URS
AN INTERNATIONAL PROFESSIONAL SERVICES ORGANIZATION

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June 25, 1993

Ms. Kathleen A. McCue, Project Manager
Division of Hazardous Waste Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

RE: RAMAPO LANDFILL REMEDIAL DESIGN
PRELIMINARY RESULTS OF SECOND QUARTER MONITORING

Dear Ms. McCue:

Attached are the results of the second quarter monitoring which is being conducted as part of the Remedial Design phase of the Ramapo Landfill remediation project. First quarter monitoring results were transmitted to you on April 29, 1993. The monitoring program consists primarily of groundwater and surface water sampling and analysis. This document provides the preliminary analytical data, a presentation of the results for the second of four quarterly sampling events, which are included in the project, and a copy of the letter to H2M Labs concerning the data audit. It further includes historical analytical data tables for the four target compounds agreed to by the agencies, i.e., benzene, chromium, iron, and manganese. The second round monitoring event was conducted the week of April 19, 1993.

The first round samples were analyzed for the full TCL/TAL. The project Work Plan calls for the second, third, and fourth quarter samples to be analyzed for compounds on Schedules B and C, as well as those compounds which exceeded ARARs during the TCL/TAL analysis of the first round. URS has reviewed the data for the first two rounds and would like to address the compounds identified on Schedule C in the Work Plan prior to the third and fourth quarter sampling events. In reviewing the analytical results of the first two rounds, and the RI data, it is apparent that several of these compounds may be eliminated from analysis. The pesticides alpha-BHC, delta-BHC, and gamma-BHC have been detected infrequently and at very low concentrations over the course of RI and have not been found during the two rounds of samples during the Remedial Design phase. These compounds are not necessarily indicative of contamination at the landfill. Approximately $100 per sample could be realized by their elimination. In addition, mercury does not appear to be present at appreciable concentrations, or to be indicative of contamination at the landfill. It was not found during either the two recent rounds of sampling. Approximately $25 per sample could be realized by its elimination. In addition, there are compounds on Schedule B (e.g., phenols, calcium, potassium, etc.), some of which do not even have ARARs, which could be eliminated. However, it is our impression that modifications to the routine parameters list on Schedule B as specified by the NYSDEC are not permitted. Please inform us if this is not the case.

35314.00/6-25-93.KMC/ys

For the second round of sampling and analysis, URS suggested, and the NYSDEC agreed, to add sample locations beyond those specified in the Work Plan. Added were MW-50/S and MW-5R for background evaluation, and MW-20/S and MW-2R to evaluate the downward trend of contamination seen in this area. We believe that results from MW-2 show that the contamination in this area is significantly reduced from the original January, 1990 levels; and that concentrations of compounds and generally at or below levels found in the background well. We therefore wish to exclude MW-20/S and MW-2R from further quarterly sampling. We also recommend that sampling of monitoring wells MW-6I and MW-6R be dropped. This elimination is based on the proximity of MW-6 to MW-4, the fact that MW-4 is more highly contaminated than MW-6, and the fact that the remedial design includes extension of the leachate collector beyond the location of MW-6. We therefore also recommend that MW-6I and 6R be excluded from future sampling events.

We trust that you will consider our recommendations during and following your review of the second round data. Please feel free to call if you have any questions or wish to discuss these items. The final results for the second round of sampling will be provided by mid-July.

Sincerely,

URS CONSULTANTS, INC.

James Lanzo, P.E.
Project Manager

Enc.

cc: Supervisor Reisman - Town of Ramapo
G. Ostertag - Town of Ramapo
J. Gorton - URS
R. Pirog - URS
A. Monti - URS
File: 35314 (VI-C)

35314.00/6-25-93.KMC/ys

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July 16, 1993

Ms. Kathleen A. McCue, Project Manager
Division of Hazardous Waste Remediation
New York State Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

RE: RAMAPO LANDFILL REMEDIAL DESIGN
RESULTS OF SECOND QUARTER MONITORING

Dear Ms. McCue:

Attached please find the final chemical analytical data of the second quarter of 1993 monitoring at the Ramapo Landfill site. These tables are identical to those furnished as preliminary with our letter dated June 25, 1993.

As we discussed yesterday, the third quarter sampling event has been postponed to allow feedback from NYSDEC, NYSDOH, RCHD, or USEPA on potential modifications to the monitoring plan. We anticipate such comments by August 2 and are tentatively planning the third quarter sampling for late August.

Please feel free to call if you wish to discuss.

Sincerely,

URS CONSULTANTS, INC.

James Lanzo, P.E.
Project Manager

Enc.

cc: Supervisor Reisman - Town of Ramapo
G. Ostertag - Town of Ramapo
J. Gorton - URS
R. Pirog - URS
A. Monti - URS
File: 35314 (VI-C)

35314.00/7-16-93.KMC/ys

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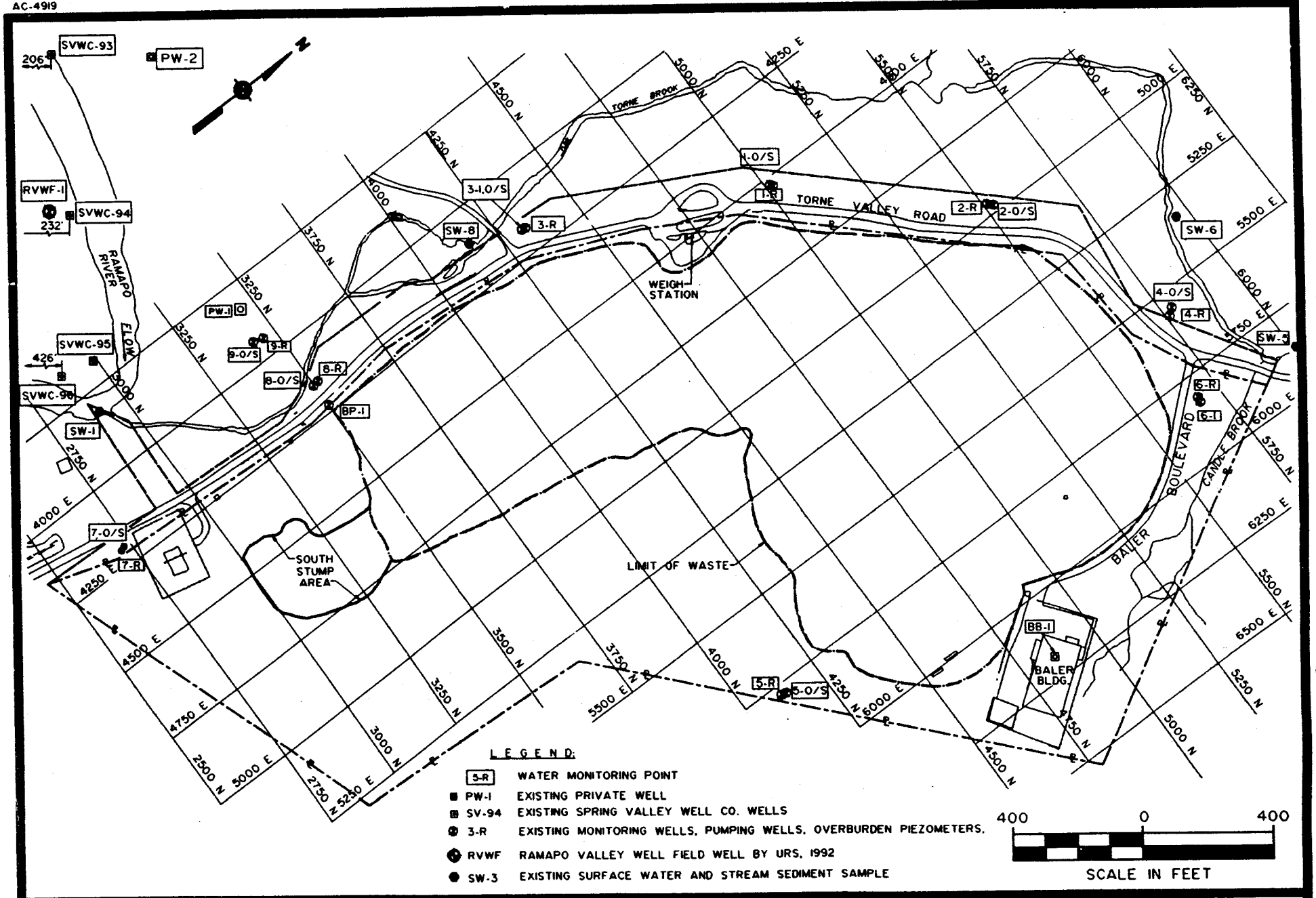

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RAMAPO LANDFILL SAMPLE LOCATIONS

FIGURE 1

TABLE 2

RAMAPO LANDFILL
GROUNDWATER AND SURFACE WATER
MONITORING DATA
COMPOUND: Benzene

Sample ID	Date of Sampling Event			
	1/90	9/90	1/93	4/93
1 O/S	ND	ND	ND	ND
1 R	ND	ND	ND	ND
2 O/S	ND	ND	NA	ND
2R	ND	ND	NA	ND
3 O/S	ND	ND	ND	ND
3 R	ND	ND	ND	ND
4 O/S	ND	0.3	ND	ND
4 R	1.0	1.0	ND	0.7
5 O/S	2.0	ND	ND	ND
5 R	ND	ND	ND	ND
6 I	NA	0.2	ND	ND
6 R	NA	ND	ND	ND
7 O/S	ND	ND	ND	ND
7 R	ND	ND	ND	ND
8 O/S	2.0	0.3	ND	ND
8 R	3.0	0.4	ND	0.9
9 O/S	NA	ND	ND	ND
9 R	NA	0.9	ND	ND
PW-1	NA	ND	ND	ND
PW-2	NA	NA *	ND	ND
BP-1	NA	NA	ND	NA
BB-1	NA	NA	ND	ND
RVWF-1	NA	NA	ND	ND
SVWC-93	NA	NA	ND	ND
SVWC-94	NA	NA	ND	ND
SVWC-95	NA	NA	ND	ND
SVWC-96	NA	NA	ND	ND
Surface Water	Date of Sampling Event			
Sample ID	10/89	7/90	1/93	4/93
SW-1	ND	NA	ND	ND
SW-5	ND	ND	ND	ND
SW-6	NA	ND	ND	ND
SW-8	NA	ND	ND	ND

Notes: Concentration reported in µg/L (ppb).

ND - Not detected

NA - Not applicable (e.g. well not installed by this date or if installed, not sampled)

** NYSDOH results from 3/92 sampling.*

- Exceeded ARAR value of 0.7 ppb for groundwater.

TABLE 5

RAMAPO LANDFILL
GROUNDWATER AND SURFACE WATER
MONITORING DATA
COMPOUND: Manganese

Sample ID	Date of Sampling Event			
	1/90	9/90	1/93	4/93
1 O/S	3,790.0	3,700.0	809.0	1410
1 R	144.0	98.5	61.4	38.7
2 O/S	298.0	4770.0	NA	27.0
2R	197.0	135.0	NA	118
3 O/S	8,700.0	18,100.0	3,450.0	1690
3 R	7,230.0	12,400.0	10,700.0	12900
4 O/S	4,210.0	5,020.0	547.0	506
4 R	1,730.0	1,520.0	1,660.0	1890
5 O/S	981.0	530.0	192.0	43.2
5 R	22.3	9.3	9.6	21.9
6 I	NA	33.1	151.0	1.3
6 R	NA	14.3	100.0	57.5
7 O/S	1,240.0	3,260.0	48.3	46.1
7 R	51.9	102.0	46.1	51.8
8 O/S	2,830.0	2,750.0	1,680.0	1640
8 R	872.0	181.0	1,660.0	2600
9 O/S	NA	14.6	ND	21.1
9 R	NA	3,270.0	2,320.0	2280
PW-1	NA	ND	1.2	1.8
PW-2	NA	ND *	4.7	7.5
BP-1	NA	NA	4,630.0	NA
BB-1	NA	NA	7.9	11.7
RVWF-1	NA	NA	839.0	40.2
SVWC-93	NA	NA	ND	1.7
SVWC-94	NA	NA	7.3	ND
SVWC-95	NA	NA	56.4	1.8
SVWC-96	NA	NA	ND	ND
Surface Water	Date of Sampling Event			
Sample ID	10/89	7/90	1/93	4/93
SW-1	1,120.0	NA	16.6	107
SW-5	19.5	44.5	19.3	27.9
SW-6	NA	31.9	14.5	23.9
SW-8	NA	153.0	10.9	28.5

Notes: Concentration reported in µg/L (ppb).

ND - Not detected

NA - Not applicable (e.g. well not installed by this date or if installed, not sampled)

** NYSDOH results from 3/92 sampling.*

- Exceeded ARAR value of 300 ppb for groundwater.

TABLE 3

RAMAPO LANDFILL
GROUNDWATER AND SURFACE WATER
MONITORING DATA
COMPOUND: Chromium

Sample ID	Date of Sampling Event			
	1/90	9/90	1/93	4/93
1 O/S	153	57.3	8	ND
1 R	39.7	17.5	ND	ND
2 O/S	180	141	NA	ND
2R	16.1	5.5	NA	ND
3 O/S	587	1290	807	40.4
3 R	28	11.4	ND	ND
4 O/S	139	40.1	5.8	ND
4 R	35.5	13.1	ND	8.8
5 O/S	90	35.6	48.8	ND
5 R	27.4	29.3	6.8	ND
6 I	NA	28.7	ND	ND
6 R	NA	31.1	24	34.8
7 O/S	33.5	40.1	24.2	13.0
7 R	16.2	16.8	ND	ND
8 O/S	34.8	16.7	ND	ND
8 R	20	23.1	9.9	ND
9 O/S	NA	6.8	ND	ND
9 R	NA	8.8	3.9	16.4
PW-1	NA	ND	ND	ND
PW-2	NA	ND *	ND	ND
BP-1	NA	NA	ND	NA
BB-1	NA	NA	ND	ND
RVWF-1	NA	NA	25.2	14.7
SVWC-93	NA	NA	ND	ND
SVWC-94	NA	NA	ND	ND
SVWC-95	NA	NA	ND	ND
SVWC-96	NA	NA	ND	ND
Surface Water	Date of Sampling Event			
Sample ID	10/89	7/90	1/93	4/93
SW-1	ND	NA	ND	ND
SW-5	ND	ND	ND	ND
SW-6	NA	ND	ND	ND
SW-8	NA	ND	ND	ND

Notes: Concentration reported in µg/L (ppb).

ND - Not detected

NA - Not applicable (e.g. well not installed by this date or if installed, not sampled)

** NYSDOH results from 3/92 sampling.*

- Exceeded ARAR value of 50 ppb for groundwater.

- Exceeded ARAR value of 50 ppb for surface water.

The ARAR for SW-1 (Class A water body) is 50 ppb.

TABLE 4

RAMAPO LANDFILL
GROUNDWATER AND SURFACE WATER
MONITORING DATA
COMPOUND: Iron

Sample ID	Date of Sampling Event			
	1/90	9/90	1/93	4/93
1 O/S	45000	17500	1870	884
1 R	1180	2650	395	197
2 O/S	912	41800	NA	186
2R	409	602	NA	674
3 O/S	6830	9750	5110	333
3 R	1930	1370	11500	2940
4 O/S	15600	12400	529	520
4 R	8230	5290	3520	4920
5 O/S	27000	11200	11100	4700
5 R	658	368	620	2310
6 I	NA	486	953	17.3
6 R	NA	683	1220	715
7 O/S	981	24500	1250	521
7 R	ND	1940	31.5	56.6
8 O/S	229000	43800	3230	2080
8 R	1360	2940	11600	2590
9 O/S	NA	249	50.7	1200
9 R	NA	20200	2680	8250
PW-1	NA	64	186	130
PW-2	NA	11 *	41.8	49.5
BP-1	NA	NA	274	NA
BB-1	NA	NA	NA	297
RVWF-1	NA	NA	362	207
SVWC-93	NA	NA	32.6	10.6
SVWC-94	NA	NA	40.3	19.1
SVWC-95	NA	NA	51.7	74.4
SVWC-96	NA	NA	22.3	17.3
Surface Water	Date of Sampling Event			
Sample ID	10/89	7/90	1/93	4/93
SW-1	2630	NA	141	1670
SW-5	93	163	194	204
SW-6	NA	177	82.5	245
SW-8	NA	1290	109	341

Notes: Concentration reported in µg/L (ppb).

ND - Not detected

NA - Not applicable (e.g. well not installed by this date or if installed, not sampled)

** NYSDOH results from 3/92 sampling.*

- *Exceeded ARAR value of 300 ppb for groundwater.*
- *Exceeded ARAR value of 300 ppb for surface water.*

TABLE 5

RAMAPO LANDFILL
GROUNDWATER AND SURFACE WATER
MONITORING DATA
COMPOUND: Manganese

Sample ID	Date of Sampling Event			
	1/90	9/90	1/93	4/93
1 O/S	3,790.0	3,700.0	809.0	1410
1 R	144.0	98.5	61.4	38.7
2 O/S	298.0	4770.0	NA	27.0
2R	197.0	135.0	NA	118
3 O/S	8,700.0	18,100.0	3,450.0	1690
3 R	7,230.0	12,400.0	10,700.0	12900
4 O/S	4,210.0	5,020.0	547.0	506
4 R	1,730.0	1,520.0	1,660.0	1890
5 O/S	981.0	530.0	192.0	43.2
5 R	22.3	9.3	9.6	21.9
6 I	NA	33.1	151.0	1.3
6 R	NA	14.3	100.0	57.5
7 O/S	1,240.0	3,260.0	48.3	46.1
7 R	51.9	102.0	46.1	51.8
8 O/S	2,830.0	2,750.0	1,680.0	1640
8 R	872.0	181.0	1,660.0	2600
9 O/S	NA	14.6	ND	21.1
9 R	NA	3,270.0	2,320.0	2280
PW-1	NA	ND	1.2	1.8
PW-2	NA	ND *	4.7	7.5
BP-1	NA	NA	4,630.0	NA
BB-1	NA	NA	7.9	11.7
RVWF-1	NA	NA	839.0	40.2
SVWC-93	NA	NA	ND	1.7
SVWC-94	NA	NA	7.3	ND
SVWC-95	NA	NA	56.4	1.8
SVWC-96	NA	NA	ND	ND
Surface Water	Date of Sampling Event			
Sample ID	10/89	7/90	1/93	4/93
SW-1	1,120.0	NA	16.6	107
SW-5	19.5	44.5	19.3	27.9
SW-6	NA	31.9	14.5	23.9
SW-8	NA	153.0	10.9	28.5

Notes: Concentration reported in µg/L (ppb).

ND - Not detected

NA - Not applicable (e.g. well not installed by this date or if installed, not sampled)

** NYSDOH results from 3/92 sampling.*

- Exceeded ARAR value of 300 ppb for groundwater.

TABLE 1
RAMAPO LANDFILL - APRIL 1993 SAMPLING

ANALYTE	CONCENTRATION (μg/L)									
	1-OS	1-R	2-OS	2-R	3-OS/I	3-R	4-OS	4-R	5-OS	5-R
1,1-Dichloroethane	--	0.9 J	--	--	--	--	--	2	--	--
Chlorobenzene	--	--	--	--	--	--	--	--	--	--
Benzene	--	--	--	--	--	--	--	0.7 J	--	--
Vinyl Chloride	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	--	--	--	--	--	--	--	--
bis(2-ethylhexyl)phthalate	--	9 J	1 J	18	2 J	23	--	240 E	45	5 J
Dibenzofuran	--	--	--	--	--	--	--	--	--	--
Di-n-octylphthalate										
gamma BHC	--	--	--	--	--	--	--	--	--	--
Delta BHC	--	--	--	--	--	--	--	--	--	--
Alpha BHC	--	--	--	--	--	--	--	--	--	--
Antimony	--	1.4	--	--	--	--	--	--	--	--
Arsenic	--	--	--	--	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--	--	--	--	--
Calcium	--	93,900	--	--	--	--	--	62,700	3,920	--
Chromium	--	--	--	--	--	--	--	8.8	--	--
Copper	4.2	8.8	5.3	12.0	7.4	6.3	2.3	4.0	7.3	13.2
Iron	--	197	186	674	--	2,940	520	4,920	4,700	2,310
Lead	1.7	--	1.1	2.1	--	--	--	--	--	--
Magnesium	15,500	17,600	13,700	118	22,000	27,400	14,100	20,200	1,970	4,930
Manganese	1410	38.7	27.0	11,800	1,690	12,900	506	1,890	43.2	21.9
Mercury	--	--	--	--	--	--	--	--	--	--
Nickel	18.8	15.9	12.5	15.4	138	59.5	33.6	21.4	12.5	--
Potassium	1,890	1,960	884	1,280	2,460	1,540	1,280	1,700	828	1,140
Sodium	26,800	15,800	6,800	6,710	61,700	48,000	35,900	14,500	3,620	4,290
Zinc	10.4	9.9	14.6	21.0	7.0	12.3	11.0	9.4	20.3	17.2

J - Concentration is less than the contract required detection limit, but > 0
B - Compound detected in the associated method blank
R - Compound rejected due to contamination in the associated blank
E - Concentration of compound has exceeded the linear range of calibration
D - Compound detected in a secondary dilution

35314/analcon1/1/jn-dmc
24-Jun-93

TABLE 1 (Cont'd)
RAMAPO LANDFILL - APRIL 1993 SAMPLING

ANALYTE	CONCENTRATION (μg/L)										
	6-I	6-R	7-OS	7-R	8-OS	8-R	9-OS	9-R	BB-1	PW-1	PW-2
1,1-Dichloroethane	--	--	--	--	--	0.8 J	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	5	--	2	--	--	--
Benzene	--	--	--	--	--	0.9 J	--	0.8 J	--	--	--
Vinyl Chloride	--	--	--	--	--	3	--	--	--	--	--
Hexachlorobenzene	--	--	--	--	--	--	--	--	--	--	--
bis(2-ethylhexyl)phthalate	17	20	2 J	32	2 J	130 D	R	R	18	2 J	--
Dibenzofuran	--	--	--	--	--	--	--	--	--	--	--
Di-n-octylphthalate											
gamma BHC	--	--	--	--	--	--	--	--	--	--	--
Delta BHC	--	--	--	--	--	--	--	--	--	--	--
Alpha BHC	--	--	--	--	--	--	--	--	--	--	--
Antimony	--	2.0	--	--	--	--	--	--	--	--	--
Arsenic	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--	--	--	--	--	--
Calcium	--	22,300	107,000	--	--	221,000	--	47,200	17,500	--	--
Chromium	--	34.8	13.0	--	--	--	--	16.4	--	--	--
Copper	0.83	3.3	16.2	3.7	8.1	19.0	6.1	6.6	35.1	--	18.3
Iron	17.3	715	521	56.0	2,080	2,590	1,200	8,250	297	--	49.5
Lead	1.2	1.1	--	--	--	--	--	--	--	--	--
Magnesium	4,020	5,300	28,100	16,600	11,200	54,400	2,490	15,600	3,730	3,130	5,400
Manganese	1.3	57.5	46.1	51.8	1640	2,600	21.1	2,280	11.7	1.8	7.5
Mercury	--	--	--	--	--	--	--	--	--	--	--
Nickel	--	13.2	21.8	18.6	18.9	45.2	--	42.5	--	17.0	12.5
Potassium	919	1,120	2,800	2,010	12,700	18,300	908	22,500	730	886	1,210
Sodium	4,700	5,100	87,000	19,100	47,500	70,500	1,960	97,200	5,190	5,230	11,000
Zinc	--	--	14.0	10.1	--	7.6	16.2	18.0	290	70.3	20.1

J - Concentration is less than the contract required detection limit, but > 0
B - Compound detected in the associated method blank
R - Compound rejected due to contamination in the associated blank
E - Concentration of compound has exceeded the linear range of calibration
D - Compound detected in a secondary dilution

35314/analcon1/1/jn-dmc
24-Jun-93

TABLE 1 (Cont'd)
RAMAPO LANDFILL - APRIL 1993 SAMPLING

ANALYTE	CONCENTRATION (μg/L)					
	RVWF-1	SVWC-93	SVWC-94	SVWC-95	SVWC-96	ARARs @
1,1-Dichloroethane	--	--	--	--	--	5
Chlorobenzene	--	--	--	--	--	5 §
Benzene	--	--	--	--	--	0.7 @
Vinyl Chloride	--	--	--	--	--	2
Hexachlorobenzene	--	--	--	--	--	0.35
bis(2-ethylhexyl)phthalate	R	R	R	R	R	50
Dibenzofuran	--	--	--	--	--	50 ¤
Di-n-octylphthalate						50
gamma BHC	--	--	--	--	--	ND
Delta BHC	--	--	--	--	--	ND
Alpha BHC	--	--	--	--	--	ND
Antimony	--	1.6	--	--	--	3
Arsenic	--	--	--	--	--	25
Cadmium	--	--	--	--	--	10
Calcium	--	18,900	23,200	21,800	14,300	--
Chromium	--	--	--	--	--	50
Copper	8.9	36.8	22.1	7.6	19.9	200
Iron	207	10.6	19.1	74.4	17.3	300
Lead	--	1.9	1.9	--	4.5	15 ¥
Magnesium	4,410	4,650	5,990	5,480	4,180	35,000
Manganese	40.2	1.7	--	1.8	--	300
Mercury	--	--	--	--	--	2
Nickel	22.0	16.1	26.3	--	--	--
Potassium	1,580	1,180	1,180	1,240	887	--
Sodium	21,100	25,700	31,100	29,200	21,200	20,000
Zinc	32.9	10.8	12.2	21.4	14.5	300

@ - Values obtained from Water Quality Regulations for Surface Waters and Groundwaters 6 NYCRR Parts 700-705, September 1, 1991, unless otherwise indicated.

§ - Values obtained from Chapter I - New York State Sanitary Code, Subpart 5-1, Principle Organic Contaminants.

¤ - Value obtained from Chapter I - New York State Sanitary Code, Subpart 5-1, Unspecified Organic Contaminants.

¥ - USEPA action level

R - Compound rejected due to contamination in the associated blank

TABLE 1 (Cont'd)
RAMAPO LANDFILL - APRIL 1993 SAMPLING

ANALYTE	CONCENTRATION (μg/L)				
	SW-1	SW-5	SW-6	SW-8	ARARs æ
1,1-Dichloroethane	--	--	--	--	0.07
Chlorobenzene	--	--	--	--	20
Benzene	--	--	--	--	0.7
Vinyl Chloride	--	--	--	--	0.3
Hexachlorobenzene	--	--	--	--	0.02
bis(2-ethylhexyl)phthalate	33	3 J	4 J	21	0.6
Dibenzofuran	--	--	--	--	50
Di-n-octylphthalate					50
gamma BHC	--	--	--	--	0.01
Delta BHC	--	--	--	--	0.01
Alpha BHC	--	--	--	--	0.01
Antimony	--	--	--	--	3
Arsenic	--	--	--	--	50
Cadmium	--	--	--	--	10, ¢
Calcium	11,700	3,886	3,590	4,130	--
Chromium	--	--	--	--	50, ¢
Copper	5.1	1.6	1.5	3.8	200, ¢
Iron	1,670	204	245	341	300
Lead	3.2	--	--	--	50, ¢
Magnesium	3,060	918	868	972	35,000
Manganese	167	27.9	23.9	28.5	300
Mercury	--	--	--	--	0.012 £
Nickel	--	15.5	--	--	1.30E-07 £
Potassium	2,650	420	431	449	--
Sodium	8,460	3,150	2,800	2,650	--
Zinc	19.6	15.3	16.9	18.5	30

æ - Values obtained from Water Quality Regulations for Surface Waters and Groundwaters 6 NYCRR Parts 700-705, September 1, 1991, unless otherwise indicated.

£ - Clean Water Act

¢ - ARAR value must be calculated; see next page.

J - Concentration is less than the contract required detection limit, but > 0

TABLE 1 (Cont'd)
RAMAPO LANDFILL - APRIL 1993 SAMPLING

Calculated Surface Water ARARs

		SW-1		SW-5		SW-6		SW-8	
			ARAR		ARAR		ARAR		ARAR
Hardness	ppm	41.8		13.5		12.5		14.3	
Copper	µg/L	5.1	5.6	1.6		1.5	2.0	3.8	
Lead	µg/L	3.2			0.26		0.23		0.27

Copper ARAR = e^(0.8545 [ln (Hardness)] - 1.465)

Lead ARAR = e^(1.266 [ln (Hardness)] - 4.661)

URS
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June 23, 1993

Ms. Karen E. Kavanagh
H2M Labs, Inc.
575 Broad Hollow Road
Melville, New York 11747

RE: DATA AUDIT ON H2M LAB REPORTS: URS 008/009 AND URS 010/011 RAMAPO LANDFILL

Dear Ms. Kavanagh:

This letter is in reference to the data packages received at URS Consultants on June 4, 1993. The laboratory report numbers are URS 008/009 and URS 010/011. Please address the following comments and submit/resubmit all data requested so the data audit may be completed. All items are in reference to New York State Department of Environmental Conservation Analytical Services Protocol - September 1989 (12/91 Revision).

I. H2M LAB ID URS 008/009

A.) Semivolatile Data

1.) Sample 4R-RE:

a.) The seven day holding time for extraction has been exceeded by 4 days.

b.) Because bis(2-ethylhexyl)phthalate results were not consistent (with MS/MSD results), the sample does not require reanalyses. However, a dilution should have been performed since the concentration of bis(2-ethylhexyl)phthalate exceeded the linear range of calibration. Please note this will be a requirement for all future work performed for URS or the data may be invalidated.

II. H2M LAB ID URS 008/009 AND URS 010/011

A.) Wet Chemistry Parameters

1.) From the data submitted it appears that the 24 hour holding time for nitrate analysis has been exceeded. Please explain and, if necessary, report this deviation in the SDG narrative.

Please address these items and return the data requested by July 7, 1993 so the data audit may be completed. If you have any questions or comments, please do not hesitate to contact me. Thank you for your cooperation.

Sincerely,

URS CONSULTANTS, INC.

Janet S. Miles

Janet S. Miles
Environmental Chemist

cc: James Lanzo - URS
Robert Najjar - URS
Mary Bitka - URS
File: 35314 (VIII)