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Sterling Environmental Engineering, P.C.

August 28, 2000

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 #344004
May and July, 2000 Groundwater Monitoring Results
STERLING File #E20010

Dear Mr. Browne:

This letter reports the most recent groundwater and drinking water monitoring results for the Town of Ramapo Landfill Remediation Project. Samples were collected from post-closure monitoring well clusters 1 through 8 on May 26, 2000. Samples were collected from monitoring well cluster 9 and drinking water wells PW-1, PW-2, SVWC-93 through SVWC-96 on July 7, 2000. The sampling locations are shown on the attached Figure 1, "Ramapo Landfill Sample Locations."

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 "Baseline Parameters" by Severn Trent Laboratories located in Newburgh, New York, according to EPA methodologies and protocols. Copies of the laboratory reports, prepared according to New York State Department of Environmental Conservation (NYSDEC) ASP Category A reporting requirements, are enclosed.

Please note that, although the current monitoring program requires reporting of only Benzene and Chlorobenzene analyzed by EPA Method 602, the laboratory report for samples collected on May 26, 2000 reports all volatile organic compounds (VOCs) regularly analyzed for by EPA Method 602. Regardless, no other VOCs (besides Benzene) were detected in the samples analyzed by EPA Method 602 that were not detected in the same samples analyzed by EPA Method 601.

The latest 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 the attached Tables 3A through 3D.

During this monitoring event, the measured pH of samples from monitoring wells 3-R, 4-OS, 5-R, 7-OS, 8-OS, 9-OS, 9-I and 9-R, as well as water supply wells PW-1 (for the Torne Brook Farm) and SVWC-94, SVWC-95 and SVWC-96 (belonging to United Water New York) are slightly below the minimum groundwater standard for pH, 6.5 pH units. This may be a natural groundwater condition for the area, as upgradient monitoring well 1-OS and most of the drinking water wells had slightly low measured pH values.

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 1-OS:

As with recent past results, Antimony exceeds the ARAR, but was detected at a higher concentration than in the recent past. Nickel and Sodium concentrations exceed applicable ARARs, but the latest results are consistent with, or lower than, concentrations detected in the recent past. Recent past analytical results indicate that Thallium had exceeded the ARAR, but Thallium was not detected during the this monitoring event.

Consistent with historic results, Chromium exceeds the ARAR, but the latest two results are higher than historic Chromium levels for this sampling location. Iron and Manganese exceeds the applicable ARARs, but recent results are consistent with historic levels.

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

Well 1-R:

Chromium, Iron, and Sodium exceed applicable ARARs, but the latest results are consistent with, or lower than, concentrations detected in the recent past and historically. Historic analytical results indicate that Manganese has, at times, exceeded the ARAR, but the latest Manganese result is below the ARAR.

1,1-Dichloroethane was detected in the sample from well 1-R at an estimated concentration of 0.9 µg/L, below the ARAR of 5 µg/L. No other VOCs were detected in the sample from well 1-R during this monitoring event. No VOCs were detected at this monitoring location during recent past events.

Well 2-OS:

The latest monitoring results indicate that Chromium, Iron, Lead, Manganese and Nickel exceed applicable ARARs. It appears that metals concentrations may be increasing with time at this sample location, when the latest results are compared to recent past analytical results from monitoring conducted in 1999, and the latest Chromium, Iron and Manganese concentrations are compared to historic levels.

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

Well 2-R:

Consistent with recent past results, Iron and Manganese exceed applicable ARARs. Recent past and historic results indicate that Antimony and Chromium had been shown to exceed ARARs, but were either not detected or detected at a much lower concentration, below ARARs, during this monitoring event. The latest monitoring results for Iron and Manganese are not inconsistent with historic levels reported in the past.

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

Well 3-OS/I:

As shown by recent past results, Chromium, Iron, Manganese and Sodium exceed applicable ARARs, but current levels are not inconsistent with historic concentrations. The latest monitoring results indicate that Antimony and Nickel also exceed applicable ARARs, where these parameters were either not detected or detected at a lower concentration in the recent past.

No VOCs were detected in the sample from well 3-OS/I during this monitoring event, or in the recent past.

Well 3-R:

Consistent with recent past results, Chromium, Iron, Manganese and Sodium exceed applicable ARARs. Chromium had not exceeded the ARAR prior to March 1999. The most recent results for Iron and Manganese are consistent with historic results.

No VOCs were detected in the sample from well 3-R during this monitoring event, or in the recent past.

Well 4-OS:

Consistent with recent past results, Iron, Manganese and Sodium exceed applicable ARARs. Historically, Chromium has exceeded the ARAR at times, but was detected at a lower concentration, below the ARAR, during this monitoring event. The most recent results for Iron and Manganese are consistent with historic results.

No VOCs were detected in the sample from well 4-OS during this monitoring event, or in the recent past.

Well 4-R:

Consistent with historic results, Iron and Manganese exceed applicable ARARs.

No VOCs were detected in the sample from well 4-R during this monitoring event, or in the recent past.

Well 5-OS:

Chromium, Iron, and Manganese exceed applicable ARARs and were detected at higher concentrations than in the recent past (during 1999). Historically, Chromium has sporadically exceeded the ARAR, at levels greater than the latest results. The most recent results for Iron and Manganese are consistent with historic results.

No VOCs were detected in the sample from well 5-OS during this monitoring event, or in the recent past.

Well 5-R:

The latest monitoring results indicate that only Iron exceeds the ARAR, where recent past results did not indicate any exceedances of applicable ARARs. Overall, metals were detected at higher concentrations during this sampling event than in the recent past (during 1999). Historically, however, Chromium, Iron and Manganese have been detected at much higher levels, which exceed applicable ARARs, than in the recent past.

No VOCs were detected in the sample from well 5-R during this monitoring event, or in the recent past.

Well 7-OS:

The latest monitoring results indicate that Chromium, Iron and Manganese exceed applicable ARARs. However, these metals have historically been detected at much greater levels. Antimony exceeded the ARAR during the March 1999 monitoring event, but was not detected during this monitoring event.

No VOCs were detected in the sample from well 7-OS during this monitoring event, or in the recent past.

Well 7-R:

Consistent with recent past results, no parameters exceed applicable ARARs at this monitoring location, and the latest monitoring results are comparable to recent past results (from 1999). Historically, Chromium and Iron have been detected at levels greater than the most recent concentrations. The latest result for Manganese is slightly greater than levels detected historically.

No VOCs were detected in the sample from well 7-R during this monitoring event, or in the recent past.

Well 8-OS:

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, but has remained fairly stable for the last three monitoring events.

No VOCs were detected in the sample 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 two events.

Chlorobenzene was detected at a concentration of 2.8 µg/L (by EPA Method 601) and 2.4 µg/L (by EPA Method 602), which is below the ARAR of 5 µg/L. 1,4-Dichlorobenzene was detected at an estimated concentration of 0.5 µg/L (by EPA Method 601) and 0.6 µg/L (by EPA Method 602), which is below the ARAR of 3 µg/L. Benzene was detected at an estimated concentration of 0.5 µg/L during this monitoring event, which is below the ARAR of 1 µg/L. Historically, Benzene has been detected sporadically at this monitoring location at levels up to 3.0 µg/L.

No other VOCs were detected in the sample from well 8-I during this monitoring event. No VOCs were detected at this monitoring location during recent past events.

Well 8-R:

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

Chloroethane was detected at an estimated concentration of 0.5 µg/L, which is below the ARAR of 5 µg/L. Dichlorodifluoromethane was detected at an estimated concentration of 0.7 µg/L, which is below the ARAR of 5 µg/L. No other VOCs were detected in the sample from well 8-R during this monitoring event. No VOCs were detected at this monitoring location during recent past events, although historically, Benzene has been detected sporadically at this monitoring location at levels up to 3.0 µg/L.

Well 9-OS:

Consistent with recent past results, Iron exceeds the ARAR. The latest results for Chromium and Iron are consistent with historic results. Historically, Manganese has sporadically exceeded the ARAR.

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.

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, Cadmium, Iron and Manganese exceed applicable ARARs.

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 (with the exception of pH) 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-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:

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

Chloroform was detected at a concentration of 1.1 µg/L, which is below the ARAR of 7 µg/L. No other VOCs were detected in the sample from well SVWC-93 during this monitoring event. No VOCs were detected at this monitoring location during recent past events.

Well SVWC-94:

Consistent with recent past results, Sodium exceeds the ARAR for this monitoring event. The latest analytical results for all parameters are consistent with recent past results. The recent 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:

Consistent with recent past results, Sodium exceeds the ARAR for this monitoring event. The latest analytical results for all parameters are consistent with recent past results. The recent 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:

Consistent with recent past results, Sodium exceeds the ARAR for this monitoring event. The latest analytical results for all parameters are consistent with recent past results, with the exception of Thallium. Thallium exceeded the ARAR during the June 1999 sampling event, but was not detected during this monitoring event. The recent 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 compounds.

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
Enclosures

cc: Mr. Gerald Rider, NYSDEC
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Mr. George Demas, Torne Brook Farm **
Mr. Frank Digianni, 20 Torne Brook Road **
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* letter and attachments only.
** letter, attachments, partial enclosure.

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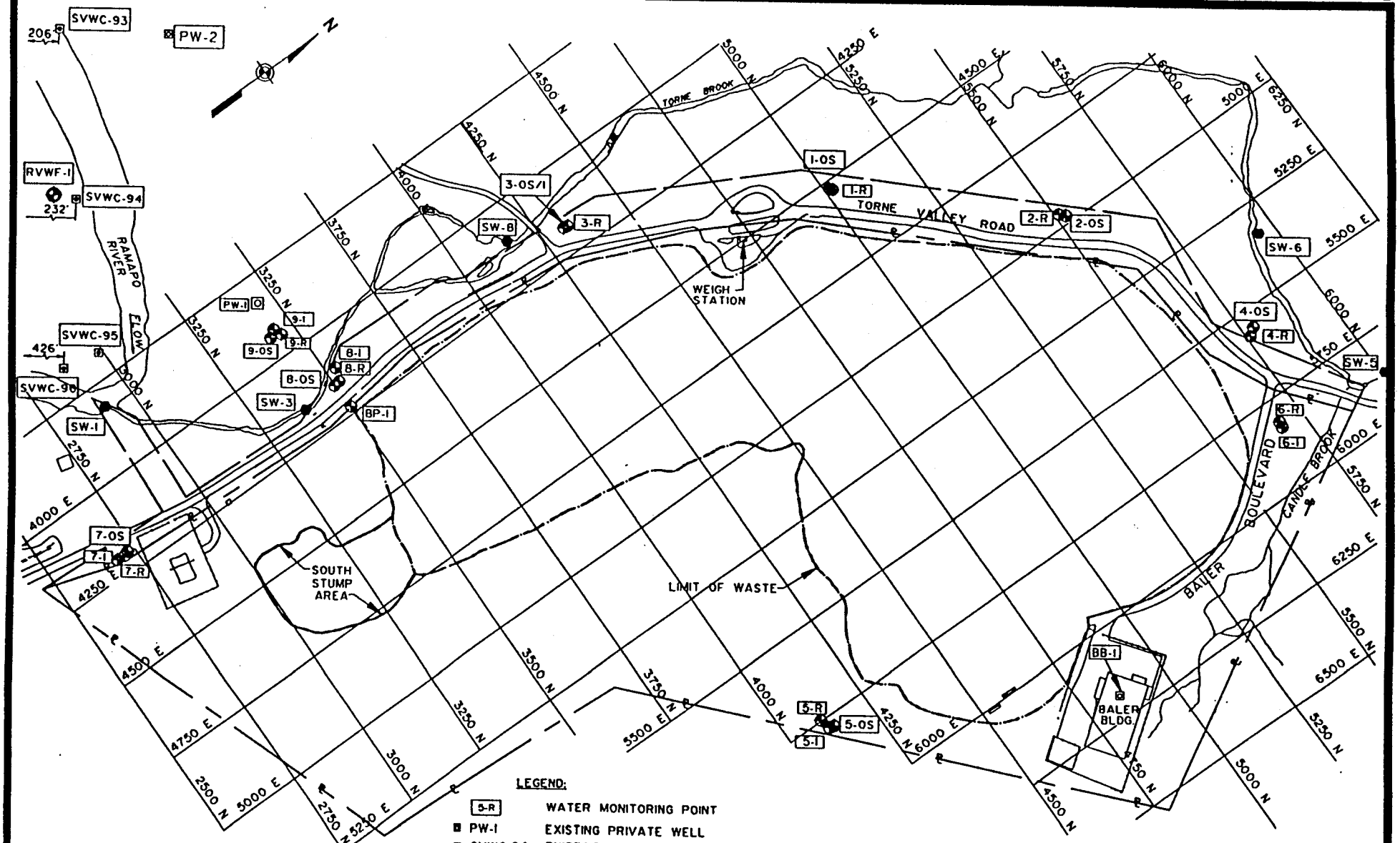

URS CONSULTANTS, INC.

RAMAPO LANDFILL SAMPLE LOCATIONS

FIGURE 1

TABLE 1

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

Well I.D.	Date	Static Water Level [1] (feet)	pH [2] (pH units)	Specific Conductance (mmhos)	Temperature (degrees C)	Eh (mV)
1-OS	5/26/00	15.35	6.59	677	15.1	8.7
1-I	5/26/00	14.56	---	---	---	---
1-R	5/26/00	15.58	7.14	674	16.7	-29.1
2-OS	5/26/00	11.77	6.94	588	14.8	-16.4
2-I	5/26/00	14.75	---	---	---	---
2-R	5/26/00	15.79	7.30	471	15.7	-38.1
3-OS/I	5/26/00	11.65	6.61	654	16.1	5.8
3-R	5/26/00	12.56	**6.43**	824	16.4	15.9
4-OS	5/26/00	5.94	**6.06**	258	16.5	40.1
4-I	5/26/00	7.95	---	---	---	---
4-R	5/26/00	12.36	6.55	474	15.5	0.7
5-OS	5/26/00	5.32	6.73	63.3	11.9	7.6
5-I	5/26/00	9.60	---	---	---	---
5-R	5/26/00	24.32	**6.39**	125.2	12.9	13.1
6-I	5/26/00	18.94	---	---	---	---
6-R	5/26/00	27.96	---	---	---	---
7-OS	5/26/00	11.94	**6.38**	644	15.7	18.5
7-I	5/26/00	12.79	---	---	---	---
7-R	5/26/00	12.80	6.94	580	14.8	-13.6
8-OS	5/26/00	12.94	**6.26**	71.8	14.4	28.6
8-I	5/26/00	13.93	7.01	324	13.6	-17.1
8-R	5/26/00	13.42	6.83	1260	13.6	-7.4
9-OS	7/7/00	8.33	**6.18**	83.2	21.6	30.0
9-I	7/7/00	11.77	**5.97**	74.3	17.7	35.0
9-R	7/7/00	12.95	**6.45**	438	19.3	5.5
PW-1	7/7/00	---	**6.42**	124.7	13.0	14.4
PW-2	7/7/00	---	6.95	278	19.4	-20.8
SVWC-93	7/7/00	---	6.63	292	17.6	0.1
SVWC-94	7/7/00	---	**6.13**	309	14.4	30.2
SVWC-95	7/7/00	---	**6.39**	292	155.0	12.0
SVWC-96	7/7/00	---	**6.46**	334	17.9	8.9

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 1-OS				WELL 1-R			
			Mar-99 [3]	Jun-99	Sep-99 [4]	May-00 [3]	Mar-99 [3]	Jun-99	Sep-99 [4]	May-00 [3]
Leachate Indicator Parameters:										
Alkalinity	---	mg/L	155	NA	219	182	280	NA	286	295
Chemical Oxygen Demand	---	mg/L	29.2	NA	21	15.0	16	NA	23	10.0
Total Hardness	---	mg/L	382	NA	357	741	322	NA	338	323
Total Kjeldhal Nitrogen	---	mg/L	ND	NA	1.4	<1.0	280	NA	1.12	<1.0
TAL Metals:										
Aluminum	---	µg/L	25700	NA	NA	10800	ND	NA	NA	470
Antimony	3	µg/L	**3.5**	NA	ND	**29.1 B**	ND	NA	ND	<3.4
Arsenic	25	µg/L	13.6	NA	11.4	7.3 B	ND	NA	ND	<2.6
Barium	1000	µg/L	256	NA	NA	146 B,E	12.3	NA	NA	17.0 B,E
Beryllium	3	µg/L	ND	NA	NA	0.31 B	ND	NA	NA	<0.10
Cadmium	5	µg/L	ND	NA	ND	0.92 B	1.3	NA	ND	0.61 B
Calcium	---	µg/L	90100	NA	NA	72300	79200	NA	NA	96100
Chromium	50	µg/L	**496**	NA	**1850**	**2100 ***	39.8	NA	**73.4**	**58.6 ***
Cobalt	---	µg/L	38.9	NA	NA	22.8 B	2.6	NA	NA	2.2 B
Copper	200	µg/L	121	NA	104	68	8.5	NA	10.6	6.8 B
Iron	300 [2]	µg/L	**74400**	NA	**76200**	**40500**	**897**	NA	**1420**	**867**
Lead	25	µg/L	10.7	NA	10.1	5.8	ND	NA	ND	<1.5
Magnesium	35000 GV	µg/L	32300	NA	NA	21700	17500	NA	NA	20300
Manganese	300 [2]	µg/L	**5600**	NA	**9830**	**5740**	**332**	NA	**599**	236
Mercury	0.7	µg/L	ND	NA	ND	<0.20	ND	NA	ND	<0.20
Nickel	100	µg/L	**198**	NA	NA	**140**	42.1	NA	NA	16.2 B
Potassium	---	µg/L	8660	NA	NA	5430	2150	NA	NA	2560 B
Selenium	10	µg/L	6.2	NA	NA	<1.6 W	ND	NA	NA	<1.6 W
Silver	50	µg/L	ND	NA	NA	21.9	ND	NA	NA	<1.6
Sodium	20000	µg/L	**30800**	NA	NA	**36400**	**24800**	NA	NA	**29000**
Thallium	0.5 GV	µg/L	**4.9**	NA	NA	<2.3	ND	NA	NA	<2.3
Vanadium	---	µg/L	71.6	NA	NA	24.2 B	1.8	NA	NA	1.1 B
Zinc	2000 GV	µg/L	115	NA	102	53.1	18.7	NA	16.3	15.9 B
VOCs by EPA Method 601:										
Chlorobenzene	5	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
Chloroethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
Chloroform	7	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
Dichlorodifluoromethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
1,1-Dichloroethane	5	µg/L	ND	NA	ND	<1	ND	NA	ND	0.9 J
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
VOCs by EPA Method 602:										
Benzene	1	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
Chlorobenzene	5	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1

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 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 2-OS				WELL 2-R			
			Mar-99 [3]	Jun-99	Sep-99 [4]	May-00 [3]	Mar-99 [3]	Jun-99	Sep-99 [4]	May-00 [3]
Leachate Indicator Parameters:										
Alkalinity	---	mg/L	265	NA	21	331	192	NA	261	222
Chemical Oxygen Demand	---	mg/L	6	NA	6	25.0	10	NA	7	<10.0
Total Hardness	---	mg/L	295	NA	258	434	231	NA	281	250
Total Kjeldhal Nitrogen	---	mg/L	ND	NA	1.12	1.1	ND	NA	ND	2.3
TAL Metals:										
Aluminum	---	µg/L	199	NA	NA	17800	199	NA	NA	770
Antimony	3	µg/L	ND	NA	ND	<3.4	**6.3**	NA	ND	<3.4
Arsenic	25	µg/L	ND	NA	ND	6.6 B	ND	NA	ND	<2.6
Barium	1000	µg/L	16.2	NA	NA	184 B,E	20.4	NA	NA	40.6 B,E
Beryllium	3	µg/L	ND	NA	NA	0.83 B	ND	NA	NA	<0.10
Cadmium	5	µg/L	ND	NA	ND	2.4 B	1.8	NA	ND	<0.40
Calcium	---	µg/L	73200	NA	NA	128000	54500	NA	NA	74600
Chromium	50	µg/L	13.6	NA	**285**	**415** *	**75.6**	NA	ND	4.0 B,*
Cobalt	---	µg/L	ND	NA	NA	66.4	0.91	NA	NA	<1.2
Copper	200	µg/L	5.1	NA	23.4	56.9	37.2	NA	ND	6.3 B
Iron	300 [1]	µg/L	**536**	NA	**6910**	**32900**	**2110**	NA	**2640**	**1790**
Lead	25	µg/L	ND	NA	4	**38**	10	NA	ND	<1.5
Magnesium	35000 GV	µg/L	13500	NA	NA	27700	11800	NA	NA	15500
Manganese	300 [1]	µg/L	69.6	NA	**936**	**4110**	**356**	NA	**744**	**497**
Mercury	0.7	µg/L	ND	NA	ND	<0.20	ND	NA	ND	<0.20
Nickel	100	µg/L	9	NA	NA	**215**	45.9	NA	NA	4.1 B
Potassium	---	µg/L	1130	NA	NA	5630	1460	NA	NA	1900 B
Selenium	10	µg/L	ND	NA	NA	<1.6 W	ND	NA	NA	<1.6
Silver	50	µg/L	ND	NA	NA	10.0 B	ND	NA	NA	<1.6
Sodium	20000	µg/L	6670	NA	NA	9960	8020	NA	NA	10100
Thallium	0.5 GV	µg/L	ND	NA	NA	<2.3	ND	NA	NA	<2.3
Vanadium	---	µg/L	0.93	NA	NA	32.0 B	2	NA	NA	1.2 B
Zinc	2000 GV	µg/L	17.8	NA	28.8	101	44.9	NA	17.2	14.0 B
VOCs by EPA Method 601:										
Chlorobenzene	5	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
Chloroethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
Chloroform	7	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
Dichlorodifluoromethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
1,1-Dichloroethane	5	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
VOCs by EPA Method 602:										
Benzene	1	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
Chlorobenzene	5	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1

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
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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	WELL 3-OS/I				WELL 3-R			
			Mar-99 [3]	Jun-99	Sep-99 [4]	May-00 [3]	Mar-99 [3]	Jun-99	Sep-99 [4]	May-00 [3]
Leachate Indicator Parameters:										
Alkalinity	---	mg/L	250	NA	261	300	158	NA	184	204
Chemical Oxygen Demand	---	mg/L	17.2	NA	34	<10.0	12	NA	11	10.0
Total Hardness	---	mg/L	332	NA	300	282	297	NA	255	290
Total Kjeldhal Nitrogen	---	mg/L	ND	NA	2.1	<1.0	ND	NA	1.4	<1.0
TAL Metals:										
Aluminum	---	µg/L	274	NA	NA	382	130	NA	NA	268
Antimony	3	µg/L	ND	NA	ND	**4.8 B**	ND	NA	ND	<3.4
Arsenic	25	µg/L	ND	NA	ND	<2.6	ND	NA	7.9	<2.6
Barium	1000	µg/L	16	NA	NA	51.4 B,E	22.8	NA	NA	35.4 B,E
Beryllium	3	µg/L	ND	NA	NA	<0.10	ND	NA	NA	<0.10
Cadmium	5	µg/L	ND	NA	ND	<0.40	ND	NA	ND	<0.40
Calcium	---	µg/L	87200	NA	NA	89900	72000	NA	NA	75900
Chromium	50	µg/L	**270**	NA	**321**	**687 ***	**73**	NA	**75.7**	**51.2 ***
Cobalt	---	µg/L	0.98	NA	NA	4.9 B	2.1	NA	NA	4.8 B
Copper	200	µg/L	9.7	NA	7.8	13.5 B	3.4	NA	23.8	5.2 B
Iron	300 [1]	µg/L	**1620**	NA	**1990**	**3310**	**680**	NA	**8770**	**1610**
Lead	25	µg/L	ND	NA	ND	<1.5	2.1	NA	ND	1.8 B
Magnesium	35000 GV	µg/L	15100	NA	NA	14100	23300	NA	NA	24500
Manganese	300 [1]	µg/L	**948**	NA	**577**	**5720**	**12500**	NA	**15100**	**14200**
Mercury	0.7	µg/L	ND	NA	ND	<0.20	ND	NA	ND	<0.20
Nickel	100	µg/L	86.7	NA	NA	**156**	37.1	NA	NA	73.7
Potassium	---	µg/L	2520	NA	NA	3330 B	1730	NA	NA	1800 B
Selenium	10	µg/L	ND	NA	NA	<1.6 W	4.2	NA	NA	<1.6 W
Silver	50	µg/L	ND	NA	NA	4.5 B	0.98	NA	NA	<1.6
Sodium	20000	µg/L	**39500**	NA	NA	**41600**	**40700**	NA	NA	**43300**
Thallium	0.5 GV	µg/L	ND	NA	NA	<2.3	ND	NA	NA	<2.3
Vanadium	---	µg/L	1.6	NA	NA	<1.0	ND	NA	NA	<1.0
Zinc	2000 GV	µg/L	17.8	NA	12.2	16.9 B	26.3	NA	28.3	9.0 B
VOC's by EPA Method 601:										
Chlorobenzene	5	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
Chloroethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
Chloroform	7	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
Dichlorodifluoromethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
1,1-Dichloroethane	5	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
VOC's by EPA Method 602:										
Benzene	1	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
Chlorobenzene	5	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1

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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TABLE 2 (Continued)

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

	ARARs [1]	UNITS	WELL 4-OS				WELL 4-R			
			Mar-99 [3]	Jun-99	Sep-99 [4]	May-00 [3]	Mar-99 [3]	Jun-99	Sep-99 [4]	May-00 [3]
Leachate Indicator Parameters:										
Alkalinity	---	mg/L	153	NA	75	63.6	153	NA	199	172
Chemical Oxygen Demand	---	mg/L	8	NA	66	10.0	9.2	NA	65	<10.0
Total Hardness	---	mg/L	117	NA	175	75.8	220	NA	197	212
Total Kjeldhal Nitrogen	---	mg/L	ND	NA	ND	<1.0	ND	NA	1.26	<1.0
TAL Metals:										
Aluminum	---	µg/L	194	NA	NA	6640	ND	NA	NA	217
Antimony	3	µg/L	ND	NA	ND	<3.4	ND	NA	ND	<3.4
Arsenic	25	µg/L	ND	NA	8.5	<2.6	ND	NA	ND	<2.6
Barium	1000	µg/L	13.8	NA	NA	72.9 B,E	10.1	NA	NA	13.9 B,E
Beryllium	3	µg/L	ND	NA	NA	0.36 B	ND	NA	NA	<0.10
Cadmium	5	µg/L	ND	NA	ND	0.45 B	ND	NA	ND	<0.40
Calcium	---	µg/L	21000	NA	NA	16700	44700	NA	NA	54000
Chromium	50	µg/L	2.2	NA	**87.7**	36.8 *	0.78	NA	ND	<0.5 *
Cobalt	---	µg/L	ND	NA	NA	13.3 B	1.7	NA	NA	2.2 B
Copper	200	µg/L	8.1	NA	79.8	19.1 B	7.3	NA	17.3	<2.0
Iron	300 [1]	µg/L	**1100**	NA	**50200**	**16300**	**5250**	NA	**7500**	**5900**
Lead	25	µg/L	ND	NA	12.3	2.3 B	ND	NA	ND	<1.5
Magnesium	35000 GV	µg/L	8350	NA	NA	8310	15700	NA	NA	18800
Manganese	300 [1]	µg/L	220	NA	**1720**	**1340**	**1100**	NA	**1180**	**1320**
Mercury	0.7	µg/L	ND	NA	ND	<0.20	ND	NA	ND	<0.20
Nickel	100	µg/L	3.1	NA	NA	22.4 B	2.3	NA	NA	1.5 B
Potassium	---	µg/L	925	NA	NA	2720 B	1400	NA	NA	1580 B
Selenium	10	µg/L	ND	NA	NA	<1.6	ND	NA	NA	<1.6
Silver	50	µg/L	ND	NA	NA	1.6 B	ND	NA	NA	<1.6
Sodium	20000	µg/L	**26600**	NA	NA	**30500**	10900	NA	NA	13800
Thallium	0.5 GV	µg/L	ND	NA	NA	<2.3	ND	NA	NA	<2.3
Vanadium	---	µg/L	0.99	NA	NA	16.8 B	ND	NA	NA	<1.0
Zinc	2000 GV	µg/L	17.4	NA	96.8	63	17	NA	23.5	9.0 B
VOCs by EPA Method 601:										
Chlorobenzene	5	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
Chloroethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
Chloroform	7	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
Dichlorodifluoromethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
1,1-Dichloroethane	5	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
VOCs by EPA Method 602:										
Benzene	1	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
Chlorobenzene	5	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1

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 5-OS				WELL 5-I			
			Mar-99 [3]	Jun-99	Sep-99 [4]	May-00 [3]	Mar-99	Jun-99	Sep-99 [4]	May-00 [3]
Leachate Indicator Parameters:										
Alkalinity	---	mg/L	17.2	NA	NA	81.2	NA	NA	26	NA
Chemical Oxygen Demand	---	mg/L	10	NA	NA	10.0	NA	NA	61	NA
Total Hardness	---	mg/L	39.5	NA	NA	68.4	NA	NA	36.1	NA
Total Kjeldhal Nitrogen	---	mg/L	ND	NA	NA	<1.0	NA	NA	1.4	NA
TAL Metals:										
Aluminum	---	µg/L	4960	NA	NA	30800	NA	NA	NA	NA
Antimony	3	µg/L	ND	NA	NA	<3.4	NA	NA	ND	NA
Arsenic	25	µg/L	ND	NA	NA	3.2 B	NA	NA	ND	NA
Barium	1000	µg/L	27.9	NA	NA	205 E	NA	NA	NA	NA
Beryllium	3	µg/L	ND	NA	NA	1.5 B	NA	NA	NA	NA
Cadmium	5	µg/L	ND	NA	NA	1.3 B	NA	NA	ND	NA
Calcium	---	µg/L	5470	NA	NA	10800	NA	NA	NA	NA
Chromium	50	µg/L	15.3	NA	NA	**69.3 ***	NA	NA	10.6	NA
Cobalt	---	µg/L	3.2	NA	NA	21.7 B	NA	NA	NA	NA
Copper	200	µg/L	16	NA	NA	53.9	NA	NA	6	NA
Iron	300 [1]	µg/L	**8180**	NA	NA	**41500**	NA	NA	**700**	NA
Lead	25	µg/L	ND	NA	NA	5.4	NA	NA	ND	NA
Magnesium	35000 GV	µg/L	3440	NA	NA	10100	NA	NA	NA	NA
Manganese	300 [1]	µg/L	88.6	NA	NA	**533**	NA	NA	27.2	NA
Mercury	0.7	µg/L	ND	NA	NA	<0.20	NA	NA	ND	NA
Nickel	100	µg/L	9.6	NA	NA	35.0 B	NA	NA	NA	NA
Potassium	---	µg/L	1380	NA	NA	6300	NA	NA	NA	NA
Selenium	10	µg/L	ND	NA	NA	<1.6	NA	NA	NA	NA
Silver	50	µg/L	ND	NA	NA	6.4 B	NA	NA	NA	NA
Sodium	20000	µg/L	3750	NA	NA	5530	NA	NA	NA	NA
Thallium	0.5 GV	µg/L	ND	NA	NA	<2.3	NA	NA	NA	NA
Vanadium	---	µg/L	12.7	NA	NA	59.4	NA	NA	NA	NA
Zinc	2000 GV	µg/L	28.7	NA	NA	78.2	NA	NA	20.6	NA
VOCs by EPA Method 601:										
Chlorobenzene	5	µg/L	ND	NA	ND	<1	NA	NA	ND	NA
Chloroethane	5	µg/L	ND	NA	NA	<1	NA	NA	NA	NA
Chloroform	7	µg/L	ND	NA	ND	<1	NA	NA	ND	NA
Dichlorodifluoromethane	5	µg/L	ND	NA	NA	<1	NA	NA	NA	NA
1,1-Dichloroethane	5	µg/L	ND	NA	ND	<1	NA	NA	ND	NA
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	NA	NA	NA	NA
VOCs by EPA Method 602:										
Benzene	1	µg/L	ND	NA	ND	<1	NA	NA	ND	NA
Chlorobenzene	5	µg/L	ND	NA	ND	<1	NA	NA	ND	NA
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	NA	NA	NA	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".
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TABLE 2 (Continued)

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

	ARARs [1]	UNITS	WELL 5-R				WELL 7-OS			
			Mar-99 [3]	Jun-99	Sep-99 [4]	May-00 [3]	Mar-99 [3]	Jun-99	Sep-99 [4]	May-00 [3]
Leachate Indicator Parameters:										
Alkalinity	---	mg/L	47.5	NA	32	49.9	141	NA	108	150
Chemical Oxygen Demand	---	mg/L	8	NA	59	<10.0	17.2	NA	ND	<10.0
Total Hardness	---	mg/L	49.5	NA	50	62.1	199	NA	173	222
Total Kjeldhal Nitrogen	---	mg/L	ND	NA	1.68	<1.0	ND	NA	1.54	<1.0
TAL Metals:										
Aluminum	---	µg/L	ND	NA	NA	2900	1020	NA	NA	2810
Antimony	3	µg/L	2.8	NA	ND	<3.4	**7.1**	NA	ND	<3.4
Arsenic	25	µg/L	ND	NA	ND	<2.6	3.7	NA	ND	<2.6
Barium	1000	µg/L	4.4	NA	NA	32.6 B,E	36.7	NA	NA	68.3 B,E
Beryllium	3	µg/L	ND	NA	NA	<0.10	ND	NA	NA	<0.10
Cadmium	5	µg/L	ND	NA	ND	1.4 B	ND	NA	ND	<0.40
Calcium	---	µg/L	11300	NA	NA	15200	43600	NA	NA	68900
Chromium	50	µg/L	4.4	NA	2.7	14.7 *	48.1	NA	**59.2**	**200 ***
Cobalt	---	µg/L	ND	NA	NA	3.8 B	4.6	NA	NA	8.4 B
Copper	200	µg/L	10.4	NA	10.1	9.2 B	12.9	NA	34.5	10.8 B
Iron	300 [1]	µg/L	105	NA	40.4	**5000**	**1950**	NA	**11300**	**4300**
Lead	25	µg/L	ND	NA	ND	<1.5	ND	NA	4.9	<1.5
Magnesium	35000 GV	µg/L	3910	NA	NA	5850	10900	NA	NA	12100
Manganese	300 [1]	µg/L	2.6	NA	1.2	69.3	211	NA	**755**	**305**
Mercury	0.7	µg/L	ND	NA	ND	<0.20	ND	NA	ND	<0.20
Nickel	100	µg/L	2.5	NA	NA	8.2 B	6.7	NA	NA	9.4 B
Potassium	---	µg/L	747	NA	NA	1480 B	6420	NA	NA	8500
Selenium	10	µg/L	ND	NA	NA	<1.6	ND	NA	NA	<1.6
Silver	50	µg/L	0.81	NA	NA	<1.6	0.7	NA	NA	<1.6
Sodium	20000	µg/L	3920	NA	NA	4480	15500	NA	NA	19800
Thallium	0.5 GV	µg/L	ND	NA	NA	<2.3	ND	NA	NA	<2.3
Vanadium	---	µg/L	3.7	NA	NA	8.7 B	3.5	NA	NA	5.0 B
Zinc	2000 GV	µg/L	18.1	NA	15.9	55.7	21.5	NA	37.9	34.8
VOCs by EPA Method 601:										
Chlorobenzene	5	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
Chloroethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
Chloroform	7	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
Dichlorodifluoromethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
1,1-Dichloroethane	5	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
VOCs by EPA Method 602:										
Benzene	1	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
Chlorobenzene	5	µg/L	ND	NA	ND	<1	ND	NA	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1

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.
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TABLE 2 (Continued)

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POST-CLOSURE GROUNDWATER QUALITY MONITORING RESULTS
ANALYTICAL RESULTS

	ARARs [1]	UNITS	WELL 7-R				WELL 8-OS			
			Mar-99 [3]	Jun-99	Sep-99 [4]	May-00 [3]	Mar-99 [3]	Jun-99 [3]	Sep-99 [4]	May-00 [3]
Leachate Indicator Parameters:										
Alkalinity	---	mg/L	280	NA	190	313	35.5	32.5	11	13.6
Chemical Oxygen Demand	---	mg/L	9.2	NA	ND	<10.0	9.2	ND	44	<10.0
Total Hardness	---	mg/L	280	NA	170	286	48.8	64.3	38	20.1
Total Kjeldhal Nitrogen	---	mg/L	ND	NA	1.4	<1.0	ND	1.4	ND	<1.0
TAL Metals:										
Aluminum	---	µg/L	46.7	NA	NA	121 B	29.5	45.4	NA	49.5 B
Antimony	3	µg/L	ND	NA	ND	<3.4	ND	ND	ND	<3.4
Arsenic	25	µg/L	ND	NA	ND	<2.6	ND	ND	ND	<2.6
Barium	1000	µg/L	6.8	NA	NA	7.6 B,E	8.1	8.9	NA	10.7 B,E
Beryllium	3	µg/L	ND	NA	NA	<0.10	ND	1.1	NA	<0.10
Cadmium	5	µg/L	ND	NA	ND	<0.40	ND	ND	ND	<0.40
Calcium	---	µg/L	72300	NA	NA	85700	12800	16000	NA	5600
Chromium	50	µg/L	1.6	NA	ND	<0.5 *	**79.4**	20.2	31	30.1 *
Cobalt	---	µg/L	1.8	NA	NA	<1.2	1.1	ND	NA	6.4 B
Copper	200	µg/L	8.8	NA	5.8	4.4 B	9.3	12	7.2	2.1 B
Iron	300 [1]	µg/L	93.8	NA	ND	128	**1000**	**473**	**747**	**1200**
Lead	25	µg/L	ND	NA	ND	<1.5	ND	ND	ND	<1.5
Magnesium	35000 GV	µg/L	15600	NA	NA	17600	3430	3470	NA	1490 B
Manganese	300 [1]	µg/L	157	NA	98.5	257	119	**1400**	**860**	**525**
Mercury	0.7	µg/L	ND	NA	ND	<0.20	ND	ND	ND	<0.20
Nickel	100	µg/L	3.4	NA	NA	1.9 B	4.9	1.1	NA	2.2 B
Potassium	---	µg/L	1830	NA	NA	2160 B	2440	1820	NA	1080 B
Selenium	10	µg/L	ND	NA	NA	<1.6 W	ND	ND	NA	<1.6
Silver	50	µg/L	ND	NA	NA	2.2 B	ND	ND	NA	<1.6
Sodium	20000	µg/L	10900	NA	NA	13900	6620	4980	NA	3480 B
Thallium	0.5 GV	µg/L	ND	NA	NA	<2.3	ND	ND	NA	<2.3
Vanadium	---	µg/L	0.72	NA	NA	<1.0	0.78	ND	NA	<1.0
Zinc	2000 GV	µg/L	20.2	NA	14.4	8.6 B	18.9	21.9	14.6	5.8 B
VOCs by EPA Method 601:										
Chlorobenzene	5	µg/L	ND	NA	ND	<1	ND	ND	ND	<1
Chloroethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
Chloroform	7	µg/L	ND	NA	ND	<1	ND	ND	ND	<1
Dichlorodifluoromethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
1,1-Dichloroethane	5	µg/L	ND	NA	ND	<1	ND	ND	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
VOCs by EPA Method 602:										
Benzene	1	µg/L	ND	NA	ND	<1	ND	ND	ND	<1
Chlorobenzene	5	µg/L	ND	NA	ND	<1	ND	ND	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1

NOTES:

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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	WELL 8-I				WELL 8-R			
			Mar-99 [3]	Jun-99 [3]	Sep-99 [4]	May-00 [3]	Mar-99 [3]	Jun-99 [3]	Sep-99 [4]	May-00 [3]
Leachate Indicator Parameters:										
Alkalinity	---	mg/L	NA	111	114	90.8	580	346	124	488
Chemical Oxygen Demand	---	mg/L	NA	ND	10	<10.0	39.2	ND	8	20
Total Hardness	---	mg/L	NA	112	122	87.9	632	542	152	441
Total Kjeldhal Nitrogen	---	mg/L	NA	8.4	8.4	3.8	20	14	5.57	19.5
TAL Metals:										
Aluminum	---	µg/L	NA	147	NA	1270	ND	14.8	NA	62.2 B
Antimony	3	µg/L	NA	ND	ND	<3.4	ND	ND	ND	<3.4
Arsenic	25	µg/L	NA	11.7	ND	6.6 B	ND	ND	6.2	<2.6
Barium	1000	µg/L	NA	37.2	NA	34.1 B,E	50.7	37.3	NA	50.1 B,E
Beryllium	3	µg/L	NA	ND	NA	<0.10	ND	1.4	NA	<0.10
Cadmium	5	µg/L	NA	ND	ND	<0.40	ND	ND	ND	<0.40
Calcium	---	µg/L	NA	22600	NA	25100	128000	126000	NA	122000
Chromium	50	µg/L	NA	**56.8**	ND	10.0 *	3.4	2	ND	1.1 B,*
Cobalt	---	µg/L	NA	1.2	NA	1.7 B	15.7	8.4	NA	12.1 B
Copper	200	µg/L	NA	37.2	18.2	3.4 B	8.5	12.7	23.5	5.4 B
Iron	300 [1]	µg/L	NA	**19100**	**4270**	**9870**	**2440**	**1140**	**5260**	**1180**
Lead	25	µg/L	NA	5.5	ND	<1.5	ND	2.5	10.8	<1.5
Magnesium	35000 GV	µg/L	NA	4870	NA	6100	**35300**	32900	NA	**32900**
Manganese	300 [1]	µg/L	NA	**1050**	**1570**	**789**	**2120**	**1900**	**2780**	**2640**
Mercury	0.7	µg/L	NA	ND	ND	<0.20	ND	ND	ND	<0.20
Nickel	100	µg/L	NA	34	NA	5.9 B	24.4	15.7	NA	16.2 B
Potassium	---	µg/L	NA	5750	NA	6220	20300	16400	NA	23500
Selenium	10	µg/L	NA	ND	NA	<1.6 W	ND	ND	NA	<1.6 W
Silver	50	µg/L	NA	ND	NA	<1.6	ND	ND	NA	<1.6
Sodium	20000	µg/L	NA	16100	NA	15000	**71700**	**43400**	NA	**71100**
Thallium	0.5 GV	µg/L	NA	ND	NA	<2.3	ND	ND	NA	<2.3
Vanadium	---	µg/L	NA	1.7	NA	2.2 B	ND	ND	NA	<1.0
Zinc	2000 GV	µg/L	NA	27.6	20.4	18.2 B	19.6	20.3	22	6.4 B
VOCs by EPA Method 601:										
Chlorobenzene	5	µg/L	NA	ND	ND	2.8	ND	ND	ND	<1
Chloroethane	5	µg/L	NA	ND	NA	<1	ND	NA	NA	0.5 J
Chloroform	7	µg/L	NA	ND	ND	<1	ND	ND	ND	<1
Dichlorodifluoromethane	5	µg/L	NA	ND	NA	<1	ND	NA	NA	0.7 J
1,1-Dichloroethane	5	µg/L	NA	ND	ND	<1	ND	ND	ND	<1
1,4-Dichlorobenzene	3	µg/L	NA	ND	NA	0.5 J	ND	NA	NA	<1
VOCs by EPA Method 602:										
Benzene	1	µg/L	NA	ND	ND	0.5 J	ND	ND	ND	<1
Chlorobenzene	5	µg/L	NA	ND	ND	2.4	ND	ND	ND	<1
1,4-Dichlorobenzene	3	µg/L	NA	ND	NA	0.6 J	ND	NA	NA	<1

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".
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TABLE 2 (Continued)

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

	ARARs [1]	UNITS	WELL 9-OS				WELL 9-I			
			Mar-99 [3]	Jun-99 [3]	Sep-99 [4]	Jul-00 [3]	Mar-99 [3]	Jun-99 [3]	Sep-99 [4]	Jul-00 [3]
Leachate Indicator Parameters:										
Alkalinity	---	mg/L	10.5	4	4	16.4	10	6.2	9	13.6
Chemical Oxygen Demand	---	mg/L	7.2	ND	ND	<10.0	8	ND	7	10.0
Total Hardness	---	mg/L	33.1	50.3	83.6	20	36.4	45.2	83.6	22.6
Total Kjeldhal Nitrogen	---	mg/L	ND	1.4	1.4	<1.0	ND	1.54	11.8	<1.0
TAL Metals:										
Aluminum	---	µg/L	539	183	NA	1300	ND	306	NA	1440
Antimony	3	µg/L	ND	ND	ND	<3.4	2.6	ND	ND	<3.4
Arsenic	25	µg/L	ND	ND	ND	<2.6	ND	ND	ND	<2.6
Barium	1000	µg/L	9.4	15.3	NA	14.7 B	4.2	13.4	NA	20.1 B
Beryllium	3	µg/L	ND	1.3	NA	<0.10	ND	1.4	NA	<0.10
Cadmium	5	µg/L	ND	ND	ND	<0.40	ND	1.3	3.8	<0.40
Calcium	---	µg/L	5510	13000	NA	5110	7560	12700	NA	5700
Chromium	50	µg/L	9.8	1.1	ND	34.5	1.7	6.8	ND	10.8
Cobalt	---	µg/L	0.98	ND	NA	<1.2	0.9	ND	NA	4.4 B
Copper	200	µg/L	6.3	9.5	ND	<2.0	10.6	10	8.7	3.1 B
Iron	300 [1]	µg/L	**912**	**515**	198	**1880**	86.4	**949**	ND	**2820**
Lead	25	µg/L	ND	ND	ND	<1.5	ND	ND	ND	1.8 B
Magnesium	35000 GV	µg/L	1500	3110	NA	1760 B	1780	3040	NA	2050 B
Manganese	300 [1]	µg/L	28.6	15.1	11.7	40.1	2.8	18	5.4	109
Mercury	0.7	µg/L	ND	ND	ND	<0.20	ND	ND	ND	<0.20
Nickel	100	µg/L	5.8	ND	NA	2.4 B	2.1	2.2	NA	4.6 B
Potassium	---	µg/L	808	1260	NA	1190 B	597	1020	NA	1150 B
Selenium	10	µg/L	ND	ND	NA	<3.6 W	ND	ND	NA	<3.6 W
Silver	50	µg/L	ND	ND	NA	<1.6	0.86	ND	NA	<1.6
Sodium	20000	µg/L	2630	5500	NA	5080	3540	5610	NA	4400 B
Thallium	0.5 GV	µg/L	ND	ND	NA	<2.3	ND	ND	NA	<2.3
Vanadium	---	µg/L	1.8	ND	NA	2.2 B	ND	ND	NA	3.1 B
Zinc	2000 GV	µg/L	19.3	23.8	16.2	9.8 B	17.6	18.1	16.1	12.7 B
VOCs by EPA Method 601:										
Chlorobenzene	5	µg/L	ND	ND	ND	<1	ND	ND	ND	<1
Chloroethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
Chloroform	7	µg/L	ND	ND	ND	<1	ND	ND	ND	<1
Dichlorodifluoromethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
1,1-Dichloroethane	5	µg/L	ND	ND	ND	<1	ND	ND	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
VOCs by EPA Method 602:										
Benzene	1	µg/L	ND	ND	ND	<1	ND	ND	ND	<1
Chlorobenzene	5	µg/L	ND	ND	ND	<1	ND	ND	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1

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 9-R			
			Mar-99 [3]	Jun-99 [3]	Sep-99 [4]	Jul-00 [3]
Leachate Indicator Parameters:						
Alkalinity	---	mg/L	54.5	83.5	109	123
Chemical Oxygen Demand	---	mg/L	ND	ND	7	<10.0
Total Hardness	---	mg/L	58.9	68.7	57	71.1
Total Kjeldhal Nitrogen	---	mg/L	ND	8.4	1.82	6.5
TAL Metals:						
Aluminum	---	µg/L	ND	46.5	NA	212
Antimony	3	µg/L	ND	ND	ND	<3.4
Arsenic	25	µg/L	ND	ND	ND	<2.6
Barium	1000	µg/L	5.4	12.7	NA	11.9 B
Beryllium	3	µg/L	ND	1.3	NA	<0.10
Cadmium	5	µg/L	4.9	3	**24.2**	**9.4**
Calcium	---	µg/L	14000	13000	NA	18300
Chromium	50	µg/L	8.5	15	47.3	3.0 B
Cobalt	---	µg/L	ND	ND	NA	1.4 B
Copper	200	µg/L	19.7	12.8	19.1	3.9 B
Iron	300 [1]	µg/L	**670**	**4360**	**3110**	**1340**
Lead	25	µg/L	ND	ND	ND	2.3 B
Magnesium	35000 GV	µg/L	3390	3720	NA	6160
Manganese	300 [1]	µg/L	**771**	**1620**	**1320**	**1500**
Mercury	0.7	µg/L	ND	ND	ND	<0.20
Nickel	100	µg/L	12	6.6	NA	3.7 B
Potassium	---	µg/L	2980	6180	NA	9450
Selenium	10	µg/L	ND	ND	NA	3.8 B,W
Silver	50	µg/L	ND	ND	NA	<1.6
Sodium	20000	µg/L	8630	13100	NA	14300
Thallium	0.5 GV	µg/L	ND	ND	NA	<2.3
Vanadium	---	µg/L	ND	ND	NA	<1.0
Zinc	2000 GV	µg/L	57.3	28.6	41.8	13.9 B
VOCs by EPA Method 601:						
Chlorobenzene	5	µg/L	ND	ND	ND	<1
Chloroethane	5	µg/L	ND	NA	NA	<1
Chloroform	7	µg/L	ND	ND	ND	<1
Dichlorodifluoromethane	5	µg/L	ND	NA	NA	<1
1,1-Dichloroethane	5	µg/L	ND	ND	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1
VOCs by EPA Method 602:						
Benzene	1	µg/L	ND	ND	ND	<1
Chlorobenzene	5	µg/L	ND	ND	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1

NOTES:

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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			
			Mar-99 [3]	Jun-99 [3]	Sep-99 [4]	Jul-00 [3]	Mar-99 [3]	Jun-99 [3]	Sep-99 [4]	Jul-00 [3]
Leachate Indicator Parameters:										
Alkalinity	---	mg/L	14.8	9	9	21.8	78.5	77.5	80	76.4
Chemical Oxygen Demand	---	mg/L	ND	ND	ND	15.0	7.2	ND	ND	10.0
Total Hardness	---	mg/L	26.6	28.7	38	33.1	140	170	152	100
Total Kjeldhal Nitrogen	---	mg/L	ND	ND	1.4	<1.0	ND	ND	2.1	<1.0
TAL Metals:										
Aluminum	---	µg/L	ND	29.8	NA	<9.8	ND	26.3	NA	<9.8
Antimony	3	µg/L	ND	ND	ND	<3.4	2.8	ND	ND	<3.4
Arsenic	25	µg/L	ND	9.7	ND	<2.6	ND	7.1	ND	<2.6
Barium	1000	µg/L	4.1	6.5	NA	5.4 B	2.3	4.1	NA	1.9 B
Beryllium	3	µg/L	ND	ND	NA	<0.10	ND	ND	NA	<0.10
Cadmium	5	µg/L	ND	ND	ND	<0.40	ND	ND	ND	<0.40
Calcium	---	µg/L	7380	9190	NA	8700	36500	46600	NA	33200
Chromium	50	µg/L	ND	ND	ND	0.75 B	0.69	ND	ND	<0.50
Cobalt	---	µg/L	ND	ND	NA	<1.2	ND	ND	NA	<1.2
Copper	200	µg/L	128	97.2	39.7	99.1	13	29.1	7.5	18.6 B
Iron	300 [1]	µg/L	42.2	163	ND	18.0 B	35.3	114	ND	59.4 B
Lead	25	µg/L	4.6	2.5	ND	6.8	ND	ND	ND	2.3 B
Magnesium	35000 GV	µg/L	2060	2290	ND	2780 B	4290	5310	6.5	4260 B
Manganese	300 [1]	µg/L	1.4	1.9	ND	0.81 B	6.6	6.6	ND	1.8 B
Mercury	0.7	µg/L	ND	ND	ND	<0.20	ND	ND	ND	<0.20
Nickel	100	µg/L	ND	1.1	NA	<1.1	ND	1.2	NA	<1.1
Potassium	---	µg/L	787	544	NA	754 B	1120	1110	NA	1070 B
Selenium	10	µg/L	ND	ND	NA	<3.6 W	ND	ND	NA	<3.6
Silver	50	µg/L	ND	ND	NA	<1.6	ND	ND	NA	<1.6
Sodium	20000	µg/L	4470	4300	NA	5430	10200	13200	NA	9110
Thallium	0.5 GV	µg/L	ND	ND	NA	<2.3	ND	ND	NA	<2.3
Vanadium	---	µg/L	ND	ND	NA	<1.0	ND	ND	NA	<1.0
Zinc	2000 GV	µg/L	270	57.4	32.6	20.2	42.5	55.3	53.6	70.0
VOCs by EPA Method 601:										
Chlorobenzene	5	µg/L	ND	ND	ND	<1	ND	ND	ND	<1
Chloroethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
Chloroform	7	µg/L	ND	ND	ND	<1	ND	ND	ND	<1
Dichlorodifluoromethane	5	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
1,1-Dichloroethane	5	µg/L	ND	ND	ND	<1	ND	ND	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1
VOCs by EPA Method 602:										
Benzene	1	µg/L	ND	ND	ND	<1	ND	ND	ND	<1
Chlorobenzene	5	µg/L	ND	ND	ND	<1	ND	ND	ND	<1
1,4-Dichlorobenzene	3	µg/L	ND	NA	NA	<1	ND	NA	NA	<1

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

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POST-CLOSURE GROUNDWATER QUALITY MONITORING RESULTS
ANALYTICAL RESULTS

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

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 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 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
1-OS	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND
1-R	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND
2-OS	NA	NA	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND
2-R	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND
3-OS/I	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND
3-R	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND
4-OS	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND
4-R	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND
5-OS	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	ND	NA	ND	ND
5-I	NA	ND	NA	NA	NA	ND	NA	ND	NA	ND	NA	NA	ND	NA
5-R	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND
7-OS	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND
7-R	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	ND	NA	ND	ND
8-OS	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
8-R	ND	ND	ND	ND	ND	ND	**2.0**	ND	ND	ND	ND	ND	ND	ND
9-OS	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
9-R	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
PW-2	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
SVWC-93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND
SVWC-94	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	NA	ND
SVWC-95	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	NA	ND
SVWC-96	ND	ND	NA	NA	ND	ND	ND	ND	NA	ND	NA	ND	NA	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
1-OS	NA	**102**	NA	**88**	NA	**220**	NA	**1180**	NA	**52.1**	**496**	NA	**1850**	**2100**
1-R	NA	**176**	NA	**200**	NA	ND	NA	37.1	NA	41.7	39.8	NA	**73.4**	**58.6**
2-OS	NA	NA	NA	ND	NA	ND	NA	**241**	NA	**121**	13.6	NA	**285**	**415**
2-R	NA	20.7	NA	**160**	NA	**50**	NA	**53.5**	NA	**59.6**	**75.6**	NA	ND	4
3-OS/I	NA	29.7	NA	25	NA	**190**	NA	**433**	NA	**804**	**270**	NA	**321**	**687**
3-R	NA	24.2	NA	27	NA	ND	NA	20.7	NA	12.8	**73**	NA	**75.7**	**51.2**
4-OS	NA	6.2	NA	ND	NA	ND	NA	34.7	NA	8.6	2.2	NA	**87.7**	36.8
4-R	NA	1.8	NA	ND	NA	ND	NA	2.7	NA	7.7	0.78	NA	ND	ND
5-OS	NA	NA	NA	19	NA	NA	NA	NA	NA	NA	15.3	NA	NA	**69.3**
5-I	NA	8	NA	NA	NA	ND	NA	2.3	NA	9.6	NA	NA	10.6	NA
5-R	NA	7.2	NA	10	NA	ND	NA	ND	NA	2.5	4.4	NA	2.7	14.7
7-OS	NA	4.4	NA	41	NA	**60**	NA	**188**	NA	**96.2**	48.1	NA	**59.2**	**200**
7-R	NA	3.4	NA	ND	NA	ND	NA	ND	NA	3.4	1.6	NA	ND	ND
8-OS	35.8	15.9	20	ND	ND	ND	ND	4	9.6	4.5	**79.4**	20.2	31	30.1
8-I	26.2	17.4	**110**	17	10	ND	20	4.6	4.8	**55.6**	NA	**56.8**	ND	10
8-R	23.8	20.4	ND	ND	20	20	ND	ND	5.2	6.3	3.4	2	ND	1.1
9-OS	11.2	5.2	ND	ND	10	ND	ND	ND	2.3	0.64	9.8	1.1	ND	34.5
9-I	11.4	4.8	ND	ND	ND	ND	ND	1.7	8	2.8	1.7	6.8	ND	10.8
9-R	12.8	23.8	**90**	ND	20	ND	ND	15.2	1.9	23.4	8.5	15	47.3	3
PW-1	ND	0.43	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.75
PW-2	0.94	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.69	ND	ND	ND
SVWC-93	ND	0.89	ND	ND	ND	ND	ND	ND	ND	0.78	NA	ND	NA	ND
SVWC-94	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	NA	0.53
SVWC-95	ND	ND	ND	ND	ND	ND	NA	ND	ND	0.96	NA	ND	NA	ND
SVWC-96	ND	1.3	NA	NA	ND	ND	ND	ND	NA	ND	NA	ND	NA	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
1-OS	NA	**48000**	NA	**19000**	NA	**49000**	NA	**62100**	NA	**3150**	**74400**	NA	**76200**	**40500**
1-R	NA	**1910**	NA	**1800**	NA	ND	NA	**1020**	NA	**561**	**897**	NA	**1420**	**867**
2-OS	NA	NA	NA	140	NA	**900**	NA	**15100**	NA	**24900**	**536**	NA	**6910**	**32900**
2-R	NA	**6920**	NA	**1600**	NA	**800**	NA	**1700**	NA	**718**	**2110**	NA	**2640**	**1790**
3-OS/I	NA	**303**	NA	**1500**	NA	**5400**	NA	**29800**	NA	**23600**	**1620**	NA	**1990**	**3310**
3-R	NA	**4200**	NA	**1500**	NA	**700**	NA	**1420**	NA	**1260**	**680**	NA	**8770**	**1610**
4-OS	NA	**1300**	NA	**2700**	NA	**600**	NA	**8490**	NA	**6840**	**1100**	NA	**50200**	**16300**
4-R	NA	**3970**	NA	**6800**	NA	**3300**	NA	**5310**	NA	**1850**	**5250**	NA	**7500**	**5900**
5-OS	NA	NA	NA	**8100**	NA	NA	NA	NA	NA	NA	**8180**	NA	NA	**41500**
5-I	NA	**2170**	NA	NA	NA	**600**	NA	**3150**	NA	**851**	NA	NA	**700**	NA
5-R	NA	197	NA	ND	NA	100	NA	210	NA	94.5	105	NA	40.4	**5000**
7-OS	NA	**305**	NA	**9700**	NA	**9700**	NA	**36300**	NA	**21900**	**1950**	NA	**11300**	**4300**
7-R	NA	54.2	NA	ND	NA	ND	NA	112	NA	145	93.8	NA	ND	128
8-OS	**4370**	**997**	**2100**	ND	**1500**	**1800**	**2800**	**795**	**1820**	153	**1000**	**473**	**747**	**1200**
8-I	**38700**	**26400**	**80000**	**18000**	**26000**	**14000**	**15000**	**15700**	**6000**	**37200**	NA	**19100**	**4270**	**9870**
8-R	**14300**	**11700**	**2700**	**1400**	**5400**	**9200**	**12000**	**4880**	**4150**	**1940**	**2440**	**1140**	**5260**	**1180**
9-OS.	**1350**	**1030**	**460**	**1400**	**6500**	200	**300**	0.105	**392**	126	**912**	**515**	198	**1880**
9-I	**443**	80.5	100	ND	ND	ND	ND	113	**400**	91.3	86.4	**949**	ND	**2820**
9-R	**2270**	**1640**	**3200**	**13000**	**4700**	**7800**	**4600**	**5040**	**3660**	**3900**	**670**	**4360**	**3110**	**1340**
PW-1	38.1	40.2	**30000**	ND	ND	ND	ND	ND	94.4	38.8	42.2	163	ND	18
PW-2	ND	ND	ND	ND	ND	ND	ND	27.7	36.9	22.2	35.3	114	ND	59.4
SVWC-93	ND	ND	ND	ND	ND	ND	ND	26.4	253	50.2	NA	169	NA	8.8
SVWC-94	ND	ND	ND	ND	ND	ND	NA	ND	90.9	ND	NA	83.1	NA	3.9
SVWC-95	ND	98.8	ND	ND	ND	ND	NA	ND	61	27	NA	90.1	NA	23.2
SVWC-96	ND	147	NA	NA	ND	ND	ND	ND	NA	289	NA	67.8	NA	4.6

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

NOTES: Concentrations reported in µg/L (ppb).
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NA = Not Analyzed
Values in **BOLD** indicate an exceedance of groundwater quality standard for Manganese, 300 µg/L.