Cortland County Soil and Water Conservation District

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

December 12, 2006

Joe Yavonditte
Chief, Remedial Section B
Remedial Bureau A
Div. of Environmental Remediation
625 Broadway
Albany, NY 12233-7015

Dear Mr. Yavonditte:

Enclosed is a report summarizing Quarter 1 and Quarter 2 groundwater monitoring activities at the Towslee Landfill in Cortland County. 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) 753-0851 x3, 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
Jim Burke, NYSDEC Region 7 w/out report
Amanda Barber, SWCD/files w/out report

Environmental Monitoring Report
2006 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

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 2006.

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. These letters are included in Appendix A.

Buck Laboratories, Inc. (herein referred to as Buck Labs) conducted all sample collection activities, and performed all laboratory analyses for the Quarter 1 and 2 monitoring. Water quality analyses were conducted in accordance with 1998 Part 360 regulations. SWCD performed data 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 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

In addition, there were two organic chemicals detected (2-Butanone and diethylphthalate).

3.0 Monitoring Schedule and Locations

3.1 Schedule

Quarter	Analyses	Date Sampled
First Quarter:	Routine	April 11, 2006
Second Quarter:	Routine	May 31, 2006
Third Quarter:	Baseline	To be completed
Fourth Quarter:	Routine	To be 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 Quarters 1 and 2 of 2006. 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 B contains the Quarter 1 laboratory analytical report.
- Appendix C contains the Quarter 2 laboratory analytical report.
- Appendix D contains tables of historical water quality data through the latest monitoring round.

Tables 1 and 2 summarize the water quality results for Quarter 1. Tables 3 and 4 summarize results for Quarter 2. Available NYS water quality standards are included in the tables. Contraventions of standards are highlighted.

4.1 Comparison to Water Quality Standards

In Quarter 1, the pH for Wells MW-2A and MW-2B were each 6.4. In Quarter 2, pH for Wells MW-2A, MW-2B and MW-7A were also each 6.4. These results are slightly outside the range of the NYS water quality standard for pH (6.5 to 8.5).

Turbidity for all seven wells exceeded the NYS standard of 5 NTU in both Quarter 1 and Quarter 2. Quarter 1 results ranged from 17.3 to 660 NTU. Quarter 2 results ranged from 11.9 to 73 NTU. Based on separate monitoring conducted at the closed Pine Tree Landfill, and the active West Side Landfill, these exceedances appear to be related to natural groundwater conditions in this area.

In Quarter 1 the total dissolved solids (TDS) standard of 500 mg/l was exceeded for Well MW-2B (982 mg/l) and Well MW-7A (981 mg/l). In Quarter 2, the same two wells exceeded the standard (Well MW-2B at 1020 mg/l and Well MW-7A at 967 mg/l).

The ammonia standard of 2 mg/l was exceeded at a single well (MW-2) in both rounds (10.6 mg/l in Quarter 1 and 18.4 mg/l in Quarter 2).

Total iron ranged from 0.339 to 19.4 mg/l in Quarter 1, and from 0.511 to 24 mg/l in Quarter 2. In all cases the results exceeded the water quality standard of 0.3 mg/l. Due to turbidity levels above 50 NTU, dissolved metals testing was conducted at four wells in Quarter 1 (MW-1A, MW-1B, MW-3A and MW-7A) and a single well in Quarter 2 (MW-1A). Dissolved iron concentrations were generally much lower, suggesting that elevated levels are at least in part due high turbidity levels and associated solids in the samples.

In Quarter 2, total lead at Well MW-2A was 0.019 mg/l, slightly exceeding the water quality standard for lead of 0.015 mg/l. No other contraventions of the lead standard were observed.

Total manganese in Quarter 1 ranged from 0.208 to 12.2 mg/l, with six wells exceeding the manganese standard of 0.3 mg/l. Total manganese in Quarter 2 ranged from 0.12 to 11.5 mg/l, with three wells exceeding the manganese standard of 0.3 mg/l. As with iron, dissolved manganese levels were generally much lower than total manganese. And as with iron, high turbidity levels may contribute to the high manganese levels that were observed.

The NYS sodium standard of 20 mg/l was exceed at three wells in both Quarter 1 and Quarter 2, with concentrations ranging from 25.2 to 134 mg/l. Elevated sodium may be partially related to road salting in winter months.

There were no other contraventions of NYS water quality standards for Quarter 1 or 2.

4.2 Trends

The seven wells that are monitored as part of this program were previously sampled by B&L twice in 1997. To track water quality trends, SWCD has begun a historical database for these seven wells that contains the two rounds conducted in 1997, and the two rounds conducted in 2006. The historical database is included in Appendix D.

In general, groundwater quality has improved between 1997 and 2006. Table 5 compares water quality between 1997 and 2006 for the conventional parameters identified by B&L as leachate indicators. Table 6 compares 1997 and 2006 results for total metals identified by B&L as leachate indicators.

Alkalinity - Two wells (MW2A and MW-6B) with elevated alkalinity levels in 1997 showed significant decreases in 2006. Well MW-2B also had elevated alkalinity in 1997, and showed a slight increase in 2006. The remaining four wells had much lower alkalinity in 1997, and had similar results in 2006.

Chloride - Six of seven wells showed large decreases in chloride level from 1997 to 2006. A slight increase occurred for Well MW-1B, but all results for this well are quite low.

COD – Results for all seven wells showed a significant decrease from 1997 to 2006.

Hardness - Results for all seven wells showed a significant decrease from 1997 to 2006.

Ammonia – The five wells with the highest ammonia levels in 1997 showed significant decreases in 2006. The other two wells had relatively low ammonia levels in all sampling events, but showed a slight increase in 2006.

Total Kjeldahl Nitrogen (TKN) - Well MW-2A had the highest TKN levels in 1997. TKN at this well is about 50% lower in 2006, but concentrations remain elevated. Elevated TKN levels were also observed at Well MW-1A in 1997, and there is little change in 2006. TKN levels for the other

five wells were significantly lower than for MW-1A and MW-2A. Well MW-1B showed a high percentage increase, but all measurements were relatively low. Wells MW-3A and MW-7A showed moderate increases in 2006. Wells MW-2B and MW-6B showed decreases in 2006.

Chemical Oxygen Demand (COD) – The five wells with the highest COD readings in 1997 all showed moderate to large decreases in 2006. Well MW-1A showed a moderate increase in COD in 2006. COD measurements at Well MW-3A in 2006 were similar to 1997 measurements.

Calcium - Average calcium levels decreased for all seven wells from 1997 to 2006.

Iron – Average total iron levels in 2006 were about half the 1997 levels for 6 of 7 wells. A very high total iron reading for Well MW-1B in Quarter 1 of 2006 resulted in a large average increase in 2006 compared to 1997.

Lead - For three wells, total lead levels were significantly lower in 2006 compared to 1997. For the remaining four wells, all measurements were near or below instrument detection limits, precluding a useful trend assessment.

Magnesium - Six of seven wells showed moderate to large decreases in total magnesium between 1997 and 2006. Well MW-1B showed a very small increase in 2006.

Manganese - Six of seven wells showed moderate to large decreases in total magnesium between 1997 and 2006. Well MW-1B showed a fairly large increase in total manganese in 2006.

Potassium - All seven wells showed moderate to large decreases in total potassium between 1997 and 2006.

Sodium - All seven wells showed moderate to large decreases in total sodium between 1997 and 2006.

Overall Trend - Groundwater quality downgradient of the Towslee landfill has showed an overall improvement between 1997 and 2006. Decreases in concentration were observed for nearly all the leachate indicators described above. Decreases were also noted for many other parameters. There continues to be evidence of mild landfill leachate contamination, but less so than in the past.

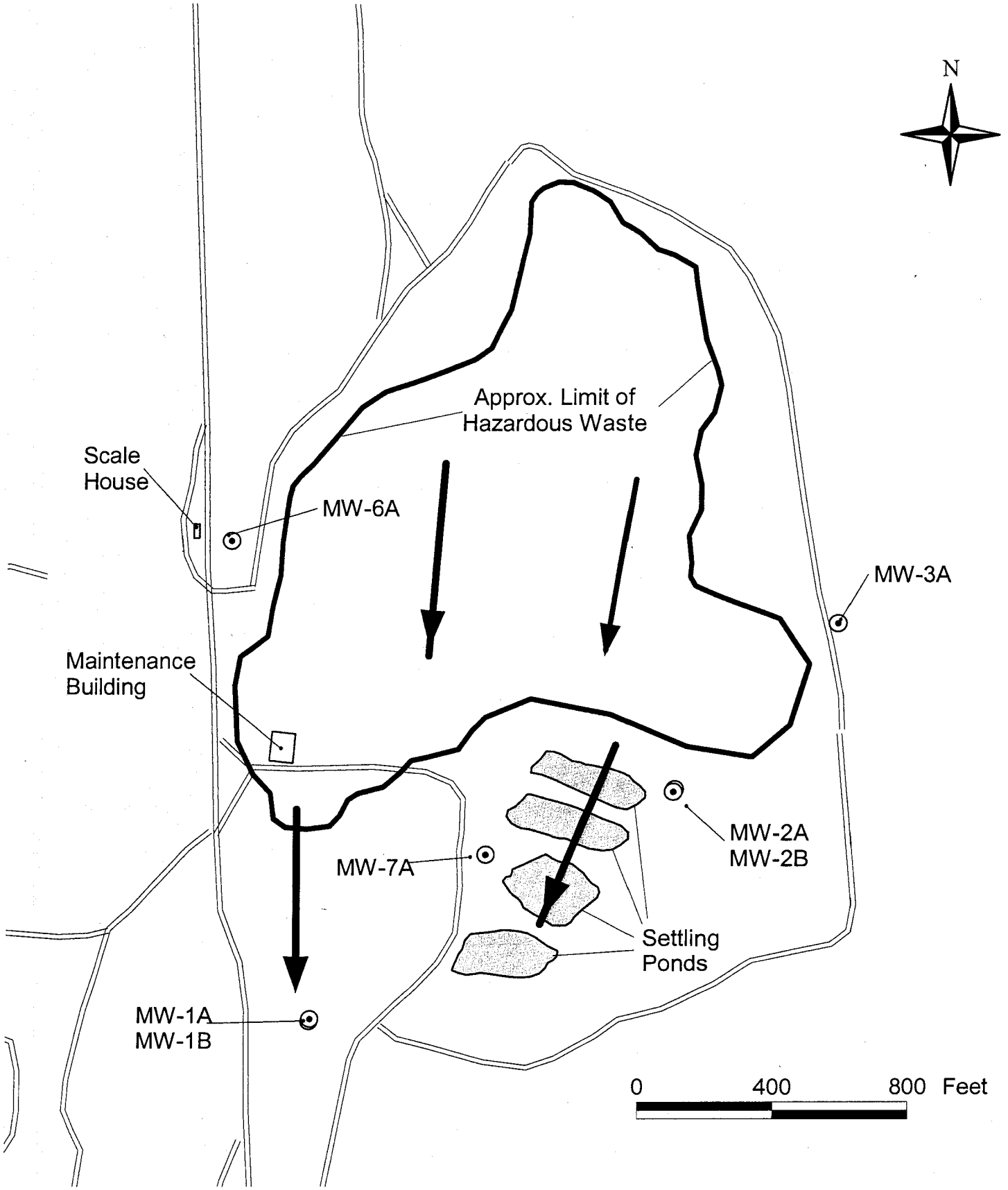
5.0 Quality Control

Buck Labs performed internal quality control procedures on the Quarter 1 and Quarter 2 analytical data. A summary of internal quality control is included in laboratory reports that are provided in Appendices B and C.

Quarter 1 – Analytical methods, preservatives, and containers for all laboratory analytes complied with requirements of the NYS Health Department ELAP program. Instrument calibrations and

blanks met laboratory quality control protocols, with one exception - the matrix spike and matrix spike duplicate results for TKN analyses were below the lower recovery limit. We believe the Quarter 1 data are adequate to characterize water quality and leachate quality at the landfill.

Quarter 2 – Analytical methods, preservatives, and containers for all laboratory analytes complied with requirements of the NYS Health Department ELAP program. Instrument calibrations and blanks met laboratory quality control protocols. TKN analysis was performed past the required hold time. The recoveries for matrix spike/ matrix spike duplicates were outside the quality control criteria for the following analytes: BOD, ammonia, TKN, and iron. We believe the Quarter 2 data are adequate to characterize water quality and leachate quality at the landfill.



Approx. Goundwater
Flow Direction

Figure 1.
Monitoring Well Locations
Towsleye Landfill

Table 1
Contraventions of NYS Water Quality Standards for Field and Inorganic Parameters
Towslee Landfill - Quarter 1 2006

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)	--		8.5	5	4.4	4.5	6.4	7.9	4.5
Eh	(mV)	--		700	385	140	175	215	250	215
pH	(Std Units)	6.5 - 8.5	a	7.8	7.7	6.4	6.4	7.2	6.7	6.5
Specific Conductance	(uS/cm)	--		306	157	621	1350	286	347	1360
Color	NTU	15	a,b	--	--	--	--	--	--	--
Turbidity	(NTU)	5	a	660	187	18.6	17.3	58	40	214
Alkalinity, Total (As CaCO3)	(mg/l)	--		127	92	330	652	162	131	648
Hardness (As CaCO3)	(mg/l)	--		167	97.6	241	697	153	135	627
Total Dissolved Solids	(mg/l)	500	a	340	120	381	982	215	209	981
Chloride	(mg/l)	250	a, b	21.3	2.55	23.3	145	14	21.1	144
Sulfate	(mg/l)	250	a, b	27.3	4.72	4.22	1.18	9.14	13.8	20.6
Bromide	(mg/l)	2	a	< 0.1	< 0.1	0.189	0.878	< 0.1	< 0.1	0.753
Nitrogen, Nitrate (As N)	(mg/l)	10	a, b	< 0.1	< 0.1	0.228	< 0.1	< 0.1	< 0.1	< 0.1
Nitrogen, Ammonia (As N)	(mg/l)	2 (c)	a	0.276	0.0938	10.6	0.389	0.0969	0.0549	0.34
Nitrogen, Kjeldahl, Total	(mg/l)	--		23.3	0.54	10.6	1.31	0.455	0.392	1.5
Chemical Oxygen Demand	(mg/l)	--		< 10	< 10	< 10	< 10	< 10	< 10	21.2
Biochemical Oxygen Demand	(mg/l)	--		< 3	< 3	16	9.3	< 3	< 3	< 3
Organic Carbon, Total	(mg/l)	--		4.76	5.41	10.1	< 2	5.58	5.22	12.8
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
c - Standard is for NH4+ and NH3 combined, as is the laboratory analysis
1.23 indicates contravention of standard.
-- Testing only required for Baseline monitoring

Table 2
Contraventions of NYS Water Quality Standards for Metals
Towslee Landfill - Quarter 1 2006

Parameter	NYS Water Quality Standard		Total Metals							Dissoved Metals			
			Over-burden	Bedrock	Over-burden	Bedrock	Bedrock	Bedrock	Over-burden	Over-burden	Bedrock	Bedrock	Over-burden
			MW-1A	MW-1B	MW-2A	MW-2B	MW-3A	MW-6B	MW-7A	MW-1A	MW-1B	MW-3A	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	<0.005	<0.005	<0.005
Calcium	*		46.2	26.8	69.1	203	46.3	39.3	171	40.7	22.8	44.3	158
Chromium	0.05	a	--	--	--	--	--	--	--	--	--	--	--
Chrom, Hex	0.05	a	--	--	--	--	--	--	--	--	--	--	--
Cobalt	*		--	--	--	--	--	--	--	--	--	--	--
Copper	0.2	a	--	--	--	--	--	--	--	--	--	--	--
Iron	0.3	a, b	**19.4**	**9.42**	**8.29**	**0.913**	**1.88**	**1.09**	**14.5**	**13.5**	**0.339**	0.168	0.0637
Lead	0.015	b	0.00716	<0.005	<0.005	<0.005	<0.005	<0.005	**0.0175**	<0.005	<0.005	<0.005	<0.005
Magnesium	*		12.6	7.46	16.6	46.1	9.13	8.94	48.6	10.4	5.15	8.7	43.6
Manganese	0.3	a, b	**0.534**	**2.28**	**12.2**	**6.98**	0.208	**0.559**	**6.08**	0.238	0.0136	0.0963	**5.35**
Mercury	0.0007	a	--	--	--	--	--	--	--	--	--	--	--
Nickel	0.1	a	--	--	--	--	--	--	--	--	--	--	--
Potassium	*		2.72	0.973	9.29	2.42	0.938	1.15	3.06	2.52	0.487	0.803	1.9
Sodium	20	a, b	17.1	6.31	**26.3**	**53.8**	5.66	14.9	**134**	14.7	4.75	4.83	**126**
Selenium	0.01	a	--	--	--	--	--	--	--	--	--	--	--
Silver	0.05	a	--	--	--	--	--	--	--	--	--	--	--
Thallium	0.002	b	--	--	--	--	--	--	--	--	--	--	--
Vanadium	*		--	--	--	--	--	--	--	--	--	--	--
Zinc	5	b	--	--	--	--	--	--	--	--	--	--	--

all units are mg/l

a - Part indicates value exceeded the standard.

b - Part 5 Drinking Water MCL

* - No standard available

1.23 indicates contravention of standard.

-- Testing only required for Baseline monitoring

Table 3
Contraventions of NYS Water Quality Standards for Field and Inorganic Parameters
Towslee Landfill - Quarter 2 2006

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. F)	--		12.8	11.4	11.6	10.5	11.7	10.5	11.6
Eh	(mV)	--		105	45	-5	110	45	85	120
pH	(Std Units)	6.5 - 8.5	a	7.7	7.8	**6.4**	**6.4**	6.9	7.4	**6.4**
Specific Conductance	(uS/cm)	--		355	257	767	1560	299	287	1520
Color	(Units)	15	a, b	--	--	--	--	--	--	--
Turbidity	(NTU)	5	a	**73**	**45**	**18.3**	**19.8**	**11.9**	**19.9**	**18**
Alkalinity, Total (As CaCO3)	(mg/l)	--		139	94	355	670	170	148	675
Hardness (As CaCO3)	(mg/l)	--		140	81.9	260	726	179	144	599
Total Dissolved Solids	(mg/l)	500	a	213	111	397	**1020**	208	175	**967**
Chloride	(mg/l)	250	a, b	22.2	2.28	25.7	154	12.7	2.33	143
Sulfate	(mg/l)	250	a, b	12.3	5.51	5.5	2.96	11	3.95	22.5
Bromide	(mg/l)	2	a	<0.1	<0.1	0.18	1.01	<0.1	<0.1	0.633
Nitrogen, Nitrate (As N)	(mg/l)	10	a, b	0.217	<0.1	<0.1	0.216	<0.1	<0.1	<0.1
Nitrogen, Ammonia (As N)	(mg/l)	2 *	a	<0.02	<0.02	**18.4**	0.824	<0.02	<0.02	<0.02
Nitrogen, Kjeldahl, Total	(mg/l)	--		0.529 H	0.755 H	14 H	1.78 H	1.09 H	0.904 H	1.68 H
Chemical Oxygen Demand	(mg/l)	--		<10	<10	13.8	17.2	<10	<10	16.5
Biochemical Oxygen Demand	(mg/l)	--		<3	<3	4.5	5.1	<3	5.1	<3
Organic Carbon, Total	(mg/l)	--		2.61	2.34	7.18	7.76	<2	3.14	8.19
Phenolics, Total Recoverable	(mg/l)	0.001	a	<0.005	<0.005	0.008	<0.005	<0.005	<0.005	0.007
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.
H - exceeded laboratory holding time
-- sampling opnly required for Baseline monitoring

Table 4
Contraventions of NYS Water Quality Standards for Metals
Towslee Landfill - Quarter 2 2006

Parameter	NYS Water Quality Standard		Total Metals							Dissovled 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-1A
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	--		41.8	23.9	74.1	216 E	55.3	39.6	165	38.9
Chromium			--	--	--	--	--	--	--	--
Chrom, Hex			--	--	--	--	--	--	--	--
Cobalt			--	--	--	--	--	--	--	--
Copper			--	--	--	--	--	--	--	--
Iron	0.3	a, b	**2.99**	**1.48**	**24**	**0.836**	**0.626**	**0.511**	**1.33**	**0.315**
Lead	0.015	b	0.007	<0.005	**0.019**	0.009	0.005	<0.005	0.009	0.005
Magnesium	--		8.67	5.39	18.3	45.3	10	10.9	45.5	8.12
Manganese	0.3	a, b	0.194	0.191	**11.5**	**6.8**	0.175	0.12	**5.69**	0.127
Mercury	0.0007	a	--	--	--	--	--	--	--	--
Nickel	0.1	a	--	--	--	--	--	--	--	--
Potassium	--		1.6	0.468	11.2	2.25	0.829	0.825	1.91	1.38
Sodium	20	a, b	13	5.22	**25.2**	**49.7**	6.4	9.93	**129**	12.3
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.

-- sampling only required for Baseline monitoring

Table 5
Comparison of Water Quality for Indicator Parameters
Conventionals
Towslee Landfill

Parameter	Well	Aug-97	Oct-97	Q1 2006	Q2 2006	Percent Change (1997 to 2006) (1)
Alkalinity	MW-1A - Overburden	160	145	127	139	**-13%**
	MW-1B - Bedrock	94.8	93.6	92	94	**-1%**
	MW-2A - Overburden	702	784	330	355	**-54%**
	MW-2B - Bedrock	577	673	652	670	6%
	MW-3A - Bedrock	145	146	162	170	14%
	MW-6B - Bedrock	240	224	131	148	**-40%**
	MW-7A - Overburden	569	660	648	675	8%
Chloride	MW-1A - Overburden	152	46	21.3	22.2	**-78%**
	MW-1B - Bedrock	<2	<2	2.55	2.28	21%
	MW-2A - Overburden	156	149	23.3	25.7	**-84%**
	MW-2B - Bedrock	267	238	145	154	**-41%**
	MW-3A - Bedrock	31.4	28.7	14	12.7	**-56%**
	MW-6B - Bedrock	38.2	35	21.1	2.33	**-68%**
	MW-7A - Overburden	300	276	144	143	**-50%**
COD	MW-1A - Overburden	305	64	< 10	<10	**-95%**
	MW-1B - Bedrock	<15	<15	< 10	<10	**-33%**
	MW-2A - Overburden	127	136	< 10	13.8	**-91%**
	MW-2B - Bedrock	58	61	< 10	17.2	**-77%**
	MW-3A - Bedrock	19	<15	< 10	<10	**-41%**
	MW-6B - Bedrock	40	19	< 10	<10	**-66%**
	MW-7A - Overburden	43	112	21.2	16.5	**-76%**
Hardness	MW-1A - Overburden	4000	240	167	140	**-93%**
	MW-1B - Bedrock	88	140	97.6	81.9	**-21%**
	MW-2A - Overburden	1300	720	241	260	**-75%**
	MW-2B - Bedrock	960	900	697	726	**-23%**
	MW-3A - Bedrock	1250	200	153	179	**-77%**
	MW-6B - Bedrock	300	240	135	144	**-48%**
	MW-7A - Overburden	1010	1150	627	599	**-43%**
Ammonia	MW-1A - Overburden	6	2.6	0.276	<0.02	**-97%**
	MW-1B - Bedrock	<0.02	0.04	0.0938	<0.02	90%
	MW-2A - Overburden	23	9.1	10.6	18.4	**-10%**
	MW-2B - Bedrock	0.95	1.3	0.389	0.824	**-46%**
	MW-3A - Bedrock	<0.02	0.09	0.0969	<0.02	6%
	MW-6B - Bedrock	0.09	2.5	0.0549	<0.02	**-97%**
	MW-7A - Overburden	0.93	0.89	0.34	<0.02	**-80%**
TKN	MW-1A - Overburden	18	3.8	23.3	0.529 H	9%
	MW-1B - Bedrock	<0.2	<0.2	0.54	0.755	224%
	MW-2A - Overburden	31.5	21.2	10.6	14 H	**-53%**
	MW-2B - Bedrock	2.6	2	1.31	1.78 H	**-33%**
	MW-3A - Bedrock	0.4	0.24	0.455	1.09 H	141%
	MW-6B - Bedrock	0.6	3.3	0.392	0.904 H	**-67%**
	MW-7A - Overburden	1.1	1.4	1.5	1.68 H	27%
TOC	MW-1A - Overburden	4.2	1.6	4.76	2.61	27%
	MW-1B - Bedrock	9.3	<1	5.41	2.34	**-25%**
	MW-2A - Overburden	42.5	24.1	10.1	7.18	**-74%**
	MW-2B - Bedrock	12.3	11.9	< 2	7.76	**-60%**
	MW-3A - Bedrock	4.5	1.9	5.58	<2	18%
	MW-6B - Bedrock	6	5.8	5.22	3.14	**-29%**
	MW-7A - Overburden	10.1	12.6	12.8	8.19	**-8%**

All units in mg/l
(1) Based on averages for 1997 and 2006 results.
Non-detect values assumed equal to the detection limit.

Table 6
Comparison of Water Quality for Indicator Parameters
Total Metals
Towslee Landfill

Parameter	Well	Aug-97	Oct-97	Q1 2006	Q2 2006	Percent Change (1997 to 2006) (1)
Calcium	MW-1A - Overburden	430	48.6	46.2	41.8	**-82%**
	MW-1B - Bedrock	26.7	24.7	26.8	23.9	**-1%**
	MW-2A - Overburden	186	172	69.1	74.1	**-60%**
	MW-2B - Bedrock	288	245	203	216 E	**-21%**
	MW-3A - Bedrock	57.8	53.7	46.3	55.3	**-9%**
	MW-6B - Bedrock	70.5	55.6	39.3	39.6	**-37%**
	MW-7A - Overburden	234	271	171	165	**-33%**
Iron	MW-1A - Overburden	1550	35.7	19.4	2.99	**-99%**
	MW-1B - Bedrock	1.33	0.226	9.42	1.48	601%
	MW-2A - Overburden	154	131	8.29	24	**-89%**
	MW-2B - Bedrock	4.3	10.7	0.913	0.836	**-88%**
	MW-3A - Bedrock	26.6	3.58	1.88	0.626	**-92%**
	MW-6B - Bedrock	10.6	3	1.09	0.511	**-88%**
	MW-7A - Overburden	65.9	174	14.5	1.33	**-93%**
Lead	MW-1A - Overburden	0.454	0.0123	0.00716	0.007	**-97%**
	MW-1B - Bedrock	<0.001	<0.001	<0.005	<0.005	***
	MW-2A - Overburden	0.0561	0.0436	<0.005	0.019	**-76%**
	MW-2B - Bedrock	0.0044	0.0058	<0.005	0.009	***
	MW-3A - Bedrock	0.0077	<0.001	<0.005	0.005	***
	MW-6B - Bedrock	0.0044	<0.001	<0.005	<0.005	***
	MW-7A - Overburden	0.0251	0.0585	0.0175	0.009	**-68%**
Magnesium	MW-1A - Overburden	309	15.6	12.6	8.67	**-93%**
	MW-1B - Bedrock	6.47	5.84	7.46	5.39	4%
	MW-2A - Overburden	61.6	53.6	16.6	18.3	**-70%**
	MW-2B - Bedrock	61.7	49.9	46.1	45.3	**-18%**
	MW-3A - Bedrock	17	11	9.13	10	**-32%**
	MW-6B - Bedrock	19	12.7	8.94	10.9	**-37%**
	MW-7A - Overburden	67	88.3	48.6	45.5	**-39%**
Manganese	MW-1A - Overburden	24.6	0.783	0.534	0.194	**-97%**
	MW-1B - Bedrock	0.195	0.146	2.28	0.191	625%
	MW-2A - Overburden	35.7	31.6	12.2	11.5	**-65%**
	MW-2B - Bedrock	8.24	7.43	6.98	6.8	**-12%**
	MW-3A - Bedrock	0.732	0.174	0.208	0.175	**-58%**
	MW-6B - Bedrock	3.43	4.17	0.559	0.12	**-91%**
	MW-7A - Overburden	5.87	9.55	6.08	5.69	**-24%**
Potassium	MW-1A - Overburden	77.5	6.97	2.72	1.6	**-95%**
	MW-1B - Bedrock	1.56 B	0.529 B	0.973	0.468	**-31%**
	MW-2A - Overburden	23.4	17	9.29	11.2	**-49%**
	MW-2B - Bedrock	3 B	2.9 B	2.42	2.25	**-21%**
	MW-3A - Bedrock	7.43	1.87 B	0.938	0.829	**-81%**
	MW-6B - Bedrock	4.08 B	2.72 B	1.15	0.825	**-71%**
	MW-7A - Overburden	10.4	13.5	3.06	1.91	**-79%**
Sodium	MW-1A - Overburden	37.3	26	17.1	13	**-52%**
	MW-1B - Bedrock	7.38	6.18	6.31	5.22	**-15%**
	MW-2A - Overburden	119	102	26.3	25.2	**-77%**
	MW-2B - Bedrock	64.1	53.9	53.8	49.7	**-12%**
	MW-3A - Bedrock	10.4	6.54	5.66	6.4	**-29%**
	MW-6B - Bedrock	38	31.4	14.9	9.93	**-64%**
	MW-7A - Overburden	118	113	134	129	14%

All units in mg/l
(1) Based on averages for 1997 and 2006 results.
Non-detect values assumed equal to the detection limit.

Appendix A

Correspondence

Cortland County Towslee Landfill

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau A
625 Broadway, 11th Floor
Albany, New York 12233-7015
Phone: (518) 402-9625 • **Fax:** (518) 402-9022
Website: www.dec.state.ny.us

Denise M. Sheehan
Acting
Commissioner

November 7, 2005

Mr. Donald R. Chambers, Superintendent
Department of Highways
County of Cortland
60 Central Avenue
Cortland, NY 13045

Re: Cortland County Landfill
Site No. 7-12-001
Solon (T), Cortland Co.

Dear Mr. Chambers:

I am responding to your October 13, 2005 letter to Ms. Mary Jane Peachey, Region 7 Regional Engineer, regarding the status of the Cortland County Landfill Site.

After a significant delay, I am in the process of reviewing the Post Closure Operations and Maintenance (O&M) Manual and several other documents for which you and your consultant need formal responses from the Department.

The March 1999 Record of Decision requires quarterly sampling of, as a minimum, the seven groundwater monitoring wells that existed at that time on the south (down gradient) side of the landfill. If sampling results (after several sampling events) indicate that quarterly sampling is unnecessary, the frequency of sampling may be reduced. Detailed comments on the O&M Manual will be provided shortly to you and Barton and Loguidice. I will also be completing the other correspondence which will allow you to start the close-out of the County's State Assistance Contract for this project.

Future correspondence regarding this site should be sent to me at the above address. If you have any questions, please contact me at 518-402-9622.

Sincerely,

Joseph A. Yavonditte, P.E.
Chief, Remedial Section B
Remedial Bureau A

ecc: M.J. Peachey, Reg 7
J. Burke, Reg 7
D. Smith
C. Vasudevan

Cortland County Soil and Water Conservation District

Room 202, 100 Grange Place • Cortland, New York 13045
Phone: 607-753-0851 Ext. 3 • Fax: 607-756-0029

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

February 17, 2006

Joe Yavonditte
Chief, Remedial Section B
Remedial Bureau A
Div. of Environmental Remediation
625 Broadway
Albany, NY 12233-7015

Dear Mr. Yavonditte:

Cortland County Soil and Water Conservation District (SWCD) will be overseeing monitoring of the old county landfill for Cortland County. SWCD will begin monitoring seven (7) downgradient groundwater monitoring wells, as described in your November 7, 2005 letter to Don Chambers. This monitoring will be an interim measure until the monitoring plan for the old county landfill is finalized.

As we discussed over the phone, SWCD has identified three (3) overburden wells and four (4) bedrock wells to serve as the locations for monitoring. These locations were selected to best represent downgradient conditions based on a review of groundwater flow patterns described in the Remedial Investigation Report prepared by Barton & Loguidice in 1998.

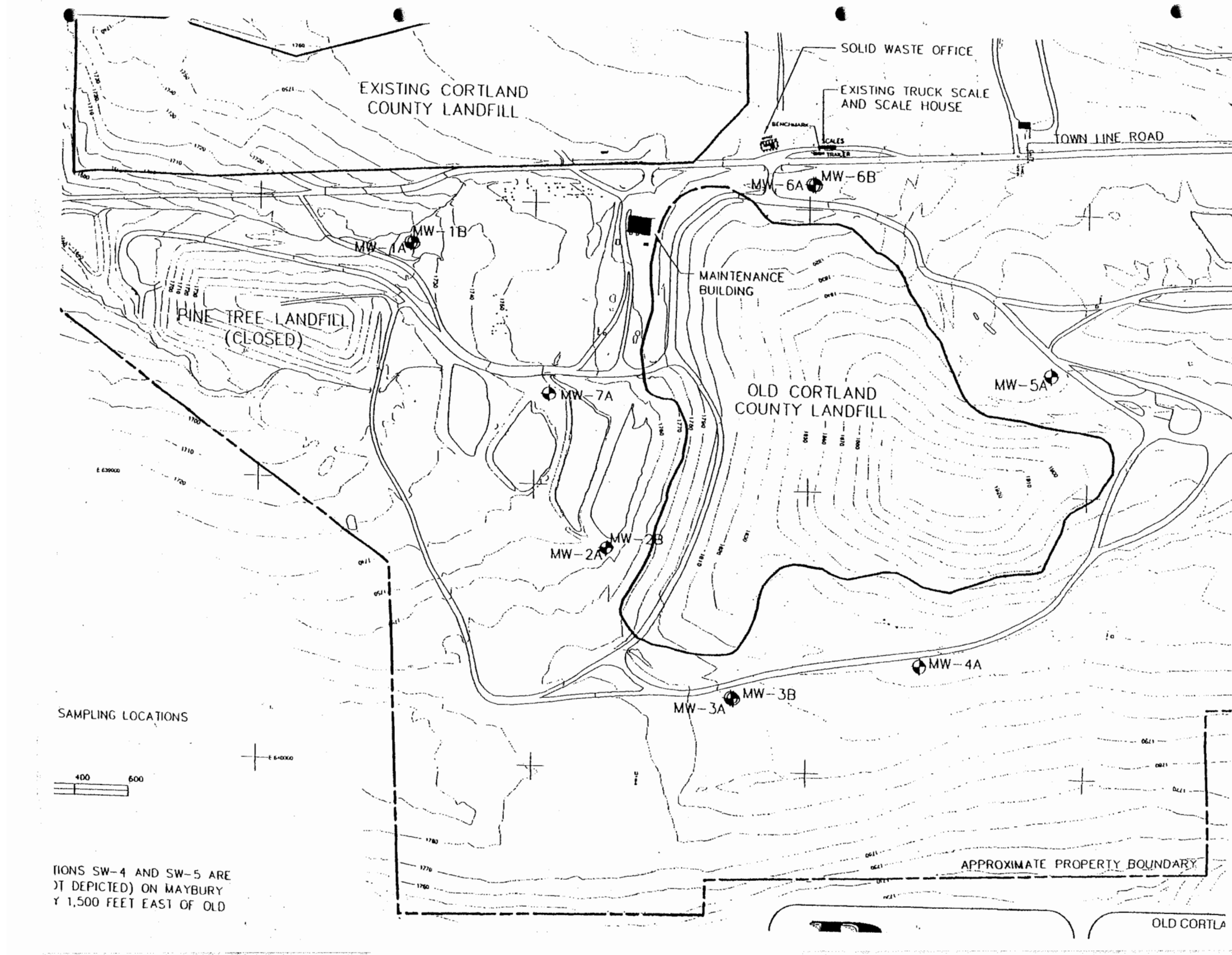
We propose to monitor overburden wells MW-1A, MW-2A, and MW-7A. We propose to monitor bedrock wells MW-1B, MW-2B, MW-3A, and MW-6B. The attached map shows the locations of these wells.

Monitoring will begin in the first quarter of 2006. Let us know if you have any questions or concerns with the selection of wells.

Sincerely,

Patrick Reidy
Water Quality Specialist

cc: Don Chambers, Cortland County Highway Department
Paul Dudden, Barton & Loguidice
Amanda Barber, SWCD/files



TIONS SW-4 AND SW-5 ARE
)T DEPICTED) ON MAYBURY
Y 1,500 FEET EAST OF OLD

Appendix B

Analytical Laboratory Results and Internal Quality Control Summary
Quarter 1 2006

Cortland County Towslee Landfill

CORTLAND COUNTY LANDFILL
TOWSLEY SITE

First Quarter 2006

Routine Analyses

Prepared for:

CORTLAND COUNTY SOIL & WATER CONSERVATION DISTRICT
100 GRANGE PLACE, ROOM 204
CORTLAND, NY 13045

Prepared by:

BUCK ENVIRONMENTAL LABORATORIES, INC.
PO BOX 5150
3821 BUCK DRIVE
CORTLAND, NY 13045

TABLE OF CONTENTS

B U C K
ENVIRONMENTAL LABORATORIES, INC.
accredited environmental analysis

Laboratory Narrative
Cortland County Landfill
Towsley Site

Lab Log No. 0603171

April 28, 2006

Mr. Patrick Reidy
Cortland County Soil and Water Conservation District
Room 204
100 Grange Place
Cortland, NY 13045

Re: Cortland County Landfill – Towsley Site
First Quarter - 2006

The data in this package represent results of analysis of the Part 360 Routine Parameters for samples from seven wells from the Towsley site of the Cortland County Landfill. Eric Monsen of Buck Environmental Laboratories, Inc. (BEL) purged and sampled the wells on March 22, 2006.

Following water depth measurement (from top of casing to water), a minimum of three well volumes was purged using manual bailers or the well was purged to dryness. Field measurements of temperature and depth were made. The remaining field parameter measurements were made upon return to the laboratory. Four of the seven sites sampled for routine parameters (MW-1A, MW-1B, MW-3A and MW-7A) were found to have turbidity in excess of 50 NTU. Non-preserved samples were filtered and analyzed for dissolved metals for comparison purposes.

Analytical methods, preservatives, hold times and containers for all laboratory analytes complied with requirements of the New York State Department of Health ELAP program. Instrument calibrations, blanks, spikes and duplicate analyses met the Laboratory's QC protocol with one exception. The matrix spike and matrix spike duplicate results for TKN analysis were below the lower recovery limit. All analytical results were reviewed for compliance with the Laboratory QA/QC Manual, the NYSDOH-ELAP Certification Manual and the contractual requirements with Cortland County Soil & Water Conservation District. The laboratory QA/QC forms enclosed in this volume include those for a fortified sample ("spike," labeled "MS") and a duplicate fortified sample ("dup," labeled "MSD").

Thank you for the opportunity to provide this information and please let me know if there are any questions.

John H. Buck, P.E.
Laboratory Director

n:\office\barb\landfill\cortland-ccswcd\Towsley 1_2006 narrative.doc

3821 Buck Drive, P.O. Box 5150, Cortland, NY 13045 • 607.753.3403 fax 607.753.3415
Branch Office: 14 Smith Avenue, Binghamton, NY 13904 • 607.771.0866 fax 607.771.0966

CORTLAND COUNTY LANDFILL
Towsley Site
Sampled: 03/22/06
Sampler: EHM

Lab Log #0603171

ClientSampID	TestCode	TestNo	AnalDate	Analyte	PQL	FinalVal	Units	Qual
MW-1A	WBOD5	405.1	03/23/06	Biochemical Oxygen Demand	3	**ND**	mg/L	
MW-1A	WEH	D1498	03/22/06	EH	1	**700**	mV	
MW-1A	WDEPTH	depth	03/22/06	Depth	0.01	**4.71**	feet	
MW-1A	WCOND	E120.1	03/22/06	Specific Conductance	5	**306**	µmhos/cm	
MW-1A	WHARD_CALC	E130.2	04/13/06	Hardness (As CaCO3)	1	**167**	mg/L	
MW-1A	WPH_FIELD	E150.1	03/22/06	pH	0.1	**7.8**	pH units	
MW-1A	WTDS	E160.1	03/27/06	Total Dissolved Solids (Residue, Filterable)	10	**340**	mg/L	
MW-1A	WTEMP	E170.1	03/22/06	Temperature	0.1	**8.5**	°C	
MW-1A	WTURB_FIELD	E180.1	03/22/06	Turbidity	0.05	**660**	NTU	
MW-1A	WIC	E300	03/23/06	Bromide	0.1	**ND**	mg/L	
MW-1A	WIC	E300	03/23/06	Chloride	0.1	**21.3**	mg/L	
MW-1A	WIC	E300	03/23/06	Nitrogen, Nitrate (As N)	0.1	**ND**	mg/L	
MW-1A	WIC	E300	03/23/06	Nitrogen, Nitrite	0.1	**ND**	mg/L	
MW-1A	WIC	E300	03/23/06	Sulfate	1	**27.3**	mg/L	
MW-1A	WALK	E310.1	03/24/06	Alkalinity, Total (As CaCO3)	2	**127**	mg/L CaCO3	
MW-1A	WNH3	E350.1	03/29/06	Nitrogen, Ammonia (As N)	0.02	**0.276**	mg/L	
MW-1A	WTKN	E351.3	04/19/06	Nitrogen, Kjeldahl, Total	2	**23.3**	mg/L	
MW-1A	WCOD	E410.1	03/23/06	Chemical Oxygen Demand	10	**ND**	mg/L	
MW-1A	WTOC	E415.1	03/30/06	Organic Carbon, Total	2	**4.76**	mg/L	
MW-1A	WPHENOL	E420.1	04/14/06	Phenolics, Total Recoverable	0.005	**ND**	mg/L	
MW-1A	ICP	SW6010A	04/06/06	Cadmium	0.005	**ND**	mg/L	
MW-1A	ICP	SW6010A	04/06/06	Calcium	0.21	**46.2**	mg/L	
MW-1A	ICP	SW6010A	04/06/06	Iron	0.035	**19.4**	mg/L	
MW-1A	ICP	SW6010A	04/06/06	Lead	0.005	**0.007**	mg/L	
MW-1A	ICP	SW6010A	04/06/06	Magnesium	0.32	**12.6**	mg/L	
MW-1A	ICP	SW6010A	04/06/06	Manganese	0.005	**0.534**	mg/L	
MW-1A	ICP	SW6010A	04/06/06	Potassium	0.26	**2.72**	mg/L	
MW-1A	ICP	SW6010A	04/06/06	Sodium	0.67	**17.1**	mg/L	
MW-1A	ICPDISS	SW6010A	04/06/06	Cadmium	0.005	**ND**	mg/L	
MW-1A	ICPDISS	SW6010A	04/06/06	Calcium	0.21	**40.7**	mg/L	
MW-1A	ICPDISS	SW6010A	04/06/06	Iron	0.035	**13.5**	mg/L	
MW-1A	ICPDISS	SW6010A	04/06/06	Lead	0.005	**ND**	mg/L	
MW-1A	ICPDISS	SW6010A	04/06/06	Magnesium	0.32	**10.4**	mg/L	
MW-1A	ICPDISS	SW6010A	04/06/06	Manganese	0.005	**0.238**	mg/L	
MW-1A	ICPDISS	SW6010A	04/06/06	Potassium	0.26	**2.52**	mg/L	
MW-1A	ICPDISS	SW6010A	04/06/06	Sodium	0.67	**14.7**	mg/L	
MW-1B	WBOD5	405.1	03/23/06	Biochemical Oxygen Demand	3	**ND**	mg/L	
MW-1B	WEH	D1498	03/22/06	EH	1	**385**	mV	
MW-1B	WDEPTH	depth	03/22/06	Depth	0.01	**2.85**	feet	

BUCK ENVIRONMENTAL LABORATORIES, INC.
PO Box 5150
Cortland, NY 13045
Tel 607.753.3403 FAX 753.3415

CORTLAND COUNTY LANDFILL
Towsley Site
Sampled: 03/22/06
Sampler: EHM

Lab Log #0603171

ClientSampID	TestCode	TestNo	AnalDate	Analyte	PQL	FinalVal	Units	Qual
MW-1B	WCOND	E120.1	03/22/06	Specific Conductance	5	**157**	µmhos/cm	
MW-1B	WHARD_CALC	E130.2	04/13/06	Hardness (As CaCO3)	1	**97.6**	mg/L	
MW-1B	WPH_FIELD	E150.1	03/22/06	pH	0.1	**7.7**	pH units	
MW-1B	WTDS	E160.1	03/27/06	Total Dissolved Solids (Residue, Filterable)	10	**120**	mg/L	
MW-1B	WTEMP	E170.1	03/22/06	Temperature	0.1	**5**	°C	
MW-1B	WTURB_FIELD	E180.1	03/22/06	Turbidity	0.05	**187**	NTU	
MW-1B	WIC	E300	03/23/06	Bromide	0.1	**ND**	mg/L	
MW-1B	WIC	E300	03/23/06	Chloride	0.1	**2.55**	mg/L	
MW-1B	WIC	E300	03/23/06	Nitrogen, Nitrate (As N)	0.1	**ND**	mg/L	
MW-1B	WIC	E300	03/23/06	Nitrogen, Nitrite	0.1	**ND**	mg/L	
MW-1B	WIC	E300	03/23/06	Sulfate	1	**4.72**	mg/L	
MW-1B	WALK	E310.1	03/24/06	Alkalinity, Total (As CaCO3)	2	**92**	mg/L CaCO3	
MW-1B	WNH3	E350.1	03/29/06	Nitrogen, Ammonia (As N)	0.02	**0.094**	mg/L	
MW-1B	WTKN	E351.3	04/19/06	Nitrogen, Kjeldahl, Total	0.2	**0.54**	mg/L	
MW-1B	WCOD	E410.1	03/23/06	Chemical Oxygen Demand	10	**ND**	mg/L	
MW-1B	WTOC	E415.1	03/30/06	Organic Carbon, Total	2	**5.41**	mg/L	
MW-1B	WPHENOL	E420.1	04/14/06	Phenolics, Total Recoverable	0.005	**ND**	mg/L	
MW-1B	ICP	SW6010A	04/06/06	Cadmium	0.005	**ND**	mg/L	
MW-1B	ICP	SW6010A	04/06/06	Calcium	0.21	**26.8**	mg/L	
MW-1B	ICP	SW6010A	04/06/06	Iron	0.035	**9.42**	mg/L	
MW-1B	ICP	SW6010A	04/06/06	Lead	0.005	**ND**	mg/L	
MW-1B	ICP	SW6010A	04/06/06	Magnesium	0.32	**7.46**	mg/L	
MW-1B	ICP	SW6010A	04/06/06	Manganese	0.005	**2.28**	mg/L	
MW-1B	ICP	SW6010A	04/06/06	Potassium	0.26	**0.973**	mg/L	
MW-1B	ICP	SW6010A	04/06/06	Sodium	0.67	**6.31**	mg/L	
MW-1B	ICPDISS	SW6010A	04/06/06	Cadmium	0.005	**ND**	mg/L	
MW-1B	ICPDISS	SW6010A	04/06/06	Calcium	0.21	**22.8**	mg/L	
MW-1B	ICPDISS	SW6010A	04/06/06	Iron	0.035	**0.339**	mg/L	
MW-1B	ICPDISS	SW6010A	04/06/06	Lead	0.005	**ND**	mg/L	
MW-1B	ICPDISS	SW6010A	04/06/06	Magnesium	0.32	**5.15**	mg/L	
MW-1B	ICPDISS	SW6010A	04/06/06	Manganese	0.005	**0.014**	mg/L	
MW-1B	ICPDISS	SW6010A	04/06/06	Potassium	0.26	**0.487**	mg/L	
MW-1B	ICPDISS	SW6010A	04/06/06	Sodium	0.67	**4.75**	mg/L	
MW-2A	WBOD5	405.1	03/23/06	Biochemical Oxygen Demand	2	**16**	mg/L	
MW-2A	WEH	D1498	03/22/06	EH	1	**140**	mV	
MW-2A	WDEPTH	depth	03/22/06	Depth	0.01	**6.01**	feet	
MW-2A	WCOND	E120.1	03/22/06	Specific Conductance	5	**621**	µmhos/cm	
MW-2A	WHARD_CALC	E130.2	04/13/06	Hardness (As CaCO3)	1	**241**	mg/L	
MW-2A	WPH_FIELD	E150.1	03/22/06	pH	0.1	**6.4**	pH units	

BUCK ENVIRONMENTAL LABORATORIES, INC.
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Cortland, NY 13045
Tel 607.753.3403 FAX 753.3415

CORTLAND COUNTY LANDFILL
Towsley Site
Sampled: 03/22/06
Sampler: EHM

Lab Log #0603171

ClientSampID	TestCode	TestNo	AnalDate	Analyte	PQL	FinalVal	Units	Qual
MW-2A	WTDS	E160.1	03/27/06	Total Dissolved Solids (Residue, Filterable)	10	**381**	mg/L	
MW-2A	WTEMP	E170.1	03/22/06	Temperature	0.1	**4.4**	°C	
MW-2A	WTURB_FIELD	E180.1	03/22/06	Turbidity	0.05	**18.6**	NTU	
MW-2A	WIC	E300	03/23/06	Bromide	0.1	**0.189**	mg/L	
MW-2A	WIC	E300	03/23/06	Chloride	0.1	**23.3**	mg/L	
MW-2A	WIC	E300	03/23/06	Nitrogen, Nitrate (As N)	0.1	**0.228**	mg/L	
MW-2A	WIC	E300	03/23/06	Nitrogen, Nitrite	0.1	**ND**	mg/L	
MW-2A	WIC	E300	03/23/06	Sulfate	1	**4.22**	mg/L	
MW-2A	WALK	E310.1	03/24/06	Alkalinity, Total (As CaCO3)	2	**330**	mg/L CaCO3	
MW-2A	WNH3	E350.1	04/17/06	Nitrogen, Ammonia (As N)	0.1	**10.6**	mg/L	
MW-2A	WTKN	E351.3	04/19/06	Nitrogen, Kjeldahl, Total	2	**10.6**	mg/L	
MW-2A	WCOD	E410.1	03/23/06	Chemical Oxygen Demand	10	**ND**	mg/L	
MW-2A	WTOC	E415.1	03/30/06	Organic Carbon, Total	2	**10.1**	mg/L	
MW-2A	WPHENOL	E420.1	04/14/06	Phenolics, Total Recoverable	0.005	**ND**	mg/L	
MW-2A	ICP	SW6010A	04/06/06	Cadmium	0.005	**ND**	mg/L	
MW-2A	ICP	SW6010A	04/06/06	Calcium	0.21	**69.1**	mg/L	
MW-2A	ICP	SW6010A	04/06/06	Iron	0.035	**8.29**	mg/L	
MW-2A	ICP	SW6010A	04/06/06	Lead	0.005	**ND**	mg/L	
MW-2A	ICP	SW6010A	04/06/06	Magnesium	0.32	**16.6**	mg/L	
MW-2A	ICP	SW6010A	04/06/06	Manganese	0.005	**12.2**	mg/L	
MW-2A	ICP	SW6010A	04/06/06	Potassium	0.26	**9.29**	mg/L	
MW-2A	ICP	SW6010A	04/06/06	Sodium	0.67	**26.3**	mg/L	
MW-2B	WBOD5	405.1	03/23/06	Biochemical Oxygen Demand	2	**9.3**	mg/L	
MW-2B	WEH	D1498	03/22/06	EH	1	**175**	mV	
MW-2B	WDEPTH	depth	03/22/06	Depth	0.01	**7.04**	feet	
MW-2B	WCOND	E120.1	03/22/06	Specific Conductance	5	**1350**	µmhos/cm	
MW-2B	WHARD_CALC	E130.2	04/13/06	Hardness (As CaCO3)	1	**697**	mg/L	
MW-2B	WPH_FIELD	E150.1	03/22/06	pH	0.1	**6.4**	pH units	
MW-2B	WTDS	E160.1	03/27/06	Total Dissolved Solids (Residue, Filterable)	10	**982**	mg/L	
MW-2B	WTEMP	E170.1	03/22/06	Temperature	0.1	**4.5**	°C	
MW-2B	WTURB_FIELD	E180.1	03/22/06	Turbidity	0.05	**17.3**	NTU	
MW-2B	WIC	E300	03/23/06	Bromide	0.1	**0.878**	mg/L	
MW-2B	WIC	E300	03/23/06	Chloride	0.5	**145**	mg/L	
MW-2B	WIC	E300	03/23/06	Nitrogen, Nitrate (As N)	0.1	**ND**	mg/L	
MW-2B	WIC	E300	03/23/06	Nitrogen, Nitrite	0.1	**ND**	mg/L	
MW-2B	WIC	E300	03/23/06	Sulfate	1	**1.18**	mg/L	
MW-2B	WALK	E310.1	03/24/06	Alkalinity, Total (As CaCO3)	2	**652**	mg/L CaCO3	
MW-2B	WNH3	E350.1	03/29/06	Nitrogen, Ammonia (As N)	0.02	**0.389**	mg/L	
MW-2B	WTKN	E351.3	04/19/06	Nitrogen, Kjeldahl, Total	0.2	**1.31**	mg/L	

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CORTLAND COUNTY LANDFILL
Towsley Site
Sampled: 03/22/06
Sampler: EHM

Lab Log #0603171

ClientSampID	TestCode	TestNo	AnalDate	Analyte	PQL	FinalVal	Units	Qual
MW-2B	WCOD	E410.1	03/23/06	Chemical Oxygen Demand	10	**ND**	mg/L	
MW-2B	WTOC	E415.1	03/30/06	Organic Carbon, Total	2	**ND**	mg/L	
MW-2B	WPHENOL	E420.1	04/14/06	Phenolics, Total Recoverable	0.005	**ND**	mg/L	
MW-2B	ICP	SW6010A	04/06/06	Cadmium	0.005	**ND**	mg/L	
MW-2B	ICP	SW6010A	04/06/06	Calcium	0.21	**203**	mg/L	
MW-2B	ICP	SW6010A	04/06/06	Iron	0.035	**0.913**	mg/L	
MW-2B	ICP	SW6010A	04/06/06	Lead	0.005	**ND**	mg/L	
MW-2B	ICP	SW6010A	04/06/06	Magnesium	0.32	**46.1**	mg/L	
MW-2B	ICP	SW6010A	04/06/06	Manganese	0.005	**6.98**	mg/L	
MW-2B	ICP	SW6010A	04/06/06	Potassium	0.26	**2.42**	mg/L	
MW-2B	ICP	SW6010A	04/06/06	Sodium	0.67	**53.8**	mg/L	
MW-3A	WBOD5	405.1	03/23/06	Biochemical Oxygen Demand	3	**ND**	mg/L	
MW-3A	WEH	D1498	03/22/06	EH	1	**215**	mV	
MW-3A	WDEPTH	depth	03/22/06	Depth	0.01	**7**	feet	
MW-3A	WCOND	E120.1	03/22/06	Specific Conductance	5	**286**	µmhos/cm	
MW-3A	WHARD_CALC	E130.2	04/13/06	Hardness (As CaCO3)	1	**153**	mg/L	
MW-3A	WPH_FIELD	E150.1	03/22/06	pH	0.1	**7.2**	pH units	
MW-3A	WTDS	E160.1	03/27/06	Total Dissolved Solids (Residue, Filterable)	10	**215**	mg/L	
MW-3A	WTEMP	E170.1	03/22/06	Temperature	0.1	**6.4**	°C	
MW-3A	WTURB_FIELD	E180.1	03/22/06	Turbidity	0.05	**58**	NTU	
MW-3A	WIC	E300	03/23/06	Bromide	0.1	**ND**	mg/L	
MW-3A	WIC	E300	03/23/06	Chloride	0.1	**14**	mg/L	
MW-3A	WIC	E300	03/23/06	Nitrogen, Nitrate (As N)	0.1	**ND**	mg/L	
MW-3A	WIC	E300	03/23/06	Nitrogen, Nitrite	0.1	**ND**	mg/L	
MW-3A	WIC	E300	03/23/06	Sulfate	1	**9.14**	mg/L	
MW-3A	WALK	E310.1	03/24/06	Alkalinity, Total (As CaCO3)	2	**162**	mg/L CaCO3	
MW-3A	WNH3	E350.1	03/29/06	Nitrogen, Ammonia (As N)	0.02	**0.097**	mg/L	
MW-3A	WTKN	E351.3	04/19/06	Nitrogen, Kjeldahl, Total	0.2	**0.455**	mg/L	
MW-3A	WCOD	E410.1	03/23/06	Chemical Oxygen Demand	10	**ND**	mg/L	
MW-3A	WTOC	E415.1	03/30/06	Organic Carbon, Total	2	**5.58**	mg/L	
MW-3A	WPHENOL	E420.1	04/14/06	Phenolics, Total Recoverable	0.005	**ND**	mg/L	
MW-3A	ICP	SW6010A	04/06/06	Cadmium	0.005	**ND**	mg/L	
MW-3A	ICP	SW6010A	04/06/06	Calcium	0.21	**46.3**	mg/L	
MW-3A	ICP	SW6010A	04/06/06	Iron	0.035	**1.88**	mg/L	
MW-3A	ICP	SW6010A	04/06/06	Lead	0.005	**ND**	mg/L	
MW-3A	ICP	SW6010A	04/06/06	Magnesium	0.32	**9.13**	mg/L	
MW-3A	ICP	SW6010A	04/06/06	Manganese	0.005	**0.208**	mg/L	
MW-3A	ICP	SW6010A	04/06/06	Potassium	0.26	**0.938**	mg/L	
MW-3A	ICP	SW6010A	04/06/06	Sodium	0.67	**5.66**	mg/L	

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CORTLAND COUNTY LANDFILL
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Sampled: 03/22/06
Sampler: EHM

Lab Log #0603171

ClientSampID	TestCode	TestNo	AnalDate	Analyte	PQL	FinalVal	Units	Qual
MW-3A	ICPDISS	SW6010A	04/06/06	Cadmium	0.005	**ND**	mg/L	
MW-3A	ICPDISS	SW6010A	04/06/06	Calcium	0.21	**44.3**	mg/L	
MW-3A	ICPDISS	SW6010A	04/06/06	Iron	0.035	**0.168**	mg/L	
MW-3A	ICPDISS	SW6010A	04/06/06	Lead	0.005	**ND**	mg/L	
MW-3A	ICPDISS	SW6010A	04/06/06	Magnesium	0.32	**8.7**	mg/L	
MW-3A	ICPDISS	SW6010A	04/06/06	Manganese	0.005	**0.096**	mg/L	
MW-3A	ICPDISS	SW6010A	04/06/06	Potassium	0.26	**0.803**	mg/L	
MW-3A	ICPDISS	SW6010A	04/06/06	Sodium	0.67	**4.83**	mg/L	
MW-6B	WBOD5	405.1	03/23/06	Biochemical Oxygen Demand	3	**ND**	mg/L	
MW-6B	WEH	D1498	03/22/06	EH	1	**250**	mV	
MW-6B	WDEPTH	depth	03/22/06	Depth	0.01	**12.4**	feet	
MW-6B	WCOND	E120.1	03/22/06	Specific Conductance	5	**347**	µmhos/cm	
MW-6B	WHARD_CALC	E130.2	04/13/06	Hardness (As CaCO3)	1	**135**	mg/L	
MW-6B	WPH_FIELD	E150.1	03/22/06	pH	0.1	**6.7**	pH units	
MW-6B	WTDS	E160.1	03/27/06	Total Dissolved Solids (Residue, Filterable)	10	**209**	mg/L	
MW-6B	WTEMP	E170.1	03/22/06	Temperature	0.1	**7.9**	°C	
MW-6B	WTURB_FIELD	E180.1	03/22/06	Turbidity	0.05	**40**	NTU	
MW-6B	WIC	E300	03/23/06	Bromide	0.1	**ND**	mg/L	
MW-6B	WIC	E300	03/23/06	Chloride	0.1	**21.1**	mg/L	
MW-6B	WIC	E300	03/23/06	Nitrogen, Nitrate (As N)	0.1	**ND**	mg/L	
MW-6B	WIC	E300	03/23/06	Nitrogen, Nitrite	0.1	**ND**	mg/L	
MW-6B	WIC	E300	03/23/06	Sulfate	1	**13.8**	mg/L	
MW-6B	WALK	E310.1	03/24/06	Alkalinity, Total (As CaCO3)	2	**131**	mg/L CaCO3	
MW-6B	WNH3	E350.1	03/29/06	Nitrogen, Ammonia (As N)	0.02	**0.055**	mg/L	
MW-6B	WTKN	E351.3	04/19/06	Nitrogen, Kjeldahl, Total	0.2	**0.392**	mg/L	
MW-6B	WCOD	E410.1	03/23/06	Chemical Oxygen Demand	10	**ND**	mg/L	
MW-6B	WTOC	E415.1	03/30/06	Organic Carbon, Total	2	**5.22**	mg/L	
MW-6B	WPHENOL	E420.1	04/14/06	Phenolics, Total Recoverable	0.005	**ND**	mg/L	
MW-6B	ICP	SW6010A	04/06/06	Cadmium	0.005	**ND**	mg/L	
MW-6B	ICP	SW6010A	04/06/06	Calcium	0.21	**39.3**	mg/L	
MW-6B	ICP	SW6010A	04/06/06	Iron	0.035	**1.09**	mg/L	
MW-6B	ICP	SW6010A	04/06/06	Lead	0.005	**ND**	mg/L	
MW-6B	ICP	SW6010A	04/06/06	Magnesium	0.32	**8.94**	mg/L	
MW-6B	ICP	SW6010A	04/06/06	Manganese	0.005	**0.559**	mg/L	
MW-6B	ICP	SW6010A	04/06/06	Potassium	0.26	**1.15**	mg/L	
MW-6B	ICP	SW6010A	04/06/06	Sodium	0.67	**14.9**	mg/L	
MW-7A	WBOD5	405.1	03/23/06	Biochemical Oxygen Demand	3	**ND**	mg/L	
MW-7A	WEH	D1498	03/22/06	EH	1	**215**	mV	

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CORTLAND COUNTY LANDFILL
Towsley Site
Sampled: 03/22/06
Sampler: EHM

Lab Log #0603171

ClientSampID	TestCode	TestNo	AnalDate	Analyte	PQL	FinalVal	Units	Qual
MW-7A	WDEPTH	depth	03/22/06	Depth	0.01	**3.54**	feet	
MW-7A	WCOND	E120.1	03/22/06	Specific Conductance	5	**1360**	µmhos/cm	
MW-7A	WHARD_CALC	E130.2	04/13/06	Hardness (As CaCO3)	1	**627**	mg/L	
MW-7A	WPH_FIELD	E150.1	03/22/06	pH	0.1	**6.5**	pH units	
MW-7A	WTDS	E160.1	03/27/06	Total Dissolved Solids (Residue, Filterable)	10	**981**	mg/L	
MW-7A	WTEMP	E170.1	03/22/06	Temperature	0.1	**4.5**	°C	
MW-7A	WTURB_FIELD	E180.1	03/22/06	Turbidity	0.05	**214**	NTU	
MW-7A	WIC	E300	03/23/06	Bromide	0.1	**0.753**	mg/L	
MW-7A	WIC	E300	03/23/06	Chloride	0.5	**144**	mg/L	
MW-7A	WIC	E300	03/23/06	Nitrogen, Nitrate (As N)	0.1	**ND**	mg/L	
MW-7A	WIC	E300	03/23/06	Nitrogen, Nitrite	0.1	**ND**	mg/L	
MW-7A	WIC	E300	03/23/06	Sulfate	1	**20.6**	mg/L	
MW-7A	WALK	E310.1	03/24/06	Alkalinity, Total (As CaCO3)	2	**648**	mg/L CaCO3	
MW-7A	WNH3	E350.1	03/29/06	Nitrogen, Ammonia (As N)	0.02	**0.34**	mg/L	
MW-7A	WTKN	E351.3	04/19/06	Nitrogen, Kjeldahl, Total	0.2	**1.5**	mg/L	
MW-7A	WCOD	E410.1	03/23/06	Chemical Oxygen Demand	10	**21.2**	mg/L	
MW-7A	WTOC	E415.1	03/30/06	Organic Carbon, Total	2	**12.8**	mg/L	
MW-7A	WPHENOL	E420.1	04/14/06	Phenolics, Total Recoverable	0.005	**ND**	mg/L	
MW-7A	ICP	SW6010A	04/06/06	Cadmium	0.005	**ND**	mg/L	
MW-7A	ICP	SW6010A	04/06/06	Calcium	0.21	**171**	mg/L	
MW-7A	ICP	SW6010A	04/06/06	Iron	0.035	**14.5**	mg/L	
MW-7A	ICP	SW6010A	04/06/06	Lead	0.005	**0.018**	mg/L	
MW-7A	ICP	SW6010A	04/06/06	Magnesium	0.32	**48.6**	mg/L	
MW-7A	ICP	SW6010A	04/06/06	Manganese	0.005	**6.08**	mg/L	
MW-7A	ICP	SW6010A	04/06/06	Potassium	0.26	**3.06**	mg/L	
MW-7A	ICP	SW6010A	04/06/06	Sodium	0.67	**134**	mg/L	
MW-7A	ICPDISS	SW6010A	04/06/06	Cadmium	0.005	**ND**	mg/L	
MW-7A	ICPDISS	SW6010A	04/06/06	Calcium	0.21	**158**	mg/L	
MW-7A	ICPDISS	SW6010A	04/06/06	Iron	0.035	**0.064**	mg/L	
MW-7A	ICPDISS	SW6010A	04/06/06	Lead	0.005	**ND**	mg/L	
MW-7A	ICPDISS	SW6010A	04/06/06	Magnesium	0.32	**43.6**	mg/L	
MW-7A	ICPDISS	SW6010A	04/06/06	Manganese	0.005	**5.35**	mg/L	
MW-7A	ICPDISS	SW6010A	04/06/06	Potassium	0.26	**1.9**	mg/L	
MW-7A	ICPDISS	SW6010A	04/06/06	Sodium	0.67	**126**	mg/L	

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Sampled: 03/22/06
Sampler: EHM

Lab Log #0603171

ClientSampID	TestCode	TestNo	AnalDate	Analyte	PQL	FinalVal	Units	Qual

This laboratory analysis has been performed in accordance with generally accepted laboratory practices and requirements of the New York State Department of Health ELAP Program. Buck Environmental Laboratories, Inc. makes no recommendations, representations or warranties other than as specifically set forth in this report and shall not be responsible or liable for any action or the consequence of any action taken in connection with this report.

Qualifiers:
ND ---> Not detected at the PQL indicated
PQL --->Laboratory Practical Limit of Quantitation
J --->Result is estimated, reported value is less than PQL
B ---> Result is estimated, analyte detected in blank
S ---> Result is estimated, surrogate or spike recovery outside of acceptance limits
R ---> Results is estimated, RPD outside of acceptance limits
E ---> Result is estimated, reported value exceeds upper quantitation limit

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Laboratory Director
NYSDOH ELAP #10795

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Buck Environmental Labs, Inc.

Date: *28-Apr-06*

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0603171
Project: CORTLAND CO LANDFILL

ANALYTICAL QC SUMMARY REPORT

BatchID: R19506

Sample ID: 0603105-03BMS	SampType: MS	TestCode: WALK	Units: mg/L CaCO3	Prep Date:	Run ID: WET CHEM-123_06032
Client ID: ZZZZZ	Batch ID: R19506	TestNo: E310.1		Analysis Date: 3/24/2006	SeqNo: 367844

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	247	2.00	100	147	100	75	125	0	0		

Sample ID: 0603171-06BMS	SampType: MS	TestCode: WALK	Units: mg/L CaCO3	Prep Date:	Run ID: WET CHEM-123_06032
Client ID: MW-6B	Batch ID: R19506	TestNo: E310.1		Analysis Date: 3/24/2006	SeqNo: 367889

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	224	2.00	100	131	93	75	125	0	0		

Sample ID: 0603105-03BMSD	SampType: MSD	TestCode: WALK	Units: mg/L CaCO3	Prep Date:	Run ID: WET CHEM-123_06032
Client ID: ZZZZZ	Batch ID: R19506	TestNo: E310.1		Analysis Date: 3/24/2006	SeqNo: 367845

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	248	2.00	100	147	101	75	125	247	0.404	20	

Sample ID: 0603171-06BMSD	SampType: MSD	TestCode: WALK	Units: mg/L CaCO3	Prep Date:	Run ID: WET CHEM-123_06032
Client ID: MW-6B	Batch ID: R19506	TestNo: E310.1		Analysis Date: 3/24/2006	SeqNo: 367890

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	234	2.00	100	131	103	75	125	224	4.37	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Buck Environmental Labs, Inc.

Date: *28-Apr-06*

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0603171
Project: CORTLAND CO LANDFILL

ANALYTICAL QC SUMMARY REPORT

BatchID: R19523

Sample ID: **0603171-06DMS**	SampType: **MS**	TestCode: **WBOD5**	Units: **mg/L**	Prep Date:	Run ID: **WET CHEM-124_06032**
Client ID: **MW-6B**	Batch ID: **R19523**	TestNo: **405.1**		Analysis Date: **3/23/2006**	SeqNo: **368155**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	16.43	2.0	10	0	164	42.2	169	0	0		

Sample ID: **0603171-06DMSD**	SampType: **MSD**	TestCode: **WBOD5**	Units: **mg/L**	Prep Date:	Run ID: **WET CHEM-124_06032**
Client ID: **MW-6B**	Batch ID: **R19523**	TestNo: **405.1**		Analysis Date: **3/23/2006**	SeqNo: **368156**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	14.78	2.0	10	0	148	49.4	192	16.43	10.6	40	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Buck Environmental Labs, Inc.

Date: *28-Apr-06*

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0603171
Project: CORTLAND CO LANDFILL

ANALYTICAL QC SUMMARY REPORT

BatchID: R19502

Sample ID: 0603105-03CMS	SampType: MS	TestCode: WCOD	Units: mg/L	Prep Date:	Run ID: WET CHEM-123_06032
Client ID: ZZZZZ	Batch ID: R19502	TestNo: E410.1		Analysis Date: 3/23/2006	SeqNo: 367771

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand	45.8	10.0	50	0	91.6	75	125	0	0		

Sample ID: 0603171-06CMS	SampType: MS	TestCode: WCOD	Units: mg/L	Prep Date:	Run ID: WET CHEM-123_06032
Client ID: MW-6B	Batch ID: R19502	TestNo: E410.1		Analysis Date: 3/23/2006	SeqNo: 367785

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand	53.28	10.0	50	0	107	75	125	0	0		

Sample ID: 0603105-03CMSD	SampType: MSD	TestCode: WCOD	Units: mg/L	Prep Date:	Run ID: WET CHEM-123_06032
Client ID: ZZZZZ	Batch ID: R19502	TestNo: E410.1		Analysis Date: 3/23/2006	SeqNo: 367772

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand	44.86	10.0	50	0	89.7	75	125	45.8	2.07	20	

Sample ID: 0603171-06CMSD	SampType: MSD	TestCode: WCOD	Units: mg/L	Prep Date:	Run ID: WET CHEM-123_06032
Client ID: MW-6B	Batch ID: R19502	TestNo: E410.1		Analysis Date: 3/23/2006	SeqNo: 367786

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand	48.83	10.0	50	0	97.7	75	125	53.28	8.72	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Buck Environmental Labs, Inc.

Date: *28-Apr-06*

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0603171
Project: CORTLAND CO LANDFILL

ANALYTICAL QC SUMMARY REPORT

BatchID: R19501

Sample ID: 0603171-06BMS	SampType: MS	TestCode: WIC	Units: mg/L	Prep Date:	Run ID: LACHAT 8000_060323A
Client ID: MW-6B	Batch ID: R19501	TestNo: E300		Analysis Date: 3/23/2006	SeqNo: 367724

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	9.191	0.100	10	0	91.9	78.3	115	0	0		
Chloride	24.58	0.100	5	21.07	70.2	44.9	143	0	0		
Nitrogen, Nitrate (As N)	2.317	0.100	2.5	0	92.7	78.1	121	0	0		
Nitrogen, Nitrite	2.202	0.100	2.5	0	88.1	62.4	120	0	0		
Sulfate	28.84	1.00	15	13.8	100	70.5	121	0	0		

Sample ID: 0603171-06BMSD	SampType: MSD	TestCode: WIC	Units: mg/L	Prep Date:	Run ID: LACHAT 8000_060323A
Client ID: MW-6B	Batch ID: R19501	TestNo: E300		Analysis Date: 3/23/2006	SeqNo: 367725

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	8.479	0.100	10	0	84.8	78.3	115	9.191	8.06	10	
Chloride	25.25	0.100	5	21.07	83.4	44.9	143	24.58	2.66	11.7	
Nitrogen, Nitrate (As N)	2.397	0.100	2.5	0	95.9	78.1	121	2.317	3.39	10	
Nitrogen, Nitrite	2.243	0.100	2.5	0	89.7	62.4	120	2.202	1.84	18.1	
Sulfate	29.35	1.00	15	13.8	104	70.5	121	28.84	1.75	10	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Buck Environmental Labs, Inc.

Date: *28-Apr-06*

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0603171
Project: CORTLAND CO LANDFILL

ANALYTICAL QC SUMMARY REPORT

BatchID: R19534

Sample ID: 0603104-06CMS	SampType: MS	TestCode: WNH3	Units: mg/L	Prep Date:	Run ID: LACHAT 8000_060329A
Client ID: ZZZZZ	Batch ID: R19534	TestNo: E350.1		Analysis Date: 3/29/2006	SeqNo: 368372

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.003	0.0200	1	0.1647	83.8	75	125	0	0		

Sample ID: 0603105-03CMS	SampType: MS	TestCode: WNH3	Units: mg/L	Prep Date:	Run ID: LACHAT 8000_060329A
Client ID: ZZZZZ	Batch ID: R19534	TestNo: E350.1		Analysis Date: 3/29/2006	SeqNo: 368384

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.9965	0.0200	1	0.213	78.3	75	125	0	0		

Sample ID: 0603171-06CMS	SampType: MS	TestCode: WNH3	Units: mg/L	Prep Date:	Run ID: LACHAT 8000_060329A
Client ID: MW-6B	Batch ID: R19534	TestNo: E350.1		Analysis Date: 3/29/2006	SeqNo: 368411

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.9281	0.0200	1	0.05488	87.3	75	125	0	0		

Sample ID: 0603104-06CMSD	SampType: MSD	TestCode: WNH3	Units: mg/L	Prep Date:	Run ID: LACHAT 8000_060329A
Client ID: ZZZZZ	Batch ID: R19534	TestNo: E350.1		Analysis Date: 3/29/2006	SeqNo: 368373

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.055	0.0200	1	0.1647	89	75	125	1.003	5.04	20	

Sample ID: 0603105-03CMSD	SampType: MSD	TestCode: WNH3	Units: mg/L	Prep Date:	Run ID: LACHAT 8000_060329A
Client ID: ZZZZZ	Batch ID: R19534	TestNo: E350.1		Analysis Date: 3/29/2006	SeqNo: 368385

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.9977	0.0200	1	0.213	78.5	75	125	0.9965	0.117	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0603171
Project: CORTLAND CO LANDFILL

ANALYTICAL QC SUMMARY REPORT

BatchID: R19534

Sample ID: 0603171-06CMSD	SampType: MSD	TestCode: WNH3	Units: mg/L	Prep Date:	Run ID: LACHAT 8000_060329A
Client ID: MW-6B	Batch ID: R19534	TestNo: E350.1		Analysis Date: 3/29/2006	SeqNo: 368412

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.9985	0.0200	1	0.05488	94.4	75	125	0.9281	7.30	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Buck Environmental Labs, Inc.

Date: *28-Apr-06*

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0603171
Project: CORTLAND CO LANDFILL

ANALYTICAL QC SUMMARY REPORT

BatchID: 6934

Sample ID: **0603171-06CMS**	SampType: **MS**	TestCode: **WTKN**	Units: **mg/L**	Prep Date: **3/24/2006**	Run ID: **LACHAT 8000_060419B**
Client ID: **MW-6B**	Batch ID: **6934**	TestNo: **E351.3**	**(E351.3)**	Analysis Date: **4/19/2006**	SeqNo: **370427**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	1.844	0.200	2.5	0.3921	58.1	75	125	0	0		S

Sample ID: **0603171-06CMSD**	SampType: **MSD**	TestCode: **WTKN**	Units: **mg/L**	Prep Date: **3/24/2006**	Run ID: **LACHAT 8000_060419B**
Client ID: **MW-6B**	Batch ID: **6934**	TestNo: **E351.3**	**(E351.3)**	Analysis Date: **4/19/2006**	SeqNo: **370428**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	2.012	0.200	2.5	0.3921	64.8	75	125	1.844	8.69	20	S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Buck Environmental Labs, Inc.

Date: *28-Apr-06*

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0603171
Project: CORTLAND CO LANDFILL

ANALYTICAL QC SUMMARY REPORT

BatchID: R19546

Sample ID: **0603171-06CMS**	SampType: **MS**	TestCode: **WTOC**	Units: **mg/L**	Prep Date:	Run ID: **TOC_060330A**
Client ID: **MW-6B**	Batch ID: **R19546**	TestNo: **E415.1**		Analysis Date: **3/30/2006**	SeqNo: **368522**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	21.68	2.00	20	5.225	82.3	75	125	0	0		

Sample ID: **0603171-06CMSD**	SampType: **MSD**	TestCode: **WTOC**	Units: **mg/L**	Prep Date:	Run ID: **TOC_060330A**
Client ID: **MW-6B**	Batch ID: **R19546**	TestNo: **E415.1**		Analysis Date: **3/30/2006**	SeqNo: **368523**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	22.11	2.00	20	5.225	84.4	75	125	21.68	1.96	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Buck Environmental Labs, Inc.

Date: *28-Apr-06*

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0603171
Project: CORTLAND CO LANDFILL

ANALYTICAL QC SUMMARY REPORT

BatchID: 6960

Sample ID: 0603171-06CMS	SampType: MS	TestCode: WPHENOL	Units: mg/L	Prep Date: 4/7/2006	Run ID: LACHAT 8000_060414B
Client ID: MW-6B	Batch ID: 6960	TestNo: E420.1	()	Analysis Date: 4/14/2006	SeqNo: 369695

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.08096	0.00500	0.1	0	81	75	125	0	0		

Sample ID: 0603171-06CMSD	SampType: MSD	TestCode: WPHENOL	Units: mg/L	Prep Date: 4/7/2006	Run ID: LACHAT 8000_060414B
Client ID: MW-6B	Batch ID: 6960	TestNo: E420.1	()	Analysis Date: 4/14/2006	SeqNo: 369696

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phenolics, Total Recoverable	0.08291	0.00500	0.1	0	82.9	75	125	0.08096	2.38	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Buck Environmental Labs, Inc.

Date: *28-Apr-06*

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0603171
Project: CORTLAND CO LANDFILL

ANALYTICAL QC SUMMARY REPORT

BatchID: 6932

Sample ID: 0603171-06AMS	SampType: MS	TestCode: ICP	Units: mg/L	Prep Date: 3/23/2006	Run ID: PE3000_060406A
Client ID: MW-6B	Batch ID: 6932	TestNo: SW6010A	(SW3010A)	Analysis Date: 4/6/2006	SeqNo: 369057

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.04785	0.00500	0.05	0	95.7	75	125	0	0		
Calcium	57.7	0.210	20	39.28	92.1	75	125	0	0		
Iron	2.229	0.0350	1	1.089	114	75	125	0	0		
Lead	0.4796	0.00500	0.5	0	95.9	75	125	0	0		
Magnesium	28.89	0.320	20	8.936	99.8	75	125	0	0		
Manganese	1.081	0.00500	0.5	0.5587	104	75	125	0	0		
Potassium	19.17	0.260	20	1.148	90.1	75	125	0	0		
Sodium	35.25	0.670	20	14.9	102	75	125	0	0		

Sample ID: 0603171-06AMSD	SampType: MSD	TestCode: ICP	Units: mg/L	Prep Date: 3/23/2006	Run ID: PE3000_060406A
Client ID: MW-6B	Batch ID: 6932	TestNo: SW6010A	(SW3010A)	Analysis Date: 4/6/2006	SeqNo: 369058

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.04701	0.00500	0.05	0	94	75	125	0.04785	1.76	20	
Calcium	57.52	0.210	20	39.28	91.2	75	125	57.7	0.319	20	
Iron	2.048	0.0350	1	1.089	95.9	75	125	2.229	8.46	20	
Lead	0.4786	0.00500	0.5	0	95.7	75	125	0.4796	0.203	20	
Magnesium	28.09	0.320	20	8.936	95.8	75	125	28.89	2.82	20	
Manganese	1.032	0.00500	0.5	0.5587	94.6	75	125	1.081	4.66	20	
Potassium	19.38	0.260	20	1.148	91.2	75	125	19.17	1.12	20	
Sodium	34.5	0.670	20	14.9	98	75	125	35.25	2.16	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Buck Environmental Labs, Inc.

Date: *28-Apr-06*

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0603171
Project: CORTLAND CO LANDFILL

ANALYTICAL QC SUMMARY REPORT

BatchID: R19529

Sample ID: **0603171-06D**	SampType: **DUP**	TestCode: **WTDS**	Units: **mg/L**	Prep Date:	Run ID: **WET CHEM-122_06032**
Client ID: **MW-6B**	Batch ID: **R19529**	TestNo: **E160.1**		Analysis Date: **3/27/2006**	SeqNo: **368256**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	203	10.0	0	0	0	0	0	209	2.91	25	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CORTLAND COUNTY LANDFILL
FIELD SAMPLING DATA SHEETS

DATES(S) PURGED: 3/22/06
TECHNICIANS: EHM
DATE(S) SAMPLED: 3/22/06
TECHNICIANS: EHM
TESTING: Routine

BEL LOG # 0603171

SDG # _____

Well #	Depth to Water	Well Depth	Purge Volume	Temp. (c)	pH	Eh	Cond.	Turb.	Color/Odor Sheen/Maintenance	Time Sampled
MW-1A	4.71	34	Dry at 6	8.5	7.82	700	306	6660	LT Tan/NO/NS/NL	12:44
MW-1B	2.85	35	26	5.0	7.69	385	157	187	LT Tan/NO/NS/NL	12:40
MW-2A	6.01	13	3.5	4.4	6.35	140	621	18.6	Clear/Slight odor/NS/NL	1:06
MW-2B	7.01	33	Dry at 10	4.5	6.43	175	1349	17.3	Clear/NO/NS/NL	1:10
MW-3A	7.00	23	~~8~~ Dry at 5	6.4	7.22	215	256	58	Clear/NO/NS/NL	12:52
MW-6B (MS/MSD)	12.45	41	14 Dry at 9	7.9	6.73	250	347	40	Clear/NO/NS/NL	12:20
MW-7A	3.54	22'	9	4.5	6.5	215	1358	214	LT Tan/NO/NS/NL	12:30

Legend: NO= No Odor/NS= No Sheen/NM= No maintenance required/NNL=Needs new lock

BUCK
ENVIRONMENTAL LABORATORIES, INC.

LA... ATC ...OG
06 03171

CHAIN OF CUSTODY RECORD

NOTE: The information on this form was supplied by the client and authorizes the Laboratory to proceed with analysis according to the **Standard Terms and Conditions** of Buck Environmental Laboratories, Inc. provided on the reverse side of this chain-of-custody. The client authorization signature acknowledges that the terms are acceptable and agreed to by the client.

CLIENT: Cortland Soil & Water
MAILING ADDRESS:
PHONE NO.:
REPORT TO ATTN:
PROJECT/ SAMPLING SITE: Cortland County Landfill
PO NO.:
SAMPLED BY: Eric Mowsen

QA/QC ☐ NORMAL ☐ PREMIUM
TURNAROUND ☐ NORMAL ☐ EXPEDITE
CLIENT AUTHORIZ. SIGN.:

ANALYSIS REQUESTED

DATE	TIME	SAMPLE DESCRIPTION	Routine NEW	Filtered metals	MATRIX (AIR, WATER, SOLID)	GRAB OR COMPOSITE	NUMBER OF CONTAINERS	VOLUME OF CONTAINERS	PRESERVATIVE USED
3/22/06	1244	MW-1A	X	X	W	G	4	VAR	H2SO4 ICE
	1240	MW-1B	X	X			4		
	1:06	MW-2A	X				4		
	1:10	MW-2B	X				4		
	12:52	MW-3A	X	X			4		
	12:20	MW-6B	X				4		
	12:20	MW-6B MS	X				4		
	12:20	MW-6B MSD	X				4		
	12:30	MW-7A	X	X			4		

DATE	TIME	RELINQUISHED BY	ACCEPTED BY	ADDITIONAL COMMENTS
3/22/06	1:57pm	1	1 Pamela Davis	
		2	2	
		3	3	Temp 3.8°
		4	4	0.7°

FOR LAB USE ONLY- CONDITIONS AT RECEIPT TEMP _____ ☑ COOLER ☑ ICE ☐ CUSTODY SEALS

3821 BUCK DRIVE, PO BOX 5150, CORTLAND, NY 13045
(607)753-3403 FAX 753-3415
INFO@BUCKLABS.COM

BRANCH OFFICE - 14 SMITH AVE, BINGHAMTON, NY 13904
(607)771-0866 FAX 771-0966

Appendix C

Analytical Laboratory Results and Internal Quality Control Summary
Quarter 2 2006

Cortland County Towslee Landfill

CORTLAND COUNTY LANDFILL
TOWSLEY SITE

Second Quarter 2006

Routine Analyses

Prepared for:

CORTLAND COUNTY SOIL & WATER CONSERVATION DISTRICT
100 GRANGE PLACE, ROOM 204
CORTLAND, NY 13045

Prepared by:

BUCK ENVIRONMENTAL LABORATORIES, INC.
PO BOX 5150
3821 BUCK DRIVE
CORTLAND, NY 13045

TABLE OF CONTENTS

BUCK
ENVIRONMENTAL LABORATORIES, INC.
accredited environmental analysis

Laboratory Narrative
Cortland County Landfill
Towsley Site

Lab Log No. 0605253

August 24, 2006

Mr. Patrick Reidy
Cortland County Soil and Water Conservation District
Room 204
100 Grange Place
Cortland, NY 13045

Re: Cortland County Landfill – Towsley Site
Second Quarter - 2006

The data in this package represent results of analysis of the Part 360 Routine Parameters for samples from seven wells from the Towsley site of the Cortland County Landfill. Ernest Spencer and Kevin Reagan of Buck Environmental Laboratories, Inc. (BEL) purged the wells on May 30, 2006 and sampled the wells on May 31, 2006.

Following water depth measurement (from top of casing to water), a minimum of three well volumes was purged using manual bailers or the well was purged to dryness. Field measurements of temperature, depth, pH, Eh, conductivity and turbidity were made. One of the seven sites sampled, MW-1A, was found to have turbidity in excess of 50 NTU. The non-preserved MW-1A sample was filtered and analyzed for dissolved metals for comparison purposes.

Analytical methods, preservatives, and containers for all laboratory analytes complied with requirements of the New York State Department of Health ELAP program. Instrument calibrations and blanks met the Laboratory's QC protocol. TKN analysis was performed over hold time. All other parameters met hold time requirements. All analytical results were reviewed for compliance with the Laboratory QA/QC Manual, the NYSDOH-ELAP Certification Manual and the contractual requirements with Cortland County Soil & Water Conservation District. The laboratory QA/QC forms enclosed in this volume include those for a fortified sample ("spike," labeled "MS") and a duplicate fortified sample ("dup," labeled "MSD"). Several MS/MSD recoveries were outside QC criteria. The BOD_5 MS recovery was 170%, greater than the 169% limit. The ammonia MSD recovery was 106%, greater than the 105% criteria. Both the TKN MS and MSD recoveries were greater than the QC criteria. The iron MSD recovery was greater than the criteria.

Thank you for the opportunity to provide this information and please let me know if there are any questions.

John H. Buck, P.E.
Laboratory Director

n:\office\barb\landfill\cortland-ccswcd\Towsley 2_2006 narrative.doc

3821 Buck Drive, P.O. Box 5150, Cortland, NY 13045 • 607.753.3403 fax 607.753.3415
Branch Office: 14 Smith Avenue, Binghamton, NY 13904 • 607.771.0866 fax 607.771.0966

CORTLAND COUNTY LANDFILL
TOWSLEY SITE
Sampled: 05/31/06
Samplers: ES, KR, CR

Lab Log #0605253

ClientSampID	TestCode	TestNo	AnalDate	Analyte	PQL	FinalVal	Units	Qual
MW-1A	ICP	SW6010A	08/10/06	Cadmium	0.005	**ND**	mg/L	
MW-1A	ICP	SW6010A	08/10/06	Calcium	0.21	**41.8**	mg/L	
MW-1A	ICP	SW6010A	08/10/06	Iron	0.035	**2.99**	mg/L	
MW-1A	ICP	SW6010A	08/10/06	Lead	0.005	**0.007**	mg/L	
MW-1A	ICP	SW6010A	08/10/06	Magnesium	0.32	**8.67**	mg/L	
MW-1A	ICP	SW6010A	08/10/06	Manganese	0.005	**0.194**	mg/L	
MW-1A	ICP	SW6010A	08/10/06	Potassium	0.26	**1.6**	mg/L	
MW-1A	ICP	SW6010A	08/10/06	Sodium	0.67	**13**	mg/L	
MW-1A	ICPDISS	SW6010A	08/10/06	Cadmium	0.005	**ND**	mg/L	
MW-1A	ICPDISS	SW6010A	08/10/06	Calcium	0.21	**38.9**	mg/L	
MW-1A	ICPDISS	SW6010A	08/10/06	Iron	0.035	**0.315**	mg/L	
MW-1A	ICPDISS	SW6010A	08/10/06	Lead	0.005	**0.005**	mg/L	
MW-1A	ICPDISS	SW6010A	08/10/06	Magnesium	0.32	**8.12**	mg/L	
MW-1A	ICPDISS	SW6010A	08/10/06	Manganese	0.005	**0.127**	mg/L	
MW-1A	ICPDISS	SW6010A	08/10/06	Potassium	0.26	**1.38**	mg/L	
MW-1A	ICPDISS	SW6010A	08/10/06	Sodium	0.67	**12.3**	mg/L	
MW-1A	WALK	E310.1	06/07/06	Alkalinity, Total (As CaCO3)	2	**139**	mg/L CaCO3	
MW-1A	WBOD5	405.1	06/01/06	Biochemical Oxygen Demand	3	**ND**	mg/L	
MW-1A	WCOD	E410.1	06/09/06	Chemical Oxygen Demand	10	**ND**	mg/L	
MW-1A	WCOND	E120.1	05/31/06	Specific Conductance	5	**355**	µmhos/cm	
MW-1A	WDEPTH	depth	05/31/06	Depth	0.01	**3.3**	feet	
MW-1A	WEH	D1498	05/31/06	EH	1	**105**	mV	
MW-1A	WHARD_CALC	E130.2	08/14/06	Hardness (As CaCO3)	1	**140**	mg/L	
MW-1A	WIC	E300	06/01/06	Bromide	0.1	**ND**	mg/L	
MW-1A	WIC	E300	06/01/06	Chloride	0.1	**22.2**	mg/L	
MW-1A	WIC	E300	06/01/06	Nitrogen, Nitrate (As N)	0.1	**0.217**	mg/L	
MW-1A	WIC	E300	06/01/06	Nitrogen, Nitrite	0.1	**ND**	mg/L	
MW-1A	WIC	E300	06/01/06	Sulfate	1	**12.3**	mg/L	
MW-1A	WNH3	E350.1	06/14/06	Nitrogen, Ammonia (As N)	0.02	**ND**	mg/L	
MW-1A	WPH_FIELD	E150.1	05/31/06	pH	0.1	**7.7**	pH units	
MW-1A	WPHENOL	E420.1	06/23/06	Phenolics, Total Recoverable	0.005	**ND**	mg/L	
MW-1A	WTDS	E160.1	06/05/06	Total Dissolved Solids (Residue, Filterable)	10	**213**	mg/L	
MW-1A	WTEMP	E170.1	05/31/06	Temperature	0.1	**12.8**	°C	
MW-1A	WTKN	E351.3	07/07/06	Nitrogen, Kjeldahl, Total	0.2	**0.529**	mg/L	H
MW-1A	WTOC	E415.1	06/05/06	Organic Carbon, Total	2	**2.61**	mg/L	
MW-1A	WTURB_FIELD	E180.1	05/31/06	Turbidity	0.05	**73**	NTU	
MW-1B	ICP	SW6010A	08/10/06	Cadmium	0.005	**ND**	mg/L	
MW-1B	ICP	SW6010A	08/10/06	Calcium	0.21	**23.9**	mg/L	
MW-1B	ICP	SW6010A	08/10/06	Iron	0.035	**1.48**	mg/L	
MW-1B	ICP	SW6010A	08/10/06	Lead	0.005	**ND**	mg/L	

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CORTLAND COUNTY LANDFILL
TOWSLEY SITE
Sampled: 05/31/06
Samplers: ES, KR, CR

Lab Log #0605253

ClientSampID	TestCode	TestNo	AnalDate	Analyte	PQL	FinalVal	Units	Qual
MW-1B	ICP	SW6010A	08/10/06	Magnesium	0.32	**5.39**	mg/L	
MW-1B	ICP	SW6010A	08/10/06	Manganese	0.005	**0.191**	mg/L	
MW-1B	ICP	SW6010A	08/10/06	Potassium	0.26	**0.468**	mg/L	
MW-1B	ICP	SW6010A	08/10/06	Sodium	0.67	**5.22**	mg/L	
MW-1B	WALK	E310.1	06/07/06	Alkalinity, Total (As CaCO3)	2	**94**	mg/L CaCO3	
MW-1B	WBOD5	405.1	06/01/06	Biochemical Oxygen Demand	3	**ND**	mg/L	
MW-1B	WCOD	E410.1	06/09/06	Chemical Oxygen Demand	10	**ND**	mg/L	
MW-1B	WCOND	E120.1	05/31/06	Specific Conductance	5	**257**	µmhos/cm	
MW-1B	WDEPTH	depth	05/31/06	Depth	0.01	**3**	feet	
MW-1B	WEH	D1498	05/31/06	EH	1	**45**	mV	
MW-1B	WHARD_CALC	E130.2	08/14/06	Hardness (As CaCO3)	1	**81.9**	mg/L	
MW-1B	WIC	E300	06/01/06	Bromide	0.1	**ND**	mg/L	
MW-1B	WIC	E300	06/01/06	Chloride	0.1	**2.28**	mg/L	
MW-1B	WIC	E300	06/01/06	Nitrogen, Nitrate (As N)	0.1	**ND**	mg/L	
MW-1B	WIC	E300	06/01/06	Nitrogen, Nitrite	0.1	**ND**	mg/L	
MW-1B	WIC	E300	06/01/06	Sulfate	1	**5.51**	mg/L	
MW-1B	WNH3	E350.1	06/14/06	Nitrogen, Ammonia (As N)	0.02	**ND**	mg/L	
MW-1B	WPH_FIELD	E150.1	05/31/06	pH	0.1	**7.8**	pH units	
MW-1B	WPHENOL	E420.1	06/23/06	Phenolics, Total Recoverable	0.005	**ND**	mg/L	
MW-1B	WTDS	E160.1	06/05/06	Total Dissolved Solids (Residue, Filterable)	10	**111**	mg/L	
MW-1B	WTEMP	E170.1	05/31/06	Temperature	0.1	**11.4**	°C	
MW-1B	WTKN	E351.3	07/07/06	Nitrogen, Kjeldahl, Total	0.2	**0.755**	mg/L	H
MW-1B	WTOC	E415.1	06/05/06	Organic Carbon, Total	2	**2.34**	mg/L	
MW-1B	WTURB_FIELD	E180.1	05/31/06	Turbidity	0.05	**45**	NTU	
MW-2A	ICP	SW6010A	08/10/06	Cadmium	0.005	**ND**	mg/L	
MW-2A	ICP	SW6010A	08/10/06	Calcium	0.21	**74.1**	mg/L	
MW-2A	ICP	SW6010A	08/10/06	Iron	0.035	**24**	mg/L	
MW-2A	ICP	SW6010A	08/10/06	Lead	0.005	**0.019**	mg/L	
MW-2A	ICP	SW6010A	08/10/06	Magnesium	0.32	**18.3**	mg/L	
MW-2A	ICP	SW6010A	08/10/06	Manganese	0.005	**11.5**	mg/L	
MW-2A	ICP	SW6010A	08/10/06	Potassium	0.26	**11.2**	mg/L	
MW-2A	ICP	SW6010A	08/10/06	Sodium	0.67	**25.2**	mg/L	
MW-2A	WALK	E310.1	06/07/06	Alkalinity, Total (As CaCO3)	2	**355**	mg/L CaCO3	
MW-2A	WBOD5	405.1	06/01/06	Biochemical Oxygen Demand	2	**4.5**	mg/L	
MW-2A	WCOD	E410.1	06/09/06	Chemical Oxygen Demand	10	**13.8**	mg/L	
MW-2A	WCOND	E120.1	05/31/06	Specific Conductance	5	**767**	µmhos/cm	
MW-2A	WDEPTH	depth	05/31/06	Depth	0.01	**6.15**	feet	
MW-2A	WEH	D1498	05/31/06	EH	1	**-5**	mV	
MW-2A	WHARD_CALC	E130.2	08/14/06	Hardness (As CaCO3)	1	**260**	mg/L	
MW-2A	WIC	E300	06/01/06	Bromide	0.1	**0.18**	mg/L	

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Sampled: 05/31/06
Samplers: ES, KR, CR

Lab Log #0605253

ClientSampID	TestCode	TestNo	AnalDate	Analyte	PQL	FinalVal	Units	Qual
MW-2A	WIC	E300	06/01/06	Chloride	0.1	**25.7**	mg/L	
MW-2A	WIC	E300	06/01/06	Nitrogen, Nitrate (As N)	0.1	**ND**	mg/L	
MW-2A	WIC	E300	06/01/06	Nitrogen, Nitrite	0.1	**ND**	mg/L	
MW-2A	WIC	E300	06/01/06	Sulfate	1	**5.5**	mg/L	
MW-2A	WNH3	E350.1	06/14/06	Nitrogen, Ammonia (As N)	0.4	**18.4**	mg/L	
MW-2A	WPH_FIELD	E150.1	05/31/06	pH	0.1	**6.4**	pH units	
MW-2A	WPHENOL	E420.1	06/23/06	Phenolics, Total Recoverable	0.005	**0.008**	mg/L	
MW-2A	WTDS	E160.1	06/05/06	Total Dissolved Solids (Residue, Filterable)	10	**397**	mg/L	
MW-2A	WTEMP	E170.1	05/31/06	Temperature	0.1	**11.6**	°C	
MW-2A	WTKN	E351.3	07/07/06	Nitrogen, Kjeldahl, Total	1	**14**	mg/L	H
MW-2A	WTOC	E415.1	06/09/06	Organic Carbon, Total	2	**7.18**	mg/L	
MW-2A	WTURB_FIELD	E180.1	05/31/06	Turbidity	0.05	**18.3**	NTU	
MW-2B	ICP	SW6010A	08/10/06	Cadmium	0.005	**ND**	mg/L	
MW-2B	ICP	SW6010A	08/10/06	Calcium	0.21	**216**	mg/L	E
MW-2B	ICP	SW6010A	08/10/06	Iron	0.035	**0.836**	mg/L	
MW-2B	ICP	SW6010A	08/18/06	Lead	0.005	**0.009**	mg/L	
MW-2B	ICP	SW6010A	08/10/06	Magnesium	0.32	**45.3**	mg/L	
MW-2B	ICP	SW6010A	08/10/06	Manganese	0.005	**6.8**	mg/L	
MW-2B	ICP	SW6010A	08/10/06	Potassium	0.26	**2.25**	mg/L	
MW-2B	ICP	SW6010A	08/10/06	Sodium	0.67	**49.7**	mg/L	
MW-2B	WALK	E310.1	06/07/06	Alkalinity, Total (As CaCO3)	2	**670**	mg/L CaCO3	
MW-2B	WBOD5	405.1	06/01/06	Biochemical Oxygen Demand	2	**5.1**	mg/L	
MW-2B	WCOD	E410.1	06/09/06	Chemical Oxygen Demand	10	**17.2**	mg/L	
MW-2B	WCOND	E120.1	05/31/06	Specific Conductance	5	**1560**	µmhos/cm	
MW-2B	WDEPTH	depth	05/31/06	Depth	0.01	**6.9**	feet	
MW-2B	WEH	D1498	05/31/06	EH	1	**110**	mV	
MW-2B	WHARD_CALC	E130.2	08/14/06	Hardness (As CaCO3)	1	**726**	mg/L	
MW-2B	WIC	E300	06/01/06	Bromide	0.1	**1.01**	mg/L	
MW-2B	WIC	E300	06/01/06	Bromide	0.5	**0.925**	mg/L	
MW-2B	WIC	E300	06/01/06	Chloride	0.5	**154**	mg/L	
MW-2B	WIC	E300	06/01/06	Nitrogen, Nitrate (As N)	0.1	**0.216**	mg/L	
MW-2B	WIC	E300	06/01/06	Nitrogen, Nitrite	0.1	**ND**	mg/L	
MW-2B	WIC	E300	06/01/06	Sulfate	1	**2.96**	mg/L	
MW-2B	WNH3	E350.1	06/14/06	Nitrogen, Ammonia (As N)	0.02	**0.824**	mg/L	
MW-2B	WPH_FIELD	E150.1	05/31/06	pH	0.1	**6.4**	pH units	
~~MW-2B~~	~~WPHENOL~~	~~E420.1~~	~~06/23/06~~	~~Phenolics, Total Recoverable~~	0.005	**ND**	mg/L	
MW-2B	WTDS	E160.1	06/05/06	Total Dissolved Solids (Residue, Filterable)	10	**1020**	mg/L	
MW-2B	WTEMP	E170.1	05/31/06	Temperature	0.1	**10.5**	°C	
MW-2B	WTKN	E351.3	07/07/06	Nitrogen, Kjeldahl, Total	0.2	**1.78**	mg/L	H
MW-2B	WTOC	E415.1	06/09/06	Organic Carbon, Total	2	**7.76**	mg/L	

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ClientSampID	TestCode	TestNo	AnalDate	Analyte	PQL	FinalVal	Units	Qual
MW-2B	WTURB_FIELD	E180.1	05/31/06	Turbidity	0.05	**19.8**	NTU	
MW-3A	ICP	SW6010A	08/10/06	Cadmium	0.005	**ND**	mg/L	
MW-3A	ICP	SW6010A	08/10/06	Calcium	0.21	**55.3**	mg/L	
MW-3A	ICP	SW6010A	08/10/06	Iron	0.035	**0.626**	mg/L	
MW-3A	ICP	SW6010A	08/18/06	Lead	0.005	**0.005**	mg/L	
MW-3A	ICP	SW6010A	08/10/06	Magnesium	0.32	**10**	mg/L	
MW-3A	ICP	SW6010A	08/10/06	Manganese	0.005	**0.175**	mg/L	
MW-3A	ICP	SW6010A	08/10/06	Potassium	0.26	**0.829**	mg/L	
MW-3A	ICP	SW6010A	08/10/06	Sodium	0.67	**6.4**	mg/L	
MW-3A	WALK	E310.1	06/07/06	Alkalinity, Total (As CaCO3)	2	**170**	mg/L CaCO3	
MW-3A	WBOD5	405.1	06/01/06	Biochemical Oxygen Demand	3	**ND**	mg/L	
MW-3A	WCOD	E410.1	06/09/06	Chemical Oxygen Demand	10	**ND**	mg/L	
MW-3A	WCOND	E120.1	05/31/06	Specific Conductance	5	**299**	µmhos/cm	
MW-3A	WDEPTH	depth	05/31/06	Depth	0.01	**7.4**	feet	
MW-3A	WEH	D1498	05/31/06	EH	1	**45**	mV	
MW-3A	WHARD_CALC	E130.2	08/14/06	Hardness (As CaCO3)	1	**179**	mg/L	
MW-3A	WIC	E300	06/01/06	Bromide	0.1	**ND**	mg/L	
MW-3A	WIC	E300	06/01/06	Chloride	0.1	**12.7**	mg/L	
MW-3A	WIC	E300	06/01/06	Nitrogen, Nitrate (As N)	0.1	**ND**	mg/L	
MW-3A	WIC	E300	06/01/06	Nitrogen, Nitrite	0.1	**ND**	mg/L	
MW-3A	WIC	E300	06/01/06	Sulfate	1	**11**	mg/L	
MW-3A	WNH3	E350.1	06/14/06	Nitrogen, Ammonia (As N)	0.02	**ND**	mg/L	
MW-3A	WPH_FIELD	E150.1	05/31/06	pH	0.1	**6.9**	pH units	
MW-3A	WPHENOL	E420.1	06/23/06	Phenolics, Total Recoverable	0.005	**ND**	mg/L	
MW-3A	WTDS	E160.1	06/05/06	Total Dissolved Solids (Residue, Filterable)	10	**208**	mg/L	
MW-3A	WTEMP	E170.1	05/31/06	Temperature	0.1	**11.7**	°C	
MW-3A	WTKN	E351.3	07/07/06	Nitrogen, Kjeldahl, Total	0.2	**1.09**	mg/L	H
MW-3A	WTOC	E415.1	06/09/06	Organic Carbon, Total	2	**5**	mg/L	
MW-3A	WTURB_FIELD	E180.1	05/31/06	Turbidity	0.05	**11.9**	NTU	
MW-6B	ICP	SW6010A	08/10/06	Cadmium	0.005	**ND**	mg/L	
MW-6B	ICP	SW6010A	08/10/06	Calcium	0.21	**39.6**	mg/L	
MW-6B	ICP	SW6010A	08/10/06	Iron	0.035	**0.511**	mg/L	
MW-6B	ICP	SW6010A	08/18/06	Lead	0.005	**ND**	mg/L	
MW-6B	ICP	SW6010A	08/10/06	Magnesium	0.32	**10.9**	mg/L	
MW-6B	ICP	SW6010A	08/10/06	Manganese	0.005	**0.12**	mg/L	
MW-6B	ICP	SW6010A	08/10/06	Potassium	0.26	**0.825**	mg/L	
MW-6B	ICP	SW6010A	08/10/06	Sodium	0.67	**9.93**	mg/L	
MW-6B	WALK	E310.1	06/07/06	Alkalinity, Total (As CaCO3)	2	**148**	mg/L CaCO3	
MW-6B	WBOD5	405.1	06/01/06	Biochemical Oxygen Demand	2	**5.1**	mg/L	

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ClientSampID	TestCode	TestNo	AnalDate	Analyte	PQL	FinalVal	Units	Qual
MW-6B	WCOD	E410.1	06/09/06	Chemical Oxygen Demand	10	**ND**	mg/L	
MW-6B	WCOND	E120.1	05/31/06	Specific Conductance	5	**287**	µmhos/cm	
MW-6B	WDEPTH	depth	05/31/06	Depth	0.01	**12**	feet	
MW-6B	WEH	D1498	05/31/06	EH	1	**85**	mV	
MW-6B	WHARD_CALC	E130.2	08/14/06	Hardness (As CaCO3)	1	**144**	mg/L	
MW-6B	WIC	E300	06/01/06	Bromide	0.1	**ND**	mg/L	
MW-6B	WIC	E300	06/01/06	Chloride	0.1	**2.33**	mg/L	
MW-6B	WIC	E300	06/01/06	Nitrogen, Nitrate (As N)	0.1	**ND**	mg/L	
MW-6B	WIC	E300	06/01/06	Nitrogen, Nitrite	0.1	**ND**	mg/L	
MW-6B	WIC	E300	06/01/06	Sulfate	1	**3.95**	mg/L	
MW-6B	WNH3	E350.1	06/14/06	Nitrogen, Ammonia (As N)	0.02	**ND**	mg/L	
MW-6B	WPH_FIELD	E150.1	05/31/06	pH	0.1	**7.4**	pH units	
MW-6B	WPHENOL	E420.1	06/23/06	Phenolics, Total Recoverable	0.005	**ND**	mg/L	
MW-6B	WTDS	E160.1	06/05/06	Total Dissolved Solids (Residue, Filterable)	10	**175**	mg/L	
MW-6B	WTEMP	E170.1	05/31/06	Temperature	0.1	**10.5**	°C	
MW-6B	WTKN	E351.3	07/07/06	Nitrogen, Kjeldahl, Total	0.2	**0.904**	mg/L	H
MW-6B	WTOC	E415.1	06/09/06	Organic Carbon, Total	2	**3.14**	mg/L	
MW-6B	WTURB_FIELD	E180.1	05/31/06	Turbidity	0.05	**19.9**	NTU	
MW-7A	ICP	SW6010A	08/10/06	Cadmium	0.005	**ND**	mg/L	
MW-7A	ICP	SW6010A	08/10/06	Calcium	0.21	**165**	mg/L	
MW-7A	ICP	SW6010A	08/10/06	Iron	0.035	**1.33**	mg/L	
MW-7A	ICP	SW6010A	08/18/06	Lead	0.005	**0.009**	mg/L	
MW-7A	ICP	SW6010A	08/10/06	Magnesium	0.32	**45.5**	mg/L	
MW-7A	ICP	SW6010A	08/10/06	Manganese	0.005	**5.69**	mg/L	
MW-7A	ICP	SW6010A	08/10/06	Potassium	0.26	**1.91**	mg/L	
MW-7A	ICP	SW6010A	08/10/06	Sodium	0.67	**129**	mg/L	
MW-7A	WALK	E310.1	06/07/06	Alkalinity, Total (As CaCO3)	2	**675**	mg/L CaCO3	
MW-7A	WBOD5	405.1	06/01/06	Biochemical Oxygen Demand	3	**ND**	mg/L	
MW-7A	WCOD	E410.1	06/09/06	Chemical Oxygen Demand	10	**16.5**	mg/L	
MW-7A	WCOND	E120.1	05/31/06	Specific Conductance	5	**1520**	µmhos/cm	
MW-7A	WDEPTH	depth	05/31/06	Depth	0.01	**3.55**	feet	
MW-7A	WEH	D1498	05/31/06	EH	1	**120**	mV	
MW-7A	WHARD_CALC	E130.2	08/14/06	Hardness (As CaCO3)	1	**599**	mg/L	
MW-7A	WIC	E300	06/01/06	Bromide	0.1	**0.633**	mg/L	
MW-7A	WIC	E300	06/01/06	Chloride	0.5	**143**	mg/L	
MW-7A	WIC	E300	06/01/06	Nitrogen, Nitrate (As N)	0.1	**ND**	mg/L	
MW-7A	WIC	E300	06/01/06	Nitrogen, Nitrite	0.1	**ND**	mg/L	
MW-7A	WIC	E300	06/01/06	Sulfate	1	**22.5**	mg/L	
MW-7A	WNH3	E350.1	06/14/06	Nitrogen, Ammonia (As N)	0.02	**ND**	mg/L	
MW-7A	WPH_FIELD	E150.1	05/31/06	pH	0.1	**6.4**	pH units	

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ClientSampID	TestCode	TestNo	AnalDate	Analyte	PQL	FinalVal	Units	Qual
MW-7A	WPHENOL	E420.1	06/23/06	Phenolics, Total Recoverable	0.005	**0.007**	mg/L	
MW-7A	WTDS	E160.1	06/05/06	Total Dissolved Solids (Residue, Filterable)	10	**967**	mg/L	
MW-7A	WTEMP	E170.1	05/31/06	Temperature	0.1	**11.6**	°C	
MW-7A	WTKN	E351.3	07/07/06	Nitrogen, Kjeldahl, Total	0.2	**1.68**	mg/L	H
MW-7A	WTOC	E415.1	06/09/06	Organic Carbon, Total	2	**8.19**	mg/L	
MW-7A	WTURB_FIELD	E180.1	05/31/06	Turbidity	0.05	**18**	NTU	

This laboratory analysis has been performed in accordance with generally accepted laboratory practices and requirements of the New York State Department of Health ELAP Program. Buck Environmental Laboratories, Inc. makes no recommendations, representations or warranties other than as specifically set forth in this report and shall not be responsible or liable for any action or the consequence of any action taken in connection with this report.

Qualifiers:
ND ---> Not detected at the PQL indicated
PQL --->Laboratory Practical Limit of Quantitation
J --->Result is estimated, reported value is less than PQL
B ---> Result is estimated, analyte detected in blank
S ---> Result is estimated, surrogate or spike recovery outside of acceptance limits
R ---> Results is estimated, RPD outside of acceptance limits
E ---> Result is estimated, reported value exceeds upper quantitation limit

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NYSDOH ELAP #10795

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CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0605253
Project: CORTLAND CO LF, TOWLSEY

ANALYTICAL QC SUMMARY REPORT

BatchID: 7083

Sample ID: 0605256-01AMS	SampType: MS	TestCode: ICP	Units: mg/L	Prep Date: 06/02/06	Run ID: PE3000_060803A
Client ID: ZZZZZ	Batch ID: 7083	TestNo: SW6010A	(SW3010A)	Analysis Date: 08/03/06	SeqNo: 382840

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.04993	0.00500	0.05	0	99.9	75	125	0	0		
Calcium	24.97	0.210	20	5.221	98.8	75	125	0	0		
Iron	1.062	0.0350	1	0.0617	100	75	125	0	0		
Lead	0.517	0.00500	0.5	0	103	75	125	0	0		
Magnesium	20.7	0.320	20	0.8725	99.1	75	125	0	0		
Manganese	0.5313	0.00500	0.5	0.01049	104	75	125	0	0		
Potassium	22.41	0.260	20	0.3751	110	75	125	0	0		
Sodium	122.2	0.670	20	98.52	119	75	125	0	0		

Sample ID: 0605252-04AMS	SampType: MS	TestCode: ICP	Units: mg/L	Prep Date: 06/02/06	Run ID: PE3000_060810A
Client ID: ZZZZZ	Batch ID: 7083	TestNo: SW6010A	(SW3010A)	Analysis Date: 08/10/06	SeqNo: 383830

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0453	0.00500	0.05	0	90.6	75	125	0	0		
Calcium	86.19	0.210	20	68.05	90.7	75	125	0	0		
Iron	14.23	0.0350	1	7.816	642	75	125	0	0		S
Lead	0.4846	0.00500	0.5	0.004322	96.1	75	125	0	0		
Magnesium	32.57	0.320	20	13.61	94.8	75	125	0	0		
Manganese	5.31	0.00500	0.5	2.898	482	75	125	0	0		S
Potassium	19.36	0.260	20	1.634	88.6	75	125	0	0		
Sodium	25.95	0.670	20	9.503	82.2	75	125	0	0		

Sample ID: 0605253-02AMS	SampType: MS	TestCode: ICP	Units: mg/L	Prep Date: 06/02/06	Run ID: PE3000_060810A
Client ID: MW-1B	Batch ID: 7083	TestNo: SW6010A	(SW3010A)	Analysis Date: 08/10/06	SeqNo: 383843

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.04546	0.00500	0.05	0	90.9	75	125	0	0		
Calcium	43.68	0.210	20	23.86	99.1	75	125	0	0		
Iron	2.525	0.0350	1	1.483	104	75	125	0	0		

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0605253
Project: CORTLAND CO LF, TOWLSEY

ANALYTICAL QC SUMMARY REPORT

BatchID: 7083

Sample ID: 0605253-02AMS	SampType: MS	TestCode: ICP	Units: mg/L	Prep Date: 06/02/06	Run ID: PE3000_060810A
Client ID: MW-1B	Batch ID: 7083	TestNo: SW6010A	(SW3010A)	Analysis Date: 08/10/06	SeqNo: 383843

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.4958	0.00500	0.5	0.003522	98.4	75	125	0	0		
Magnesium	23.72	0.320	20	5.387	91.7	75	125	0	0		
Manganese	0.7604	0.00500	0.5	0.1906	114	75	125	0	0		
Potassium	17.53	0.260	20	0.468	85.3	75	125	0	0		
Sodium	22.78	0.670	20	5.221	87.8	75	125	0	0		

Sample ID: 0605253-04AMS	SampType: MS	TestCode: ICP	Units: mg/L	Prep Date: 06/02/06	Run ID: PE3000_060818A
Client ID: MW-2B	Batch ID: 7083	TestNo: SW6010A	(SW3010A)	Analysis Date: 08/18/06	SeqNo: 385043

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.5259	0.00500	0.5	0.009281	103	75	125	0	0		

Sample ID: 0605256-01AMSD	SampType: MSD	TestCode: ICP	Units: mg/L	Prep Date: 06/02/06	Run ID: PE3000_060803A
Client ID: ZZZZZ	Batch ID: 7083	TestNo: SW6010A	(SW3010A)	Analysis Date: 08/03/06	SeqNo: 382841

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.05064	0.00500	0.05	0	101	75	125	0.04993	1.40	20	
Calcium	24.83	0.210	20	5.221	98	75	125	24.97	0.599	20	
Iron	1.062	0.0350	1	0.0617	100	75	125	1.062	0.0230	20	
Lead	0.5251	0.00500	0.5	0	105	75	125	0.517	1.55	20	
Magnesium	21.07	0.320	20	0.8725	101	75	125	20.7	1.75	20	
Manganese	0.5396	0.00500	0.5	0.01049	106	75	125	0.5313	1.55	20	
Potassium	22.18	0.260	20	0.3751	109	75	125	22.41	1.02	20	
Sodium	122.6	0.670	20	98.52	120	75	125	122.2	0.295	20	

Sample ID: 0605252-04AMSD	SampType: MSD	TestCode: ICP	Units: mg/L	Prep Date: 06/02/06	Run ID: PE3000_060810A
Client ID: ZZZZZ	Batch ID: 7083	TestNo: SW6010A	(SW3010A)	Analysis Date: 08/10/06	SeqNo: 383831

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.04689	0.00500	0.05	0	93.8	75	125	0.0453	3.46	20	
Calcium	90.22	0.210	20	68.05	111	75	125	86.19	4.57	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0605253
Project: CORTLAND CO LF, TOWLSEY

ANALYTICAL QC SUMMARY REPORT

BatchID: 7083

Sample ID: 0605252-04AMSD	SampType: MSD	TestCode: ICP	Units: mg/L	Prep Date: 06/02/06	Run ID: PE3000_060810A
Client ID: ZZZZZ	Batch ID: 7083	TestNo: SW6010A	(SW3010A)	Analysis Date: 08/10/06	SeqNo: 383831

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	6.555	0.0350	1	7.816	-126	75	125	14.23	73.9	20	SR
Lead	0.5204	0.00500	0.5	0.004322	103	75	125	0.4846	7.11	20	
Magnesium	33.19	0.320	20	13.61	97.9	75	125	32.57	1.87	20	
Manganese	1.852	0.00500	0.5	2.898	-209	75	125	5.31	96.6	20	SR
Potassium	20.42	0.260	20	1.634	93.9	75	125	19.36	5.34	20	
Sodium	29.53	0.670	20	9.503	100	75	125	25.95	12.9	20	

Sample ID: 0605253-02AMSD	SampType: MSD	TestCode: ICP	Units: mg/L	Prep Date: 06/02/06	Run ID: PE3000_060810A
Client ID: MW-1B	Batch ID: 7083	TestNo: SW6010A	(SW3010A)	Analysis Date: 08/10/06	SeqNo: 383845

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.04451	0.00500	0.05	0	89	75	125	0.04546	2.11	20	
Calcium	42.29	0.210	20	23.86	92.2	75	125	43.68	3.23	20	
Iron	2.919	0.0350	1	1.483	144	75	125	2.525	14.5	20	S
Lead	0.4866	0.00500	0.5	0.003522	96.6	75	125	0.4958	1.87	20	
Magnesium	23.4	0.320	20	5.387	90.1	75	125	23.72	1.34	20	
Manganese	0.6885	0.00500	0.5	0.1906	99.6	75	125	0.7604	9.92	20	
Potassium	17.34	0.260	20	0.468	84.4	75	125	17.53	1.09	20	
Sodium	22.11	0.670	20	5.221	84.5	75	125	22.78	2.98	20	

Sample ID: 0605253-04AMSD	SampType: MSD	TestCode: ICP	Units: mg/L	Prep Date: 06/02/06	Run ID: PE3000_060818A
Client ID: MW-2B	Batch ID: 7083	TestNo: SW6010A	(SW3010A)	Analysis Date: 08/18/06	SeqNo: 385044

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.5252	0.00500	0.5	0.009281	103	75	125	0.5259	0.140	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0605253
Project: CORTLAND CO LF, TOWLSEY

ANALYTICAL QC SUMMARY REPORT

BatchID: R19987

Sample ID: 0605252-04BMS	SampType: MS	TestCode: WIC	Units: mg/L	Prep Date:	Run ID: LACHAT 8000_060601A
Client ID: ZZZZZ	Batch ID: R19987	TestNo: E300		Analysis Date: 06/01/06	SeqNo: 375455

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	9.446	0.100	10	0.166	92.8	70	114	0	0		
Chloride	35.95	0.100	5	34.04	38.2	41	133	0	0		S
Nitrogen, Nitrate (As N)	2.555	0.100	2.5	0.132	96.9	70	116	0	0		
Nitrogen, Nitrite	1.972	0.100	2.5	0	78.9	73.6	110	0	0		
Sulfate	30.6	1.00	15	14.83	105	67.6	121	0	0		

Sample ID: 0605253-02BMS	SampType: MS	TestCode: WIC	Units: mg/L	Prep Date:	Run ID: LACHAT 8000_060601A
Client ID: MW-1B	Batch ID: R19987	TestNo: E300		Analysis Date: 06/01/06	SeqNo: 375466

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	8.917	0.100	10	0	89.2	70	114	0	0		
Chloride	7.028	0.100	5	2.276	95	41	133	0	0		
Nitrogen, Nitrate (As N)	2.335	0.100	2.5	0	93.4	70	116	0	0		
Nitrogen, Nitrite	2.217	0.100	2.5	0	88.7	73.6	110	0	0		
Sulfate	20.16	1.00	15	5.507	97.7	67.6	121	0	0		

Sample ID: 0605252-04BMSD	SampType: MSD	TestCode: WIC	Units: mg/L	Prep Date:	Run ID: LACHAT 8000_060601A
Client ID: ZZZZZ	Batch ID: R19987	TestNo: E300		Analysis Date: 06/01/06	SeqNo: 375456

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	9.3	0.100	10	0.166	91.3	70	114	9.446	1.56	5.66	
Chloride	36.67	0.100	5	34.04	52.6	41	133	35.95	1.99	7.89	
Nitrogen, Nitrate (As N)	2.588	0.100	2.5	0.132	98.2	70	116	2.555	1.28	4.37	
Nitrogen, Nitrite	1.95	0.100	2.5	0	78	73.6	110	1.972	1.12	5.05	
Sulfate	30.55	1.00	15	14.83	105	67.6	121	30.6	0.164	8.05	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0605253
Project: CORTLAND CO LF, TOWLSEY

ANALYTICAL QC SUMMARY REPORT

BatchID: R19987

Sample ID: 0605253-02BMSD	SampType: MSD	TestCode: WIC	Units: mg/L	Prep Date:	Run ID: LACHAT 8000_060601A
Client ID: MW-1B	Batch ID: R19987	TestNo: E300		Analysis Date: 06/01/06	SeqNo: 375467

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	9.757	0.100	10	0	97.6	70	114	8.917	9.00	5.66	R
Chloride	7.914	0.100	5	2.276	113	41	133	7.028	11.9	7.89	R
Nitrogen, Nitrate (As N)	2.553	0.100	2.5	0	102	70	116	2.335	8.92	4.37	R
Nitrogen, Nitrite	2.427	0.100	2.5	0	97.1	73.6	110	2.217	9.04	5.05	R
Sulfate	22.92	1.00	15	5.507	116	67.6	121	20.16	12.8	8.05	R

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Buck Environmental Labs, Inc.

Date: *23-Aug-06*

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0605253
Project: CORTLAND CO LF, TOWLSEY

ANALYTICAL QC SUMMARY REPORT

BatchID: R19995

Sample ID: 0605252-04CMS	SampType: MS	TestCode: WTOC	Units: mg/L	Prep Date:	Run ID: TOC_060605A
Client ID: ZZZZZ	Batch ID: R19995	TestNo: E415.1		Analysis Date: 06/05/06	SeqNo: 375632

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	22.67	2.00	20	4.011	93.3	75	125	0	0		

Sample ID: 0605253-02CMS	SampType: MS	TestCode: WTOC	Units: mg/L	Prep Date:	Run ID: TOC_060605A
Client ID: MW-1B	Batch ID: R19995	TestNo: E415.1		Analysis Date: 06/05/06	SeqNo: 375644

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	18	2.00	20	2.336	78.3	75	125	0	0		

Sample ID: 0605252-04CMSD	SampType: MSD	TestCode: WTOC	Units: mg/L	Prep Date:	Run ID: TOC_060605A
Client ID: ZZZZZ	Batch ID: R19995	TestNo: E415.1		Analysis Date: 06/05/06	SeqNo: 375633

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	24.31	2.00	20	4.011	101	75	125	22.67	6.98	20	

Sample ID: 0605253-02CMSD	SampType: MSD	TestCode: WTOC	Units: mg/L	Prep Date:	Run ID: TOC_060605A
Client ID: MW-1B	Batch ID: R19995	TestNo: E415.1		Analysis Date: 06/05/06	SeqNo: 375645

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	20.02	2.00	20	2.336	88.4	75	125	18	10.6	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Buck Environmental Labs, Inc.

Date: *23-Aug-06*

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0605253
Project: CORTLAND CO LF, TOWLSEY

ANALYTICAL QC SUMMARY REPORT

BatchID: R20005

Sample ID: 0605252-04BMS	SampType: MS	TestCode: WALK	Units: mg/L CaCO3	Prep Date:	Run ID: WET CHEM-123_060607
Client ID: ZZZZZ	Batch ID: R20005	TestNo: E310.1		Analysis Date: 06/07/06	SeqNo: 375834

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	287	2.00	100	188	99	82.7	115	0	0		

Sample ID: 0605253-02BMS	SampType: MS	TestCode: WALK	Units: mg/L CaCO3	Prep Date:	Run ID: WET CHEM-123_060607
Client ID: MW-1B	Batch ID: R20005	TestNo: E310.1		Analysis Date: 06/07/06	SeqNo: 375845

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	193	2.00	100	94	99	82.7	115	0	0		

Sample ID: 0605252-04BMSD	SampType: MSD	TestCode: WALK	Units: mg/L CaCO3	Prep Date:	Run ID: WET CHEM-123_060607
Client ID: ZZZZZ	Batch ID: R20005	TestNo: E310.1		Analysis Date: 06/07/06	SeqNo: 375835

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	288	2.00	100	188	100	82.7	115	287	0.348	20	

Sample ID: 0605253-02BMSD	SampType: MSD	TestCode: WALK	Units: mg/L CaCO3	Prep Date:	Run ID: WET CHEM-123_060607
Client ID: MW-1B	Batch ID: R20005	TestNo: E310.1		Analysis Date: 06/07/06	SeqNo: 375846

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	193	2.00	100	94	99	82.7	115	193	0	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0605253
Project: CORTLAND CO LF, TOWLSEY

ANALYTICAL QC SUMMARY REPORT

BatchID: R20011

Sample ID: 0605252-04DMS	SampType: MS	TestCode: WBOD5	Units: mg/L	Prep Date:			Run ID: WET CHEM-124_060601			
Client ID: ZZZZZ	Batch ID: R20011	TestNo: 405.1		Analysis Date: 06/01/06			SeqNo: 375949			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	15.05	2.0	10	0	150	42.2	169	0	0		

Sample ID: 0605253-02DMS	SampType: MS	TestCode: WBOD5	Units: mg/L	Prep Date:			Run ID: WET CHEM-124_060601			
Client ID: MW-1B	Batch ID: R20011	TestNo: 405.1		Analysis Date: 06/01/06			SeqNo: 375958			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	17	2.0	10	0	170	42.2	169	0	0		S

Sample ID: 0605252-04DMSD	SampType: MSD	TestCode: WBOD5	Units: mg/L	Prep Date:			Run ID: WET CHEM-124_060601			
Client ID: ZZZZZ	Batch ID: R20011	TestNo: 405.1		Analysis Date: 06/01/06			SeqNo: 375950			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	14.81	2.0	10	0	148	49.4	192	15.05	1.61	40	

Sample ID: 0605253-02DMSD	SampType: MSD	TestCode: WBOD5	Units: mg/L	Prep Date:			Run ID: WET CHEM-124_060601			
Client ID: MW-1B	Batch ID: R20011	TestNo: 405.1		Analysis Date: 06/01/06			SeqNo: 375959			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Biochemical Oxygen Demand	15.98	2.0	10	0	160	49.4	192	17	6.19	40	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0605253
Project: CORTLAND CO LF, TOWLSEY

ANALYTICAL QC SUMMARY REPORT

BatchID: R20024

Sample ID: 0605252-04CMS	SampType: MS	TestCode: WCOD	Units: mg/L	Prep Date:	Run ID: WET CHEM-123_060609
Client ID: ZZZZZ	Batch ID: R20024	TestNo: E410.1		Analysis Date: 06/09/06	SeqNo: 376108

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand	57.25	10.0	50	0	114	79.5	131	0	0		

Sample ID: 0605253-02CMS	SampType: MS	TestCode: WCOD	Units: mg/L	Prep Date:	Run ID: WET CHEM-123_060609
Client ID: MW-1B	Batch ID: R20024	TestNo: E410.1		Analysis Date: 06/09/06	SeqNo: 376119

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand	62.62	10.0	50	0	125	79.5	131	0	0		

Sample ID: 0606022-06CMS	SampType: MS	TestCode: WCOD	Units: mg/L	Prep Date:	Run ID: WET CHEM-123_060609
Client ID: ZZZZZ	Batch ID: R20024	TestNo: E410.1		Analysis Date: 06/09/06	SeqNo: 376135

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand	64	10.0	50	0	128	79.5	131	0	0		

Sample ID: 0605252-04CMSD	SampType: MSD	TestCode: WCOD	Units: mg/L	Prep Date:	Run ID: WET CHEM-123_060609
Client ID: ZZZZZ	Batch ID: R20024	TestNo: E410.1		Analysis Date: 06/09/06	SeqNo: 376109

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand	56.05	10.0	50	0	112	79.5	131	57.25	2.12	16	

Sample ID: 0605253-02CMSD	SampType: MSD	TestCode: WCOD	Units: mg/L	Prep Date:	Run ID: WET CHEM-123_060609
Client ID: MW-1B	Batch ID: R20024	TestNo: E410.1		Analysis Date: 06/09/06	SeqNo: 376120

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand	63.75	10.0	50	0	128	79.5	131	62.62	1.79	16	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0605253
Project: CORTLAND CO LF, TOWLSEY

ANALYTICAL QC SUMMARY REPORT

BatchID: R20024

Sample ID: 0606022-06CMSD	SampType: MSD	TestCode: WCOD	Units: mg/L	Prep Date:	Run ID: WET CHEM-123_060609
Client ID: ZZZZZ	Batch ID: R20024	TestNo: E410.1		Analysis Date: 06/09/06	SeqNo: 376136

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chemical Oxygen Demand	54.84	10.0	50	0	110	79.5	131	64	15.4	16	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Buck Environmental Labs, Inc.

Date: *23-Aug-06*

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0605253
Project: CORTLAND CO LF, TOWLSEY

ANALYTICAL QC SUMMARY REPORT

BatchID: R20052

Sample ID: **0605253-02CMS**	SampType: **MS**	TestCode: **WNH3**	Units: **mg/L**	Prep Date:	Run ID: **LACHAT 8000_060614A**
Client ID: **MW-1B**	Batch ID: **R20052**	TestNo: **E350.1**		Analysis Date: **06/14/06**	SeqNo: **376803**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	0.9715	0.0200	1	0	97.2	65	105	0	0		

Sample ID: **0605253-02CMSD**	SampType: **MSD**	TestCode: **WNH3**	Units: **mg/L**	Prep Date:	Run ID: **LACHAT 8000_060614A**
Client ID: **MW-1B**	Batch ID: **R20052**	TestNo: **E350.1**		Analysis Date: **06/14/06**	SeqNo: **376804**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Ammonia (As N)	1.061	0.0200	1	0	106	65	105	0.9715	8.84	13.2	S

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Buck Environmental Labs, Inc.

Date: *23-Aug-06*

CLIENT: CORTLAND CO SOIL & WATER
Work Order: 0605253
Project: CORTLAND CO LF, TOWLSEY

ANALYTICAL QC SUMMARY REPORT

BatchID: 7077

Sample ID: 0605252-04CMS	SampType: MS	TestCode: WTKN	Units: mg/L	Prep Date: 06/01/06	Run ID: LACHAT 8000_060707B
Client ID: ZZZZZ	Batch ID: 7077	TestNo: E351.3	(E351.3)	Analysis Date: 07/07/06	SeqNo: 379231

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	4.303	0.200	2.5	1.003	132	66.2	118	0	0		SH

Sample ID: 0605253-02CMS	SampType: MS	TestCode: WTKN	Units: mg/L	Prep Date: 06/01/06	Run ID: LACHAT 8000_060707B
Client ID: MW-1B	Batch ID: 7077	TestNo: E351.3	(E351.3)	Analysis Date: 07/07/06	SeqNo: 379242

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	5.698	0.200	2.5	0.755	198	66.2	118	0	0		SEH

Sample ID: 0605252-04CMSD	SampType: MSD	TestCode: WTKN	Units: mg/L	Prep Date: 06/01/06	Run ID: LACHAT 8000_060707B
Client ID: ZZZZZ	Batch ID: 7077	TestNo: E351.3	(E351.3)	Analysis Date: 07/07/06	SeqNo: 379232

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	2.867	0.200	2.5	1.003	74.6	66.2	118	4.303	40.1	21.4	RH

Sample ID: 0605253-02CMSD	SampType: MSD	TestCode: WTKN	Units: mg/L	Prep Date: 06/01/06	Run ID: LACHAT 8000_060707B
Client ID: MW-1B	Batch ID: 7077	TestNo: E351.3	(E351.3)	Analysis Date: 07/07/06	SeqNo: 379243

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	4.005	0.200	2.5	0.755	130	66.2	118	5.698	34.9	21.4	SRH

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CORTLAND COUNTY LANDFILL
FIELD SAMPLING DATA SHEETS

DATES(S) PURGED: 5/30/06
TECHNICIANS: E. Spenn / K. Regan
DATE(S) SAMPLED: 5/31/06
TECHNICIANS: E. Spenn
TESTING: Routine ~~Old~~ New 360

BEL LOG # 0605253
SDG # _____

Well #	Depth to Water	Well Depth	Purge Volume	Temp. (c)	pH	Eh	Cond.	Turb.	Color/Odor Sheen/Maintenance	Time Sampled
MW-1A	3.30	34	15½	12.8	7.74	105	355	73	Clear NO/NS/NM	9:51
MW-1B	3.00	56	26	11.4	7.83	45	257	45	Clear NO/NS NM	9:47
MW-2A	6.15	13	2½	~~10.6~~ 11.6	6.35	-5	767	18.3	Clear/NS/NO NM	11:00
MW-2B	6.90	34	13½	10.5	6.39	110	1560	19.8	Clear NO/NS Shield broke	10:48
MW-3A	7.40	23	6½	11.7	6.85	45	299	11.9	Clear NO/NS Cum	10:42
MW-6B	12.00	42	15	10.5	7.40	85	287	19.9	Clear NO/NS/NM	10:37
MW-7A	3.55	23	10	11.6	6.38	120	1518	18	Clear NO/NS NM	10:01
MW-1B MS/MSD										9:44 / 9:47

Legend: NO= No Odor/NS= No Sheen/NM= No maintenance required/NNL=Needs new lock

BUCK
ENVIRONMENTAL LABORATORIES, INC.

CHAIN OF CUSTODY RECORD

LABORATORY LOG NO. 0605253

NOTE: The information on this form was supplied by the client and authorizes the Laboratory to proceed with analysis according to the **Standard Terms and Conditions** of Buck Environmental Laboratories, Inc. provided on the reverse side of this chain-of-custody. The client authorization signature acknowledges that the terms are acceptable and agreed to by the client.

CLIENT: Cortland County Soil + Water
MAILING ADDRESS:
PHONE NO.:
REPORT TO ATTN: Pat Reidy
PROJECT/SAMPLING SITE: Towsley
PO NO.:
SAMPLED BY: E. Spner / K. Rason.

QA/QC: ☐ NORMAL ☐ PREMIUM
TURNAROUND: ☐ NORMAL ☐ EXPEDITE
CLIENT AUTHORIZ. SIGN.:

ANALYSIS REQUESTED: New 360 Routine Par.

DATE	TIME	SAMPLE DESCRIPTION	New 360 Routine Par.	MATRIX (AIR, WATER, SOLID)	GRAB OR COMPOSITE	NUMBER OF CONTAINERS	VOLUME OF CONTAINERS	PRESERVATIVE USED
5/31	9:51	MW-1A	X	W	G	4	Var	ICE
5/31	9:47	MW-1B	X					
5/31	9:44	MW-1B MS	X					
5/31	9:41	MW-1B MSD	X					
5/31	11:00	MW-2A	X					
5/31	10:48	MW-2B	X					
5/31	10:42	MW-3A	X					
5/31	10:37	MW-6B	X					
5/31	10:01	MW-7A	X	W	G	4	Var	ICE

DATE	TIME	RELINQUISHED BY	ACCEPTED BY	ADDITIONAL COMMENTS
5/31	12:02	1 [signature]	1 Pamela Davis	
		2	2	
		3	3	
		4	4	

FOR LAB USE ONLY- CONDITIONS AT RECEIPT TEMP ____ ☐ COOLER ☐ ICE ☐ CUSTODY SEALS

3821 BUCK DRIVE, PO BOX 5150, CORTLAND, NY 13045
(607)753-3403 FAX 753-3415
INFO@BUCKLABS.COM

BRANCH OFFICE - 14 SMITH AVE, BINGHAMTON, NY 13904
(607)771-0866 FAX 771-0966

Appendix D

Historical Analytical Data

Cortland County Towslee Landfill

Historical Data Page Index
Cortland County Towslee Landfill

Well	Field/ Inorganic Parameters	Total Metals	Dissolved Metals
MW-1A	1	8	15
MW-1B	2	9	16
MW-2A	3	10	17
MW-2B	4	11	18
MW-3A	5	12	19
MW-6B	6	13	20
MW-7A	7	14	21

Historical Water Quality Database
Field and Inorganic Parameters

Well MW-1A - Overburden

Towslee Landfill

Parameter	Units	Aug-97	Oct-97	Q1 2006	Q2 2006
Temp	(deg C)	--	--	8.5	12.8
Eh	(mV)	--	--	700	105
pH	(Std Units)	--	--	7.8	7.7
Sp. Cond	(uS/cm)	--	--	306	355
Color	(Units)	5	20	--	--
Turbidity	(NTU)	--	--	660	73
ALK as CaCO3	(mg/l)	160	145	127	139
HARD as CaCO3	(mg/l)	4000	240	167	140
TDS	(mg/l)	494	214	340	213
Chloride	(mg/l)	152	46	21.3	22.2
Sulfate	(mg/l)	20.6	14.6	27.3	12.3
Bromide	(mg/l)	1.2	0.8	< 0.1	<0.1
NO3 (As N)	(mg/l)	<0.1	<0.1	< 0.1	0.217
NH4 (As N)	(mg/l)	6	2.6	0.276	<0.02
TKN (as N)	(mg/l)	18	3.8	23.3	0.529 H
COD	(mg/l)	305	64	< 10	<10
BOD	(mg/l)	5	<2	< 3	<3
TOC	(mg/l)	4.2	1.6	4.76	2.61
Phenolics, Tot	(mg/l)	0.003	0.0015	< 0.005	<0.005
Cyanide	(mg/l)	<0.01	<0.01	--	--

H - exceeded hold time

Historical Water Quality Database
Field and Inorganic Parameters

Well MW-1B - Bedrock

Towslee Landfill

Parameter	Units	Aug-97	Oct-97	Q1 2006	Q2 2006
Temp	(deg C)	--	--	5	11.4
Eh	(mV)	--	--	385	45
pH	(Std Units)	--	--	7.7	7.8
Sp. Cond	(uS/cm)	--	--	157	257
Color	(Units)	<5	<5	--	--
Turbidity	(NTU)	--	--	187	45
ALK as CaCO3	(mg/l)	94.8	93.6	92	94
HARD as CaCO3	(mg/l)	88	140	97.6	81.9
TDS	(mg/l)	143	86	120	111
Chloride	(mg/l)	<2	<2	2.55	2.28
Sulfate	(mg/l)	5.2	<5	4.72	5.51
Bromide	(mg/l)	<0.5	<0.5	< 0.1	<0.1
NO3 (As N)	(mg/l)	0.2	<0.1	< 0.1	<0.1
NH4 (As N)	(mg/l)	<0.02	0.04	0.0938	<0.02
TKN (as N)	(mg/l)	<0.2	<0.2	0.54	0.755 H
COD	(mg/l)	<15	<15	< 10	<10
BOD	(mg/l)	<2	<2	< 3	<3
TOC	(mg/l)	9.3	<1	5.41	2.34
Phenolics, Tot	(mg/l)	<0.001	<0.001	< 0.005	<0.005
Cyanide	(mg/l)	--	--	--	--

H - exceeded hold time

2

Historical Water Quality Database
Field and Inorganic Parameters

Well MW-2A - Overburden

Towslee Landfill

Parameter	Units	Aug-97	Oct-97	Q1 2006	Q2 2006
Temp	(deg C)	--	--	4.4	11.6
Eh	(mV)	--	--	140	-5
pH	(Std Units)	--	--	6.4	6.4
Sp. Cond	(uS/cm)	--	--	621	767
Color	(Units)	30	60	--	--
Turbidity	(NTU)	--	--	18.6	18.3
ALK as CaCO3	(mg/l)	702	784	330	355
HARD as CaCO3	(mg/l)	1300	720	241	260
TDS	(mg/l)	1180	986	381	397
Chloride	(mg/l)	156	149	23.3	25.7
Sulfate	(mg/l)	<5	<5	4.22	5.5
Bromide	(mg/l)	0.8	<0.5	0.189	0.18
NO3 (As N)	(mg/l)	<0.1	0.14	0.228	<0.1
NH4 (As N)	(mg/l)	23	9.1	10.6	18.4
TKN (as N)	(mg/l)	31.5	21.2	10.6	14 H
COD	(mg/l)	127	136	< 10	13.8
BOD	(mg/l)	6	3	16	4.5
TOC	(mg/l)	42.5	24.1	10.1	7.18
Phenolics, Tot	(mg/l)	0.0071	0.0066	< 0.005	0.008
Cyanide	(mg/l)	<0.01	<0.01	--	--

H - exceeded hold time

3

Historical Water Quality Database
Field and Inorganic Parameters

Well MW-2B - Bedrock

Towslee Landfill

Parameter	Units	Aug-97	Oct-97	Q1 2006	Q2 2006
Temp	(deg C)	--	--	4.5	10.5
Eh	(mV)	--	--	175	110
pH	(Std Units)	--	--	6.4	6.4
Sp. Cond	(uS/cm)	--	--	1350	1560
Color	(Units)	5	10	--	--
Turbidity	(NTU)	--	--	17.3	19.8
ALK as CaCO3	(mg/l)	577	673	652	670
HARD as CaCO3	(mg/l)	960	900	697	726
TDS	(mg/l)	1640	1230	982	1020
Chloride	(mg/l)	267	238	145	154
Sulfate	(mg/l)	<5	<5	1.18	2.96
Bromide	(mg/l)	1.1	0.9	0.878	1.01
NO3 (As N)	(mg/l)	<0.1	<0.1	< 0.1	0.216
NH4 (As N)	(mg/l)	0.95	1.3	0.389	0.824
TKN (as N)	(mg/l)	2.6	2	1.31	1.78 H
COD	(mg/l)	58	61	< 10	17.2
BOD	(mg/l)	2	2	9.3	5.1
TOC	(mg/l)	12.3	11.9	< 2	7.76
Phenolics, Tot	(mg/l)	0.0044	0.0039	< 0.005	<0.005
Cyanide	(mg/l)	--	--	--	--

H - exceeded hold time

Historical Water Quality Database
Field and Inorganic Parameters

Well MW-3A - Bedrock

Towslee Landfill

Parameter	Units	Aug-97	Oct-97	Q1 2006	Q2 2006
Temp	(deg C)	--	--	6.4	11.7
Eh	(mV)	--	--	215	45
pH	(Std Units)	--	--	7.2	6.9
Sp. Cond	(uS/cm)	--	--	286	299
Color	(Units)	<5	<5	--	--
Turbidity	(NTU)	--	--	58	11.9
ALK as CaCO3	(mg/l)	145	146	162	170
HARD as CaCO3	(mg/l)	1250	200	153	179
TDS	(mg/l)	320	269	215	208
Chloride	(mg/l)	31.4	28.7	14	12.7
Sulfate	(mg/l)	16	13	9.14	11
Bromide	(mg/l)	0.5	<0.5	< 0.1	<0.1
NO3 (As N)	(mg/l)	<0.1	0.19	< 0.1	<0.1
NH4 (As N)	(mg/l)	<0.02	0.09	0.0969	<0.02
TKN (as N)	(mg/l)	0.4	0.24	0.455	1.09 H
COD	(mg/l)	19	<15	< 10	<10
BOD	(mg/l)	<2	<2	< 3	<3
TOC	(mg/l)	4.5	1.9	5.58	<2
Phenolics, Tot	(mg/l)	0.0027	<0.001	< 0.005	<0.005
Cyanide	(mg/l)	--	--	--	--

H - exceeded hold time

Historical Water Quality Database
Field and Inorganic Parameters

Well MW-6B - Bedrock

Towslee Landfill

Parameter	Units	Aug-97	Oct-97	Q1 2006	Q2 2006
Temp	(deg C)	--	--	7.9	10.5
Eh	(mV)	--	--	250	85
pH	(Std Units)	--	--	6.7	7.4
Sp. Cond	(uS/cm)	--	--	347	287
Color	(Units)	<5	20	--	--
Turbidity	(NTU)	--	--	40	19.9
ALK as CaCO3	(mg/l)	240	224	131	148
HARD as CaCO3	(mg/l)	300	240	135	144
TDS	(mg/l)	98	280	209	175
Chloride	(mg/l)	38.2	35	21.1	2.33
Sulfate	(mg/l)	27.1	22.2	13.8	3.95
Bromide	(mg/l)	<0.5	<0.5	< 0.1	<0.1
NO3 (As N)	(mg/l)	0.6	<0.1	< 0.1	<0.1
NH4 (As N)	(mg/l)	0.09	2.5	0.0549	<0.02
TKN (as N)	(mg/l)	0.6	3.3	0.392	0.904 H
COD	(mg/l)	40	19	< 10	<10
BOD	(mg/l)	<2	2	< 3	5.1
TOC	(mg/l)	6	5.8	5.22	3.14
Phenolics, Tot	(mg/l)	0.0032	<0.001	< 0.005	<0.005
Cyanide	(mg/l)	--	--	--	--

H - exceeded hold time

Historical Water Quality Database
Field and Inorganic Parameters

Well MW-7A - Overburden

Towslee Landfill

Parameter	Units	Aug-97	Oct-97	Q1 2006	Q2 2006
Temp	(deg C)	--	--	4.5	11.6
Eh	(mV)	--	--	215	120
pH	(Std Units)	--	--	6.5	6.4
Sp. Cond	(uS/cm)	--	--	1360	1520
Color	(Units)	20	5	--	--
Turbidity	(NTU)	--	--	214	18
ALK as CaCO3	(mg/l)	569	660	648	675
HARD as CaCO3	(mg/l)	1010	1150	627	599
TDS	(mg/l)	1220	1240	981	967
Chloride	(mg/l)	300	276	144	143
Sulfate	(mg/l)	27.4	20.2	20.6	22.5
Bromide	(mg/l)	0.6	<0.5	0.753	0.633
NO3 (As N)	(mg/l)	<0.1	0.2	< 0.1	<0.1
NH4 (As N)	(mg/l)	0.93	0.89	0.34	<0.02
TKN (as N)	(mg/l)	1.1	1.4	1.5	1.68 H
COD	(mg/l)	43	112	21.2	16.5
BOD	(mg/l)	<2	2	< 3	<3
TOC	(mg/l)	10.1	12.6	12.8	8.19
Phenolics, Tot	(mg/l)	0.0051	0.0027	< 0.005	0.007
Cyanide	(mg/l)	<0.01	<0.01	--	--

H - exceeded hold time

7

Historical Water Quality Data Towslee Landfill

MW-1A Total Metals

Parameter	Aug-97	Oct-97	3/22/2006	5/31/2006
Aluminum	724	16.9	--	--
Antimony	<0.003	<0.003	--	--
Arsenic	0.353	0.0134	--	--
Barium	8.11	0.258	--	--
Beryllium	0.0287	0.00083 B	--	--
Boron	0.0873 B	0.0665 B	--	--
Cadmium	<0.0003	<0.0003	<0.005	<0.005
Calcium	430	48.6	46.2	41.8
Chromium	1.04	0.0265	--	--
Chromium, Hexavalent	--	--	--	--
Cobalt	0.59	0.0168 B	--	--
Copper	0.996	0.0254	--	--
Iron	1550	35.7	19.4	2.99
Lead	0.454	0.0123	0.00716	0.007
Magnesium	309	15.6	12.6	8.67
Manganese	24.6	0.783	0.534	0.194
Mercury	0.0014	<0.0001	--	--
Nickel	1.33	0.0364 B	--	--
Potassium	77.5	6.97	2.72	1.6
Sodium	37.3	26	17.1	13
Selenium	<0.028	<0.0028	--	--
Silver	<0.009	<0.0009	--	--
Thallium	<0.026	<0.0026	--	--
Vanadium	0.856	0.0243 B	--	--
Zinc	3.36	0.0874	--	--

All units in mg/l

Historical Water Quality Data Towslee Landfill

MW-1B Total Metals

Parameter	Aug-97	Oct-97	3/22/2006	5/31/2006
Aluminum	0.662	0.134 B	--	--
Antimony	<0.003	<0.003	--	--
Arsenic	<0.0024	<0.0024	--	--
Barium	0.168 B	0.154 B	--	--
Beryllium	0.0001 B	<0.0001	--	--
Boron	0.0197 B	0.0247 B	--	--
Cadmium	<0.0003	<0.0003	<0.005	<0.005
Calcium	26.7	24.7	26.8	23.9
Chromium	0.002 B	<0.0004	--	--
Chromium, Hexavalent	--	--	--	--
Cobalt	<0.0011	<0.0011	--	--
Copper	0.004 B	0.0025 B	--	--
Iron	1.33	0.226	9.42	1.48
Lead	<0.001	<0.001	<0.005	<0.005
Magnesium	6.47	5.84	7.46	5.39
Manganese	0.195	0.146	2.28	0.191
Mercury	--	--	--	--
Nickel	<0.0013	<0.0013	--	--
Potassium	1.56 B	0.529 B	0.973	0.468
Sodium	7.38	6.18	6.31	5.22
Selenium	--	--	--	--
Silver	--	--	--	--
Thallium	<0.0026	<0.0026	--	--
Vanadium	<0.0012	<0.0012	--	--
Zinc	0.0351	0.0163 B	--	--

All units in mg/l

5

Historical Water Quality Data Towslee Landfill

MW-2A Total Metals

Parameter	Aug-97	Oct-97	3/22/2006	5/31/2006
Aluminum	79.3	59.1	--	--
Antimony	0.0049 B	<0.003	--	--
Arsenic	0.0631	0.0537	--	--
Barium	1.75	1.49	--	--
Beryllium	0.0037 B	0.0025 B	--	--
Boron	1.21	0.961	--	--
Cadmium	<0.0003	0.0016 B	<0.005	<0.005
Calcium	186	172	69.1	74.1
Chromium	0.112	0.0967	--	--
Chromium, Hexavalent	--	--	--	--
Cobalt	0.0719	0.0628	--	--
Copper	0.104	0.0779	--	--
Iron	154	131	8.29	24
Lead	0.0561	0.0436	<0.005	0.019
Magnesium	61.6	53.6	16.6	18.3
Manganese	35.7	31.6	12.2	11.5
Mercury	<0.0001	<0.0001	--	--
Nickel	0.151	0.132	--	--
Potassium	23.4	17	9.29	11.2
Sodium	119	102	26.3	25.2
Selenium	<0.0028	<0.0028	--	--
Silver	0.0024 B	0.0014 B	--	--
Thallium	0.004 B	<0.0026	--	--
Vanadium	0.102	0.0866	--	--
Zinc	0.4	0.278	--	--

All units in mg/l

9

Historical Water Quality Data Towslee Landfill

MW-2B Total Metals

Parameter	Aug-97	Oct-97	3/22/2006	5/31/2006
Aluminum	2.03	5.31	--	--
Antimony	<0.003	<0.003	--	--
Arsenic	0.007 B	0.0083 B	--	--
Barium	1.59	1.36	--	--
Beryllium	0.00023 B	0.00037 B	--	--
Boron	0.355	0.292	--	--
Cadmium	0.0003 B	<0.0003	<0.005	<0.005
Calcium	288	245	203	216 E
Chromium	0.004 B	0.0086 B	--	--
Chromium, Hexavalent	--	--	--	--
Cobalt	0.0091 B	0.0141 B	--	--
Copper	0.0069 B	0.0118 B	--	--
Iron	4.3	10.7	0.913	0.836
Lead	0.0044	0.0058	<0.005	0.009
Magnesium	61.7	49.9	46.1	45.3
Manganese	8.24	7.43	6.98	6.8
Mercury	--	--	--	--
Nickel	0.0129 B	0.0188 B	--	--
Potassium	3 B	2.9 B	2.42	2.25
Sodium	64.1	53.9	53.8	49.7
Selenium	--	--	--	--
Silver	--	--	--	--
Thallium	0.0037 B	<0.0026	--	--
Vanadium	0.0029 B	0.0075 B	--	--
Zinc	0.103	0.0484	--	--

All units in mg/l

Historical Water Quality Data Towslee Landfill

MW-3A Total Metals

Parameter	Aug-97	Oct-97	3/22/2006	5/31/2006
Aluminum	21.7	2.39	--	--
Antimony	<0.003	0.0034 B	--	--
Arsenic	0.0127	<0.0024	--	--
Barium	0.567	0.343	--	--
Beryllium	0.001 B	0.00013 B	--	--
Boron	<0.0709	0.0286 B	--	--
Cadmium	<0.0003	<0.0003	<0.005	<0.005
Calcium	57.8	53.7	46.3	55.3
Chromium	0.0249	0.0022 B	--	--
Chromium, Hexavalent	--	--	--	--
Cobalt	0.0121 B	0.0019 B	--	--
Copper	0.0315	0.0076 B	--	--
Iron	26.6	3.58	1.88	0.626
Lead	0.0077	<0.001	<0.005	0.005
Magnesium	17	11	9.13	10
Manganese	0.732	0.174	0.208	0.175
Mercury	--	--	--	--
Nickel	0.0248 B	0.0038 B	--	--
Potassium	7.43	1.87 B	0.938	0.829
Sodium	10.4	6.54	5.66	6.4
Selenium	--	--	--	--
Silver	--	--	--	--
Thallium	<0.0026	<0.0026	--	--
Vanadium	0.0296 B	0.0039 B	--	--
Zinc	0.112	0.0265	--	--

All units in mg/l

Historical Water Quality Data Towslee Landfill

MW-6B Total Metals

Parameter	Aug-97	Oct-97	3/22/2006	5/31/2006
Aluminum	8.59	0.642	--	--
Antimony	<0.003	<0.003	--	--
Arsenic	0.009 B	0.0084 B	--	--
Barium	0.521	0.48	--	--
Beryllium	0.0004 B	0.0001 B	--	--
Boron	0.145	0.145	--	--
Cadmium	<0.0003	<0.0003	<0.005	<0.005
Calcium	70.5	55.6	39.3	39.6
Chromium	0.0092 B	0.0017 B	--	--
Chromium, Hexavalent	--	--	--	--
Cobalt	0.0112 B	0.0056 B	--	--
Copper	0.0116 B	0.0051 B	--	--
Iron	10.6	3	1.09	0.511
Lead	0.0044	<0.001	<0.005	<0.005
Magnesium	19	12.7	8.94	10.9
Manganese	3.43	4.17	0.559	0.12
Mercury	--	--	--	--
Nickel	0.0144 B	0.0059 B	--	--
Potassium	4.08 B	2.72 B	1.15	0.825
Sodium	38	31.4	14.9	9.93
Selenium	--	--	--	--
Silver	--	--	--	--
Thallium	<0.0026	<0.0026	--	--
Vanadium	0.0083 B	0.0012 B	--	--
Zinc	0.0894	0.0248	--	--

All units in mg/l

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Historical Water Quality Data Towslee Landfill

MW-7A Total Metals

Parameter	Aug-97	Oct-97	3/22/2006	5/31/2006
Aluminum	40	88.4	--	--
Antimony	<0.003	<0.003	--	--
Arsenic	0.0176	0.0459	--	--
Barium	1.36	1.99	--	--
Beryllium	0.0015 B	0.0037 B	--	--
Boron	0.332	0.41	--	--
Cadmium	0.00047 B	0.002 B	<0.005	<0.005
Calcium	234	271	171	165
Chromium	0.0556	0.146	--	--
Chromium, Hexavalent	--	--	--	--
Cobalt	0.0311	0.0791	--	--
Copper	0.0637	0.129	--	--
Iron	65.9	174	14.5	1.33
Lead	0.0251	0.0585	0.0175	0.009
Magnesium	67	88.3	48.6	45.5
Manganese	5.87	9.55	6.08	5.69
Mercury	<0.0001	<0.0001	--	--
Nickel	0.0783	0.192	--	--
Potassium	10.4	13.5	3.06	1.91
Sodium	118	113	134	129
Selenium	0.0041 B	0.0047 B	--	--
Silver	<0.0009	<0.0009	--	--
Thallium	<0.0026	<0.0026	--	--
Vanadium	0.0487 B	0.127	--	--
Zinc	0.2	0.408	--	--

All units in mg/l

Historical Water Quality Database Towslee Landfill

MW-1A Dissolved Metals

Parameter	Aug-97	Oct-97	3/22/2006	5/31/2006
Aluminum	0.0163 B	0.0407 B	--	--
Antimony	--	--	--	--
Arsenic	<0.0024	<0.0024	--	--
Barium	0.137 B	0.068 B	--	--
Beryllium	<0.0001	<0.0001	--	--
Boron	0.0631 B	0.0561 B	--	--
Cadmium	<0.0003	<0.0003	<0.005	<0.005
Calcium	67.6	40.3	40.7	38.9
Chromium	<0.0004	<0.0004	--	--
Chrom, Hex	--	--	--	--
Cobalt	<0.0011	<0.0011	--	--
Copper	0.0008 B	<0.0007	--	--
Iron	0.0348 B	0.0471 B	13.5	0.315
Lead	0.0052	<0.001	<0.005	0.005
Magnesium	15.4	8.69	10.4	8.12
Manganese	0.22	0.174	0.238	0.127
Mercury	0.0014	<0.0001	--	--
Nickel	<0.0013	<0.0013	--	--
Potassium	10.6	4.92 B	2.52	1.38
Sodium	59.3	27.1	14.7	12.3
Selenium	--	--	--	--
Silver	--	--	--	--
Thallium	<0.0026	<0.0026	--	--
Vanadium	<0.0012	<0.0012	--	--
Zinc	0.12	0.0161 B	--	--

All units are mg/l

Historical Water Quality Database Towslee Landfill

MW-1B Dissolved Metals

Parameter	Aug-97	Oct-97	3/22/2006
Aluminum	0.0146 B	0.0209 B	--
Antimony	<0.003	<0.003	--
Arsenic	<0.0024	<0.0024	--
Barium	0.151 B	0.155 B	--
Beryllium	<0.0001	<0.0001	--
Boron	0.0195 B	0.0162 B	--
Cadmium	<0.0003	<0.0003	<0.005
Calcium	24.8	24.5	22.8
Chromium	0.0008 B	0.00073 B	--
Chrom, Hex	--	--	--
Cobalt	<0.0011	<0.0011	--
Copper	<0.0007	<0.0007	--
Iron	0.0172 B	0.0141 B	0.339
Lead	--	--	<0.005
Magnesium	6.62	5.88	5.15
Manganese	0.141	0.134	0.0136
Mercury	--	--	--
Nickel	<0.0013	<0.0013	--
Potassium	1.63 B	0.514 B	0.487
Sodium	7.53	6.59	4.75
Selenium	--	--	--
Silver	--	--	--
Thallium	--	--	--
Vanadium	--	--	--
Zinc	0.0396	0.0152 B	--

All units are mg/l

Historical Water Quality Database Towslee Landfill

MW-2A Dissolved Metals

Parameter	Aug-97	Oct-97
Aluminum	<0.0083	0.0482 B
Antimony	--	--
Arsenic	0.0123	0.0139
Barium	0.787	0.786
Beryllium	0.00017 B	0.0001 B
Boron	1.21	0.992
Cadmium	0.00053 B	<0.0003
Calcium	183	183
Chromium	0.0035 B	0.0057 B
Chrom, Hex	--	--
Cobalt	0.0107 B	0.0095 B
Copper	0.0162 B	<0.0007
Iron	5.4	11.5
Lead	<0.001	0.0011 B
Magnesium	41	38.5
Manganese	30.4	30.9
Mercury	<0.0001	<0.0001
Nickel	0.0179 B	0.0162 B
Potassium	17.5	14.2
Sodium	121	115
Selenium	--	--
Silver	--	--
Thallium	0.003 B	<0.0026
Vanadium	<0.0012	<0.0012
Zinc	0.117	0.0207

All units are mg/l

17

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	3/22/2006
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
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
Calcium	67.7	56.3
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
Lead	--	--
Magnesium	17.3	12.9
Manganese	3.3	3.99
Mercury	--	--
Nickel	0.0046 B	0.0048 B
Potassium	2.97 B	2.77 B
Sodium	38.2	33.3
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	3/22/2006
Aluminum	<0.0083	0.0755 B	--
Antimony	--	--	--
Arsenic	<0.0024	<0.0024	--
Barium	0.822	0.887	--
Beryllium	0.0001 B	<0.0001	--
Boron	0.331	0.396	--
Cadmium	0.0003 B	<0.0003	<0.005
Calcium	220	255	158
Chromium	0.0008 B	0.0011 B	--
Chrom, Hex	--	--	--
Cobalt	0.0017 B	0.0031 B	--
Copper	0.0086 B	<0.0007	--
Iron	0.009 B	0.753	0.0637
Lead	<0.001	<0.001	<0.005
Magnesium	56.2	59.9	43.6
Manganese	4.53	7.12	5.35
Mercury	<0.0001	<0.0001	--
Nickel	0.0129 B	0.0196 B	--
Potassium	5.28	3.98 B	1.9
Sodium	120	129	126
Selenium	--	--	--
Silver	--	--	--
Thallium	<0.0026	<0.0026	--
Vanadium	<0.0012	<0.0012	--
Zinc	0.0455	0.0186	--

All units are mg/l

N