Cortland County Soil and Water Conservation District
100 Grange Place, Room 202, Cortland, NY 13045
Phone: (607) 756-5991 • Fax: (607) 756-0029

SWCD...established to promote the conservation and wise use of our county's natural resources

August 17, 2011

Brian Jankauskas
NYS DEC
Div. of Environmental Remediation
625 Broadway, 11th Floor
Albany, NY 12233-7015

Dear Mr. Jankauskas:

Enclosed is a report summarizing groundwater monitoring activities at the Towslee Landfill in Cortland County. The report covers data collected in Quarters 1 and 2 of 2011. Cortland County Soil and Water Conservation District prepared this report for Don Chambers, Superintendent of Cortland County Highway Department.

Please contact our office at (607) 756-5991, or Don Chambers at (607) 753-9377, if you have any questions.

Sincerely,

Patrick Reidy
Water Quality Specialist

cc: Don Chambers w/ report
Tim DiGiulio, NYSDEC Region 7 w/ report
Amanda Barber, SWCD/files

Environmental Monitoring Report
2011 Quarters 1 and 2

Cortland County Towslee Landfill

Town Line Road
Cortland County, New York

NYSDEC Region 7

Prepared for:
Cortland County Highway Department
Traction Drive
Cortland, NY 13045

Prepared by:
Cortland County Soil and Water Conservation District
100 Grange Place
Cortland, NY 13045

TABLE OF CONTENTS

PAGE

1.0 Introduction

Cortland County is the current owner of the inactive Towslee Landfill located at the county's solid waste disposal site in the Towns of Cortlandville and Solon, near the center of the county. The Towslee Landfill has previously been called the Old County Landfill, and the Town Line Landfill. It is referred to as the Towslee Landfill in this report. This report summarizes groundwater quality monitoring activities at the Towslee Landfill for Quarters 1 and 2 of 2011.

The Towslee Landfill is designated by New York State Department of Environmental Conservation (NYSDEC) as a Class 2 inactive hazardous waste disposal site, and has been listed in the Registry of Inactive Hazardous Waste Disposal Sites (#7-12-001). NYSDEC issued an Order of Consent (#B7-0486-12-95), effective May 31, 1996, making it the responsibility of Cortland County to develop and enact a remedial investigation plan towards the closure and cleanup of the facility.

Barton & Loguidice (B&L) completed a remedial investigation report in March 1998 that included the results of a hydrogeologic investigation and a "limits of waste" investigation, among other things. Groundwater monitoring wells were installed and tested as part of this investigation.

In a letter dated November 7, 2005, NYSDEC outlined minimum sampling requirements for the Towslee landfill. As a result, Cortland County initiated quarterly monitoring in 2006 at seven groundwater monitoring wells. Proposed monitoring locations were identified by Cortland County Soil and Water Conservation District, and submitted to NYSDEC for review in a letter dated February 17, 2006.

Upstate Laboratories, Inc. (herein referred to as Upstate Labs) conducted all sample collection activities, and performed all laboratory analyses for Quarters 1 and 2. Water quality analyses were conducted in accordance with 1998 Part 360 regulations. SWCD performed data management and analysis, and prepared this report.

2.0 Site History

The site was a private disposal facility starting in the 1940s. The City of Cortland leased the site for municipal disposal in the mid-1960s in the portion of the site now referred to as the Abandoned City of Cortland Landfill. Cortland County purchased the site in 1972. In April 1972 the County began landfill operations north of the Abandoned City operation. The County stopped disposing of municipal solid waste at this site in 1987, but continued to dispose of construction debris until early 1992.

Based on landfill records, hazardous wastes were believed to have been deposited at the site. The wastes were believed to have been generated by one or more local industries. B&L delineated the limits of hazardous waste associated with the site. Figure 1 shows well locations monitored for this program, and approximate limits of hazardous waste. The B&L Remedial Investigation concluded that in 1997 there was mild landfill leachate contamination of groundwater in the vicinity of Wells MW-2A/B and MW-7A. Very mild impacts from leachate contamination occurred in the vicinity of

Well MW-1A. Groundwater contamination occurred primarily in the overburden, and extended downgradient of the site for a distance of about 450 feet.

Based on 1997 monitoring, B&L identified the following parameters that were indicative of mild leachate impacts to groundwater:

Conventionals - chloride, COD, ammonia, alkalinity, TKN, TOC, and hardness

Metals - aluminum, arsenic, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, potassium, sodium, vanadium, and zinc

3.0 Monitoring Schedule and Locations

3.1 Schedule

Quarter	Analyses	Date Sampled
First Quarter:	Routine	March 22, 2011
Second Quarter:	Routine	May 24, 2011
Third Quarter:	Baseline	Not yet completed
Fourth Quarter:	Routine	Not yet completed

3.2 Groundwater Monitoring Locations

Seven downgradient wells were sampled as part of the Towslee monitoring program. Well locations are shown on Figure 1. Four of the wells are finished in bedrock, and three are finished in overburden, as described below:

Bedrock	Overburden
MW-1B	MW-1A
MW-2B	MW-2A
MW-3A	MW-7A
MW-6B	

4.0 Assessment of Monitoring Results

This section provides an evaluation of groundwater monitoring results for Quarter 1 and Quarter 2 of 2011. Groundwater quality data are compared to NYS water quality standards to assess current conditions. Recent data are also compared to past data to evaluate trends.

- Appendix A contains the Quarter 1 laboratory analytical report.
- Appendix B contains the Quarter 2 laboratory analytical report.
- Appendix C contains tables of historical water quality data for each monitoring well.
- Appendix D contains summary tables of historical data for each of the parameters identified by B&L as indicative of mild leachate contamination.

4.1 Contraventions of Water Quality Standards

This subsection compares 2011 groundwater quality data to NYS water quality standards.

Tables 1 and 2 summarize water quality results for Quarter 1.
Tables 3 and 4 summarize water quality results for Quarter 2.

Available NYS water quality standards are included in these tables, and contraventions of standards are highlighted.

Results for most parameters in Quarter 1 and Quarter 2 of 2011 were below available water quality standards at all wells, although there continues to be evidence of mild landfill leachate contamination. Contraventions of standards are described below.

4.1.1 Conventionals and Field Parameters

pH - A pH levels between 6.5 and 8.5 meets water quality standards. In Quarter 1, pH was below this range for MW-3A (pH = 6.2). In Quarter 2, no contraventions of the pH range were observed.

Turbidity – Turbidity exceeded the NYS standard of 5 NTU for most or all wells in both Quarter 1 and 2:

Quarter 1 - contraventions in all 7 wells, ranging from 10 to 24 NTU.
Quarter 2 - contraventions in 4 of 7 wells ranging from about 8 to 70 NTU.

Based on separate monitoring conducted at the closed Pine Tree Landfill, and the active West Side Landfill, natural groundwater in this area appears to have elevated turbidity.

Total Dissolved Solids (TDS) - The TDS standard of 500 mg/l has been consistently exceeded for

the same two wells, and this trend continued through the first two quarters of 2011.

	MW-2B	MW-7A
Quarter 1	740	660
Quarter 2	760	710

Ammonia - The ammonia standard of 2 mg/l was exceeded at MW-2A for Quarters 1 and 2 in 2011:

Quarter 1 - 5.38 mg/l
Quarter 2 - 7.03 mg/l

Ammonia at MW-2A also exceeded the standard for all previous monitoring events.

4.1.2 Metals

Total Iron - The NYS standard for iron is 0.3 mg/l. The standard was exceeded for most wells in Quarters 1 and 2, as it has in past monitoring at Towslee. The elevated iron levels are believed to be due at least in part to particulate in the samples. A summary of Quarter 1 and 2 contraventions for total (unfiltered) iron is as follows:

Quarter 1 - contraventions in 4 of 7 wells ranging from about 0.35 to 4.7 mg/l.
Quarter 2 - contraventions in 4 of 7 wells ranging from about 0.31 to 4.3 mg/l.

Total Manganese - The NYS standard for manganese is 0.3 mg/l. The manganese standard was frequently exceeded in Quarters 1 and 2, as has been the case in past monitoring. A summary of 2011 contraventions for total (unfiltered) manganese is as follows:

Quarter 1 - contraventions in 4 of 7 wells ranging from about 0.6 to 8.2 mg/l.
Quarter 2 - contraventions in 4 of 7 wells ranging from about 0.7 to 7 mg/l.

Sodium – The NYS sodium standard is 20 mg/l, and is relevant for people on severely restricted sodium diets. Contraventions in Quarters 1 and 2 of 2011 were as follows:

	MW-2B	MW-7A	(units are mg/l)
Quarter 1:	56.7	110	
Quarter 2:	51.0	114	

These results are consistent with past monitoring. Elevated sodium may be at least partially related to deicing activities on the road network within the landfill.

4.1.3 Volatile Organics (VOCs)

VOC testing was not required in either Quarter 1 or Quarter 2 of 2011.

4.2 Trends

Groundwater monitoring at Towslee Landfill occurred twice in 1997, and 20 times since monitoring resumed in 2006. The entire historical record is tabulated in Appendix C, with results organized by monitoring well.

As described in Section 2, B&L identified a subset of parameters that suggested mild leachate impacts to groundwater, based on 1997 monitoring. For this report, these parameters are described as contaminants of concern (COCs). Appendix D contains summary tables of historical results for each COC, up to and including 2011 results.

Previous reporting described a significant improvement in groundwater quality downgradient of the Towslee landfill between 1997 and 2006. Monitoring since 2006 indicates that overall groundwater quality remains improved compared to 1997 results, and that groundwater quality is generally improving, or has remained stable over the past 4-5 years.

The following sections describe trends for the COCs.

4.2.1 Trends for Conventionals

B&L identified the following conventionals as suggestive of mild landfill leachate contamination: alkalinity, chloride, hardness, ammonia, TKN, COD, and TOC.

- Alkalinity continues to be generally lower than 1997 levels, and fairly stable over the past 5 years.

- Chloride levels continue to be significantly lower than 1997 levels.

- Hardness levels continue to be much lower than in 1997, and fairly stable over the past 5 years.

- Ammonia - Five of seven wells have decreased over time to the point that no ammonia has been detected in the past 15 sampling events. Well MW-2A continues to have elevated ammonia levels, but continues to show an overall, slowly decreasing trend over time. MW-2B is the only other well at which ammonia was detected in the past several years. Ammonia levels at MW-2B have been fairly stable over time, and below the water quality standard of 2 mg/l.

- TKN levels in general show an overall decreasing trend over time. Results for three of seven

wells have been below, or near, the detection limit for the past 15 sampling events. TKN results for MW-2A are elevated, but show an overall decreasing trend. Results for MW-2B are somewhat elevated, but have remained stable for the past 5 years. TKN at MW-3A fluctuates more than at other wells, with no clear trend either up or down since 1997.

- COD continues to show an overall decrease compared to 1997 levels, with many results below the detection limit in recent years. COD at MW-3A fluctuates over time, with no clear trend up or down.

- Total Organic Carbon (TOC) - TOC has been below the detection limit at MW-1A, MW-1B and MW-6B for the past 18 sampling events. TOC at MW-2A, MW-2B and MW-7A has decreased compared to 1997 levels, and has been relatively stable in the past 3 years. TOC at MW-3A fluctuates over time, with no clear trend up or down.

- For all other conventionals, the results for 2011 are lower than or similar to past results.

4.2.2 Trends for Total Metals

B&L identified the following metals as suggestive of mild landfill leachate contamination:

aluminum	cobalt	magnesium	vanadium
arsenic	copper	manganese	zinc
calcium	iron	potassium	
chromium	lead	sodium	

Quarters 1 and 2 underwent Routine monitoring, and the only "COC" metals analyzed were calcium, iron, lead, magnesium, manganese, potassium, and sodium.

- Calcium levels continue to show an overall decrease through 2011, compared to 1997 levels, and have been relatively stable over the past 5 years.

- Iron continues to show an overall decrease compared to 1997 levels. Variability in total iron levels over the past 5 years is likely due to varying amounts of particulate in samples.

- Lead levels are generally below the detection limit, and where detected, continue to show an overall decrease through 2011, compared to 1997.

- Magnesium levels continue to show an overall decrease compared to 1997 observations, and have been fairly stable over the past few years.

- Manganese continues to show an overall decrease compared to 1997 levels.

- Potassium levels continue to show an overall decrease through 2011, compared to 1997.

- Sodium levels have continued to show a general decrease through 2011, or have remained fairly stable.

4.2.3 Trends for Organics

VOC analysis was not required in Quarters 1 and 2 of 2011.

5.0 Quality Control

Quality control samples and data validation are discussed below. Based on a review of this information, we believe the Quarter 1 and 2 data are adequate to characterize groundwater quality in the vicinity of the Towslee landfill.

5.1 Quality Control Samples

Duplicate samples were collected for MW-1B in both Quarter 1 and 2. Relative Percent Differences (RPDs) were calculated if results for both the sample and the duplicate were above the detection limit.

Quarter 1, 2011

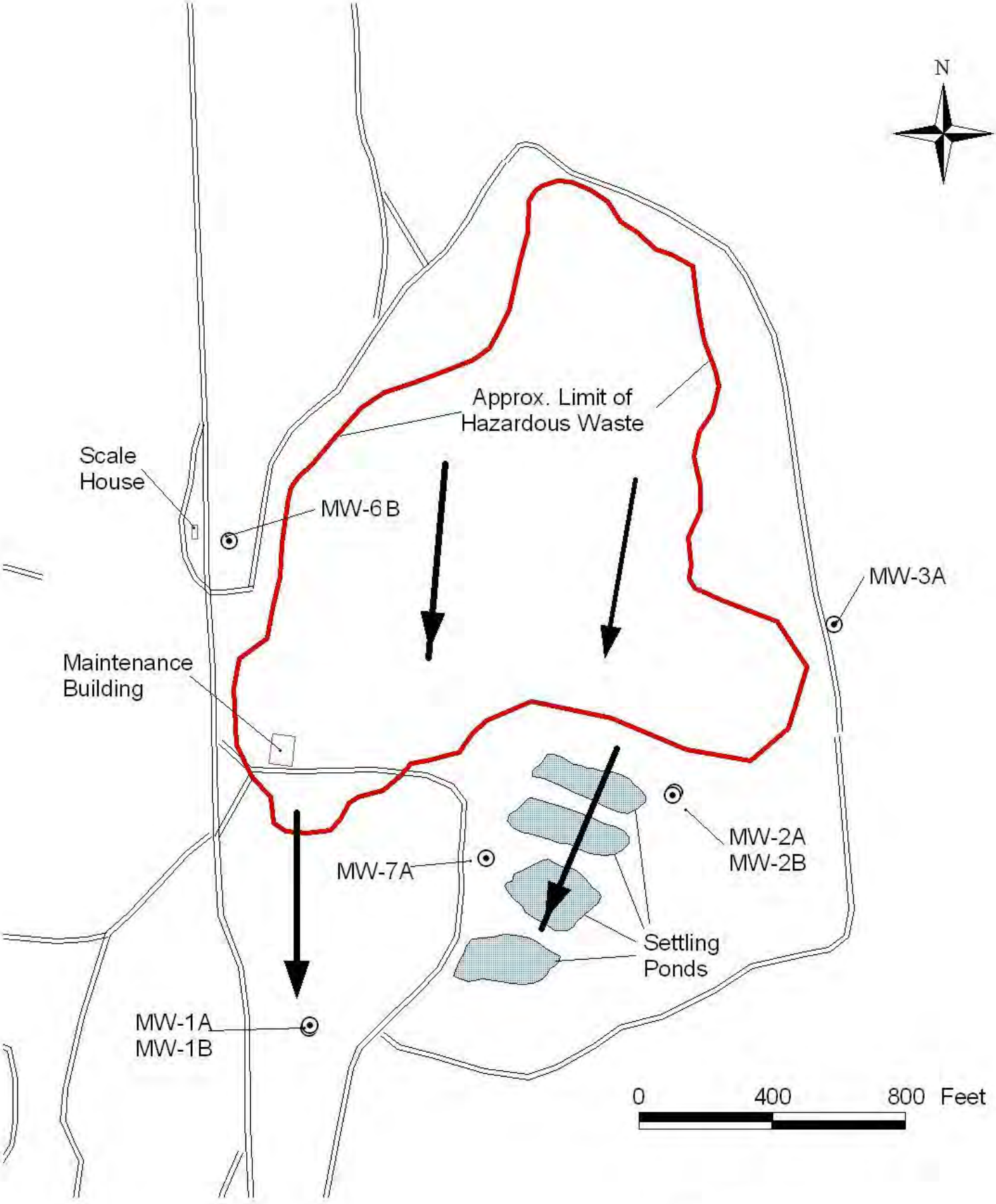
- 9 of 10 RPDs were below 20%, and 7 0f 10 were below 10%.
- The RPD for total iron was 84%, and may be due to varying amounts of particulate in split samples.

Quarter 2, 2011

- 6 of 8 RPDs were below 10%.
- The RPD for TDS was 32%. The reason for this elevated RPD is unknown.
- The RPD for total manganese was 80%, and may be due to varying amounts of particulate in split samples.

5.2 Data Validation

Upstate Labs performed internal data validation for the Quarter 1 and Quarter 2 monitoring of Towslee Landfill. The results generally met acceptance criteria. Summaries of Upstate Labs internal validation for Quarters 1 and 2 are included in the laboratory reports of Appendix A and B.



Approx. Goundwater
Flow Direction

Figure 1.
Monitoring Well Locations
Towslee Landfill

Table 1
Contraventions of NYS Water Quality Standards for Field and Inorganic Parameters
Towslee Landfill - Quarter 1 2011

Parameter	Units	NYS Water Quality Standard		Monitoring Well						
				Over-burden	Bedrock	Over-burden	Bedrock	Bedrock	Bedrock	Over-burden
				MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A
Temperature	(deg. C)	--		9.8	7.6	9.8	8.2	8.7	9.8	9.0
Eh	(mV)	--		228	225	6	63	282	102	260
pH	(Std Units)	6.5 - 8.5	a	7.52	7.87	6.94	6.84	**6.2**	7.41	6.78
Specific Conductance	(uS/cm)	--		347	234	519	1397	128	372	1184
Color	(Units)	15	a, b	--	--	--	--	--	--	--
Turbidity	(NTU)	5	a	**24.2**	**14.1**	**9.77**	**6.19**	**11.6**	**10.8**	**20.7**
Alkalinity, Total (As CaCO3)	(mg/l)	--		130	100	260	710	75	130	600
Hardness (As CaCO3)	(mg/l)	--		159	108	190	677	45.7	145	484
Total Dissolved Solids	(mg/l)	500	a	150	80	200	**740**	60	160	**660**
Chloride	(mg/l)	250	a, b	32	4.07	11.2	124	2.69	11.9	95.7
Sulfate	(mg/l)	250	a, b	13.6	<5	<5	<5	<5	15	21.7
Bromide	(mg/l)	2	a	<8	<0.8	<80	<0.8	<8	<0.8	<80
Nitrogen, Nitrate (As N)	(mg/l)	10	a, b	0.102	0.095	0.117	0.125	0.103	0.47	0.103
Nitrogen, Ammonia (As N)	(mg/l)	2 *	a	<0.5	<0.5	**5.38**	0.593	<0.5	<0.5	<0.5
Nitrogen, Kjeldahl, Total	(mg/l)	--		<0.5	<0.5	7.95	1.14	<0.5	<0.5	0.639
Chemical Oxygen Demand	(mg/l)	--		<20	<20	<20	<20	<20	<20	28
Biochemical Oxygen Demand	(mg/l)	--		<4	<4	<4	<4	<4	<4	<4
Organic Carbon, Total	(mg/l)	--		<3	<3	4.4	4.2	<3	<3	5.1
Phenolics, Total Recoverable	(mg/l)	0.001	a	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cyanide	(mg/l)	0.2	a, b	--	--	--	--	--	--	--

a - Part 703 Water Quality Standard (assumes Class GA waters)
b - Part 5 Drinking Water MCL
* Standard is for NH4+ and NH3 combined, as is the laboratory analysis
1.23 indicates contravention of standard.
-- not analyzed

Table 2
Contraventions of NYS Water Quality Standards for Metals
Towslee Landfill - Quarter 1 2011

Parameter	NYS Water Quality Standard		Total Metals						
			Over-burden	Bedrock	Over-burden	Bedrock	Bedrock	Bedrock	Over-burden
			MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A
Aluminum	--		--	--	--	--	--	--	--
Antimony	0.003	a	--	--	--	--	--	--	--
Arsenic	0.025	a	--	--	--	--	--	--	--
Barium	1	a	--	--	--	--	--	--	--
Beryllium	0.004	b	--	--	--	--	--	--	--
Boron	1	a	--	--	--	--	--	--	--
Cadmium	0.005	a, b	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium	--		45.6	30.5	54.9	200	18.3	40.1	136
Chromium	0.05	a	--	--	--	--	--	--	--
Chrom, Hex	0.05	a	--	--	--	--	--	--	--
Cobalt	--		--	--	--	--	--	--	--
Copper	0.2	a	--	--	--	--	--	--	--
Iron	0.3	a, b	**1.47**	**1.19**	**4.73**	**0.345**	0.232	0.114	0.162
Lead	0.015	b	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Magnesium	--		11	7.75	12.9	42.8	<5	10.8	35
Manganese	0.3	a, b	0.236	0.269	**8.18**	**6.23**	**0.575**	0.0452	**4.33**
Mercury	0.0007	a	--	--	--	--	--	--	--
Nickel	0.1	a	--	--	--	--	--	--	--
Potassium	--		<5	<5	7.2	<5	<5	<5	<5
Sodium	20	a, b	13.6	7.99	13.5	**56.7**	<5	14.1	**110**
Selenium	0.01	a	--	--	--	--	--	--	--
Silver	0.05	a	--	--	--	--	--	--	--
Thallium	0.002	b	--	--	--	--	--	--	--
Vanadium	--		--	--	--	--	--	--	--
Zinc	5	b	--	--	--	--	--	--	--

all units are mg/l

a - Part 703 Water Quality Standard (assumes Class GA waters)

b - Part 5 Drinking Water MCL

1.23 indicates contravention of standard.

-- not analyzed

Table 3
Contraventions of NYS Water Quality Standards for Field and Inorganic Parameters
Towslee Landfill - Quarter 2 2011

Parameter	Units	NYS Water Quality Standard		Monitoring Well						
				Over-burden	Bedrock	Over-burden	Bedrock	Bedrock	Bedrock	Over-burden
				MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A
Temperature	(deg. C)	--		19.2	19.7	17.9	16.1	16.7	15.7	18.3
Eh	(mV)	--		109	100	-43	12	9	88	135
pH	(Std Units)	6.5 - 8.5	a	8.26	8.3	7.31	6.87	7.15	7.75	7.02
Specific Conductance	(uS/cm)	--		364	206	482	1225	308	399	1179
Color	(Units)	15	a, b	--	--	--	--	--	--	--
Turbidity	(NTU)	5	a	**45.2**	1.08	**20.7**	4.26	4.3	**7.65**	**69.2**
Alkalinity, Total (As CaCO3)	(mg/l)	--		120	93	250	540	150	150	510
Hardness (As CaCO3)	(mg/l)	--		164	87.4	167	589	137	153	465
Total Dissolved Solids	(mg/l)	500	a	460	180	240	**760**	320	250	**710**
Chloride	(mg/l)	250	a, b	30.5	1.7	8.33	104	2.28	16.4	99
Sulfate	(mg/l)	250	a, b	10.2	5.6	<5	<5	<5	19.2	18.7
Bromide	(mg/l)	2	a	<0.8	<0.8	<8	<80	<0.8	<0.8	<8
Nitrogen, Nitrate (As N)	(mg/l)	10	a, b	<0.05	<0.05	0.073	<0.05	<0.05	0.058	<0.05
Nitrogen, Ammonia (As N)	(mg/l)	2 *	a	<0.5	<0.5	**7.03**	0.752	<0.5	<0.5	<0.5
Nitrogen, Kjeldahl, Total	(mg/l)	--		<0.5	<0.5	8.21	0.948	<0.5	<0.5	<0.5
Chemical Oxygen Demand	(mg/l)	--		<20	<20	24	<20	<20	<20	33
Biochemical Oxygen Demand	(mg/l)	--		<4	<4	<4	<4	<4	<4	<4
Organic Carbon, Total	(mg/l)	--		<3	<3	<3	3.6	<3	<3	4.8
Phenolics, Total Recoverable	(mg/l)	0.001	a	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cyanide	(mg/l)	0.2	a, b	--	--	--	--	--	--	--

a - Part 703 Water Quality Standard (assumes Class GA waters)

b - Part 5 Drinking Water MCL

* Standard is for NH4+ and NH3 combined, as is the laboratory analysis

1.23 indicates contravention of standard.

-- not analyzed

Table 4
Contraventions of NYS Water Quality Standards for Metals
Towslee Landfill - Quarter 2 2011

Parameter	NYS Water Quality Standard		Total Metals							Dissolved Metals
			Over-burden	Bedrock	Over-burden	Bedrock	Bedrock	Bedrock	Over-burden	Over-burden
			MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A	MW-7A
Aluminum	--		--	--	--	--	--	--	--	--
Antimony	0.003	a	--	--	--	--	--	--	--	--
Arsenic	0.025	a	--	--	--	--	--	--	--	--
Barium	1	a	--	--	--	--	--	--	--	--
Beryllium	0.004	b	--	--	--	--	--	--	--	--
Boron	1	a	--	--	--	--	--	--	--	--
Cadmium	0.005	a, b	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium	--		46.9	24.9	48.7	172	42.9	43.3	130	126
Chromium	0.05	a	--	--	--	--	--	--	--	--
Chrom, Hex	0.05	a	--	--	--	--	--	--	--	--
Cobalt	--		--	--	--	--	--	--	--	--
Copper	0.2	a	--	--	--	--	--	--	--	--
Iron	0.3	a, b	**3.13**	<0.06	**4.27**	**0.312**	0.121	0.235	**0.418**	<0.06
Lead	0.015	b	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Magnesium	--		11.5	6.14	11	38.8	7.25	10.8	34.4	33.6
Manganese	0.3	a, b	0.215	0.24	**7.05**	**5.23**	**0.704**	0.0213	**3.8**	**3.04**
Mercury	0.0007	a	--	--	--	--	--	--	--	--
Nickel	0.1	a	--	--	--	--	--	--	--	--
Potassium	--		<5	<5	7.47	<5	<5	<5	<5	<5
Sodium	20	a, b	13.1	6.48	12.5	**51**	<5	17	**114**	**113**
Selenium	0.01	a	--	--	--	--	--	--	--	--
Silver	0.05	a	--	--	--	--	--	--	--	--
Thallium	0.002	b	--	--	--	--	--	--	--	--
Vanadium	--		--	--	--	--	--	--	--	--
Zinc	5	b	--	--	--	--	--	--	--	--

all units are mg/l

a - Part 703 Water Quality Standard (assumes Class GA waters)

b - Part 5 Drinking Water MCL

1.23 indicates contravention of standard.

-- not analyzed

Appendix A

Analytical Laboratory Results and Internal Quality Control Summary

Quarter 1 2011

Cortland County Towslee Landfill

Upstate Laboratories, Inc.

Shipping: 6034 Corporate Dr. * E. Syracuse, NY 13057-1017 * (315) 437-0255 * Fax (315) 437-1209
Mailing: Box 169 * Syracuse, NY 13206
Albany (518) 459-3134 * Binghamton (607) 724-0478 * Buffalo (716) 972-0371
Rochester (866) 437-0255 * New Jersey (908) 581-4285

Mr. Patrick Reidy
Cortland Co. Soil and Water Cons. Dist.
100 Grange Place
Room 202
Cortland, NY 13045

Friday, April 08, 2011

RE: Analytical Report: Towslee Landfill

Order No.: U1103482

Dear Mr. Patrick Reidy:

Upstate Laboratories, Inc. received 8 sample(s) on 3/23/2011 for the analyses presented in the following report.

All analytical results relate to the samples as received by the laboratory.

All analytical data conforms with standard approved methodologies and quality control. Our quality control narrative will be included should any anomalies occur.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your samples. Samples will be disposed of approximately one month from final report date.

Should you have any questions regarding these tests, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.
Anthony J. Scala
Anthony J. Scala
President/CEO

CC:
Encls: (ASP-A, rept, f.data on disk), invoice

Upstate Laboratories, Inc.

Shipping: 6034 Corporate Dr. * E. Syracuse, NY 13057-1017 * (315) 437-0255 * Fax (315) 437-1209
Mailing: Box 169 * Syracuse, NY 13206
Albany (518) 459-3134 * Binghamton (607) 724-0478 * Buffalo (716) 972-0371
Rochester (866) 437-0255 * New Jersey (908) 581-4285

Mr. Patrick Reidy
Cortland Co. Soil and Water Cons. Dist.
100 Grange Place
Room 202
Cortland, New York 13045

April 11, 2011

RE: Towslee Landfill, Cortlandville, New York,
Samples Collected March 22, 2011
Case Narrative for ULI SDG Number COR47, Workorder #U1103482

The following is a New York State Department of Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Trace Metals

Test	Batch	Anomaly
Cd,Ca,Fe,Mg,Mn,K,Na	R60144	Cadmium, Calcium and Iron were detected at concentrations above the CRDL in CCB4. The MS recovery for Cadmium was above QC acceptance limits for the MS performed on sample location MW-3A. The Duplicate %RPD for Iron was outside QC acceptance limits for the Duplicate performed on sample location MW-3A. All other criteria were satisfied.
Cd	R60249	Criteria were satisfied.
Pb	R60147	The CCV3 and CCV4 recoveries for Lead were above QC acceptance limits. All other criteria were satisfied.

Wet Chemistry

Test	Batch	Anomaly
BOD	R60055	Criteria were satisfied.
COD	R60085	Criteria were satisfied.

The total number of pages in this Data Package is : 4 .

Wet Chemistry

Test	Batch	Anomaly
Nitrate-Nitrogen	R59961	Nitrate was detected at a concentration above the CRDL in CCB2. The MSD for sample location MW-3A was inadvertently not spiked; therefore, there is no recovery and the %RPD was outside QC acceptance limits. All other criteria were satisfied.
TKN	R60101	The MSD %RPD for TKN was outside QC acceptance limits for the MSD performed on sample location MW-3A. All other criteria were satisfied.
Bromide	R60296	The CCV6 recovery for Bromide was below QC acceptance limits. All other criteria were satisfied.
TDS	R60053	Criteria were satisfied.
Sulfate	R60030	Criteria were satisfied.
	R60063	Criteria were satisfied.
Alkalinity, Total	R60110	The Duplicate %RPD for Total Alkalinity was outside QC acceptance limits for the Duplicate performed on sample location MW-3A. All other criteria were satisfied.
	R60218	Criteria were satisfied.
Chloride	R60116	Criteria were satisfied.
TOC	R60024	Criteria were satisfied.
Phenols, Total	R60182	Criteria were satisfied.
	R60254	Criteria were satisfied.
Ammonia-Nitrogen	R60101	The MS recovery for Ammonia was above QC acceptance limits for the MS performed on sample location MW-3A. The MSD %RPD for Ammonia was outside QC acceptance limits for the MSD performed on sample location MW-3A. All other criteria were satisfied.
	R60178	The CCV5 recovery for Ammonia was slightly above QC acceptance limits. All other criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

I certify that this data package is in compliance with the terms and conditions of the Contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and/or in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Sincerely,
UPSTATE LABORATORIES, INC.

Anthony J. Scala

Anthony J. Scala
Director

COR47A.doc

Table 1
Methodologies

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
Cadmium	200.7	(1)
Calcium	200.7	(1)
Iron	200.7	(1)
Lead	200.8	(1)
Magnesium	200.7	(1)
Manganese	200.7	(1)
Potassium	200.7	(1)
Sodium	200.7	(1)
BOD	SM 5210B	(1)
Nitrate-Nitrogen	10-107-04-1C	(1)
Alkalinity, Total	310.2	(1)
Chloride	10-117-07-1A	(1)
COD	410.4	(1)
Ammonia-Nitrogen	10-107-06-1B	(1)
Sulfate	D516-90	(1)
TDS	SM 2540C	(1)
TKN	10-107-06-2	(1)
TOC	SM 5310B	(1)
Phenols	10-210-00-1A	(1)
Bromide	SM 4110B	(1)

Reference
1) New York State Department of Environmental Conservation Analytical Services Protocol (NYSDEC ASP), 7/05 Revision

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT: Cortland Co. Soil and Water Cons. Dist.
Client Sample ID: MW-1A
Lab Order: U1103482
Collection Date: 3/22/2011 9:52:00 AM
Project: Towslee Landfill
Lab ID: U1103482-001
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS				**FIELD**		Analyst:
Conductivity	347	1.0		umhos/cm		3/22/2011 9:52:00 AM
Eh	228	-300		mV		3/22/2011 9:52:00 AM
pH	7.52	2-12.5		SU		3/22/2011 9:52:00 AM
Temperature	9.8			degC		3/22/2011 9:52:00 AM
Turbidity	24.2	5.0		NTU		3/22/2011 9:52:00 AM
BROMIDE BY SM 18-21 4110B (00)				**BROMIDE_W**		Analyst: **LD**
Bromide	ND	8.0		mg/L	10	4/6/2011
NOTES: The reporting limits were raised due to matrix interference.						
ICP METALS, TOTAL BY NYSDEC ASP 2005				**200.7WTASP**	**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	3/31/2011 5:01:30 PM
Calcium	45600	5000		µg/L	1	3/31/2011 5:01:30 PM
Iron	1470	60.0		µg/L	1	3/31/2011 5:01:30 PM
Magnesium	11000	5000		µg/L	1	3/31/2011 5:01:30 PM
Manganese	236	10.0		µg/L	1	3/31/2011 5:01:30 PM
Potassium	ND	5000		µg/L	1	3/31/2011 5:01:30 PM
Sodium	13600	5000		µg/L	1	3/31/2011 5:01:30 PM
Hardness, Total(CaCO3)	159000	7000		µg/L	1	3/31/2011 5:01:30 PM
ASP TOTAL METALS BY ICP-MS				**200.8ASP**	**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	3/31/2011 2:39:00 PM
ALKALINITY BY EPA 310.2				**ALK_W_AUTO**		Analyst: **GWL**
Alkalinity, Total (As CaCO3)	130	10		mg/L	1	3/30/2011
BOD, 5 DAY BY SM 18-20 5210B (01)				**BOD**		Analyst: **DMP**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	3/23/2011 8:36:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A				**CL_W_AUTO**		Analyst: **GWL**
Chloride	32.0	1.00		mg/L	1	3/30/2011
COD BY EPA 410.4 REV. 2.0				**COD**		Analyst: **CAC**
Chemical Oxygen Demand	ND	20		mg/L	1	3/29/2011
NH3 BY LACHAT 10-107-06-1-B				**NH3_W_AUTO**		Analyst: **BS**
Nitrogen, Ammonia (As N)	ND	0.500		mg/L	1	3/30/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C				**NO3_W**		Analyst: **GWL**
Nitrogen, Nitrate (as N)	0.102	0.050		mg/L	1	3/23/2011 10:37:00 AM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A				**PHENOL_W**	**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	4/1/2011

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-1A
Lab Order:	U1103482	**Collection Date:**	3/22/2011 9:52:00 AM
Project:	Towslee Landfill		
Lab ID:	U1103482-001	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**
Sulfate	13.6	5.00		mg/L	1	3/28/2011
TDS BY SM 18-21 2540C (97)				**TDS**		Analyst: **DMP**
Residue, Dissolved (TDS)	150	25		mg/L	1	3/24/2011
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO**	**(E351.2)**	Analyst: **BS**
Nitrogen, Kjeldahl, Total	ND	0.500		mg/L	1	3/30/2011
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BS**
Organic Carbon, Total	ND	3.0		mg/L	1	3/27/2011

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT: Cortland Co. Soil and Water Cons. Dist.
Client Sample ID: MW-1B
Lab Order: U1103482
Collection Date: 3/22/2011 10:08:00 AM
Project: Towslee Landfill
Lab ID: U1103482-002
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS				**FIELD**		Analyst:
Conductivity	234	1.0		umhos/cm		3/22/2011 10:08:00 AM
Eh	225	-300		mV		3/22/2011 10:08:00 AM
pH	7.87	2-12.5		SU		3/22/2011 10:08:00 AM
Temperature	7.6			degC		3/22/2011 10:08:00 AM
Turbidity	14.1	5.0		NTU		3/22/2011 10:08:00 AM
BROMIDE BY SM 18-21 4110B (00)				**BROMIDE_W**		Analyst: **LD**
Bromide	ND	0.8		mg/L	1	4/6/2011
ICP METALS, TOTAL BY NYSDEC ASP 2005				**200.7WTASP**	**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	3/31/2011 5:19:58 PM
Calcium	30500	5000		µg/L	1	3/31/2011 5:19:58 PM
Iron	1190	60.0		µg/L	1	3/31/2011 5:19:58 PM
Magnesium	7750	5000		µg/L	1	3/31/2011 5:19:58 PM
Manganese	269	10.0		µg/L	1	3/31/2011 5:19:58 PM
Potassium	ND	5000		µg/L	1	3/31/2011 5:19:58 PM
Sodium	7990	5000		µg/L	1	3/31/2011 5:19:58 PM
Hardness, Total(CaCO3)	108000	7000		µg/L	1	3/31/2011 5:19:58 PM
ASP TOTAL METALS BY ICP-MS				**200.8ASP**	**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	3/31/2011 2:39:00 PM
ALKALINITY BY EPA 310.2				**ALK_W_AUTO**		Analyst: **GWL**
Alkalinity, Total (As CaCO3)	100	10		mg/L	1	3/30/2011
BOD, 5 DAY BY SM 18-20 5210B (01)				**BOD**		Analyst: **DMP**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	3/23/2011 8:36:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A				**CL_W_AUTO**		Analyst: **GWL**
Chloride	4.07	1.00		mg/L	1	3/30/2011
COD BY EPA 410.4 REV. 2.0				**COD**		Analyst: **CAC**
Chemical Oxygen Demand	ND	20		mg/L	1	3/29/2011
NH3 BY LACHAT 10-107-06-1-B				**NH3_W_AUTO**		Analyst: **BS**
Nitrogen, Ammonia (As N)	ND	0.500		mg/L	1	3/30/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C				**NO3_W**		Analyst: **GWL**
Nitrogen, Nitrate (as N)	0.095	0.050		mg/L	1	3/23/2011 10:37:00 AM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A				**PHENOL_W**	**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	4/1/2011
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-1B
Lab Order:	U1103482	**Collection Date:**	3/22/2011 10:08:00 AM
Project:	Towslee Landfill		
Lab ID:	U1103482-002	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**
Sulfate	ND	5.00		mg/L	1	3/28/2011
TDS BY SM 18-21 2540C (97)				**TDS**		Analyst: **DMP**
Residue, Dissolved (TDS)	80	25		mg/L	1	3/24/2011
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO**	**(E351.2)**	Analyst: **BS**
Nitrogen, Kjeldahl, Total	ND	0.500		mg/L	1	3/30/2011
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BS**
Organic Carbon, Total	ND	3.0		mg/L	1	3/27/2011

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT: Cortland Co. Soil and Water Cons. Dist.
Client Sample ID: MW-2A
Lab Order: U1103482
Collection Date: 3/22/2011 10:52:00 AM
Project: Towslee Landfill
Lab ID: U1103482-003
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS				**FIELD**		Analyst:
Conductivity	519	1.0		umhos/cm		3/22/2011 10:52:00 AM
Eh	6	-300		mV		3/22/2011 10:52:00 AM
pH	6.94	2-12.5		SU		3/22/2011 10:52:00 AM
Temperature	9.8			degC		3/22/2011 10:52:00 AM
Turbidity	9.77	5.0		NTU		3/22/2011 10:52:00 AM
BROMIDE BY SM 18-21 4110B (00)				**BROMIDE_W**		Analyst: **LD**
Bromide	ND	80		mg/L	100	4/6/2011
NOTES: The reporting limits were raised due to matrix interference.						
ICP METALS, TOTAL BY NYSDEC ASP 2005				**200.7WTASP**	**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	3/31/2011 5:26:39 PM
Calcium	54900	5000		µg/L	1	3/31/2011 5:26:39 PM
Iron	4730	60.0		µg/L	1	3/31/2011 5:26:39 PM
Magnesium	12900	5000		µg/L	1	3/31/2011 5:26:39 PM
Manganese	8180	10.0		µg/L	1	3/31/2011 5:26:39 PM
Potassium	7200	5000		µg/L	1	3/31/2011 5:26:39 PM
Sodium	13500	5000		µg/L	1	3/31/2011 5:26:39 PM
Hardness, Total(CaCO3)	190000	7000		µg/L	1	3/31/2011 5:26:39 PM
ASP TOTAL METALS BY ICP-MS				**200.8ASP**	**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	3/31/2011 2:39:00 PM
ALKALINITY BY EPA 310.2				**ALK_W_AUTO**		Analyst: **GWL**
Alkalinity, Total (As CaCO3)	260	10		mg/L	1	3/30/2011
BOD, 5 DAY BY SM 18-20 5210B (01)				**BOD**		Analyst: **DMP**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	3/23/2011 8:36:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A				**CL_W_AUTO**		Analyst: **GWL**
Chloride	11.2	1.00		mg/L	1	3/30/2011
COD BY EPA 410.4 REV. 2.0				**COD**		Analyst: **CAC**
Chemical Oxygen Demand	ND	20		mg/L	1	3/29/2011
NH3 BY LACHAT 10-107-06-1-B				**NH3_W_AUTO**		Analyst: **SAB**
Nitrogen, Ammonia (As N)	5.38	0.500		mg/L	1	3/31/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C				**NO3_W**		Analyst: **GWL**
Nitrogen, Nitrate (as N)	0.117	0.050		mg/L	1	3/23/2011 10:37:00 AM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A				**PHENOL_W**	**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	4/1/2011

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-2A
Lab Order:	U1103482	**Collection Date:**	3/22/2011 10:52:00 AM
Project:	Towslee Landfill		
Lab ID:	U1103482-003	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**
Sulfate	ND	5.00		mg/L	1	3/28/2011
TDS BY SM 18-21 2540C (97)				**TDS**		Analyst: **DMP**
Residue, Dissolved (TDS)	200	25		mg/L	1	3/24/2011
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO**	**(E351.2)**	Analyst: **BS**
Nitrogen, Kjeldahl, Total	7.95	0.500		mg/L	1	3/30/2011
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BS**
Organic Carbon, Total	4.4	3.0		mg/L	1	3/27/2011

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-2B
Lab Order:	U1103482	**Collection Date:**	3/22/2011 11:12:00 AM
Project:	Towslee Landfill		
Lab ID:	U1103482-004	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS				**FIELD**		Analyst:
Conductivity	1397	1.0		umhos/cm		3/22/2011 11:12:00 AM
Eh	63	-300		mV		3/22/2011 11:12:00 AM
pH	6.84	2-12.5		SU		3/22/2011 11:12:00 AM
Temperature	8.2			degC		3/22/2011 11:12:00 AM
Turbidity	6.19	5.0		NTU		3/22/2011 11:12:00 AM
BROMIDE BY SM 18-21 4110B (00)				**BROMIDE_W**		Analyst: **LD**
Bromide	ND	0.8		mg/L	1	4/6/2011
ICP METALS, TOTAL BY NYSDEC ASP 2005				**200.7WTASP**	**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	3/31/2011 5:33:38 PM
Calcium	200000	5000		µg/L	1	3/31/2011 5:33:38 PM
Iron	345	60.0		µg/L	1	3/31/2011 5:33:38 PM
Magnesium	42800	5000		µg/L	1	3/31/2011 5:33:38 PM
Manganese	6230	10.0		µg/L	1	3/31/2011 5:33:38 PM
Potassium	ND	5000		µg/L	1	3/31/2011 5:33:38 PM
Sodium	56700	5000		µg/L	1	3/31/2011 5:33:38 PM
Hardness, Total(CaCO3)	677000	7000		µg/L	1	3/31/2011 5:33:38 PM
ASP TOTAL METALS BY ICP-MS				**200.8ASP**	**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	3/31/2011 2:39:00 PM
ALKALINITY BY EPA 310.2				**ALK_W_AUTO**		Analyst: **GWL**
Alkalinity, Total (As CaCO3)	710	100		mg/L	10	3/31/2011
BOD, 5 DAY BY SM 18-20 5210B (01)				**BOD**		Analyst: **DMP**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	3/23/2011 8:36:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A				**CL_W_AUTO**		Analyst: **GWL**
Chloride	124	1.00		mg/L	1	3/30/2011
COD BY EPA 410.4 REV. 2.0				**COD**		Analyst: **CAC**
Chemical Oxygen Demand	ND	20		mg/L	1	3/29/2011
NH3 BY LACHAT 10-107-06-1-B				**NH3_W_AUTO**		Analyst: **SAB**
Nitrogen, Ammonia (As N)	0.593	0.500		mg/L	1	3/31/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C				**NO3_W**		Analyst: **GWL**
Nitrogen, Nitrate (as N)	0.125	0.050		mg/L	1	3/23/2011 10:37:00 AM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A				**PHENOL_W**	**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	4/1/2011
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-2B
Lab Order:	U1103482	**Collection Date:**	3/22/2011 11:12:00 AM
Project:	Towslee Landfill		
Lab ID:	U1103482-004	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**
Sulfate	ND	5.00		mg/L	1	3/28/2011
TDS BY SM 18-21 2540C (97)				**TDS**		Analyst: **DMP**
Residue, Dissolved (TDS)	740	25		mg/L	1	3/24/2011
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO**	**(E351.2)**	Analyst: **BS**
Nitrogen, Kjeldahl, Total	1.14	0.500		mg/L	1	3/30/2011
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BS**
Organic Carbon, Total	4.2	3.0		mg/L	1	3/27/2011

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-3A
Lab Order:	U1103482	**Collection Date:**	3/22/2011 9:35:00 AM
Project:	Towslee Landfill		
Lab ID:	U1103482-005	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS				**FIELD**		Analyst:
Conductivity	128	1.0		umhos/cm		3/22/2011 9:35:00 AM
Eh	282	-300		mV		3/22/2011 9:35:00 AM
pH	6.20	2-12.5		SU		3/22/2011 9:35:00 AM
Temperature	8.7			degC		3/22/2011 9:35:00 AM
Turbidity	11.6	5.0		NTU		3/22/2011 9:35:00 AM
BROMIDE BY SM 18-21 4110B (00)				**BROMIDE_W**		Analyst: **LD**
Bromide	ND	8.0		mg/L	10	4/6/2011
NOTES: The reporting limits were raised due to matrix interference.						
ICP METALS, TOTAL BY NYSDEC ASP 2005				**200.7WTASP**	**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	3/31/2011 5:40:34 PM
Calcium	18300	5000		µg/L	1	3/31/2011 5:40:34 PM
Iron	232	60.0		µg/L	1	3/31/2011 5:40:34 PM
Magnesium	ND	5000		µg/L	1	3/31/2011 5:40:34 PM
Manganese	575	10.0		µg/L	1	3/31/2011 5:40:34 PM
Potassium	ND	5000		µg/L	1	3/31/2011 5:40:34 PM
Sodium	ND	5000		µg/L	1	3/31/2011 5:40:34 PM
Hardness, Total(CaCO3)	45700	7000		µg/L	1	3/31/2011 5:40:34 PM
ASP TOTAL METALS BY ICP-MS				**200.8ASP**	**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	3/31/2011 2:39:00 PM
ALKALINITY BY EPA 310.2				**ALK_W_AUTO**		Analyst: **GWL**
Alkalinity, Total (As CaCO3)	75	10		mg/L	1	3/30/2011
BOD, 5 DAY BY SM 18-20 5210B (01)				**BOD**		Analyst: **DMP**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	3/23/2011 8:36:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A				**CL_W_AUTO**		Analyst: **GWL**
Chloride	2.69	1.00		mg/L	1	3/30/2011
COD BY EPA 410.4 REV. 2.0				**COD**		Analyst: **CAC**
Chemical Oxygen Demand	ND	20		mg/L	1	3/29/2011
NH3 BY LACHAT 10-107-06-1-B				**NH3_W_AUTO**		Analyst: **BS**
Nitrogen, Ammonia (As N)	ND	0.500		mg/L	1	3/30/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C				**NO3_W**		Analyst: **GWL**
Nitrogen, Nitrate (as N)	0.103	0.050		mg/L	1	3/23/2011 10:37:00 AM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A				**PHENOL_W**	**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	4/1/2011

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-3A
Lab Order:	U1103482	**Collection Date:**	3/22/2011 9:35:00 AM
Project:	Towslee Landfill		
Lab ID:	U1103482-005	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**
Sulfate	ND	5.00		mg/L	1	3/28/2011
TDS BY SM 18-21 2540C (97)				**TDS**		Analyst: **DMP**
Residue, Dissolved (TDS)	60	25		mg/L	1	3/25/2011
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO**	**(E351.2)**	Analyst: **BS**
Nitrogen, Kjeldahl, Total	ND	0.500		mg/L	1	3/30/2011
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BS**
Organic Carbon, Total	ND	3.0		mg/L	1	3/27/2011

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT: Cortland Co. Soil and Water Cons. Dist.
Client Sample ID: MW-6B
Lab Order: U1103482
Collection Date: 3/22/2011 11:36:00 AM
Project: Towslee Landfill
Lab ID: U1103482-006
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS				**FIELD**		Analyst:
Conductivity	372	1.0		umhos/cm		3/22/2011 11:36:00 AM
Eh	102	-300		mV		3/22/2011 11:36:00 AM
pH	7.41	2-12.5		SU		3/22/2011 11:36:00 AM
Temperature	9.8			degC		3/22/2011 11:36:00 AM
Turbidity	10.8	5.0		NTU		3/22/2011 11:36:00 AM
BROMIDE BY SM 18-21 4110B (00)				**BROMIDE_W**		Analyst: **LD**
Bromide	ND	0.8		mg/L	1	4/6/2011
ICP METALS, TOTAL BY NYSDEC ASP 2005				**200.7WTASP**	**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	3/31/2011 6:00:14 PM
Calcium	40100	5000		µg/L	1	3/31/2011 6:00:14 PM
Iron	114	60.0		µg/L	1	3/31/2011 6:00:14 PM
Magnesium	10800	5000		µg/L	1	3/31/2011 6:00:14 PM
Manganese	45.2	10.0		µg/L	1	3/31/2011 6:00:14 PM
Potassium	ND	5000		µg/L	1	3/31/2011 6:00:14 PM
Sodium	14100	5000		µg/L	1	3/31/2011 6:00:14 PM
Hardness, Total(CaCO3)	145000	7000		µg/L	1	3/31/2011 6:00:14 PM
ASP TOTAL METALS BY ICP-MS				**200.8ASP**	**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	3/31/2011 2:39:00 PM
ALKALINITY BY EPA 310.2				**ALK_W_AUTO**		Analyst: **GWL**
Alkalinity, Total (As CaCO3)	130	10		mg/L	1	3/30/2011
BOD, 5 DAY BY SM 18-20 5210B (01)				**BOD**		Analyst: **DMP**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	3/23/2011 8:36:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A				**CL_W_AUTO**		Analyst: **GWL**
Chloride	11.9	1.00		mg/L	1	3/30/2011
COD BY EPA 410.4 REV. 2.0				**COD**		Analyst: **CAC**
Chemical Oxygen Demand	ND	20		mg/L	1	3/29/2011
NH3 BY LACHAT 10-107-06-1-B				**NH3_W_AUTO**		Analyst: **BS**
Nitrogen, Ammonia (As N)	ND	0.500		mg/L	1	3/30/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C				**NO3_W**		Analyst: **GWL**
Nitrogen, Nitrate (as N)	0.470	0.050		mg/L	1	3/23/2011 10:37:00 AM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A				**PHENOL_W**	**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	4/1/2011
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-6B
Lab Order:	U1103482	**Collection Date:**	3/22/2011 11:36:00 AM
Project:	Towslee Landfill		
Lab ID:	U1103482-006	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**
Sulfate	15.0	5.00		mg/L	1	3/29/2011
TDS BY SM 18-21 2540C (97)				**TDS**		Analyst: **DMP**
Residue, Dissolved (TDS)	160	25		mg/L	1	3/24/2011
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO**	**(E351.2)**	Analyst: **BS**
Nitrogen, Kjeldahl, Total	ND	0.500		mg/L	1	3/30/2011
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BS**
Organic Carbon, Total	ND	3.0		mg/L	1	3/27/2011

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT: Cortland Co. Soil and Water Cons. Dist.
Client Sample ID: MW-7A
Lab Order: U1103482
Collection Date: 3/22/2011 10:29:00 AM
Project: Towslee Landfill
Lab ID: U1103482-007
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS				**FIELD**		Analyst:
Conductivity	1184	1.0		umhos/cm		3/22/2011 10:29:00 AM
Eh	260	-300		mV		3/22/2011 10:29:00 AM
pH	6.78	2-12.5		SU		3/22/2011 10:29:00 AM
Temperature	9.0			degC		3/22/2011 10:29:00 AM
Turbidity	20.7	5.0		NTU		3/22/2011 10:29:00 AM
BROMIDE BY SM 18-21 4110B (00)				**BROMIDE_W**		Analyst: **LD**
Bromide	ND	80		mg/L	100	4/6/2011
NOTES: The reporting limits were raised due to matrix interference.						
ICP METALS, TOTAL BY NYSDEC ASP 2005				**200.7WTASP**	**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	3/31/2011 6:06:54 PM
Calcium	136000	5000		µg/L	1	3/31/2011 6:06:54 PM
Iron	162	60.0		µg/L	1	3/31/2011 6:06:54 PM
Magnesium	35000	5000		µg/L	1	3/31/2011 6:06:54 PM
Manganese	4330	10.0		µg/L	1	3/31/2011 6:06:54 PM
Potassium	ND	5000		µg/L	1	3/31/2011 6:06:54 PM
Sodium	110000	5000		µg/L	1	3/31/2011 6:06:54 PM
Hardness, Total(CaCO3)	484000	7000		µg/L	1	3/31/2011 6:06:54 PM
ASP TOTAL METALS BY ICP-MS				**200.8ASP**	**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	3/31/2011 2:39:00 PM
ALKALINITY BY EPA 310.2				**ALK_W_AUTO**		Analyst: **GWL**
Alkalinity, Total (As CaCO3)	600	100		mg/L	10	3/30/2011
BOD, 5 DAY BY SM 18-20 5210B (01)				**BOD**		Analyst: **DMP**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	3/23/2011 8:36:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A				**CL_W_AUTO**		Analyst: **GWL**
Chloride	95.7	1.00		mg/L	1	3/30/2011
COD BY EPA 410.4 REV. 2.0				**COD**		Analyst: **CAC**
Chemical Oxygen Demand	28	20		mg/L	1	3/29/2011
NH3 BY LACHAT 10-107-06-1-B				**NH3_W_AUTO**		Analyst: **SAB**
Nitrogen, Ammonia (As N)	ND	0.500		mg/L	1	3/31/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C				**NO3_W**		Analyst: **GWL**
Nitrogen, Nitrate (as N)	0.103	0.050		mg/L	1	3/23/2011 10:37:00 AM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A				**PHENOL_W**	**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	4/5/2011 12:46:00 PM

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-7A
Lab Order:	U1103482	**Collection Date:**	3/22/2011 10:29:00 AM
Project:	Towslee Landfill		
Lab ID:	U1103482-007	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**
Sulfate	21.7	5.00		mg/L	1	3/29/2011
TDS BY SM 18-21 2540C (97)				**TDS**		Analyst: **DMP**
Residue, Dissolved (TDS)	660	25		mg/L	1	3/24/2011
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO**	**(E351.2)**	Analyst: **BS**
Nitrogen, Kjeldahl, Total	0.639	0.500		mg/L	1	3/30/2011
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BS**
Organic Carbon, Total	5.1	3.0		mg/L	1	3/27/2011

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT: Cortland Co. Soil and Water Cons. Dist.
Client Sample ID: Dupe
Lab Order: U1103482
Collection Date: 3/22/2011 10:08:00 AM
Project: Towslee Landfill
Lab ID: U1103482-008
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BROMIDE BY SM 18-21 4110B (00)			**BROMIDE_W**			Analyst: **LD**
Bromide	ND	8.0		mg/L	10	4/6/2011
NOTES: The reporting limits were raised due to matrix interference.						
ICP METALS, TOTAL BY NYSDEC ASP 2005			**200.7WTASP**		**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	3/31/2011 6:13:48 PM
Calcium	30600	5000		µg/L	1	3/31/2011 6:13:48 PM
Iron	489	60.0		µg/L	1	3/31/2011 6:13:48 PM
Magnesium	7590	5000		µg/L	1	3/31/2011 6:13:48 PM
Manganese	291	10.0		µg/L	1	3/31/2011 6:13:48 PM
Potassium	ND	5000		µg/L	1	3/31/2011 6:13:48 PM
Sodium	7960	5000		µg/L	1	3/31/2011 6:13:48 PM
Hardness, Total(CaCO3)	108000	7000		µg/L	1	3/31/2011 6:13:48 PM
ASP TOTAL METALS BY ICP-MS			**200.8ASP**		**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	3/31/2011 2:39:00 PM
ALKALINITY BY EPA 310.2			**ALK_W_AUTO**			Analyst: **GWL**
Alkalinity, Total (As CaCO3)	110	10		mg/L	1	3/30/2011
BOD, 5 DAY BY SM 18-20 5210B (01)			**BOD**			Analyst: **DMP**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	3/23/2011 8:36:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A			**CL_W_AUTO**			Analyst: **GWL**
Chloride	3.49	1.00		mg/L	1	3/30/2011
COD BY EPA 410.4 REV. 2.0			**COD**			Analyst: **CAC**
Chemical Oxygen Demand	ND	20		mg/L	1	3/29/2011
NH3 BY LACHAT 10-107-06-1-B			**NH3_W_AUTO**			Analyst: **BS**
Nitrogen, Ammonia (As N)	ND	0.500		mg/L	1	3/30/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C			**NO3_W**			Analyst: **GWL**
Nitrogen, Nitrate (as N)	0.102	0.050		mg/L	1	3/23/2011 10:37:00 AM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A			**PHENOL_W**		**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	4/1/2011
SULFATE BY ASTM D516-90, 02 & 07			**SULFATE_W**			Analyst: **KLS**
Sulfate	ND	5.00		mg/L	1	3/29/2011
TDS BY SM 18-21 2540C (97)			**TDS**			Analyst: **DMP**
Residue, Dissolved (TDS)	85	25		mg/L	1	3/24/2011
TKN BY LACHAT 10-107-06-2			**TKN_W_AUTO**		**(E351.2)**	Analyst: **BS**

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *08-Apr-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	Dupe
Lab Order:	U1103482	**Collection Date:**	3/22/2011 10:08:00 AM
Project:	Towslee Landfill		
Lab ID:	U1103482-008	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO (E351.2)**		Analyst: **BS**
Nitrogen, Kjeldahl, Total	ND	0.500		mg/L	1	3/30/2011
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BS**
Organic Carbon, Total	ND	3.0		mg/L	1	3/27/2011

Approved By: PH **Date:** 4-8-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc. Ground water Field Log

File: TS-30-01 Revised: 2/10/2001

Client: **Cortland County**

Project: **Towslee Landfill**

ULI ID No. (enter by lab)

Well ID.: **MW-1A**

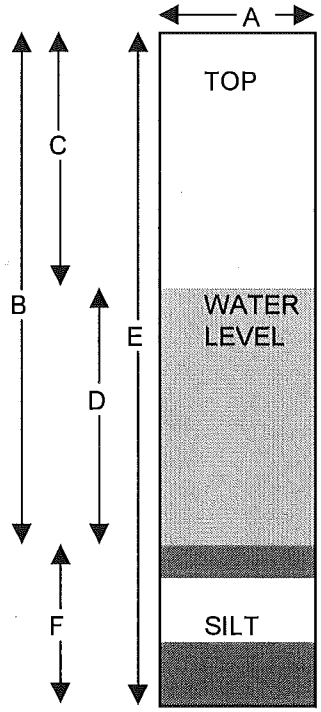
Condition of Well: Good

Locked: No

Method of Evacuation: Dedicated Bailer

Lock ID: 3900

Method of Sampling: Dedicated Bailer



A.	Diameter of Well	2"	inches
B.	Well Depth Measured	33.7	feet
C.	Depth to Water	0.12	feet
D.	Length of Water Column (calculated)	33.58	feet
	Conversion Factor	X.16	------
	Well Volume (calculated)	5.3728	gallons
	No. of Volumes to be Evacuated	X3	------
	Total Volume to be Evacuated	16.1184	gallons
	Actual Volume Evacuated	16.5	gallons
E.	Installed Well Depth (if known)	N/A	feet
F.	Depth of Silt (calculated	N/A	feet

Field Measurements	Initial Evacuation	Final Sampling
Date	3/21/2011	3/22/2011
Time	10:50 AM	9:52 AM
EH	218	228
Temperature	11.0 c	9.8 c
pH	7.67	7.52
Specific Cond.	360	347
Turbidity	45.6	24.2
Dissolved Oxygen	N/A	N/A
Appearance	Cloudy	Cloudy

% Recharge:

Initial Depth to Water 0.12 feet

Recharge Depth to Water 0.22 feet

2nd water column height 54.55 %

1st water column height

Elevation(Top of Casing) N/A feet

G.W. Elevation= N/A feet

G.W.Elevation =Top of Case Elev-Total Depth

Weather: 31* F Rain 30* F Cloudy

Observations:

Sampler: Dan Aumell

Signature: Dan Aumell

Upstate Laboratories, Inc. Ground water Field Log

File: TS-30-01 Revised: 2/10/2001

Client: **Cortland County**

Project: **Towslee Landfill**

Well ID.: **MW-1B**

ULI ID No. (enter by lab)

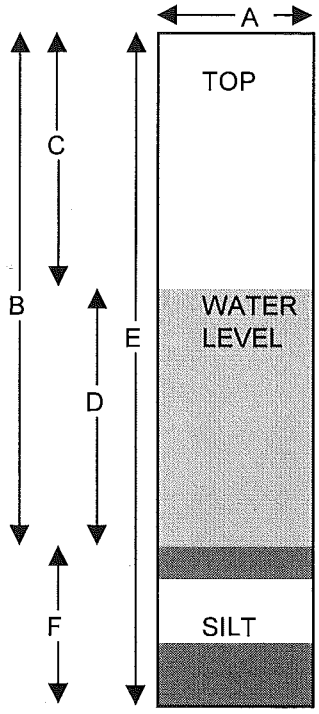
Condition of Well: Good

Locked: No

Method of Evacuation: Dedicated Bailer

Lock ID: 3900

Method of Sampling: Dedicated Bailer



A.	Diameter of Well	2"	inches
B.	Well Depth Measured	55.5	feet
C.	Depth to Water	0.32	feet
D.	Length of Water Column (calculated)	55.18	feet
	Conversion Factor	X.16	------
	Well Volume (calculated)	8.8288	gallons
	No. of Volumes to be Evacuated	X3	------
	Total Volume to be Evacuated	26.4864	gallons
	Actual Volume Evacuated	26.5	gallons
E.	Installed Well Depth (if known)	N/A	feet
F.	Depth of Silt (calculated	N/A	feet

Field Measurements	Initial Evacuation	Final Sampling
Date	3/21/2011	3/22/2011
Time	10:58 AM	10:08 AM
EH	211	225
Temperature	9.2 c	7.6 c
pH	7.93	7.87
Specific Cond.	187	234
Turbidity	3.61	14.1
Dissolved Oxygen	N/A	N/A
Appearance	Clear	Sl Cloudy

% Recharge:

Initial Depth to Water 0.32 feet

Recharge Depth to Water 0.45 feet

2nd water column height 71.11 %

1st water column height

Elevation(Top of Casing) N/A feet

G.W. Elevation= N/A feet

G.W.Elevation =Top of Case Elev-Total Depth

Weather: 31* F Rain 30* F Cloudy

Observations: Dupe

Sampler: Dan Aumell

Signature:

Upstate Laboratories, Inc. Ground water Field Log

File: TS-30-01 Revised: 2/10/2001

Client: **Cortland County**

Project: **Towslee Landfill**

Well ID.: **MW-2A**

ULI ID No. (enter by lab)

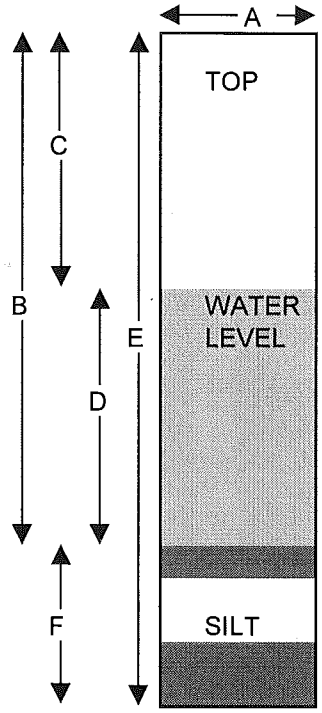
Condition of Well: Good

Locked: No

Method of Evacuation: Dedicated Bailer

Lock ID: 3900

Method of Sampling: Dedicated Bailer



A.	Diameter of Well	2"	inches
B.	Well Depth Measured	12.8	feet
C.	Depth to Water	5.50	feet
D.	Length of Water Column (calculated)	7.30	feet
	Conversion Factor	X.16	------
	Well Volume (calculated)	1.1680	gallons
	No. of Volumes to be Evacuated	X3	------
	Total Volume to be Evacuated	3.5040	gallons
	Actual Volume Evacuated	3.5	gallons
E.	Installed Well Depth (if known)	N/A	feet
F.	Depth of Silt (calculated	N/A	feet

Field Measurements	Initial Evacuation	Final Sampling
Date	3/21/2011	3/22/2011
Time	12:01 PM	10:52 AM
EH	134	6
Temperature	8.8 c	9.8 c
pH	6.80	6.94
Specific Cond.	509	519
Turbidity	416.0	9.77
Dissolved Oxygen	N/A	N/A
Appearance	Very Cloudy Orange	Clear

% Recharge:

Initial Depth to Water 5.50 feet

Recharge Depth to Water 4.45 feet

2nd water column height 123.60 %

1st water column height

Elevation(Top of Casing) N/A feet

G.W. Elevation= N/A feet

G.W.Elevation =Top of Case Elev-Total Depth

Weather: 33* F Rain 32* F Cloudy

Observations:

Sampler: Dan Aumell

Signature:

Upstate Laboratories, Inc. Ground water Field Log

File: TS-30-01 Revised: 2/10/2001

Client: **Cortland County**

Project: **Towslee Landfill**

Well ID.: **MW-2B**

ULI ID No. (enter by lab)

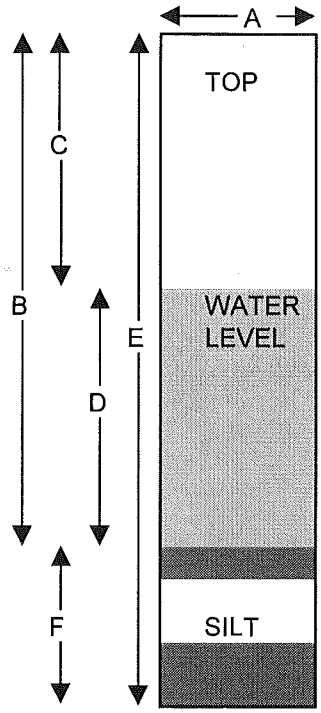
Condition of Well: Good

Locked: Yes

Method of Evacuation: Dedicated Bailer

Lock ID: 3900

Method of Sampling: Dedicated Bailer



A.	Diameter of Well	2"	inches
B.	Well Depth Measured	33.5	feet
C.	Depth to Water	6.38	feet
D.	Length of Water Column (calculated)	27.12	feet
	Conversion Factor	X.16	------
	Well Volume (calculated)	4.3392	gallons
	No. of Volumes to be Evacuated	X3	------
	Total Volume to be Evacuated	13.0176	gallons
	Actual Volume Evacuated	13	gallons
E.	Installed Well Depth (if known)	N/A	feet
F.	Depth of Silt (calculated	N/A	feet

Field Measurements	Initial Evacuation	Final Sampling
Date	3/21/2011	3/22/2011
Time	12:08 PM	11:12 AM
EH	44	63
Temperature	9.9 c	8.2 c
pH	6.68	6.84
Specific Cond.	1422	1397
Turbidity	10.2	6.19
Dissolved Oxygen	N/A	N/A
Appearance	Clear	Clear

% Recharge:

Initial Depth to Water 6.38 feet

Recharge Depth to Water 6.30 feet

2nd water column height 101.27 %

1st water column height

Elevation(Top of Casing) N/A feet

G.W. Elevation= N/A feet

G.W.Elevation =Top of Case Elev-Total Depth

Weather: 33* F Rain 32* F Cloudy

Observations:

Sampler: Dan Aumell

Signature:

Upstate Laboratories, Inc. Ground water Field Log

File: TS-30-01 Revised: 2/10/2001

Client: **Cortland County**

Project: **Towslee Landfill**

Well ID.: **MW-3A**

ULI ID No. (enter by lab)

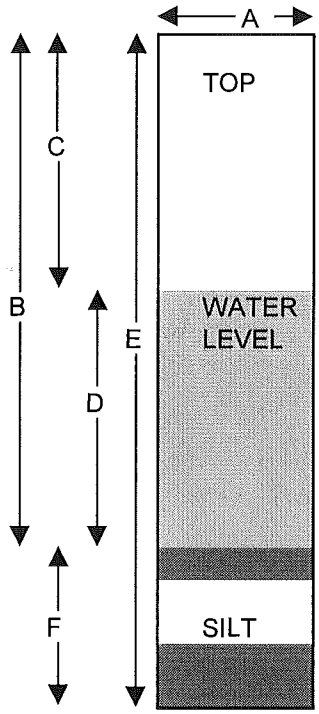
Condition of Well: Good

Locked: No

Method of Evacuation: Dedicated Bailer

Lock ID: 3900

Method of Sampling: Dedicated Bailer



A.	Diameter of Well	2"	inches
B.	Well Depth Measured	22.40	feet
C.	Depth to Water	6.19	feet
D.	Length of Water Column (calculated)	16.21	feet
	Conversion Factor	X.16	------
	Well Volume (calculated)	2.5936	gallons
	No. of Volumes to be Evacuated	X3	------
	Total Volume to be Evacuated	7.7808	gallons
	Actual Volume Evacuated	8	gallons
E.	Installed Well Depth (if known)	N/A	feet
F.	Depth of Silt (calculated	N/A	feet

Field Measurements	Initial Evacuation	Final Sampling
Date	3/21/2011	3/22/2011
Time	10:32 AM	9:35 AM
EH	40	282
Temperature	10.9 c	8.7 c
pH	6.13	6.20
Specific Cond.	92	128
Turbidity	9.30	11.6
Dissolved Oxygen	N/A	N/A
Appearance	Clear	Sl Cloudy

% Recharge:

Initial Depth to Water 6.19 feet

Recharge Depth to Water 6.06 feet

2nd water column height 102.15 %

1st water column height

Elevation(Top of Casing) N/A feet

G.W. Elevation= N/A feet

G.W.Elevation =Top of Case Elev-Total Depth

Weather: 31* F Rain 30* F Cloudy

Observations: MSD

Sampler: Dan Aumell

Signature: Dan Aumell

Upstate Laboratories, Inc. Ground water Field Log

File: TS-30-01 Revised: 2/10/2001

Client: **Cortland County**

Project: **Towslee Landfill**

Well ID.: **MW-6B**

ULI ID No. (enter by lab)

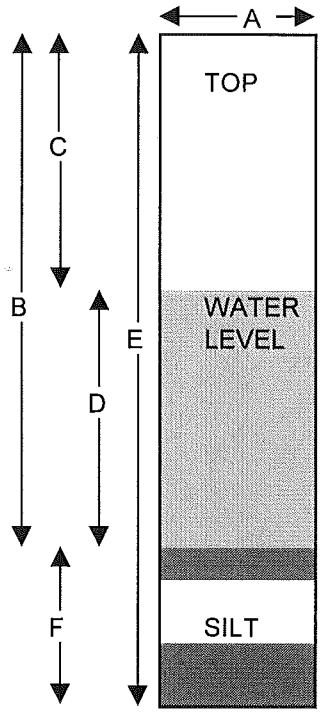
Condition of Well: Good

Locked: No

Method of Evacuation: Dedicated Bailer

Lock ID: 3900

Method of Sampling: Dedicated Bailer



A.	Diameter of Well	2"	inches
B.	Well Depth Measured	40.75	feet
C.	Depth to Water	11.59	feet
D.	Length of Water Column (calculated)	29.16	feet
	Conversion Factor	X.16	------
	Well Volume (calculated)	4.6656	gallons
	No. of Volumes to be Evacuated	X3	------
	Total Volume to be Evacuated	13.9968	gallons
	Actual Volume Evacuated	14	gallons
E.	Installed Well Depth (if known)	N/A	feet
F.	Depth of Silt (calculated	N/A	feet

Field Measurements	Initial Evacuation	Final Sampling
Date	3/21/2011	3/22/2011
Time	12:31 PM	11:36 AM
EH	103	102
Temperature	11.0 c	9.8 c
pH	7.75	7.41
Specific Cond.	349	372
Turbidity	7.79	10.8
Dissolved Oxygen	N/A	N/A
Appearance	Clear	Sl Cloudy

% Recharge:

Initial Depth to Water 11.59 feet

Recharge Depth to Water 11.60 feet

2nd water column height 99.91 %

1st water column height

Elevation(Top of Casing) N/A feet

G.W. Elevation= N/A feet

G.W.Elevation =Top of Case Elev-Total Depth

Weather: 35* F Rain 34* F Cloudy

Observations:

Sampler: Dan Aumell

Signature:

Upstate Laboratories, Inc. Ground water Field Log

File: TS-30-01 Revised: 2/10/2001

Client: **Cortland County**

Project: **Towslee Landfill**

Well ID.: **MW-7A**

ULI ID No. (enter by lab)

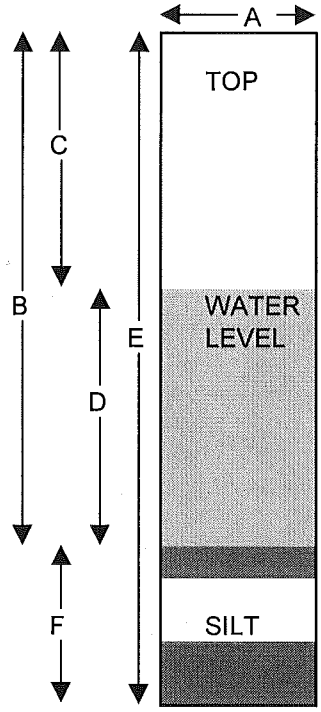
Condition of Well: Good

Locked: No

Method of Evacuation: Dedicated Bailer

Lock ID: 3900

Method of Sampling: Dedicated Bailer



A.	Diameter of Well	2"	inches
B.	Well Depth Measured	22.20	feet
C.	Depth to Water	3.17	feet
D.	Length of Water Column (calculated)	19.03	feet
	Conversion Factor	X.16	------
	Well Volume (calculated)	3.0448	gallons
	No. of Volumes to be Evacuated	X3	------
	Total Volume to be Evacuated	9.1344	gallons
	Actual Volume Evacuated	9.5	gallons
E.	Installed Well Depth (if known)	N/A	feet
F.	Depth of Silt (calculated	N/A	feet

Field Measurements	Initial Evacuation	Final Sampling
Date	3/21/2011	3/22/2011
Time	11:39 AM	10:29 AM
EH	90	260
Temperature	11.2 c	9.0 c
pH	6.71	6.78
Specific Cond.	1187	1184
Turbidity	6.23	20.7
Dissolved Oxygen	N/A	N/A
Appearance	Clear	Cloudy

% Recharge:

Initial Depth to Water 3.17 feet

Recharge Depth to Water 3.50 feet

2nd water column height 90.57 %

1st water column height

Elevation(Top of Casing) N/A feet

G.W. Elevation= N/A feet

G.W.Elevation =Top of Case Elev-Total Depth

Weather: 33* F Rain 32* F Cloudy

Observations:

Sampler: Dan Aumell

Signature: Dan Aumell

Upstate Laboratories, Inc.

6034 Corporate Drive E. Syracuse New York 13057
Phone (315) 437 0255 Fax (315) 437 1209

Chain of Custody Record

ULI Computer Input Form

Client	Project # / Project Name
CORTLAND COUNTY	TOWSLEE LANDFILL

Client Contact:	Phone #	Location (city/state) Address
PATRICK REIDY	607-753-0851	CORTLANDVILLE, NY

Sample ID	Date	Time	Matrix	Grab or Comp	ULI Internal Use Only (1103482)	Number of Containers	1	2	3	4	5	6	7	8	9	10	Remarks
																	1993 PART 360 ROUTINE ASP-A
MW-1A	3/22/11	9:52 am	WATER	GRAB	1	6	X	X	X	X	X	X	X				
MW-1B	3/22/11	10:08 am	WATER	GRAB	2	6	X	X	X	X	X	X	X				
MW-2A	3/22/11	10:52 am	WATER	GRAB	3	6	X	X	X	X	X	X	X				
MW-2B	3/22/11	11:12 am	WATER	GRAB	4	6	X	X	X	X	X	X	X				
MW-3A	3/22/11	9:35 am	WATER	GRAB	5	6	X	X	X	X	X	X	X				MSD
MW-6B	3/22/11	11:36 am	WATER	GRAB	6	6	X	X	X	X	X	X	X				
MW-7A	3/22/11	10:29 am	WATER	GRAB	7	6	X	X	X	X	X	X	X				
DUPE	3/22/11	10:08 am	WATER	GRAB	8	6	X	X	X	X	X	X	X				
MS/MSD						7	X	X	X	X	X	X	X				

	Parameter and Method	Sample bottle: Type	Size	Preservative
1	FIELD PH,TEMP,EH,SPEC.COND.,TURBIDITY	N/A		
2	BOD5,NO3,TDS,SO4,CL-,BROMIDE	PLASTIC	2000ML	NONE
3	TKN,NH3,COD	PLASTIC	500 ML	H2SO4
4	TOC	PLASTIC	120 ML	1:1 HCL
5	ALKALINITY	GLASS	250 ML	NONE
6	T-PHENOLS	AMBER	LITER	H2SO4
7	T-CD,CA,FE,PB*,MG,MN,K,NA,+CALC. HARDNESS	PLASTIC	500 ML	HNO3
8	D-CD,CA,FE,PB*,MG,MN,K,NA,+CALC. HARDNESS	PLASTIC	500 ML	HNO3
9				
10				

Sampled by (Print): Dan Axnell — Name of Courier:

Company: ULI

Relinquished by:(sign)	Date	Time	Received by: (sign)
Relinquished by:(sign)	Date	Time	Received by: (sign)
Relinquished by:(sign) Dan Axnell	Date 3/22/11	Time 4:00 pm	Rec'd for Lab by: 3/23/11 0830

Syracuse Rochester Buffalo Albany Binghamton Fair Lawn (NJ)

Appendix B

Analytical Laboratory Results and Internal Quality Control Summary

Quarter 2 2011

Cortland County Towslee Landfill

Upstate Laboratories, Inc.

Shipping: 6034 Corporate Dr. * E. Syracuse, NY 13057-1017 * (315) 437-0255 * Fax (315) 437-1209
Mailing: Box 169 * Syracuse, NY 13206
Albany (518) 459-3134 * Binghamton (607) 724-0478 * Buffalo (716) 972-0371
Rochester (866) 437-0255 * New Jersey (908) 581-4285

Mr. Patrick Reidy
Cortland Co. Soil and Water Cons. Dist.
100 Grange Place
Room 202
Cortland, NY 13045

Tuesday, July 05, 2011

RE: Analytical Report: Towslee Landfill

Order No.: U1105524

Dear Mr. Patrick Reidy:

Upstate Laboratories, Inc. received 8 sample(s) on 5/25/2011 for the analyses presented in the following report.

All analytical results relate to the samples as received by the laboratory.

All analytical data conforms with standard approved methodologies and quality control. Our quality control narrative will be included should any anomalies occur.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your samples. Samples will be disposed of approximately one month from final report date.

Should you have any questions regarding these tests, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.
Anthony J. Scala
Anthony J. Scala
President/CEO

CC:
Encls: (ASP-A, rept, f.data on disk), invoice

Upstate Laboratories, Inc.

Shipping: 6034 Corporate Dr. * E. Syracuse, NY 13057-1017 * (315) 437-0255 * Fax (315) 437-1209
Mailing: Box 169 * Syracuse, NY 13206
Albany (518) 459-3134 * Binghamton (607) 724-0478 * Buffalo (716) 972-0371
Rochester (866) 437-0255 * New Jersey (908) 581-4285

Mr. Patrick Reidy
Cortland Co. Soil and Water Cons. Dist.
100 Grange Place
Room 202
Cortland, New York 13045

July 6, 2011

RE: Towslee Landfill, Cortlandville, New York,
Samples Collected May 24, 2011
Case Narrative for ULI SDG Number COR50, Workorder #U1105524

The following is a New York State Department of Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Trace Metals

Test	Batch	Anomaly
Cd,Ca,Fe,Mg,Mn,K,Na	R62726	The MS recovery for Cadmium was above QC acceptance limits for the MS performed on sample location MW-3A. All other criteria were satisfied.
Pb	R62727	The ICV recovery for Lead was slightly above QC acceptance limits. The MS recovery for Lead was above QC acceptance limits for the MS performed on sample location MW-3A. All other criteria were satisfied.

Wet Chemistry

Test	Batch	Anomaly
BOD	R61824	Criteria were satisfied.
COD	R62220	Criteria were satisfied.
Nitrate-Nitrogen	R61745	Criteria were satisfied.
TKN	R62226	Criteria were satisfied.

The total number of pages in this Data Package is: 3.

Wet Chemistry

Test	Batch	Anomaly
Bromide	R62074	Criteria were satisfied.
	R62240	The CCV1 recovery for Bromide was below QC acceptance limits. The MS recovery for Bromide was below QC acceptance limits for the MS performed on sample location MW-3A. All other criteria were satisfied.
TDS	R61715	Criteria were satisfied.
Sulfate	R62031	Criteria were satisfied.
	R62045	Criteria were satisfied.
Alkalinity, Total	R61952	Criteria were satisfied.
Chloride	R61900	Criteria were satisfied.
TOC	R61950	The MS recovery for TOC was above QC acceptance limits for the MS performed on sample location MW-3A. All other criteria were satisfied.
Phenols, Total	R62257	Criteria were satisfied.
Ammonia-Nitrogen	R62156	Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

I certify that this data package is in compliance with the terms and conditions of the Contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and/or in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Sincerely,
UPSTATE LABORATORIES, INC.

Anthony J. Scala

Anthony J. Scala
Director

Table 1
Methodologies

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
Cadmium	200.7	(1)
Calcium	200.7	(1)
Iron	200.7	(1)
Lead	200.8	(1)
Magnesium	200.7	(1)
Manganese	200.7	(1)
Potassium	200.7	(1)
Sodium	200.7	(1)
BOD	SM 5210B	(1)
Nitrate-Nitrogen	10-107-04-1C	(1)
Alkalinity, Total	310.2	(1)
Chloride	10-117-07-1A	(1)
COD	410.4	(1)
Ammonia-Nitrogen	10-107-06-1B	(1)
Sulfate	D516-90	(1)
TDS	SM 2540C	(1)
TKN	10-107-06-2	(1)
TOC	SM 5310B	(1)
Phenols	10-210-00-1A	(1)
Bromide	SM 4110B	(1)

Reference

1) New York State Department of Environmental Conservation Analytical Services Protocol (NYSDEC ASP), 7/05 Revision

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT: Cortland Co. Soil and Water Cons. Dist.
Client Sample ID: MW-1A
Lab Order: U1105524
Collection Date: 5/24/2011 9:38:00 AM
Project: Towslee Landfill
Lab ID: U1105524-001
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS				**FIELD**		Analyst:
Conductivity	364	1.0		umhos/cm		5/24/2011 9:38:00 AM
Eh	109	-300		mV		5/24/2011 9:38:00 AM
pH	8.26	2-12.5		SU		5/24/2011 9:38:00 AM
Temperature	19.2			degC		5/24/2011 9:38:00 AM
Turbidity	45.2	5.0		NTU		5/24/2011 9:38:00 AM
BROMIDE BY SM 18-21 4110B (00)				**BROMIDE_W**		Analyst: **BY**
Bromide	ND	0.8		mg/L	1	6/7/2011
ICP METALS, TOTAL BY NYSDEC ASP 2005				**200.7WTASP**	**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	6/30/2011 10:34:30 AM
Calcium	46900	5000		µg/L	1	6/30/2011 10:34:30 AM
Iron	3130	60.0		µg/L	1	6/30/2011 10:34:30 AM
Magnesium	11500	5000		µg/L	1	6/30/2011 10:34:30 AM
Manganese	215	10.0		µg/L	1	6/30/2011 10:34:30 AM
Potassium	ND	5000		µg/L	1	6/30/2011 10:34:30 AM
Sodium	13100	5000		µg/L	1	6/30/2011 10:34:30 AM
Hardness, Total(CaCO3)	164000	7000		µg/L	1	6/30/2011 10:34:30 AM
ASP TOTAL METALS BY ICP-MS				**200.8ASP**	**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	6/30/2011 8:23:00 AM
ALKALINITY BY EPA 310.2				**ALK_W_AUTO**		Analyst: **GWL**
Alkalinity, Total (As CaCO3)	120	10		mg/L	1	6/2/2011
BOD, 5 DAY BY SM 18-20 5210B (01)				**BOD**		Analyst: **KLS**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	5/25/2011 7:31:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A				**CL_W_AUTO**		Analyst: **GWL**
Chloride	30.5	1.00		mg/L	1	6/2/2011
COD BY EPA 410.4 REV. 2.0				**COD**		Analyst: **CAC**
Chemical Oxygen Demand	ND	20		mg/L	1	6/14/2011
NH3 BY LACHAT 10-107-06-1-B				**NH3_W_AUTO**		Analyst: **BY**
Nitrogen, Ammonia (As N)	ND	0.500		mg/L	1	6/11/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C				**NO3_W**		Analyst: **BY**
Nitrogen, Nitrate (as N)	ND	0.050		mg/L	1	5/25/2011 5:05:00 PM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A				**PHENOL_W**	**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	6/15/2011 7:23:00 AM
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**

Approved By: PH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-1A
Lab Order:	U1105524	**Collection Date:**	5/24/2011 9:38:00 AM
Project:	Towslee Landfill		
Lab ID:	U1105524-001	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**
Sulfate	10.2	5.00		mg/L	1	6/7/2011
TDS BY SM 18-21 2540C (97)				**TDS**		Analyst: **NKA**
Residue, Dissolved (TDS)	460	25		mg/L	1	5/25/2011
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO**	**(E351.2)**	Analyst: **BS**
Nitrogen, Kjeldahl, Total	ND	0.500		mg/L	1	6/15/2011
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BY**
Organic Carbon, Total	ND	3.0		mg/L	1	6/3/2011

Approved By: PH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-1B
Lab Order:	U1105524	**Collection Date:**	5/24/2011 9:59:00 AM
Project:	Towslee Landfill		
Lab ID:	U1105524-002	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS				**FIELD**		Analyst:
Conductivity	206	1.0		umhos/cm		5/24/2011 9:59:00 AM
Eh	100	-300		mV		5/24/2011 9:59:00 AM
pH	8.30	2-12.5		SU		5/24/2011 9:59:00 AM
Temperature	19.7			degC		5/24/2011 9:59:00 AM
Turbidity	1.08	5.0		NTU		5/24/2011 9:59:00 AM
BROMIDE BY SM 18-21 4110B (00)				**BROMIDE_W**		Analyst: **BY**
Bromide	ND	0.8		mg/L	1	6/7/2011
ICP METALS, TOTAL BY NYSDEC ASP 2005				**200.7WTASP**	**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	6/30/2011 10:39:29 AM
Calcium	24900	5000		µg/L	1	6/30/2011 10:39:29 AM
Iron	ND	60.0		µg/L	1	6/30/2011 10:39:29 AM
Magnesium	6140	5000		µg/L	1	6/30/2011 10:39:29 AM
Manganese	240	10.0		µg/L	1	6/30/2011 10:39:29 AM
Potassium	ND	5000		µg/L	1	6/30/2011 10:39:29 AM
Sodium	6480	5000		µg/L	1	6/30/2011 10:39:29 AM
Hardness, Total(CaCO3)	87400	7000		µg/L	1	6/30/2011 10:39:29 AM
ASP TOTAL METALS BY ICP-MS				**200.8ASP**	**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	6/30/2011 8:23:00 AM
ALKALINITY BY EPA 310.2				**ALK_W_AUTO**		Analyst: **GWL**
Alkalinity, Total (As CaCO3)	93	10		mg/L	1	6/2/2011
BOD, 5 DAY BY SM 18-20 5210B (01)				**BOD**		Analyst: **KLS**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	5/25/2011 7:31:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A				**CL_W_AUTO**		Analyst: **GWL**
Chloride	1.70	1.00		mg/L	1	6/2/2011
COD BY EPA 410.4 REV. 2.0				**COD**		Analyst: **CAC**
Chemical Oxygen Demand	ND	20		mg/L	1	6/14/2011
NH3 BY LACHAT 10-107-06-1-B				**NH3_W_AUTO**		Analyst: **BY**
Nitrogen, Ammonia (As N)	ND	0.500		mg/L	1	6/11/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C				**NO3_W**		Analyst: **BY**
Nitrogen, Nitrate (as N)	ND	0.050		mg/L	1	5/25/2011 5:05:00 PM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A				**PHENOL_W**	**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	6/15/2011 7:23:00 AM
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**

Approved By: PH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-1B
Lab Order:	U1105524	**Collection Date:**	5/24/2011 9:59:00 AM
Project:	Towslee Landfill		
Lab ID:	U1105524-002	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**
Sulfate	5.60	5.00		mg/L	1	6/7/2011
TDS BY SM 18-21 2540C (97)				**TDS**		Analyst: **NKA**
Residue, Dissolved (TDS)	180	25		mg/L	1	5/25/2011
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO**	**(E351.2)**	Analyst: **BS**
Nitrogen, Kjeldahl, Total	ND	0.500		mg/L	1	6/15/2011
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BY**
Organic Carbon, Total	ND	3.0		mg/L	1	6/3/2011

Approved By: PH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT: Cortland Co. Soil and Water Cons. Dist.
Client Sample ID: MW-2A
Lab Order: U1105524
Collection Date: 5/24/2011 10:33:00 AM
Project: Towslee Landfill
Lab ID: U1105524-003
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS				**FIELD**		Analyst:
Conductivity	482	1.0		umhos/cm		5/24/2011 10:33:00 AM
Eh	-43	-300		mV		5/24/2011 10:33:00 AM
pH	7.31	2-12.5		SU		5/24/2011 10:33:00 AM
Temperature	17.9			degC		5/24/2011 10:33:00 AM
Turbidity	20.7	5.0		NTU		5/24/2011 10:33:00 AM
BROMIDE BY SM 18-21 4110B (00)				**BROMIDE_W**		Analyst: **BY**
Bromide	ND	8.0		mg/L	10	6/7/2011
NOTES: The reporting limits were raised due to matrix interference.						
ICP METALS, TOTAL BY NYSDEC ASP 2005				**200.7WTASP**	**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	6/30/2011 10:45:01 AM
Calcium	48700	5000		µg/L	1	6/30/2011 10:45:01 AM
Iron	4270	60.0		µg/L	1	6/30/2011 10:45:01 AM
Magnesium	11000	5000		µg/L	1	6/30/2011 10:45:01 AM
Manganese	7050	10.0		µg/L	1	6/30/2011 10:45:01 AM
Potassium	7470	5000		µg/L	1	6/30/2011 10:45:01 AM
Sodium	12500	5000		µg/L	1	6/30/2011 10:45:01 AM
Hardness, Total(CaCO3)	167000	7000		µg/L	1	6/30/2011 10:45:01 AM
ASP TOTAL METALS BY ICP-MS				**200.8ASP**	**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	6/30/2011 8:23:00 AM
ALKALINITY BY EPA 310.2				**ALK_W_AUTO**		Analyst: **GWL**
Alkalinity, Total (As CaCO3)	250	10		mg/L	1	6/2/2011
BOD, 5 DAY BY SM 18-20 5210B (01)				**BOD**		Analyst: **KLS**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	5/25/2011 7:31:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A				**CL_W_AUTO**		Analyst: **GWL**
Chloride	8.33	1.00		mg/L	1	6/2/2011
COD BY EPA 410.4 REV. 2.0				**COD**		Analyst: **CAC**
Chemical Oxygen Demand	24	20		mg/L	1	6/14/2011
NH3 BY LACHAT 10-107-06-1-B				**NH3_W_AUTO**		Analyst: **BY**
Nitrogen, Ammonia (As N)	7.03	0.500		mg/L	1	6/11/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C				**NO3_W**		Analyst: **BY**
Nitrogen, Nitrate (as N)	0.073	0.050		mg/L	1	5/25/2011 5:05:00 PM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A				**PHENOL_W**	**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	6/15/2011 7:23:00 AM

Approved By: PH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-2A
Lab Order:	U1105524	**Collection Date:**	5/24/2011 10:33:00 AM
Project:	Towslee Landfill		
Lab ID:	U1105524-003	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**
Sulfate	ND	5.00		mg/L	1	6/7/2011
TDS BY SM 18-21 2540C (97)				**TDS**		Analyst: **NKA**
Residue, Dissolved (TDS)	240	25		mg/L	1	5/25/2011
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO**	**(E351.2)**	Analyst: **BS**
Nitrogen, Kjeldahl, Total	8.21	0.500		mg/L	1	6/15/2011
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BY**
Organic Carbon, Total	ND	3.0		mg/L	1	6/3/2011

Approved By: DH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-2B
Lab Order:	U1105524	**Collection Date:**	5/24/2011 10:50:00 AM
Project:	Towslee Landfill		
Lab ID:	U1105524-004	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS				**FIELD**		Analyst:
Conductivity	1225	1.0		umhos/cm		5/24/2011 10:50:00 AM
Eh	12	-300		mV		5/24/2011 10:50:00 AM
pH	6.87	2-12.5		SU		5/24/2011 10:50:00 AM
Temperature	16.1			degC		5/24/2011 10:50:00 AM
Turbidity	4.26	5.0		NTU		5/24/2011 10:50:00 AM
BROMIDE BY SM 18-21 4110B (00)				**BROMIDE_W**		Analyst: **BY**
Bromide	ND	80		mg/L	100	6/11/2011
NOTES: The reporting limits were raised due to matrix interference.						
ICP METALS, TOTAL BY NYSDEC ASP 2005				**200.7WTASP**	**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	6/30/2011 10:50:13 AM
Calcium	172000	5000		µg/L	1	6/30/2011 10:50:13 AM
Iron	312	60.0		µg/L	1	6/30/2011 10:50:13 AM
Magnesium	38800	5000		µg/L	1	6/30/2011 10:50:13 AM
Manganese	5230	10.0		µg/L	1	6/30/2011 10:50:13 AM
Potassium	ND	5000		µg/L	1	6/30/2011 10:50:13 AM
Sodium	51000	5000		µg/L	1	6/30/2011 10:50:13 AM
Hardness, Total(CaCO3)	589000	7000		µg/L	1	6/30/2011 10:50:13 AM
ASP TOTAL METALS BY ICP-MS				**200.8ASP**	**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	6/30/2011 8:23:00 AM
ALKALINITY BY EPA 310.2				**ALK_W_AUTO**		Analyst: **GWL**
Alkalinity, Total (As CaCO3)	540	10		mg/L	1	6/2/2011
BOD, 5 DAY BY SM 18-20 5210B (01)				**BOD**		Analyst: **KLS**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	5/25/2011 7:31:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A				**CL_W_AUTO**		Analyst: **GWL**
Chloride	104	1.00		mg/L	1	6/2/2011
COD BY EPA 410.4 REV. 2.0				**COD**		Analyst: **CAC**
Chemical Oxygen Demand	ND	20		mg/L	1	6/14/2011
NH3 BY LACHAT 10-107-06-1-B				**NH3_W_AUTO**		Analyst: **BY**
Nitrogen, Ammonia (As N)	0.752	0.500		mg/L	1	6/11/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C				**NO3_W**		Analyst: **BY**
Nitrogen, Nitrate (as N)	ND	0.050		mg/L	1	5/25/2011 5:05:00 PM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A				**PHENOL_W**	**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	6/15/2011 7:23:00 AM

Approved By: PH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-2B
Lab Order:	U1105524	**Collection Date:**	5/24/2011 10:50:00 AM
Project:	Towslee Landfill		
Lab ID:	U1105524-004	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**
Sulfate	ND	5.00		mg/L	1	6/7/2011
TDS BY SM 18-21 2540C (97)				**TDS**		Analyst: **NKA**
Residue, Dissolved (TDS)	760	25		mg/L	1	5/25/2011
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO**	**(E351.2)**	Analyst: **BS**
Nitrogen, Kjeldahl, Total	0.948	0.500		mg/L	1	6/15/2011
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BY**
Organic Carbon, Total	3.6	3.0		mg/L	1	6/3/2011

Approved By: PH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-3A
Lab Order:	U1105524	**Collection Date:**	5/24/2011 9:21:00 AM
Project:	Towslee Landfill		
Lab ID:	U1105524-005	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS			**FIELD**			Analyst:
Conductivity	308	1.0		umhos/cm		5/24/2011 9:21:00 AM
Eh	9	-300		mV		5/24/2011 9:21:00 AM
pH	7.15	2-12.5		SU		5/24/2011 9:21:00 AM
Temperature	16.7			degC		5/24/2011 9:21:00 AM
Turbidity	4.30	5.0		NTU		5/24/2011 9:21:00 AM
BROMIDE BY SM 18-21 4110B (00)			**BROMIDE_W**			Analyst: **BY**
Bromide	ND	0.8		mg/L	1	6/11/2011
ICP METALS, TOTAL BY NYSDEC ASP 2005			**200.7WTASP**		**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	6/30/2011 10:55:17 AM
Calcium	42900	5000		µg/L	1	6/30/2011 10:55:17 AM
Iron	121	60.0		µg/L	1	6/30/2011 10:55:17 AM
Magnesium	7250	5000		µg/L	1	6/30/2011 10:55:17 AM
Manganese	704	10.0		µg/L	1	6/30/2011 10:55:17 AM
Potassium	ND	5000		µg/L	1	6/30/2011 10:55:17 AM
Sodium	ND	5000		µg/L	1	6/30/2011 10:55:17 AM
Hardness, Total(CaCO3)	137000	7000		µg/L	1	6/30/2011 10:55:17 AM
ASP TOTAL METALS BY ICP-MS			**200.8ASP**		**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	6/30/2011 8:23:00 AM
ALKALINITY BY EPA 310.2			**ALK_W_AUTO**			Analyst: **GWL**
Alkalinity, Total (As CaCO3)	150	10		mg/L	1	6/2/2011
BOD, 5 DAY BY SM 18-20 5210B (01)			**BOD**			Analyst: **KLS**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	5/25/2011 7:31:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A			**CL_W_AUTO**			Analyst: **GWL**
Chloride	2.28	1.00		mg/L	1	6/2/2011
COD BY EPA 410.4 REV. 2.0			**COD**			Analyst: **CAC**
Chemical Oxygen Demand	ND	20		mg/L	1	6/14/2011
NH3 BY LACHAT 10-107-06-1-B			**NH3_W_AUTO**			Analyst: **BY**
Nitrogen, Ammonia (As N)	ND	0.500		mg/L	1	6/11/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C			**NO3_W**			Analyst: **BY**
Nitrogen, Nitrate (as N)	ND	0.050		mg/L	1	5/25/2011 5:05:00 PM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A			**PHENOL_W**		**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	6/15/2011 7:23:00 AM
SULFATE BY ASTM D516-90, 02 & 07			**SULFATE_W**			Analyst: **KLS**

Approved By: PH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-3A
Lab Order:	U1105524	**Collection Date:**	5/24/2011 9:21:00 AM
Project:	Towslee Landfill		
Lab ID:	U1105524-005	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**
Sulfate	ND	5.00		mg/L	1	6/7/2011
TDS BY SM 18-21 2540C (97)				**TDS**		Analyst: **NKA**
Residue, Dissolved (TDS)	320	25		mg/L	1	5/25/2011
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO**	**(E351.2)**	Analyst: **BS**
Nitrogen, Kjeldahl, Total	ND	0.500		mg/L	1	6/15/2011
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BY**
Organic Carbon, Total	ND	3.0		mg/L	1	6/3/2011

Approved By: DH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-6B
Lab Order:	U1105524	**Collection Date:**	5/24/2011 11:17:00 AM
Project:	Towslee Landfill		
Lab ID:	U1105524-006	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS			**FIELD**			Analyst:
Conductivity	399	1.0		umhos/cm		5/24/2011 11:17:00 AM
Eh	88	-300		mV		5/24/2011 11:17:00 AM
pH	7.75	2-12.5		SU		5/24/2011 11:17:00 AM
Temperature	15.7			degC		5/24/2011 11:17:00 AM
Turbidity	7.65	5.0		NTU		5/24/2011 11:17:00 AM
BROMIDE BY SM 18-21 4110B (00)			**BROMIDE_W**			Analyst: **BY**
Bromide	ND	0.8		mg/L	1	6/11/2011
ICP METALS, TOTAL BY NYSDEC ASP 2005			**200.7WTASP**		**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	6/30/2011 11:21:03 AM
Calcium	43300	5000		µg/L	1	6/30/2011 11:21:03 AM
Iron	235	60.0		µg/L	1	6/30/2011 11:21:03 AM
Magnesium	10800	5000		µg/L	1	6/30/2011 11:21:03 AM
Manganese	21.3	10.0		µg/L	1	6/30/2011 11:21:03 AM
Potassium	ND	5000		µg/L	1	6/30/2011 11:21:03 AM
Sodium	17000	5000		µg/L	1	6/30/2011 11:21:03 AM
Hardness, Total(CaCO3)	153000	7000		µg/L	1	6/30/2011 11:21:03 AM
ASP TOTAL METALS BY ICP-MS			**200.8ASP**		**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	6/30/2011 8:23:00 AM
ALKALINITY BY EPA 310.2			**ALK_W_AUTO**			Analyst: **GWL**
Alkalinity, Total (As CaCO3)	150	10		mg/L	1	6/2/2011
BOD, 5 DAY BY SM 18-20 5210B (01)			**BOD**			Analyst: **KLS**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	5/25/2011 7:31:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A			**CL_W_AUTO**			Analyst: **GWL**
Chloride	16.4	1.00		mg/L	1	6/2/2011
COD BY EPA 410.4 REV. 2.0			**COD**			Analyst: **CAC**
Chemical Oxygen Demand	ND	20		mg/L	1	6/14/2011
NH3 BY LACHAT 10-107-06-1-B			**NH3_W_AUTO**			Analyst: **BY**
Nitrogen, Ammonia (As N)	ND	0.500		mg/L	1	6/11/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C			**NO3_W**			Analyst: **BY**
Nitrogen, Nitrate (as N)	0.058	0.050		mg/L	1	5/25/2011 5:05:00 PM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A			**PHENOL_W**		**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	6/15/2011 7:23:00 AM
SULFATE BY ASTM D516-90, 02 & 07			**SULFATE_W**			Analyst: **KLS**

Approved By: PH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-6B
Lab Order:	U1105524	**Collection Date:**	5/24/2011 11:17:00 AM
Project:	Towslee Landfill		
Lab ID:	U1105524-006	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**
Sulfate	19.2	5.00		mg/L	1	6/8/2011
TDS BY SM 18-21 2540C (97)				**TDS**		Analyst: **NKA**
Residue, Dissolved (TDS)	250	25		mg/L	1	5/25/2011
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO**	**(E351.2)**	Analyst: **BS**
Nitrogen, Kjeldahl, Total	ND	0.500		mg/L	1	6/15/2011
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BY**
Organic Carbon, Total	ND	3.0		mg/L	1	6/3/2011

Approved By: PH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-7A
Lab Order:	U1105524	**Collection Date:**	5/24/2011 10:16:00 AM
Project:	Towslee Landfill		
Lab ID:	U1105524-007	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
FIELD PARAMETERS				**FIELD**		Analyst:
Conductivity	1179	1.0		umhos/cm		5/24/2011 10:16:00 AM
Eh	135	-300		mV		5/24/2011 10:16:00 AM
pH	7.02	2-12.5		SU		5/24/2011 10:16:00 AM
Temperature	18.3			degC		5/24/2011 10:16:00 AM
Turbidity	69.2	5.0		NTU		5/24/2011 10:16:00 AM
BROMIDE BY SM 18-21 4110B (00)				**BROMIDE_W**		Analyst: **BY**
Bromide	ND	8.0		mg/L	10	6/11/2011
NOTES: The reporting limits were raised due to matrix interference.						
ICP METALS, TOTAL BY NYSDEC ASP 2005				**200.7WTASP**	**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	6/30/2011 11:26:36 AM
Calcium	130000	5000		µg/L	1	6/30/2011 11:26:36 AM
Iron	418	60.0		µg/L	1	6/30/2011 11:26:36 AM
Magnesium	34400	5000		µg/L	1	6/30/2011 11:26:36 AM
Manganese	3800	10.0		µg/L	1	6/30/2011 11:26:36 AM
Potassium	ND	5000		µg/L	1	6/30/2011 11:26:36 AM
Sodium	114000	5000		µg/L	1	6/30/2011 11:26:36 AM
Hardness, Total(CaCO3)	465000	7000		µg/L	1	6/30/2011 11:26:36 AM
ASP TOTAL METALS BY ICP-MS				**200.8ASP**	**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	6/30/2011 8:23:00 AM
ICP METALS, DISSOLVED BY NYSDEC ASP 2005				**200.7WDASP**	**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	6/30/2011 10:13:59 AM
Calcium	126000	5000		µg/L	1	6/30/2011 10:13:59 AM
Iron	ND	60.0		µg/L	1	6/30/2011 10:13:59 AM
Magnesium	33600	5000		µg/L	1	6/30/2011 10:13:59 AM
Manganese	3040	10.0		µg/L	1	6/30/2011 10:13:59 AM
Potassium	ND	5000		µg/L	1	6/30/2011 10:13:59 AM
Sodium	113000	5000		µg/L	1	6/30/2011 10:13:59 AM
NOTES: Dissolved Metals filtered in Laboratory. 5/21/11 2PM						
ICPMS METALS, DISSOLVED BY NYSDEC ASP 2005				**200.8_D_ASP**	**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	6/30/2011 8:23:00 AM
ALKALINITY BY EPA 310.2				**ALK_W_AUTO**		Analyst: **GWL**
Alkalinity, Total (As CaCO3)	510	10		mg/L	1	6/2/2011
BOD, 5 DAY BY SM 18-20 5210B (01)				**BOD**		Analyst: **KLS**

Approved By: PH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	MW-7A
Lab Order:	U1105524	**Collection Date:**	5/24/2011 10:16:00 AM
Project:	Towslee Landfill		
Lab ID:	U1105524-007	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BOD, 5 DAY BY SM 18-20 5210B (01)				**BOD**		Analyst: **KLS**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	5/25/2011 7:31:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A				**CL_W_AUTO**		Analyst: **GWL**
Chloride	99.0	1.00		mg/L	1	6/2/2011
COD BY EPA 410.4 REV. 2.0				**COD**		Analyst: **CAC**
Chemical Oxygen Demand	33	20		mg/L	1	6/14/2011
NH3 BY LACHAT 10-107-06-1-B				**NH3_W_AUTO**		Analyst: **BY**
Nitrogen, Ammonia (As N)	ND	0.500		mg/L	1	6/11/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C				**NO3_W**		Analyst: **BY**
Nitrogen, Nitrate (as N)	ND	0.050		mg/L	1	5/25/2011 5:05:00 PM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A				**PHENOL_W**	**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	6/15/2011 7:23:00 AM
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**
Sulfate	18.7	5.00		mg/L	1	6/8/2011
TDS BY SM 18-21 2540C (97)				**TDS**		Analyst: **NKA**
Residue, Dissolved (TDS)	710	25		mg/L	1	5/25/2011
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO**	**(E351.2)**	Analyst: **BS**
Nitrogen, Kjeldahl, Total	ND	0.500		mg/L	1	6/15/2011
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BY**
Organic Carbon, Total	4.8	3.0		mg/L	1	6/3/2011

Approved By: DH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT: Cortland Co. Soil and Water Cons. Dist.
Client Sample ID: Dupe
Lab Order: U1105524
Collection Date: 5/24/2011 9:59:00 AM
Project: Towslee Landfill
Lab ID: U1105524-008
Matrix: WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
BROMIDE BY SM 18-21 4110B (00)				**BROMIDE_W**		Analyst: **BY**
Bromide	ND	0.8		mg/L	1	6/11/2011
ICP METALS, TOTAL BY NYSDEC ASP 2005				**200.7WTASP**	**(E200.7)**	Analyst: **LJ**
Cadmium	ND	5.00		µg/L	1	6/30/2011 11:37:17 AM
Calcium	26400	5000		µg/L	1	6/30/2011 11:37:17 AM
Iron	78.1	60.0		µg/L	1	6/30/2011 11:37:17 AM
Magnesium	6600	5000		µg/L	1	6/30/2011 11:37:17 AM
Manganese	563	10.0		µg/L	1	6/30/2011 11:37:17 AM
Potassium	ND	5000		µg/L	1	6/30/2011 11:37:17 AM
Sodium	6840	5000		µg/L	1	6/30/2011 11:37:17 AM
Hardness, Total(CaCO3)	93100	7000		µg/L	1	6/30/2011 11:37:17 AM
ASP TOTAL METALS BY ICP-MS				**200.8ASP**	**(E200.8)**	Analyst: **LJ**
Lead	ND	3.0		µg/L	1	6/30/2011 8:23:00 AM
ALKALINITY BY EPA 310.2				**ALK_W_AUTO**		Analyst: **GWL**
Alkalinity, Total (As CaCO3)	91	10		mg/L	1	6/2/2011
BOD, 5 DAY BY SM 18-20 5210B (01)				**BOD**		Analyst: **KLS**
Biochemical Oxygen Demand	ND	4.0		mg/L	1	5/25/2011 7:31:00 AM
CHLORIDE WATERS BY LACHAT 10-117-07-1 A				**CL_W_AUTO**		Analyst: **GWL**
Chloride	1.86	1.00		mg/L	1	6/2/2011
COD BY EPA 410.4 REV. 2.0				**COD**		Analyst: **CAC**
Chemical Oxygen Demand	ND	20		mg/L	1	6/14/2011
NH3 BY LACHAT 10-107-06-1-B				**NH3_W_AUTO**		Analyst: **BY**
Nitrogen, Ammonia (As N)	ND	0.500		mg/L	1	6/11/2011
NITROGEN, NITRATE (AS N) BY LACHAT 10-107-04-1C				**NO3_W**		Analyst: **BY**
Nitrogen, Nitrate (as N)	ND	0.050		mg/L	1	5/25/2011 5:05:00 PM
PHENOLICS, TOTAL BY LACHAT 10-210-00-1A				**PHENOL_W**	**(E420.4)**	Analyst: **SAB**
Phenolics, Total Recoverable	ND	0.005		mg/L	1	6/15/2011 7:23:00 AM
SULFATE BY ASTM D516-90, 02 & 07				**SULFATE_W**		Analyst: **KLS**
Sulfate	ND	5.00		mg/L	1	6/8/2011
TDS BY SM 18-21 2540C (97)				**TDS**		Analyst: **NKA**
Residue, Dissolved (TDS)	130	25		mg/L	1	5/25/2011
TKN BY LACHAT 10-107-06-2				**TKN_W_AUTO**	**(E351.2)**	Analyst: **BS**
Nitrogen, Kjeldahl, Total	ND	0.500		mg/L	1	6/15/2011

Approved By: PH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter	*	Low Level
**	Value exceeds Maximum Contaminant Value	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
Q	Outlying QC recoveries were associated with this parameter	S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: *05-Jul-11*

CLIENT:	Cortland Co. Soil and Water Cons. Dist.	**Client Sample ID:**	Dupe
Lab Order:	U1105524	**Collection Date:**	5/24/2011 9:59:00 AM
Project:	Towslee Landfill		
Lab ID:	U1105524-008	**Matrix:**	WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TOC BY SM 18-21 5310B (00)				**TOC_W**		Analyst: **BY**
Organic Carbon, Total	ND	3.0		mg/L	1	6/3/2011

Approved By: PH **Date:** 7-5-11

Qualifiers:

#	Accreditation not offered by NYS DOH for this parameter
**	Value exceeds Maximum Contaminant Value
E	Value above quantitation range
J	Analyte detected below quantitation limits
Q	Outlying QC recoveries were associated with this parameter
*	Low Level
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc. Ground water Field Log

File: TS-30-01 Revised: 2/10/2001

Client: **Cortland County**

Project: **Towslee Landfill**

Well ID.: **MW-1A**

ULI ID No. (enter by lab)

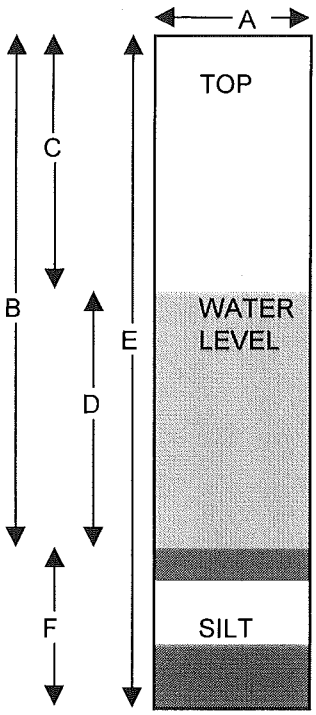
Condition of Well: Good

Locked: No

Method of Evacuation: Dedicated Bailer

Lock ID: 3900

Method of Sampling: Dedicated Bailer



A.	Diameter of Well	2"	inches
B.	Well Depth Measured	33.7	feet
C.	Depth to Water	0.00	feet
D.	Length of Water Column (calculated)	33.70	feet
	Conversion Factor	X.16	------
	Well Volume (calculated)	5.392	gallons
	No. of Volumes to be Evacuated	X3	------
	Total Volume to be Evacuated	16.176	gallons
	Actual Volume Evacuated	16.5	gallons
E.	Installed Well Depth (if known)	N/A	feet
F.	Depth of Silt (calculated	N/A	feet

Field Measurements	Initial Evacuation	Final Sampling
Date	5/23/2011	5/24/2011
Time	9:59 AM	9:38 AM
EH	-42	109
Temperature	14.1 c	19.2 c
pH	7.73	8.26
Specific Cond.	359	364
Turbidity	252.0	45.2
Dissolved Oxygen	N/A	N/A
Appearance	Very Cloudy	Cloudy

% Recharge:

Initial Depth to Water 0.00 feet

Recharge Depth to Water 0.00 feet

2nd water column height 100.00 %

1st water column height

Elevation(Top of Casing) N/A feet

G.W. Elevation= N/A feet

G.W.Elevation =Top of Case Elev-Total Depth

Weather: 55* F Overcast 68* F Cloudy

Observations:

Sampler: Dan Aumell

Signature: Dan Aumell

Upstate Laboratories, Inc. Ground water Field Log

File: TS-30-01 Revised: 2/10/2001

Client: **Cortland County**

Project: **Towslee Landfill**

Well ID.: **MW-1B**

ULI ID No. (enter by lab)

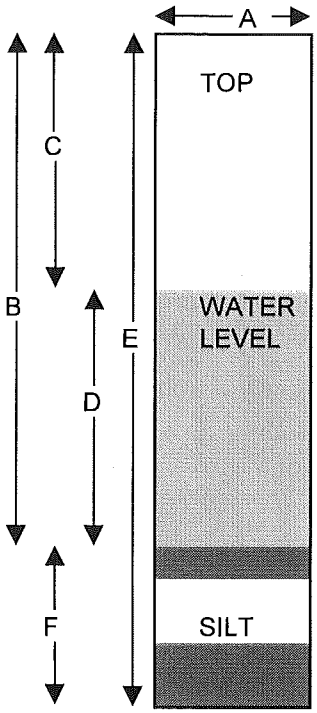
Condition of Well: Good

Locked: No

Method of Evacuation: Dedicated Bailer

Lock ID: 3900

Method of Sampling: Dedicated Bailer



A.	Diameter of Well	2"	inches
B.	Well Depth Measured	55.5	feet
C.	Depth to Water	0.00	feet
D.	Length of Water Column (calculated)	55.5	feet
	Conversion Factor	X.16	------
	Well Volume (calculated)	8.88	gallons
	No. of Volumes to be Evacuated	X3	------
	Total Volume to be Evacuated	26.64	gallons
	Actual Volume Evacuated	27	gallons
E.	Installed Well Depth (if known)	N/A	feet
F.	Depth of Silt (calculated	N/A	feet

Field Measurements	Initial Evacuation	Final Sampling
Date	5/23/2011	5/24/2011
Time	10:39 AM	9:59 AM
EH	-24	100
Temperature	14.6 c	19.7 c
pH	8.11	8.30
Specific Cond.	197	206
Turbidity	0.81	1.08
Dissolved Oxygen	N/A	N/A
Appearance	Clear	Clear

% Recharge:

Initial Depth to Water	0.00	feet
Recharge Depth to Water	0.00	feet
2nd water column height	100.00	%
1st water column height		

Elevation(Top of Casing)	N/A	feet
G.W. Elevation=	N/A	feet

G.W.Elevation =Top of Case Elev-Total Depth

Weather: 55* F Overcast 68* F Cloudy

Observations: Dupe

Sampler: Dan Aumell

Signature: Dan Aumell

Upstate Laboratories, Inc. Ground water Field Log

File: TS-30-01 Revised: 2/10/2001

Client: **Cortland County**

Project: **Towslee Landfill**

Well ID.: **MW-2A**

ULI ID No. (enter by lab)

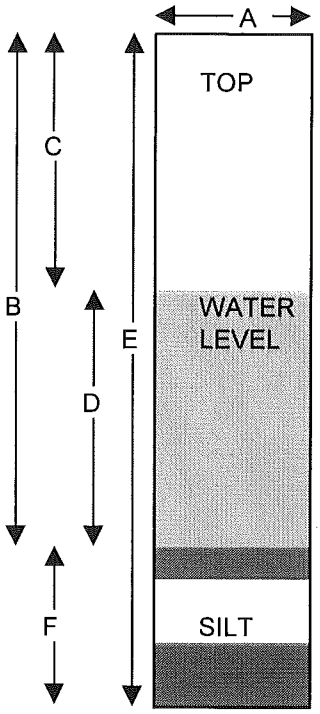
Condition of Well: Good

Locked: No

Method of Evacuation: Dedicated Bailer

Lock ID: 3900

Method of Sampling: Dedicated Bailer



A.	Diameter of Well	2"	inches
B.	Well Depth Measured	12.8	feet
C.	Depth to Water	5.42	feet
D.	Length of Water Column (calculated)	7.38	feet
	Conversion Factor	X.16	------
	Well Volume (calculated)	1.1808	gallons
	No. of Volumes to be Evacuated	X3	------
	Total Volume to be Evacuated	3.5424	gallons
	Actual Volume Evacuated	3.5	gallons
E.	Installed Well Depth (if known)	N/A	feet
F.	Depth of Silt (calculated	N/A	feet

Field Measurements	Initial Evacuation	Final Sampling
Date	5/23/2011	5/24/2011
Time	11:38 AM	10:33 AM
EH	46	-43
Temperature	14.4 c	17.9 c
pH	7.09	7.31
Specific Cond.	452	482
Turbidity	21.8	20.7
Dissolved Oxygen	N/A	N/A
Appearance	Cloudy	Cloudy

% Recharge:

Initial Depth to Water 5.42 feet

Recharge Depth to Water 4.28 feet

2nd water column height 126.64 %

1st water column height

Elevation(Top of Casing) N/A feet

G.W. Elevation= N/A feet

G.W.Elevation =Top of Case Elev-Total Depth

Weather: 60* F Overcast 68* F Cloudy

Observations:

Sampler: Dan Aumell

Signature:

Upstate Laboratories, Inc. Ground water Field Log

File: TS-30-01 Revised: 2/10/2001

Client: **Cortland County**

Project: **Towslee Landfill**

Well ID.: **MW-2B**

ULI ID No. (enter by lab)

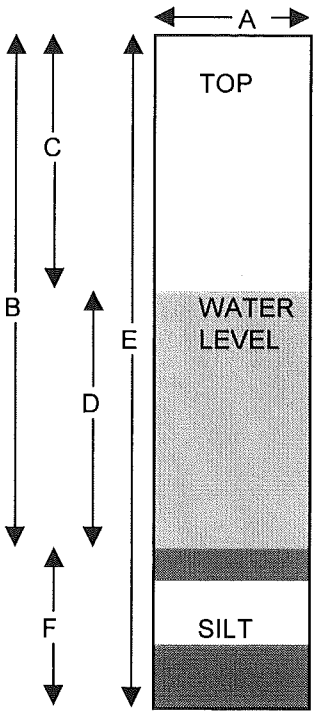
Condition of Well: Good

Locked: Yes

Method of Evacuation: Dedicated Bailer

Lock ID: 3900

Method of Sampling: Dedicated Bailer



A.	Diameter of Well	2"	inches
B.	Well Depth Measured	33.5	feet
C.	Depth to Water	6.34	feet
D.	Length of Water Column (calculated)	27.16	feet
	Conversion Factor	X.16	------
	Well Volume (calculated)	4.3456	gallons
	No. of Volumes to be Evacuated	X3	------
	Total Volume to be Evacuated	13.0368	gallons
	Actual Volume Evacuated	13	gallons
E.	Installed Well Depth (if known)	N/A	feet
F.	Depth of Silt (calculated	N/A	feet

Field Measurements	Initial Evacuation	Final Sampling
Date	5/23/2011	5/24/2011
Time	11:57 AM	10:50 AM
EH	-21	12
Temperature	13.6 c	16.1 c
pH	7.01	6.87
Specific Cond.	1013	1225
Turbidity	18.1	4.26
Dissolved Oxygen	N/A	N/A
Appearance	Sl Cloudy	Clear

Weather: 61* F Overcast 68* F Cloudy

Observations:

% Recharge:

Initial Depth to Water 6.34 feet

Recharge Depth to Water 6.71 feet

2nd water column height 94.49 %

1st water column height

Elevation(Top of Casing) N/A feet

G.W. Elevation= N/A feet

G.W.Elevation =Top of Case Elev-Total Depth

Sampler: Dan Aumell

Signature: Dan Aumell

Upstate Laboratories, Inc. Ground water Field Log

File: TS-30-01 Revised: 2/10/2001

Client: **Cortland County**

Project: **Towslee Landfill**

Well ID.: **MW-3A**

ULI ID No. (enter by lab)

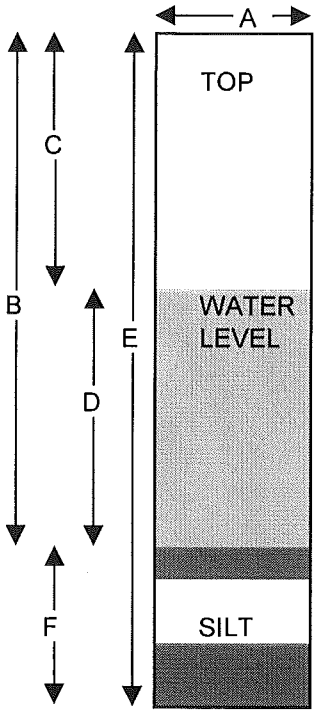
Condition of Well: Good

Locked: No

Method of Evacuation: Dedicated Bailer

Lock ID: 3900

Method of Sampling: Dedicated Bailer



A.	Diameter of Well	2"	inches
B.	Well Depth Measured	22.40	feet
C.	Depth to Water	6.76	feet
D.	Length of Water Column (calculated)	15.64	feet
	Conversion Factor	X.16	------
	Well Volume (calculated)	2.504	gallons
	No. of Volumes to be Evacuated	X3	------
	Total Volume to be Evacuated	7.507	gallons
	Actual Volume Evacuated	7.5	gallons
E.	Installed Well Depth (if known)	N/A	feet
F.	Depth of Silt (calculated	N/A	feet

Field Measurements	Initial Evacuation	Final Sampling
Date	5/23/2011	5/24/2011
Time	9:41 AM	9:21 AM
EH	-17	9
Temperature	14.4 c	16.7 c
pH	6.79	7.15
Specific Cond.	260	308
Turbidity	1.43	4.30
Dissolved Oxygen	N/A	N/A
Appearance	Clear	Clear

% Recharge:

Initial Depth to Water 6.76 feet

Recharge Depth to Water 7.87 feet

2nd water column height 85.89 %

1st water column height

Elevation(Top of Casing) N/A feet

G.W. Elevation= N/A feet

G.W.Elevation =Top of Case Elev-Total Depth

Weather: 55* F Overcast 68* F Cloudy

Observations: MSD

Sampler: Dan Aumell

Signature: Dan Aumell

Upstate Laboratories, Inc. Ground water Field Log

File: TS-30-01 Revised: 2/10/2001

Client: **Cortland County**

Project: **Towslee Landfill**

Well ID.: **MW-6B**

ULI ID No. (enter by lab)

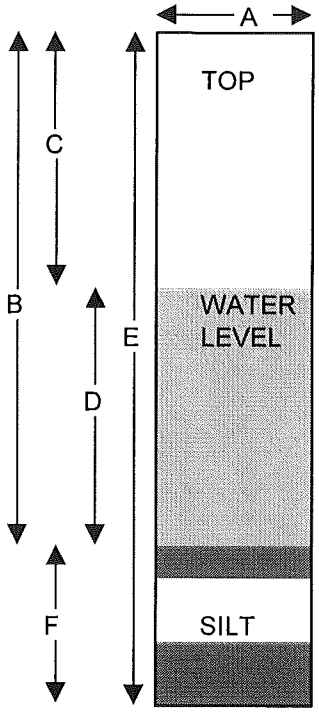
Condition of Well: Good

Locked: No

Method of Evacuation: Dedicated Bailer

Lock ID: 3900

Method of Sampling: Dedicated Bailer



A.	Diameter of Well	2"	inches
B.	Well Depth Measured	40.75	feet
C.	Depth to Water	11.42	feet
D.	Length of Water Column (calculated)	29.33	feet
	Conversion Factor	X.16	------
	Well Volume (calculated)	4.6928	gallons
	No. of Volumes to be Evacuated	X3	------
	Total Volume to be Evacuated	14.0784	gallons
	Actual Volume Evacuated	14	gallons
E.	Installed Well Depth (if known)	N/A	feet
F.	Depth of Silt (calculated	N/A	feet

Field Measurements	Initial Evacuation	Final Sampling
Date	5/23/2011	5/24/2011
Time	12:31 PM	11:17 AM
EH	-30	88
Temperature	13.2 c	15.7 c
pH	8.07	7.75
Specific Cond.	347	399
Turbidity	3.14	7.65
Dissolved Oxygen	N/A	N/A
Appearance	Clear	Clear

% Recharge:

Initial Depth to Water	11.42	feet
Recharge Depth to Water	11.44	feet
2nd water column height	99.83	%
1st water column height		

Elevation(Top of Casing)	N/A	feet
G.W. Elevation=	N/A	feet

G.W.Elevation =Top of Case Elev-Total Depth

Weather: 63* F Cloudy 68* F Cloudy

Observations:

Sampler: Dan Aumell

Signature:

Upstate Laboratories, Inc. Ground water Field Log

File: TS-30-01 Revised: 2/10/2001

Client: **Cortland County**

Project: **Towslee Landfill**

Well ID.: **MW-7A**

ULI ID No. (enter by lab)

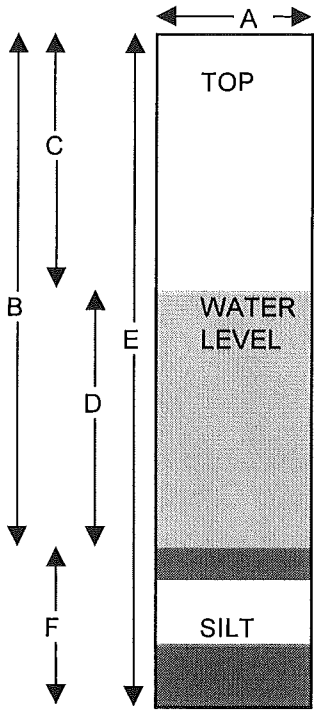
Condition of Well: Good

Locked: No

Method of Evacuation: Dedicated Bailer

Lock ID: 3900

Method of Sampling: Dedicated Bailer



A.	Diameter of Well	2"	inches
B.	Well Depth Measured	22.20	feet
C.	Depth to Water	3.42	feet
D.	Length of Water Column (calculated)	18.78	feet
	Conversion Factor	X.16	------
	Well Volume (calculated)	3.0048	gallons
	No. of Volumes to be Evacuated	X3	------
	Total Volume to be Evacuated	9.0144	gallons
	Actual Volume Evacuated	9	gallons
E.	Installed Well Depth (if known)	N/A	feet
F.	Depth of Silt (calculated	N/A	feet

Field Measurements	Initial Evacuation	Final Sampling
Date	5/23/2011	5/24/2011
Time	11:11 AM	10:16 AM
EH	17	135
Temperature	13.3 c	18.3 c
pH	6.87	7.02
Specific Cond.	1148	1179
Turbidity	6.11	69.2
Dissolved Oxygen	N/A	N/A
Appearance	Clear	Very Cloudy

% Recharge:

Initial Depth to Water 3.42 feet

Recharge Depth to Water 3.00 feet

2nd water column height 114.00 %

1st water column height

Elevation(Top of Casing) N/A feet

G.W. Elevation= N/A feet

G.W.Elevation =Top of Case Elev-Total Depth

Weather: 57* F Overcast 68* F Cloudy

Observations: Dissolved metals sample collected. Filtered at lab

Sampler: Dan Aumell

Signature: Dan Aumell

Upstate Laboratories, Inc.

Chain of Custody Record

6034 Corporate Drive E. Syracuse New York 13057
Phone (315) 437 0255 Fax (315) 437 1209

Client: CORTLAND COUNTY

Project #/ Project Name: TOWSLEE LANDFILL

Client Contact: PATRICK REIDY

Phone #: 607-753-0851

Location (city/state) Address: CORTLANDVILLE, NY

ULI Internal Use Only: U1105524

Sample ID	Date	Time	Matrix	Grab or Comp	Number of Containers	ULI Computer Input Form 1	2	3	4	5	6	7	8	9	10	Remarks
MW-1A	5/24/11	9:38am	WATER	GRAB	6	X	X	X	X	X	X	X				1993 PART 360 ROUTINE ASP-A
MW-1B	5/24/11	9:59am	WATER	GRAB	6	X	X	X	X	X	X	X				(D-metals filtered in lab) @ 11:30
MW-2A	5/24/11	10:33am	WATER	GRAB	6	X	X	X	X	X	X	X				
MW-2B	5/24/11	10:50am	WATER	GRAB	6	X	X	X	X	X	X	X				
MW-3A	5/24/11	9:21am	WATER	GRAB	~~7~~ 6	X	X	X	X	X	X	X				MSD
MW-6B	5/24/11	11:17am	WATER	GRAB	6	6	X	X	X	X	X	X	X			
MW-7A	5/24/11	10:16am	WATER	GRAB	~~7~~ 6	X	X	X	X	X	X	X	X			
DUPE	5/24/11	9:59am	WATER	GRAB	8	6		X	X	X	X	X	X			
MS/MSD																

	Parameter and Method	Sample bottle: Type	Size	Preservative
1	FIELD PH,TEMP,EH,SPEC.COND.,TURBIDITY	N/A		
2	BOD5,NO3,TDS,SO4,CL-,BROMIDE	PLASTIC	2000ML	NONE
3	TKN,NH3,COD	PLASTIC	500 ML	H2SO4
4	TOC	PLASTIC	120 ML	1:1 HCL
5	ALKALINITY	GLASS	250 ML	NONE
6	T-PHENOLS	AMBER	LITER	H2SO4
7	T-CD,CA,FE,PB*,MG,MN,K,NA,+CALC. HARDNESS	PLASTIC	500 ML	HNO3
8	D-CD,CA,FE,PB*,MG,MN,K,NA,+CALC. HARDNESS	PLASTIC	500 ML	HNO3
9				
10				

Sampled by (Print): Dan Aumell

Company: ULI

Name of Courier:

Relinquished by:(sign)	Date	Time	Received by: (sign)
Relinquished by:(sign)	Date	Time	Received by: (sign)
Relinquished by:(sign)	Date	Time	Rec'd for Lab by:
Dan Aumell	5/24/11	4:00 pm	5/25/11 0830

Syracuse Rochester Buffalo Albany Binghamton Fair Lawn (NJ)

Appendix C

Historical Analytical Data

Cortland County Towslee Landfill

Historical Data Page Index
Cortland County Towslee Landfill

Well	Field/ Inorganic Parameters	Total Metals	Dissolved Metals	Organics
MW-1A	2	9	16	23
MW-1B	3	10	17	24
MW-2A	4	11	18	25
MW-2B	5	12	19	26
MW-3A	6	13	20	27
MW-6B	7	14	21	28
MW-7A	8	15	22	29

Historical Water Quality Database - Towslee Landfill
Field and Inorganic Parameters
Well MW-1A - Overburden

Parameter	Units	Aug-97	Oct-97	3/22/06	5/31/06	8/9/06	10/10/06	3/20/07	4/26/07	7/31/07	10/10/07	4/16/08	7/23/08	10/24/08	3/12/09	6/17/09	9/30/09	12/1/09	4/27/10	7/20/10	10/26/10	3/22/11	5/24/11
Temp	(deg C)	--	--	8.5	12.8	19.5	15.9	9.3	6.7	21.6	16	11.2	21.7	10.6	3.6	19.6	12.6	6.6	8.2	18.9	15.6	9.8	19.2
Eh	(mV)	--	--	700	105	190	170	59	-107	-111	-68	-57	-62	-69	-21	143	162	107	180	151	110	228	109
pH	SU	--	--	7.8	7.7	7.52	7.69	8.29	7.93	7.83	8.01	7.85	8.07	8.23	7.4	8.09	7.67	8.35	7.28	7.73	7.95	7.52	8.26
Sp. Cond	(uS/cm)	--	--	306	355	353	369	204	221	241	658	351	344	334	344	199	201	862	1580	263	345	347	364
Color	(Units)	5	20	--	--	<5	--	--	--	--	30	--	--	--	--	18	--	--	--	35	--	--	--
Turbidity	(NTU)	--	--	660	73	131	29	55.6	34.8	24.3	28.1	16	11.6	24.6	16.7	23.4	30.6	47.4	22.7	18.6	37.7	24.2	45.2
ALK as CaCO3	(mg/l)	160	145	127	139	122	132	140	120	120	130	120	120	120	130	100 H	120 H	120	140	120	120	130	120
HARD as CaCO3	(mg/l)	4000	240	167	140	148	148	134	153	148	146	151	159	165	161	163	158	161	161	167	169	159	164
TDS	(mg/l)	494	214	340	213	236	229	127	208	250	204	195	116	188 H	256	180	210	190	270	320	170	150	460
Chloride	(mg/l)	152	46	21.3	22.2	34.2	26.7	28.7	27	27	27.9	28	25.9	29.7	30.4	30.7	29.5	30	31.7	33	31.4	32	30.5
Sulfate	(mg/l)	20.6	14.6	27.3	12.3	16.5	14.9	8.79	14.2	48.6	11.2	16.3	<5	11.6	14	14.3	12.7	6.3	9.43	17.9	14.8	13.6	10.2
Bromide	(mg/l)	1.2	0.8	< 0.1	<0.1	<0.1	0.117	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<2	<0.2	<2	<2	<2	<0.8	<1.6	<0.8	<8	<0.8
NO3 (As N)	(mg/l)	<0.1	<0.1	< 0.1	0.217	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.0721	0.066	0.102	0.102	<0.05
NH4 (As N)	(mg/l)	6	2.6	0.276	<0.02	0.161	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TKN (as N)	(mg/l)	18	3.8	23.3	0.529 H	0.366	<0.2	2.2	<0.5	5.66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.897	<0.5	<0.5
COD	(mg/l)	305	64	< 10	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
BOD	(mg/l)	5	<2	< 3	<3	<3	<3	<4	<4	<4	<4	9	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
TOC	(mg/l)	4.2	1.6	4.76	2.61	<2	<2	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Phenolics, Tot	(mg/l)	0.003	0.0015	< 0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cyanide	(mg/l)	<0.01	<0.01	--	--	<0.01	--	--	--	--	<0.01	--	--	--	--	< 0.01	--	--	--	<0.01	--	--	--

H - exceeded hold time

Historical Water Quality Database - Towslee Landfill
Field and Inorganic Parameters
Well MW-1B - Bedrock

Parameter	Units	Aug-97	Oct-97	3/22/06	5/31/06	8/9/06	10/10/06	3/20/07	4/26/07	7/31/07	10/10/07	2/1/08	4/16/08	7/23/08	10/24/08	3/12/09	6/17/09	9/30/09	12/1/09	4/27/10	7/20/10	10/26/10	3/22/11	5/24/11
Temp	(deg C)	--	--	5	11.4	16.4	15.8	9.6	7.2	21.5	16.3	1.7	10.2	20.9	11.8	2.7	18.7	12.1	7.5	7.9	18.2	15.2	7.6	19.7
Eh	(mV)	--	--	385	45	155	115	84	-122	-143	-80	196	-78	-78	-78	-44	139	155	114	173	167	104	225	100
pH	SU	--	--	7.7	7.8	7.69	7.9	8.47	8.24	8.03	8.28	8.66	8.34	8.33	8.38	7.8	8.13	7.76	8.23	7.4	7.99	8.11	7.87	8.3
Sp. Cond	(uS/cm)	--	--	157	257	244	200	156	141	1241	943	1075	245	223	229	205	124	1145	681	975	1221	228	234	206
Color	(Units)	<5	<5	--	--	<5	--	--	--	--	30	7	--	--	--	--	9	--	--	--	15	--	--	--
Turbidity	(NTU)	--	--	187	45	70	15.6	67.4	9.62	10.2	22.8	35.8	14.6	12.3	6.33	2.47	8.2	12.2	16.4	10.8	17	8.46	14.1	1.08
ALK as CaCO3	(mg/l)	94.8	93.6	92	94	91	89	99	96	100	100	100	100	100	99	92 H	100	98	86	100	91	90	100	93
HARD as CaCO3	(mg/l)	88	140	97.6	81.9	89	82	83.6	105	104	90.8	89.3	103	107	105	97.1	111	108	206	92.9	106	104	108	87.4
TDS	(mg/l)	143	86	120	111	142	120	62	162	130	104	152	130	80	140	160	110	88	110	170	130	200	80	180
Chloride	(mg/l)	<2	<2	2.55	2.28	3.47	0.611	3.24	4.45	3.16	6.44	3.15	5.95	5.61	6.03	2.86 H	4.74	6.86	4.71	3.54	3.63	6.11	4.07	1.7
Sulfate	(mg/l)	5.2	<5	4.72	5.51	5.33	3.76	7.09	6.31	28.8	5.26	<5	9.42	<5	<5	6.37	5.19	10.4	18.3	<5	7.05	<5	<5	5.6
Bromide	(mg/l)	<0.5	<0.5	< 0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	<0.8	<0.8	<0.8	<0.8
NO3 (As N)	(mg/l)	0.2	<0.1	< 0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.0512	0.063	<0.05	0.095	<0.05
NH4 (As N)	(mg/l)	<0.02	0.04	0.0938	<0.02	<0.02	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TKN (as N)	(mg/l)	<0.2	<0.2	0.54	0.755 H	0.497	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.924	<0.5	<0.5
COD	(mg/l)	<15	<15	< 10	<10	<10	<10	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
BOD	(mg/l)	<2	<2	< 3	<3	<3	<3	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
TOC	(mg/l)	9.3	<1	5.41	2.34	<2	<2	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Phenolics, Tot	(mg/l)	<0.001	<0.001	< 0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cyanide	(mg/l)	--	--	--	--	<0.01	--	--	--	--	<0.01	<10	--	--	--	--	< 0.01	--	--	--	<0.01	--	--	--

H - exceeded hold time

Historical Water Quality Database - Towslee Landfill
Field and Inorganic Parameters
Well MW-2A - Overburden

Parameter	Units	Aug-97	Oct-97	3/22/06	5/31/06	8/9/06	10/10/06	3/20/07	4/26/07	7/31/07	10/10/07	2/1/08	4/16/08	7/23/08	10/24/08	3/12/09	6/17/09	9/30/09	12/1/09	1/28/10	4/27/10	7/20/10	11/12/10	3/22/11	5/24/11
Temp	(deg C)	--	--	4.4	11.6	17.2	14.2	9.2	7.7	18	14.6	3.1	11.1	19.1	12	3.1	16.5	13	6.4	4.4	6.6	18.8	14	9.8	17.9
Eh	(mV)	--	--	140	-5	120	90	136	-62	-81	-25	42	-48	-31	-34	-34	239	227	143	148	256	162	17	6	-43
pH	SU	--	--	6.4	6.4	6.15	6.41	7.31	7.14	7.41	7.12	7.94	7.81	7.58	7.63	7.63	6.44	6.52	7.78	7.53	5.94	7.77	7.06	6.94	7.31
Sp. Cond	(uS/cm)	--	--	621	767	784	1100	364	450	395	574	617	424	402	695	601	413	382	1406	1474	294	329	613	519	482
Color	(Units)	30	60	--	--	33	--	--	--	--	210	40	--	--	--	--	65	--	--	--	--	55	--	--	--
Turbidity	(NTU)	--	--	18.6	18.3	195	27	48.9	30.7	15	5.07	7.83	26.8	49.2	8.52	5.6	40.9	17.8	19.6	492	41.5	8.18	38.1	9.77	20.7
ALK as CaCO3	(mg/l)	702	784	330	355	384	423	380	320	420	290	360	290	380	360	320	360	340	280	310	300	360	310	260	250
HARD as CaCO3	(mg/l)	1300	720	241	260	265	301	225	262	275	165	246	203	303	343	229	295	265	95	291	235	313	260	190	167
TDS	(mg/l)	1180	986	381	397	491	487	262	355	395	284	410	357	320	356	316	220	310	230	360	350	370	300	200	240
Chloride	(mg/l)	156	149	23.3	25.7	23.5	25.7	21.2	14.7	24.4	10.6	21	13.5	20.2	15.5	13.7	20.5	17.7	12.5	12.4	14.5	22.5	17.1	11.2	8.33
Sulfate	(mg/l)	<5	<5	4.22	5.5	3.43	3.18	<5	<5	<10	9.93	<10	<5	<20	<10	<5	<5	7.79	10.2	<5	<5	<5	<5	<5	<5
Bromide	(mg/l)	0.8	<0.5	0.189	0.18	0.237	0.261	<0.2	<0.2	<2	<2	<2	<200	<20	<20	<2	<2	<2	<2	<2	<2	<4	<20	<80	<8
NO3 (As N)	(mg/l)	<0.1	0.14	0.228	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.0809	0.139	0.08	0.117	0.073
NH4 (As N)	(mg/l)	23	9.1	10.6	18.4	16	15.1	10.2	9.89	14.1	13.5	8.78	8.2	11.9	10.8	8.43	11.8	10.3	8.75	8.45	8.06	10.1	6.9	5.38	7.03
TKN (as N)	(mg/l)	31.5	21.2	10.6	14 H	16.5	15	132	12.5	16.1	12.6	10.7	11.2	12.9	11.6	10.3	13.5	13.1	12.5	11.6	11.9	16.5	9.84	7.95	8.21
COD	(mg/l)	127	136	< 10	13.8	27	15.6	<20	<20	46	22	23	21	36	32	<20	31	32	26	41	23	50	20	<20	24
BOD	(mg/l)	6	3	16	4.5	3.4	<3	6	7	7	<4	<4	5	7	<4	<4	12	<4	<4	8	<4	7	<4	<4	<4
TOC	(mg/l)	42.5	24.1	10.1	7.18	5.67	5.68	6.7	4.8	7.3	6.3	21.8	5.2	6.3	6	4.8	7.2	5.9	6.5	5.2	6.7	7.8	6	4.4	<3
Phenolics, Tot	(mg/l)	0.0071	0.0066	< 0.005	0.008	<0.005	<0.005	<0.005	0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005
Cyanide	(mg/l)	<0.01	<0.01	--	--	<0.01	--	--	--	--	<0.01	<10	--	--	--	--	< 0.01	--	--	--	--	<0.01	--	--	--

H - exceeded hold time

Historical Water Quality Database - Towslee Landfill
Field and Inorganic Parameters
Well MW-2B - Bedrock

Parameter	Units	Aug-97	Oct-97	3/22/06	5/31/06	8/9/06	10/10/06	3/20/07	4/26/07	7/31/07	10/10/07	2/1/08	4/16/08	7/23/08	10/24/08	3/12/09	6/17/09	9/30/09	12/1/09	1/28/10	4/27/10	7/20/10	10/26/10	3/22/11	5/24/11
Temp	(deg C)	--	--	4.5	10.5	15.9	14.5	9.1	8.3	16.5	15.8	3.2	10.3	18.3	12.9	4.9	15.5	13.2	8.3	3.7	6.9	19	15.1	9.8	17.9
Eh	(mV)	--	--	175	110	125	115	136	-73	-77	-34	40	-46	-38	-33	-22	237	229	174	184	249	117	153	6	-43
pH	SU	--	--	6.4	6.4	6.35	6.52	7.14	7.35	7.37	7.35	8.34	7.77	7.73	7.59	7.42	6.43	6.47	7.19	6.9	6.03	7.52	6.75	6.94	7.31
Sp. Cond	(uS/cm)	--	--	1350	1560	1420	1540	701	682	500	329	339	1205	1132	1137	1135	739	670	1978	1880	567	391	1228	519	482
Color	(Units)	5	10	--	--	<5	--	--	--	--	15	7	--	--	--	--	8	--	--	--	--	11	--	--	--
Turbidity	(NTU)	--	--	17.3	19.8	18.7	28	14.2	11	9.48	37	41.5	13.5	15.4	3.14	11	4.17	5.88	14	12.7	12	17.3	14.1	9.77	20.7
ALK as CaCO3	(mg/l)	577	673	652	670	612	646	650	480	600	640	640	620	640	680	650	580	650	610	600	610	630	600	260	250
HARD as CaCO3	(mg/l)	960	900	697	726	686	675	723	575	716	652	678	654	728	788	678	782	755	608	609	681	730	693	190	167
TDS	(mg/l)	1640	1230	982	1020	1040	980	825	823	935	868	840	808	720	864	872	870	860	680	820	860	790	860	200	240
Chloride	(mg/l)	267	238	145	154	122	121	167	131	163	161	160	132	148	162	118	159	150	140	112	130	139	127	11.2	8.33
Sulfate	(mg/l)	<5	<5	1.18	2.96	<1	<1	<5	<5	10	<5	<5	<5	7.62	<5	<5	<5	<5	<5	7.9	<5	<5	<5	<5	<5
Bromide	(mg/l)	1.1	0.9	0.878	1.01	0.902	0.912	0.95	<2	<2	0.92	<2	<20	<2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	<4	<0.8	<80	<8
NO3 (As N)	(mg/l)	<0.1	<0.1	< 0.1	0.216	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.05	0.071	<0.05	0.117	0.073
NH4 (As N)	(mg/l)	0.95	1.3	0.389	0.824	0.786	0.282	0.921	0.844	1.31	1.22	0.785	0.572	1.01	0.504	0.642	0.665	0.73	0.696	0.69	1.18	0.812	<0.5	5.38	7.03
TKN (as N)	(mg/l)	2.6	2	1.31	1.78 H	1.64	1.9	1.84	1.62	1.67	1.53	1.33	1.55	1.03	1.13	1.22	1.19	1.07	1.12	1.28	1.55	1.37	2.45	7.95	8.21
COD	(mg/l)	58	61	< 10	17.2	24.6	27	21	<20	<20	<20	24	<20	<20	<20	<20	23	26	<20	22	<20	<20	25	<20	24
BOD	(mg/l)	2	2	9.3	5.1	3.7	13	<4	4	<4	<4	<4	5	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
TOC	(mg/l)	12.3	11.9	< 2	7.76	4.82	7.49	6.4	3	5.7	17.2	82.6	23.2	4.7	6.8	4.5	5.5	4.6	4.6	3.5	5.8	5.7	5.4	4.4	<3
Phenolics, Tot	(mg/l)	0.0044	0.0039	< 0.005	<0.005	<0.005	0.1	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005
Cyanide	(mg/l)	--	--	--	--	0.024	--	--	--	--	<0.01	<10	--	--	--	--	< 0.01	--	--	--	--	<0.01	--	--	--

H - exceeded hold time

Historical Water Quality Database - Towslee Landfill
Field and Inorganic Parameters
Well MW-3A - Bedrock

Parameter	Units	Aug-97	Oct-97	3/22/06	5/31/06	8/9/06	10/10/06	3/20/07	4/26/07	7/31/07	10/10/07	2/1/08	4/16/08	7/23/08	10/24/08	3/12/09	6/17/09	9/30/09	12/1/09	1/28/10	4/27/10	7/20/10	10/26/10	3/22/11	5/24/11
Temp	(deg C)	--	--	6.4	11.7	15.3	15.7	9.3	5.6	17.9	14.6	3.4	12.1	20.6	13.5	4.2	14.8	14.2	9.9	6.1	7.4	17.9	15.6	8.7	16.7
Eh	(mV)	--	--	215	45	115	220	-50	-94	-115	-76	174	-34	-39	-41	-26	359	219	172	101	263	173	74	282	9
pH	SU	--	--	7.2	6.9	7.01	6.84	7.82	7.64	7.84	8.25	8.06	7.62	7.66	7.72	7.49	8.16	6.69	7.32	8.41	5.83	7.8	6.9	6.2	7.15
Sp. Cond	(uS/cm)	--	--	286	299	342	397	143	898	1757	939	1074	261	1759	204	1069	187	658	673	646	706	943	1806	128	308
Color	(Units)	<5	<5	--	--	<5	--	--	--	--	115	15	--	--	--	--	7	--	--	--	--	35	--	--	--
Turbidity	(NTU)	--	--	58	11.9	5.2	7.2	10.6	19.6	16.4	13.7	17	17.7	17.9	6.67	10.9	4.55	20.2	22.4	11	11.8	13.9	7.61	11.6	4.3
ALK as CaCO3	(mg/l)	145	146	162	170	140	152	82	59	170	130	110	170	91	97	18	160	50	79	180	93	160	130	75	150
HARD as CaCO3	(mg/l)	1250	200	153	179	191	158	74	58.1	150	86.2	97.7	123	76.7	97.9	38.1	196	37.8	65.4	93.2	58	194	66.9	45.7	137
TDS	(mg/l)	320	269	215	208	207	207	38	168	210	144	115	188	60	112	88	120	100	120	160	75	230	98	60	320
Chloride	(mg/l)	31.4	28.7	14	12.7	13.5	12.7	3.37	1.8	12	5.73	2.43	10.5	1.1	1.75	1.85	9.25	<1	<1	14.8	1.31	7.44	3.3	2.69	2.28
Sulfate	(mg/l)	16	13	9.14	11	9.98	8.01	<5	<5	20.5	<5	<5	7.74	19.9	<5	7.53	11.2	<5	<5	<5	<5	12.6	<5	<5	<5
Bromide	(mg/l)	0.5	<0.5	< 0.1	<0.1	0.152	0.143	1.2	<2	<0.2	<2	<2	<0.2	<20	<2	<0.2	<0.2	<2	<2	<0.2	<0.8	<4	<4	<8	<0.8
NO3 (As N)	(mg/l)	<0.1	0.19	< 0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	0.338	<0.2	<0.2	1.14	<0.2	<0.2	<0.2	<0.2	<0.2	<0.05	0.053	0.054	0.103	<0.05
NH4 (As N)	(mg/l)	<0.02	0.09	0.0969	<0.02	<0.02	<0.1	1.45	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TKN (as N)	(mg/l)	0.4	0.24	0.455	1.09 H	0.239	0.266	4.26	1.47	<0.5	<0.5	<0.5	<0.5	0.718	<0.5	<0.5	<0.5	0.786	1.36	<0.5	1.14	1.26	1.83	<0.5	<0.5
COD	(mg/l)	19	<15	< 10	<10	13	<10	47	<20	<20	<20	23	<20	34	<20	<20	<20	40	35	<20	30	27	29	<20	<20
BOD	(mg/l)	<2	<2	< 3	<3	<3	<3	<4	8	<4	<4	<4	7	9	<4	<4	<4	8	6	<4	10	<4	7	<4	<4
TOC	(mg/l)	4.5	1.9	5.58	<2	<2	<2	<3	<3	<3	3.7	<3	<3	7.3	3.6	<3	<3	9.2	5.7	<3	9	<3	6.6	<3	<3
Phenolics, Tot	(mg/l)	0.0027	<0.001	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005
Cyanide	(mg/l)	--	--	--	--	<0.01	--	--	--	--	<0.01	<10	--	--	--	--	< 0.01	--	--	--	--	<0.01	--	--	--

H - exceeded hold time

Historical Water Quality Database - Towslee Landfill
Field and Inorganic Parameters
Well MW-6B - Bedrock

Parameter	Units	Aug-97	Oct-97	3/22/06	5/31/06	8/9/06	10/10/06	3/20/07	4/26/07	7/31/07	10/10/07	2/1/08	4/16/08	7/23/08	10/24/08	3/12/09	6/17/09	9/30/09	12/1/09	1/28/10	4/27/10	7/20/10	10/26/10	3/22/11	5/24/11
Temp	(deg C)	--	--	7.9	10.5	12.2	14.3	9.7	7.4	15.6	14.8	3.7	10.4	16.1	12.6	6.5	14.1	12.7	9	4.7	8.1	18.2	14.6	9.8	15.7
Eh	(mV)	--	--	250	85	225	180	82	-92	-105	-57	121	-71	-81	-54	-38	186	190	180	102	222	144	132	102	88
pH	SU	--	--	6.7	7.4	7.52	7.11	8.04	7.73	7.85	7.82	8.55	8.25	8.21	7.96	7.7	7.32	7.2	7.09	8.35	6.54	7.66	7.39	7.41	7.75
Sp. Cond	(uS/cm)	--	--	347	287	304	329	220	249	236	810	199	360	343	355	327	187	1999	1108	922	1673	249	342	372	399
Color	(Units)	<5	20	--	--	<5	--	--	--	--	6	7	--	--	--	--	11	--	--	--	--	35	--	--	--
Turbidity	(NTU)	--	--	40	19.9	15.8	14.2	68.9	8.1	9.48	12.5	13.6	11.6	2.19	5.24	9.56	3.62	5.13	13.3	12.5	43.6	4.71	16	10.8	7.65
ALK as CaCO3	(mg/l)	240	224	131	148	154	153	180	160	150	140	140	140	110	120	120	140	140	140	150	150	140	160	130	150
HARD as CaCO3	(mg/l)	300	240	135	144	131	133	156	139	138	124	136	142	137	134	142	154	148	138	163	147	144	147	145	153
TDS	(mg/l)	98	280	209	175	190	187	127	105	220	208	198	225	116	168	188	190 H	170	130	240	220	200	190	160	250
Chloride	(mg/l)	38.2	35	21.1	2.33	2.32	3.39	11.6	6.99	13.8	25.9	16.7	16.9	31.1	28.6	13.3	19.4	19.7	14.7	13.2	12	14	16	11.9	16.4
Sulfate	(mg/l)	27.1	22.2	13.8	3.95	3.28	6.14	8.54	6.79	17.3	12.7	18.1	16.5	26.8	17.2	13.2	14.2	10.3	13.5	13.4	7.57	11	11.2	15	19.2
Bromide	(mg/l)	<0.5	<0.5	< 0.1	<0.1	0.122	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<2	<0.2	<2	<0.2	<2	<2	<1	<0.8	<1.6	<0.8	<0.8
NO3 (As N)	(mg/l)	0.6	<0.1	< 0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.0804	0.092	0.051	0.47	0.058
NH4 (As N)	(mg/l)	0.09	2.5	0.0549	<0.02	0.096	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TKN (as N)	(mg/l)	0.6	3.3	0.392	0.904 H	0.214	0.279	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.522	<0.5	0.799	<0.5	<0.5
COD	(mg/l)	40	19	< 10	<10	11.6	<10	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
BOD	(mg/l)	<2	2	< 3	5.1	3.2	<3	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
TOC	(mg/l)	6	5.8	5.22	3.14	<2	<2	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Phenolics, Tot	(mg/l)	0.0032	<0.001	< 0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cyanide	(mg/l)	--	--	--	--	<0.01	--	--	--	--	<0.01	<10	--	--	--	--	< 0.01	--	--	--	--	<0.01	--	--	--

H - exceeded hold time

Historical Water Quality Database - Towslee Landfill
Field and Inorganic Parameters
Well MW-7A - Overburden

Parameter	Units	Aug-97	Oct-97	3/22/06	5/31/06	8/9/06	10/10/06	3/20/07	4/26/07	7/31/07	10/10/07	2/1/08	4/16/08	7/23/08	10/24/08	3/12/09	6/17/09	9/30/09	12/1/09	1/28/10	4/27/10	7/20/10	10/26/10	3/22/11	5/24/11
Temp	(deg C)	--	--	4.5	11.6	17.4	13.9	9.3	7.8	18.8	15.2	2	9.8	18.6	11.1	4.2	16	12.6	8.1	5.2	7.3	19	14.5	9	18.3
Eh	(mV)	--	--	215	120	245	190	77	-64	-69	-24	245	-37	-42	-41	-19	219	194	141	192	246	149	155	260	135
pH	SU	--	--	6.5	6.4	6.34	6.62	7.04	7.12	7.2	7.11	7.77	7.63	7.73	8.09	7.35	6.77	7.12	7.86	6.73	6.13	7.89	6.87	6.78	7.02
Sp. Cond	(uS/cm)	--	--	1360	1520	1440	1480	893	765	514	972	561	1174	618	214	1014	622	644	217	260	483	412	1133	1184	1179
Color	(Units)	20	5	--	--	<5	--	--	--	--	85	7	--	--	--	--	80	--	--	--	--	8	--	--	--
Turbidity	(NTU)	--	--	214	18	13.6	42	45.3	54.3	40.9	48.1	39.3	44.4	41.6	42.7	40.9	375	33.5	40.1	23.6	31.4	20.1	328	20.7	69.2
ALK as CaCO3	(mg/l)	569	660	648	675	595	635	640	510	530	540	570	560	600	670	500	500	480	520	600	500	510	520	600	510
HARD as CaCO3	(mg/l)	1010	1150	627	599	531	526	529	499	481	459	528	506	538	569	496	534	499	473	508	435	520	507	484	465
TDS	(mg/l)	1220	1240	981	967	963	949	753	865	3000	752	800	1560	668	728	748	720	620	640	520	730	690	710	660	710
Chloride	(mg/l)	300	276	144	143	119	85	145	131	145	141	141	1260	136	135	114	128	120	117	104	89.1	128	115	95.7	99
Sulfate	(mg/l)	27.4	20.2	20.6	22.5	19.7	14.1	16.5	23.2	22.7	17.8	12.2	<20	21	16.1	21	22.3	19.5	23.1	19.2	22.5	25.2	23.9	21.7	18.7
Bromide	(mg/l)	0.6	<0.5	0.753	0.633	0.822	0.483	0.6	<0.2	<2	<2	<2	<200	<20	<20	<0.2	<0.2	<2	<2	<2	<1	<4	<8	<80	<8
NO3 (As N)	(mg/l)	<0.1	0.2	< 0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.2	0.25	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.05	0.059	<0.05	0.103	<0.05
NH4 (As N)	(mg/l)	0.93	0.89	0.34	<0.02	<0.02	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TKN (as N)	(mg/l)	1.1	1.4	1.5	1.68 H	0.75	1.11	1.47	3.6	0.784	0.591	0.522	0.949	<0.5	<0.5	1.92	0.851	0.927	0.599	1.02	1.4	1.27	2.15	0.639	<0.5
COD	(mg/l)	43	112	21.2	16.5	26.4	20.5	27	<20	<20	<20	<20	36	22	29	<20	38	37	21	33	28	31	40	28	33
BOD	(mg/l)	<2	2	< 3	<3	<3	<3	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
TOC	(mg/l)	10.1	12.6	12.8	8.19	6.12	7.46	8.1	6	7.2	11.5	69.9	17.8	5.2	6.1	5.1	5.7	5	5.2	4.9	6.7	6	6.1	5.1	4.8
Phenolics, Tot	(mg/l)	0.0051	0.0027	< 0.005	0.007	<0.005	<0.005	<0.005	0.006	0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cyanide	(mg/l)	<0.01	<0.01	--	--	<0.01	--	--	--	--	<0.01	<10	--	--	--	--	< 0.01	--	--	--	--	<0.01	--	--	--

H - exceeded hold time

Historical Water Quality Data - Towslee Landfill

MW-1A Total Metals

Parameter	Aug-97	Oct-97	3/22/06	5/31/06	8/9/06	10/10/06	3/20/07	4/26/07	7/31/07	10/10/07	4/16/08	7/23/08	10/24/08	3/12/09	6/17/09	9/30/09	12/1/09	4/27/10	7/20/10	10/26/10	3/22/11	5/24/11
Aluminum	724	16.9	--	--	2.96	--	--	--	--	2.07	--	--	--	--	1.57	--	--	--	0.142	--	--	--
Antimony	<0.003	<0.003	--	--	<0.05	--	--	--	--	<0.015	--	--	--	--	<0.015	--	--	--	<0.005	--	--	--
Arsenic	0.353	0.0134	--	--	<0.025	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--	<0.005	--	--	--
Barium	8.11	0.258	--	--	0.104	--	--	--	--	0.0917	--	--	--	--	0.0732	--	--	--	0.0757	--	--	--
Beryllium	0.0287	0.00083 B	--	--	<0.005	--	--	--	--	<0.003	--	--	--	--	<0.003	--	--	--	<0.003	--	--	--
Boron	0.0873 B	0.0665 B	--	--	0.073	--	--	--	--	<0.5	--	--	--	--	<0.5	--	--	--	<0.5	--	--	--
Cadmium	<0.0003	<0.0003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium	430	48.6	46.2	41.8	43.2	43.9	39.2	44.5	43.5	42.2	43.2	46.2	48.3	47.2	47	46.5	45	47	48.9	49	45.6	46.9
Chromium	1.04	0.0265	--	--	<0.005	--	--	--	--	<0.005	--	--	--	--	<0.005	--	--	--	<0.01	--	--	--
Chromium, Hex	--	--	--	--	<0.02	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--	<0.01	--	--	--
Cobalt	0.59	0.0168 B	--	--	<0.015	--	--	--	--	<0.02	--	--	--	--	<0.02	--	--	--	<0.02	--	--	--
Copper	0.996	0.0254	--	--	0.022	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--	<0.01	--	--	--
Iron	1550	35.7	19.4	2.99	6.03	2.11	1.67	2.14	1.21	3.49	1.17	0.217	0.429	0.818	1.65	0.348	6.19	0.484	0.219	1.99	1.47	3.13
Lead	0.454	0.0123	0.00716	0.007	<0.005	<0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Magnesium	309	15.6	12.6	8.67	9.7	9.43	8.87	10.2	9.67	9.8	10.6	10.7	10.8	10.6	11.1	10	11.9	10.5	10.8	11.3	11	11.5
Manganese	24.6	0.783	0.534	0.194	0.38	0.306	0.19	0.193	0.206	0.203	0.157	0.135	0.151	0.0917	0.169	0.155	0.251	0.118	0.156	0.329	0.236	0.215
Mercury	0.0014	<0.0001	--	--	<0.0004	--	--	--	--	<0.0002	--	--	--	--	<0.0002	--	--	--	<0.0002	--	--	--
Nickel	1.33	0.0364 B	--	--	<0.01	--	--	--	--	<0.03	--	--	--	--	<0.03	--	--	--	<0.03	--	--	--
Potassium	77.5	6.97	2.72	1.6	1.7	1.62	1.74	2.31	1.59	2.06	1.65	1.51	1.69	1.52	1.78	<1	<5	<5	<5	<5	<5	<5
Sodium	37.3	26	17.1	13	13.6	13.5	12.2	12.5	13	11.8	12.5	13.8	13.2	13.4	13.9	12.5	12.6	12.8	13.2	15.3	13.6	13.1
Selenium	<0.028	<0.0028	--	--	<0.02	--	--	--	--	<0.005	--	--	--	--	<0.005	--	--	--	<0.003	--	--	--
Silver	<0.009	<0.0009	--	--	<0.015	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--	<0.01	--	--	--
Thallium	<0.026	<0.0026	--	--	<0.03	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--	<0.003	--	--	--
Vanadium	0.856	0.0243 B	--	--	<0.015	--	--	--	--	<0.03	--	--	--	--	<0.03	--	--	--	<0.03	--	--	--
Zinc	3.36	0.0874	--	--	0.106	--	--	--	--	0.0235	--	--	--	--	<0.01	--	--	--	<0.01	--	--	--

All units in mg/l

Historical Water Quality Data - Towslee Landfill

MW-1B Total Metals

Parameter	Aug-97	Oct-97	3/22/06	5/31/06	8/9/06	10/10/06	3/20/07	4/26/07	7/31/07	10/10/07	2/1/08	4/16/08	7/23/08	10/24/08	3/12/09	6/17/09	9/30/09	12/1/09	4/27/10	7/20/10	10/26/10	3/22/11	5/24/11
Aluminum	0.662	0.134 B	--	--	1.09	--	--	--	--	0.537	0.518	--	--	--	--	0.255	--	--	--	<0.1	--	--	--
Antimony	<0.003	<0.003	--	--	<0.05	--	--	--	--	<0.015	<0.015	--	--	--	--	<0.03	--	--	--	<0.005	--	--	--
Arsenic	<0.0024	<0.0024	--	--	<0.025	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	<0.005	--	--	--
Barium	0.168 B	0.154 B	--	--	0.194	--	--	--	--	0.172	0.199	--	--	--	--	0.232	--	--	--	0.204	--	--	--
Beryllium	0.0001 B	<0.0001	--	--	<0.005	--	--	--	--	<0.003	<0.003	--	--	--	--	<0.003	--	--	--	<0.003	--	--	--
Boron	0.0197 B	0.0247 B	--	--	<0.05	--	--	--	--	<0.5	<0.5	--	--	--	--	<0.5	--	--	--	<0.5	--	--	--
Cadmium	<0.0003	<0.0003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.00542	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium	26.7	24.7	26.8	23.9	25.8	24.1	23.7	30	29.9	26	25.1	28.6	30.2	30	27.7	31.4	31.1	58.7	26.5	30.3	29.7	30.5	24.9
Chromium	0.002 B	<0.0004	--	--	<0.005	--	--	--	--	<0.005	<0.005	--	--	--	--	<0.01	--	--	--	<0.01	--	--	--
Chromium, Hex	--	--	--	--	<0.02	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	<0.01	--	--	--
Cobalt	<0.0011	<0.0011	--	--	<0.015	--	--	--	--	<0.02	<0.02	--	--	--	--	<0.02	--	--	--	<0.02	--	--	--
Copper	0.004 B	0.0025 B	--	--	0.017	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	<0.01	--	--	--
Iron	1.33	0.226	9.42	1.48	1.84	0.273	2.39	0.508	0.465	0.73	1	1.38	0.185	0.174	2.92	0.523	0.115	6.72	0.423	0.159	1.02	1.19	<0.06
Lead	<0.001	<0.001	<0.005	<0.005	<0.005	<0.005	0.00431	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Magnesium	6.47	5.84	7.46	5.39	6.05	5.31	5.94	7.4	7.12	6.28	6.44	7.58	7.74	7.28	6.76	7.83	7.34	14.4	6.49	7.27	7.29	7.75	6.14
Manganese	0.195	0.146	2.28	0.191	0.251	0.126	0.521	0.169	0.19	0.176	0.26	0.198	0.169	0.153	0.223	0.25	0.149	9.34	0.13	0.188	0.153	0.269	0.24
Mercury	--	--	--	--	<0.0004	--	--	--	--	<0.0002	<0.0002	--	--	--	--	<0.0002	--	--	--	<0.0002	--	--	--
Nickel	<0.0013	<0.0013	--	--	<0.01	--	--	--	--	<0.03	<0.03	--	--	--	--	<0.03	--	--	--	<0.03	--	--	--
Potassium	1.56 B	0.529 B	0.973	0.468	0.523	0.374	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	8.56	<5	<5	<5	<5	<5
Sodium	7.38	6.18	6.31	5.22	6.35	5.92	5.22	6.82	7.1	5.84	5.66	6.73	7.29	6.81	6.37	8.15	7.32	14.9	6.29	7.12	8.95	7.99	6.48
Selenium	--	--	--	--	<0.02	--	--	--	--	<0.005	<0.005	--	--	--	--	<0.005	--	--	--	<0.003	--	--	--
Silver	--	--	--	--	<0.015	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	<0.01	--	--	--
Thallium	<0.0026	<0.0026	--	--	<0.03	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	<0.003	--	--	--
Vanadium	<0.0012	<0.0012	--	--	<0.015	--	--	--	--	<0.03	<0.03	--	--	--	--	<0.03	--	--	--	<0.03	--	--	--
Zinc	0.0351	0.0163 B	--	--	0.052	--	--	--	--	0.0168	0.0112	--	--	--	--	<0.01	--	--	--	<0.01	--	--	--

All units in mg/l

Historical Water Quality Data - Towslee Landfill

MW-2A Total Metals

Parameter	Aug-97	Oct-97	3/22/06	5/31/06	8/9/06	10/10/06	3/20/07	4/26/07	7/31/07	10/10/07	2/1/08	4/16/08	7/23/08	10/24/08	3/12/09	6/17/09	9/30/09	12/1/09	1/28/10	4/27/10	7/20/10	11/12/10	3/22/11	5/24/11
Aluminum	79.3	59.1	--	--	0.43	--	--	--	--	0.444	1.98	--	--	--	--	<0.1	--	--	--	--	3.37	--	--	--
Antimony	0.0049 B	<0.003	--	--	<0.05	--	--	--	--	<0.015	<0.015	--	--	--	--	<0.03	--	--	--	--	<0.005	--	--	--
Arsenic	0.0631	0.0537	--	--	<0.025	--	--	--	--	<0.01	0.0145	--	--	--	--	<0.01	--	--	--	--	<0.005	--	--	--
Barium	1.75	1.49	--	--	0.502	--	--	--	--	0.265	0.377	--	--	--	--	0.471	--	--	--	--	0.545	--	--	--
Beryllium	0.0037 B	0.0025 B	--	--	<0.005	--	--	--	--	<0.003	<0.003	--	--	--	--	<0.003	--	--	--	--	<0.003	--	--	--
Boron	1.21	0.961	--	--	0.584	--	--	--	--	<0.5	<0.5	--	--	--	--	<0.5	--	--	--	--	<0.5	--	--	--
Cadmium	<0.0003	0.0016 B	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium	186	172	69.1	74.1	77.3	88.5	64.2	75.3	80.4	47.9	70.3	57.5	87.8	99	66.7	87.1	78.6	26.5	71.1	68.7	91.2	74.6	54.9	48.7
Chromium	0.112	0.0967	--	--	<0.005	--	--	--	--	<0.005	0.0177	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Chromium, Hex	--	--	--	--	<0.02	--	--	--	--	<0.02	<0.05	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Cobalt	0.0719	0.0628	--	--	<0.015	--	--	--	--	<0.02	<0.02	--	--	--	--	<0.02	--	--	--	--	<0.02	--	--	--
Copper	0.104	0.0779	--	--	0.012	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Iron	154	131	8.29	24	6.5	10.1	10.8	6.86	7.67	4.95	9.77	4.1	10.6	9.51	7.77	8.28	5.21	0.827	64.2	6.1	13	9.73	4.73	4.27
Lead	0.0561	0.0436	<0.005	0.019	<0.005	0.006	0.00524	<0.003	<0.003	<0.003	<0.003	<0.003	0.0039	<0.003	<0.003	<0.003	<0.003	<0.003	0.0187	<0.003	<0.003	<0.003	<0.003	<0.003
Magnesium	61.6	53.6	16.6	18.3	17.5	19.4	15.7	17.9	18	11	17.1	14.3	20.3	23.1	15.1	18.8	16.8	7.01	27.6	15.4	20.6	17.9	12.9	11
Manganese	35.7	31.6	12.2	11.5	12	13.6	9.93	11.7	12.7	7.05	11.2	9.3	13.8	15.1	10.7	12.8	11.4	0.144	11.6	9.79	12.2	11.1	8.18	7.05
Mercury	<0.0001	<0.0001	--	--	<0.0004	--	--	--	--	<0.0002	<0.0002	--	--	--	--	<0.0002	--	--	--	--	<0.0002	--	--	--
Nickel	0.151	0.132	--	--	<0.01	--	--	--	--	<0.03	<0.03	--	--	--	--	<0.03	--	--	--	--	<0.03	--	--	--
Potassium	23.4	17	9.29	11.2	12.3	12.7	9.02	10.8	13.3	2.14	8.56	7.56	12.3	15.1	7.48	12.4	13.6	<5	12.8	9.42	14.3	11.9	7.2	7.47
Sodium	119	102	26.3	25.2	31.4	31.4	19.5	22.9	26.1	13.8	19.2	16.5	25.6	25.9	17.8	23.8	21.1	6.59	15.5	16.3	21.9	19	13.5	12.5
Selenium	<0.0028	<0.0028	--	--	<0.02	--	--	--	--	<0.005	<0.005	--	--	--	--	<0.005	--	--	--	--	<0.003	--	--	--
Silver	0.0024 B	0.0014 B	--	--	<0.015	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Thallium	0.004 B	<0.0026	--	--	<0.03	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.003	--	--	--
Vanadium	0.102	0.0866	--	--	<0.015	--	--	--	--	<0.03	<0.03	--	--	--	--	<0.03	--	--	--	--	<0.03	--	--	--
Zinc	0.4	0.278	--	--	<0.01	--	--	--	--	<0.01	0.0101	--	--	--	--	<0.01	--	--	--	--	0.0269	--	--	--

All units in mg/l

Historical Water Quality Data - Towslee Landfill

MW-2B Total Metals

Parameter	Aug-97	Oct-97	3/22/06	5/31/06	8/9/06	10/10/06	3/20/07	4/26/07	7/31/07	10/10/07	2/1/08	4/16/08	7/23/08	10/24/08	3/12/09	6/17/09	9/30/09	12/1/09	1/28/10	4/27/10	7/20/10	10/26/10	3/22/11	5/24/11
Aluminum	2.03	5.31	--	--	0.18	--	--	--	--	<0.1	0.168	--	--	--	--	0.235	--	--	--	--	<0.1	--	--	--
Antimony	<0.003	<0.003	--	--	<0.05	--	--	--	--	<0.015	<0.015	--	--	--	--	<0.03	--	--	--	--	<0.005	--	--	--
Arsenic	0.007 B	0.0083 B	--	--	<0.025	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.005	--	--	--
Barium	1.59	1.36	--	--	1.22	--	--	--	--	1.09	1.18	--	--	--	--	1.43	--	--	--	--	1.37	--	--	--
Beryllium	0.00023 B	0.00037 B	--	--	<0.005	--	--	--	--	<0.003	<0.003	--	--	--	--	<0.003	--	--	--	--	<0.003	--	--	--
Boron	0.355	0.292	--	--	0.256	--	--	--	--	<0.5	<0.5	--	--	--	--	<0.5	--	--	--	--	<0.5	--	--	--
Cadmium	0.0003 B	<0.0003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium	288	245	203	216 E	203 E	200	216	170	214	195	201	192	214	235	201	237	227	178	177	202	216	207	200	172
Chromium	0.004 B	0.0086 B	--	--	<0.005	--	--	--	--	<0.005	0.00816	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Chromium, Hex	--	--	--	--	<0.02	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Cobalt	0.0091 B	0.0141 B	--	--	<0.015	--	--	--	--	<0.02	<0.02	--	--	--	--	<0.02	--	--	--	--	<0.02	--	--	--
Copper	0.0069 B	0.0118 B	--	--	0.017	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Iron	4.3	10.7	0.913	0.836	1.2	1.07	0.637	0.469	0.468	0.323	0.439	0.56	0.236	0.28	0.466	0.464	0.222	0.235	0.451	0.329	0.149	0.273	0.345	0.312
Lead	0.0044	0.0058	<0.005	0.009	<0.005	<0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Magnesium	61.7	49.9	46.1	45.3	43.5	42.7	44.8	36.3	44.1	39.9	42.8	42.4	47.1	49.1	42.9	45.9	45.6	39.7	40.4	43.1	46.2	43	42.8	38.8
Manganese	8.24	7.43	6.98	6.8	6.63	6.46	6.42	4.93	6.6	5.7	6.21	5.96	6.49	6.84	6.5	6.63	6.31	5.63	5.48	6.2	6.35	6.82	6.23	5.23
Mercury	--	--	--	--	<0.0004	--	--	--	--	<0.0002	<0.0002	--	--	--	--	<0.0002	--	--	--	--	<0.0002	--	--	--
Nickel	0.0129 B	0.0188 B	--	--	<0.01	--	--	--	--	<0.03	<0.03	--	--	--	--	<0.03	--	--	--	--	<0.03	--	--	--
Potassium	3 B	2.9 B	2.42	2.25	2.28	2.38	2.74	2.14	2.44	<1	2.44	2.2	2.23	3.13	2.44	2.71	<1	<5	<5	<5	<5	<5	<5	<5
Sodium	64.1	53.9	53.8	49.7	51.1	51	50.9	40.8	52.3	48.2	50.6	47.4	51.4	58.2	49.3	55.4	58.6	49	48.9	53.1	56.9	65.4	56.7	51
Selenium	--	--	--	--	<0.02	--	--	--	--	<0.005	<0.005	--	--	--	--	<0.005	--	--	--	--	0.004	--	--	--
Silver	--	--	--	--	<0.015	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Thallium	0.0037 B	<0.0026	--	--	<0.03	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.003	--	--	--
Vanadium	0.0029 B	0.0075 B	--	--	<0.015	--	--	--	--	<0.03	<0.03	--	--	--	--	<0.03	--	--	--	--	<0.03	--	--	--
Zinc	0.103	0.0484	--	--	<0.01	--	--	--	--	0.0469	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--

All units in mg/l

Historical Water Quality Data - Towslee Landfill

MW-3A Total Metals

Parameter	Aug-97	Oct-97	3/22/06	5/31/06	8/9/06	10/10/06	3/20/07	4/26/07	7/31/07	10/10/07	2/1/08	4/16/08	7/23/08	10/24/08	3/12/09	6/17/09	9/30/09	12/1/09	1/28/10	4/27/10	7/20/10	10/26/10	3/22/11	5/24/11
Aluminum	21.7	2.39	--	--	0.078	--	--	--	--	0.33	0.23	--	--	--	--	<0.1	--	--	--	--	5.32	--	--	--
Antimony	<0.003	0.0034 B	--	--	<0.05	--	--	--	--	<0.015	<0.015	--	--	--	--	<0.015	--	--	--	--	<0.005	--	--	--
Arsenic	0.0127	<0.0024	--	--	<0.025	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.005	--	--	--
Barium	0.567	0.343	--	--	0.41	--	--	--	--	0.332	0.441	--	--	--	--	0.458	--	--	--	--	0.627	--	--	--
Beryllium	0.001 B	0.00013 B	--	--	<0.005	--	--	--	--	<0.003	<0.003	--	--	--	--	<0.003	--	--	--	--	<0.003	--	--	--
Boron	<0.0709	0.0286 B	--	--	0.063	--	--	--	--	<0.5	<0.5	--	--	--	--	<0.5	--	--	--	--	<0.5	--	--	--
Cadmium	<0.0003	<0.0003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium	57.8	53.7	46.3	55.3	57.9	48.3	23	18.1	45.1	27.5	30.2	37.6	24.4	31.3	12.3	59.5	15.2	26.2	28.8	23.2	57.3	26.8	18.3	42.9
Chromium	0.0249	0.0022 B	--	--	<0.005	--	--	--	--	<0.005	<0.005	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Chromium, Hex	--	--	--	--	<0.02	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Cobalt	0.0121 B	0.0019 B	--	--	<0.015	--	--	--	--	<0.02	<0.02	--	--	--	--	<0.02	--	--	--	--	<0.02	--	--	--
Copper	0.0315	0.0076 B	--	--	0.023	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Iron	26.6	3.58	1.88	0.626	0.104	0.283	1.18	0.599	0.231	0.537	0.451	0.574	0.508	0.177	0.6	0.155	0.534	1.44	0.366	0.291	6.97	2.42	0.232	0.121
Lead	0.0077	<0.001	<0.005	0.005	0.005	<0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Magnesium	17	11	9.13	10	11.2	9.2	4.04	3.1	9.15	4.26	5.42	7.04	3.83	4.8	1.82	11.6	<1	<5	5.17	<5	12.5	<5	<5	7.25
Manganese	0.732	0.174	0.208	0.175	0.416	0.176	0.415	0.501	0.116	0.287	0.0373	0.141	0.618	0.0424	0.294	0.164	0.331	0.597	0.568	0.218	0.282	0.471	0.575	0.704
Mercury	--	--	--	--	<0.0004	--	--	--	--	<0.0002	<0.0002	--	--	--	--	<0.0002	--	--	--	--	<0.0002	--	--	--
Nickel	0.0248 B	0.0038 B	--	--	<0.01	--	--	--	--	<0.03	<0.03	--	--	--	--	<0.03	--	--	--	--	<0.03	--	--	--
Potassium	7.43	1.87 B	0.938	0.829	1.09	0.937	<1	<1	<1	<1	<1	<1	1.06	<1	<1	<1	<1	<5	<5	<5	<5	<5	<5	<5
Sodium	10.4	6.54	5.66	6.4	8.92	6.03	2.11	1.14	5.1	2.64	2.9	3.52	2.77	2.69	<1	6.81	<1	<5	<5	<5	6.53	<5	<5	<5
Selenium	--	--	--	--	<0.02	--	--	--	--	<0.005	<0.005	--	--	--	--	<0.005	--	--	--	--	<0.003	--	--	--
Silver	--	--	--	--	<0.015	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Thallium	<0.0026	<0.0026	--	--	<0.03	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.003	--	--	--
Vanadium	0.0296 B	0.0039 B	--	--	<0.015	--	--	--	--	<0.03	<0.03	--	--	--	--	<0.03	--	--	--	--	<0.03	--	--	--
Zinc	0.112	0.0265	--	--	0.025	--	--	--	--	0.0106	<0.01	--	--	--	--	<0.01	--	--	--	--	0.0285	--	--	--

All units in mg/l

Historical Water Quality Data - Towslee Landfill

MW-6B Total Metals

Parameter	Aug-97	Oct-97	3/22/06	5/31/06	8/9/06	10/10/06	3/20/07	4/26/07	7/31/07	10/10/07	2/1/08	4/16/08	7/23/08	10/24/08	3/12/09	6/17/09	9/30/09	12/1/09	1/28/10	4/27/10	7/20/10	10/26/10	3/22/11	5/24/11
Aluminum	8.59	0.642	--	--	0.115	--	--	--	--	0.102	0.134	--	--	--	--	<0.1	--	--	--	--	<0.1	--	--	--
Antimony	<0.003	<0.003	--	--	<0.05	--	--	--	--	<0.015	<0.015	--	--	--	--	<0.03	--	--	--	--	<0.005	--	--	--
Arsenic	0.009 B	0.0084 B	--	--	<0.025	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.005	--	--	--
Barium	0.521	0.48	--	--	0.313	--	--	--	--	0.301	0.337	--	--	--	--	0.404	--	--	--	--	0.348	--	--	--
Beryllium	0.0004 B	0.0001 B	--	--	<0.005	--	--	--	--	<0.003	<0.003	--	--	--	--	<0.003	--	--	--	--	<0.003	--	--	--
Boron	0.145	0.145	--	--	<0.05	--	--	--	--	<0.5	<0.5	--	--	--	--	<0.5	--	--	--	--	<0.5	--	--	--
Cadmium	<0.0003	<0.0003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium	70.5	55.6	39.3	39.6	36.1	37.4	45.6	39.9	40.2	36.7	39.2	39.5	39	38.7	39.6	42.9	42	38.2	45	40.6	39.9	40.9	40.1	43.3
Chromium	0.0092 B	0.0017 B	--	--	<0.005	--	--	--	--	<0.005	<0.005	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Chromium, Hex	--	--	--	--	<0.02	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Cobalt	0.0112 B	0.0056 B	--	--	<0.015	--	--	--	--	<0.02	<0.02	--	--	--	--	<0.02	--	--	--	--	<0.02	--	--	--
Copper	0.0116 B	0.0051 B	--	--	0.016	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Iron	10.6	3	1.09	0.511	0.306	0.195	1.87	0.486	0.163	0.216	0.229	0.33	<0.06	<0.06	0.268	0.104	0.0703	0.417	0.448	0.226	<0.06	0.337	0.114	0.235
Lead	0.0044	<0.001	<0.005	<0.005	<0.005	<0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Magnesium	19	12.7	8.94	10.9	9.86	9.71	10.2	9.68	9.12	7.81	9.37	10.4	9.61	9.13	10.5	11.4	10.4	10.4	12.3	11	10.7	10.9	10.8	10.8
Manganese	3.43	4.17	0.559	0.12	0.297	0.185	0.331	0.0908	0.671	0.712	0.327	0.102	0.666	0.619	0.0257	0.0585	0.255	0.167	0.0606	0.027	0.087	0.242	0.0452	0.0213
Mercury	--	--	--	--	<0.0004	--	--	--	--	<0.0002	<0.0002	--	--	--	--	<0.0002	--	--	--	--	<0.0002	--	--	--
Nickel	0.0144 B	0.0059 B	--	--	<0.01	--	--	--	--	<0.03	<0.03	--	--	--	--	<0.03	--	--	--	--	<0.03	--	--	--
Potassium	4.08 B	2.72 B	1.15	0.825	0.634	0.69	1.05	<1	<1	<1	<1	<1	<1	1.4	1.01	1.03	<1	<5	<5	<5	<5	<5	<5	<5
Sodium	38	31.4	14.9	9.93	10.1	10.7	11.2	10.2	15	14.7	13.8	12.7	18.1	17.6	13.1	17.9	18.5	15.8	16.8	14.2	15	17.8	14.1	17
Selenium	--	--	--	--	<0.02	--	--	--	--	<0.005	<0.005	--	--	--	--	<0.005	--	--	--	--	<0.003	--	--	--
Silver	--	--	--	--	<0.015	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Thallium	<0.0026	<0.0026	--	--	<0.03	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.003	--	--	--
Vanadium	0.0083 B	0.0012 B	--	--	<0.015	--	--	--	--	<0.03	<0.03	--	--	--	--	<0.03	--	--	--	--	<0.03	--	--	--
Zinc	0.0894	0.0248	--	--	0.014	--	--	--	--	0.0213	0.0103	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--

All units in mg/l

Historical Water Quality Data - Towslee Landfill

MW-7A Total Metals

Parameter	Aug-97	Oct-97	3/22/06	5/31/06	8/9/06	10/10/06	3/20/07	4/26/07	7/31/07	10/10/07	2/1/08	4/16/08	7/23/08	10/24/08	3/12/09	6/17/09	9/30/09	12/1/09	1/28/10	4/27/10	7/20/10	10/26/10	3/22/11	5/24/11
Aluminum	40	88.4	--	--	0.415	--	--	--	--	2.43	0.919	--	--	--	--	9.56	--	--	--	--	1.52	--	--	--
Antimony	<0.003	<0.003	--	--	<0.05	--	--	--	--	<0.015	<0.015	--	--	--	--	<0.03	--	--	--	--	<0.005	--	--	--
Arsenic	0.0176	0.0459	--	--	<0.025	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.005	--	--	--
Barium	1.36	1.99	--	--	0.684	--	--	--	--	0.576	0.68	--	--	--	--	0.714	--	--	--	--	0.556	--	--	--
Beryllium	0.0015 B	0.0037 B	--	--	<0.005	--	--	--	--	<0.003	<0.003	--	--	--	--	<0.003	--	--	--	--	<0.003	--	--	--
Boron	0.332	0.41	--	--	0.55	--	--	--	--	0.65	0.588	--	--	--	--	<0.5	--	--	--	--	<0.5	--	--	--
Cadmium	0.00047 B	0.002 B	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium	234	271	171	165	150	148	149	140	135	131	148	139	150	162	140	150	144	131	139	122	147	143	136	130
Chromium	0.0556	0.146	--	--	<0.005	--	--	--	--	<0.005	0.00667	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Chromium, Hex	--	--	--	--	<0.02	--	--	--	--	<0.01	<0.05	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Cobalt	0.0311	0.0791	--	--	<0.015	--	--	--	--	<0.02	<0.02	--	--	--	--	<0.02	--	--	--	--	<0.02	--	--	--
Copper	0.0637	0.129	--	--	0.013	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Iron	65.9	174	14.5	1.33	0.722	2.78	1.68	1.52	9.97	3.65	1.68	1.99	0.342	1.16	0.322	10.1	0.108	1.19	3.95	0.469	1.71	3.06	0.162	0.418
Lead	0.0251	0.0585	0.0175	0.009	0.006	<0.005	<0.003	<0.003	0.00656	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Magnesium	67	88.3	48.6	45.5	38	38	38.4	36.4	35	32.1	38.4	38.5	39.5	39.8	35.8	38.7	34	35.3	38.8	31.4	36.9	36.4	35	34.4
Manganese	5.87	9.55	6.08	5.69	4.4	4.85	4.51	4.18	3.98	3.47	4.17	4.34	4.82	4.57	4.31	4.21	3.8	3.68	3.87	3.85	3.82	4.5	4.33	3.8
Mercury	<0.0001	<0.0001	--	--	<0.0004	--	--	--	--	<0.0002	<0.0002	--	--	--	--	<0.0002	--	--	--	--	<0.0002	--	--	--
Nickel	0.0783	0.192	--	--	0.013	--	--	--	--	<0.03	<0.03	--	--	--	--	<0.03	--	--	--	--	<0.03	--	--	--
Potassium	10.4	13.5	3.06	1.91	1.81	2.03	2.03	1.95	2.87	<1	1.85	1.98	1.82	2.41	1.62	3.58	<1	<5	<5	<5	<5	<5	<5	<5
Sodium	118	113	134	129	124	128	112	104	95.8	95.2	104	99.6	113	116	97	103	110	105	112	109	110	127	110	114
Selenium	0.0041 B	0.0047 B	--	--	<0.02	--	--	--	--	<0.005	<0.005	--	--	--	--	<0.005	--	--	--	--	<0.003	--	--	--
Silver	<0.0009	<0.0009	--	--	<0.015	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.01	--	--	--
Thallium	<0.0026	<0.0026	--	--	<0.03	--	--	--	--	<0.01	<0.01	--	--	--	--	<0.01	--	--	--	--	<0.003	--	--	--
Vanadium	0.0487 B	0.127	--	--	<0.015	--	--	--	--	<0.03	<0.03	--	--	--	--	<0.03	--	--	--	--	<0.03	--	--	--
Zinc	0.2	0.408	--	--	<0.01	--	--	--	--	0.0263	0.0102	--	--	--	--	0.0297	--	--	--	--	<0.01	--	--	--

All units in mg/l

Historical Water Quality Database - Towslee Landfill

MW-1A Dissolved Metals

Parameter	Aug-97	Oct-97	3/22/06	5/31/06	8/9/06	3/20/07
Aluminum	0.0163 B	0.0407 B	--	--	0.066	--
Antimony	--	--	--	--	<0.05	--
Arsenic	<0.0024	<0.0024	--	--	<0.025	--
Barium	0.137 B	0.068 B	--	--	0.066	--
Beryllium	<0.0001	<0.0001	--	--	<0.005	--
Boron	0.0631 B	0.0561 B	--	--	<0.07	--
Cadmium	<0.0003	<0.0003	<0.005	<0.005	<0.005	<0.005
Calcium	67.6	40.3	40.7	38.9	38.6	40.3
Chromium	<0.0004	<0.0004	--	--	<0.005	--
Chrom, Hex	--	--	--	--	--	--
Cobalt	<0.0011	<0.0011	--	--	<0.015	--
Copper	0.0008 B	<0.0007	--	--	0.013	--
Iron	0.0348 B	0.0471 B	13.5	0.315	0.125	<0.06
Lead	0.0052	<0.001	<0.005	0.005	<0.005	<0.003
Magnesium	15.4	8.69	10.4	8.12	8.18	8.83
Manganese	0.22	0.174	0.238	0.127	0.248	<0.01
Mercury	0.0014	<0.0001	--	--	<0.0004	--
Nickel	<0.0013	<0.0013	--	--	<0.01	--
Potassium	10.6	4.92 B	2.52	1.38	1.31	1.72
Sodium	59.3	27.1	14.7	12.3	13	12.3
Selenium	--	--	--	--	<0.02	--
Silver	--	--	--	--	<0.015	--
Thallium	<0.0026	<0.0026	--	--	<0.03	--
Vanadium	<0.0012	<0.0012	--	--	<0.015	--
Zinc	0.12	0.0161 B	--	--	0.033	--

All units are mg/l

Historical Water Quality Database - Towslee Landfill

MW-1B Dissolved Metals

Parameter	Aug-97	Oct-97	3/22/06	8/9/06	3/20/07
Aluminum	0.0146 B	0.0209 B	--	0.195	--
Antimony	<0.003	<0.003	--	<0.05	--
Arsenic	<0.0024	<0.0024	--	<0.025	--
Barium	0.151 B	0.155 B	--	0.162	--
Beryllium	<0.0001	<0.0001	--	<0.005	--
Boron	0.0195 B	0.0162 B	--	<0.07	--
Cadmium	<0.0003	<0.0003	<0.005	<0.005	<0.005
Calcium	24.8	24.5	22.8	24.4	24.5
Chromium	0.0008 B	0.00073 B	--	<0.005	--
Chrom, Hex	--	--	--	--	--
Cobalt	<0.0011	<0.0011	--	<0.015	--
Copper	<0.0007	<0.0007	--	0.013	--
Iron	0.0172 B	0.0141 B	0.339	0.339	<0.06
Lead	--	--	<0.005	<0.005	<0.003
Magnesium	6.62	5.88	5.15	5.54	5.88
Manganese	0.141	0.134	0.0136	0.135	<0.01
Mercury	--	--	--	<0.0004	--
Nickel	<0.0013	<0.0013	--	<0.01	--
Potassium	1.63 B	0.514 B	0.487	0.403	<1
Sodium	7.53	6.59	4.75	5.31	5.73
Selenium	--	--	--	<0.02	--
Silver	--	--	--	<0.015	--
Thallium	--	--	--	<0.03	--
Vanadium	--	--	--	<0.015	--
Zinc	0.0396	0.0152 B	--	0.029	--

All units are mg/l

Historical Water Quality Database - Towslee Landfill

MW-2A Dissolved Metals

Parameter	Aug-97	Oct-97	8/9/06
Aluminum	<0.0083	0.0482 B	0.044
Antimony	--	--	<0.05
Arsenic	0.0123	0.0139	<0.025
Barium	0.787	0.786	0.427
Beryllium	0.00017 B	0.0001 B	<0.005
Boron	1.21	0.992	0.562
Cadmium	0.00053 B	<0.0003	<0.005
Calcium	183	183	77.6
Chromium	0.0035 B	0.0057 B	<0.005
Chrom, Hex	--	--	--
Cobalt	0.0107 B	0.0095 B	<0.015
Copper	0.0162 B	<0.0007	0.015
Iron	5.4	11.5	0.204
Lead	<0.001	0.0011 B	<0.005
Magnesium	41	38.5	17.1
Manganese	30.4	30.9	12.1
Mercury	<0.0001	<0.0001	<0.0004
Nickel	0.0179 B	0.0162 B	<0.01
Potassium	17.5	14.2	12.5
Sodium	121	115	29.6
Selenium	--	--	<0.02
Silver	--	--	<0.015
Thallium	0.003 B	<0.0026	<0.03
Vanadium	<0.0012	<0.0012	<0.015
Zinc	0.117	0.0207	0.013

All units are mg/l

Historical Water Quality Database - Towslee Landfill

MW-2B Dissolved Metals

Parameter	Aug-97	Oct-97
Aluminum	0.0179 B	0.0154 B
Antimony	<0.003	<0.003
Arsenic	0.0036 B	<0.0024
Barium	1.55	1.45
Beryllium	<0.0001	<0.0001
Boron	0.334	0.321
Cadmium	<0.0003	<0.0003
Calcium	281	274
Chromium	0.0009 B	0.0014 B
Chrom, Hex	--	--
Cobalt	0.0067 B	0.0061 B
Copper	0.0022 B	<0.0007
Iron	0.582	0.595
Lead	--	--
Magnesium	61.7	55
Manganese	8.07	8
Mercury	--	--
Nickel	0.0093 B	0.0097 B
Potassium	2.8 B	2.34 B
Sodium	62.5	62.8
Selenium	--	--
Silver	--	--
Thallium	--	--
Vanadium	--	--
Zinc	0.0635	0.023

All units are mg/l

Historical Water Quality Database - Towslee Landfill

MW-3A Dissolved Metals

Parameter	Aug-97	Oct-97	3/22/06
Aluminum	<0.0083	0.0158	--
Antimony	0.0038 B	<0.003	--
Arsenic	<0.0024	<0.0024	--
Barium	0.242	0.276	--
Beryllium	<0.0001	<0.0001	--
Boron	0.0324 B	0.0275 B	--
Cadmium	<0.0003	<0.0003	<0.005
Calcium	57.9	54.6	44.3
Chromium	<0.0004	<0.0004	--
Chrom, Hex	--	--	--
Cobalt	<0.0011	<0.0011	--
Copper	0.0024 B	0.00083 B	--
Iron	0.0061 B	0.0114 B	0.168
Lead	--	--	<0.005
Magnesium	12.9	10.9	8.7
Manganese	0.123	0.0941	0.0963
Mercury	--	--	--
Nickel	<0.0013	0.0017 B	--
Potassium	2.75 B	1.42 B	0.803
Sodium	10.2	7.98	4.83
Selenium	--	--	--
Silver	--	--	--
Thallium	--	--	--
Vanadium	--	--	--
Zinc	0.0249	0.0387	--

All units are mg/l

Historical Water Quality Database - Towslee Landfill

MW-6B Dissolved Metals

Parameter	Aug-97	Oct-97	3/20/07
Aluminum	<0.0083	0.0132 B	--
Antimony	<0.003	<0.003	--
Arsenic	0.0048 B	0.0073 B	--
Barium	0.396	0.478	--
Beryllium	<0.0001	<0.0001	--
Boron	0.125	0.14	--
Cadmium	<0.0003	<0.0003	<0.005
Calcium	67.7	56.3	45.6
Chromium	<0.0004	0.00087 B	--
Chrom, Hex	--	--	--
Cobalt	0.0052 B	0.0041 B	--
Copper	0.0011 B	<0.0007	--
Iron	0.346	1.42	<0.06
Lead	--	--	<0.003
Magnesium	17.3	12.9	10.6
Manganese	3.3	3.99	0.137
Mercury	--	--	--
Nickel	0.0046 B	0.0048 B	--
Potassium	2.97 B	2.77 B	1.19
Sodium	38.2	33.3	12.1
Selenium	--	--	--
Silver	--	--	--
Thallium	--	--	--
Vanadium	--	--	--
Zinc	0.0651	0.0207	--

All units are mg/l

Historical Water Quality Database - Towslee Landfill

MW-7A Dissolved Metals

Parameter	Aug-97	Oct-97	3/22/06	6/17/09	7/20/10	10/26/10	5/24/11
Aluminum	<0.0083	0.0755 B	--	<0.1	<0.1	--	--
Antimony	--	--	--	<0.03	<0.005	--	--
Arsenic	<0.0024	<0.0024	--	<0.01	<0.005	--	--
Barium	0.822	0.887	--	0.599	0.477	--	--
Beryllium	0.0001 B	<0.0001	--	<0.003	<0.003	--	--
Boron	0.331	0.396	--	--	--	--	--
Cadmium	0.0003 B	<0.0003	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium	220	255	158	140	129	120	126
Chromium	0.0008 B	0.0011 B	--	<0.01	<0.01	--	--
Chrom, Hex	--	--	--	--	--	--	--
Cobalt	0.0017 B	0.0031 B	--	<0.02	<0.02	--	--
Copper	0.0086 B	<0.0007	--	<0.01	<0.01	--	--
Iron	0.009 B	0.753	0.0637	<0.06	<0.06	0.0978	<0.06
Lead	<0.001	<0.001	<0.005	<0.003	<0.003	<0.003	<0.003
Magnesium	56.2	59.9	43.6	34.1	31.6	31.5	33.6
Manganese	4.53	7.12	5.35	3.78	2.57	3.26	3.04
Mercury	<0.0001	<0.0001	--	<0.0002	<0.0002	--	--
Nickel	0.0129 B	0.0196 B	--	<0.03	<0.03	--	--
Potassium	5.28	3.98 B	1.9	1.82	<5	<5	<5
Sodium	120	129	126	97.2	91.6	105	113
Selenium	--	--	--	<0.005	<0.003	--	--
Silver	--	--	--	<0.01	<0.01	--	--
Thallium	<0.0026	<0.0026	--	<0.01	<0.003	--	--
Vanadium	<0.0012	<0.0012	--	<0.03	<0.03	--	--
Zinc	0.0455	0.0186	--	0.0228	0.0102	--	--

All units are mg/l

Historical Water Quality Database - Towslee Landfill
Organics (includes only compounds detected)
Well MW-1A - Overburden

Parameter	TYPE	Aug-97	Oct-97	8/9/06	10/9/07	6/17/09	7/20/10
Vinyl Chloride	VOC	<10	<10	<5	<5	< 5	<5
Chloroethane	VOC	<10	<10	<5	<5	< 5	<5
Acetone	VOC	10	<10	<25	<10	< 10	<10
Methylene Chloride	VOC	<10	<10	<5	<5	< 5	<5
trans-1,2-Dichloroethene (1)	VOC	<10	<10	<5	<5	< 5	<5
cis-1,2-Dichloroethene (1)	VOC	<10	<10	<5	<5	< 5	<5
1,1-Dichloroethane	VOC	<10	<10	<5	<5	< 5	<5
Benzene	VOC	<10	<10	<5	<5	< 5	<5
Toluene	VOC	<10	<10	<5	<5	< 5	<5
Chlorobenzene	VOC	<10	<10	<5	<5	< 5	<5
Ethylbenzene	VOC	<10	<10	<5	<5	< 5	<5
Xylenes(total)	VOC	<10	<10	<10	<5	< 5	<5
1,4-Dichlorobenzene	SVOC	<10	<10	<5	<5	< 5	<5
Diethylphthalate	SVOC	<10	<10	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	SVOC	<10	<10	NA	NA	NA	NA

All units are ug/l
J - estimated
B - analyte also detected in blank
(1) 1997 results are for total 1,2-DCE - total has been applied to each compound
NA - not analyzed

Historical Water Quality Database - Towslee Landfill
Organics (includes only compounds detected)
Well MW-1B - Bedrock

Parameter	TYPE	Aug-97	Oct-97	8/9/06	10/9/07	2/1/08	6/17/09	7/20/10
Vinyl Chloride	VOC	<10	<10	<5	<5	<5	< 5	<5
Chloroethane	VOC	<10	<10	<5	<5	<5	< 5	<5
Acetone	VOC	<10	<10	<25	<10	<10	< 10	<10
Methylene Chloride	VOC	<10	<10	<5	<5	**13 B**	< 5	<5
trans-1,2-Dichloroethene (1)	VOC	<10	<10	<5	<5	<5	< 5	<5
cis-1,2-Dichloroethene (1)	VOC	<10	<10	<5	<5	<5	< 5	<5
1,1-Dichloroethane	VOC	<10	<10	<5	<5	<5	< 5	<5
Benzene	VOC	<10	<10	<5	<5	<5	< 5	<5
Toluene	VOC	<10	<10	<5	<5	<5	< 5	<5
Chlorobenzene	VOC	<10	<10	<5	<5	<5	< 5	<5
Ethylbenzene	VOC	<10	<10	<5	<5	<5	< 5	<5
Xylenes(total)	VOC	<10	<10	<10	<5	<5	< 5	<5
1,4-Dichlorobenzene	SVOC	<10	<10	<5	<5	<5	< 5	<5
Diethylphthalate	SVOC	<10	<10	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	SVOC	<10	<10	NA	NA	NA	NA	NA

All units are ug/l
J - estimated
B - analyte also detected in blank
(1) 1997 results are for total 1,2-DCE - total has been applied to each compound
NA - not analyzed

Historical Water Quality Database - Towslee Landfill
Organics (includes only compounds detected)
Well MW-2A - Overburden

Parameter	TYPE	Aug-97	Oct-97	8/9/06	10/9/07	2/1/08	6/17/09	7/20/10
Vinyl Chloride	VOC	<10	<10	<5	<5	<5	< 5	<5
Chloroethane	VOC	**5 J**	**4 J**	<5	<5	<5	< 5	<5
Acetone	VOC	<10	<10	<25	<10	<10	< 10	<10
Methylene Chloride	VOC	**1 JB**	<10	<5	<5	**12 B**	< 5	<5
trans-1,2-Dichloroethene (1)	VOC	<10	<10	<5	<5	<5	< 5	<5
cis-1,2-Dichloroethene (1)	VOC	<10	<10	<5	<5	<5	< 5	<5
1,1-Dichloroethane	VOC	<10	<10	<5	<5	<5	< 5	<5
Benzene	VOC	**5 J**	**6 J**	<5	<5	<5	< 5	<5
Toluene	VOC	**1 J**	<10	<5	<5	<5	< 5	<5
Chlorobenzene	VOC	**5 J**	<10	<5	**4 J**	<5	**3 J**	**3 J**
Ethylbenzene	VOC	**2 J**	<10	<5	<5	<5	< 5	<5
Xylenes(total)	VOC	**5 J**	<10	<10	<5	<5	< 5	<5
1,4-Dichlorobenzene	SVOC	**1 J**	**2 J**	<5	<5	<5	< 5	<5
Diethylphthalate	SVOC	<10	**1 J**	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	SVOC	<10	<10	NA	NA	NA	NA	NA

All units are ug/l
J - estimated
B - analyte also detected in blank
(1) 1997 results are for total 1,2-DCE - total has been applied to each compound
NA - not analyzed

Historical Water Quality Database - Towslee Landfill
Organics (includes only compounds detected)
Well MW-2B - Bedrock

Parameter	TYPE	Aug-97	Oct-97	8/9/06	10/9/07	2/1/08	6/17/09	7/20/10
Vinyl Chloride	VOC	<10	<10	<5	**5.8**	<5	**12**	**13**
Chloroethane	VOC	**4 J**	**3 J**	<5	**4 J**	<5	**5.9**	**7**
Acetone	VOC	<10	<10	<25	<10	<10	< 10	<10
Methylene Chloride	VOC	**1 JB**	<10	<5	<5	**11 B**	< 5	<5
trans-1,2-Dichloroethene (1)	VOC	**1 J**	<10	<5	<5	<5	< 5	<5
cis-1,2-Dichloroethene (1)	VOC	**1 J**	<10	**6.2**	**9.2**	**9.4**	**19**	**19**
1,1-Dichloroethane	VOC	**1 J**	**1 J**	<5	<5	<5	< 5	<5
Benzene	VOC	<10	**2 J**	<5	<5	<5	< 5	<5
Toluene	VOC	<10	<10	<5	<5	<5	< 5	<5
Chlorobenzene	VOC	<10	**1 J**	<5	<5	<5	< 5	<5
Ethylbenzene	VOC	<10	<10	<5	<5	<5	< 5	<5
Xylenes(total)	VOC	<10	<10	<10	<5	<5	< 5	<5
1,4-Dichlorobenzene	SVOC	<10	<10	<5	<5	<5	< 5	<5
Diethylphthalate	SVOC	<10	<10	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	SVOC	<10	**1 JB**	NA	NA	NA	NA	NA

All units are ug/l
J - estimated
B - analyte also detected in blank
(1) 1997 results are for total 1,2-DCE - total has been applied to each compound
NA - not analyzed

Historical Water Quality Database - Towslee Landfill
Organics (includes only compounds detected)
Well MW-3A - Bedrock

Parameter	TYPE	Aug-97	Oct-97	8/9/06	10/9/07	2/1/08	6/17/09	7/20/10
Vinyl Chloride	VOC	<10	<10	<5	<5	<5	< 5	<5
Chloroethane	VOC	<10	<10	<5	<5	<5	< 5	<5
Acetone	VOC	**2 J**	<10	<25	<10	<10	**24**	<10
Methylene Chloride	VOC	**5 JB**	<10	<5	<5	**11 B**	< 5	<5
trans-1,2-Dichloroethene (1)	VOC	<10	<10	<5	<5	<5	< 5	<5
cis-1,2-Dichloroethene (1)	VOC	<10	<10	<5	<5	<5	< 5	<5
1,1-Dichloroethane	VOC	<10	<10	<5	<5	<5	< 5	<5
Benzene	VOC	<10	<10	<5	<5	<5	< 5	<5
Toluene	VOC	<10	<10	<5	<5	<5	**82**	**77 S**
Chlorobenzene	VOC	<10	<10	<5	<5	<5	< 5	<5
Ethylbenzene	VOC	<10	<10	<5	<5	<5	< 5	<5
Xylenes(total)	VOC	<10	<10	<10	<5	<5	< 5	<5
1,4-Dichlorobenzene	SVOC	<10	<10	<5	<5	<5	< 5	<5
Diethylphthalate	SVOC	<10	<10	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	SVOC	<10	<10	NA	NA	NA	NA	NA

All units are ug/l
J - estimated
B - analyte also detected in blank
S - Recovery in matrix spike exceeded acceptance criteria.
(1) 1997 results are for total 1,2-DCE - total has been applied to each compound
NA - not analyzed

Historical Water Quality Database - Towslee Landfill
Organics (includes only compounds detected)
Well MW-6B - Bedrock

Parameter	TYPE	Aug-97	Oct-97	8/9/06	10/9/07	2/1/08	6/17/09	7/20/10
Vinyl Chloride	VOC	<10	<10	<5	<5	<5	< 5	<5
Chloroethane	VOC	<10	<10	<5	<5	<5	< 5	<5
Acetone	VOC	<10	<10	<25	<10	<10	< 10	<10
Methylene Chloride	VOC	<10	<10	<5	<5	**12 B**	< 5	<5
trans-1,2-Dichloroethene (1)	VOC	<10	<10	<5	<5	<5	< 5	<5
cis-1,2-Dichloroethene (1)	VOC	<10	<10	<5	<5	<5	< 5	<5
1,1-Dichloroethane	VOC	<10	<10	<5	<5	<5	< 5	<5
Benzene	VOC	<10	<10	<5	<5	<5	< 5	<5
Toluene	VOC	<10	<10	<5	<5	<5	< 5	<5
Chlorobenzene	VOC	<10	<10	<5	<5	<5	< 5	<5
Ethylbenzene	VOC	<10	<10	<5	<5	<5	< 5	<5
Xylenes(total)	VOC	<10	<10	<10	<5	<5	< 5	<5
1,4-Dichlorobenzene	SVOC	<10	<10	<5	<5	<5	< 5	<5
Diethylphthalate	SVOC	<10	<10	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	SVOC	<10	<10	NA	NA	NA	NA	NA

All units are ug/l
J - estimated
B - analyte also detected in blank
(1) 1997 results are for total 1,2-DCE - total has been applied to each compound
NA - not analyzed

Historical Water Quality Database - Towslee Landfill
Organics (includes only compounds detected)
Well MW-7A - Overburden

Parameter	TYPE	Aug-97	Oct-97	8/9/06	10/9/07	2/1/08	6/17/09	7/20/10
Vinyl Chloride	VOC	**2 J**	**5 J**	<5	**4 J**	**8.2**	**5.7**	**4 J**
Chloroethane	VOC	<10	**1 J**	<5	<5	<5	< 5	<5
Acetone	VOC	<10	<10	<25	<10	<10	< 10	**11**
Methylene Chloride	VOC	**1 JB**	<10	<5	<5	<5	< 5	<5
trans-1,2-Dichloroethene (1)	VOC	**1 J**	**2 J**	<5	<5	<5	< 5	<5
cis-1,2-Dichloroethene (1)	VOC	**1 J**	**2 J**	**7.1**	**6.1**	**9**	**5.4**	**5 J**
1,1-Dichloroethane	VOC	**3 J**	**4 J**	**6.1**	**5 J**	**7.9**	**5 J**	**4 J**
Benzene	VOC	<10	<10	<5	<5	<5	< 5	<5
Toluene	VOC	<10	<10	<5	<5	<5	< 5	<5
Chlorobenzene	VOC	<10	<10	<5	<5	<5	< 5	<5
Ethylbenzene	VOC	<10	<10	<5	<5	<5	< 5	<5
Xylenes(total)	VOC	<10	<10	<10	<5	<5	< 5	<5
1,4-Dichlorobenzene	SVOC	<10	<10	<5	<5	<5	< 5	<5
Diethylphthalate	SVOC	<10	<10	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	SVOC	<10	<10	NA	NA	NA	NA	NA

All units are ug/l
J - estimated
B - analyte also detected in blank
(1) 1997 results are for total 1,2-DCE - total has been applied to each compound
NA - not analyzed

Appendix D

Historical Summary of Parameters Identified by B&L in 1997 that are Suggestive of Mild Leachate Contamination

Cortland County Towslee Landfill

Conventionals	Metals
Alkalinity	Aluminum
Hardness	Arsenic
Chloride	Calcium
Ammonia	Chromium
TKN	Cobalt
COD	Copper
TOC	Iron
	Lead
	Magnesium
	Manganese
	Potassium
	Sodium
	Vanadium
	Zinc

Historical Summary of Parameters Identified by B&L in 1997 that are Indicative of Mild Leachate Contamination

Conventionals

(Note: Qualifiers are not included in these tables)

Analyte	Year & Quarter	MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A
Alkalinity, Total (As CaCO3)	1997_Q3	160	94.8	702	577	145	240	569
mg/L	1997_Q4	145	93.6	784	673	146	224	660
	2006_Q1	127	92	330	652	162	131	648
	2006_Q2	139	94	355	670	170	148	675
	2006_Q3	122	91	384	612	140	154	595
	2006_Q4	132	89	423	646	152	153	635
	2007_Q1	140	99	380	650	82	180	640
	2007_Q2	120	96	320	480	59	160	510
	2007_Q3	120	100	420	600	170	150	530
	2007_Q4	130	100	290	640	130	140	540
	2008_Q1	na	100	360	640	110	140	570
	2008_Q2	120	100	290	620	170	140	560
	2008_Q3	120	100	380	640	91	110	600
	2008_Q4	120	99	360	680	97	120	670
	2009_Q1	130	92	320	650	18	120	500
	2009_Q2	100	100	360	580	160	140	500
	2009_Q3	120	98	340	650	50	140	480
	2009_Q4	120	86	280	610	79	140	520
	2010_Q1	na	na	310	600	180	150	600
	2010_Q2	140	100	300	610	93	150	500
	2010_Q3	120	91	360	630	160	140	510
	2010_Q4	120	90	310	600	130	160	520
	2011_Q1	130	100	260	710	75	130	600
	2011_Q2	120	93	250	540	150	150	510
Hardness, Total(CaCO3)	1997_Q3	4000	88	1300	960	1250	300	1010
mg/L	1997_Q4	240	140	720	900	200	240	1150
	2006_Q1	167	97.6	241	697	153	135	627
	2006_Q2	140	81.9	260	726	179	144	599
	2006_Q3	148	89	265	686	191	131	531
	2006_Q4	148	82	301	675	158	133	526
	2007_Q1	134	83.6	225	723	74	156	529
	2007_Q2	153	105	262	575	58.1	139	499
	2007_Q3	148	104	275	716	150	138	481
	2007_Q4	146	90.8	165	652	86.2	124	459
	2008_Q1	na	89.3	246	678	97.7	136	528
	2008_Q2	151	103	203	654	123	142	506
	2008_Q3	159	107	303	728	76.7	137	538
	2008_Q4	165	105	343	788	97.9	134	569
	2009_Q1	161	97.1	229	678	38.1	142	496
	2009_Q2	163	111	295	782	196	154	534
	2009_Q3	158	108	265	755	37.8	148	499
	2009_Q4	161	206	95	608	65.4	138	473
	2010_Q1	na	na	291	609	93.2	163	508
	2010_Q2	161	92.9	235	681	58	147	435
	2010_Q3	167	106	313	730	194	144	520
	2010_Q4	169	104	260	693	66.9	147	507
	2011_Q1	159	108	190	677	45.7	145	484
	2011_Q2	164	87.4	167	589	137	153	465

Historical Summary of Parameters Identified by B&L in 1997 that are Indicative of Mild Leachate Contamination

Conventionals

(Note: Qualifiers are not included in these tables)

Analyte	Year & Quarter	MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A
Chloride	1997_Q3	152	<2	156	267	31.4	38.2	300
mg/L	1997_Q4	46	<2	149	238	28.7	35	276
	2006_Q1	21.3	2.55	23.3	145	14	21.1	144
	2006_Q2	22.2	2.28	25.7	154	12.7	2.33	143
	2006_Q3	34.2	3.47	23.5	122	13.5	2.32	119
	2006_Q4	26.7	0.611	25.7	121	12.7	3.39	85
	2007_Q1	28.7	3.24	21.2	167	3.37	11.6	145
	2007_Q2	27	4.45	14.7	131	1.8	6.99	131
	2007_Q3	27	3.16	24.4	163	12	13.8	145
	2007_Q4	27.9	6.44	10.6	161	5.73	25.9	141
	2008_Q1	na	3.15	21	160	2.43	16.7	141
	2008_Q2	28	5.95	13.5	132	10.5	16.9	1260
	2008_Q3	25.9	5.61	20.2	148	1.1	31.1	136
	2008_Q4	29.7	6.03	15.5	162	1.75	28.6	135
	2009_Q1	30.4	2.86	13.7	118	1.85	13.3	114
	2009_Q2	30.7	4.74	20.5	159	9.25	19.4	128
	2009_Q3	29.5	6.86	17.7	150	<1	19.7	120
	2009_Q4	30	4.71	12.5	140	<1	14.7	117
	2010_Q1	na	na	12.4	112	14.8	13.2	104
	2010_Q2	31.7	3.54	14.5	130	1.31	12	89.1
	2010_Q3	33	3.63	22.5	139	7.44	14	128
	2010_Q4	31.4	6.11	17.1	127	3.3	16	115
	2011_Q1	32	4.07	11.2	124	2.69	11.9	95.7
	2011_Q2	30.5	1.7	8.33	104	2.28	16.4	99
Nitrogen, Ammonia (As N)	1997_Q3	6	<0.02	23	0.95	<0.02	0.09	0.93
mg/L	1997_Q4	2.6	0.04	9.1	1.3	0.09	2.5	0.89
	2006_Q1	0.276	0.0938	10.6	0.389	0.0969	0.0549	0.34
	2006_Q2	<0.02	<0.02	18.4	0.824	<0.02	<0.02	<0.02
	2006_Q3	0.161	<0.02	16	0.786	<0.02	0.096	<0.02
	2006_Q4	<0.1	<0.1	15.1	0.282	<0.1	<0.1	<0.1
	2007_Q1	<0.5	<0.5	10.2	0.921	1.45	<0.5	<0.5
	2007_Q2	<0.5	<0.5	9.89	0.844	<0.5	<0.5	<0.5
	2007_Q3	<0.5	<0.5	14.1	1.31	<0.5	<0.5	<0.5
	2007_Q4	<0.5	<0.5	13.5	1.22	<0.5	<0.5	<0.5
	2008_Q1	na	<0.5	8.78	0.785	<0.5	<0.5	<0.5
	2008_Q2	<0.5	<0.5	8.2	0.572	<0.5	<0.5	<0.5
	2008_Q3	<0.5	<0.5	11.9	1.01	<0.5	<0.5	<0.5
	2008_Q4	<0.5	<0.5	10.8	0.504	<0.5	<0.5	<0.5
	2009_Q1	<0.5	<0.5	8.43	0.642	<0.5	<0.5	<0.5
	2009_Q2	<0.5	<0.5	11.8	0.665	<0.5	<0.5	<0.5
	2009_Q3	<0.5	<0.5	10.3	0.73	<0.5	<0.5	<0.5
	2009_Q4	<0.5	<0.5	8.75	0.696	<0.5	<0.5	<0.5
	2010_Q1	na	na	8.45	0.69	<0.5	<0.5	<0.5
	2010_Q2	<0.5	<0.5	8.06	1.18	<0.5	<0.5	<0.5
	2010_Q3	<0.5	<0.5	10.1	0.812	<0.5	<0.5	<0.5
	2010_Q4	<0.5	<0.5	6.9	<0.5	<0.5	<0.5	<0.5
	2011_Q1	<0.5	<0.5	5.38	0.593	<0.5	<0.5	<0.5
	2011_Q2	<0.5	<0.5	7.03	0.752	<0.5	<0.5	<0.5

Historical Summary of Parameters Identified by B&L in 1997 that are Indicative of Mild Leachate Contamination

Conventionals

(Note: Qualifiers are not included in these tables)

Analyte	Year & Quarter	MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A
Nitrogen, Kjeldahl, Total mg/L	1997_Q3	18	<0.2	31.5	2.6	0.4	0.6	1.1
	1997_Q4	3.8	<0.2	21.2	2	0.24	3.3	1.4
	2006_Q1	23.3	0.54	10.6	1.31	0.455	0.392	1.5
	2006_Q2	0.529	0.755	14	1.78	1.09	0.904	1.68
	2006_Q3	0.366	0.497	16.5	1.64	0.239	0.214	0.75
	2006_Q4	<0.2	<0.2	15	1.9	0.266	0.279	1.11
	2007_Q1	2.2	<0.5	132	1.84	4.26	<0.5	1.47
	2007_Q2	<0.5	<0.5	12.5	1.62	1.47	<0.5	3.6
	2007_Q3	5.66	<0.5	16.1	1.67	<0.5	<0.5	0.784
	2007_Q4	<0.5	<0.5	12.6	1.53	<0.5	<0.5	0.591
	2008_Q1	na	<0.5	10.7	1.33	<0.5	<0.5	0.522
	2008_Q2	<0.5	<0.5	11.2	1.55	<0.5	<0.5	0.949
	2008_Q3	<0.5	<0.5	12.9	1.03	0.718	<0.5	<0.5
	2008_Q4	<0.5	<0.5	11.6	1.13	<0.5	<0.5	<0.5
	2009_Q1	<0.5	<0.5	10.3	1.22	<0.5	<0.5	1.92
	2009_Q2	<0.5	<0.5	13.5	1.19	<0.5	<0.5	0.851
	2009_Q3	<0.5	<0.5	13.1	1.07	0.786	<0.5	0.927
	2009_Q4	<0.5	<0.5	12.5	1.12	1.36	<0.5	0.599
	2010_Q1	na	na	11.6	1.28	<0.5	<0.5	1.02
	2010_Q2	<0.5	<0.5	11.9	1.55	1.14	0.522	1.4
	2010_Q3	<0.5	<0.5	16.5	1.37	1.26	<0.5	1.27
	2010_Q4	0.897	0.924	9.84	2.45	1.83	0.799	2.15
	2011_Q1	<0.5	<0.5	7.95	1.14	<0.5	<0.5	0.639
	2011_Q2	<0.5	<0.5	8.21	0.948	<0.5	<0.5	<0.5
Chemical Oxygen Demand mg/L	1997_Q3	305	<15	127	58	19	40	43
	1997_Q4	64	<15	136	61	<15	19	112
	2006_Q1	<10	<10	<10	<10	<10	<10	21.2
	2006_Q2	<10	<10	13.8	17.2	<10	<10	16.5
	2006_Q3	<10	<10	27	24.6	13	11.6	26.4
	2006_Q4	<10	<10	15.6	27	<10	<10	20.5
	2007_Q1	<20	<20	<20	21	47	<20	27
	2007_Q2	<20	<20	<20	<20	<20	<20	<20
	2007_Q3	<20	<20	46	<20	<20	<20	<20
	2007_Q4	<20	<20	22	<20	<20	<20	<20
	2008_Q1	na	<20	23	24	23	<20	<20
	2008_Q2	<20	<20	21	<20	<20	<20	36
	2008_Q3	<20	<20	36	<20	34	<20	22
	2008_Q4	<20	<20	32	<20	<20	<20	29
	2009_Q1	<20	<20	<20	<20	<20	<20	<20
	2009_Q2	<20	<20	31	23	<20	<20	38
	2009_Q3	<20	<20	32	26	40	<20	37
	2009_Q4	<20	<20	26	<20	35	<20	21
	2010_Q1	na	na	41	22	<20	<20	33
	2010_Q2	<20	<20	23	<20	30	<20	28
	2010_Q3	<20	<20	50	<20	27	<20	31
	2010_Q4	<20	<20	20	25	29	<20	40
	2011_Q1	<20	<20	<20	<20	<20	<20	28
	2011_Q2	<20	<20	24	<20	<20	<20	33

Historical Summary of Parameters Identified by B&L in 1997 that are Indicative of Mild Leachate Contamination

Conventionals

(Note: Qualifiers are not included in these tables)

Analyte	Year & Quarter	MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A
Organic Carbon, Total	1997_Q3	4.2	9.3	42.5	12.3	4.5	6	10.1
mg/L	1997_Q4	1.6	<1	24.1	11.9	1.9	5.8	12.6
	2006_Q1	4.76	5.41	10.1	<2	5.58	5.22	12.8
	2006_Q2	2.61	2.34	7.18	7.76	<2	3.14	8.19
	2006_Q3	<2	<2	5.67	4.82	<2	<2	6.12
	2006_Q4	<2	<2	5.68	7.49	<2	<2	7.46
	2007_Q1	<3	<3	6.7	6.4	<3	<3	8.1
	2007_Q2	<3	<3	4.8	3	<3	<3	6
	2007_Q3	<3	<3	7.3	5.7	<3	<3	7.2
	2007_Q4	<3	<3	6.3	17.2	3.7	<3	11.5
	2008_Q1	na	<3	21.8	82.6	<3	<3	69.9
	2008_Q2	<3	<3	5.2	23.2	<3	<3	17.8
	2008_Q3	<3	<3	6.3	4.7	7.3	<3	5.2
	2008_Q4	<3	<3	6	6.8	3.6	<3	6.1
	2009_Q1	<3	<3	4.8	4.5	<3	<3	5.1
	2009_Q2	<3	<3	7.2	5.5	<3	<3	5.7
	2009_Q3	<3	<3	5.9	4.6	9.2	<3	5
	2009_Q4	<3	<3	6.5	4.6	5.7	<3	5.2
	2010_Q1	na	na	5.2	3.5	<3	<3	4.9
	2010_Q2	<3	<3	6.7	5.8	9	<3	6.7
	2010_Q3	<3	<3	7.8	5.7	<3	<3	6
	2010_Q4	<3	<3	6	5.4	6.6	<3	6.1
	2011_Q1	<3	<3	4.4	4.2	<3	<3	5.1
	2011_Q2	<3	<3	<3	3.6	<3	<3	4.8

Historical Summary of Parameters Identified by B&L in 1997 that are Indicative of Mild Leachate Contamination

Total Metals (all values in mg/l)

(Note: Qualifiers are not included in these tables)

Analyte	Year & Quarter	MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A
Aluminum	1997_Q3	724	0.662	79.3	2.03	21.7	8.59	40
	1997_Q4	16.9	0.134	59.1	5.31	2.39	0.642	88.4
	2006_Q3	2.96	1.09	0.43	0.18	0.078	0.115	0.415
	2007_Q4	2.07	0.537	0.444	<0.1	0.33	0.102	2.43
	2008_Q1	na	0.518	1.98	0.168	0.23	0.134	0.919
	2009_Q2	1.57	0.255	<0.1	0.235	<0.1	<0.1	9.56
	2010_Q3	0.142	<0.1	3.37	<0.1	5.32	<0.1	1.52
Arsenic	1997_Q3	0.353	<0.0024	0.0631	0.007	0.0127	0.009	0.0176
	1997_Q4	0.0134	<0.0024	0.0537	0.0083	<0.0024	0.0084	0.0459
	2006_Q3	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
	2007_Q4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	2008_Q1	na	<0.01	0.0145	<0.01	<0.01	<0.01	<0.01
	2009_Q2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	2010_Q3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Calcium	1997_Q3	430	26.7	186	288	57.8	70.5	234
	1997_Q4	48.6	24.7	172	245	53.7	55.6	271
	2006_Q1	46.2	26.8	69.1	203	46.3	39.3	171
	2006_Q2	41.8	23.9	74.1	216	55.3	39.6	165
	2006_Q3	43.2	25.8	77.3	203	57.9	36.1	150
	2006_Q4	43.9	24.1	88.5	200	48.3	37.4	148
	2007_Q1	39.2	23.7	64.2	216	23	45.6	149
	2007_Q2	44.5	30	75.3	170	18.1	39.9	140
	2007_Q3	43.5	29.9	80.4	214	45.1	40.2	135
	2007_Q4	42.2	26	47.9	195	27.5	36.7	131
	2008_Q1	na	25.1	70.3	201	30.2	39.2	148
	2008_Q2	43.2	28.6	57.5	192	37.6	39.5	139
	2008_Q3	46.2	30.2	87.8	214	24.4	39	150
	2008_Q4	48.3	30	99	235	31.3	38.7	162
	2009_Q1	47.2	27.7	66.7	201	12.3	39.6	140
	2009_Q2	47	31.4	87.1	237	59.5	42.9	150
	2009_Q3	46.5	31.1	78.6	227	15.2	42	144
	2009_Q4	45	58.7	26.5	178	26.2	38.2	131
	2010_Q1	na	na	71.1	177	28.8	45	139
	2010_Q2	47	26.5	68.7	202	23.2	40.6	122
	2010_Q3	48.9	30.3	91.2	216	57.3	39.9	147
	2010_Q4	49	29.7	74.6	207	26.8	40.9	143
	2011_Q1	45.6	30.5	54.9	200	18.3	40.1	136
	2011_Q2	46.9	24.9	48.7	172	42.9	43.3	130

Historical Summary of Parameters Identified by B&L in 1997 that are Indicative of Mild Leachate Contamination

Total Metals (all values in mg/l)

(Note: Qualifiers are not included in these tables)

Analyte	Year & Quarter	MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A
Chromium	1997_Q3	1.04	0.002	0.112	0.004	0.0249	0.0092	0.0556
	1997_Q4	0.0265	<0.0004	0.0967	0.0086	0.0022	0.0017	0.146
	2006_Q3	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	2007_Q4	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
	2008_Q1	na	<0.005	0.0177	0.00816	<0.005	<0.005	0.00667
	2009_Q2	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	2010_Q3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cobalt	1997_Q3	0.59	<0.0011	0.0719	0.0091	0.0121	0.0112	0.0311
	1997_Q4	0.0168	<0.0011	0.0628	0.0141	0.0019	0.0056	0.0791
	2006_Q3	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
	2007_Q4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	2008_Q1	na	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	2009_Q2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
	2010_Q3	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper	1997_Q3	0.996	0.004	0.104	0.0069	0.0315	0.0116	0.0637
	1997_Q4	0.0254	0.0025	0.0779	0.0118	0.0076	0.0051	0.129
	2006_Q3	0.022	0.017	0.012	0.017	0.023	0.016	0.013
	2007_Q4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	2008_Q1	na	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	2009_Q2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
	2010_Q3	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	1997_Q3	1550	1.33	154	4.3	26.6	10.6	65.9
	1997_Q4	35.7	0.226	131	10.7	3.58	3	174
	2006_Q1	19.4	9.42	8.29	0.913	1.88	1.09	14.5
	2006_Q2	2.99	1.48	24	0.836	0.626	0.511	1.33
	2006_Q3	6.03	1.84	6.5	1.2	0.104	0.306	0.722
	2006_Q4	2.11	0.273	10.1	1.07	0.283	0.195	2.78
	2007_Q1	1.67	2.39	10.8	0.637	1.18	1.87	1.68
	2007_Q2	2.14	0.508	6.86	0.469	0.599	0.486	1.52
	2007_Q3	1.21	0.465	7.67	0.468	0.231	0.163	9.97
	2007_Q4	3.49	0.73	4.95	0.323	0.537	0.216	3.65
	2008_Q1	na	1	9.77	0.439	0.451	0.229	1.68
	2008_Q2	1.17	1.38	4.1	0.56	0.574	0.33	1.99
	2008_Q3	0.217	0.185	10.6	0.236	0.508	<0.06	0.342
	2008_Q4	0.429	0.174	9.51	0.28	0.177	<0.06	1.16
	2009_Q1	0.818	2.92	7.77	0.466	0.6	0.268	0.322
	2009_Q2	1.65	0.523	8.28	0.464	0.155	0.104	10.1
	2009_Q3	0.348	0.115	5.21	0.222	0.534	0.0703	0.108
	2009_Q4	6.19	6.72	0.827	0.235	1.44	0.417	1.19
	2010_Q1	na	na	64.2	0.451	0.366	0.448	3.95
	2010_Q2	0.484	0.423	6.1	0.329	0.291	0.226	0.469
	2010_Q3	0.219	0.159	13	0.149	6.97	<0.06	1.71
	2010_Q4	1.99	1.02	9.73	0.273	2.42	0.337	3.06
	2011_Q1	1.47	1.19	4.73	0.345	0.232	0.114	0.162
	2011_Q2	3.13	<0.06	4.27	0.312	0.121	0.235	0.418

Historical Summary of Parameters Identified by B&L in 1997 that are Indicative of Mild Leachate Contamination

Total Metals (all values in mg/l)

(Note: Qualifiers are not included in these tables)

Analyte	Year & Quarter	MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A
Lead	1997_Q3	0.454	<0.001	0.0561	0.0044	0.0077	0.0044	0.0251
	1997_Q4	0.0123	<0.001	0.0436	0.0058	<0.001	<0.001	0.0585
	2006_Q1	0.00716	<0.005	<0.005	<0.005	<0.005	<0.005	0.0175
	2006_Q2	0.007	<0.005	0.019	0.009	0.005	<0.005	0.009
	2006_Q3	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	0.006
	2006_Q4	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005
	2007_Q1	<0.003	0.00431	0.00524	<0.003	<0.003	<0.003	<0.003
	2007_Q2	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
	2007_Q3	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.00656
	2007_Q4	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
	2008_Q1	na	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
	2008_Q2	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
	2008_Q3	<0.003	<0.003	0.0039	<0.003	<0.003	<0.003	<0.003
	2008_Q4	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
	2009_Q1	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
	2009_Q2	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
	2009_Q3	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
	2009_Q4	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
	2010_Q1	na	na	0.0187	<0.003	<0.003	<0.003	<0.003
	2010_Q2	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
	2010_Q3	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
	2010_Q4	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
	2011_Q1	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
	2011_Q2	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Magnesium	1997_Q3	309	6.47	61.6	61.7	17	19	67
	1997_Q4	15.6	5.84	53.6	49.9	11	12.7	88.3
	2006_Q1	12.6	7.46	16.6	46.1	9.13	8.94	48.6
	2006_Q2	8.67	5.39	18.3	45.3	10	10.9	45.5
	2006_Q3	9.7	6.05	17.5	43.5	11.2	9.86	38
	2006_Q4	9.43	5.31	19.4	42.7	9.2	9.71	38
	2007_Q1	8.87	5.94	15.7	44.8	4.04	10.2	38.4
	2007_Q2	10.2	7.4	17.9	36.3	3.1	9.68	36.4
	2007_Q3	9.67	7.12	18	44.1	9.15	9.12	35
	2007_Q4	9.8	6.28	11	39.9	4.26	7.81	32.1
	2008_Q1	na	6.44	17.1	42.8	5.42	9.37	38.4
	2008_Q2	10.6	7.58	14.3	42.4	7.04	10.4	38.5
	2008_Q3	10.7	7.74	20.3	47.1	3.83	9.61	39.5
	2008_Q4	10.8	7.28	23.1	49.1	4.8	9.13	39.8
	2009_Q1	10.6	6.76	15.1	42.9	1.82	10.5	35.8
	2009_Q2	11.1	7.83	18.8	45.9	11.6	11.4	38.7
	2009_Q3	10	7.34	16.8	45.6	<1	10.4	34
	2009_Q4	11.9	14.4	7.01	39.7	<5	10.4	35.3
	2010_Q1	na	na	27.6	40.4	5.17	12.3	38.8
	2010_Q2	10.5	6.49	15.4	43.1	<5	11	31.4
	2010_Q3	10.8	7.27	20.6	46.2	12.5	10.7	36.9
	2010_Q4	11.3	7.29	17.9	43	<5	10.9	36.4
	2011_Q1	11	7.75	12.9	42.8	<5	10.8	35
	2011_Q2	11.5	6.14	11	38.8	7.25	10.8	34.4

Historical Summary of Parameters Identified by B&L in 1997 that are Indicative of Mild Leachate Contamination

Total Metals (all values in mg/l)

(Note: Qualifiers are not included in these tables)

Analyte	Year & Quarter	MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A
Manganese	1997_Q3	24.6	0.195	35.7	8.24	0.732	3.43	5.87
	1997_Q4	0.783	0.146	31.6	7.43	0.174	4.17	9.55
	2006_Q1	0.534	2.28	12.2	6.98	0.208	0.559	6.08
	2006_Q2	0.194	0.191	11.5	6.8	0.175	0.12	5.69
	2006_Q3	0.38	0.251	12	6.63	0.416	0.297	4.4
	2006_Q4	0.306	0.126	13.6	6.46	0.176	0.185	4.85
	2007_Q1	0.19	0.521	9.93	6.42	0.415	0.331	4.51
	2007_Q2	0.193	0.169	11.7	4.93	0.501	0.0908	4.18
	2007_Q3	0.206	0.19	12.7	6.6	0.116	0.671	3.98
	2007_Q4	0.203	0.176	7.05	5.7	0.287	0.712	3.47
	2008_Q1	na	0.26	11.2	6.21	0.0373	0.327	4.17
	2008_Q2	0.157	0.198	9.3	5.96	0.141	0.102	4.34
	2008_Q3	0.135	0.169	13.8	6.49	0.618	0.666	4.82
	2008_Q4	0.151	0.153	15.1	6.84	0.0424	0.619	4.57
	2009_Q1	0.0917	0.223	10.7	6.5	0.294	0.0257	4.31
	2009_Q2	0.169	0.25	12.8	6.63	0.164	0.0585	4.21
	2009_Q3	0.155	0.149	11.4	6.31	0.331	0.255	3.8
	2009_Q4	0.251	9.34	0.144	5.63	0.597	0.167	3.68
	2010_Q1	na	na	11.6	5.48	0.568	0.0606	3.87
	2010_Q2	0.118	0.13	9.79	6.2	0.218	0.027	3.85
	2010_Q3	0.156	0.188	12.2	6.35	0.282	0.087	3.82
	2010_Q4	0.329	0.153	11.1	6.82	0.471	0.242	4.5
	2011_Q1	0.236	0.269	8.18	6.23	0.575	0.0452	4.33
	2011_Q2	0.215	0.24	7.05	5.23	0.704	0.0213	3.8
Potassium	1997_Q3	77.5	1.56	23.4	3	7.43	4.08	10.4
	1997_Q4	6.97	0.529	17	2.9	1.87	2.72	13.5
	2006_Q1	2.72	0.973	9.29	2.42	0.938	1.15	3.06
	2006_Q2	1.6	0.468	11.2	2.25	0.829	0.825	1.91
	2006_Q3	1.7	0.523	12.3	2.28	1.09	0.634	1.81
	2006_Q4	1.62	0.374	12.7	2.38	0.937	0.69	2.03
	2007_Q1	1.74	<1	9.02	2.74	<1	1.05	2.03
	2007_Q2	2.31	<1	10.8	2.14	<1	<1	1.95
	2007_Q3	1.59	<1	13.3	2.44	<1	<1	2.87
	2007_Q4	2.06	<1	2.14	<1	<1	<1	<1
	2008_Q1	na	<1	8.56	2.44	<1	<1	1.85
	2008_Q2	1.65	<1	7.56	2.2	<1	<1	1.98
	2008_Q3	1.51	<1	12.3	2.23	1.06	<1	1.82
	2008_Q4	1.69	<1	15.1	3.13	<1	1.4	2.41
	2009_Q1	1.52	<1	7.48	2.44	<1	1.01	1.62
	2009_Q2	1.78	<1	12.4	2.71	<1	1.03	3.58
	2009_Q3	<1	<1	13.6	<1	<1	<1	<1
	2009_Q4	<5	8.56	<5	<5	<5	<5	<5
	2010_Q1	na	na	12.8	<5	<5	<5	<5
	2010_Q2	<5	<5	9.42	<5	<5	<5	<5
	2010_Q3	<5	<5	14.3	<5	<5	<5	<5
	2010_Q4	<5	<5	11.9	<5	<5	<5	<5
	2011_Q1	<5	<5	7.2	<5	<5	<5	<5
	2011_Q2	<5	<5	7.47	<5	<5	<5	<5

Historical Summary of Parameters Identified by B&L in 1997 that are Indicative of Mild Leachate Contamination

Total Metals (all values in mg/l)

(Note: Qualifiers are not included in these tables)

Analyte	Year & Quarter	MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A
Sodium	1997_Q3	37.3	7.38	119	64.1	10.4	38	118
	1997_Q4	26	6.18	102	53.9	6.54	31.4	113
	2006_Q1	17.1	6.31	26.3	53.8	5.66	14.9	134
	2006_Q2	13	5.22	25.2	49.7	6.4	9.93	129
	2006_Q3	13.6	6.35	31.4	51.1	8.92	10.1	124
	2006_Q4	13.5	5.92	31.4	51	6.03	10.7	128
	2007_Q1	12.2	5.22	19.5	50.9	2.11	11.2	112
	2007_Q2	12.5	6.82	22.9	40.8	1.14	10.2	104
	2007_Q3	13	7.1	26.1	52.3	5.1	15	95.8
	2007_Q4	11.8	5.84	13.8	48.2	2.64	14.7	95.2
	2008_Q1	na	5.66	19.2	50.6	2.9	13.8	104
	2008_Q2	12.5	6.73	16.5	47.4	3.52	12.7	99.6
	2008_Q3	13.8	7.29	25.6	51.4	2.77	18.1	113
	2008_Q4	13.2	6.81	25.9	58.2	2.69	17.6	116
	2009_Q1	13.4	6.37	17.8	49.3	<1	13.1	97
	2009_Q2	13.9	8.15	23.8	55.4	6.81	17.9	103
	2009_Q3	12.5	7.32	21.1	58.6	<1	18.5	110
	2009_Q4	12.6	14.9	6.59	49	<5	15.8	105
	2010_Q1	na	na	15.5	48.9	<5	16.8	112
	2010_Q2	12.8	6.29	16.3	53.1	<5	14.2	109
	2010_Q3	13.2	7.12	21.9	56.9	6.53	15	110
	2010_Q4	15.3	8.95	19	65.4	<5	17.8	127
	2011_Q1	13.6	7.99	13.5	56.7	<5	14.1	110
	2011_Q2	13.1	6.48	12.5	51	<5	17	114
Vanadium	1997_Q3	0.856	<0.0012	0.102	0.0029	0.0296	0.0083	0.0487
	1997_Q4	0.0243	<0.0012	0.0866	0.0075	0.0039	0.0012	0.127
	2006_Q3	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
	2007_Q4	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
	2008_Q1	na	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
	2009_Q2	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
	2010_Q3	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Zinc	1997_Q3	3.36	0.0351	0.4	0.103	0.112	0.0894	0.2
	1997_Q4	0.0874	0.0163	0.278	0.0484	0.0265	0.0248	0.408
	2006_Q3	0.106	0.052	<0.01	<0.01	0.025	0.014	<0.01
	2007_Q4	0.0235	0.0168	<0.01	0.0469	0.0106	0.0213	0.0263
	2008_Q1	na	0.0112	0.0101	<0.01	<0.01	0.0103	0.0102
	2009_Q2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0297
	2010_Q3	<0.01	<0.01	0.0269	<0.01	0.0285	<0.01	<0.01

Historical Summary of Parameters Identified by B&L in 1997 that are Indicative of Mild

Dissolved Metals (all values in mg/l)

(Note: Qualifiers are not included in these tables)

Analyte	Year & Quarter	MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A
Aluminum	1997_Q3	0.0163	0.0146	<0.0083	0.0179	<0.0083	<0.0083	<0.0083
	1997_Q4	0.0407	0.0209	0.0482	0.0154	0.0158	0.0132	0.0755
	2006_Q3	0.066	0.195	0.044	na	na	na	na
	2009_Q2	na	na	na	na	na	na	<0.1
	2010_Q3	na	na	na	na	na	na	<0.1
Arsenic	1997_Q3	<0.0024	<0.0024	0.0123	0.0036	<0.0024	0.0048	<0.0024
	1997_Q4	<0.0024	<0.0024	0.0139	<0.0024	<0.0024	0.0073	<0.0024
	2006_Q3	<0.025	<0.025	<0.025	na	na	na	na
	2009_Q2	na	na	na	na	na	na	<0.01
	2010_Q3	na	na	na	na	na	na	<0.005
Calcium	1997_Q3	67.6	24.8	183	281	57.9	67.7	220
	1997_Q4	40.3	24.5	183	274	54.6	56.3	255
	2006_Q1	40.7	22.8	na	na	44.3	na	158
	2006_Q2	38.9	na	na	na	na	na	na
	2006_Q3	38.6	24.4	77.6	na	na	na	na
	2007_Q1	40.3	24.5	na	na	na	45.6	na
	2009_Q2	na	na	na	na	na	na	140
	2010_Q3	na	na	na	na	na	na	129
	2010_Q4	na	na	na	na	na	na	120
	2011_Q2	na	na	na	na	na	na	126
Chromium	1997_Q3	<0.0004	0.0008	0.0035	0.0009	<0.0004	<0.0004	0.0008
	1997_Q4	<0.0004	0.00073	0.0057	0.0014	<0.0004	0.00087	0.0011
	2006_Q3	<0.005	<0.005	<0.005	na	na	na	na
	2009_Q2	na	na	na	na	na	na	<0.01
	2010_Q3	na	na	na	na	na	na	<0.01
Cobalt	1997_Q3	<0.0011	<0.0011	0.0107	0.0067	<0.0011	0.0052	0.0017
	1997_Q4	<0.0011	<0.0011	0.0095	0.0061	<0.0011	0.0041	0.0031
	2006_Q3	<0.015	<0.015	<0.015	na	na	na	na
	2009_Q2	na	na	na	na	na	na	<0.02
	2010_Q3	na	na	na	na	na	na	<0.02
Copper	1997_Q3	0.0008	<0.0007	0.0162	0.0022	0.0024	0.0011	0.0086
	1997_Q4	<0.0007	<0.0007	<0.0007	<0.0007	0.00083	<0.0007	<0.0007
	2006_Q3	0.013	0.013	0.015	na	na	na	na
	2009_Q2	na	na	na	na	na	na	<0.01
	2010_Q3	na	na	na	na	na	na	<0.01
Iron	1997_Q3	0.0348	0.0172	5.4	0.582	0.0061	0.346	0.009
	1997_Q4	0.0471	0.0141	11.5	0.595	0.0114	1.42	0.753
	2006_Q1	13.5	0.339	na	na	0.168	na	0.0637
	2006_Q2	0.315	na	na	na	na	na	na
	2006_Q3	0.125	0.339	0.204	na	na	na	na
	2007_Q1	<0.06	<0.06	na	na	na	<0.06	na
	2009_Q2	na	na	na	na	na	na	<0.06
	2010_Q3	na	na	na	na	na	na	<0.06
	2010_Q4	na	na	na	na	na	na	0.0978
	2011_Q2	na	na	na	na	na	na	<0.06

Historical Summary of Parameters Identified by B&L in 1997 that are Indicative of Mild Dissolved Metals (all values in mg/l)

(Note: Qualifiers are not included in these tables)

Analyte	Year & Quarter	MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A
Lead	1997_Q3	0.0052	na	<0.001	na	na	na	<0.001
	1997_Q4	<0.001	na	0.0011	na	na	na	<0.001
	2006_Q1	<0.005	<0.005	na	na	<0.005	na	<0.005
	2006_Q2	0.005	na	na	na	na	na	na
	2006_Q3	<0.005	<0.005	<0.005	na	na	na	na
	2007_Q1	<0.003	<0.003	na	na	na	<0.003	na
	2009_Q2	na	na	na	na	na	na	<0.003
	2010_Q3	na	na	na	na	na	na	<0.003
	2010_Q4	na	na	na	na	na	na	<0.003
	2011_Q2	na	na	na	na	na	na	<0.003
Magnesium	1997_Q3	15.4	6.62	41	61.7	12.9	17.3	56.2
	1997_Q4	8.69	5.88	38.5	55	10.9	12.9	59.9
	2006_Q1	10.4	5.15	na	na	8.7	na	43.6
	2006_Q2	8.12	na	na	na	na	na	na
	2006_Q3	8.18	5.54	17.1	na	na	na	na
	2007_Q1	8.83	5.88	na	na	na	10.6	na
	2009_Q2	na	na	na	na	na	na	34.1
	2010_Q3	na	na	na	na	na	na	31.6
	2010_Q4	na	na	na	na	na	na	31.5
	2011_Q2	na	na	na	na	na	na	33.6
Manganese	1997_Q3	0.22	0.141	30.4	8.07	0.123	3.3	4.53
	1997_Q4	0.174	0.134	30.9	8	0.0941	3.99	7.12
	2006_Q1	0.238	0.0136	na	na	0.0963	na	5.35
	2006_Q2	0.127	na	na	na	na	na	na
	2006_Q3	0.248	0.135	12.1	na	na	na	na
	2007_Q1	<0.01	<0.01	na	na	na	0.137	na
	2009_Q2	na	na	na	na	na	na	3.78
	2010_Q3	na	na	na	na	na	na	2.57
	2010_Q4	na	na	na	na	na	na	3.26
	2011_Q2	na	na	na	na	na	na	3.04
Potassium	1997_Q3	10.6	1.63	17.5	2.8	2.75	2.97	5.28
	1997_Q4	4.92	0.514	14.2	2.34	1.42	2.77	3.98
	2006_Q1	2.52	0.487	na	na	0.803	na	1.9
	2006_Q2	1.38	na	na	na	na	na	na
	2006_Q3	1.31	0.403	12.5	na	na	na	na
	2007_Q1	1.72	<1	na	na	na	1.19	na
	2009_Q2	na	na	na	na	na	na	1.82
	2010_Q3	na	na	na	na	na	na	<5
	2010_Q4	na	na	na	na	na	na	<5
	2011_Q2	na	na	na	na	na	na	<5
Sodium	1997_Q3	59.3	7.53	121	62.5	10.2	38.2	120
	1997_Q4	27.1	6.59	115	62.8	7.98	33.3	129
	2006_Q1	14.7	4.75	na	na	4.83	na	126
	2006_Q2	12.3	na	na	na	na	na	na
	2006_Q3	13	5.31	29.6	na	na	na	na
	2007_Q1	12.3	5.73	na	na	na	12.1	na
	2009_Q2	na	na	na	na	na	na	97.2
	2010_Q3	na	na	na	na	na	na	91.6
	2010_Q4	na	na	na	na	na	na	105
	2011_Q2	na	na	na	na	na	na	113

Historical Summary of Parameters Identified by B&L in 1997 that are Indicative of Mild Dissolved Metals (all values in mg/l)

(Note: Qualifiers are not included in these tables)

Analyte	Year & Quarter	MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A
Vanadium	1997_Q3	<0.0012	na	<0.0012	na	na	na	<0.0012
	1997_Q4	<0.0012	na	<0.0012	na	na	na	<0.0012
	2006_Q3	<0.015	<0.015	<0.015	na	na	na	na
	2009_Q2	na	na	na	na	na	na	<0.03
	2010_Q3	na	na	na	na	na	na	<0.03
Zinc	1997_Q3	0.12	0.0396	0.117	0.0635	0.0249	0.0651	0.0455
	1997_Q4	0.0161	0.0152	0.0207	0.023	0.0387	0.0207	0.0186
	2006_Q3	0.033	0.029	0.013	na	na	na	na
	2009_Q2	na	na	na	na	na	na	0.0228
	2010_Q3	na	na	na	na	na	na	0.0102