STERLING
Sterling Environmental Engineering, P.C.

January 23, 2001

Mr. Keith Browne
New York State Department
of Environmental Conservation
Region 3
21 South Putt Corners Road
New Paltz, New York 12561-1696

Subject: Town of Ramapo Landfill
September 2000 Groundwater Monitoring Results
STERLING File #E20010

Dear Mr. Browne:

This letter reports groundwater, drinking water and air monitoring results for the Town of Ramapo Landfill Remediation Project. Samples were collected from post-closure monitoring well clusters 8 and 9 and drinking water wells PW-1, PW-2, SVWC-93 through SVWC-96 on September 7, 2000. A blind field duplicate sample was collected from monitoring well 8-OS, and labeled "Well 10-OS". Sampling locations are shown on the attached Figure 1, "Ramapo Landfill Sample Locations."

Groundwater Monitoring:

Field parameters were measured at the time of sampling, and are presented on the attached the Table 1, "Field Parameters and Water Levels." All samples were analyzed for approved post-closure "Routine" and "Site Related" parameters, listed on the attached Table 2R, by Severn Trent Laboratories located in Newburgh, New York, according to EPA methodologies and protocols.

Analytical results are summarized on the attached Table 2, "Post-Closure Groundwater Quality Monitoring Analytical Results." Table 2 also presents historical analytical data for the previous three sampling events. Historical analytical data for the four target compounds (Benzene, Chromium, Iron and Manganese) are presented on attached Tables 3A through 3D. Copies of the laboratory reports, prepared according to New York State Department of Environmental Conservation (NYSDEC) ASP Category A reporting requirements, are enclosed.

Analytical results of the blind field duplicate sample "Well 10-OS", sampled from monitoring well 8-OS, are generally consistent with results of the sample from monitoring well 8-OS. Where results differed, the higher of the two results are reported in this report and were entered on the attached Table 2, which has been noted appropriately.

As can be seen by examination of the attached Tables 2 and 3, the latest monitoring results are generally consistent with recent past results. A brief discussion of the latest monitoring results and applicable groundwater standards and guidance values (termed "ARARs" in past reports) for each well follows:

Well 8-OS:

Consistent with historic results, Iron and Manganese exceed applicable ARARs. Although Iron and Manganese were detected at higher levels than in the recent past, these compounds have been detected at much greater concentrations during prior monitoring events. Historically, Chromium has sporadically exceeded the ARAR, but has remained fairly stable for the last four monitoring events.

No VOCs were detected in the sample from well 8-OS (or the blind field duplicate sample collected from well 8-OS) during this monitoring event, or in the recent past.

Well 8-I:

Consistent with recent past results, Iron and Manganese exceed applicable ARARs but have been detected at much greater concentrations historically. Historically, Chromium has sporadically exceeded the ARAR during past monitoring events, but has been either not detected, or detected at a concentration lower than the ARAR, for the past three events.

Consistent with monitoring conducted in May 2000, Chlorobenzene was detected at a concentration of 2.3 µg/L, which is below the ARAR of 5 µg/L. No other VOC was detected at this monitoring location during this sampling event.

Well 8-R:

Consistent with recent past results, Iron and Manganese exceed applicable ARARs. Historically, Iron and Manganese have been detected at much higher concentrations.

No VOCs were detected at this monitoring location during this monitoring event.

Well 9-OS:

Consistent with recent past results, Iron exceeds the ARAR. The latest results for Chromium and Iron are consistent with historic results.

No VOCs were detected in the sample from well 9-OS during this monitoring event, or in the recent past.

Well 9-I:

Consistent with recent past results, Iron exceeds the ARAR. The current results for Chromium, Iron and Manganese are consistent with historic results, although Iron was present in the sample at a slightly higher concentration than in the past.

No VOCs were detected in the sample from well 9-I during this monitoring event, or in the recent past.

Well 9-R:

Consistent with recent past and historic results, Iron and Manganese exceed applicable ARARs. Historically, Iron and Manganese have been detected at higher concentrations. Cadmium was not detected during this monitoring event.

No VOCs were detected in the sample from well 9-R during this monitoring event, or in the recent past.

Well PW-1:

There were no exceedances of applicable ARARs during this or recent past monitoring events (with the exception of pH in July 2000). The latest monitoring results are comparable to recent past results.

No VOCs were detected in the sample from well PW-1 during this monitoring event, or in the recent past.

Well PW-2:

There were no exceedances of applicable ARARs during this or recent past monitoring events. The latest monitoring results are comparable to recent past results.

No VOCs were detected in the sample from well PW-2 during this monitoring event, or in the recent past.

Well SVWC-93:

There were no exceedances of applicable ARARs during this monitoring event. The latest analytical results for all parameters are consistent with recent past results, with the exception of Chloroform, as described below. The latest results for Chromium, Iron and Manganese are consistent with historic results.

No VOCs were detected in the sample from well SVWC-93 during this monitoring event.

Well SVWC-94:

There were no exceedances of applicable ARARs during this monitoring event. The latest analytical results for all parameters are consistent with recent past results. The latest results for Chromium, Iron and Manganese are consistent with historic results.

No VOCs were detected in the sample from well SVWC-94 during this monitoring event, or in the recent past.

Well SVWC-95:

There were no exceedances of applicable ARARs during this monitoring event. The latest analytical results for all parameters are consistent with recent past results. The latest results for Chromium, Iron and Manganese are consistent with historic results.

No VOCs were detected in the sample from well SVWC-95 during this monitoring event, or in the recent past.

Well SVWC-96:

There were no exceedances of applicable ARARs during this monitoring event. The latest analytical results for all parameters are consistent with recent past results. The latest results for Chromium, Iron and Manganese are consistent with historic results.

No VOCs were detected in the sample from well SVWC-96 during this monitoring event, or in the recent past.

With the exception of discussions related to Benzene, Chromium, Iron and Manganese, the above discussions are based on comparison of the latest monitoring results with recent past results reported in 1999. As such, the comparisons are based on a maximum of four monitoring events per sampling location, and any trends that may appear to evident may not be statistically significant. Future monitoring data will reveal any trends in changes of groundwater quality. Tables 3A through 3D include all reported monitoring results for Benzene, Chromium, Iron and Manganese since January of 1990, and so were used to compare the latest results for those four target compounds.

Air Monitoring:

Air monitoring consisted of explosive gas (LEL), Hydrogen Sulfide and PID measurements of the headspace of each monitoring well, the baler building, leachate manhole A-5, lift stations A-10 and W-20, and the landfill perimeter. LEL and Hydrogen Sulfide measurements were performed with an MSA Passport™ portable gas analyzer, and PID measurements were made with a P.E. Photovac Model 2020 photoionization device.

As can be seen by the attached Table 4, "Air Monitoring Results", no explosive gases, Hydrogen Sulfide, or VOC's were detected at any of the monitored locations, with the exception of manhole A-5. The atmosphere in manhole A-5 was measured to have 30 parts per million (ppm) VOCs, 0.0 ppm of Hydrogen Sulfide, and was over 100% of the lower explosive limit (LEL) for Methane.

The third groundwater monitoring event for the year 2000 was conducted in December 2000. Laboratory results are still pending, and the monitoring report for that event will be distributed when the results are received and compiled. The next sampling event is expected to occur in March 2001.

Please call me at 518-456-4900 if you have any questions or comments.

Very truly yours,

STERLING ENVIRONMENTAL ENGINEERING, P.C.

Peter J. Kelleher, P.E.
Environmental Engineer

First Class Mail
Attachments
Enclosure

cc: Mr. Gerald Rider, NYSDEC
Supervisor Herbert Reisman, Town of Ramapo
Mr. Ted Dzurinko, Town of Ramapo *
Mr. Alan Simon, Esq., Town of Ramapo *
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Ms. Judy Hunderfund, Rockland County DOH
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Mr. Richard Ofeldt, United Water New York *
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Mr. George Demas, Torne Brook Farm **
Mr. Frank Digianni, 20 Torne Brook Road **
Ms. Arlene Lapidos, Ramapo Land Co., Inc. *

* letter and attachments only.
** letter, attachments, partial enclosure.

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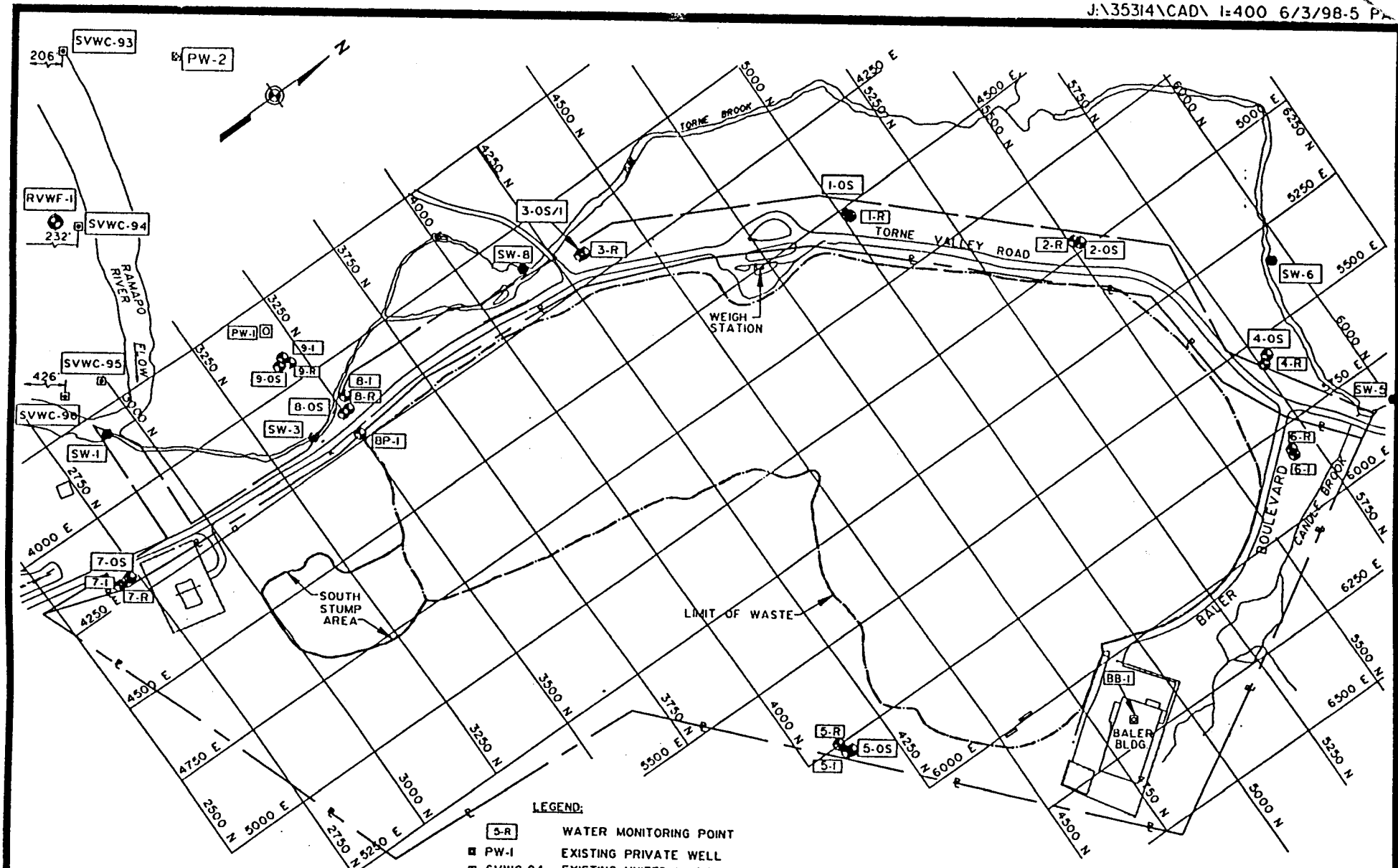

URS CONSULTANTS, INC.

RAMAPO LANDFILL SAMPLE LOCATIONS

FIGURE 1

TABLE X2R

RAMAPO LANDFILL 2000
GROUNDWATER MONITORING
ANALYTICAL SCHEDULES AND METHOD REFERENCES

SCHEDULE A - BASELINE PARAMETERS

Parameters	Document/Method No.	Reference	Notes
TKN	351.3	1	
COD	410.1	1	
Alkalinity	310.1	1	
Hardness as CaCO3	130.1	1	
Volatile Purgable Halocarbons	601 (GW only)	1	
Site Related Volatiles (benzene and chlorobenzene)	602	1	
TAL Metals	NYSDEC ASP	1	

SCHEDULE B - ROUTINE PARAMETERS

Parameter	Document/Method No.	Reference
COD	410.1	1
Alkalinity	310.1	1
TKN	351.3	1
Hardness as CaCO3	130.1	1
Iron	200.7	1
Manganese	200.7	1
Lead	239.2	1
Cadmium	200.7	1

References:

1. New York State Department of Environmental Conservation Analytical Services Protocol September 1989, 12/91 Revision

2 American Society for Testing & Materials, ASTM, 1989

2-4-00 rev.

TABLE 2R X (Continued)

RAMAPO LANDFILL 2000
GROUNDWATER MONITORING
ANALYTICAL SCHEDULES AND METHOD REFERENCES

SCHEDULE C - SITE RELATED PARAMETERS

Parameter	Document/Method No.	Reference
Benzene	602	1
Chlorobenzene	602	1
1,1-Dichloroethane	601	1
Vinyl Chloride	601	1
Antimony	204.2	1
Arsenic	206.2	1
Chromium	200.7	1
Copper	220.1	1
Mercury	245.1	1
Zinc	289.1	1

FIELD PARAMETERS

Parameter	Document/Method No.	Reference
Specific Conductance	120.1	1
Temperature	170.0	1
Static Water Level	-	-
Floaters or Sinkers*	-	-
pH	150.1	1
Eh	D1498	2
Field Observations**	-	-

* - Any floaters or sinkers found must be analyzed seperately for baseline parameters.
** - Any unusual conditions (colors, odors, surface sheens, etc.) noticed during well development, purging, or sampling must be reported.

References:

1. New York State Department of Environmental Conservation Analytical Services Protocol September 1989, 12/91 Revisions.

2. American Society for Testing & Materials, ASTM, 1989.

2-4-00 rev.

TABLE 1

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER QUALITY MONITORING
FIELD PARAMETERS AND WATER LEVELS
SEPTEMBER 2000

Well I.D.	Date	Static Water Level [1] (feet)	pH [2] (pH units)	Specific Conductance (µmhos)	Temperature (degrees C)	Eh (mV)
1-OS	---	---	---	---	---	---
1-I	---	---	---	---	---	---
1-R	---	---	---	---	---	---
2-OS	---	---	---	---	---	---
2-I	---	---	---	---	---	---
2-R	---	---	---	---	---	---
3-OS/I	---	---	---	---	---	---
3-R	---	---	---	---	---	---
4-OS	---	---	---	---	---	---
4-I	---	---	---	---	---	---
4-R	---	---	---	---	---	---
5-OS	---	---	---	---	---	---
5-I	---	---	---	---	---	---
5-R	---	---	---	---	---	---
6-I	---	---	---	---	---	---
6-R	---	---	---	---	---	---
7-OS	---	---	---	---	---	---
7-I	---	---	---	---	---	---
7-R	---	---	---	---	---	---
8-OS	9/7/00	13.55	6.73	77.9	14.1	12.1
8-I	9/7/00	14.66	7.26	347	13.5	-42.0
8-R	9/7/00	14.40	7.35	1354	13.2	-18.9
9-OS	9/7/00	8.86	6.48	86.9	19.2	12.5
9-I	9/7/00	13.29	7.05	80.8	16.9	-15.5
9-R	9/7/00	13.71	7.10	474	17.2	-22.3
PW-1	9/7/00	---	6.86	118.7	13.8	7.8
PW-2	9/7/00	---	7.60	278	18.1	-49.6
SVWC-93	9/7/00	---	6.40	313	17.5	18.5
SVWC-94	9/7/00	---	6.76	320	15.5	-1.6
SVWC-95	9/7/00	---	6.87	327	17.6	-10.0
SVWC-96	9/7/00	---	6.72	334	17.9	-1.3

NOTES: [1] Depth to water surface from top of PVC well riser.

[2] pH values in **BOLD** indicate an exceedance of the NYSDEC Water Quality Standard for pH: minimum 6.5 pH units, maximum 8.5 pH units (from T.O.G.S. 1.1.1, June 1998).

--- Indicates Not Measured

TABLE 2

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER QUALITY MONITORING
ANALYTICAL RESULTS

Parameter	ARARs [1]	UNITS	WELL 8-OS			
			Jun-99 [3]	Sep-99 [4]	May-00 [3]	Sep-00 [4] [5]
Leachate Indicator Parameters:						
Alkalinity	---	mg/L	32.5	11	13.6	258
Chemical Oxygen Demand	---	mg/L	ND	44	<10.0	123
Total Hardness	---	mg/L	64.3	38	20.1	800
Total Kjeldhal Nitrogen	---	mg/L	1.4	ND	<1.0	410
Inorganic Parameters:						
Aluminum	---	µg/L	45.4	NA	49.5 B	NA
Antimony	3	µg/L	ND	ND	<3.4	<11.0
Arsenic	25	µg/L	ND	ND	<2.6	14.1
Barium	1000	µg/L	8.9	NA	10.7 B,E	NA
Beryllium	3	µg/L	1.1	NA	<0.10	NA
Cadmium	5	µg/L	ND	ND	<0.40	<6.2
Calcium	---	µg/L	16000	NA	5600	NA
Chromium	50	µg/L	20.2	31	30.1 *	16.9 B
Cobalt	---	µg/L	ND	NA	6.4 B	NA
Copper	200	µg/L	12	7.2	2.1 B	18.1 B
Iron	300 [2]	µg/L	**473**	**747**	**1200**	**8900**
Lead	25	µg/L	ND	ND	<1.5	5.0
Magnesium	35000 GV	µg/L	3470	NA	1490 B	NA
Manganese	300 [2]	µg/L	**1400**	**860**	**525**	**3820**
Mercury	0.7	µg/L	ND	ND	<0.20	<0.20
Nickel	100	µg/L	1.1	NA	2.2 B	NA
Potassium	---	µg/L	1820	NA	1080 B	NA
Selenium	10	µg/L	ND	NA	<1.6	NA
Silver	50	µg/L	ND	NA	<1.6	NA
Sodium	20000	µg/L	4980	NA	3480 B	NA
Thallium	0.5 GV	µg/L	ND	NA	<2.3	NA
Vanadium	---	µg/L	ND	NA	<1.0	NA
Zinc	2000 GV	µg/L	21.9	14.6	5.8 B	15.7 B,*
VOCs by EPA Method 601:						
Chlorobenzene	5	µg/L	ND	ND	<1	NA
Chloroethane	5	µg/L	NA	NA	<1	NA
Chloroform	7	µg/L	ND	ND	<1	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	<1	NA
1,1-Dichloroethane	5	µg/L	ND	ND	<1	ND
1,4-Dichlorobenzene	3	µg/L	NA	NA	<1	NA
Vinyl Chloride	2	µg/L	NA	ND	<1	ND
VOCs by EPA Method 602:						
Benzene	1	µg/L	ND	ND	<1	ND
Chlorobenzene	5	µg/L	ND	ND	<1	ND
1,4-Dichlorobenzene	3	µg/L	NA	NA	<1	NA

NOTES:

[1] NYSDEC Water Quality Standards and Guidance Values, T.O.G.S. 1.1.1 (June 1998).

[2] The groundwater standard for the sum of Iron and Manganese concentrations is 500 µg/L.

[3] Sample analyzed for "Baseline Parameters".

[4] Sample analyzed for "Routine" and "Site-Related Parameters".

[5] A blind field duplicate sample was collected from sample location 8-OS, and labeled "10-OS". Analytical results of sample 10-OS are included in the laboratory report, and the highest values reported by the laboratory for samples 8-OS and 10-OS are reported for sample location 8-OS in this Table.

ND Denotes Not Detected

NA Denotes Not Analyzed

< Denotes that the compound was analyzed for but not detected at the detection limit listed.

* Indicates that the duplicate analysis was not within laboratory control limits.

J Indicates an estimated value for tentatively identified compounds.

B The reported value is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.

E Indicates an estimated value because of the possible presence of interference.

W Indicates an estimated value because of the possible presence of interference.

Values in **BOLD** indicate an exceedance of applicable water quality standards or guidance values.

No other VOCs other than those listed were detected.

TABLE 2 (Continued)

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER QUALITY MONITORING RESULTS
ANALYTICAL RESULTS

	ARARs [1]	UNITS	WELL 8-I				WELL 8-R			
			Jun-99 [3]	Sep-99 [4]	May-00 [3]	Sep-00 [4]	Jun-99 [3]	Sep-99 [4]	May-00 [3]	Sep-00 [4]
Leachate Indicator Parameters:										
Alkalinity	---	mg/L	111	114	90.8	512	346	124	488	605
Chemical Oxygen Demand	---	mg/L	ND	10	<10.0	113	ND	8	20	66.7
Total Hardness	---	mg/L	112	122	87.9	273	542	152	441	575
Total Kjeldhal Nitrogen	---	mg/L	8.4	8.4	3.8	43.8	14	5.57	19.5	6.6
TAL Metals:										
Aluminum	---	µg/L	147	NA	1270	NA	14.8	NA	62.2 B	NA
Antimony	3	µg/L	ND	ND	<3.4	<5.5	ND	ND	<3.4	<5.5
Arsenic	25	µg/L	11.7	ND	6.6 B	11.8	ND	6.2	<2.6	<1.8
Barium	1000	µg/L	37.2	NA	34.1 B,E	NA	37.3	NA	50.1 B,E	NA
Beryllium	3	µg/L	ND	NA	<0.10	NA	1.4	NA	<0.10	NA
Cadmium	5	µg/L	ND	ND	<0.40	<3.1	ND	ND	<0.40	<3.1
Calcium	---	µg/L	22600	NA	25100	NA	126000	NA	122000	NA
Chromium	50	µg/L	**56.8**	ND	10.0 *	17.3	2	ND	1.1 B,*	2.2 B
Cobalt	---	µg/L	1.2	NA	1.7 B	NA	8.4	NA	12.1 B	NA
Copper	200	µg/L	37.2	18.2	3.4 B	18.5 B	12.7	23.5	5.4 B	22.9 B
Iron	300 [1]	µg/L	**19100**	**4270**	**9870**	**22900**	**1140**	**5260**	**1180**	**2230**
Lead	25	µg/L	5.5	ND	<1.5	4.8	2.5	10.8	<1.5	4.4
Magnesium	35000 GV	µg/L	4870	NA	6100	NA	32900	NA	**32900**	NA
Manganese	300 [1]	µg/L	**1050**	**1570**	**789**	**2810**	**1900**	**2780**	**2640**	**2390**
Mercury	0.7	µg/L	ND	ND	<0.20	<0.20	ND	ND	<0.20	<0.20
Nickel	100	µg/L	34	NA	5.9 B	NA	15.7	NA	16.2 B	NA
Potassium	---	µg/L	5750	NA	6220	NA	16400	NA	23500	NA
Selenium	10	µg/L	ND	NA	<1.6 W	NA	ND	NA	<1.6 W	NA
Silver	50	µg/L	ND	NA	<1.6	NA	ND	NA	<1.6	NA
Sodium	20000	µg/L	16100	NA	15000	NA	**43400**	NA	**71100**	NA
Thallium	0.5 GV	µg/L	ND	NA	<2.3	NA	ND	NA	<2.3	NA
Vanadium	---	µg/L	1.7	NA	2.2 B	NA	ND	NA	<1.0	NA
Zinc	2000 GV	µg/L	27.6	20.4	18.2 B	25.0 *	20.3	22	6.4 B	<6.1 *
VOCs by EPA Method 601:										
Chlorobenzene	5	µg/L	ND	ND	2.8	NA	ND	ND	<1	NA
Chloroethane	5	µg/L	ND	NA	<1	NA	NA	NA	0.5 J	NA
Chloroform	7	µg/L	ND	ND	<1	NA	ND	ND	<1	NA
Dichlorodifluoromethane	5	µg/L	ND	NA	<1	NA	NA	NA	0.7 J	NA
1,1-Dichloroethane	5	µg/L	ND	ND	<1	ND	ND	ND	<1	ND
1,4-Dichlorobenzene	3	µg/L	ND	NA	0.5 J	NA	NA	NA	<1	NA
Vinyl Chloride	2	µg/L	NA	ND	<1	ND	NA	ND	<1	ND
VOCs by EPA Method 602:										
Benzene	1	µg/L	ND	ND	0.5 J	ND	ND	ND	<1	ND
Chlorobenzene	5	µg/L	ND	ND	2.4	2.3	ND	ND	<1	ND
1,4-Dichlorobenzene	3	µg/L	ND	NA	0.6 J	NA	NA	NA	<1	NA

NOTES:

[1] NYSDEC Water Quality Standards and Guidance Values, T.O.G.S. 1.1.1 (June 1998).
[2] The groundwater standard for the sum of Iron and Manganese concentrations is 500 µg/L.
[3] Sample analyzed for "Baseline Parameters".
[4] Sample analyzed for "Routine" and "Site-Related Parameters".

ND Denotes Not Detected
NA Denotes Not Analyzed
< Denotes that the compound was analyzed for but not detected at the detection limit listed.
* Indicates that the duplicate analysis was not within laboratory control limits.
J Indicates an estimated value for tentatively identified compounds.
B The reported value is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit.
E Indicates an estimated value because of the presence of interference.
W Indicates an estimated value because of the possible presence of interference.

Values in **BOLD** indicate an exceedance of applicable water quality standards or guidance values.
No other VOCs other than those listed were detected.

TABLE 2 (Continued)

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER QUALITY MONITORING RESULTS
ANALYTICAL RESULTS

	ARARs [1]	UNITS	WELL 9-OS				WELL 9-I			
			Jun-99 [3]	Sep-99 [4]	Jul-00 [3]	Sep-00 [4]	Jun-99 [3]	Sep-99 [4]	Jul-00 [3]	Sep-00 [4]
Leachate Indicator Parameters:										
Alkalinity	---	mg/L	4	4	16.4	110	6.2	9	13.6	19.2
Chemical Oxygen Demand	---	mg/L	ND	ND	<10.0	<10.0	ND	7	10.0	<10.0
Total Hardness	---	mg/L	50.3	83.6	20	24.0	45.2	83.6	22.6	23.9
Total Kjeldhal Nitrogen	---	mg/L	1.4	1.4	<1.0	<1.0	1.54	11.8	<1.0	<1.0
TAL Metals:										
Aluminum	---	µg/L	183	NA	1300	NA	306	NA	1440	NA
Antimony	3	µg/L	ND	ND	<3.4	<5.5	ND	ND	<3.4	<5.5
Arsenic	25	µg/L	ND	ND	<2.6	<1.8	ND	ND	<2.6	<1.8
Barium	1000	µg/L	15.3	NA	14.7 B	NA	13.4	NA	20.1 B	NA
Beryllium	3	µg/L	1.3	NA	<0.10	NA	1.4	NA	<0.10	NA
Cadmium	5	µg/L	ND	ND	<0.40	<3.1	1.3	3.8	<0.40	<3.1
Calcium	---	µg/L	13000	NA	5110	NA	12700	NA	5700	NA
Chromium	50	µg/L	1.1	ND	34.5	7.4 B	6.8	ND	10.8	5.0 B
Cobalt	---	µg/L	ND	NA	<1.2	NA	ND	NA	4.4 B	NA
Copper	200	µg/L	9.5	ND	<2.0	<2.1	10	8.7	3.1 B	3.4 B
Iron	300 [1]	µg/L	**515**	198	**1880**	**2230**	**949**	ND	**2820**	**3920**
Lead	25	µg/L	ND	ND	<1.5	2.6 B	ND	ND	1.8 B	1.9 B
Magnesium	35000 GV	µg/L	3110	NA	1760 B	NA	3040	NA	2050 B	NA
Manganese	300 [1]	µg/L	15.1	11.7	40.1	54.6	18	5.4	109	66.7
Mercury	0.7	µg/L	ND	ND	<0.20	<0.20	ND	ND	<0.20	<0.20
Nickel	100	µg/L	ND	NA	2.4 B	NA	2.2	NA	4.6 B	NA
Potassium	---	µg/L	1260	NA	1190 B	NA	1020	NA	1150 B	NA
Selenium	10	µg/L	ND	NA	<3.6 W	NA	ND	NA	<3.6 W	NA
Silver	50	µg/L	ND	NA	<1.6	NA	ND	NA	<1.6	NA
Sodium	20000	µg/L	5500	NA	5080	NA	5610	NA	4400 B	NA
Thallium	0.5 GV	µg/L	ND	NA	<2.3	NA	ND	NA	<2.3	NA
Vanadium	---	µg/L	ND	NA	2.2 B	NA	ND	NA	3.1 B	NA
Zinc	2000 GV	µg/L	23.8	16.2	9.8 B	12.5 B,*	18.1	16.1	12.7 B	22.9 *
VOCs by EPA Method 601:										
Chlorobenzene	5	µg/L	ND	ND	<1	NA	ND	ND	<1	NA
Chloroethane	5	µg/L	NA	NA	<1	NA	NA	NA	<1	NA
Chloroform	7	µg/L	ND	ND	<1	NA	ND	ND	<1	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	<1	NA	NA	NA	<1	NA
1,1-Dichloroethane	5	µg/L	ND	ND	<1	ND	ND	ND	<1	ND
1,4-Dichlorobenzene	3	µg/L	NA	NA	<1	NA	NA	NA	<1	NA
Vinyl Chloride	2	µg/L	NA	ND	<1	ND	NA	ND	<1	ND
VOCs by EPA Method 602:										
Benzene	1	µg/L	ND	ND	<1	ND	ND	ND	<1	ND
Chlorobenzene	5	µg/L	ND	ND	<1	ND	ND	ND	<1	ND
1,4-Dichlorobenzene	3	µg/L	NA	NA	<1	NA	NA	NA	<1	NA

NOTES:

[1] NYSDEC Water Quality Standards and Guidance Values, T.O.G.S. 1.1.1 (June 1998).
[2] The groundwater standard for the sum of Iron and Manganese concentrations is 500 µg/L.
[3] Sample analyzed for "Baseline Parameters".
[4] Sample analyzed for "Routine" and "Site-Related Parameters".

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Values in **BOLD** indicate an exceedance of applicable water quality standards or guidance values.
No other VOCs other than those listed were detected.

TABLE 2 (Continued)

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER QUALITY MONITORING RESULTS
ANALYTICAL RESULTS

	ARARs [1]	UNITS	WELL 9-R			
			Jun-99 [3]	Sep-99 [4]	Jul-00 [3]	Sep-00 [4]
Leachate Indicator Parameters:						
Alkalinity	---	mg/L	83.5	109	123	176
Chemical Oxygen Demand	---	mg/L	ND	7	<10.0	30.8
Total Hardness	---	mg/L	68.7	57	71.1	119
Total Kjeldhal Nitrogen	---	mg/L	8.4	1.82	6.5	12.1
TAL Metals:						
Aluminum	---	µg/L	46.5	NA	212	NA
Antimony	3	µg/L	ND	ND	<3.4	<5.5
Arsenic	25	µg/L	ND	ND	<2.6	7.7 B
Barium	1000	µg/L	12.7	NA	11.9 B	NA
Beryllium	3	µg/L	1.3	NA	<0.10	NA
Cadmium	5	µg/L	3	**24.2**	**9.4**	<3.1
Calcium	---	µg/L	13000	NA	18300	NA
Chromium	50	µg/L	15	47.3	3.0 B	1.6 B
Cobalt	---	µg/L	ND	NA	1.4 B	NA
Copper	200	µg/L	12.8	19.1	3.9 B	5.0 B
Iron	300 [1]	µg/L	**4360**	**3110**	**1340**	**9110**
Lead	25	µg/L	ND	ND	2.3 B	<1.7
Magnesium	35000 GV	µg/L	3720	NA	6160	NA
Manganese	300 [1]	µg/L	**1620**	**1320**	**1500**	**3020**
Mercury	0.7	µg/L	ND	ND	<0.20	<0.20
Nickel	100	µg/L	6.6	NA	3.7 B	NA
Potassium	---	µg/L	6180	NA	9450	NA
Selenium	10	µg/L	ND	NA	3.8 B,W	NA
Silver	50	µg/L	ND	NA	<1.6	NA
Sodium	20000	µg/L	13100	NA	14300	NA
Thallium	0.5 GV	µg/L	ND	NA	<2.3	NA
Vanadium	---	µg/L	ND	NA	<1.0	NA
Zinc	2000 GV	µg/L	28.6	41.8	13.9 B	16.5 B,*
VOCs by EPA Method 601:						
Chlorobenzene	5	µg/L	ND	ND	<1	NA
Chloroethane	5	µg/L	NA	NA	<1	NA
Chloroform	7	µg/L	ND	ND	<1	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	<1	NA
1,1-Dichloroethane	5	µg/L	ND	ND	<1	ND
1,4-Dichlorobenzene	3	µg/L	NA	NA	<1	NA
Vinyl Chloride	2	µg/L	NA	ND	<1	ND
VOCs by EPA Method 602:						
Benzene	1	µg/L	ND	ND	<1	ND
Chlorobenzene	5	µg/L	ND	ND	<1	0.6 J
1,4-Dichlorobenzene	3	µg/L	NA	NA	<1	NA

NOTES:

[1] NYSDEC Water Quality Standards and Guidance Values, T.O.G.S. 1.1.1 (June 1998).
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TABLE 2 (Continued)

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER QUALITY MONITORING RESULTS
ANALYTICAL RESULTS

	ARARs [1]	UNITS	WELL PW-1				WELL PW-2			
			Jun-99 [3]	Sep-99 [4]	Jul-00 [3]	Sep-00 [4]	Jun-99 [3]	Sep-99 [4]	Jul-00 [3]	Sep-00 [4]
Leachate Indicator Parameters:										
Alkalinity	---	mg/L	9	9	21.8	24.8	77.5	80	76.4	90.8
Chemical Oxygen Demand	---	mg/L	ND	ND	15.0	<10.0	ND	ND	10.0	<10.0
Total Hardness	---	mg/L	28.7	38	33.1	34.4	170	152	100	108
Total Kjeldhal Nitrogen	---	mg/L	ND	1.4	<1.0	<1.0	ND	2.1	<1.0	<1.0
TAL Metals:										
Aluminum	---	µg/L	29.8	NA	<9.8	NA	26.3	NA	<9.8	NA
Antimony	3	µg/L	ND	ND	<3.4	<5.5	ND	ND	<3.4	<5.5
Arsenic	25	µg/L	9.7	ND	<2.6	<1.8	7.1	ND	<2.6	<1.8
Barium	1000	µg/L	6.5	NA	5.4 B	NA	4.1	NA	1.9 B	NA
Beryllium	3	µg/L	ND	NA	<0.10	NA	ND	NA	<0.10	NA
Cadmium	5	µg/L	ND	ND	<0.40	<3.1	ND	ND	<0.40	<3.1
Calcium	---	µg/L	9190	NA	8700	NA	46600	NA	33200	NA
Chromium	50	µg/L	ND	ND	0.75 B	<0.90	ND	ND	<0.50	<0.90
Cobalt	---	µg/L	ND	NA	<1.2	NA	ND	NA	<1.2	NA
Copper	200	µg/L	97.2	39.7	99.1	173	29.1	7.5	18.6 B	39.6
Iron	300 [1]	µg/L	163	ND	18.0 B	<2.8	114	ND	59.4 B	36.8 B
Lead	25	µg/L	2.5	ND	6.8	8.9	ND	ND	2.3 B	5.1
Magnesium	35000 GV	µg/L	2290	ND	2780 B	NA	5310	6.5	4260 B	NA
Manganese	300 [1]	µg/L	1.9	ND	0.81 B	0.74 B	6.6	ND	1.8 B	2.5 B
Mercury	0.7	µg/L	ND	ND	<0.20	<0.20	ND	ND	<0.20	<0.20
Nickel	100	µg/L	1.1	NA	<1.1	NA	1.2	NA	<1.1	NA
Potassium	---	µg/L	544	NA	754 B	NA	1110	NA	1070 B	NA
Selenium	10	µg/L	ND	NA	<3.6 W	NA	ND	NA	<3.6	NA
Silver	50	µg/L	ND	NA	<1.6	NA	ND	NA	<1.6	NA
Sodium	20000	µg/L	4300	NA	5430	NA	13200	NA	9110	NA
Thallium	0.5 GV	µg/L	ND	NA	<2.3	NA	ND	NA	<2.3	NA
Vanadium	---	µg/L	ND	NA	<1.0	NA	ND	NA	<1.0	NA
Zinc	2000 GV	µg/L	57.4	32.6	20.2	16.3 B,*	55.3	53.6	70.0	52.8 *
VOCs by EPA Method 601:										
Chlorobenzene	5	µg/L	ND	ND	<1	NA	ND	ND	<1	NA
Chloroethane	5	µg/L	NA	NA	<1	NA	NA	NA	<1	NA
Chloroform	7	µg/L	ND	ND	<1	NA	ND	ND	<1	NA
Dichlorodifluoromethane	5	µg/L	NA	NA	<1	NA	NA	NA	<1	NA
1,1-Dichloroethane	5	µg/L	ND	ND	<1	ND	ND	ND	<1	ND
1,4-Dichlorobenzene	3	µg/L	NA	NA	<1	NA	NA	NA	<1	NA
Vinyl Chloride	2	µg/L	NA	ND	<1	ND	NA	ND	<1	ND
VOCs by EPA Method 602:										
Benzene	1	µg/L	ND	ND	<1	ND	ND	ND	<1	ND
Chlorobenzene	5	µg/L	ND	ND	<1	ND	ND	ND	<1	ND
1,4-Dichlorobenzene	3	µg/L	NA	NA	<1	NA	NA	NA	<1	NA

NOTES:

[1] NYSDEC Water Quality Standards and Guidance Values, T.O.G.S. 1.1.1 (June 1998).
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TABLE 2 (Continued)

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER QUALITY MONITORING RESULTS
ANALYTICAL RESULTS

	ARARs [1]	UNITS	SVWC-93				SVWC-94			
			Jun-99 [3]	Sep-99 [4]	Jul-00 [3]	Sep-00 [4]	Jun-99 [3]	Sep-99 [4]	Jul-00 [3]	Sep-00 [4]
Leachate Indicator Parameters:										
Alkalinity	---	mg/L	37.5	NA	43.7	44.0	46.5	NA	46.4	63.2
Chemical Oxygen Demand	---	mg/L	ND	NA	<10.0	25.6	ND	NA	<10.0	25.6
Total Hardness	---	mg/L	5.9	NA	48.1	57.8	96.3	NA	54.5	62.9
Total Kjeldhal Nitrogen	---	mg/L	1.68	NA	<1.0	1.4	1.4	NA	<1.0	<1.0
TAL Metals:										
Aluminum	---	µg/L	35.5	NA	<9.8	NA	29.1	NA	<9.8	NA
Antimony	3	µg/L	ND	NA	<3.4	<5.5	ND	NA	<3.4	<5.5
Arsenic	25	µg/L	ND	NA	<2.6	<1.8	ND	NA	<2.6	<1.8
Barium	1000	µg/L	8.2	NA	6.0 B	NA	10.7	NA	7.9 B	NA
Beryllium	3	µg/L	ND	NA	0.39 B	NA	ND	NA	<0.10	NA
Cadmium	5	µg/L	ND	NA	0.61 B	<3.1	ND	NA	<0.40	<3.1
Calcium	---	µg/L	18100	NA	13000	NA	20400	NA	14600	NA
Chromium	50	µg/L	ND	NA	<0.50	<0.90	ND	NA	0.53 B	<0.90
Cobalt	---	µg/L	ND	NA	<1.2	NA	ND	NA	<1.2	NA
Copper	200	µg/L	25.8	NA	3.1 B	3.2 B	32.3	NA	5.6 B	4.9 B
Iron	300 [1]	µg/L	169	NA	8.8 B	4.2 B	83.1	NA	3.9 B	<2.8
Lead	25	µg/L	2.7	NA	2.3 B	2.8 B	ND	NA	<1.5	2.5 B
Magnesium	35000 GV	µg/L	4190	NA	3780 B	NA	4940	NA	4400 B	NA
Manganese	300 [1]	µg/L	2.5	NA	0.49 B	2.1 B	4.3	NA	3.6 B	7.1 B
Mercury	0.7	µg/L	ND	NA	<0.20	<0.20	ND	NA	<0.20	<0.20
Nickel	100	µg/L	2.7	NA	2.6 B	NA	4.1	NA	<1.1	NA
Potassium	---	µg/L	1240	NA	1160 B	NA	1110	NA	1040 B	NA
Selenium	10	µg/L	ND	NA	<3.6 W	NA	ND	NA	<3.6 W	NA
Silver	50	µg/L	ND	NA	<1.6	NA	ND	NA	<1.6	NA
Sodium	20000	µg/L	**31600**	NA	**31400**	NA	**33400**	NA	**32500**	NA
Thallium	0.5 GV	µg/L	ND	NA	<2.3	NA	ND	NA	<2.3	NA
Vanadium	---	µg/L	ND	NA	<1.0	NA	ND	NA	<1.0	NA
Zinc	2000 GV	µg/L	21.4	NA	16.0 B	70.0 *	19.4	NA	7.3 B	16.4 B,*
VOCs by EPA Method 601:										
Chlorobenzene	5	µg/L	ND	NA	<1	NA	ND	NA	<1	NA
Chloroethane	5	µg/L	ND	NA	<1	NA	ND	NA	<1	NA
Chloroform	7	µg/L	ND	ND	1.1	NA	ND	NA	<1	NA
Dichlorodifluoromethane	5	µg/L	ND	NA	<1	NA	ND	NA	<1	NA
1,1-Dichloroethane	5	µg/L	ND	NA	<1	ND	ND	NA	<1	ND
1,4-Dichlorobenzene	3	µg/L	ND	NA	<1	NA	ND	NA	<1	NA
Vinyl Chloride	2	µg/L	NA	ND	<1	ND	NA	ND	<1	ND
VOCs by EPA Method 602:										
Benzene	1	µg/L	ND	NA	<1	ND	ND	NA	<1	ND
Chlorobenzene	5	µg/L	ND	NA	<1	ND	ND	NA	<1	ND
1,4-Dichlorobenzene	3	µg/L	ND	NA	<1	NA	ND	NA	<1	NA

NOTES:

[1] NYSDEC Water Quality Standards and Guidance Values, T.O.G.S. 1.1.1 (June 1998).
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No other VOCs other than those listed were detected.

TABLE 2 (Continued)

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER QUALITY MONITORING RESULTS
ANALYTICAL RESULTS

	ARARs [1]	UNITS	SVWC-95				SVWC-96			
			Jun-99 [3]	Sep-99 [4]	Jul-00 [3]	Sep-00 [4]	Jun-99 [3]	Sep-99 [4]	Jul-00 [3]	Sep-00 [4]
Leachate Indicator Parameters:										
Alkalinity	---	mg/L	53	NA	60.1	71.5	42.5	NA	19.1	60.5
Chemical Oxygen Demand	---	mg/L	ND	NA	<10.0	30.8	ND	NA	20	25.6
Total Hardness	---	mg/L	82.1	NA	61.7	72.1	99.3	NA	64.3	68.1
Total Kjeldhal Nitrogen	---	mg/L	1.4	NA	<1.0	<1.0	2.1	NA	<1.0	<1.0
TAL Metals:										
Aluminum	---	µg/L	24.4	NA	<9.8	NA	25.5	NA	<9.8	NA
Antimony	3	µg/L	ND	NA	<3.4	<5.5	ND	NA	<3.4	<5.5
Arsenic	25	µg/L	ND	NA	<2.6	<1.8	ND	NA	<2.6	<1.8
Barium	1000	µg/L	12	NA	8.6 B	NA	8.4	NA	7.4 B	NA
Beryllium	3	µg/L	ND	NA	<0.10	NA	ND	NA	<0.10	NA
Cadmium	5	µg/L	ND	NA	<0.40	<3.1	ND	NA	<0.40	<3.1
Calcium	---	µg/L	20400	NA	16500	NA	20300	NA	17000	NA
Chromium	50	µg/L	ND	NA	<0.50	<0.90	ND	NA	<0.50	<0.90
Cobalt	---	µg/L	ND	NA	<1.2	NA	ND	NA	<1.2	NA
Copper	200	µg/L	25.8	NA	3.5 B	<2.1	29.1	NA	4.0 B	5.1 B
Iron	300 [1]	µg/L	90.1	NA	23.2 B	<2.8	67.8	NA	4.6 B	<2.8
Lead	25	µg/L	ND	NA	<1.5	<1.7	ND	NA	<1.5	2.0 B
Magnesium	35000 GV	µg/L	5010	NA	4990 B	NA	5350	NA	5330	NA
Manganese	300 [1]	µg/L	40.6	NA	40.4	49.7	1.6	NA	<0.20	<0.70
Mercury	0.7	µg/L	ND	NA	<0.20	<0.20	ND	NA	<0.20	<0.20
Nickel	100	µg/L	3.3	NA	<1.1	NA	3.8	NA	1.3 B	NA
Potassium	---	µg/L	1610	NA	1350 B	NA	1270	NA	1280 B	NA
Selenium	10	µg/L	ND	NA	<3.6	NA	ND	NA	<3.6	NA
Silver	50	µg/L	ND	NA	<1.6	NA	ND	NA	<1.6	NA
Sodium	20000	µg/L	**32900**	NA	**28800**	NA	**30400**	NA	**35900**	NA
Thallium	0.5 GV	µg/L	ND	NA	<2.3	NA	**7.2**	NA	<2.3	NA
Vanadium	---	µg/L	ND	NA	<1.0	NA	ND	NA	<1.0	NA
Zinc	2000 GV	µg/L	15.1	NA	10.3 B	11.5 B,*	20	NA	10.2 B	11.4 B,*
VOCs by EPA Method 601:										
Chlorobenzene	5	µg/L	ND	NA	<1	NA	ND	NA	<1	NA
Chloroethane	5	µg/L	ND	NA	<1	NA	ND	NA	<1	NA
Chloroform	7	µg/L	ND	NA	<1	NA	ND	NA	<1	NA
Dichlorodifluoromethane	5	µg/L	ND	NA	<1	NA	ND	NA	<1	NA
1,1-Dichloroethane	5	µg/L	ND	NA	<1	ND	ND	NA	<1	ND
1,4-Dichlorobenzene	3	µg/L	ND	NA	<1	NA	ND	NA	<1	NA
Vinyl Chloride	2	µg/L	NA	ND	<1	ND	NA	ND	<1	ND
VOCs by EPA Method 602:										
Benzene	1	µg/L	ND	NA	<1	ND	ND	NA	<1	ND
Chlorobenzene	5	µg/L	ND	NA	<1	ND	ND	NA	<1	ND
1,4-Dichlorobenzene	3	µg/L	ND	NA	<1	NA	ND	NA	<1	NA

NOTES:

[1] NYSDEC Water Quality Standards and Guidance Values, T.O.G.S. 1.1.1 (June 1998).

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TABLE 3A

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER MONITORING DATA
COMPOUND: Benzene

Sample ID	Sample Date														
	Jan-90	Sep-90	Jan-93	Apr-93	Sep-93	Dec-93	Mar-94	Jun-94	Sep-94	Dec-94	Mar-95	Jun-95	Sep-95	Dec-95	Mar-96
1-OS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
1-R	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-OS	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
2-R	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
3-OS/I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
3-R	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
4-OS	ND	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
4-R	1.0	1.0	ND	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
5-OS	**2.0**	ND	ND	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	ND
5-I	NA	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	NA	NA	ND	NA
5-R	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
7-OS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	ND
7-R	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
8-OS	**2.0**	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8-I	**2.0**	**2.9**	NA	ND	ND	ND	ND	ND	ND	**2.0**	ND	ND	ND	**1.2**	1.0
8-R	**3.0**	0.4	ND	0.9	ND	ND	ND	ND	ND	ND	**2.0**	0.9	ND	0.65	ND
9-OS	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	ND
9-I	NA	0.2	NA	NA	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
9-R	NA	0.9	ND	ND	ND	NA	ND	ND	ND	1.0	ND	ND	ND	ND	ND
PW-1	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
PW-2	NA	NA	ND	ND	ND	NA	NA	NA	ND	ND	NA	0.5	ND	ND	ND
SVWC-93	NA	NA	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
SVWC-94	NA	NA	ND	ND	NA	NA	ND	ND	ND	1.0	ND	ND	ND	ND	ND
SVWC-95	NA	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
SVWC-96	NA	NA	ND	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES: Concentrations reported in µg/L (ppb).

ND = Not Detected

NA = Not Analyzed

Values in **BOLD** indicate an exceedance of groundwater quality standard for Benzene, 1.0 µg/L.

TABLE 3A (Continued)

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER MONITORING DATA
COMPOUND: Benzene

Sample ID	Sample Date														
	Jun-96	Sep-96	Dec-96	Mar-97	Jun-97	Sep-97	Dec-97	Mar-98	Jun-98	Sep-98	Mar-99	Jun-99	Sep-99	May-00	Sep-00
1-OS	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND	NA
1-R	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND	NA
2-OS	NA	NA	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND	NA
2-R	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND	NA
3-OS/I	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND	NA
3-R	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND	NA
4-OS	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND	NA
4-R	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND	NA
5-OS	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	ND	ND	NA
5-I	NA	ND	NA	NA	NA	ND	NA	ND	NA	ND	NA	NA	ND	NA	NA
5-R	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND	NA
7-OS	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND	NA
7-R	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND	NA
8-OS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
8-I	**2.0**	**2.0**	**3.0**	ND	ND	**2.0**	ND	ND	ND	ND	NA	ND	ND	0.5 J	ND
8-R	ND	ND	ND	ND	ND	ND	**2.0**	ND	ND	ND	ND	ND	ND	ND	ND
9-OS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9-I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
9-R	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PW-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PW-2	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND
SVWC-93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
SVWC-94	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	NA	ND	ND
SVWC-95	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	NA	ND	ND
SVWC-96	ND	ND	NA	NA	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	ND

NOTES: Concentrations reported in µg/L (ppb).

ND = Not Detected

NA = Not Analyzed

Values in **BOLD** indicate an exceedance of groundwater quality standard for Benzene, 1.0 µg/L.

TABLE 3B

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER MONITORING DATA
COMPOUND: Chromium

Sample ID	Sample Date														
	Jan-90	Sep-90	Jan-93	Apr-93	Sep-93	Dec-93	Mar-94	Jun-94	Sep-94	Dec-94	Mar-95	Jun-95	Sep-95	Dec-95	Mar-96
1-OS	**153**	**57.3**	8	ND	**60**	**257**	**65.5**	7.2	**284**	**134**	**727**	17	**102**	**70.5**	**127**
1-R	39.7	17.5	ND	ND	**84.9**	46.8	10.3	ND	39.3	**58.3**	**146**	49.5	**136**	42.8	**133**
2-OS	**180**	**141**	NA	ND	**50.2**	**95.9**	11.8	**89.3**	45.9	25.1	39.7	34.1	**137**	**50.3**	**83.6**
2-R	16.1	5.5	NA	ND	14.8	6.1	ND	5.1	8.3	4.9	4.4	ND	5	5.7	ND
3-OS/I	**587**	**1290**	**807**	40.4	**1350**	**1100**	**784**	**304**	**561**	**1020**	**144**	**406**	**589**	**253**	**372**
3-R	28	11.4	ND	ND	ND	14.7	10.5	17.8	4.8	4.9	3.6	2	10.3	7	ND
4-OS	**139**	40.1	5.8	ND	10.8	11.2	15.1	25.4	23.1	**53.1**	21.1	ND	38.8	12.2	11
4-R	35.5	13.1	ND	8.8	ND	5.9	4.4	ND	13.3	2	2.5	ND	9	5.8	ND
5-OS	**90**	35.6	48.8	ND	NA	NA	NA	NA	NA	NA	NA	39	NA	NA	**216**
5-I	NA	NA	NA	NA	NA	**80**	30.2	7.2	40	**63.1**	**109**	NA	17.4	22.4	NA
5-R	27.4	29.3	6.8	ND	ND	8.6	13.8	6.3	**52.3**	**105**	19.9	7.9	22.9	27.9	10.1
7-OS	33.5	40.1	24.2	13	**1890**	**218**	31	**210**	**571**	**258**	**324**	NA	NA	37	**125**
7-R	16.2	16.8	ND	ND	ND	ND	ND	5.3	8.6	3.4	2.8	12.4	13.4	9.2	ND
8-OS	34.8	16.7	ND	ND	ND	7.6	**86.6**	28.7	13.2	4.2	**129**	40.4	13.9	7.2	**62.2**
8-I	**215**	32.5	NA	ND	ND	ND	29	17	12.8	8.4	8	3.4	24.1	29.2	12.3
8-R	20	23.1	9.9	ND	17.7	18.2	7.5	17	10.4	6.8	6.3	10.1	13.4	8.5	6.7
9-OS	NA	6.8	ND	ND	ND	ND	22.9	27.1	14.8	2.9	6.6	7.6	NA	NA	9.8
9-I	NA	8.1	NA	NA	NA	NA	28	ND	2.4	5.8	3.9	8	34.6	25.3	8.1
9-R	NA	8.8	3.9	16.4	16.7	11.6	35.4	48.2	29.9	10.5	16.9	26.5	**66.7**	45.4	43.8
PW-1	NA	ND	ND	ND	ND	ND	ND	ND	0.6	ND	0.8	ND	ND	ND	ND
PW-2	NA	ND	ND	ND	ND	4.9	NA	ND	ND	ND	NA	ND	ND	ND	ND
SVWC-93	NA	NA	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND
SVWC-94	NA	NA	ND	ND	NA	NA	ND	ND	ND	0.97	ND	ND	NA	ND	ND
SVWC-95	NA	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	NA	ND	ND
SVWC-96	NA	NA	ND	ND	NA	ND	ND	ND	ND	0.87	ND	1.7	NA	ND	ND

NOTES: Concentrations reported in µg/L (ppb).
ND = Not Detected
NA = Not Analyzed
Values in **BOLD** indicate an exceedance of groundwater quality standard for Chromium, 50 µg/L.

TABLE 3B (Continued)

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER MONITORING DATA
COMPOUND: Chromium

Sample ID	Sample Date														
	Jun-96	Sep-96	Dec-96	Mar-97	Jun-97	Sep-97	Dec-97	Mar-98	Jun-98	Sep-98	Mar-99	Jun-99	Sep-99	May-00	Sep-00
1-OS	NA	**102**	NA	**88**	NA	**220**	NA	**1180**	NA	**52.1**	**496**	NA	**1850**	**2100**	NA
1-R	NA	**176**	NA	**200**	NA	ND	NA	37.1	NA	41.7	39.8	NA	**73.4**	**58.6**	NA
2-OS	NA	NA	NA	ND	NA	ND	NA	**241**	NA	**121**	13.6	NA	**285**	**415**	NA
2-R	NA	20.7	NA	**160**	NA	**50**	NA	**53.5**	NA	**59.6**	**75.6**	NA	ND	4	NA
3-OS/I	NA	29.7	NA	25	NA	**190**	NA	**433**	NA	**804**	**270**	NA	**321**	**687**	NA
3-R	NA	24.2	NA	27	NA	ND	NA	20.7	NA	12.8	**73**	NA	**75.7**	**51.2**	NA
4-OS	NA	6.2	NA	ND	NA	ND	NA	34.7	NA	8.6	2.2	NA	**87.7**	36.8	NA
4-R	NA	1.8	NA	ND	NA	ND	NA	2.7	NA	7.7	0.78	NA	ND	ND	NA
5-OS	NA	NA	NA	19	NA	NA	NA	NA	NA	NA	15.3	NA	NA	**69.3**	NA
5-I	NA	8	NA	NA	NA	ND	NA	2.3	NA	9.6	NA	NA	10.6	NA	NA
5-R	NA	7.2	NA	10	NA	ND	NA	ND	NA	2.5	4.4	NA	2.7	14.7	NA
7-OS	NA	4.4	NA	41	NA	**60**	NA	**188**	NA	**96.2**	48.1	NA	**59.2**	**200**	NA
7-R	NA	3.4	NA	ND	NA	ND	NA	ND	NA	3.4	1.6	NA	ND	ND	NA
8-OS	35.8	15.9	20	ND	ND	ND	ND	4	9.6	4.5	**79.4**	20.2	31	30.1	16.9
8-I	26.2	17.4	**110**	17	10	ND	20	4.6	4.8	**55.6**	NA	**56.8**	ND	10	17.3
8-R	23.8	20.4	ND	ND	20	20	ND	ND	5.2	6.3	3.4	2	ND	1.1	2.2
9-OS	11.2	5.2	ND	ND	10	ND	ND	ND	2.3	0.64	9.8	1.1	ND	34.5	7.4
9-I	11.4	4.8	ND	ND	ND	ND	ND	1.7	8	2.8	1.7	6.8	ND	10.8	5.0
9-R	12.8	23.8	**90**	ND	20	ND	ND	15.2	1.9	23.4	8.5	15	47.3	3	1.6
PW-1	ND	0.43	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.75	ND
PW-2	0.94	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.69	ND	ND	ND	ND
SVWC-93	ND	0.89	ND	ND	ND	ND	ND	ND	ND	0.78	NA	ND	NA	ND	ND
SVWC-94	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	NA	0.53	ND
SVWC-95	ND	ND	ND	ND	ND	ND	NA	ND	ND	0.96	NA	ND	NA	ND	ND
SVWC-96	ND	1.3	NA	NA	ND	ND	ND	ND	NA	ND	NA	ND	NA	ND	ND

NOTES: Concentrations reported in µg/L (ppb).

ND = Not Detected

NA = Not Analyzed

Values in **BOLD** indicate an exceedance of groundwater quality standard for Chromium, 50 µg/L.

TABLE 3C

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER MONITORING DATA
COMPOUND: Iron

Sample ID	Sample Date														
	Jan-90	Sep-90	Jan-93	Apr-93	Sep-93	Dec-93	Mar-94	Jun-94	Sep-94	Dec-94	Mar-95	Jun-95	Sep-95	Dec-95	Mar-96
1-OS	**45000**	**17500**	**1870**	**884**	**32300**	**162000**	**12200**	69.6	**4950**	**47700**	**5970**	**2820**	**27900**	**23400**	**21700**
1-R	**1180**	**2650**	**395**	197	**1940**	**1210**	186	**70600**	**830**	**1710**	**1430**	**1080**	**2750**	**1050**	**3240**
2-OS	**912**	**41800**	NA	186	**11800**	**9800**	**946**	**5080**	**14700**	**4120**	**1310**	**1730**	**24300**	**5660**	**1770**
2-R	**409**	**602**	NA	**674**	**1120**	**1450**	187	83.1	248	**363**	259	**369**	**541**	**822**	189
3-OS/I	**6830**	**9750**	**5110**	**333**	**21300**	**37900**	**19400**	**29900**	**14400**	**37500**	**54600**	**16600**	**31400**	**3710**	**7750**
3-R	**1930**	**1370**	**11500**	**2940**	**3280**	**4800**	**1970**	**2090**	**2440**	**1730**	**1260**	**1450**	**3100**	**1330**	**1060**
4-OS	**15600**	**12400**	**529**	**520**	**5560**	**10600**	**5720**	**17600**	**16900**	**15200**	**6110**	**3010**	**28600**	**7460**	**7470**
4-R	**8230**	**5290**	**3520**	**4920**	**3100**	**5290**	**4790**	**4020**	**6850**	**5100**	**5650**	**5590**	**6320**	**4880**	**4910**
5-OS	**27000**	**11200**	**11100**	**4700**	NA	NA	NA	NA	NA	NA	NA	**17100**	NA	NA	**60000**
5-I	NA	NA	NA	NA	NA	**2030**	**2080**	**2380**	**8990**	**30700**	**56200**	NA	**2200**	**1870**	NA
5-R	**658**	**368**	**620**	**2310**	**751**	243	**742**	71.2	**21400**	**64000**	**11300**	**2260**	**1620**	**1120**	**434**
7-OS	**981**	**24500**	**1250**	**521**	**619000**	**2200**	**2340**	**15600**	**14500**	**14400**	**12200**	NA	NA	**1870**	**11400**
7-R	ND	**1940**	31.5	56.6	**989**	**600**	**762**	226	**681**	270	**485**	**886**	**717**	**794**	**363**
8-OS	**229000**	**43800**	**3230**	**2080**	**6180**	**12000**	**20300**	**6240**	**7490**	**6740**	**13500**	**5760**	**46900**	0.116	**4870**
8-I	**15700**	**30500**	NA	ND	ND	ND	**22300**	**41200**	**24200**	**18200**	**24300**	**21100**	**32300**	**28500**	**27300**
8-R	**1360**	**2940**	**11600**	**2590**	**9160**	**4710**	**2510**	**11100**	**22000**	**10200**	**24900**	**25700**	**26600**	**124000**	**18400**
9-OS	NA	249	50.7	**1200**	**383**	**393**	**2210**	**1040**	**1020**	**1490**	**1340**	294	NA	NA	**2330**
9-I	NA	145	NA	NA	NA	NA	**2040**	62.3	84	260	**788**	**468**	**4530**	**762**	232
9-R	NA	**20200**	**2680**	**8250**	**11500**	**10800**	**8850**	**19400**	**9110**	**2700**	**1080**	**2230**	**4080**	**1370**	**2060**
PW-1	NA	64	186	130	**1260**	**916**	85.3	11.2	**561**	39.7	283	**400**	238	252	53.9
PW-2	NA	11	41.8	49.5	ND	22.7	NA	ND	53.5	13.6	NA	253	276	225	ND
SVWC-93	NA	NA	32.6	10.6	NA	**553**	179	ND	17.2	20.7	19	154	NA	**585**	ND
SVWC-94	NA	NA	40.3	19.1	NA	NA	49.4	ND	6.1	13.8	ND	143	NA	124	ND
SVWC-95	NA	NA	51.7	74.4	ND	NA	45.5	ND	274	40.3	279	161	NA	148	ND
SVWC-96	NA	NA	22.3	17.3	NA	22.6	14.9	ND	61.5	66.8	ND	173	NA	136	ND

NOTES: Concentrations reported in µg/L (ppb).

ND = Not Detected

NA = Not Analyzed

Values in **BOLD** indicate an exceedance of groundwater quality standard for Iron, 300 µg/L.

TABLE 3C (Continued)

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER MONITORING DATA
COMPOUND: Iron

Sample ID	Sample Date														
	Jun-96	Sep-96	Dec-96	Mar-97	Jun-97	Sep-97	Dec-97	Mar-98	Jun-98	Sep-98	Mar-99	Jun-99	Sep-99	May-00	Sep-00
1-OS	NA	**48000**	NA	**19000**	NA	**49000**	NA	**62100**	NA	**3150**	**74400**	NA	**76200**	**40500**	NA
1-R	NA	**1910**	NA	**1800**	NA	ND	NA	**1020**	NA	**561**	**897**	NA	**1420**	**867**	NA
2-OS	NA	NA	NA	140	NA	**900**	NA	**15100**	NA	**24900**	**536**	NA	**6910**	**32900**	NA
2-R	NA	**6920**	NA	**1600**	NA	**800**	NA	**1700**	NA	**718**	**2110**	NA	**2640**	**1790**	NA
3-OS/I	NA	**303**	NA	**1500**	NA	**5400**	NA	**29800**	NA	**23600**	**1620**	NA	**1990**	**3310**	NA
3-R	NA	**4200**	NA	**1500**	NA	**700**	NA	**1420**	NA	**1260**	**680**	NA	**8770**	**1610**	NA
4-OS	NA	**1300**	NA	**2700**	NA	**600**	NA	**8490**	NA	**6840**	**1100**	NA	**50200**	**16300**	NA
4-R	NA	**3970**	NA	**6800**	NA	**3300**	NA	**5310**	NA	**1850**	**5250**	NA	**7500**	**5900**	NA
5-OS	NA	NA	NA	**8100**	NA	NA	NA	NA	NA	NA	**8180**	NA	NA	**41500**	NA
5-I	NA	**2170**	NA	NA	NA	**600**	NA	**3150**	NA	**851**	NA	NA	**700**	NA	NA
5-R	NA	197	NA	ND	NA	100	NA	210	NA	94.5	105	NA	40.4	**5000**	NA
7-OS	NA	**305**	NA	**9700**	NA	**9700**	NA	**36300**	NA	**21900**	**1950**	NA	**11300**	**4300**	NA
7-R	NA	54.2	NA	ND	NA	ND	NA	112	NA	145	93.8	NA	ND	128	NA
8-OS	**4370**	**997**	**2100**	ND	**1500**	**1800**	**2800**	**795**	**1820**	153	**1000**	**473**	**747**	**1200**	**8900**
8-I	**38700**	**26400**	**80000**	**18000**	**26000**	**14000**	**15000**	**15700**	**6000**	**37200**	NA	**19100**	**4270**	**9870**	**22900**
8-R	**14300**	**11700**	**2700**	**1400**	**5400**	**9200**	**12000**	**4880**	**4150**	**1940**	**2440**	**1140**	**5260**	**1180**	**2230**
9-OS	**1350**	**1030**	**460**	**1400**	**6500**	200	**300**	0.105	**392**	126	**912**	**515**	198	**1880**	**2230**
9-I	**443**	80.5	100	ND	ND	ND	ND	113	**400**	91.3	86.4	**949**	ND	**2820**	**3920**
9-R	**2270**	**1640**	**3200**	**13000**	**4700**	**7800**	**4600**	**5040**	**3660**	**3900**	**670**	**4360**	**3110**	**1340**	**9110**
PW-1	38.1	40.2	**30000**	ND	ND	ND	ND	ND	94.4	38.8	42.2	163	ND	18	ND
PW-2	ND	ND	ND	ND	ND	ND	ND	27.7	36.9	22.2	35.3	114	ND	59.4	36.8
SVWC-93	ND	ND	ND	ND	ND	ND	ND	26.4	253	50.2	NA	169	NA	8.8	4.2
SVWC-94	ND	ND	ND	ND	ND	ND	NA	ND	90.9	ND	NA	83.1	NA	3.9	ND
SVWC-95	ND	98.8	ND	ND	ND	ND	NA	ND	61	27	NA	90.1	NA	23.2	ND
SVWC-96	ND	147	NA	NA	ND	ND	ND	ND	NA	289	NA	67.8	NA	4.6	ND

NOTES: Concentrations reported in µg/L (ppb).

ND = Not Detected

NA = Not Analyzed

Values in **BOLD** indicate an exceedance of groundwater quality standard for Iron, 300 µg/L.

TABLE 3D

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER MONITORING DATA
COMPOUND: Manganese

Sample ID	Sample Date														
	Jan-90	Sep-90	Jan-93	Apr-93	Sep-93	Dec-93	Mar-94	Jun-94	Sep-94	Dec-94	Mar-95	Jun-95	Sep-95	Dec-95	Mar-96
1-OS	**3790**	**3700**	**809**	**1410**	**4010**	**5590**	**3510**	26.8	**5150**	**4770**	**2950**	**2010**	**4930**	**3130**	**2020**
1-R	144	98.5	61.4	38.7	143	62	29.3	**6020**	67	97.6	96.9	153	219	137	120
2-OS	298	**4770**	NA	27	**4850**	**1580**	92.5	**985**	**2450**	**827**	221	**982**	**5570**	**883**	280
2-R	197	135	NA	118	126	116	99.5	91.1	92.9	88.8	94.8	70.2	143	85.5	93.8
3-OS/I	**8700**	**18100**	**3450**	**1690**	**9590**	**8780**	**5640**	**10300**	**2240**	**5540**	**3590**	**3270**	**3860**	**6090**	**11900**
3-R	**7230**	**12400**	**10700**	**12900**	**11000**	**12000**	**11800**	**112800**	**10600**	**11300**	**11900**	**10900**	**12400**	**9710**	**11100**
4-OS	**4210**	**5020**	**547**	**506**	**2080**	**995**	**598**	**2850**	**3050**	**1130**	**602**	**2860**	**7080**	**682**	**636**
4-R	**1730**	**1520**	**1660**	**1890**	**1160**	**1230**	**1460**	**1350**	**1210**	**1190**	**1430**	**1120**	**1120**	**1140**	**1536**
5-OS	**981**	**530**	192	43.2	NA	NA	NA	NA	NA	NA	**1410**	NA	49.5	NA	**616**
5-I	NA	NA	NA	NA	NA	52.8	40.6	215	221	**474**	NA	248	NA	53.6	NA
5-R	22.3	9.3	9.6	21.9	11.4	8.2	9.6	2.5	232	**624**	116	21.6	28.6	11.9	7.1
7-OS	**1240**	**3260**	48.3	46.1	**45100**	122	67.4	**1580**	**9820**	**992**	**1180**	NA	NA	56.8	**390**
7-R	51.9	102	46.1	51.8	114	81.6	99.8	186	126	80.9	69.1	48.8	62.2	34.8	46.4
8-OS	**2830**	**2750**	**1680**	**1640**	**3330**	**1910**	**4090**	**1790**	**3230**	**1840**	**2050**	**2690**	**1420**	**903**	**2460**
8-I	**4230**	**1110**	NA	ND	ND	ND	**877**	**1180**	**692**	**862**	**1480**	**1110**	**2430**	**945**	**1860**
8-R	**872**	181	**1660**	**2600**	**2440**	**2650**	**2220**	**1890**	**1740**	**1980**	**3290**	**1300**	**2500**	**2610**	**4040**
9-OS	NA	14.6	ND	21.1	9.6	8.7	74.8	34.7	26.2	40.8	32.9	3.9	NA	NA	75.7
9-I	NA	**377**	NA	NA	NA	NA	40.6	3.2	21.7	9.8	40.5	10.9	129	15.9	5.2
9-R	NA	**3270**	**2320**	**2280**	**2540**	**1890**	**1660**	**1830**	**1650**	**1460**	**1590**	**1790**	**1810**	**1070**	**738**
PW-1	NA	ND	1.2	1.8	ND	3.6	5.4	ND	5.1	15.3	18.1	5.2	83.1	57.7	83.7
PW-2	NA	ND	4.7	7.5	6.3	6.6	NA	2.4	8.7	6.1	NA	6.1	11.6	7.7	2.6
SVWC-93	NA	NA	ND	1.7	NA	72.2	ND	ND	2	0.37	9.6	0.95	NA	11.9	ND
SVWC-94	NA	NA	7.3	ND	NA	NA	6.3	ND	10.4	11.9	6.7	11.4	NA	ND	3.1
SVWC-95	NA	NA	56.4	1.8	ND	NA	91.6	108	273	85.9	29	49.7	NA	22.1	47.4
SVWC-96	NA	NA	ND	ND	NA	ND	ND	ND	2.1	11.9	1.3	ND	NA	48	ND

NOTES: Concentrations reported in µg/L (ppb).

ND = Not Detected

NA = Not Analyzed

Values in **BOLD** indicate an exceedance of groundwater quality standard for Manganese, 300 µg/L.

TABLE 3D (Continued)

TOWN OF RAMAPO LANDFILL
POST-CLOSURE GROUNDWATER MONITORING DATA
COMPOUND: Manganese

Sample ID	Sample Date														
	Jun-96	Sep-96	Dec-96	Mar-97	Jun-97	Sep-97	Dec-97	Mar-98	Jun-98	Sep-98	Mar-99	Jun-99	Sep-99	May-00	Sep-00
1-OS	NA	**4710**	NA	**2200**	NA	**5500**	NA	**4530**	NA	**1600**	**5600**	NA	**9830**	**5740**	NA
1-R	NA	188	NA	200	NA	200	NA	**405**	NA	289	**332**	NA	**599**	236	NA
2-OS	NA	NA	NA	18	NA	**650**	NA	**1060**	NA	**3320**	69.6	NA	**936**	**4110**	NA
2-R	NA	**653**	NA	150	NA	180	NA	248	NA	214	**356**	NA	**744**	**497**	NA
3-OS/I	NA	**4880**	NA	**3000**	NA	**4500**	NA	**12100**	NA	**8880**	**948**	NA	**577**	**5720**	NA
3-R	NA	**13900**	NA	**12000**	NA	**11000**	NA	**10400**	NA	**10900**	**12500**	NA	**15100**	**14200**	NA
4-OS	NA	59.6	NA	140	NA	**940**	NA	**430**	NA	**1600**	220	NA	**1720**	**1340**	NA
4-R	NA	**1300**	NA	**1500**	NA	**810**	NA	**1410**	NA	**319**	**1100**	NA	**1180**	**1320**	NA
5-OS	NA	NA	NA	NA	NA	20	NA	57.8	NA	18.7	NA	NA	27.2	**533**	NA
5-I	NA	77.7	NA	160	NA	NA	NA	NA	NA	NA	88.6	NA	NA	NA	NA
5-R	NA	7.8	NA	ND	NA	ND	NA	5	NA	2.6	2.6	NA	1.2	69.3	NA
7-OS	NA	43.1	NA	**1400**	NA	**550**	NA	**2480**	NA	**2190**	211	NA	**755**	**305**	NA
7-R	NA	66.7	NA	35	NA	110	NA	90.1	NA	168	157	NA	98.5	257	NA
8-OS	**3120**	**679**	**2200**	**570**	**670**	**830**	**570**	124	**466**	**2640**	119	**1400**	**860**	**525**	**3820**
8-I	**3200**	**2100**	**3100**	**1200**	**1800**	**910**	**840**	**937**	**692**	**1500**	NA	**1050**	**1570**	**789**	**2810**
8-R	**3230**	**4310**	**3400**	**3500**	**3100**	**2000**	**1500**	**2130**	**2340**	**952**	NA	**1900**	**2780**	**2640**	**2390**
9-OS	70.9	43.3	20	49	170	ND	20	28	14.7	3.5	28.6	15.1	11.7	40.1	54.6
9-I	13.1	5.6	6	ND	ND	ND	ND	4.8	11.8	3.6	2.8	18	5.4	109	66.7
9-R	**1840**	**1930**	**2200**	**2600**	**2400**	**2000**	**1500**	**1650**	**1150**	**1810**	**771**	**1620**	**1320**	**1500**	**3020**
PW-1	25.7	4.4	80	ND	ND	ND	ND	9.4	0.99	7	1.4	1.9	ND	0.81	0.74
PW-2	5	3.8	ND	ND	ND	ND	ND	9.1	5.1	0.61	6.6	6.6	ND	1.8	2.5
SVWC-93	3.4	2	ND	ND	ND	ND	ND	12.8	0.79	3.6	NA	2.5	NA	0.49	2.1
SVWC-94	ND	5.3	6	ND	ND	10	NA	8.1	5.8	7.6	NA	4.3	NA	3.6	7.1
SVWC-95	67.4	26.4	70	82	80	130	NA	58.6	64.4	21	NA	40.6	NA	40.4	49.7
SVWC-96	ND	10.1	NA	NA	ND	ND	ND	ND	NA	22	NA	1.6	NA	ND	<0.70

NOTES: Concentrations reported in µg/L (ppb).

ND = Not Detected

NA = Not Analyzed

Values in **BOLD** indicate an exceedance of groundwater quality standard for Manganese, 300 µg/L.

TABLE 4

TOWN OF RAMAPO LANDFILL
AIR MONITORING RESULTS

Monitoring Location	Date	LEL Reading (%)	H2S Reading (ppm)	PID Reading (ppm)
Monitoring Wells:				
1-OS	9/6/00	0	0.0	0.0
1-I	9/6/00	0	0.0	0.0
1-R	9/6/00	0	0.0	0.0
2-OS	9/6/00	0	0.0	0.0
2-I	9/6/00	0	0.0	0.0
2-R	9/6/00	0	0.0	0.0
3-OS/I	9/6/00	0	0.0	0.0
3-R	9/6/00	0	0.0	0.0
4-OS	9/6/00	0	0.0	0.0
4-I	9/6/00	0	0.0	0.0
4-R	9/6/00	0	0.0	0.0
5-OS	9/6/00	0	0.0	0.0
5-I	9/6/00	0	0.0	0.0
5-R	9/6/00	0	0.0	0.0
6-I	9/6/00	0	0.0	0.0
6-R	9/6/00	0	0.0	0.0
7-OS	9/6/00	0	0.0	0.0
7-I	9/6/00	0	0.0	0.0
7-R	9/6/00	0	0.0	0.0
8-OS	9/6/00	0	0.0	0.0
8-I	9/6/00	0	0.0	0.0
8-R	9/6/00	0	0.0	0.0
9-OS	9/7/00	0	0.0	0.0
9-I	9/7/00	0	0.0	0.0
9-R	9/7/00	0	0.0	0.0
Baler Building (waist high)	9/7/00	0	0.0	0.1
Manhole A-5	9/7/00	> 100 %	0.0	30.0
Lift Station A-10	9/7/00	0	0.0	0.0
Lift Station W-20	9/7/00	0	0.0	0.0
Landfill Perimeter	9/7/00	0	0.0	0.0

NOTES: LEL = Lower Explosive Limit (for Methane)
H2S = Hydrogen Sulfide
PID = Photoionization Detector, measures VOCs
ppm = parts per million

SEVERN TRENT SERVICES

Severn Trent Laboratories, Inc.

Sterling Environmental

Albany, NY
Project: E20010
STL Lab. #: 220558
Matrix: Water
1 of 1

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October 6, 2000

Sterling Environmental
9 Columbia Circle
Albany, NY 12203

Attn.: Mr. Peter Kelleher

SUBJECT: CASE NARRATIVE, E20010,
STL NUMBER 220558.

Dear Mr. Kelleher:

Enclosed are the analytical results for the E20010 project. The samples were received on September 7, 2000 and were prepared and analyzed according to EPA established methodologies and protocols. The reports were completed according to NYSDEC ASP Category A reporting requirements.

Your evaluation of the enclosed data should incorporate the use of the attached case narrative.

I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

SEVERN TRENT LABORATORIES, INC.

Louis J. Cercone
Laboratory Director

Table of Contents

STL Newburgh
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Volatile Organics

Surrogate Recovery

The following sample contains surrogate recovery outside the acceptable limits:

8-OS (220558-01): fails dibromofluoromethane and bromofluorobenzene (HALL)

The following re-analysis contains surrogate recovery outside the acceptable limits:

8-OSRE (220558-01RE): fails bromofluorobenzene (HALL)

Both analyses have been included for your review.

Other

The data system used to create the form I's can not accept two different collection dates. As a result, the collection date listed on the volatile form I's for sample numbers 8-OS (220558-01), 8-I (220558-02), 8-R (220558-03) and 10-OS (220558-07) is 9/7/00. As per the chain of custody, the actual collection date was 9/6/00.

Inorganics

ICP

Sample Dilution

Due to the presence of the interferent calcium at a concentration over the linear calibration range of the instrument in the initial analysis, the following sample was diluted at the indicated amount:

8-OS (220558-01): 2x

Matrix Duplicate

The duplicate result for zinc in sample number SVWC-93D (220558-08D) exceeds control limit of (+-) the contract required detection. The data is qualified accordingly.

Wet Chemistry

Alkalinity

Sample Dilution

Due to the results of the initial titration, the following samples were diluted for alkalinity at the indicated amount:

8-OS (220558-01): 2x
8-I (220558-02): 2x
8-R (220558-03): 2x
9-OS (220558-04): 2x
9-R (220558-06): 2x
10-OS (220558-07): 2x

TKN

Sample Dilution

Due to concentrations over the calibration range of the instrument in the initial analysis, the following samples were diluted for TKN at the indicated amount:

8-OS (220558-01): 40x
8-I (220558-02): 10x
10-OS (220558-07): 40x

Chemical Oxygen Demand

Matrix Spike

The percent recovery of chemical oxygen demand in sample number SVWC-93S (22055808S) was 61.6%. As a result, the sample was re-spiked and re-analyzed. The percent recovery of the re-analysis was 61.6%.

Other

The temperature of the samples at the time of receipt was 9.7 degrees. The samples were received on ice.

000002

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NEW YORK DEPARTMENT OF CONSERVATION
SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE ANALYSIS

Laboratory Sample ID	Matrix	Date Collected	Date Received at Laboratory	Date Analyzed
220558-01	Water	9/6/00	9/7/00	9/12/00
220558-02	Water	9/6/00	9/7/00	9/12/00
220558-03	Water	9/6/00	9/7/00	9/12/00
220558-04	Water	9/7/00	9/7/00	9/12/00
220558-05	Water	9/7/00	9/7/00	9/12/00
220558-06	Water	9/7/00	9/7/00	9/12/00
220558-07	Water	9/6/00	9/7/00	9/12/00
220558-08	Water	9/7/00	9/7/00	9/12/00
220558-09	Water	9/7/00	9/7/00	9/12/00
220558-10	Water	9/7/00	9/7/00	9/12/00
220558-11	Water	9/7/00	9/7/00	9/15/00
220558-12	Water	9/7/00	9/7/00	9/15/00
220558-13	Water	9/7/00	9/7/00	9/15/00
220558-14	Water	9/7/00	9/7/00	9/15/00

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NEW YORK DEPARTMENT OF CONSERVATION
SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Analyte Requested	Date Received at Laboratory	Date Analyzed
220558-01	Water	Hg COD Alkalinity TKN Sb, As, Cd, Cr, Cu, Fe, Pb, Mn, Total Hardness, Zn	9/7/00	9/11/00 9/12/00 9/14/00 9/22/00 9/26/00
220558-02	Water	Hg COD Alkalinity TKN Sb, As, Cd, Cr, Cu, Fe, Pb, Mn, Total Hardness, Zn	9/7/00	9/11/00 9/12/00 9/14/00 9/22/00 9/25/00
220558-03	Water	Hg COD Alkalinity TKN Sb, As, Cd, Cr, Cu, Fe, Pb, Mn, Total Hardness, Zn	9/7/00	9/11/00 9/12/00 9/14/00 9/22/00 9/25/00
220558-04	Water	Hg COD Alkalinity TKN Sb, As, Cd, Cr, Cu, Fe, Pb, Mn, Total Hardness, Zn	9/7/00	9/11/00 9/12/00 9/14/00 9/22/00 9/25/00
220558-05	Water	Hg COD Alkalinity TKN Sb, As, Cd, Cr, Cu, Fe, Pb, Mn, Total Hardness, Zn	9/7/00	9/11/00 9/12/00 9/14/00 9/22/00 9/25/00
220558-06	Water	Hg COD Alkalinity TKN Sb, As, Cd, Cr, Cu, Fe, Pb, Mn, Total Hardness, Zn	9/7/00	9/11/00 9/12/00 9/14/00 9/22/00 9/25/00
220558-07	Water	Hg COD Alkalinity TKN Sb, As, Cd, Cr, Cu, Fe, Pb, Mn, Total Hardness, Zn	9/7/00	9/11/00 9/12/00 9/14/00 9/22/00 9/25/00
220558-08	Water	Hg COD Alkalinity	9/7/00	9/11/00 9/12/00 9/14/00

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NEW YORK DEPARTMENT OF CONSERVATION
SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Analyte Requested	Date Received at Laboratory	Date Analyzed
		TKN Sb, As, Cd, Cr, Cu, Fe, Pb, Mn, Total Hardness, Zn		9/22/00 9/25/00
220558-09	Water	Hg COD Alkalinity TKN Sb, As, Cd, Cr, Cu, Fe, Pb, Mn, Total Hardness, Zn	9/7/00	9/11/00 9/12/00 9/14/00 9/22/00 9/25/00
220558-10	Water	Hg COD Alkalinity TKN Sb, As, Cd, Cr, Cu, Fe, Pb, Mn, Total Hardness, Zn	9/7/00	9/11/00 9/12/00 9/14/00 9/22/00 9/25/00
220558-11	Water	Hg COD Alkalinity TKN Sb, As, Cd, Cr, Cu, Fe, Pb, Mn, Total Hardness, Zn	9/7/00	9/11/00 9/12/00 9/14/00 9/22/00 9/25/00
220558-12	Water	Hg COD Alkalinity TKN Sb, As, Cd, Cr, Cu, Fe, Pb, Mn, Total Hardness, Zn	9/7/00	9/11/00 9/12/00 9/14/00 9/22/00 9/25/00
220558-13	Water	Hg COD Alkalinity TKN Sb, As, Cd, Cr, Cu, Fe, Pb, Mn, Total Hardness, Zn	9/7/00	9/11/00 9/12/00 9/14/00 9/22/00 9/25/00

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements					
		*VOA GC/MS Method #	*BNA GC/MS Method #	*VOA GC Method #	*PEST PCBs Method #	*Metals	*Other
8-0S	220558-01			118, 119		49, 57,	2, 20, 106
8-I	220558-02			118, 119		49, 57,	2, 20, 106
8-R	220558-03			118, 119		49, 57,	2, 20, 106
9-0S	220558-04			118, 119		49, 57,	2, 20, 106
9-I	220558-05			118, 119		49, 57,	2, 20, 106
9-R	220558-06			118, 119		49, 57,	2, 20, 106
10-0S	220558-07			118, 119		49, 57,	2, 20, 106
SVWC-93	220558-08			118, 119		49, 57,	2, 20, 106
SVWC-94	220558-09			118, 119		49, 57,	2, 20, 106
SVWC-95	220558-10			118, 119		49, 57,	2, 20, 106
SVWC-96	220558-11			118, 119		49, 57,	2, 20, 106
PW-1	220558-12			118, 119		49, 57,	2, 20, 106
PW-2	220558-13			118, 119		49, 57,	2, 20, 106
Trip Blank	220558-14			118, 119		49, 57,	2, 20, 106

*See attached summary of methodology for method numbers.

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Analysis	Aqueous	Ground Water Liquid/Solid Matrices
1 % Solid		EPA 160.3(A)
2 Alkalinity-Tit.	SM182320-B(Q)	
3 Ammonia	SM184500-NH3E(Q)	
4 Ammonia	SM184500-NH3F(Q)	
5 Ammonia	LAC107061A(U)	
6 Antimony	EPA 204.2(A,D)	
7 Antimony	SM183113(Q)	
8 Arsenic	EPA 206.2(A,D)	
9 Arsenic		SW846-7060A(B,D)
10 Arsenic	SM183113(Q)	
11 Beryllium	SM183113(Q)	
12 BOD	SM185210-B(Q)	
13 Bromide	EPA 300(A)	
14 Cadmium	SM183113(Q)	
15 CBOD	SM185210-B(Q)	
16 Chloride	SM184500-CL-B(Q)	
17 Chloride(DW)	SM174500-CL-B(N)	
18 Chloride-IC	EPA 300(A)	
19 COD (high)	EPA 410.4(A)	
20 COD (low)	HACH 8000(W)	
21 Color	SM18 2120-B(Q)	
22 Conductivity	SM182510-B(Q)	
23 Cyanide	SM184500-CNE(Q)	
24 Cyanide		SW846-9010B(B)
25 Cyanide	LAC204001A(R)	
26 Cyanide, Amenable	SW846-9010B(B)	
27 Dissolved Oxygen	SM184500-O-C(Q)	
28 Eptox		SW846-1310A(B)
29 Ethylene glycol	NYSDEC 89-9(M)	
30 ETPH	(AA)	
31 F. Coli-MF	SM189222C(Q)	
32 F. Coli-MF	SM189222D(Q)	
33 F. Coli-MPN	SM189221C(Q)	
34 Ferrous Iron	SM183500-FED(Q)	
35 Flashpoint		SW846-1010(B)
36 Fluoride, Total	EPA 340.2(A)	EPA 340.2(A)
37 Fluoride, Total	EPA 300(A)	
38 Grease & Oil	SM185520-B(Q)	

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39	Grease & Oil	EPA 413.1 (A)	
40	GRO		EPA GRO Draft Rev. 5(Y)
41	Hardness, Total	EPA 200.7(A)	
42	Hardness, Total	EPA 130.2(A)	
43	Heat of Combustion	D2015(X)	
44	Herbicides		SW846-8151A(B)
45	Herbicides	EPA 515.1(L)	
46	Hex Chrome		SW846-7196A(B)
47	Hex Chrome	SM183500-Cr-D(Q)	
48	ICP Metals		SW846-6010B(B)
49	ICP Metals	EPA 200.7(A)	
50	Lead		SW846-7421(B,C)
51	Lead	EPA 239.2(A,D)	
52	Lead		SW846-7420(B,D)
53	Lead	SM183113(Q)	
54	MBAS	SM185540-C(Q)	
55	Mercury		SW846-7470A(B)
56	Mercury		SW846-7471A(B)
57	Mercury	EPA 245.1(A)	
58	Mercury	EPA 245.2(A)	
59	Nitrate-AA	SM174500-NO3F(N)	
60	Nitrate-IC	EPA 300(A)	
61	Nitrate-Nitrite	SM184500-NO3F(Q)	
62	Nitrate-Nitrite	LAC107041A(T)	
63	Nitrite	EPA 354.1(A)	
64	Nitrite	SM184500-NO2-B(Q)	
65	Odor	SM182150(Q7)	
66	Organochlorine PSTs		SW846-8081A(B)
67	Organochlorine PST	EPA 608(F)	
68	PCB's	EPA 508(H)	
69	Pesticides/PCB's		SW846-8082(B)
70	Pesticides/PCB's	95.3(Z)	95.3(Z)
71	Pesticides/PCB's	EPA 505(H)	
72	pH		SW846-9045(B)
73	pH	SM184500-H-B(Q)	
74	Phenols		SW846-9065(B)
75	Phenols	EPA 420.A(A)	
76	Phenols	LAC210001A(S)	
77	Phosphate, Ortho	SM184500-PE(Q)	
78	Phosphate, Total	EPA 365.3(A)	
79	Propylene glycol	Modified 8015(B)	
80	Reactivity		SW846-7.3.2(B)

000008

81	Selenium		SW846-7740(B,D)
82	Selenium	EPA 270.2(A,D)	
83	Selenium	SM183113(Q)	
84	Semi-Volatiles		SW846-8270C(B)
85	Semi-Volatiles	EPA 625(E)	
86	Semi-volatiles	95.2(Z)	95.2(Z)
87	Semi-Volatiles	EPA 525.1(H)	
88	Specific Gravity		D1298-83
89	SS	EPA 160.5(A)	
90	Sulfate		EPA 375.4(A)
91	Sulfate	EPA 375.4(A)	
92	Sulfate	EPA 300(A)	
93	Sulfide		SM184500-SE(Q)
94	Sulfide	SM184500-SE(Q)	
95	Sulfite	SM184500-SO3B(Q)	
96	Sulfite		SM184500SO3B(Q)
97	TCLP		SW846-1311(B)
98	TDS	EPA 160.1(A)	
99	TDS	SM182540C(Q)	
100	Thallium		SW846-7841(B,D)
101	Thallium	EPA 279.2(A,D)	
102	Thallium	EPA 200.9(A)	
103	Tin	EPA 282.2 (A)	
104	TOC	SM185310-B(Q)	
105	Total Kjeldahl Nitro	SM184500NH3-F(Q)	
106	Total Kjeldahl Nitro	LAC107062D(V)	
107	TOX		SW846-9020B(B)
108	TPH	EPA 418.1(A)	
109	TPH 310.13		LOAC 310.13(P)
110	TPH-Calif.	Calif. DHS 8015	Calif. DHS 8015
111	TSS	EPA 160.2(A)	
112	Turbidity	SM182130-B(Q)	
113	Volatiles Organics		SW846-8260B(B)
114	Volatiles Organics	EPA 624(E)	
115	Volatiles Organics	EPA 524.2(H)	
116	Volatiles Organics	EPA 502.2(K)	
117	Volatiles Organics		SW846-8021B(B)
118	Volatiles Organics	EPA 601(F)	
119	Volatiles Organics	EPA 602(F)	
120	Volatiles Organics	95.1(Z)	95.1(Z)
121	Volatiles Organics	95.4(Z)	95.4(Z)

000009

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T. "Determination of Nitrate/Nitrite in Surface and Wastewaters by Flow Injection Analysis", QUIK CHEM Method 10-107041A, Karin Wendt, Revised June 24, 1997, Zellweger Analytics, Milwaukee, Wi. 53218.
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Lachat Instruments, Milwaukee, Wi. 53218.

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CHAIN OF CUSTODY

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CUSTOMER NAME: STERLING ENVIRONMENTAL
ADDRESS: 9 COLUMBIA CIRCLE
CITY, STATE, ZIP: ALBANY, NY 12203
NAME OF CONTACT: PETER KELLEHER — PHONE NO.: 518-456-4900
PROJECT LOCATION: TOWN of RAMPO LANDFILL
PROJECT NUMBER / PO NO.: E20010

REPORT TYPE
STANDARD ☐ ISRA ☐
NYASP A ☒ B ☒ CLP ☐
OTHER per P. Kelleher NYASP A rep 9/8/00

TURNAROUND
☐ NORMAL ____
☐ QUICK ____
☐ VERBAL ____

REPORT # (Lab Use Only)
220558
SAMPLE TEMP. 9.7° C
pH CHECK Y ____ N ____ Rec'd on ice
REVIEWED BY: ____

NY PUBLIC WATER SUPPLIES
SOURCE ID ___ ___ ___
ELRP TYPE ___ ___ ___
FEDERAL ID ___ ___ ___ ___ ___ ___ 0000112

NOTE: SAMPLE TEMPERATURE UPON RECEIPT MUST BE 4°C.

Matrix
DW = DRINKING WATER S = SOIL O = OIL
WW = WASTE WATER SL = SLUDGE GW = GROUND WATER

STL #	SAMPLING DATE	TIME AM PM	COMP	GRAB	MATRIX	CLIENT I.D.	Total Number of Containers	40ml Glass HCl	Liter Amber Sulfuric Acid	Liter Amber Organic Washed	Liter Plastic Nitric Acid	Liter Plastic Sodium Hydroxide	Liter Plastic	Liter Plastic Sulfuric Acid	250ml Plastic	125ml Plastic Sterile	250ml Amber	2 oz. Oorpak	ANALYSIS REQUESTED
01	9-7-00	16:00	X		AQ.	8-OS		3			1		1	1					601/602 * ~~BENZENE~~, CHLOROBENZ., ~~1,1-DICHLOROETHENE~~ 1,1-DICHLOROETHANE + VINYL CHLORIDE ONLY; TKN, COD, ALK., T. HARD
02		16:10	X			8-I													
03		16:20	X			8-R													
04		~~15:30~~ 15:35	X			9-OS													
05		15:10	X			9-I													Sb, As, Cr, Cu, Hg, Zn, Fe, Mn, Pb, Cd
06		15:05	X			9-R													
07		16:30	X			10-OS													
08		13:30	X			SVWC-93/MS/MSD		9			3		3	3					
09		13:50	X			SVWC-94		3			1		1	1					
10		14:05	X			SVWC-95		3											
11		14:20	X			SVWC-96		3	(DD)										
12		15:45	X			PW-1		3											
13		14:45	X			PW-2		3											
14						TRIP BLANK		3											

* VOC VIALS FOR 8-OS, 8-I, 8-R + 10-OS COLLECTED 9/6/00 @ ~~16:30, 16:10, 16:20 + 16~~ 16:30, 16:15, 15:50 + 16:45, RESPECTIVELY (PK)

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[signature]	STERLING	9/7/00	17:45	[signature]	STL	9/7/00	17:45
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

COMMENTS ____

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315 Fullerton Avenue
Newburgh NY 12550

Tel: (914) 562-0890
Fax: (914) 562-0841

SEVERN TRENT LABORATORIES
VOLATILE ORGANIC LABORATORY CHRONICLE

STL Laboratory Number: 220558

Client Project Number: E20010

Date Receipt/Refrig.: 9/7/00

Date Sampled: 9/7/00

Preservative: HCl

Sampled Relinquished by	Sampled Received by	Date	Time	Reason for Change of Custody
[signature]	R. Dill	9/7/00		Storage + Analysis

Date(s) of Analysis: 9/12/00 + 9/15/00

Volatiles-GC RD

Volatiles-GCMS

QAQC Supervisor Review and Approval

[signature]

000013

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SEVERN TRENT LABORATORIES
INORGANIC LABORATORY CHRONICLE

STL Laboratory Number: 220558

Client Project Number: E20010

Date Receipt/Refrig.: 9/7/00

Date Sampled: 9/7/00

Preservative: _____

Sampled Relinquished by	Sampled Received by	Date	Time	Reason for Change of Custody
	L. Savage	9-12-00		metals digestion
	L. Savage	9-19-00		Hg
	M. Dagnoli	9/25/00		ICP
	M. Dagnoli	9/26/00		ICP - Dilution

Section Supervisor Review and Approval

000014

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SEVERN TRENT LABORATORIES
INORGANIC LABORATORY CHRONICLE

STL Laboratory Number: 220558

Client Project Number: E20010

Date Receipt/Refrig.: 9/7/00

Date Sampled: 9/7/00

Preservative: 9.7

Sampled Relinquished by	Sampled Received by	Date	Time	Reason for Change of Custody
		9/22/00		TKN
		9/13/00		COD
		9-14-00		Alk.
		9/26/00		~~F Hard.~~ LLT 10/6/00

Section Supervisor Review and Approval

000015

DATA REPORTING QUALIFIERS

Data qualifiers are used in the analytical report for organics and inorganics. The qualifiers are equivalent to those used by the USEPA in its Contract Laboratory Program.

ORGANIC QUALIFIERS

U - Indicates that the compound was analyzed for but not detected. The sample detection limit is corrected for dilution and percent moisture. This detection limit is not necessarily the instrument detection limit.

J - Indicates an estimated value. This qualifier is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicates the presence of a compound that meets the identification criteria and the result is less than the specified detection limit but greater than zero.

B - Indicates that the analyte was found in both the sample and its associated laboratory blank. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

C - This qualifier applies to pesticide parameters where the identification has been confirmed by gas chromatography/mass spectrometry.

E - This qualifier indicates compounds whose concentrations exceed the calibration range of the instrument for the specific analysis.

D - Indicates all compounds identified in an analysis at a secondary dilution factor.

DL - This suffix indicates a diluted sample and is appended to the sample number on the result form.

N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

P - This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentration between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with an "P".

A - This flag indicates that a TIC is a suspected aldol-condensation product.

RE - This suffix indicates a re-analyzed sample and is appended to the sample number on the result form.

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DATA REPORTING QUALIFIERS

RR - This suffix indicates a re-extracted and re-analyzed sample and is appended to the sample number on the result form.

INORGANICS

Concentration Qualifiers (C)

U - Indicates that the analyte was analyzed for but not detected.

B - The reported value is less than the Contract Required Detection Limit (CRDL), but greater than the Instrument Detection Limit (IDL).

Quality Qualifiers (Q)

E - Indicates an estimated value because of the presence of interference.

M - Duplicate injection precision not met.

N - Spiked sample recovery not within control limits.

S - The reported value was determined by the Method of Standard Additions (MSA).

W - Post digestion spike for furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

* - Duplicate analysis not within control limits.

+ - Correlation coefficient for the MSA is less than 0.995.

Method Qualifiers (M)

P - for ICP.
A - for Flame AA.
F - for Furnace AA.
PM - for ICP when Microwave Digestion is used.
AM - for Flame AA when Microwave Digestion is used.
FM - for Furnace AA when Microwave Digestion is used.
CV - for Manual Cold Vapor AA.
AV - for Automated Cold Vapor AA.
AS - for Semi-Automated Spectrophotometric
C - for Manual Spectrophotometric
T - for Titrimetric.
NR - if the analyte is not required to be analyzed.

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Volatile Organics Analysis Data Sheet
Form I VOA
601

Client ID:	8-0S	Date Collected:	07-SEP-00
STL Sample Number:	220558-01	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3536.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
75-01-4	Vinyl Chloride	1		U
75-34-3	1,1-Dichloroethane	1		U

000018

Volatile Organics Analysis Data Sheet
Form I VOA
602

Client ID:	8-0S	Date Collected:	07-SEP-00
STL Sample Number:	220558-01	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3535.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	1		U
108-90-7	Chlorobenzene	1		U

000019

Volatile Organics Analysis Data Sheet
Form I VOA
601

Client ID:	8-I	Date Collected:	07-SEP-00
STL Sample Number:	220558-02	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3538.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
75-01-4	Vinyl Chloride	1		U
75-34-3	1,1-Dichloroethane	1		U

000020

Volatile Organics Analysis Data Sheet
Form I VOA
602

Client ID:	8-I	Date Collected:	07-SEP-00
STL Sample Number:	220558-02	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3537.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	1	2.3	U ~~J~~
108-90-7	Chlorobenzene	1		

000021

Volatile Organics Analysis Data Sheet
Form I VOA
601

Client ID:	8-R	Date Collected:	07-SEP-00
STL Sample Number:	220558-03	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3540.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
75-01-4	Vinyl Chloride	1		U
75-34-3	1,1-Dichloroethane	1		U

000022

Volatile Organics Analysis Data Sheet
Form I VOA
602

Client ID:	8-R	Date Collected:	07-SEP-00
STL Sample Number:	220558-03	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3539.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	1		U
108-90-7	Chlorobenzene	1		U

000023

Volatile Organics Analysis Data Sheet
Form I VOA
601

Client ID:	9-0S	Date Collected:	07-SEP-00
STL Sample Number:	220558-04	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3542.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
75-01-4	Vinyl Chloride	1		U
75-34-3	1,1-Dichloroethane	1		U

000024

Volatile Organics Analysis Data Sheet
Form I VOA
602

Client ID:	9-OS	Date Collected:	07-SEP-00
STL Sample Number:	220558-04	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3541.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	1		U
108-90-7	Chlorobenzene	1		U

000025

Volatile Organics Analysis Data Sheet
Form I VOA
601

Client ID:	9-I	Date Collected:	07-SEP-00
STL Sample Number:	220558-05	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3544.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
75-01-4	Vinyl Chloride	1		U
75-34-3	1,1-Dichloroethane	1		U

000026

Volatile Organics Analysis Data Sheet
Form I VOA
602

Client ID:	9-I	Date Collected:	07-SEP-00
STL Sample Number:	220558-05	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3543.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	1		U
108-90-7	Chlorobenzene	1		U

000027

Volatile Organics Analysis Data Sheet
Form I VOA
601

Client ID:	9-R	Date Collected:	07-SEP-00
STL Sample Number:	220558-06	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3546.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
75-01-4	Vinyl Chloride	1		U
75-34-3	1,1-Dichloroethane	1		U

000028

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Volatile Organics Analysis Data Sheet
Form I VOA
602

Client ID:	9-R	Date Collected:	07-SEP-00
STL Sample Number:	220558-06	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3545.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	1		U
108-90-7	Chlorobenzene	1	.6	J

000029

Volatile Organics Analysis Data Sheet
Form I VOA
601

Client ID:	10-0S	Date Collected:	07-SEP-00
STL Sample Number:	220558-07	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3548.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
75-01-4	Vinyl Chloride	1		U
75-34-3	1,1-Dichloroethane	1		U

000030

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VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID: 10-0SRE
STL Lab No.: 220558-07RE
Client Name: Sterling Environmental
Project Name: E20010
% Solid:
Matrix: Water
Sample Wt/Vol.: 5ml
Level: Low
Soil Extract Volume:

Date Collected: 9/7/00
Date Received: 9/7/00
Date Extracted:
Date Analyzed: 9/15/00
Report Date: 10/2/00
Column: Rtx-502.2
Lab File ID: D5606.D
Dilution Factor: 1
Soil Aliquot Volume:

CAS No.	Compound	Detection Limit ug/l	Conc ug/l
75-01-4	Vinyl Chloride	1.0	U
75-34-3	1,1-Dichloroethane	1.0	U

FORM I -VOA

000031

Volatile Organics Analysis Data Sheet
Form I VOA
602

Client ID:	10-0S	Date Collected:	07-SEP-00
STL Sample Number:	220558-07	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3547.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	1		U
108-90-7	Chlorobenzene	1		U

000032

Volatile Organics Analysis Data Sheet
Form I VOA
601

Client ID:	SVWC-93	Date Collected:	07-SEP-00
STL Sample Number:	220558-08	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3550.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
75-01-4	Vinyl Chloride	1		U
75-34-3	1,1-Dichloroethane	1		U

000033

Volatile Organics Analysis Data Sheet
Form I VOA
602

Client ID:	SVWC-93	Date Collected:	07-SEP-00
STL Sample Number:	220558-08	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3549.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	1		U
108-90-7	Chlorobenzene	1		U

000034

Volatile Organics Analysis Data Sheet
Form I VOA
601

Client ID:	SVWC-94	Date Collected:	07-SEP-00
STL Sample Number:	220558-09	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3552.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
75-01-4	Vinyl Chloride	1		U
75-34-3	1,1-Dichloroethane	1		U

000035

Volatile Organics Analysis Data Sheet
Form I VOA
602

Client ID:	SVWC-94	Date Collected:	07-SEP-00
STL Sample Number:	220558-09	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3551.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	1		U
108-90-7	Chlorobenzene	1		U

000036

Volatile Organics Analysis Data Sheet
Form I VOA
601

Client ID:	SVWC-95	Date Collected:	07-SEP-00
STL Sample Number:	220558-10	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3554.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
75-01-4	Vinyl Chloride	1		U
75-34-3	1,1-Dichloroethane	1		U

000037

Volatile Organics Analysis Data Sheet
Form I VOA
602

Client ID:	SVWC-95	Date Collected:	07-SEP-00
STL Sample Number:	220558-10	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	12-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	C3553.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	1		U
108-90-7	Chlorobenzene	1		U

000038

Volatile Organics Analysis Data Sheet
Form I VOA
601

Client ID:	SVWC-96	Date Collected:	07-SEP-00
STL Sample Number:	220558-11	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	15-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	D5608.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
75-01-4	Vinyl Chloride	1		U
75-34-3	1,1-Dichloroethane	1		U

000039

Volatile Organics Analysis Data Sheet
Form I VOA
602

Client ID:	SVWC-96	Date Collected:	07-SEP-00
STL Sample Number:	220558-11	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	15-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	D5607.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	1		U
108-90-7	Chlorobenzene	1		U

000040

Volatile Organics Analysis Data Sheet
Form I VOA
601

Client ID:	PW-1	Date Collected:	07-SEP-00
STL Sample Number:	220558-12	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	15-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	D5610.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
75-01-4	Vinyl Chloride	1		U
75-34-3	1,1-Dichloroethane	1		U

000041

Volatile Organics Analysis Data Sheet
Form I VOA
602

Client ID:	PW-1	Date Collected:	07-SEP-00
STL Sample Number:	220558-12	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	15-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	D5609.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	1		U
108-90-7	Chlorobenzene	1		U

000042

Volatile Organics Analysis Data Sheet
Form I VOA
601

Client ID:	PW-2	Date Collected:	07-SEP-00
STL Sample Number:	220558-13	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	15-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	D5612.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
75-01-4	Vinyl Chloride	1		U
75-34-3	1,1-Dichloroethane	1		U

000043

Volatile Organics Analysis Data Sheet
Form I VOA
602

Client ID:	PW-2	Date Collected:	07-SEP-00
STL Sample Number:	220558-13	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	15-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	D5611.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	1		U
108-90-7	Chlorobenzene	1		U

000044

Volatile Organics Analysis Data Sheet
Form I VOA
601

Client ID:	TRIP BLANK	Date Collected:	07-SEP-00
STL Sample Number:	220558-14	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	15-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	D5614.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
75-01-4	Vinyl Chloride	1		U
75-34-3	1,1-Dichloroethane	1		U

000045

Volatile Organics Analysis Data Sheet
Form I VOA
602

Client ID:	TRIP BLANK	Date Collected:	07-SEP-00
STL Sample Number:	220558-14	Date Received:	07-SEP-00
Client Name:	STERLING ENV. ENG., P.C.	Date Extracted:	
Project Name:	E20010	Date Analyzed:	15-SEP-00
% Solid:	NA	Report Date:	02-OCT-00
Matrix:	2 GW/WW	Column:	RTX-502.2
Sample Wt/Vol:	5ml	Lab File Id:	D5613.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
71-43-2	Benzene	1		U
108-90-7	Chlorobenzene	1		U

000046

Inorganics Analysis Data Sheet
Form I - IN

Client Name: STERLING ENV. ENG., P.C.
Project Name: E20010

STL Sample Number: 220558-01

Client I.D.: 8-0S

Date Collected: 07-SEP-00
Matrix: 2 GW/WW

Date Received: 07-SEP-00

Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	253	MG/L	2320B	14-SEP-00
Antimony	11.0 U	UG/L	200.7	26-SEP-00
Arsenic	13.9 B	UG/L	200.7	26-SEP-00
Cadmium	6.2 U	UG/L	200.7	26-SEP-00
Chemical Oxygen Demand	123	MG/L	HACH8000	12-SEP-00
Chromium	16.9 B	UG/L	200.7	26-SEP-00
Copper	18.1 B	UG/L	200.7	26-SEP-00
Iron	8900	UG/L	200.7	26-SEP-00
Lead	3.4 U	UG/L	200.7	26-SEP-00
Manganese	3820	UG/L	200.7	26-SEP-00
Mercury	0.20 U	UG/L	245.1	11-SEP-00
Total Hardness	777	MG/L	200.7	26-SEP-00
Total Kjeldahl Nitrogen	410	MG/L	LAC-107062	22-SEP-00
Zinc	15.7 B *	UG/L	200.7	26-SEP-00

Remarks:

000047

Inorganics Analysis Data Sheet
Form I - IN

Client Name: STERLING ENV. ENG., P.C.
Project Name: E20010
STL Sample Number: 220558-02
Client I.D.: 8-I
Date Collected: 07-SEP-00
Matrix: 2 GW/WW
Date Received: 07-SEP-00
Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	512	MG/L	2320B	14-SEP-00
Antimony	5.5 U	UG/L	200.7	25-SEP-00
Arsenic	11.8	UG/L	200.7	25-SEP-00
Cadmium	3.1 U	UG/L	200.7	25-SEP-00
Chemical Oxygen Demand	113	MG/L	HACH8000	12-SEP-00
Chromium	17.3	UG/L	200.7	25-SEP-00
Copper	18.5 B	UG/L	200.7	25-SEP-00
Iron	22900	UG/L	200.7	25-SEP-00
Lead	4.8	UG/L	200.7	25-SEP-00
Manganese	2810	UG/L	200.7	25-SEP-00
Mercury	0.20 U	UG/L	245.1	11-SEP-00
Total Hardness	273	MG/L	200.7	25-SEP-00
Total Kjeldahl Nitrogen	43.8	MG/L	LAC-107062	22-SEP-00
Zinc	25.0 *	UG/L	200.7	25-SEP-00

Remarks:

000048

Inorganics Analysis Data Sheet
Form I - IN

Client Name: STERLING ENV. ENG., P.C.
Project Name: E20010
STL Sample Number: 220558-03
Client I.D.: 8-R
Date Collected: 07-SEP-00
Matrix: 2 GW/WW
Date Received: 07-SEP-00
Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	605	MG/L	2320B	14-SEP-00
Antimony	5.5 U	UG/L	200.7	25-SEP-00
Arsenic	1.8 U	UG/L	200.7	25-SEP-00
Cadmium	3.1 U	UG/L	200.7	25-SEP-00
Chemical Oxygen Demand	66.7	MG/L	HACH8000	12-SEP-00
Chromium	2.2 B	UG/L	200.7	25-SEP-00
Copper	22.9 B	UG/L	200.7	25-SEP-00
Iron	2230	UG/L	200.7	25-SEP-00
Lead	4.4	UG/L	200.7	25-SEP-00
Manganese	2390	UG/L	200.7	25-SEP-00
Mercury	0.20 U	UG/L	245.1	11-SEP-00
Total Hardness	575	MG/L	200.7	25-SEP-00
Total Kjeldahl Nitrogen	6.6	MG/L	LAC-107062	22-SEP-00
Zinc	6.1 U *	UG/L	200.7	25-SEP-00

Remarks:

000049

Inorganics Analysis Data Sheet
Form I - IN

Client Name: STERLING ENV. ENG., P.C.
Project Name: E20010

STL Sample Number: 220558-04

Client I.D.: 9-0S

Date Collected: 07-SEP-00
Matrix: 2 GW/WW

Date Received: 07-SEP-00

Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	110	MG/L	2320B	14-SEP-00
Antimony	5.5 U	UG/L	200.7	25-SEP-00
Arsenic	1.8 U	UG/L	200.7	25-SEP-00
Cadmium	3.1 U	UG/L	200.7	25-SEP-00
Chemical Oxygen Demand	10.0 U	MG/L	HACH8000	12-SEP-00
Chromium	7.4 B	UG/L	200.7	25-SEP-00
Copper	2.1 U	UG/L	200.7	25-SEP-00
Iron	2230	UG/L	200.7	25-SEP-00
Lead	2.6 B	UG/L	200.7	25-SEP-00
Manganese	54.6	UG/L	200.7	25-SEP-00
Mercury	0.20 U	UG/L	245.1	11-SEP-00
Total Hardness	24.0	MG/L	200.7	25-SEP-00
Total Kjeldahl Nitrogen	1.0 U	MG/L	LAC-107062	22-SEP-00
Zinc	12.5 B *	UG/L	200.7	25-SEP-00

Remarks:

000050

Inorganics Analysis Data Sheet
Form I - IN

Client Name: STERLING ENV. ENG., P.C.
Project Name: E20010
STL Sample Number: 220558-05
Client I.D.: 9-I
Date Collected: 07-SEP-00
Matrix: 2 GW/WW
Date Received: 07-SEP-00
Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	19.2	MG/L	2320B	14-SEP-00
Antimony	5.5 U	UG/L	200.7	25-SEP-00
Arsenic	1.8 U	UG/L	200.7	25-SEP-00
Cadmium	3.1 U	UG/L	200.7	25-SEP-00
Chemical Oxygen Demand	10.0 U	MG/L	HACH8000	12-SEP-00
Chromium	5.0 B	UG/L	200.7	25-SEP-00
Copper	3.4 B	UG/L	200.7	25-SEP-00
Iron	3920	UG/L	200.7	25-SEP-00
Lead	1.9 B	UG/L	200.7	25-SEP-00
Manganese	66.7	UG/L	200.7	25-SEP-00
Mercury	0.20 U	UG/L	245.1	11-SEP-00
Total Hardness	23.9	MG/L	200.7	25-SEP-00
Total Kjeldahl Nitrogen	1.0 U	MG/L	LAC-107062	22-SEP-00
Zinc	22.9 *	UG/L	200.7	25-SEP-00

Remarks:

000051

Inorganics Analysis Data Sheet
Form I - IN

Client Name: STERLING ENV. ENG., P.C.
Project Name: E20010

STL Sample Number: 220558-06

Client I.D.: 9-R

Date Collected: 07-SEP-00
Matrix: 2 GW/WW

Date Received: 07-SEP-00

Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	176	MG/L	2320B	14-SEP-00
Antimony	5.5 U	UG/L	200.7	25-SEP-00
Arsenic	7.7 B	UG/L	200.7	25-SEP-00
Cadmium	3.1 U	UG/L	200.7	25-SEP-00
Chemical Oxygen Demand	30.8	MG/L	HACH8000	12-SEP-00
Chromium	1.6 B	UG/L	200.7	25-SEP-00
Copper	5.0 B	UG/L	200.7	25-SEP-00
Iron	9110	UG/L	200.7	25-SEP-00
Lead	1.7 U	UG/L	200.7	25-SEP-00
Manganese	3020	UG/L	200.7	25-SEP-00
Mercury	0.20 U	UG/L	245.1	11-SEP-00
Total Hardness	119	MG/L	200.7	25-SEP-00
Total Kjeldahl Nitrogen	12.1	MG/L	LAC-107062	22-SEP-00
Zinc	16.5 B *	UG/L	200.7	25-SEP-00

Remarks:

000052

STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0890
Fax (845) 562-0841

Inorganics Analysis Data Sheet
Form I - IN

Client Name: STERLING ENV. ENG., P.C.
Project Name: E20010
STL Sample Number: 220558-07
Client I.D.: 10-OS
Date Collected: 07-SEP-00
Matrix: 2 GW/WW
Date Received: 07-SEP-00
Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	258	MG/L	2320B	14-SEP-00
Antimony	5.5 U	UG/L	200.7	25-SEP-00
Arsenic	14.1	UG/L	200.7	25-SEP-00
Cadmium	3.1 U	UG/L	200.7	25-SEP-00
Chemical Oxygen Demand	92.3	MG/L	HACH8000	12-SEP-00
Chromium	14.7	UG/L	200.7	25-SEP-00
Copper	15.9 B	UG/L	200.7	25-SEP-00
Iron	6530	UG/L	200.7	25-SEP-00
Lead	5.0	UG/L	200.7	25-SEP-00
Manganese	3410	UG/L	200.7	25-SEP-00
Mercury	0.20 U	UG/L	245.1	11-SEP-00
Total Hardness	800	MG/L	200.7	25-SEP-00
Total Kjeldahl Nitrogen	405	MG/L	LAC-107062	22-SEP-00
Zinc	11.7 B *	UG/L	200.7	25-SEP-00

Remarks:

000053

STL Newburgh
315 Fullerton Avenue
Newburgh, NY 12550
Tel (845) 562-0890
Fax (845) 562-0841

Inorganics Analysis Data Sheet
Form I - IN

Client Name: STERLING ENV. ENG., P.C.
Project Name: E20010
STL Sample Number: 220558-08
Client I.D.: SVWC-93
Date Collected: 07-SEP-00
Matrix: 2 GW/WW
Date Received: 07-SEP-00
Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	44.0	MG/L	2320B	14-SEP-00
Antimony	5.5 U	UG/L	200.7	25-SEP-00
Arsenic	1.8 U	UG/L	200.7	25-SEP-00
Cadmium	3.1 U	UG/L	200.7	25-SEP-00
Chemical Oxygen Demand	25.6	MG/L	HACH8000	12-SEP-00
Chromium	0.90 U	UG/L	200.7	25-SEP-00
Copper	3.2 B	UG/L	200.7	25-SEP-00
Iron	4.2 B	UG/L	200.7	25-SEP-00
Lead	2.8 B	UG/L	200.7	25-SEP-00
Manganese	2.1 B	UG/L	200.7	25-SEP-00
Mercury	0.20 U	UG/L	245.1	11-SEP-00
Total Hardness	57.8	MG/L	200.7	25-SEP-00
Total Kjeldahl Nitrogen	1.4	MG/L	LAC-107062	22-SEP-00
Zinc	70.0 *	UG/L	200.7	25-SEP-00

Remarks:

000054

Inorganics Analysis Data Sheet
Form I - IN

Client Name: STERLING ENV. ENG., P.C.
Project Name: E20010
STL Sample Number: 220558-09
Client I.D.: SVWC-94
Date Collected: 07-SEP-00
Matrix: 2 GW/WW
Date Received: 07-SEP-00
Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	63.2	MG/L	2320B	14-SEP-00
Antimony	5.5 U	UG/L	200.7	25-SEP-00
Arsenic	1.8 U	UG/L	200.7	25-SEP-00
Cadmium	3.1 U	UG/L	200.7	25-SEP-00
Chemical Oxygen Demand	25.6	MG/L	HACH8000	12-SEP-00
Chromium	0.90 U	UG/L	200.7	25-SEP-00
Copper	4.9 B	UG/L	200.7	25-SEP-00
Iron	2.8 U	UG/L	200.7	25-SEP-00
Lead	2.5 B	UG/L	200.7	25-SEP-00
Manganese	7.1 B	UG/L	200.7	25-SEP-00
Mercury	0.20 U	UG/L	245.1	11-SEP-00
Total Hardness	62.9	MG/L	200.7	25-SEP-00
Total Kjeldahl Nitrogen	1.0 U	MG/L	LAC-107062	22-SEP-00
Zinc	16.4 B *	UG/L	200.7	25-SEP-00

Remarks:

000055

Inorganics Analysis Data Sheet
Form I - IN

Client Name: STERLING ENV. ENG., P.C.
Project Name: E20010
STL Sample Number: 220558-10
Client I.D.: SVWC-95
Date Collected: 07-SEP-00
Matrix: 2 GW/WW
Date Received: 07-SEP-00
Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	71.5	MG/L	2320B	14-SEP-00
Antimony	5.5 U	UG/L	200.7	25-SEP-00
Arsenic	1.8 U	UG/L	200.7	25-SEP-00
Cadmium	3.1 U	UG/L	200.7	25-SEP-00
Chemical Oxygen Demand	30.8	MG/L	HACH8000	12-SEP-00
Chromium	0.90 U	UG/L	200.7	25-SEP-00
Copper	2.1 U	UG/L	200.7	25-SEP-00
Iron	2.8 U	UG/L	200.7	25-SEP-00
Lead	1.7 U	UG/L	200.7	25-SEP-00
Manganese	49.7	UG/L	200.7	25-SEP-00
Mercury	0.20 U	UG/L	245.1	11-SEP-00
Total Hardness	72.1	MG/L	200.7	25-SEP-00
Total Kjeldahl Nitrogen	1.0 U	MG/L	LAC-107062	22-SEP-00
Zinc	11.5 B *	UG/L	200.7	25-SEP-00

Remarks:

000056

Inorganics Analysis Data Sheet
Form I - IN

Client Name: STERLING ENV. ENG., P.C.
Project Name: E20010
STL Sample Number: 220558-11
Client I.D.: SVWC-96
Date Collected: 07-SEP-00
Matrix: 2 GW/WW
Date Received: 07-SEP-00
Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	60.5	MG/L	2320B	14-SEP-00
Antimony	5.5 U	UG/L	200.7	25-SEP-00
Arsenic	1.8 U	UG/L	200.7	25-SEP-00
Cadmium	3.1 U	UG/L	200.7	25-SEP-00
Chemical Oxygen Demand	25.6	MG/L	HACH8000	12-SEP-00
Chromium	0.90 U	UG/L	200.7	25-SEP-00
Copper	5.1 B	UG/L	200.7	25-SEP-00
Iron	2.8 U	UG/L	200.7	25-SEP-00
Lead	2.0 B	UG/L	200.7	25-SEP-00
Manganese	0.70 U	UG/L	200.7	25-SEP-00
Mercury	0.20 U	UG/L	245.1	11-SEP-00
Total Hardness	68.1	MG/L	200.7	25-SEP-00
Total Kjeldahl Nitrogen	1.0 U	MG/L	LAC-107062	22-SEP-00
Zinc	11.4 B *	UG/L	200.7	25-SEP-00

Remarks:

000057

Inorganics Analysis Data Sheet
Form I - IN

Client Name: STERLING ENV. ENG., P.C.
Project Name: E20010
STL Sample Number: 220558-12
Client I.D.: PW-1
Date Collected: 07-SEP-00
Matrix: 2 GW/WW
Date Received: 07-SEP-00
Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	24.8	MG/L	2320B	14-SEP-00
Antimony	5.5 U	UG/L	200.7	25-SEP-00
Arsenic	1.8 U	UG/L	200.7	25-SEP-00
Cadmium	3.1 U	UG/L	200.7	25-SEP-00
Chemical Oxygen Demand	10.0 U	MG/L	HACH8000	12-SEP-00
Chromium	0.90 U	UG/L	200.7	25-SEP-00
Copper	173	UG/L	200.7	25-SEP-00
Iron	2.8 U	UG/L	200.7	25-SEP-00
Lead	8.9	UG/L	200.7	25-SEP-00
Manganese	0.74 B	UG/L	200.7	25-SEP-00
Mercury	0.20 U	UG/L	245.1	11-SEP-00
Total Hardness	34.4	MG/L	200.7	25-SEP-00
Total Kjeldahl Nitrogen	1.0 U	MG/L	LAC-107062	22-SEP-00
Zinc	16.3 B *	UG/L	200.7	25-SEP-00

Remarks:

000058

Inorganics Analysis Data Sheet
Form I - IN

Client Name: STERLING ENV. ENG., P.C.
Project Name: E20010
STL Sample Number: 220558-13
Client I.D.: PW-2
Date Collected: 07-SEP-00
Matrix: 2 GW/WW
Date Received: 07-SEP-00
Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	90.8	MG/L	2320B	14-SEP-00
Antimony	5.5 U	UG/L	200.7	25-SEP-00
Arsenic	1.8 U	UG/L	200.7	25-SEP-00
Cadmium	3.1 U	UG/L	200.7	25-SEP-00
Chemical Oxygen Demand	10.0 U	MG/L	HACH8000	12-SEP-00
Chromium	0.90 U	UG/L	200.7	25-SEP-00
Copper	39.6	UG/L	200.7	25-SEP-00
Iron	36.8 B	UG/L	200.7	25-SEP-00
Lead	5.1	UG/L	200.7	25-SEP-00
Manganese	2.5 B	UG/L	200.7	25-SEP-00
Mercury	0.20 U	UG/L	245.1	11-SEP-00
Total Hardness	108	MG/L	200.7	25-SEP-00
Total Kjeldahl Nitrogen	1.0 U	MG/L	LAC-107062	22-SEP-00
Zinc	52.8 *	UG/L	200.7	25-SEP-00

Remarks:

000059

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