 2007
Description : IP Landfill

Site ID :

Sample ID : UNDERDRAIN

Project # : 6550-07 0402-01

Collected By : A J M
Collection Date : 03/09/07 11:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	190	10.	mg/l	300.0	03/10/07	10
Fluoride	0.14	0.10	mg/l	300.0	03/10/07	1
Nitrate	BDL	0.10	mg/l	300.0	03/10/07	1
Sulfate	170	5.0	mg/l	300.0	03/10/07	1
BOD	9.8	5.0	mg/l	SM5210B	03/10/07	1
COD	270	20.	mg/l	410.4	03/14/07	1
pH	6.8		su	9040A	03/12/07	1
Specific Conductance	4100		umhos/cm	120.1	03/15/07	1
TOC (Total Organic Carbon)	140	10.	mg/l	415.1	03/17/07	10
TOX	0.22	0.20	mg/l	5320B	03/19/07	2
Dissolved Solids	2800	1.0	mg/l	160.1	03/16/07	1
Mercury	BDL	0.00020	mg/l	245.1	03/12/07	1
Arsenic	BDL	0.020	mg/l	200.7	03/13/07	1
Barium	0.12	0.0050	mg/l	200.7	03/13/07	1
Cadmium	BDL	0.0050	mg/l	200.7	03/13/07	1
Chromium	0.034	0.010	mg/l	200.7	03/13/07	1
Copper	BDL	0.020	mg/l	200.7	03/13/07	1
Iron	18.	0.10	mg/l	200.7	03/13/07	1
Lead	BDL	0.0050	mg/l	200.7	03/13/07	1
Manganese	0.84	0.010	mg/l	200.7	03/13/07	1
Selenium	BDL	0.020	mg/l	200.7	03/13/07	1
Silver	BDL	0.010	mg/l	200.7	03/13/07	1
Vanadium	0.088	0.010	mg/l	200.7	03/13/07	1
Zinc	BDL	0.030	mg/l	200.7	03/13/07	1

BDL - Below Detection Limit
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Attachment A
List of Analytes with QC Qualifiers

Sample #	Analyte	Qualifier
L283947-01	BOD	J4
L283947-02	BOD	J4
L283947-03	BOD	J4
L283947-04	BOD	J4
L283947-05	BOD	J4
L283947-06	BOD	J4
L283947-07	BOD	J4
	TOX	O
L283947-08	BOD	J4
L283947-09	BOD	J4

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J4	The associated batch QC was outside the established quality control range for accuracy.
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

	Control Limits				(AQ)	(SS)
2-Fluorophenol	31-119	Nitrobenzene-d5	43-118	Dibromfluoromethane	68-128	64-125
Phenol-d5	12-134	2-Fluorobiphenyl	45-128	Toluene-d8	76-115	69-118
2,4,6-Tribromophenol	51-141	Terphenyl-d14	43-137	4-Bromofluorobenzene	79-127	61-134

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

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Mr. B. Walker Jones
5710 Oleander Drive, Suite 110

Wilmington, NC 28403

Quality Assurance Report
Level II

L283947

March 19, 2007

Laboratory Blank

Analyte	Result	Units	Date Analyzed	Batch
Chloride	< 1	mg/l	03/10/07 09:47	WG290554
Fluoride	< .1	mg/l	03/10/07 09:47	WG290554
Nitrate	< .1	mg/l	03/10/07 09:47	WG290554
Sulfate	< 5	mg/l	03/10/07 09:47	WG290554
BOD	0.0800	mg/l	03/10/07 11:30	WG290594
Mercury	< .0002	mg/l	03/12/07 21:45	WG290704
pH	4.50	su	03/12/07 19:00	WG290740
Arsenic	< .02	mg/l	03/13/07 13:15	WG290782
Barium	< .005	mg/l	03/13/07 13:15	WG290782
Cadmium	< .005	mg/l	03/13/07 13:15	WG290782
Chromium	< .01	mg/l	03/13/07 13:15	WG290782
Copper	< .02	mg/l	03/13/07 13:15	WG290782
Iron	< .1	mg/l	03/13/07 13:15	WG290782
Lead	< .005	mg/l	03/13/07 13:15	WG290782
Manganese	< .01	mg/l	03/13/07 13:15	WG290782
Selenium	< .02	mg/l	03/13/07 13:15	WG290782
Silver	< .01	mg/l	03/13/07 13:15	WG290782
Vanadium	< .01	mg/l	03/13/07 13:15	WG290782
Zinc	< .03	mg/l	03/13/07 13:15	WG290782
COD	< 20	mg/l	03/14/07 02:44	WG290826
Specific Conductance	0.610	umhos/cm	03/15/07 08:30	WG291011
TOX	< .1	mg/l	03/15/07 11:59	WG291027
Dissolved Solids	< 1	mg/l	03/15/07 12:28	WG291031
Dissolved Solids	< 1	mg/l	03/16/07 12:15	WG291172
TOC (Total Organic Carbon)	< 1	mg/l	03/16/07 21:56	WG291381

Duplicate

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Chloride	mg/l	120.	120.	0.00	20	L283815-20	WG290554
Chloride	mg/l	79.7	80.0	0.376	20	L283948-01	WG290554
Fluoride	mg/l	0.933	0.975	4.40	20	L283815-20	WG290554
Fluoride	mg/l	2.54	2.54	0.00	20	L283948-01	WG290554
Nitrate	mg/l	4.57	4.54	0.659	20	L283815-20	WG290554
Nitrate	mg/l	0.00	0.00	0.00	20	L283948-01	WG290554
Sulfate	mg/l	305.	305.	0.00	20	L283815-20	WG290554
Sulfate	mg/l	310.	310.	0.00	20	L283948-01	WG290554
BOD	mg/l	160.	160.	0.00	10	L283768-01	WG290594
BOD	mg/l	0.00	0.00	0.00	10	L283947-05	WG290594
BOD	mg/l	974.	1000	2.63	10	L284017-01	WG290594
Mercury	mg/l	0.00	0.00	0.00	20	L283902-01	WG290704
pH	su	7.00	7.00	0.00	20	L283467-01	WG290740
pH	su	6.70	6.70	0.00	20	L283947-04	WG290740
Arsenic	mg/l	0.00	0.00	0.00	20	L283947-06	WG290782
Barium	mg/l	0.0160	0.0160	0.00	20	L283947-06	WG290782
Cadmium	mg/l	0.00	0.00	0.00	20	L283947-06	WG290782

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5710 Oleander Drive, Suite 110

Wilmington, NC 28403

Quality Assurance Report
Level II

L283947

March 19, 2007

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Chromium	mg/l	0.00	0.00	0.00	20	L283947-06	WG290782

Duplicate

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Copper	mg/l	0.00	0.00	0.00	20	L283947-06	WG290782
Iron	mg/l	3.52	3.50	0.570	20	L283947-06	WG290782
Lead	mg/l	0.00	0.00	0.00	20	L283947-06	WG290782
Manganese	mg/l	0.0500	0.0500	0.00	20	L283947-06	WG290782
Selenium	mg/l	0.00	0.00	0.00	20	L283947-06	WG290782
Silver	mg/l	0.00	0.00	0.00	20	L283947-06	WG290782
Vanadium	mg/l	0.00	0.00	0.00	0	L283947-06	WG290782
Zinc	mg/l	0.00	0.00	0.00	20	L283947-06	WG290782
COD	mg/l	752.	800.	6.19	20	L283916-01	WG290826
COD	mg/l	248.	250.	0.803	20	L283947-07	WG290826
Specific Conductance	umhos	1960	2000	2.12	20	L283947-01	WG291011
Specific Conductance	umhos	2740	2700	1.29	20	L284335-01	WG291011
TOX	mg/l	0.00	0.00	0.00	20	L283947-02	WG291027
Dissolved Solids	mg/l	755.	760.	0.660	20	L284163-01	WG291031
Dissolved Solids	mg/l	949.	960.	1.18	20	L284004-01	WG291172
TOC (Total Organic Carbon)	mg/l	35.4	35.0	1.25	20	L283947-01	WG291381
TOC (Total Organic Carbon)	mg/l	2.76	3.00	8.33	20	L284053-04	WG291381

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Chloride	mg/l	40	38.5	96.3	90-110	WG290554
Fluoride	mg/l	8	7.99	99.9	90-110	WG290554
Nitrate	mg/l	8	8.03	100.	90-110	WG290554
Sulfate	mg/l	40	38.4	96.0	90-110	WG290554
BOD	mg/l	198	180.	90.9	85-115	WG290594
BOD	mg/l	198	153.	77.3	85-115	WG290594
BOD	mg/l	198	155.	78.3	85-115	WG290594
Mercury	mg/l	.003	0.00289	96.3	85-115	WG290704
pH	su	9.55	9.50	99.5	85-115	WG290740
Arsenic	mg/l	1	0.995	99.5	85-115	WG290782
Barium	mg/l	1	0.999	99.9	85-115	WG290782
Cadmium	mg/l	1	1.01	101.	85-115	WG290782
Chromium	mg/l	1	0.971	97.1	85-115	WG290782
Copper	mg/l	1	1.03	103.	85-115	WG290782
Iron	mg/l	1	1.00	100.	85-115	WG290782
Lead	mg/l	1	0.978	97.8	85-115	WG290782
Manganese	mg/l	1	0.980	98.0	85-115	WG290782
Selenium	mg/l	1	0.981	98.1	85-115	WG290782
Silver	mg/l	1	0.986	98.6	85-115	WG290782
Vanadium	mg/l	1	0.984	98.4	85-115	WG290782
Zinc	mg/l	1	0.952	95.2	85-115	WG290782
COD	mg/l	206	209.	101.	90-110	WG290826
Specific Conductance	umhos/cm	559	570.	102.	85-115	WG291011
TOX	mg/l	.2	0.209	104.	85-115	WG291027

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Level II

L283947

March 19, 2007

Dissolved Solids	mg/l	510	506.	99.2	85-115	WG291031

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Dissolved Solids	mg/l	510	496.	97.3	85-115	WG291172
OC (Total Organic Carbon)	mg/l	60	60.5	101.	85-115	WG291381

Laboratory Control Sample Duplicate

Analyte	Units	LCSD Res	Ref Res	RPD	Limit	%Rec	Batch
hloride	mg/l	38.3	38.5	0.521	20	96	WG290554
luoride	mg/l	8.01	7.99	0.250	20	100	WG290554
Nitrate	mg/l	8.02	8.03	0.125	20	100	WG290554
Sulfate	mg/l	38.2	38.4	0.522	20	96	WG290554
H	su	9.50	9.50	0.00	20	99	WG290740
COD	mg/l	211.	209.	0.952	20	102	WG290826
pecific Conductance	umhos	570.	570.	0.00	20	102	WG291011
TOX	mg/l	0.208	0.209	0.230	20	104	WG291027
issolved Solids	mg/l	494.	506.	2.40	20	97	WG291031
issolved Solids	mg/l	492.	496.	0.810	20	96	WG291172
TOC (Total Organic Carbon)	mg/l	60.6	60.5	0.215	20	101	WG291381

Matrix Spike

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Chloride	mg/l	85.7	36.0	50	99.4	80-120	L283818-01	WG290554
luoride	mg/l	4.97	0.345	5	92.5	80-120	L283818-01	WG290554
itrate	mg/l	6.50	1.54	5	99.2	80-120	L283818-01	WG290554
ulfate	mg/l	52.2	4.51	50	95.4	80-120	L283818-01	WG290554
Mercury	mg/l	0.0030	0.00	.003	100.	70-130	L283947-05	WG290704
rsenic	mg/l	1.00	0.00	1	100.	75-125	L283947-06	WG290782
Barium	mg/l	1.01	0.0160	1	99.4	75-125	L283947-06	WG290782
Cadmium	mg/l	1.00	0.00	1	100.	75-125	L283947-06	WG290782
Chromium	mg/l	0.980	0.00	1	98.0	75-125	L283947-06	WG290782
Copper	mg/l	1.06	0.00	1	106.	75-125	L283947-06	WG290782
ron	mg/l	4.54	3.50	1	104.	75-125	L283947-06	WG290782
Lead	mg/l	0.984	0.00	1	98.4	75-125	L283947-06	WG290782
Manganese	mg/l	1.04	0.0500	1	99.0	75-125	L283947-06	WG290782
Selenium	mg/l	0.976	0.00	1	97.6	75-125	L283947-06	WG290782
Silver	mg/l	0.984	0.00	1	98.4	75-125	L283947-06	WG290782
Vanadium	mg/l	0.986	0.00	1	98.6	75-125	L283947-06	WG290782
Zinc	mg/l	0.952	0.00	1	95.2	75-125	L283947-06	WG290782
COD	mg/l	676.	270.	400	102.	80-120	L283947-09	WG290826
TOX	mg/l	0.755	0.510	.25	98.0	80-120	L283947-01	WG291027
TOC (Total Organic Carbon)	mg/l	53.9	6.60	50	94.6	80-120	L283735-01	WG291381

Matrix Spike Duplicate

Analyte	Units	MSD Res	Ref Res	RPD	Limit	%Rec	Ref Samp	Batch
Chloride	mg/l	88.7	85.7	3.44	20	105.	L283818-01	WG290554

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Quality Assurance Report
Level II

L283947

March 19, 2007

Analyte	Units	MSD Res	Ref Res	RPD	Limit	%Rec	Ref Samp	Batch
Fluoride	mg/l	5.58	4.97	11.6	20	105.	L283818-01	WG290554
Matrix Spike Duplicate								
Nitrate	mg/l	6.76	6.50	3.92	20	104.	L283818-01	WG290554
Sulfate	mg/l	55.5	52.2	6.13	20	102.	L283818-01	WG290554
Mercury	mg/l	0.0030	0.0030	0.332	20	101.	L283947-05	WG290704
Arsenic	mg/l	1.01	1.00	0.995	20	101.	L283947-06	WG290782
Barium	mg/l	1.01	1.01	0.00	20	99.4	L283947-06	WG290782
Cadmium	mg/l	0.994	1.00	0.602	20	99.4	L283947-06	WG290782
Chromium	mg/l	0.979	0.980	0.102	20	97.9	L283947-06	WG290782
Copper	mg/l	1.06	1.06	0.00	20	106.	L283947-06	WG290782
Iron	mg/l	4.48	4.54	1.33	20	98.0	L283947-06	WG290782
Lead	mg/l	0.988	0.984	0.406	20	98.8	L283947-06	WG290782
Manganese	mg/l	1.03	1.04	0.966	20	98.0	L283947-06	WG290782
Selenium	mg/l	0.972	0.976	0.411	20	97.2	L283947-06	WG290782
Silver	mg/l	0.980	0.984	0.407	20	98.0	L283947-06	WG290782
Vanadium	mg/l	0.980	0.986	0.610	20	98.0	L283947-06	WG290782
Zinc	mg/l	0.948	0.952	0.421	20	94.8	L283947-06	WG290782
COD	mg/l	660.	676.	2.40	20	97.5	L283947-09	WG290826
TOX	mg/l	0.867	0.755	13.9	20	143.	L283947-01	WG291027
TOC (Total Organic Carbon)	mg/l	53.2	53.9	1.29	20	93.2	L283735-01	WG291381

Batch number /Run number / Sample number cross reference

WG290704: R310179: L283947-01 02 03 04 05 06 07 08 09
WG290740: R310186: L283947-01 02 03 04 05 06 07 08 09
WG290554: R310283: L283947-01 02 03 04 05 06 07 08 09
WG290826: R310308: L283947-01 02 03 04 05 06 07 08 09
WG290782: R310404: L283947-01 02 03 04 05 06 07 08 09
WG291011: R310523: L283947-01 02 03 04 05 06 07 08 09
WG291031: R310576: L283947-01
WG290594: R310579: L283947-01 02 03 04 05 06 07 08 09
WG291172: R310709: L283947-02 03 04 05 06 07 08 09
WG291381: R310883: L283947-01 02 03 04 05 06 07 08 09
WG291027: R311004: L283947-01 02 03 04 05 06 07 08 09

* * Calculations are performed prior to rounding of reported values .

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Quality Assurance Report
Level II

L283947

March 19, 2007

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

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Project Manager
MACTEC - Wilmington, NC
5710 Oleander Drive, Suite 110

Wilmington, NC 28403

Report Summary

Tuesday April 10, 2007

Report Number: L288050
Samples Received: 04/07/07
Client Project:

Description: IP Landfill

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Reviewed By: Jimmy Hunt
Jimmy Hunt, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 09227, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140
NJ - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, WA - C1915

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REPORT OF ANALYSIS

April 10, 2007

Project Manager
MACTEC - Wilmington, NC
5710 Oleander Drive, Suite 110
Wilmington, NC 28403

ESC Sample # : L288050-01

Date Received : April 07, 2007
Description : IP Landfill

Site ID :

Sample ID : PRIMARY

Project # :

Collected By : A M
Collection Date : 04/06/07 11:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Phosphate,Ortho	0.61	0.12	mg/l	4500P-E	04/07/07	5

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 04/09/07 16:11 Revised: 04/10/07 08:59

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REPORT OF ANALYSIS

April 10, 2007

Project Manager
MACTEC - Wilmington, NC
5710 Oleander Drive, Suite 110
Wilmington, NC 28403

ESC Sample # : L288050-02

Date Received : April 07, 2007
Description : IP Landfill

Site ID :

Sample ID : SECONDARY

Project # :

Collected By : A M
Collection Date : 04/06/07 11:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Phosphate,Ortho	1.1	0.62	mg/l	4500P-E	04/07/07	25

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
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Reported: 04/09/07 16:11 Revised: 04/10/07 08:59

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REPORT OF ANALYSIS

April 10, 2007

Project Manager
MACTEC - Wilmington, NC
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Wilmington, NC 28403

ESC Sample # : L288050-03

Date Received : April 07, 2007
Description : IP Landfill

Site ID :

Sample ID : UNDERDRAIN

Project # :

Collected By : A M
Collection Date : 04/06/07 11:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Phosphate, Ortho	0.43	0.25	mg/l	4500P-E	04/07/07	10

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
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Reported: 04/09/07 16:11 Revised: 04/10/07 08:59

Summary of Remarks For Samples Printed
04/10/07 at 08:59:44

TSR Signing Reports: 350
R5 - Desired TAT

All invoices need PC number- jeh 7/16/02 No "E" qualifiers - jeh 10/23/02; Send blank chains with kits - jeh 7/24/06

Sample: L288050-01 Account: LAWENGWN Received: 04/07/07 09:00 Due Date: 04/13/07 00:00 RPT Date: 04/09/07 16:11

Sample: L288050-02 Account: LAWENGWN Received: 04/07/07 09:00 Due Date: 04/13/07 00:00 RPT Date: 04/09/07 16:11

Sample: L288050-03 Account: LAWENGWN Received: 04/07/07 09:00 Due Date: 04/13/07 00:00 RPT Date: 04/09/07 16:11

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Wilmington, NC 28403

Quality Assurance Report
Level II

L288050

April 10, 2007

Laboratory Blank

Analyte	Result	Units	Date Analyzed	Batch
Phosphate,Ortho	<.025	mg/l	04/07/07 13:53	WG294604

Duplicate

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
Phosphate,Ortho	mg/l	0.600	0.610	1.65	20	L288050-01	WG294604

Laboratory Control Sample

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
Phosphate,Ortho	mg/l	.75	0.766	102	85-115	WG294604

Laboratory Control Sample Duplicate

Analyte	Units	LCSD Res	Ref Res	RPD	Limit	%Rec	Batch
Phosphate,Ortho	mg/l	0.786	0.766	2.58	20	105	WG294604

Matrix Spike

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
Phosphate,Ortho	mg/l	5.51	0.430	5	102	80-120	L288050-03	WG294604

Matrix Spike Duplicate

Analyte	Units	MSD Res	Ref Res	RPD	Limit	%Rec	Ref Samp	Batch
Phosphate,Ortho	mg/l	5.76	5.51	1.44	20	107	L288050-03	WG294604

Batch number /Run number / Sample number cross reference

WG294604: R313434: L288050-01 02 03

* * Calculations are performed prior to rounding of reported values .

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Quality Assurance Report
Level II

L288050

April 10, 2007

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

MACTEC - Wilmington, NC

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Alternate billing information:

Report to: **Mr. B. Walker Jones**

Email: **bwjones@mactec.com**

Project Description: **IP Landfill**

City/State Collected: Reynolds NC

Phone: **(910) 452-1185**
FAX: **(910) 791-1338**

Client Project #: 07 a402-01
6550-~~06-0311-02~~

Lab Project #: **LAWENGWN-6550060311**

Collected by (print): AJM

Site/Facility ID#:

P.O.#:

Collected by (signature): AJM

Packed on Ice N___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day.....100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No ___Yes
FAX? ___No ___Yes

Analysis/Container/Preservative

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	BOD 1L-HDPE-NoPres	COD 250mlHDPE-H2SO4	Cl, F, NO3, pH, SO4 125mlHDPE-NoPres	Metals 500mlHDPE-HNO3	SPCON 250mlHDPE-NoPres	TDS 250mlHDPE-NoPres	TOC 250mlAmb-Sepia-HCl	TOX 1L-Amb-Add H2SO4	Remarks/Contaminant	Sample # (lab only)
MW7A	G	WW		3/9/07	0930	8	X	X	X	X	X	X	X	X		L283947-01
MW4A		WW			1010	8	X	X	X	X	X	X	X	X		-02
MW8A		WW			1030	8	X	X	X	X	X	X	X	X		-03
MW5A		WW			1100	8	X	X	X	X	X	X	X	X		-04
MW1A		WW			1200	8	X	X	X	X	X	X	X	X		-05
MW1B		WW			1230	8	X	X	X	X	X	X	X	X		-06
PRIMARY		WW			1115	8	X	X	X	X	X	X	X	X		-07
SECONDARY		WW			1120	8	X	X	X	X	X	X	X	X		-08
UNDERDRAIN		WW			1130	8	X	X	X	X	X	X	X	X		-09

*Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks: Metals = As, Hg, Ba, Cd, Cr, Cu, Fe, Pb, Mn, Se, Ag, V, Zn

pH _____ Temp _____

Flow _____ Other _____

5 COOLERS - TRACKING #'S ON ATTACHED PAGE

Chain of Custody
Page ___ of ___

Prepared by:
ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (800) 767-5859
FAX (615) 758-5859

Acctnum: LAWENGWN (lab use only)
Template/Prelogin: T38584/P203170
Cooler #: 2 | 2.8 | C
Shipped Via: FedEX Ground

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☒ FedEx ☐ Courier ☐ UPS ☐ ____	Condition: (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1°C Bottles Received: 72	OK
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Jason Ramos	Date: 3/10/07 Time: 9:00AM	pH Checked: 12 NCF:

APPENDIX B

FIELD SAMPLING REPORT

MACTEC
ENGINEERING & CONSULTING SERVICES, INC.
5710 OLEANDER DRIVE, SUITE 110
WILMINGTON, NC 28403
PHONE (910) 452-1185
FAX (910) 791-1338

JOB NAME: IP - LANDFILL
JOB NUMBER: 6550-07-0402

SAMPLING INFORMATION

SOIL SAMPLING DATA

SAMPLE ID NUMBER: NA HAZARDOUS: UNKNOWN
SAMPLING DATE / TIME: NA / NA
SAMPLER TYPE & MATERIAL: NA
SAMPLE DESCRIPTION:

WELL SAMPLING DATA

SAMPLE ID NUMBER: MW-1A HAZARDOUS: UNKNOWN
SAMPLING DATE / TIME: 3/9/2007 / 1200
SAMPLER TYPE & MATERIAL: LOW FLOW PERISTALTIC PUMP & DEDICATED CLEAN TUBING
SAMPLE DESCRIPTION:
TOTAL WELL DEPTH (FT): 29.50 DEPTH TO WATER (FT): 13.78
ONE WELL PURGE VOLUME: 2.5 GAL
VOLUME OF WATER PURGED: 7.5 GAL
PURGE DATE: 3/8/2007 START TIME: 1220 END TIME: 1250

LABORATORY CONTAINER INFORMATION

CONTAINER TYPE	CONTAINER VOLUME	NUMBER	PRESERVATIVE /PREPARATION	COMMENTS		
PLASTIC -HDPE	1L	1	No Pres	BOD	SM 5210B	
PLASTIC -HDPE	250 ML	1	H2SO4	COD	410.4	
PLASTIC -HDPE	125 ML	1	No Pres	Cl,F,NO3,Ph,SO4	9056	
PLASTIC -HDPE	500 ML	1	HNO3	METALS	7470A/6010B	
PLASTIC -HDPE	250 ML	1	No Pres	SP COND	9050A	
PLASTIC -HDPE	250 ML	1	No Pres	TDS	160.1	
AMBER GLASS	250 ML	1	No Pres	TOC	9060	
AMBER GLASS	1L	1	H2SO4	TOX	9020	

FIELD MEASUREMENTS

PARAMETER	EQUIP ID	PURGE DATA				SAMPLE DATA
		1st READING	2nd READING	3rd READING	4th READING	
TEMP. (°C)	HANNA	15.1	15.2	16.0	16.4	17.3
pH (STD)	"	7.26	6.36	5.51	5.15	7.32
SPEC. COND (uS/cm)	"	176	141	140	139	193
APPEARANCE	-	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
TIME	-	1220	1230	1240	1250	1200
DATE	-	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/9/2007

GENERAL INFORMATION

WEATHER: SUNNY AIR TEMP (°F): 60
SAMPLES COLLECTED BY: A. McCauley/W. Moore
SPECIAL HANDLING: PACKAGED ON ICE
MODE OF SHIPMENT: FEDEX
COMMENTS (CALIBRATION, FIELD MODIFICATIONS, INSTRUMENT PROBLEMS):
HANNA METER CALIBRATED 3/8/07 AND 3/9/07 PRIOR TO PURGING AND SAMPLING.

Prepared by: AJM 3/12/07 Checked by: LAD 4/20/07

FIELD SAMPLING REPORT

MACTEC
ENGINEERING & CONSULTING SERVICES, INC.
5710 OLEANDER DRIVE, SUITE 110
WILMINGTON, NC 28403
PHONE (910) 452-1185
FAX (910) 791-1338

JOB NAME: IP - LANDFILL
JOB NUMBER: 6550-07-0402

SAMPLING INFORMATION

SOIL SAMPLING DATA

SAMPLE ID NUMBER: NA HAZARDOUS: YES NO UNKNOWN
SAMPLING DATE / TIME: NA / NA
SAMPLER TYPE & MATERIAL: NA
SAMPLE DESCRIPTION:

WELL SAMPLING DATA

SAMPLE ID NUMBER: MW-1B HAZARDOUS: YES NO UNKNOWN
SAMPLING DATE / TIME: 3/9/2007 / 1230
SAMPLER TYPE & MATERIAL: LOW FLOW PERISTALTIC PUMP & DEDICATED CLEAN TUBING
SAMPLE DESCRIPTION: CLEAR
TOTAL WELL DEPTH (FT): 50.00 DEPTH TO WATER (FT): 11.73
ONE WELL PURGE VOLUME: 6.5 GAL
VOLUME OF WATER PURGED: 26.0 GAL
PURGE DATE: 3/8/2007 START TIME: 1300 END TIME: 1330

LABORATORY CONTAINER INFORMATION

CONTAINER TYPE	CONTAINER VOLUME	NUMBER	PRESERVATIVE /PREPARATION	COMMENTS		
PLASTIC -HDPE	1L	1	No Pres	BOD	SM 5210B	
PLASTIC -HDPE	250 ML	1	H2SO4	COD	410.4	
PLASTIC -HDPE	125 ML	1	No Pres	Cl,F,NO3,Ph,SO4	9056	
PLASTIC -HDPE	250 ML	1	HNO3	METALS	7470A/6010B	
PLASTIC -HDPE	250 ML	1	No Pres	SP COND	9050A	
PLASTIC -HDPE	250 ML	1	No Pres	TDS	160.1	
AMBER GLASS	250 ML	1	No Pres	TOC	9060	
AMBER GLASS	1L	1	H2SO4	TOX	9020	

FIELD MEASUREMENTS

PARAMETER	EQUIP ID	PURGE DATA				SAMPLE DATA
		1st READING	2nd READING	3rd READING	4th READING	
TEMP. (°C)	HANNA	16.1	15.8	14.9	15.5	17.1
pH (STD)	"	6.23	6.47	6.72	6.84	6.53
SPEC. COND (uS/cm)	"	238	245	255	244	245
APPEARANCE	-	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
TIME	-	1300	1310	1320	1330	1230
DATE	-	3/8/2007 #	3/8/2007	3/8/2007	3/8/2007	3/9/2007

GENERAL INFORMATION cCauley/W. Moore SUNNY AIR TEMP (°F): 60
SAMPLES COLLECTED BY: A. McCauley/W. Moore
SPECIAL HANDLING: PACKAGED ON ICE
MODE OF SHIPMENT: FEDEX
HANNA METER CALIBRATED 3/8/07 AND 3/9/07 PRIOR TO PURGING AND SAMPLING.

Prepared by: AJM 3/12/07 **Checked by: LAD 4/20/07**

FIELD SAMPLING REPORT

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ENGINEERING & CONSULTING SERVICES, INC.
5710 OLEANDER DRIVE, SUITE 110
WILMINGTON, NC 28403
PHONE (910) 452-1185
FAX (910) 791-1338

JOB NAME: IP - LANDFILL
JOB NUMBER: 6550-07-0402

SAMPLING INFORMATION

SOIL SAMPLING DATA

SAMPLE ID NUMBER: NA HAZARDOUS: YES NO UNKNOWN
SAMPLING DATE / TIME: NA / NA
SAMPLER TYPE & MATERIAL: NA
SAMPLE DESCRIPTION:

WELL SAMPLING DATA

SAMPLE ID NUMBER: MW-4A HAZARDOUS: YES NO UNKNOWN
SAMPLING DATE / TIME: 3/9/2007 / 1010
SAMPLER TYPE & MATERIAL: LOW FLOW PERISTALTIC PUMP & DEDICATED CLEAN TUBING
SAMPLE DESCRIPTION: CLEAR
TOTAL WELL DEPTH (FT): 12.00 DEPTH TO WATER (FT): 3.7
ONE WELL PURGE VOLUME: 1.4 GAL
VOLUME OF WATER PURGED: 5.6 GAL
PURGE DATE: 3/8/2007 START TIME: 1030 END TIME: 1050

LABORATORY CONTAINER INFORMATION

CONTAINER TYPE	CONTAINER VOLUME	NUMBER	PRESERVATIVE /PREPARATION	COMMENTS		
PLASTIC -HDPE	1L	1	No Pres	BOD	SM 5210B	
PLASTIC -HDPE	250 ML	1	H2SO4	COD	410.4	
PLASTIC -HDPE	125 ML	1	No Pres	Cl,F,NO3,Ph,SO4	9056	
PLASTIC -HDPE	250 ML	1	HNO3	METALS	7470A/6010B	
PLASTIC -HDPE	250 ML	1	No Pres	SP COND	9050A	
PLASTIC -HDPE	250 ML	1	No Pres	TDS	160.1	
AMBER GLASS	250 ML	1	No Pres	TOC	9060	
AMBER GLASS	1L	1	H2SO4	TOX	9020	

FIELD MEASUREMENTS

PARAMETER	EQUIP ID	PURGE DATA				SAMPLE DATA
		1st READING	2nd READING	3rd READING	4th READING	
TEMP. (°C)	HANNA	13.8	13.4	13.5		13.1
pH (STD)	"	6.86	6.11	5.56		6.65
SPEC. COND (uS/cm)	"	229	181	180		222
APPEARANCE	-	CLOUDY	CLOUDY	CLOUDY		CLEAR
TIME	-	1030	1040	1050		1010
DATE	-	3/8/2007	3/8/2007	3/8/2007		3/9/2007

GENERAL INFORMATION

FIELD TECH: A. McCauley/W. Moore SUNNY AIR TEMP (°F): 60
SAMPLES COLLECTED BY: A. McCauley/W. Moore
SPECIAL HANDLING: PACKAGED ON ICE
MODE OF SHIPMENT: FEDEX
HANNA METER CALIBRATED 3/8/07 AND 3/9/07 PRIOR TO PURGING AND SAMPLING.

Prepared by: AJM 3/12/07 **Checked by: LAD 4/20/07**

Clients/IP/Landfill/Fieldrpt/MAR07.xls

Clients/IP/Landfill/Fieldrpt/MAR06.xls

FIELD SAMPLING REPORT

MACTEC
ENGINEERING & CONSULTING SERVICES, INC.
5710 O LEANDER DRIVE, SUITE 110
WILMINGTON, NC 28403
PHONE (910) 452-1185
FAX (910) 791-1338

JOB NAME: IP - LANDFILL
JOB NUMBER: 6550-07-0402

SAMPLING INFORMATION

SOIL SAMPLING DATA

SAMPLE ID NUMBER: NA HAZARDOUS: YES NO UNKNOWN
SAMPLING DATE / TIME: NA / NA
SAMPLER TYPE & MATERIAL: NA
SAMPLE DESCRIPTION:

WELL SAMPLING DATA

SAMPLE ID NUMBER: MW-5A HAZARDOUS: YES NO UNKNOWN
SAMPLING DATE / TIME: 3/9/2007 / 1100
SAMPLER TYPE & MATERIAL: LOW FLOW PERISTALTIC PUMP & DEDICATED CLEAN TUBING
SAMPLE DESCRIPTION: CLEAR
TOTAL WELL DEPTH (FT): 20.11 DEPTH TO WATER (FT): 8.61
ONE WELL PURGE VOLUME: 2.0 GAL
VOLUME OF WATER PURGED: 7.8 GAL
PURGE DATE: 3/8/2007 START TIME: 1140 END TIME: 1210

LABORATORY CONTAINER INFORMATION

CONTAINER		NUMBER	PRESERVATIVE /PREPARATION	COMMENTS		
TYPE	VOLUME					
PLASTIC -HDPE	1L	1	No Pres	BOD	SM 5210B	
PLASTIC -HDPE	250 ML	1	H2SO4	COD	410.4	
PLASTIC -HDPE	125 ML	1	No Pres	Cl,F,NO3,Ph,SO4	9056	
PLASTIC -HDPE	250 ML	1	HNO3	METALS	7470A/6010B	
PLASTIC -HDPE	250 ML	1	No Pres	SP COND	9050A	
PLASTIC -HDPE	250 ML	1	No Pres	TDS	160.1	
AMBER GLASS	250 ML	1	No Pres	TOC	9060	
AMBER GLASS	1L	1	H2SO4	TOX	9020	

FIELD MEASUREMENTS

PARAMETER	EQUIP ID	PURGE DATA				SAMPLE DATA
		1st READING	2nd READING	3rd READING	4th READING	
TEMP. (°C)	HANNA	13.4	13.9	14.0	13.9	13.7
pH (STD)	"	6.86	6.93	6.86	6.95	7.00
SPEC. COND (uS/cm)	"	1456	1519	1535	1551	1487
APPEARANCE	-	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
TIME	-	1140	1150	1200	1210	1100
DATE	-	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/9/2007

GENERAL INFORMATION: A. McCauley/W. Moore SUNNY AIR TEMP (°F): 60
SAMPLES COLLECTED BY: A. McCauley/W. Moore
SPECIAL HANDLING: PACKAGED ON ICE
MODE OF SHIPMENT: FEDEX
HANNA METER CALIBRATED 3/8/07 AND 3/9/07 PRIOR TO PURGING AND SAMPLING.

Prepared by: AJM 3/12/07 Checked by: LAD 4/20/07

FIELD SAMPLING REPORT

MACTEC
ENGINEERING & CONSULTING SERVICES, INC.
5710 O LEANDER DRIVE, SUITE 110
WILMINGTON, NC 28403
PHONE (910) 452-1185
FAX (910) 791-1338

JOB NAME: IP - LANDFILL
JOB NUMBER: 6550-07-0402

SAMPLING INFORMATION

SOIL SAMPLING DATA

SAMPLE ID NUMBER: NA HAZARDOUS: YES NO UNKNOWN
SAMPLING DATE / TIME: NA / NA
SAMPLER TYPE & MATERIAL: NA
SAMPLE DESCRIPTION:

WELL SAMPLING DATA

SAMPLE ID NUMBER: MW-7A HAZARDOUS: YES NO UNKNOWN
SAMPLING DATE / TIME: 3/9/2007 / 0930
SAMPLER TYPE & MATERIAL: LOW FLOW PERISTALTIC PUMP & DEDICATED CLEAN TUBING
SAMPLE DESCRIPTION: CLOUDY
TOTAL WELL DEPTH (FT): 13.17 DEPTH TO WATER (FT): 1.65
ONE WELL PURGE VOLUME: 2.0 GAL
VOLUME OF WATER PURGED: 7.8 GAL
PURGE DATE: 3/8/2007 START TIME: 1000 END TIME: 1020

LABORATORY CONTAINER INFORMATION

CONTAINER TYPE	CONTAINER VOLUME	NUMBER	PRESERVATIVE /PREPARATION	COMMENTS		
PLASTIC -HDPE	1L	1	No Pres	BOD	SM 5210B	
PLASTIC -HDPE	250 ML	1	H2SO4	COD	410.4	
PLASTIC -HDPE	125 ML	1	No Pres	Cl,F,NO3,Ph,SO4	9056	
PLASTIC -HDPE	250 ML	1	HNO3	METALS	7470A/6010B	
PLASTIC -HDPE	250 ML	1	No Pres	SP COND	9050A	
PLASTIC -HDPE	250 ML	1	No Pres	TDS	160.1	
AMBER GLASS	250 ML	1	No Pres	TOC	9060	
AMBER GLASS	1L	1	H2SO4	TOX	9020	

FIELD MEASUREMENTS

PARAMETER	EQUIP ID	PURGE DATA				SAMPLE DATA
		1st READING	2nd READING	3rd READING	4th READING	
TEMP. (°C)	HANNA	13.9	12.5	12.7		13.0
pH (STD)	"	7.13	7.35	7.30		7.13
SPEC. COND (uS/cm)	"	1963	1670	1656		1875
APPEARANCE	-	CLOUDY	CLOUDY	CLOUDY		CLOUDY
TIME	-	1000	1010	1020		930
DATE	-	3/7/2006	3/7/2006	3/7/2006		3/9/2007

GENERAL INFORMATION: A. McCauley/W. Moore SUNNY AIR TEMP (°F): 60
SAMPLES COLLECTED BY: A. McCauley/W. Moore
SPECIAL HANDLING: PACKAGED ON ICE
MODE OF SHIPMENT: FEDEX
HANNA METER CALIBRATED 3/8/07 AND 3/9/07 PRIOR TO PURGING AND SAMPLING.

Prepared by: AJM 3/12/07 Checked by: LAD 4/20/07

FIELD SAMPLING REPORT

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ENGINEERING & CONSULTING SERVICES, INC.
5710 OLEANDER DRIVE, SUITE 110
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PHONE (910) 452-1185
FAX (910) 791-1338

JOB NAME: IP - LANDFILL
JOB NUMBER: 6550-07-0402

SAMPLING INFORMATION

SOIL SAMPLING DATA

SAMPLE ID NUMBER: NA HAZARDOUS: YES NO UNKNOWN
SAMPLING DATE / TIME: NA / NA
SAMPLER TYPE & MATERIAL: NA
SAMPLE DESCRIPTION:

WELL SAMPLING DATA

SAMPLE ID NUMBER: MW-8A HAZARDOUS: YES NO UNKNOWN
SAMPLING DATE / TIME: 3/9/2007 / 1030
SAMPLER TYPE & MATERIAL: LOW FLOW PERISTALTIC PUMP & DEDICATED CLEAN TUBING
SAMPLE DESCRIPTION: CLEAR
TOTAL WELL DEPTH (FT): 12.67 DEPTH TO WATER (FT): 3.83
ONE WELL PURGE VOLUME: 1.5 GAL
VOLUME OF WATER PURGED: 6.0 GAL
PURGE DATE: 3/8/2007 START TIME: 1100 END TIME: 1130

LABORATORY CONTAINER INFORMATION

CONTAINER TYPE	CONTAINER VOLUME	NUMBER	PRESERVATIVE /PREPARATION	COMMENTS		
PLASTIC -HDPE	1L	1	No Pres	BOD	SM 5210B	
PLASTIC -HDPE	250 ML	1	H2SO4	COD	410.4	
PLASTIC -HDPE	125 ML	1	No Pres	Cl,F,NO3,Ph,SO4	9056	
PLASTIC -HDPE	250 ML	1	HNO3	METALS	7470A/6010B	
PLASTIC -HDPE	250 ML	1	No Pres	SP COND	9050A	
PLASTIC -HDPE	250 ML	1	No Pres	TDS	160.1	
AMBER GLASS	250 ML	1	No Pres	TOC	9060	
AMBER GLASS	1L	1	H2SO4	TOX	9020	

FIELD MEASUREMENTS

PARAMETER	EQUIP ID	PURGE DATA				SAMPLE DATA
		1st READING	2nd READING	3rd READING	4th READING	
TEMP. (°C)	HANNA	11.8	11.3	11.2	11.2	12.3
pH (STD)	"	6.78	6.91	7.05	7.06	6.62
SPEC. COND (uS/cm	"	498	484	489	484	498
APPEARANCE	-	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
TIME	-	1100	1110	1120	1130	1030
DATE	-	3/8/2007	3/8/2007	3/8/2007	3/8/2007	3/9/2007

GENERAL INFORMATION A. McCauley/W. Moore SUNNY AIR TEMP (°F): 60
SAMPLES COLLECTED BY: A. McCauley/W. Moore
SPECIAL HANDLING: PACKAGED ON ICE
MODE OF SHIPMENT: FEDEX
HANNA METER CALIBRATED 3/8/07 AND 3/9/07 PRIOR TO PURGING AND SAMPLING.
Prepared by: AJM 3/12/07 Checked by: LAD 4/20/07

FIELD SAMPLING REPORT

MACTEC
ENGINEERING & CONSULTING SERVICES, INC.
5710 OLEANDER DRIVE, SUITE 110
WILMINGTON, NC 28403
PHONE (910) 452-1185
FAX (910) 791-1338

JOB NAME: IP - LANDFILL
JOB NUMBER: 6550-07-0402

SAMPLING INFORMATION

SOIL SAMPLING DATA

SAMPLE ID NUMBER: NA HAZARDOUS: YES NO UNKNOWN
SAMPLING DATE / TIME: NA / NA
SAMPLER TYPE & MATERIAL: NA
SAMPLE DESCRIPTION:

WELL SAMPLING DATA

SAMPLE ID NUMBER: Primary HAZARDOUS: YES NO UNKNOWN
SAMPLING DATE / TIME: 3/9/2007 / 1115
SAMPLER TYPE & MATERIAL: Collected directly from a sample port - from an existing pumping system
SAMPLE DESCRIPTION: CLOUDY
PURGING: Sample port was purged for several minutes prior to sample collection

PURGE DATE 3/9/2007

LABORATORY CONTAINER INFORMATION

CONTAINER		NUMBER	PRESERVATIVE /PREPARATION	COMMENTS	
TYPE	VOLUME				
PLASTIC -HDPE	1L	1	No Pres	BOD	SM 5210B
PLASTIC -HDPE	250 ML	1	H2SO4	COD	410.4
PLASTIC -HDPE	125 ML	1	No Pres	Cl,F,NO3,Ph,SO4	9056
PLASTIC -HDPE	500 ML	1	HNO3	METALS	7470A/6010B
PLASTIC -HDPE	250 ML	1	No Pres	SPCON,POORTH	9050A,4500P-E
PLASTIC -HDPE	250 ML	1	No Pres	TDS	160.1
AMBER GLASS	250 ML	1	No Pres	TOC	9060
AMBER GLASS	1 L	1	H2SO4	TOX	9020

FIELD MEASUREMENTS

PARAMETER	EQUIP ID	SAMPLE DATA			
TEMP. (°C)	HANNA	14.0			
pH (STD)	"	7.07			
SPEC. COND (uS/cm)	"	2696			
APPEARANCE	-	CLOUDY			
TIME	-	1115			
DATE	-	03/09/07			

GENERAL INFORMATION. McCauley/W. Moore SUNNY AIR TEMP (°F): 60
SAMPLES COLLECTED BY: A. McCauley/W. Moore
SPECIAL HANDLING: PACKAGED ON ICE
MODE OF SHIPMENT: FEDEX
HANNA METER CALIBRATED 3/8/07 AND 3/9/07 PRIOR TO PURGING AND SAMPLING.

Prepared by: AJM 3/12/07 **Checked by: LAD 4/20/07**

FIELD SAMPLING REPORT

MACTEC
ENGINEERING & CONSULTING SERVICES, INC.
5710 OLEANDER DRIVE, SUITE 110
WILMINGTON, NC 28403
PHONE (910) 452-1185
FAX (910) 791-1338

JOB NAME: IP - LANDFILL
JOB NUMBER: 6550-07-0402

SAMPLING INFORMATION

SOIL SAMPLING DATA

SAMPLE ID NUMBER: NA HAZARDOUS: YES NO UNKNOWN
SAMPLING DATE / TIME: NA / NA
SAMPLER TYPE & MATERIAL: NA
SAMPLE DESCRIPTION:

WELL SAMPLING DATA

SAMPLE ID NUMBER: Secondary HAZARDOUS: YES **NO** UNKNOWN
SAMPLING DATE / TIME: 3/9/2007 / 1120
SAMPLER TYPE & MATERIAL: Collected directly from a sample port - from an existing pumping system
SAMPLE DESCRIPTION: CLOUDY
PURGING: Sample port was purged for several minutes prior to sample collection

PURGE DATE 3/9/2007

LABORATORY CONTAINER INFORMATION

CONTAINER TYPE	CONTAINER VOLUME	NUMBER	PRESERVATIVE /PREPARATION	COMMENTS	
PLASTIC -HDPE	1L	1	No Pres	BOD	SM 5210B
PLASTIC -HDPE	250 ML	1	H2SO4	COD	410.4
PLASTIC -HDPE	125 ML	1	No Pres	Cl,F,NO3,Ph,SO4	9056
PLASTIC -HDPE	250 ML	1	HNO3	METALS	7470A/6010B
PLASTIC -HDPE	250 ML	1	No Pres	SPCON,POORTH	9050A,4500P-E
PLASTIC -HDPE	250 ML	1	No Pres	TDS	160.1
AMBER GLASS	250 ML	1	No Pres	TOC	9060
AMBER GLASS	1 L	1	H2SO4	TOX	9020

FIELD MEASUREMENTS

PARAMETER	EQUIP ID	SAMPLE DATA			
TEMP. (°C)	HANNA	14.5			
pH (STD)	"	6.92			
SPEC. COND (uS/cm)	"	3271			
APPEARANCE	-	CLEAR			
TIME	-	1130			
DATE	-	03/09/07			

GENERAL INFORMATION. McCauley/W. Moore SUNNY AIR TEMP (°F): 60
SAMPLES COLLECTED BY: A. McCauley/W. Moore
SPECIAL HANDLING: PACKAGED ON ICE
MODE OF SHIPMENT: FEDEX
HANNA METER CALIBRATED 3/8/07 AND 3/9/07 PRIOR TO PURGING AND SAMPLING.

Prepared by: AJM 3/12/07 **Checked by: LAD 4/20/07**

FIELD SAMPLING REPORT

MACTEC
ENGINEERING & CONSULTING SERVICES, INC.
5710 OLEANDER DRIVE, SUITE 110
WILMINGTON, NC 28403
PHONE (910) 452-1185
FAX (910) 791-1238

JOB NAME: IP - LANDFILL
JOB NUMBER: 6550-07-0402

SAMPLING INFORMATION

SOIL SAMPLING DATA

SAMPLE ID NUMBER: NA HAZARDOUS: YES NO UNKNOWN
SAMPLING DATE / TIME: NA / NA
SAMPLER TYPE & MATERIAL: NA
SAMPLE DESCRIPTION:

WELL SAMPLING DATA

SAMPLE ID NUMBER: Under-Drain HAZARDOUS: YES NO UNKNOWN
SAMPLING DATE / TIME: 3/9/2007 / 1130
SAMPLER TYPE & MATERIAL: Collected directly from a discharge pipe into the underdrain vault
SAMPLE DESCRIPTION: CLOUDY
PURGING: Under-Drain sample pipe was discharging into the vault at the time of sampling

PURGE DATE 3/9/2007

LABORATORY CONTAINER INFORMATION

CONTAINER TYPE	CONTAINER VOLUME	NUMBER	PRESERVATIVE /PREPARATION	COMMENTS	
PLASTIC -HDPE	1L	1	No Pres	BOD	SM 5210B
PLASTIC -HDPE	250 ML	1	H2SO4	COD	410.4
PLASTIC -HDPE	125 ML	1	No Pres	Cl,F,NO3,Ph,SO4	9056
PLASTIC -HDPE	250 ML	1	HNO3	METALS	7470A/6010B
PLASTIC -HDPE	250 ML	1	No Pres	SPCON,POORTH	9050A,4500P-E
PLASTIC -HDPE	250 ML	1	No Pres	TDS	160.1
AMBER GLASS	250 ML	1	No Pres	TOC	9060
AMBER GLASS	1 L	1	H2SO4	TOX	9020

FIELD MEASUREMENTS

PARAMETER	EQUIP ID	SAMPLE DATA			
TEMP. (°C)	HANNA	17.2			
pH (STD)	"	6.98			
SPEC. COND (uS/cm)	"	3310			
APPEARANCE	-	CLOUDY			
TIME	-	1130			
DATE	-	03/09/07			

GENERAL INFORMATION. McCauley/W. Moore SUNNY AIR TEMP (°F): 60
SAMPLES COLLECTED BY: A. McCauley/W. Moore
SPECIAL HANDLING: PACKAGED ON ICE
MODE OF SHIPMENT: FEDEX
HANNA METER CALIBRATED 3/8/07 AND 3/9/07 PRIOR TO PURGING AND SAMPLING.

Prepared by: AJM 3/12/07 **Checked by: LAD 4/20/07**