

**2006 ANNUAL MONITORING REPORT
OPERABLE UNIT-1 AND OPERABLE UNIT-2
STUDY AREA
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE**

**Prepared By and For:
The Coakley Landfill Group**

June 2007

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**2006 ANNUAL MONITORING REPORT
OPERABLE UNIT-1 AND OPERABLE UNIT-2 STUDY AREA
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE**

1 - INTRODUCTION

This report summarizes data collected in accordance with the approved Sediment, Surface Water, and Groundwater Environmental Monitoring Plan (Monitoring Plan) for Coakley Landfill (site) Operable Unit (OU-1) and Operable Unit 2 (OU-2). The validated data set that is summarized in this report was submitted separately to NHDES and EPA. The August 2006 sampling and analyses were performed by Aries Engineering, Inc.

Sampling and analysis were performed in accordance with the approved Monitoring Plan except as noted below:

- During the August 2006 monitoring round Aries inadvertently collected samples from the wrong location for sample L-1. Aries collected a sample from the correct location on November 30, 2006. However, Aries did not have enough sample bottles to collect the required metals sample, a duplicate metals sample, a duplicate VOC sample, trip blanks, or matrix spikes.

EPA's proposed revisions identified in letters to the Group dated August 24, 2006 and December 13, 2006 have been incorporated into this annual report. Copies of the EPA letters are included in Appendix C.

2 - GROUNDWATER SAMPLING DATA

Groundwater elevation data are presented in Table 1. Concentrations of Contaminants of Concern (COC) in overburden and bedrock groundwater samples collected during this sampling round are presented in Tables 2 and 3. Figures 3 through 7 provide a graphic location of COC concentrations and Interim Cleanup Level (ICL) concentration locations. Charts in Appendix A show COC concentration trends for selected locations.

2A – VOLATILE ORGANIC COMPOUND SAMPLING

Below is a summary of wells sampled for VOC analysis in this sampling round:

AE-2A	included in sampling round per EPA August 24, 2006 letter – historically at or near 5 ppb MCL for Benzene
AE-2B	included in sampling round per EPA August 24, 2006 letter – historically at or near 5 ppb MCL for Benzene
AE-3A	included in sampling round per EPA August 24, 2006 letter – historically at or near 5 ppb MCL for Benzene

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AE-3B	included in sampling round per EPA August 24, 2006 letter – historically at or near 5 ppb MCL for Benzene
AE-4A	VOC clean edge well
AE-4B	VOC clean edge well
FPC-2A	included in sampling round per EPA August 24, 2006 letter
FPC-2B	VOC clean edge well
FPC-4A	included in sampling round per EPA August 24, 2006 letter
FPC-4B	VOC clean edge well
FPC-6A	included in sampling round per EPA August 24, 2006 letter
FPC-6B	included in sampling round per EPA August 24, 2006 letter
FPC-8A	included in sampling round per EPA August 24, 2006 letter – historically at or near 5 ppb MCL for Benzene
FPC-8B	included in sampling round per EPA August 24, 2006 letter – historically at or near 5 ppb MCL for Benzene
GZ-105	COC concentration above ICL
MW-5D	VOC clean edge well
MW-5S	VOC clean edge well
MW-6	VOC clean edge well
MW-8	included in sampling round per EPA August 24, 2006 letter – in 2005 Tetrahydrofuran (THF) above NHDES AGQS of 154 ppb.
MW-11	COC concentration above ICL

Benzene concentrations in all wells were at or below the ICL of 5 $\mu\text{g/l}$ except for GZ-105, which had a concentration of 6 $\mu\text{g/l}$. Trend charts for Benzene are included in Appendix A. The long term trend in benzene concentrations has been declining, though recent results have been fairly steady in certain wells, at levels around 5 $\mu\text{g/l}$.

2B – METALS SAMPLING

Trend charts for Arsenic and Manganese are included in Appendix A. The arsenic results in most wells have fluctuated over time, with no clear pattern established. Concentrations of manganese have shown a declining trend in some wells, but have fluctuated in others.

3 - OFF-SITE RESIDENTIAL WATER SUPPLIES

Volatile Organic Compounds (VOC) were not detected in off-site residential water supply wells R-3 and R-5 at concentrations that exceeded the laboratory detection limits of 0.5 µg/l. This year's analytical results for samples collected from off-site residential water supply wells R-3 and R-5 do not indicate any impacts from the landfill site. The locations of wells R-3 and R-5 are shown on Figure 2. Table 4 provides a summary of residential well monitoring results.

4 - SURFACE WATER

This year's surface water monitoring data are summarized in Table 5. The surface water sampling locations are shown on Figure 8.

5 - SEDIMENTS

This year's sediment monitoring data are summarized in Table 7. The sediment sampling locations are shown on Figure 8.

6 - SURFACE-SEEP LEACHATE

This year's surface-seep leachate monitoring data are summarized in Table 8. The surface-seep leachate sampling location is shown on Figure 8.

7 - RECOMMENDED MONITORING PLAN REVISIONS

Consistent with the 1999 Sediment, Surface Water and Groundwater Monitoring Plan, the Coakley Landfill Group proposes to decommission RMW-3, an overburden well that penetrates the landfill cap. The 1999 plan states that "removal of the monitoring wells which currently penetrate the landfill would further reduce possible migration of storm water along the well casing and into the underlying solid waste. Landfill monitoring wells would not be proposed for removal until an east to west groundwater flow pattern has been established."

The Coakley Landfill Group proposes to keep the 2007 Annual Monitoring Program consistent with the 2006 Annual Monitoring Program with the exception of the proposed revision noted above.

TABLE 1

6/6/2007

**SUMMARY OF GROUNDWATER ELEVATION DATA
2006 ANNUAL MONITORING PLAN DATA REPORT
COAKLEY LANDFILL OU-1 AND OU-2
NORTH HAMPTON, NEW HAMPSHIRE**

MONITORING WELL IDENTIFICATION		Ref. Pt Elev. (FT. NGVD)	Apr-93 GW. EL. FT.	Dec-96 GW. EL. FT.	Apr-97 GW. EL. FT.	Sep-97 GW. EL. FT.	Dec-97 GW. EL. FT.	Jun-98 GW. EL. FT.	Aug-98 GW. EL. FT.	Apr-99 GW. EL. FT.	Aug-99 GW. EL. FT.	Nov-99 GW. EL. FT.	Apr-00 GW. EL. FT.	Aug-00 GW. EL. FT.	Nov-00 GW. EL. FT.	Apr-01 GW. EL. FT.	Aug-01 GW. EL. FT.	Jun-02 GW. EL. FT.	Aug-02 GW. EL. FT.	Aug-03 GW. EL. FT.	Aug-04 GW. EL. FT.	Aug-05 GW. EL. FT.	Aug-06 GW. EL. FT.
ID	Grad																						
MW-2		94.54															86.75	89.00				ND	
MW-4	U	129.12	101.52							98.41	95.94	96.78	97.92	97.61	96.65	100.33	96.88	98.01	96.99	97.07	97.35	96.71	98.12
MW-5S		98.42	93.69							88.35	84.27	87.42	87.96	87.57	87.70	88.70	85.79	87.92	85.24	85.17	87.35	85.00	87.88
MW-5D		98.39								89.89	85.84	88.77	89.41	88.59	88.98	90.39	87.27	89.27	86.79	87.89	88.63	86.69	88.49
MW-6		101.15	93.4	93.84	93.44	90.04	92.25	93.44	91.33	92.55	88.03	91.98	92.52	92.20	92.32	93.23	89.79	92.50	89.16	90.09	92.13	89.01	92.45
MW-8	D	85.30		81.1	79.46	78.48	78.07	78.71	76.66	78.6	75.32	77.91	78.37	77.98	78.50	78.61	76.30	78.21	75.92	76.60	77.86	75.94	78.18
MW-9	D	82.62		77.97	78.03	75.87	76.06	77.16	74.47	75.82	73.42	75.46	76.09	76.00	76.86	76.88	74.10	75.74	73.81	73.28	76.13	73.94	75.71
MW-10	D	80.60		74.56	74.67	73.96	74.07	74.68	73.17	74.51	72.78	74.57	74.63	74.83	75.06	75.22	73.93	74.91	73.45	74.20	74.93	73.99	74.71
MW-11	D	92.70		87.21	85.36	83.56	83.81	83.69	81.77	83.42	79.17	82.42	82.8	82.35	82.40	83.09	80.59	82.67	80.11	81.24	82.26	79.85	82.89
GZ-105	D	73.60	66.42							70.86	67.46	70.77	70.78	69.82	71.16	71.02	69.31	70.83	68.45	69.71	71.09	69.28	70.91
GZ-109	U	119.36	99.49	98.8	98.01	95.84	95.68	99.08	96.99	97.39	94.91	94.59	96.81								ND		
OP-2		98.49	91.44	95.86	95.4				92.85	92.11	89.52	90.88	91.86	91.76	91.24	85.74	90.49	91.98	90.34	90.75	91.54	90.43	92.29
OP-5	U	112.68	94.92	99.26	98.28	96.59	96.41	100.41	100.41	97.39	95.84	96.41	97.58	97.33	96.40	107.29	97.54	97.72	96.82	96.98	97.31	96.78	98.03
RMW-3		117.61	95.03	99.81	98.45				90.96	89.61	87.25	88.15	89.3	89.17	88.32	91.58	88.59	89.82	88.60	88.58	88.62	88.73	
FPC-2A		78.40											75.69	76.70	76.98	NR		76.66	78.40	76.24	76.31	75.66	76.32
FPC-2B		77.98											77.47	77.30	77.71	77.78		77.38	76.37	76.81	77.28	76.45	77.30
FPC-4B	D	75.83	71.83																	69.96	71.58	68.21	71.63
FPC-05A	D	74.30	75.01	74.44	74.44	73.94		74.44	73.29	74.14	72.2	73.93	73.9	73.98	74.18	74.14	73.02	73.10	73.03	73.10	74.30	72.18	73.50
FPC-5B	D	74.90	74.85	74.81	74.81	73.91	74.21	74.81	73.3	74.6	72.38	74.48	74.25	74.60	74.77	74.70	73.43	70.96	73.15	74.23	74.40	73.19	74.68
FPC-06A	D	77.00	73.23							72.74		72.84	72.85	72.85	73.11	73.01		72.65			72.83	70.71	72.83
FPC-6B	D	77.10	73.2							72.81	69.86	72.94		72.09	73.21	73.14	70.88	72.33	70.30	71.94	70.32	68.37	70.47
FPC-08A	D	73.80	73.85	73.67	73.65	71.49	73.15	73.49	71.01	73.04	69.23	72.93	72.93	72.88	73.34	73.20	71.06	72.99	70.36	71.26	72.86	70.63	73.01
FPC-8B	D	73.60	72.83	73.52	73.49	71.44	73.04	73.33	70.84	72.88	69.14	72.77	72.78	72.63	73.18	72.99	70.93	72.79	70.07	71.22	72.69	70.58	72.83
FPC-09A	U	117.57	99.87							97.32	95.02	95.72	96.92	96.75	95.90	99.22	96.25	97.05	96.02	96.27	96.40	95.83	97.59
FPC-09B	U	117.87	99.99							97.81	95.07	95.79	96.98	96.83	95.99	99.28	96.15	97.08	96.11	96.37	ND	ND	
FPC-09C	U	117.75	100.45							97.87	95.77	96.33		97.25	96.50	99.62	NM	97.52		96.75	ND	ND	
BP-4	U	111.70		98.94	97.83	96.07	95.84	99.55	97.03	97.04	95.26	95.93	97.1	96.93	96.03	99.37	96.29	97.27	96.26	96.51	96.89	96.34	
AE-1A	U	127.00								97.95	95.55	96.21	97.37	97.23	96.34	99.67	96.54	97.54	96.53	96.67	97.05	97.35	98.10
AE-1B	U	126.80								97.91	95.51	96.13	97.35	97.19	96.31	99.65	96.43	97.51	96.51	96.65	97.09	96.49	98.09
AE-2A	D	79.60									72.49	75.74	75.71	75.67	76.03	75.69	73.58	75.66	72.98	73.75	75.19	73.18	75.70
AE-2B	D	79.50									72.59	75.79	75.79	75.44	76.04	75.78	73.49	75.65	73.16	74.42	75.33	73.60	75.61
AE-3A		86.10								77.47	76.64	77.74	77.56	77.99	77.92	77.80	77.05	77.70	76.86	76.30	77.90	77.14	78.02
AE-3B		87.30								78.55	77.19	78.38	78.35	78.47	78.61	78.64	78.30	78.49	77.47	77.90	78.58	76.86	78.66
AE-4A	D	77.20																			73.47	70.75	73.75
AE-4B	D	77.50																			73.42	70.51	73.30
FPC-7A		82.08	81.63							81.36										80.12	80.99	80.03	81.46
FPC-7B		82.33	80.53							80.93										79.82	80.72	79.69	81.02

NOTES:

1. Shaded data denotes a bedrock monitoring well.
2. A blank indicates data was not collected.
3. GW.EL. indicates groundwater elevation and FT. indicates measurements were in feet.
4. Groundwater samples were not collected during the June 2002 groundwater level round.
5. Per USEPA 8/22/2006 request, wells that are generally up-gradient ("U") or generally down-gradient ("D") to or from the landfill have been identified in the "Grad" column.

TABLE 2

6/28/2007

**SUMMARY OF OU-1 2006 GROUNDWATER ANALYTICAL RESULTS
2006 ANNUAL MONITORING PLAN DATA ASSESSMENT REPORT
COAKLEY LANDFILL OU-1 AND OU-2
NORTH HAMPTON, NEW HAMPSHIRE**

CONTAMINANT OF CONCERN	INTERIM CLEANUP LEVEL	MW-4 30-Aug-06	MW-5S 29-Aug-06	MW-5D 29-Aug-06	MW-6 29-Aug-06	MW-8 30-Aug-06
DATE SAMPLED						
VOLATILE ORGANIC COMPOUNDS IN ug/l						
Acetone			BDL	BDL	BDL	BDL
Benzene	5		BDL	2	BDL	5
Chlorobenzene	100		BDL	4	BDL	4
Chloroethane			BDL	24	BDL	20
Chloromethane			BDL	BDL	BDL	BDL
1,4 Dichlorobenzene			BDL	BDL	BDL	BDL
1,1 Dichloroethane			BDL	BDL	BDL	BDL
Ethylbenzene			BDL	BDL	BDL	BDL
Isopropylbenzene			BDL	BDL	BDL	BDL
p - Isopropyltoluene			BDL	BDL	BDL	BDL
Naphthalene			BDL	BDL	BDL	BDL
Ethyl Ether			BDL	89	BDL	114
Tetrahydrofuran			BDL	110	BDL	239
Toluene			BDL	BDL	BDL	BDL
1,2,4 Trimethylbenzene			BDL	BDL	BDL	3
1,3,5 Trimethylbenzene			BDL	BDL	BDL	BDL
o-Xylene			BDL	BDL	BDL	BDL
m&p - Xylene			BDL	BDL	BDL	3
Methylethylketone (MEK)	200		BDL	BDL	BDL	BDL
Methylisobutylketone			BDL	BDL	BDL	BDL
Methyl-t-butyl Ether			BDL	BDL	BDL	BDL
METALS IN ug/l						
Aluminum		34000	BDL	8	BDL	26
Arsenic	10	43	10	5	BDL	7
Barium		190	190	120	BDL	170
Cadmium		BDL	BDL	BDL	BDL	BDL
Calcium		66,000	54,000	48,000	15,000	55,000
Chromium	50	150	BDL	BDL	BDL	BDL
Copper		38	BDL	BDL	BDL	BDL
Iron (Total)		110,000	17,000	17,000	1,200	5,900
Dissolved Iron		27,000	19,000		900	
Lead	15	23	BDL	BDL	BDL	BDL
Magnesium		38,000	30,000	44,000	6,200	68,000
Mercury		BDL	BDL	BDL	BDL	BDL
Nickel	100	99	17	14	BDL	18
Potassium		39000	27,000	30,000	1,800	17,000
Selenium		BDL	BDL	4	BDL	5
Silver		BDL	BDL	BDL	BDL	BDL
Sodium		56,000	76,000	140,000	10,000	180,000
Thallium		BDL	BDL	BDL	BDL	BDL
Zinc		91	6	7	13	6
Cobalt		34	8	BDL	BDL	BDL
Beryllium		BDL	BDL	BDL	BDL	BDL
Manganese	300	4,500	3,700	890	540	2,500
Dissolved Manganese		1,300	3,700		540	
Antimony	6	BDL	BDL	BDL	BDL	BDL
Vanadium		63	BDL	BDL	BDL	BDL
FIELD PARAMETERS						
Temperature Degrees C		17.10	12.25	11.33	11.77	13.09
pH		6.47	6.61	7.22	6.86	6.73
Conductivity in us/cm		1024	884	1146	138	1339
Dissolved Oxygen in mg/l		3.68	3.34	1.32	1.68	2.11
Turbidity in NTU			10.9	10.0	8.1	7.9
Oxidation/Reduction Potential in mV		-44.0	-82.0	-171.0	-76.0	-55.0

NOTES:

1. NA = Sample was not analyzed for indicated parameter
BDL = Below Detection Limit
E = Exceeded Calibration Range
Bolded wells denote bedrock wells.

R = Low Surrogate Recovery
J = Laboratory control not within +/- 10% limits.

2. A blank indicates data was not collected.
3. Bolded contaminants are site contaminants of concern for which interim cleanup standards (ICLs) have been established.

4. Shaded values denote exceedance of an established or suggested interim cleanup level. According to EPA's most recent Five Year Report, the potential ICLs for arsenic and manganese should be set at 10 ug/l and 300 ug/l respectively. However, based on the New Hampshire Ambient Groundwater Quality Standard of 840 ug/l for manganese, the Group believes that the ICL should be set at 840 ug/l for manganese.

5. Volatile organic compound and metals results are in micrograms per liter (ug/l).

6. Field Parameter Units: us/cm = microsiemens per centimeter, mg/l = milligram per liter, NTU = nephelometric turbidity unit, mV = millivolt

TABLE 2

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COAKLEY LANDFILL OU-1 AND OU-2
NORTH HAMPTON, NEW HAMPSHIRE**

CONTAMINANT OF CONCERN	INTERIM CLEANUP LEVEL	MW-9 29-Aug-06	MW-10 29-Aug-06	MW-11 29-Aug-06	RMW-3 30-Aug-06	OP-2 29-Aug-06
DATE SAMPLED						
VOLATILE ORGANIC COMPOUNDS IN ug/l						
Acetone				BDL		
Benzene	5			5		
Chlorobenzene	100			2		
Chloroethane				20		
Chloromethane				BDL		
1,4 Dichlorobenzene				BDL		
1,1 Dichloroethane				BDL		
Ethylbenzene				BDL		
Isopropylbenzene				BDL		
p - Isopropyltoluene				BDL		
Naphthalene				BDL		
Ethyl Ether				47		
Tetrahydrofuran				50		
Toluene				BDL		
1,2,4 Trimethylbenzene				BDL		
1,3,5 Trimethylbenzene				BDL		
o-Xylene				BDL		
m&p - Xylene				8		
Methylethylketone (MEK)	200			BDL		
Methylisobutylketone				BDL		
Methyl-t-butyl Ether				BDL		
METALS IN ug/l						
Aluminum		BDL	19	BDL	BDL	BDL
Arsenic	10	81	11	10	80	200
Barium		66	55	96	30	19
Cadmium		BDL	BDL	BDL	BDL	BDL
Calcium		55,000	53,000	31,000	42,000	40,000
Chromium	50	BDL	BDL	BDL	BDL	BDL
Copper		BDL	BDL	BDL	BDL	BDL
Iron (Total)		65,000	27,000	17,000	53,000	44,000
Dissolved Iron		57,000				49,000
Lead	15	BDL	BDL	BDL	BDL	BDL
Magnesium		22,000	14,000	25,000	9,700	12,000
Mercury		BDL	BDL	BDL	BDL	BDL
Nickel	100	5	7	8	11	7
Potassium		15,000	9,400	10,000	13,000	23,000
Selenium		BDL	BDL	BDL	BDL	BDL
Silver		BDL	BDL	BDL	BDL	BDL
Sodium		35,000	35,000	110,000	14,000	17,000
Thallium		BDL	BDL	BDL	BDL	BDL
Zinc		3	16	6	6	5
Cobalt		BDL	7	BDL	8	BDL
Beryllium		BDL	BDL	BDL	BDL	BDL
Manganese	300	2,400	3,200	450	2,900	470
Dissolved Manganese		2200				480
Antimony	6	BDL	BDL	BDL	BDL	BDL
Vanadium		BDL	BDL	BDL	BDL	BDL
FILED PARAMETERS						
Temperature Degrees C		14.9	16.3	12.27	15.08	16.33
pH		6.4	6.47	6.89	6.21	6.55
Conductivity in us/cm		644.6	484.4	800.3	593	480.9
Dissolved Oxygen in mg/l		622	735	0.37	2.98	8.77
Turbidity in NTU		13.3	9.8	24.3	12.4	14.2
Oxidation/Reduction Potential in mV		-55	-65	-204	-44	-161

NOTES:

1. NA = Sample was not analyzed for indicated parameter
BDL = Below Detection Limit
E = Exceeded Calibration Range
Bolded wells denote bedrock wells.

R = Low Surrogate Recovery
J = Laboratory control not within +/- 10% limits.

2. A blank indicates data was not collected.
3. Bolded contaminants are site contaminants of concern for which interim cleanup standards (ICLs) have been established.

4. Shaded values denote exceedance of an established or suggested interim cleanup level. According to EPA's most recent Five Year Report, the potential ICLs for arsenic and manganese should be set at 10 ug/l and 300 ug/l respectively. However, based on the New Hampshire Ambient Groundwater Quality Standard of 840 ug/l for manganese, the Group believes that the ICL should be set at 840 ug/l for manganese.

5. Volatile organic compound and metals results are in micrograms per liter (ug/l).

6. Field Parameter Units: us/cm = microsiemens per centimeter, mg/l = milligram per liter, NTU = nephelometric turbidity unit, mV = millivolt

TABLE 2

6/28/2007

**SUMMARY OF OU-1 2006 GROUNDWATER ANALYTICAL RESULTS
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COAKLEY LANDFILL OU-1 AND OU-2
NORTH HAMPTON, NEW HAMPSHIRE**

CONTAMINANT OF CONCERN	INTERIM	OP-5	BP-4
DATE SAMPLED	CLEANUP	30-Aug-06	30-Aug-06
VOLATILE ORGANIC COMPOUNDS IN ug/l	LEVEL		
Acetone			
Benzene	5		
Chlorobenzene	100		
Chloroethane			
Chloromethane			
1,4 Dichlorobenzene			
1,1 Dichloroethane			
Ethylbenzene			
Isopropylbenzene			
p - Isopropyltoluene			
Naphthalene			
Ethyl Ether			
Tetrahydrofuran			
Toluene			
1,2,4 Trimethylbenzene			
1,3,5 Trimethylbenzene			
o-Xylene			
m&p - Xylene			
Methylethylketone (MEK)	200		
Methylisobutylketone			
Methyl-t-butyl Ether			
METALS IN ug/l			
Aluminum		BDL	BDL
Arsenic	10	27	26
Barium		13	53
Cadmium		BDL	BDL
Calcium		15,000	69,000
Chromium	50	BDL	BDL
Copper		BDL	BDL
Iron (Total)		12,000	36,000
Dissolved Iron		12,000	
Lead	15	BDL	BDL
Magnesium		3,600	38,000
Mercury		BDL	BDL
Nickel	100	22	9
Potassium		2,800	30,000
Selenium		BDL	BDL
Silver		BDL	BDL
Sodium		8,600	9,200
Thallium		BDL	BDL
Zinc		7	6
Cobalt		14	BDL
Beryllium		BDL	BDL
Manganese	300	2,500	1,300
Dissolved Manganese		2,600	
Antimony	6	BDL	BDL
Vanadium		BDL	BDL
FIELD PARAMETERS			
Temperature Degrees C		13.31	11.9
pH		5.79	6.6
Conductivity in us/cm		150.6	964.8
Dissolved Oxygen in mg/l		1.15	2.14
Turbidity in NTU		0.7	2.6
Oxidation/Reduction Potential in mV		27	-92

NOTES:

1. NA = Sample was not analyzed for indicated parameter
BDL = Below Detection Limit
E = Exceeded Calibration Range
Bolded wells denote bedrock wells.

R = Low Surrogate Recovery
J = Laboratory control not within +/- 10% limits.

2. A blank indicates data was not collected.
3. Bolded contaminants are site contaminants of concern for which interim cleanup standards (ICLs) have been established.
4. Shaded values denote exceedance of an established or suggested interim cleanup level. According to EPA's most recent Five Year Report, the potential ICLs for arsenic and manganese should be set at 10 ug/l and 300 ug/l respectively. However, based on the New Hampshire Ambient Groundwater Quality Standard of 840 ug/l for manganese, the Group believes that the ICL should be set at 840 ug/l for manganese.
5. Volatile organic compound and metals results are in micrograms per liter (ug/l).
6. Field Parameter Units: us/cm = microsiemens per centimeter, mg/l = milligram per liter, NTU = nephelometric turbidity unit, mV = millivolt

TABLE 3

6/28/2007

**SUMMARY OF OU-2 2006 GROUNDWATER ANALYTICAL RESULTS
2006 ANNUAL MONITORING PLAN DATA ASSESSMENT REPORT
COAKLEY LANDFILL OU-1 AND OU-2
NORTH HAMPTON, NEW HAMPSHIRE**

SAMPLE IDENTIFICATION	INTERIM CLEANUP LEVEL	FPC-2A	FPC-2B	FPC-4B	FPC-5A	FPC-5B	FPC-6A	FPC-6B
DATE SAMPLED		29-Aug-06	29-Aug-06	28-Aug-06	28-Aug-06	26-Aug-06	28-Aug-06	28-Aug-06
VOLATILE ORGANIC COMPOUNDS IN ug/l								
Acetone		BDL	BDL	BDL			BDL	BDL
Benzene	5	BDL	BDL	BDL			BDL	BDL
Chlorobenzene	100	BDL	BDL	BDL			3	3
Chloroethane		BDL	BDL	BDL			4	5
Chloromethane		BDL	BDL	BDL			BDL	BDL
1,4 Dichlorobenzene		BDL	BDL	BDL			BDL	BDL
1,1 Dichloroethane		BDL	BDL	BDL			BDL	BDL
cis-1,2 Dichloroethene		BDL	BDL	BDL			BDL	BDL
Ethylbenzene		BDL	BDL	BDL			BDL	BDL
Isopropylbenzene		BDL	BDL	BDL			BDL	BDL
p - Isopropyltoluene		BDL	BDL	BDL			BDL	BDL
Naphthalene		BDL	BDL	BDL			BDL	BDL
Ethyl Ether		BDL	BDL	BDL			BDL	BDL
Tetrahydrofuran		BDL	BDL	BDL			BDL	BDL
Toluene		BDL	BDL	BDL			BDL	BDL
1,2,4 Trimethylbenzene		BDL	BDL	BDL			BDL	BDL
1,3,5 Trimethylbenzene		BDL	BDL	BDL			BDL	BDL
o-Xylene		BDL	BDL	BDL			BDL	BDL
m&p - Xylene		BDL	BDL	BDL			BDL	BDL
Methylethylketone (MEK)	200	BDL	BDL	BDL			BDL	BDL
Methylisobutylketone		BDL	BDL	BDL			BDL	BDL
MTBE		BDL	BDL	BDL			BDL	BDL
METALS IN ug/l								
Aluminum		BDL	27	BDL	14	BDL	BDL	140
Arsenic	10	BDL	BDL	BDL	42	BDL	BDL	5
Barium		12	12	3	120	47	53	30
Cadmium		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Calcium		22,000	11,000	5,300	51,000	11,000	17,000	28,000
Chromium	100	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Copper		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Iron (Total)		3,200	100	100	9,200	360	5,500	1,600
Dissolved Iron		3,800	900	BDL			6,400	1,600
Lead	15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Magnesium		14,000	1,700	3,500	28,000	7,100	9,300	12,000
Mercury		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel	100	BDL	BDL	BDL	8	5	2	BDL
Potassium		48,000	6,000	2,200	27,000	9,600	6,000	6,600
Selenium		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Silver		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Sodium		12,000	43,000	5,100	120,000	300,000	75,000	82,000
Thallium		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Zinc		7	5	7	7	5	6	8
Cobalt		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Beryllium	4	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Manganese	300	670	18	BDL	140	88	410	2100
Dissolved Manganese		660	BDL	BDL			400	2,300
Antimony	6	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Vanadium		BDL	BDL	BDL	BDL	BDL	BDL	BDL
FIELD PARAMETERS								
Temperature Degrees C		14.1	13.1	12.87	10.5	11.6	11.1	15
pH		6.52	7.99	6.63	7.02	7.96	6.72	6.81
Conductivity in us/cm		214.6	184.3	52.5	501	466	143	401
Dissolved Oxygen in mg/l		0.97	0.622	7.61	1.08	2.36	2.07	0.81
Turbidity in NTU		10.5	1.5	1.8	11	0.4	27.2	2.1
Oxidation/Reduction Potential in mV		-22	-131	77	-95	-116	-53	-39

NOTES:

1. NA = Sample was not analyzed for indicated parameter

BDL = Below Detection Limit

E = Exceeded Calibration Range

2. Bolded well denotes a bedrock groundwater monitoring well.

3. Blank column indicates the well was not sampled.

4. Potential ICLs are indicated for arsenic and manganese.

5. Shaded values denote exceedance of an established or suggested interim cleanup level. According to EPA's most recent Five Year Report, the potential ICLs for arsenic and manganese should be set at 10 ug/l and 300 ug/l respectively. However, based on the New Hampshire Ambient Groundwater Quality Standard of 840 ug/l for manganese, the Group believes that the ICL should be set at 840 ug/l for manganese.

6. Volatile organic compound and metals results are in micrograms per liter (ug/l).

7. Field Parameter Units: us/cm = microsiemens per centimeter, mg/l = milligram per liter, NTU = nephelometric turbidity unit, mV = millivolt

R = Low Surrogate Recovery

J = Laboratory control not within +/- 10% limits.

M = Possible matrix effect

H = Duplicate sample indicates possible heterogeneity

TABLE 3

6/28/2007

**SUMMARY OF OU-2 2006 GROUNDWATER ANALYTICAL RESULTS
2006 ANNUAL MONITORING PLAN DATA ASSESSMENT REPORT
COAKLEY LANDFILL OU-1 AND OU-2
NORTH HAMPTON, NEW HAMPSHIRE**

SAMPLE IDENTIFICATION	INTERIM CLEANUP LEVEL	FPC-7A	FPC-7B	FPC-8A	FPC-8B	FPC-9A	FPC-11A	FPC-11B
DATE SAMPLED		28-Aug-06	28-Aug-06	28-Aug-06	28-Aug-06	30-Aug-06	30-Aug-06	30-Aug-06
VOLATILE ORGANIC COMPOUNDS IN ug/l								
Acetone		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Benzene	5	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chlorobenzene	100	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloroethane		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Chloromethane		BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,4 Dichlorobenzene		BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1 Dichloroethane		BDL	BDL	BDL	BDL	BDL	BDL	BDL
cis-1,2 Dichloroethene		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Ethylbenzene		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Isopropylbenzene		BDL	BDL	BDL	BDL	BDL	BDL	BDL
p - Isopropyltoluene		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Naphthalene		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Ethyl Ether		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Tetrahydrofuran		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Toluene		BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2,4 Trimethylbenzene		BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,3,5 Trimethylbenzene		BDL	BDL	BDL	BDL	BDL	BDL	BDL
o-Xylene		BDL	BDL	BDL	BDL	BDL	BDL	BDL
m&p - Xylene		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Methylethylketone (MEK)	200	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Methylisobutylketone		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Methyl t-butyl ether (MTBE)	13	BDL	BDL	BDL	BDL	BDL	BDL	BDL
METALS IN ug/l								
Aluminum		BDL	BDL	380	13	BDL	270	13,000
Arsenic	10	BDL	BDL	BDL	5	44	BDL	6
Barium		2	BDL	4	6	120	4	72
Cadmium		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Calcium		20,000	14,000	26,000	30,000	66,000	7,400	64,000
Chromium	100	BDL	BDL	BDL	BDL	BDL	BDL	16
Copper		BDL	BDL	BDL	BDL	BDL	BDL	4
Iron (Total)		BDL	1,200	900	130	9,600	1,000	13,000
Dissolved Iron		BDL	BDL				BDL	2,100
Lead	15	BDL	BDL	BDL	BDL	BDL	BDL	6
Magnesium		6,400	3,800	3,500	6,900	37,000	1,700	27,000
Mercury		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel	100	3	BDL	BDL	BDL	4	BDL	17
Potassium		2,700	2,000	2,400	3,600	14,000	28,000	6,500
Selenium		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Silver		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Sodium		9,800	7,800	11,000	18,000	94,000	28,000	95,000
Thallium		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Zinc		6	6	6	6	6	6	19
Cobalt		BDL	BDL	BDL	BDL	BDL	8	21
Beryllium	4	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Manganese	300	6	200	150	21	270	22	880
Dissolved Manganese		BDL	BDL				BDL	770
Antimony	6	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Vanadium		BDL	BDL	BDL	BDL	BDL	BDL	7
FIELD PARAMETERS								
Temperature Degrees C		12.3	12.45	12.3	12.03	10.5	12.1	11.7
pH		6.36	6.61	6.36	7.26	7	6.82	6.67
Conductivity in us/cm		122	127	162	176	941	163.8	398
Dissolved Oxygen in mg/l		4.63	9.63	2.01	5.47	1.36	8.87	6.55
Turbidity in NTU		37.2	70.6	1.56	0.4	15.6	352.8	2906
Oxidation/Reduction Potential in mV		94	105	96	-61	-113	58	-36

NOTES:

1. NA = Sample was not analyzed for indicated parameter

BDL = Below Detection Limit

E = Exceeded Calibration Range

2. Bolded well denotes a bedrock groundwater monitoring well.

3. Blank column indicates the well was not sampled.

4. Potential ICLs are indicated for arsenic and manganese.

5. Shaded values denote exceedance of an established or suggested interim cleanup level. According to EPA's most recent Five Year Report, the potential ICLs for arsenic and manganese should be set at 10 ug/l and 300 ug/l respectively. However, based on the New Hampshire Ambient Groundwater Quality Standard of 840 ug/l for manganese, the Group believes that the ICL should be set at 840 ug/l for manganese.

6. Volatile organic compound and metals results are in micrograms per liter (ug/l).

7. Field Parameter Units: us/cm = microsiemens per centimeter, mg/l = milligram per liter, NTU = nephelometric turbidity unit, mV = millivolt

R = Low Surrogate Recovery

J = Laboratory control not within +/- 10% limits.

M = Possible matrix effect

H = Duplicate sample indicates possible heterogeneity

TABLE 3

6/28/2007

**SUMMARY OF OU-2 2006 GROUNDWATER ANALYTICAL RESULTS
2006 ANNUAL MONITORING PLAN DATA ASSESSMENT REPORT
COAKLEY LANDFILL OU-1 AND OU-2
NORTH HAMPTON, NEW HAMPSHIRE**

SAMPLE IDENTIFICATION	INTERIM	GZ-105	AE-1A	AE-1B	AE-2A	AE-2B	AE-3A	AE-3B
DATE SAMPLED	CLEANUP	29-Aug-06	30-Aug-06	30-Aug-06	29-Aug-06	29-Aug-06	29-Aug-06	29-Aug-06
VOLATILE ORGANIC COMPOUNDS IN ug/l	LEVEL							
Acetone		BDL			BDL	BDL	BDL	BDL
Benzene	5	6			BDL	3	BDL	BDL
Chlorobenzene	100	9			BDL	3	6	BDL
Chloroethane		7			BDL	8	13	6
Chloromethane		BDL			BDL	BDL	BDL	BDL
1,4 Dichlorobenzene		2			BDL	BDL	BDL	BDL
1,1 Dichloroethane		BDL			BDL	BDL	BDL	BDL
cis-1,2 Dichloroethene		BDL			BDL	BDL	BDL	BDL
Ethylbenzene		BDL			BDL	BDL	BDL	BDL
Isopropylbenzene		BDL			BDL	BDL	BDL	BDL
p - Isopropyltoluene		BDL			BDL	BDL	BDL	BDL
Naphthalene		BDL			BDL	BDL	BDL	BDL
Ethyl Ether		49			BDL	46	BDL	BDL
Tetrahydrofuran		83			BDL	69	BDL	BDL
Toluene		BDL			BDL	BDL	BDL	BDL
1,2,4 Trimethylbenzene		BDL			BDL	BDL	BDL	BDL
1,3,5 Trimethylbenzene		BDL			BDL	BDL	BDL	BDL
o-Xylene		BDL			BDL	BDL	BDL	BDL
m&p - Xylene		BDL			BDL	BDL	BDL	BDL
Methylethylketone (MEK)	200	BDL			BDL	BDL	BDL	BDL
Methylisobutylketone		BDL			BDL	BDL	BDL	BDL
Methyl t-butyl ether (MTBE)	13	BDL			BDL	BDL	BDL	BDL
METALS IN ug/l								
Aluminum		BDL	63	BDL	BDL	BDL	BDL	BDL
Arsenic	10	6	15	BDL	240	24	100	91
Barium		43	18	40	26	200	65	180
Cadmium		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Calcium		65,000	45,000	26,000	21,000	72,000	45,000	57,000
Chromium	100	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Copper		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Iron (Total)		6,200	340	700	12,000	22,000	22,000	14,000
Dissolved Iron		5,300	400	900	14,000	25,000	19,000	17,000
Lead	15	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Magnesium		23,000	16,000	14,000	9,300	60,000	24,000	32,000
Mercury		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Nickel	100	7	BDL	BDL	12	10	8	6
Potassium		7,500	4,900	11,000	16,000	16,000	24,000	25,000
Selenium		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Silver		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Sodium		153,000	22,000	30,000	43,000	180,000	87,000	110,000
Thallium		BDL	BDL	BDL	BDL	BDL	BDL	BDL
Zinc		4	10	7	6	6	3	5
Cobalt		BDL	16	BDL	8	BDL	BDL	BDL
Beryllium	4	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Manganese	300	480	440	640	510	2,400	690	1,000
Dissolved Manganese		510	450	650	510	2,300	660	1000
Antimony	6	4	BDL	BDL	BDL	BDL	BDL	BDL
Vanadium		BDL	BDL	BDL	BDL	BDL	BDL	BDL
FIELD PARAMETERS								
Temperature Degrees C		11.03	11.8	13.1	12.4	12.2	14.8	12.3
pH		8.48	8.77	6.91	6.47	6.72	6.77	7.23
Conductivity in us/cm		431.4	227.1	341.3	321	1269	925.8	968.6
Dissolved Oxygen in mg/l		1.65	3.55	8.27	3.93	1.45	1.71	1.37
Turbidity in NTU		46.1	82.8	2.9	0.2	3.1	4.8	5.4
Oxidation/Reduction Potential in mV		-190	-50	169	-29	-127	-98	-149

NOTES:

1. NA = Sample was not analyzed for indicated parameter

BDL = Below Detection Limit

E = Exceeded Calibration Range

2. Bolded well denotes a bedrock groundwater monitoring well.

3. Blank column indicates the well was not sampled.

4. Potential ICLs are indicated for arsenic and manganese.

5. Shaded values denote exceedance of an established or suggested interim cleanup level. According to EPA's most recent Five Year Report, the potential ICLs for arsenic and manganese should be set at 10 ug/l and 300 ug/l respectively. However, based on the New Hampshire Ambient Groundwater Quality Standard of 840 ug/l for manganese, the Group believes that the ICL should be set at 840 ug/l for manganese.

6. Volatile organic compound and metals results are in micrograms per liter (ug/l).

7. Field Parameter Units: us/cm = microsiemens per centimeter, mg/l = milligram per liter, NTU = nephelometric turbidity unit, mV = millivolt

R = Low Surrogate Recovery

J = Laboratory control not within +/- 10% limits.

M = Possible matrix effect

H = Duplicate sample indicates possible heterogeneity

TABLE 3

6/28/2007

**SUMMARY OF OU-2 2006 GROUNDWATER ANALYTICAL RESULTS
2006 ANNUAL MONITORING PLAN DATA ASSESSMENT REPORT
COAKLEY LANDFILL OU-1 AND OU-2
NORTH HAMPTON, NEW HAMPSHIRE**

SAMPLE IDENTIFICATION	INTERIM CLEANUP LEVEL	AE-4A	AE-4B
DATE SAMPLED		28-Aug-06	28-Aug-06
VOLATILE ORGANIC COMPOUNDS IN ug/l			
Acetone		BDL	BDL
Benzene	5	BDL	BDL
Chlorobenzene	100	BDL	BDL
Chloroethane		BDL	BDL
Chloromethane		BDL	BDL
1,4 Dichlorobenzene		BDL	BDL
1,1 Dichloroethane		BDL	BDL
cis-1,2 Dichloroethene		BDL	BDL
Ethylbenzene		BDL	BDL
Isopropylbenzene		BDL	BDL
p - Isopropyltoluene		BDL	BDL
Naphthalene		BDL	BDL
Ethyl Ether		BDL	BDL
Tetrahydrofuran		BDL	BDL
Toluene		BDL	BDL
1,2,4 Trimethylbenzene		BDL	BDL
1,3,5 Trimethylbenzene		BDL	BDL
o-Xylene		BDL	BDL
m&p - Xylene		BDL	BDL
Methylethylketone (MEK)	200	BDL	BDL
Methylisobutylketone		BDL	BDL
Methyl t-butyl ether (MTBE)	13	BDL	BDL
METALS IN ug/l			
Aluminum		240	1,500
Arsenic	10	BDL	BDL
Barium		11	8
Cadmium		BDL	BDL
Calcium		6,900	7,700
Chromium	100	BDL	BDL
Copper		BDL	BDL
Iron (Total)		9,100	1,500
Dissolved Iron		3,700	BDL
Lead	15	BDL	BDL
Magnesium		6,100	4,700
Mercury		BDL	BDL
Nickel	100	BDL	BDL
Potassium		2,300	5,000
Selenium		BDL	BDL
Silver		BDL	BDL
Sodium		6,700	23,000
Thallium		BDL	BDL
Zinc		BDL	6
Cobalt		BDL	BDL
Beryllium	4	BDL	BDL
Manganese	300	310	220
Dissolved Manganese		300	90
Antimony	6	8	BDL
Vanadium		BDL	BDL
FIELD PARAMETERS			
Temperature Degrees C		12.27	11.78
pH		6.41	6.74
Conductivity in us/cm		111	155.7
Dissolved Oxygen in mg/l		1.24	1.43
Turbidity in NTU		3.89	6.1
Oxidation/Reduction Potential in mV		-83	-37

NOTES:

1. NA = Sample was not analyzed for indicated parameter

BDL = Below Detection Limit

E = Exceeded Calibration Range

2. Bolded well denotes a bedrock groundwater monitoring well.

3. Blank column indicates the well was not sampled.

4. Potential ICLs are indicated for arsenic and manganese.

5. Shaded values denote exceedance of an established or suggested interim cleanup level. According to EPA's most recent Five Year Report, the potential ICLs for arsenic and manganese should be set at 10 ug/l and 300 ug/l respectively. However, based on the New Hampshire Ambient Groundwater Quality Standard of 840 ug/l for manganese, the Group believes that the ICL should be set at 840 ug/l for manganese.

6. Volatile organic compound and metals results are in micrograms per liter (ug/l).

7. Field Parameter Units: us/cm = microsiemens per centimeter, mg/l = milligram per liter, NTU = nephelometric turbidity unit, mV = millivolt

R = Low Surrogate Recovery

J = Laboratory control not within +/- 10% limits.

M = Possible matrix effect

H = Duplicate sample indicates possible heterogeneity

TABLE 4

6/6/2007

**SUMMARY OF RESIDENTIAL WELL MONITORING RESULTS
2006 ANNUAL MONITORING PLAN DATA ASSESSMENT REPORT
COAKLEY LANDFILL OU-1 AND OU-2
NORTH HAMPTON, NEW HAMPSHIRE**

SAMPLE IDENTIFICATION	R-3	R-5
DATE SAMPLED	29-Aug-06	29-Aug-06
PARAMETER ANALYZED		
VOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8260B IN ug/L	BDL (0.5)	BDL (0.5)

NOTES:

1. BDL = Below Method Detection Limit
2. Only contaminants detected in one or more groundwater samples are listed in this table.
3. Volatile organic compounds were not observed in either of the residential supply well water samples.
4. Volatile organic compound results are in micrograms per liter (ug/l).

TABLE 5

6/6/2007

**SUMMARY OF SURFACE WATER ANALYTICAL RESULTS
2006 ANNUAL MONITORING PLAN DATA ASSESSMENT REPORT
COAKLEY LANDFILL OU-1 AND OU-2
NORTH HAMPTON, NEW HAMPSHIRE**

SAMPLE IDENTIFICATION	DES SURFACE		SW-4	SW-5	SW-101	SW-102	SW-103
	WATER STANDARDS		29-Aug-06	30-Aug-06	28-Aug-06	28-Aug-06	28-Aug-06
DATE SAMPLED	ACUTE	CHRONIC					
PARAMETER ANALYZED							
VOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8260B IN ug/L							
BENZENE	5,300	NSE	BDL	BDL	BDL	BDL	BDL
CHLOROBENZENE	250	50	BDL	BDL	BDL	BDL	BDL
METALS BY EPA METHOD 200.8 IN ug/L							
ALUMINUM	750	87	740	3,300	10	BDL	290
ARSENIC (1)	340	150	BDL	17	BDL	BDL	4
BARIUM	NSE	NSE	12	70	21	21	38
CADMIUM (1)	0.95	0.8	BDL	BDL	BDL	BDL	BDL
CALCIUM	NSE	NSE	10,000	67,000	58,000	35,000	48,000
CHROMIUM	183	24	BDL	5	BDL	BDL	BDL
COPPER	3.6	2.7	BDL	BDL	BDL	BDL	BDL
IRON (1)	NSE	1000	1,100	25,000	270	2,200	14,000
LEAD (1)	14	0.54	BDL	BDL	BDL	BDL	BDL
MAGNESIUM	NSE	NSE	4,700	19,000	28,000	9,900	12,000
MERCURY (1)	1.4	0.77	BDL	BDL	BDL	BDL	BDL
NICKEL (1)	144.9	16.1	BDL	8	4	BDL	BDL
POTASSIUM	NSE	NSE	1,300	20,000	31,000	12,000	7,100
SELENIUM	NSE	5	BDL	BDL	BDL	BDL	BDL
SILVER	0.32	NSE	BDL	BDL	BDL	BDL	BDL
SODIUM	NSE	NSE	5,200	43,000	62,000	25,000	23,000
THALLIUM	1400	40	BDL	BDL	BDL	BDL	BDL
ZINC (1)	35.4	32.2	14	19	12	6	6
COBALT	NSE	NSE	BDL	3	BDL	BDL	BDL
BERYLLIUM	130	5.3	BDL	BDL	BDL	BDL	BDL
MANGANESE	NSE	NSE	350	2,800	480	560	1,600
ANTIMONY	9000	1600	4	BDL	BDL	BDL	BDL
VANADIUM	NSE	NSE	BDL	BDL	BDL	BDL	BDL
AMMONIA BY EPA METHOD 350.3 IN mg/l	36.1	3.08		5.8		0.6	0.2
FIELD PARAMETERS							
Temperature Degrees C							
pH							
Conductivity in us/cm							
Dissolved Oxygen in mg/l							
Turbidity in NTU							
Oxidation/Reduction Potential in mV							

NOTES:

1. BDL = Below Method Detection Limit
2. Only contaminants detected in one or more surface water samples are listed in this table.
3. Bolded values indicates exceedance of NHDES acute surface water criteria.
4. Shaded values indicate exceedance of NHDES chronic surface water criteria.
5. Shaded and bolded values indicate exceedances of both NHDES acute and chronic criteria.
6. (1) = Criteria for these metals are expressed as a function of the water effect ratio (WER) as defined in 40 CFR 131.36 (c).
The values displayed in this table correspond to a WER of 1.0.
7. NSE indicates no standard has been established for the indicated parameter.
8. H indicates the duplicate sample indicated possible heterogeneity.
9. M indicates spike sample indicated possible matrix effect.
10. Volatile organic compound and metals results are in micrograms per liter (ug/l).

TABLE 6

6/6/2007

**SUMMARY OF HISTORICAL SURFACE WATER ANALYTICAL RESULTS
2006 ANNUAL MONITORING PLAN DATA ASSESSMENT REPORT
COAKLEY LANDFILL OU-1 AND OU-2
NORTH HAMPTON, NEW HAMPSHIRE**

SAMPLE IDENTIFICATION	DES SURFACE		SW-5	SW-5	SW5	SW-5	SW-5	SW-5
DATE SAMPLED	WATER STANDARDS		27-Apr-99	26-Apr-01	16-Aug-01	27-Aug-03	26-Aug-04	29-Aug-05
PARAMETER ANALYZED	ACUTE	CHRONIC						
VOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8260B IN ug/L								
BENZENE	5,300	NSE	BDL	BDL	BDL	BDL	BDL	BDL
CHLOROBENZENE	250	50	BDL	BDL	BDL	BDL	BDL	BDL
TOLUENE	NSE	NSE	2	BDL	BDL			
METALS BY EPA METHOD 200.8 IN ug/L								
ALUMINUM	750	87	19,000	40	5,600 (H)	200	240,000	9,100
ARSENIC (1)	340	150	BDL (2)	2	25	3	720	1200
BARIUM	NSE	NSE	190	26	180	40	6100	360
CADMIUM (1)	0.95	0.8	1	BDL	BDL	BDL	10	BDL
CALCIUM	NSE	NSE	51,000	74,000	38,000	83,000	310,000	54,000
CHROMIUM	183	24	71	BDL	16	3	380	30
COPPER	3.6	2.7	34	3	11	BDL	140	BDL
IRON (1)	NSE	1000	35,000	600	13,000	1,600	1,200,000	250,000
LEAD (1)	14	0.54	22	BDL	9	BDL	440	10
MAGNESIUM	NSE	NSE	29,000	29,000	38,000	35,000	90,000	18,000
MERCURY (1)	1.4	0.77	BDL	BDL	BDL	BDL	2	BDL
NICKEL (1)	144.9	16.1	52	11	25	11	270	20
POTASSIUM	NSE	NSE	26,000	29,000	68,000	40,000	50,000	20,000
SELENIUM	NSE	5	BDL	BDL	6	BDL	9	BDL
SILVER	0.32	NSE	BDL	BDL	BDL	BDL	BDL	BDL
SODIUM	NSE	NSE	88,000	70,000	220,000	160,000	22,000	21,000
THALLIUM	1400	40	2	BDL	BDL	BDL	BDL	BDL
ZINC (1)	35.4	32.2	83	11	49	8	530	50
COBALT	NSE	NSE	19	BDL	BDL	BDL	200	10
BERYLLIUM	130	5.3	1	BDL	BDL	BDL	11	BDL
MANGANESE	NSE	NSE	3,300	140	3,500	790	200,000	5,800
ANTIMONY	9000	1600	BDL	BDL	8	BDL	BDL	BDL
VANADIUM	NSE	NSE	49	1	11	BDL	360	19

NOTES:

1. BDL = Below Method Detection Limit
2. Bolded values indicates exceedance of NHDES acute surface water criteria.
3. Shaded values indicate exceedance of NHDES chronic surface water criteria.
4. Shaded and bolded values indicate exceedances of both NHDES acute and chronic criteria.
5. (1) = Criteria for these metals are expressed as a function of the water effect ratio (WER) as defined in 40 CFR 131.36 (c).
The values displayed in this table correspond to a WER of 1.0.
6. NSE indicates no standard has been established for the indicated parameter.
7. H = Duplicate sample indicates possible heterogeneity.
8. Volatile organic compound and metals results are in micrograms per liter (ug/l).

TABLE 7

6/6/2007

**SUMMARY OF 2006 SEDIMENT ANALYTICAL RESULTS
2006 ANNUAL MONITORING PLAN DATA ASSESSMENT REPORT
COAKLEY LANDFILL OU-1 AND OU-2
NORTH HAMPTON, NEW HAMPSHIRE**

SAMPLE IDENTIFICATION	SED-4	SED-5
DATE SAMPLED	29-Aug-06	30-Aug-06
PARAMETER ANALYZED		
VOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8260B IN mg/kg	NA	NA
METALS BY EPA METHOD 6020 IN mg/kg		
ALUMINUM	6,700	34,000
ARSENIC	BDL	17
BARIUM	49	150
CADMIUM	BDL	BDL
CALCIUM	12,000	3,600
CHROMIUM	BDL	69
COPPER	20	45
IRON	2,400	40,000
LEAD	110	23
MAGNESIUM	2,400	10,000
MERCURY	BDL	BDL
NICKEL	BDL	53
POTASSIUM	340	8,200
SELENIUM	BDL	BDL
SILVER	BDL	BDL
SODIUM	1100	800
THALLIUM	BDL	BDL
ZINC	74	130
COBALT	BDL	14
BERYLLIUM	BDL	BDL
MANGANESE	160	500
ANTIMONY	BDL	BDL
VANADIUM	29	55

NOTES:

1. BDL = Below Method Detection Limit
3. Results are in milligrams per kilogram (mg/kg).

TABLE 8

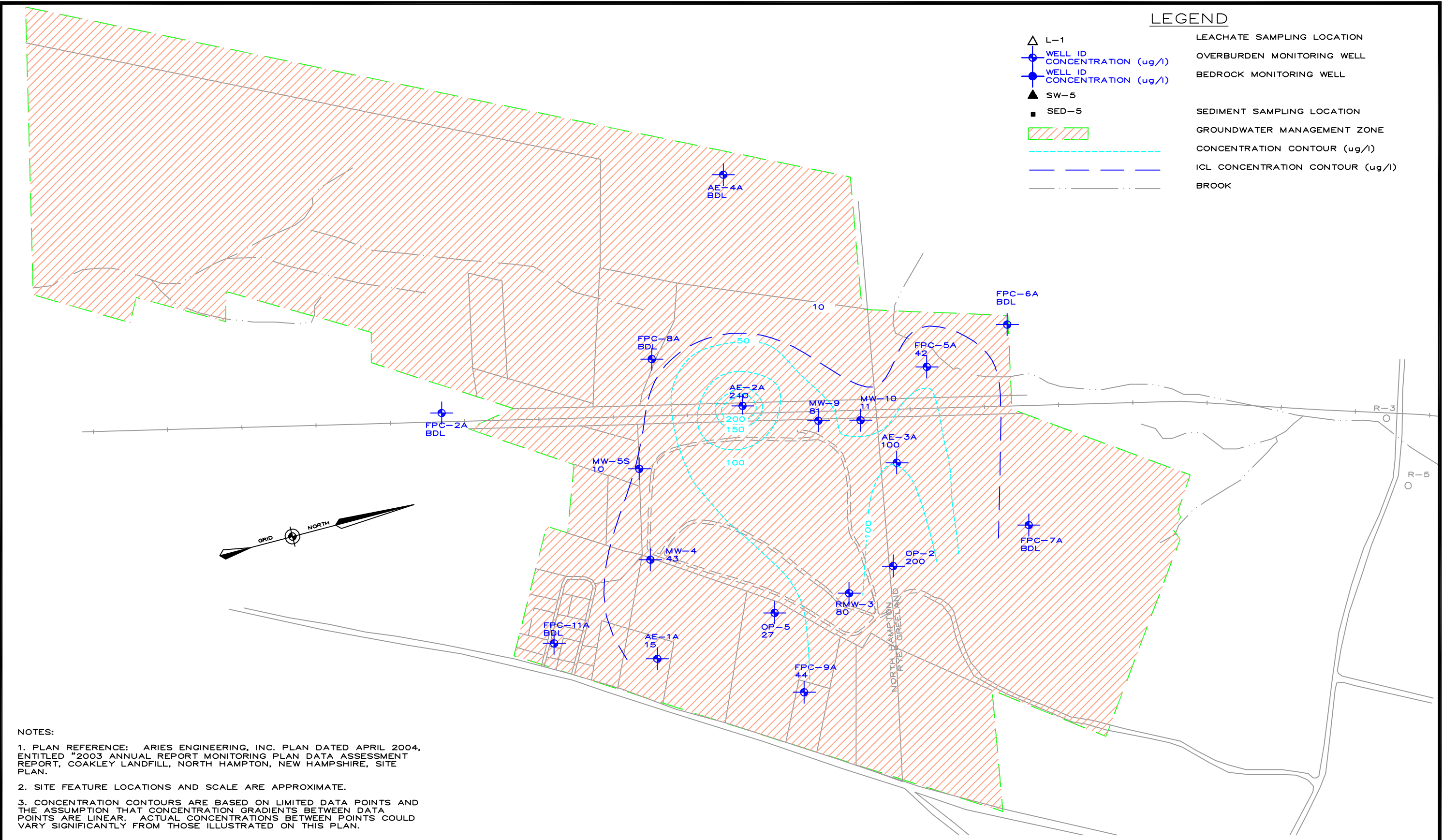
6/12/2007

SUMMARY OF 2004 LEACHATE ANALYTICAL RESULTS
2004 ANNUAL MONITORING PLAN DATA ASSESSMENT REPORT
COAKLEY LANDFILL OU-1 AND OU-2
NORTH HAMPTON, NEW HAMPSHIRE

SAMPLE IDENTIFICATION	DES SURFACE		L-1	L-1	L-1	L-1	L-1	L-1
DATE SAMPLED	WATER STANDARDS		16-Aug-01	7-Aug-02	27-Aug-03	25-Aug-04	25-Aug-05	30-Nov-06
COMMENTS	ACUTE CHRONIC							ID 104240
PARAMETER ANALYZED								
VOLATILE ORGANIC COMPOUNDS BY EPA METHOD 8260BC IN ug/L								
BENZENE	5300	NSE	3	2	2	BDL	2	2
CHLOROBENZENE	250	50	27	15	18	12	20	18
CHLOROETHANE	NSE	NSE	8	6	6	3	6	BDL
CHLOROFORM	28.9	1240	BDL	BDL	BDL	BDL	BDL	BDL
1,4 DICHLOROBENZENE	1120	763	BDL	3	2	BDL	3	2
ISOPROPYLBENZENE	NSE	NSE	BDL	BDL	BDL	BDL	BDL	2
ETHYL ETHER	NSE	NSE	31	BDL	BDL	BDL	BDL	BDL
TETRAHYDROFURAN	NSE	NSE	32	BDL	BDL	BDL	BDL	BDL
METALS BY EPA METHOD 6020 IN ug/L								
ALUMINUM	750	87	3200	4100	9,500	29,000	18,000	
ARSENIC	340	150	83	23	67	150	300	
BARIUM	NSE	NSE	1300	260	610	2200	4600	
CADMIUM	0.95	0.80	BDL	BDL	BDL	BDL	BDL	
CALCIUM	NSE	NSE	120,000	97,000	100,000	140,000	150,000	
CHROMIUM	183	24	20	13	27	55	70	
COPPER	3.6	2.7	BDL	5	13	36	40	
IRON	NSE	1,000	350,000	130,000	330,000	1,000,000	1,100,000	
LEAD	14	0.54	BDL (M)	2	8	34	BDL	
MAGNESIUM	NSE	NSE	49,000	43,000	36,000	34,000	43,000	
MERCURY	1.4	0.77	BDL	BDL	BDL	BDL	BDL	
NICKEL	144.9	16.1	22	18	28	32	40	
POTASSIUM	NSE	NSE	66	55	46,000	38,000	50,000	
SELENIUM	NSE	5	7	8	4	3	BDL	
SILVER	0.32	NSE	BDL	BDL (2)	2	BDL	BDL	
SODIUM	NSE	NSE	220,000	200,000	160,000	140,000	150,000	
THALLIUM	1,400	40	BDL	BDL	BDL	BDL	BDL	
ZINC	36.2	36.5	45	51	140	390	690	
COBALT	NSE	NSE	BDL	3	6	11	10	
BERYLLIUM	130	5.3	3	BDL	BDL	3	BDL	
MANGANESE	NSE	NSE	7,600	5,700	5,900	10,000	9,800	
ANTIMONY	9,000	1,600	6	BDL	BDL	BDL	BDL	
VANADIUM	NSE	NSE	46	13	36	89	220	
CHEMICAL OXYGEN DEMAND BY EPA METHOD 410.4 IN mg/l	NSE	NSE	190	178	560	282	377	
AMMONIA BY EPA METHOD 350.3 IN mg/l	36.1	3.08	44.0	41.0	44.8	56.8	79.0	

NOTES:

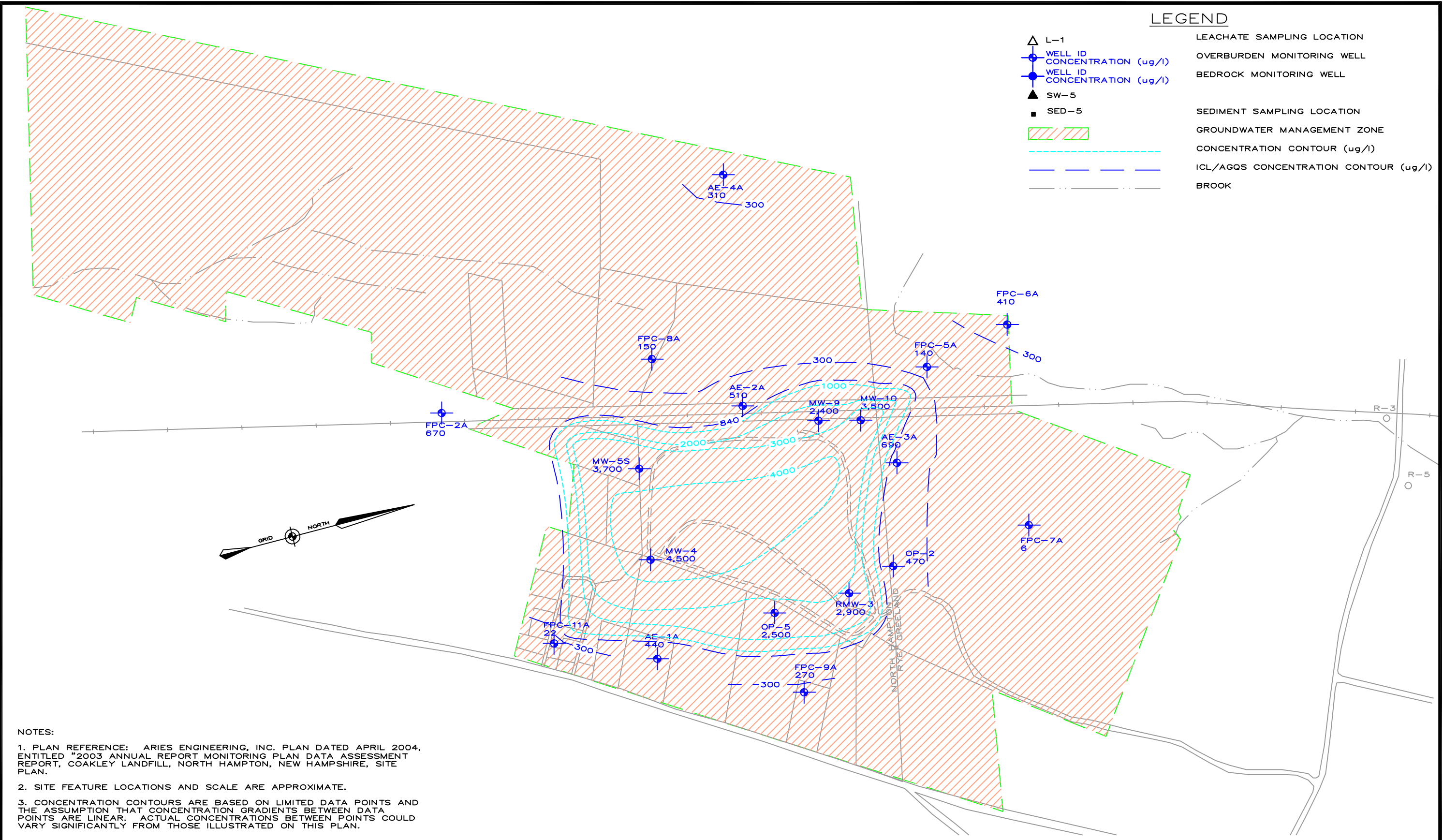
- BDL = Below Method Detection Limit
- Only contaminants detected in one or more leachate samples are listed in this table.
- Acute surface water standard shown for ammonia is for a surface water with a pH of 7.0.
- (1) = Criteria for these metals are expressed as a function of the water effect ration (WER) as defined in 40 CFR 131.36 c, the values displayed in this table correspond to a WER of 1.0.
- A bold entry indicates the parameter exceeded the acute surface water standard.
- Shaded values indicate the parameter exceeded the chronic surface water standard.
- Bold and shaded values indicate exceedances of both NHDES acute and chronic criteria.
- NSE indicates no standard has been established for the indicated parameter.
- Volatile organic compounds and metals results are in micrograms per liter (ug/l).
- Metals are in milligrams per liter (mg/l).
- H indicates the duplicate sample indicated possible heterogeneity.
- M indicates the spike sample indicated possible matrix effects.



2006 ANNUAL MONITORING PLAN
DATA ASSESSMENT REPORT
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

AUGUST 2006 OVERBURDEN
GROUNDWATER ARSENIC
CONCENTRATION CONTOUR PLAN

SCALE: 1 INCH = 500 FT FIGURE 3



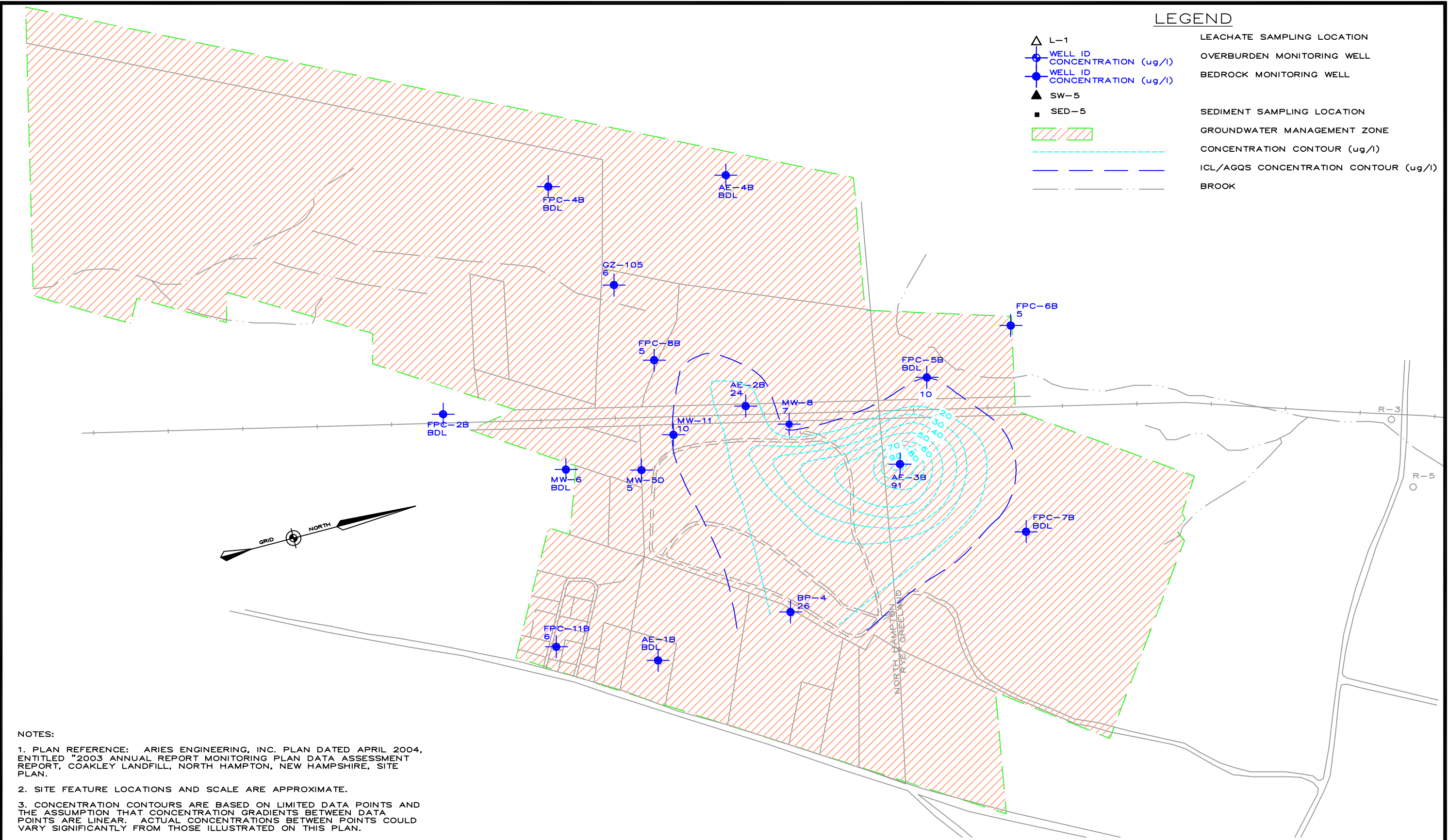
NOTES:

1. PLAN REFERENCE: ARIES ENGINEERING, INC. PLAN DATED APRIL 2004, ENTITLED "2003 ANNUAL REPORT MONITORING PLAN DATA ASSESSMENT REPORT, COAKLEY LANDFILL, NORTH HAMPTON, NEW HAMPSHIRE, SITE PLAN.
2. SITE FEATURE LOCATIONS AND SCALE ARE APPROXIMATE.
3. CONCENTRATION CONTOURS ARE BASED ON LIMITED DATA POINTS AND THE ASSUMPTION THAT CONCENTRATION GRADIENTS BETWEEN DATA POINTS ARE LINEAR. ACTUAL CONCENTRATIONS BETWEEN POINTS COULD VARY SIGNIFICANTLY FROM THOSE ILLUSTRATED ON THIS PLAN.

2006 ANNUAL MONITORING PLAN
DATA ASSESSMENT REPORT
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

AUGUST 2006 OVERBURDEN
GROUNDWATER MANGANESE
CONCENTRATION CONTOUR PLAN

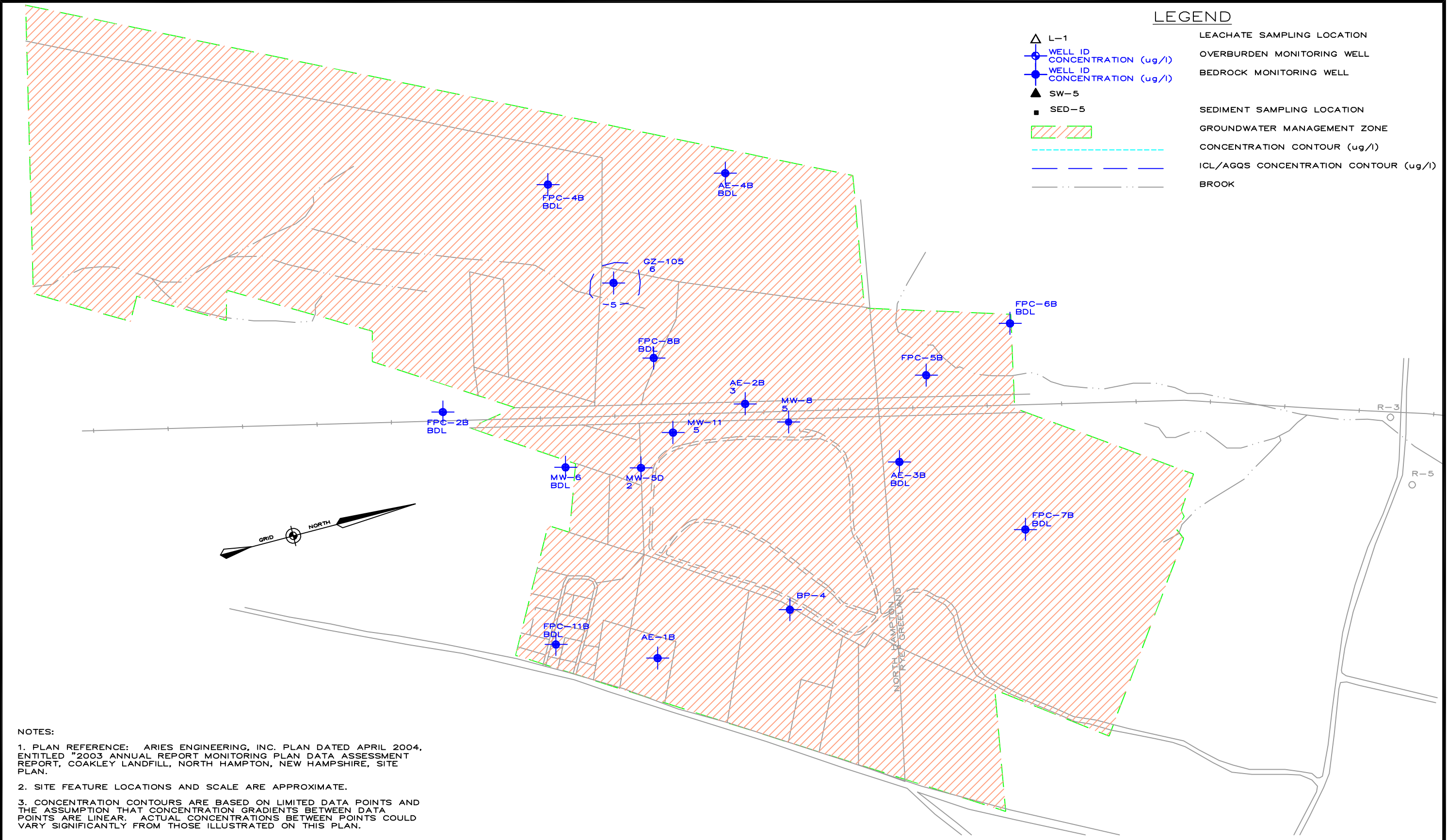
SCALE: 1 INCH = 500 FT FIGURE 4



2006 ANNUAL MONITORING PLAN
DATA ASSESSMENT REPORT
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

AUGUST 2006 BEDROCK
GROUNDWATER ARSENIC
CONCENTRATION CONTOUR PLAN

SCALE: 1 INCH = 500 FT FIGURE 5

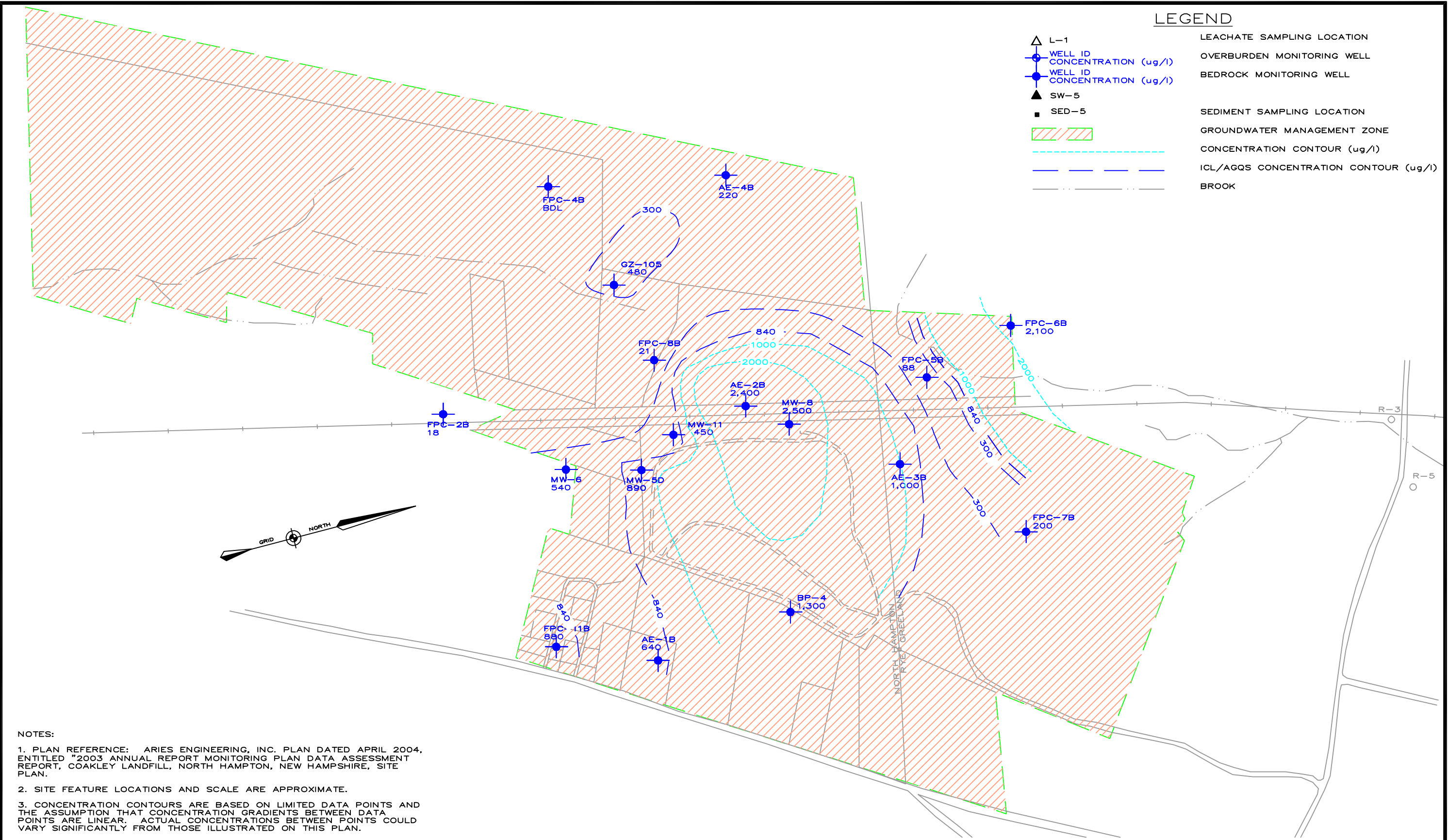


2006 ANNUAL MONITORING PLAN
DATA ASSESSMENT REPORT
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

AUGUST 2006 BEDROCK
GROUNDWATER BENZENE
CONCENTRATION CONTOUR PLAN

SCALE: 1 INCH = 500 FT

FIGURE 6

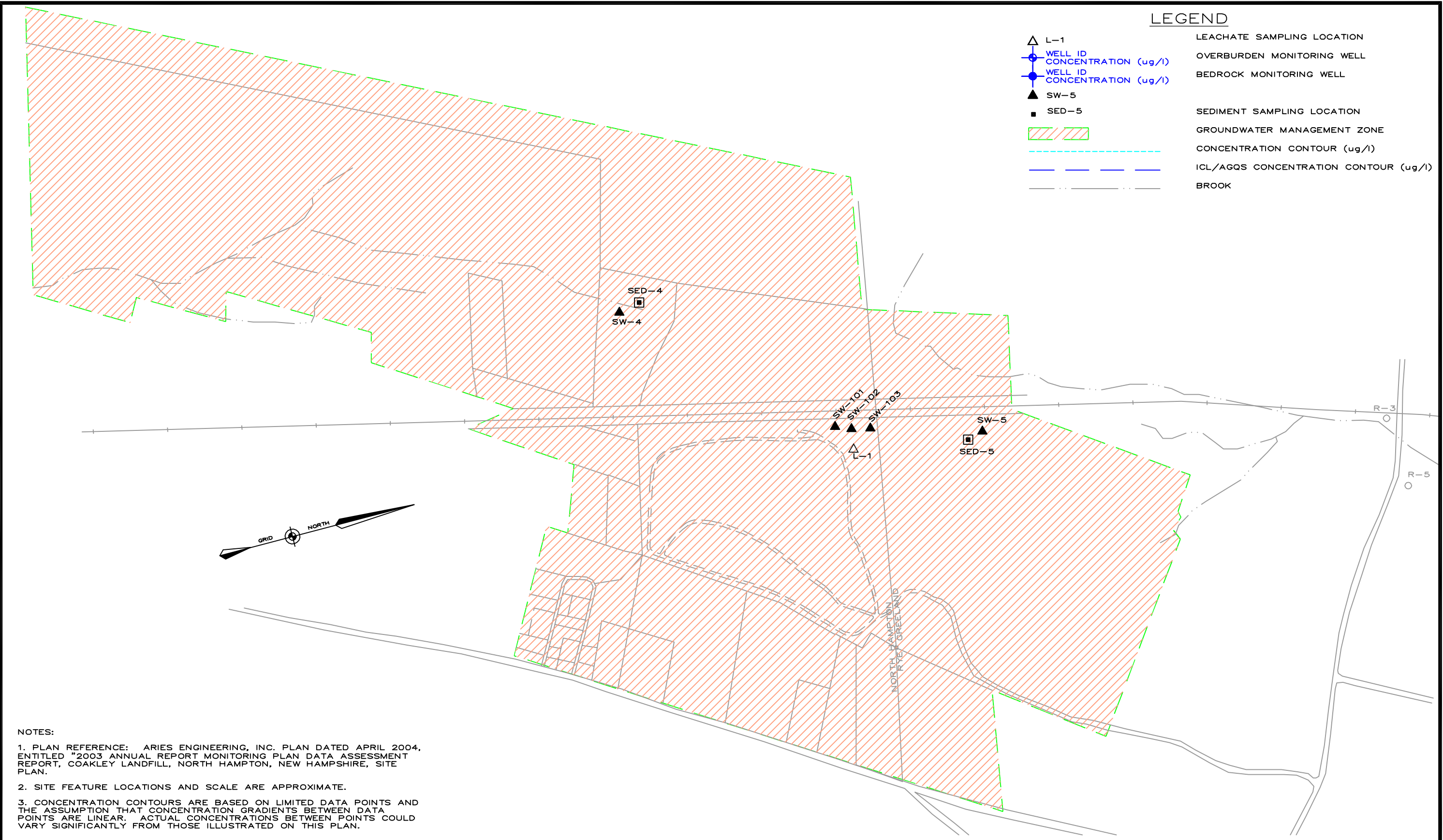


2006 ANNUAL MONITORING PLAN
DATA ASSESSMENT REPORT
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

AUGUST 2006 BEDROCK
GROUNDWATER MANGANESE
CONCENTRATION CONTOUR PLAN

SCALE: 1 INCH = 500 FT

FIGURE 7



2006 ANNUAL MONITORING PLAN
DATA ASSESSMENT REPORT
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

SURFACE WATER AND SEDIMENT
SAMPLING LOCATION PLAN

Appendix A

**Post-Cap Construction Contaminants of Concern Trends in
Groundwater**

CHART B1

POST-CAP CONSTRUCTION TRENDS IN BEDROCK
GROUNDWATER VOC CONTAMINANTS OF CONCERN BENZENE MW-11

COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

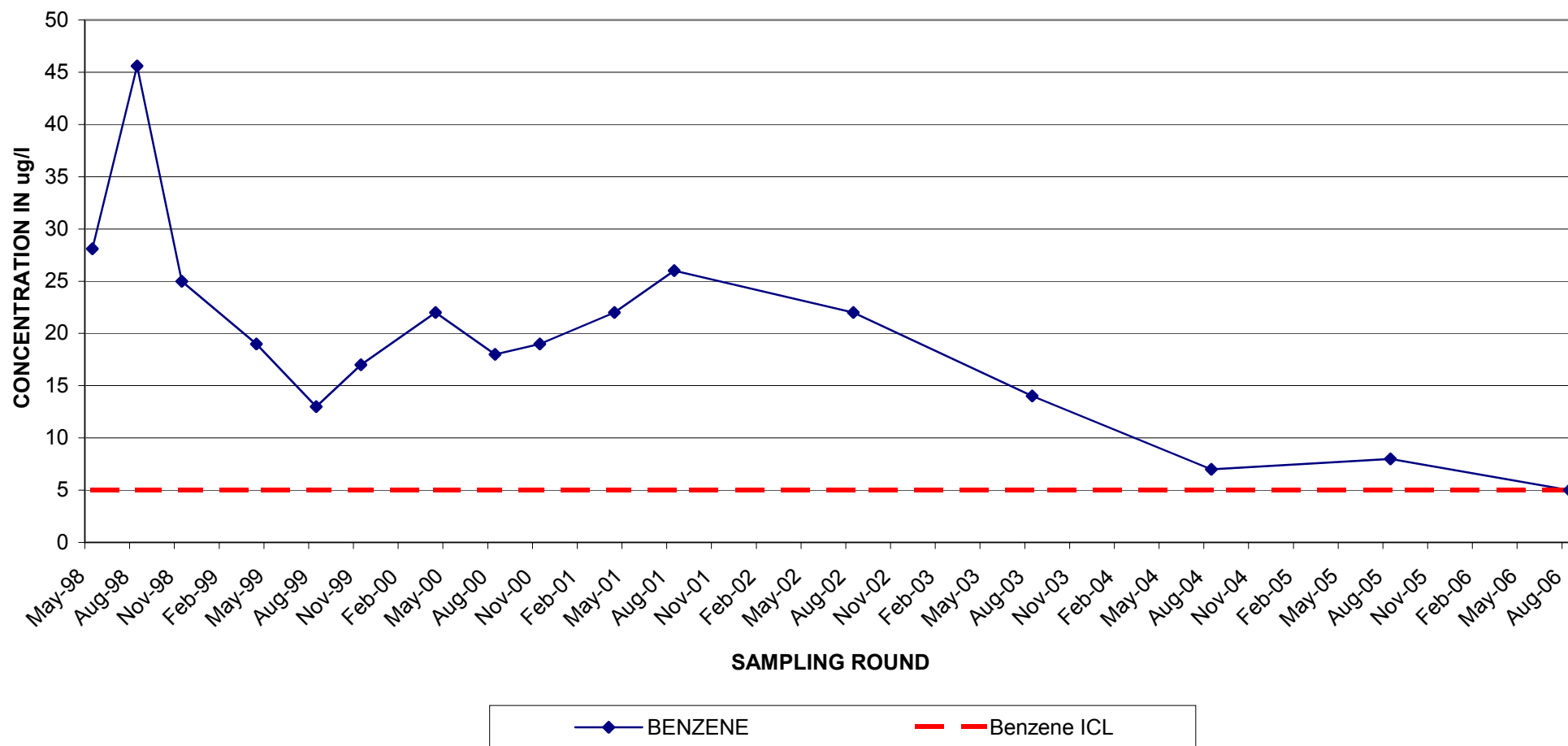


CHART B2

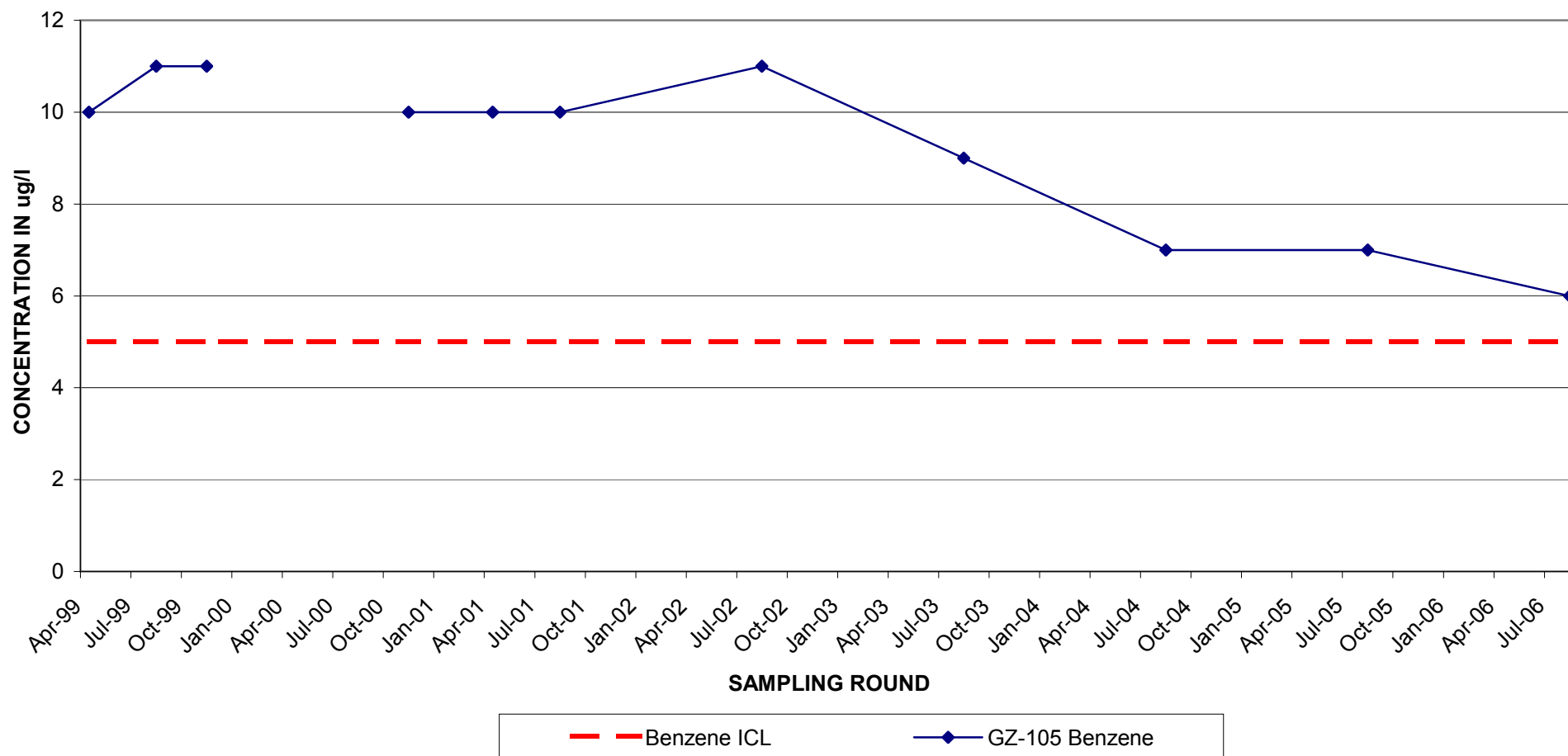
POST-CAP CONSTRUCTION TRENDS IN BEDROCK
GROUNDWATER CONTAMINANTS OF CONCERNCOAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

CHART A1

POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERN ARSENIC MW-4

COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

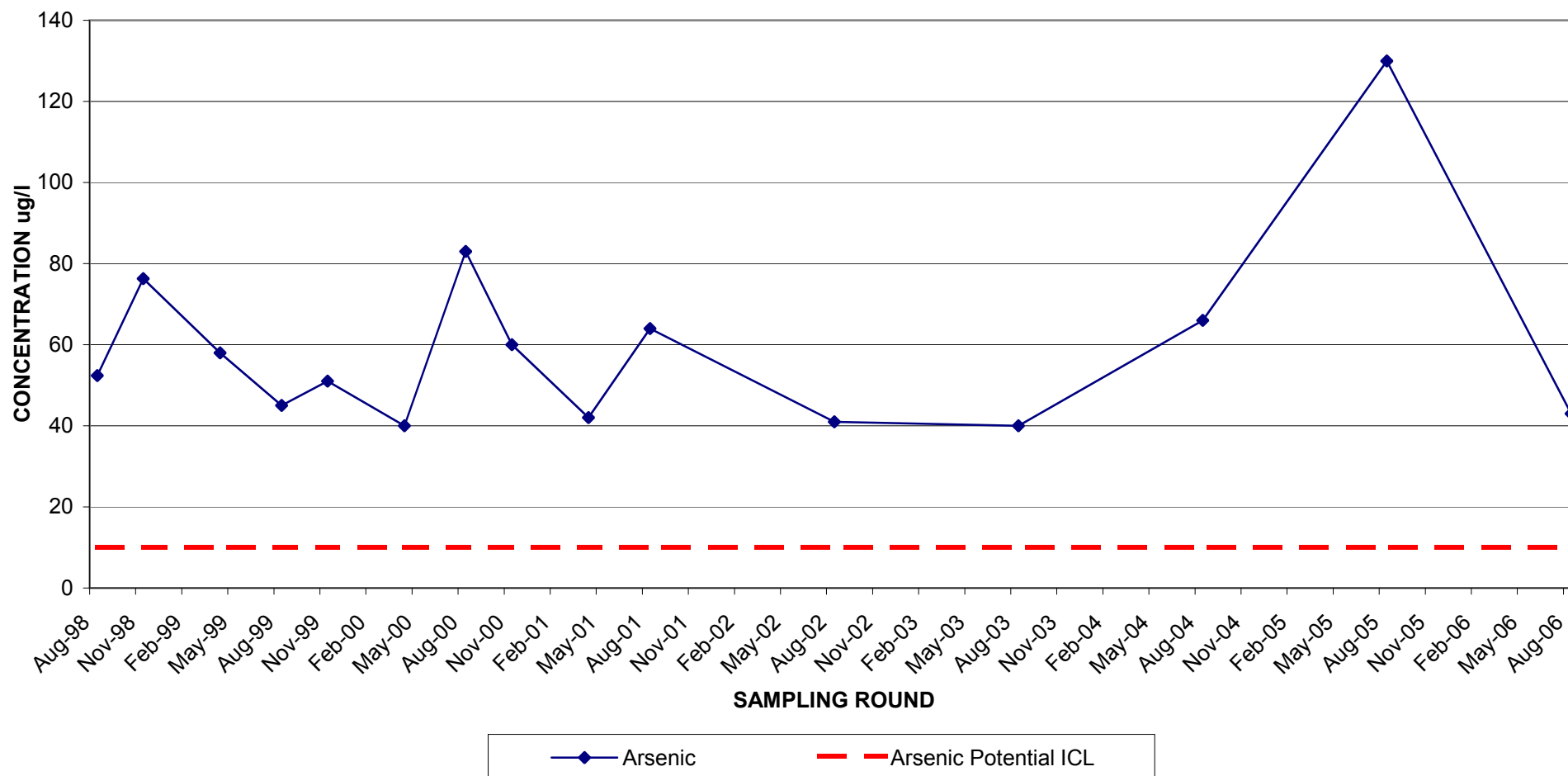


CHART A2

POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERN ARSENIC MW-5S

COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

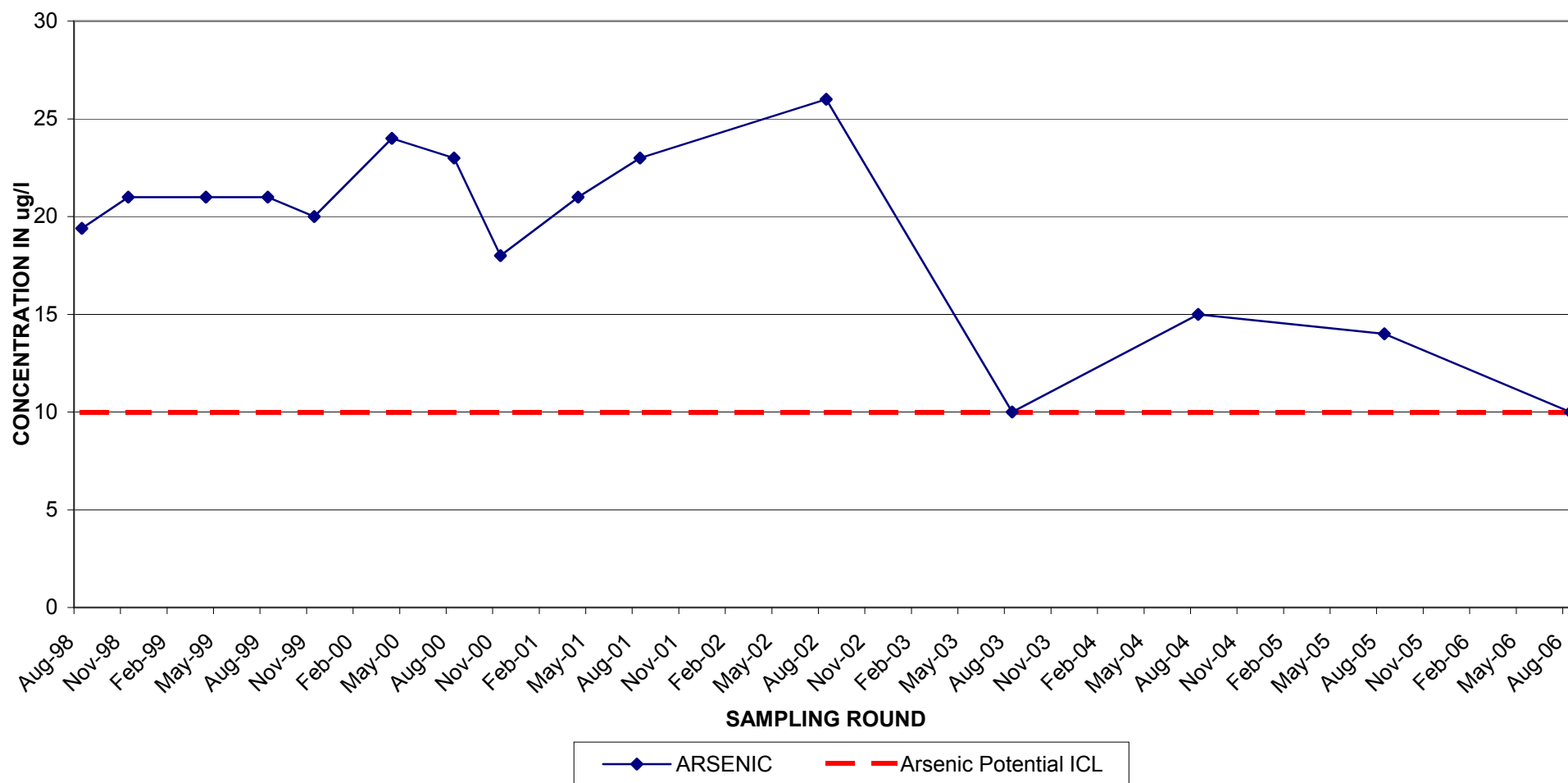


CHART A3

POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERN ARSENIC MW-9

COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

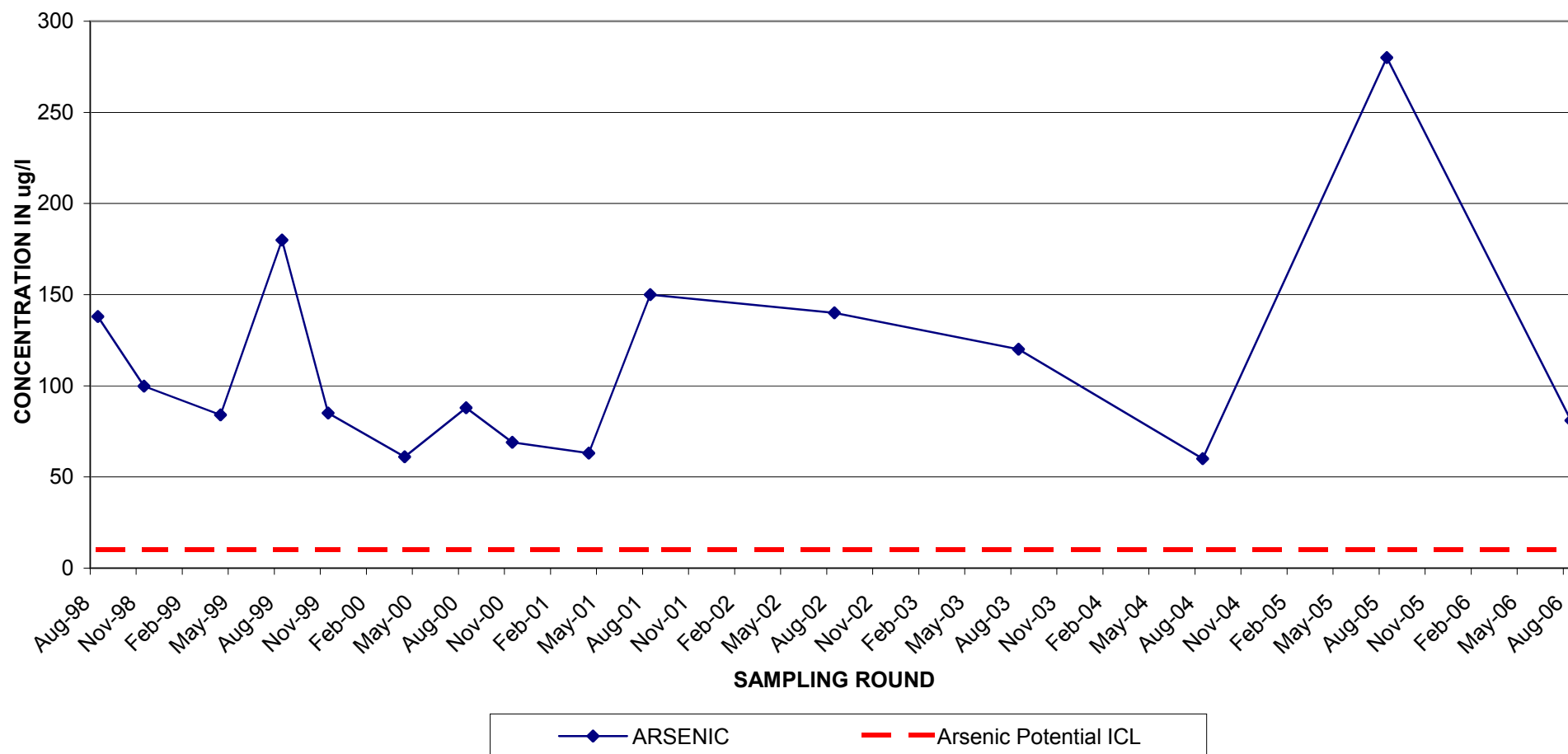


CHART A4

POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERN ARSENIC MW-10

COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

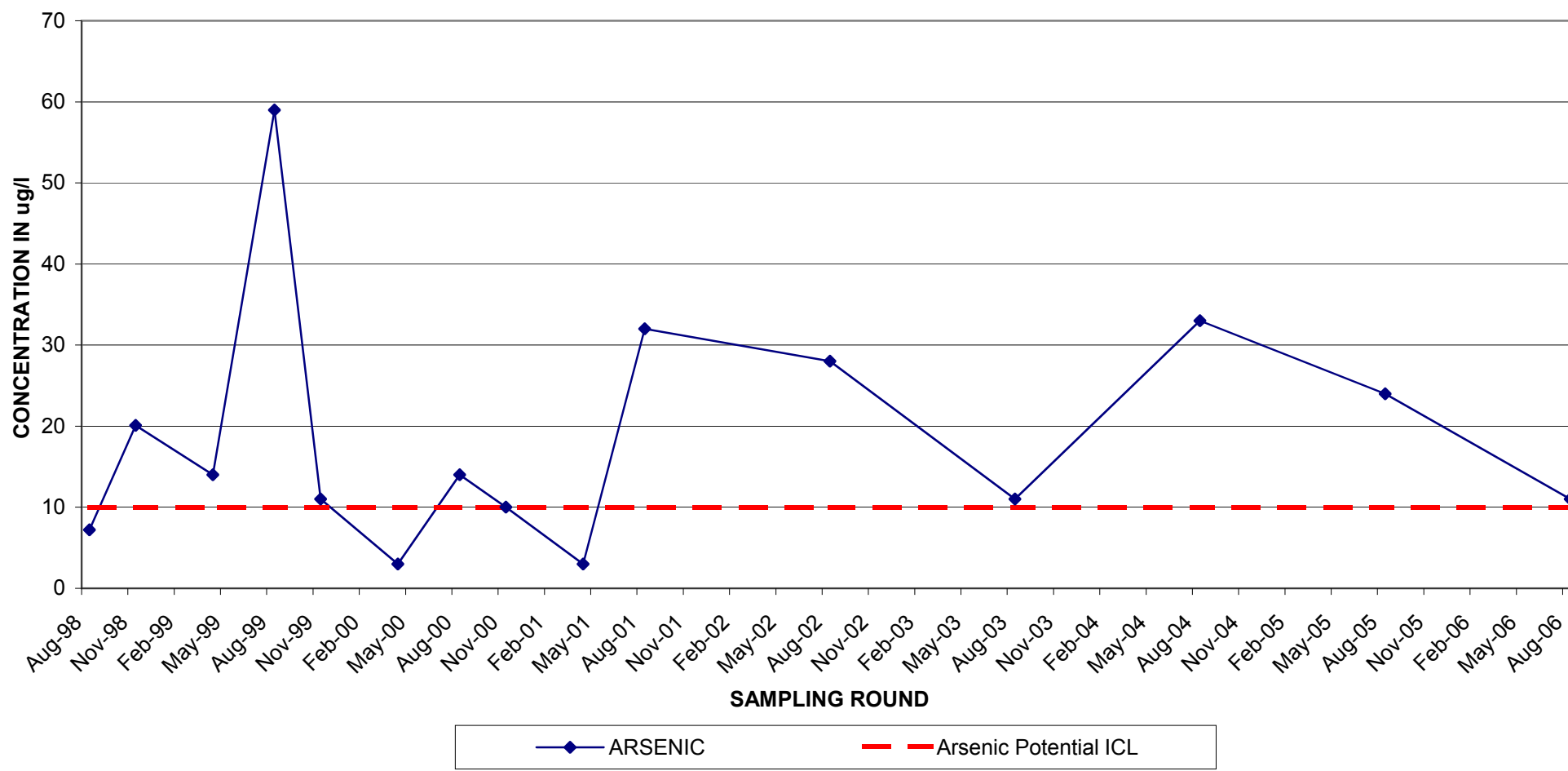


CHART A5
POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERN ARSENIC RMW-3
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

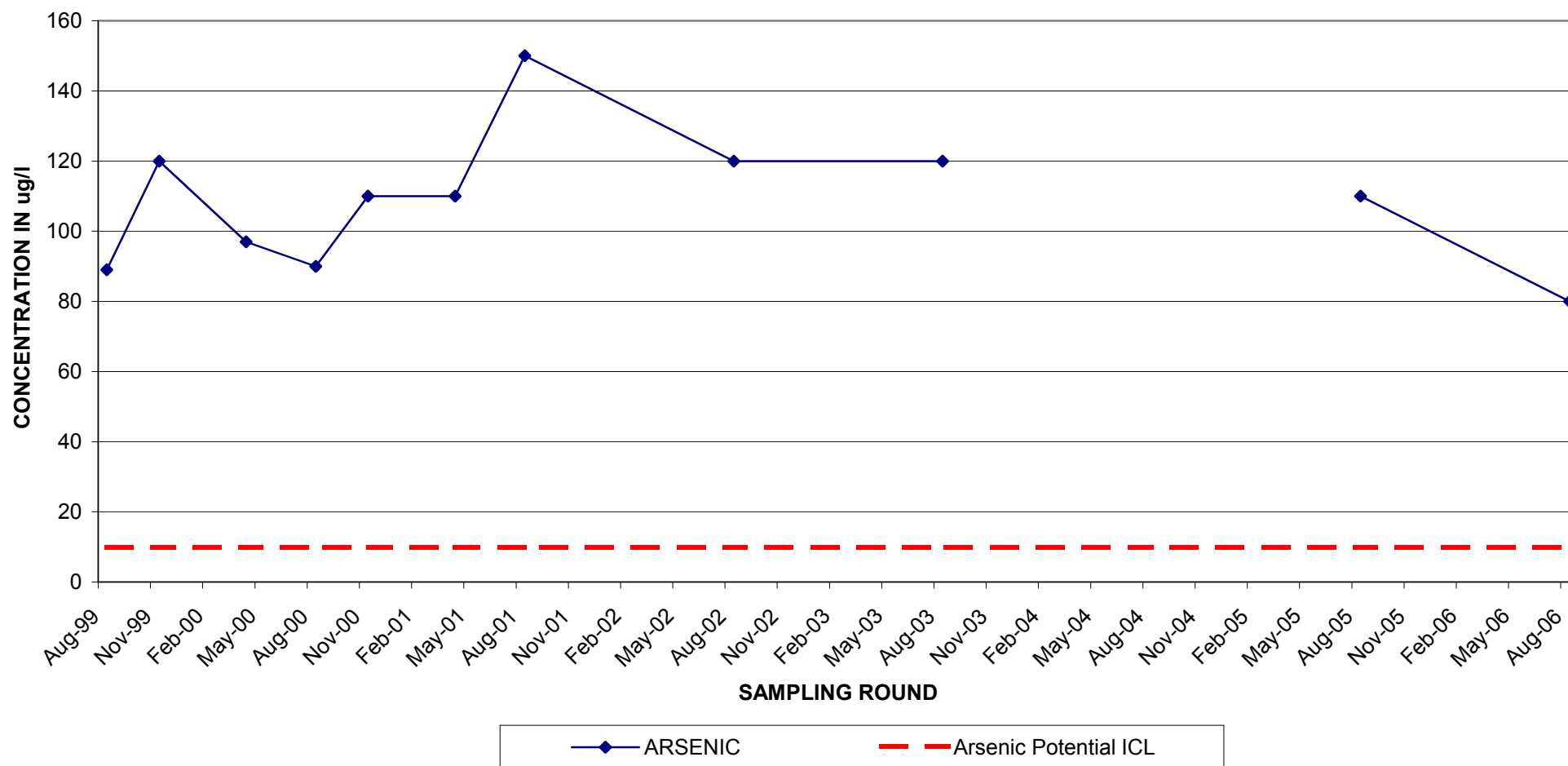


CHART A6

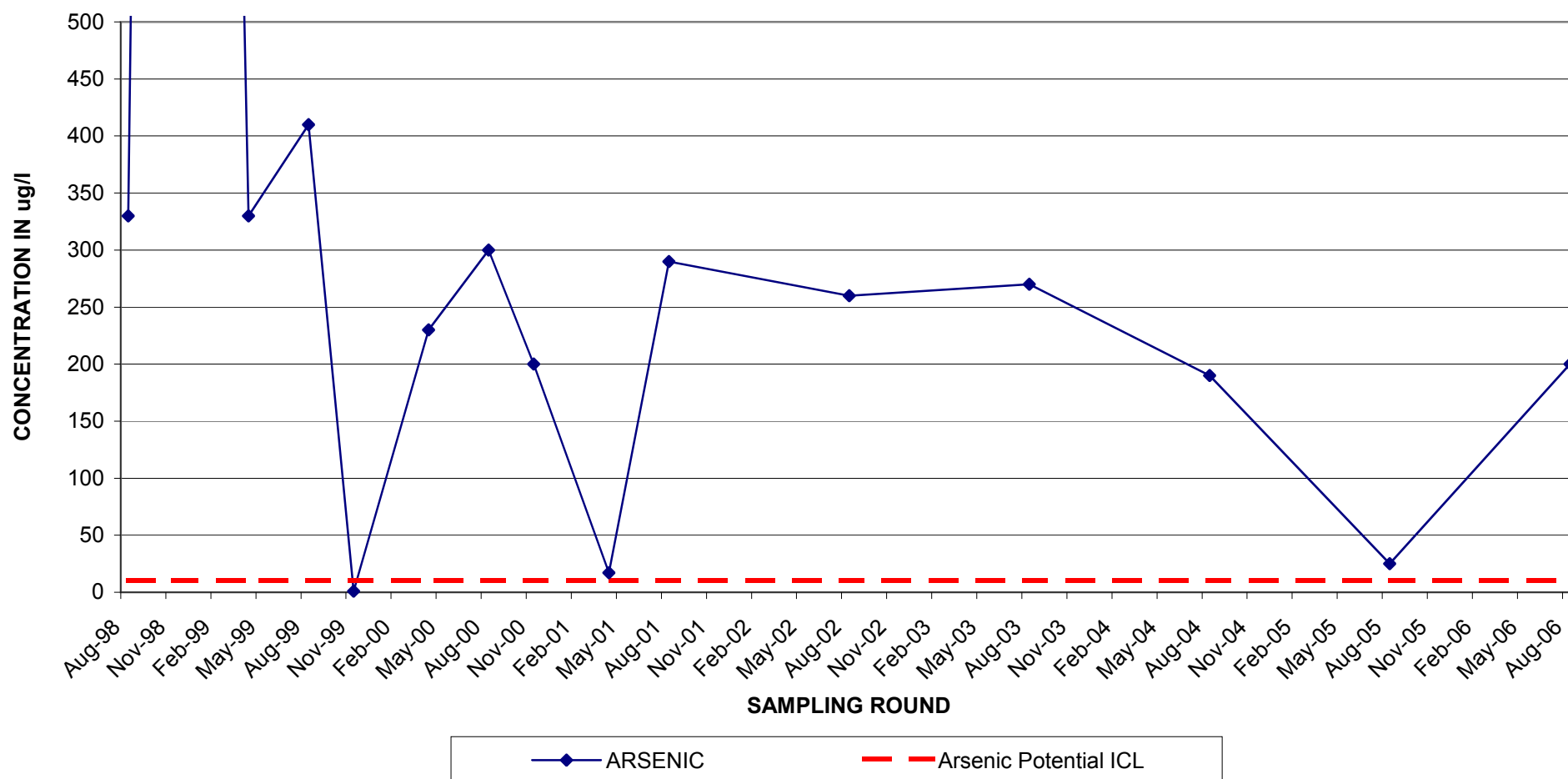
POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERN ARSENIC OP-2COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

CHART A7

POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERN ARSENIC OP-5

COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

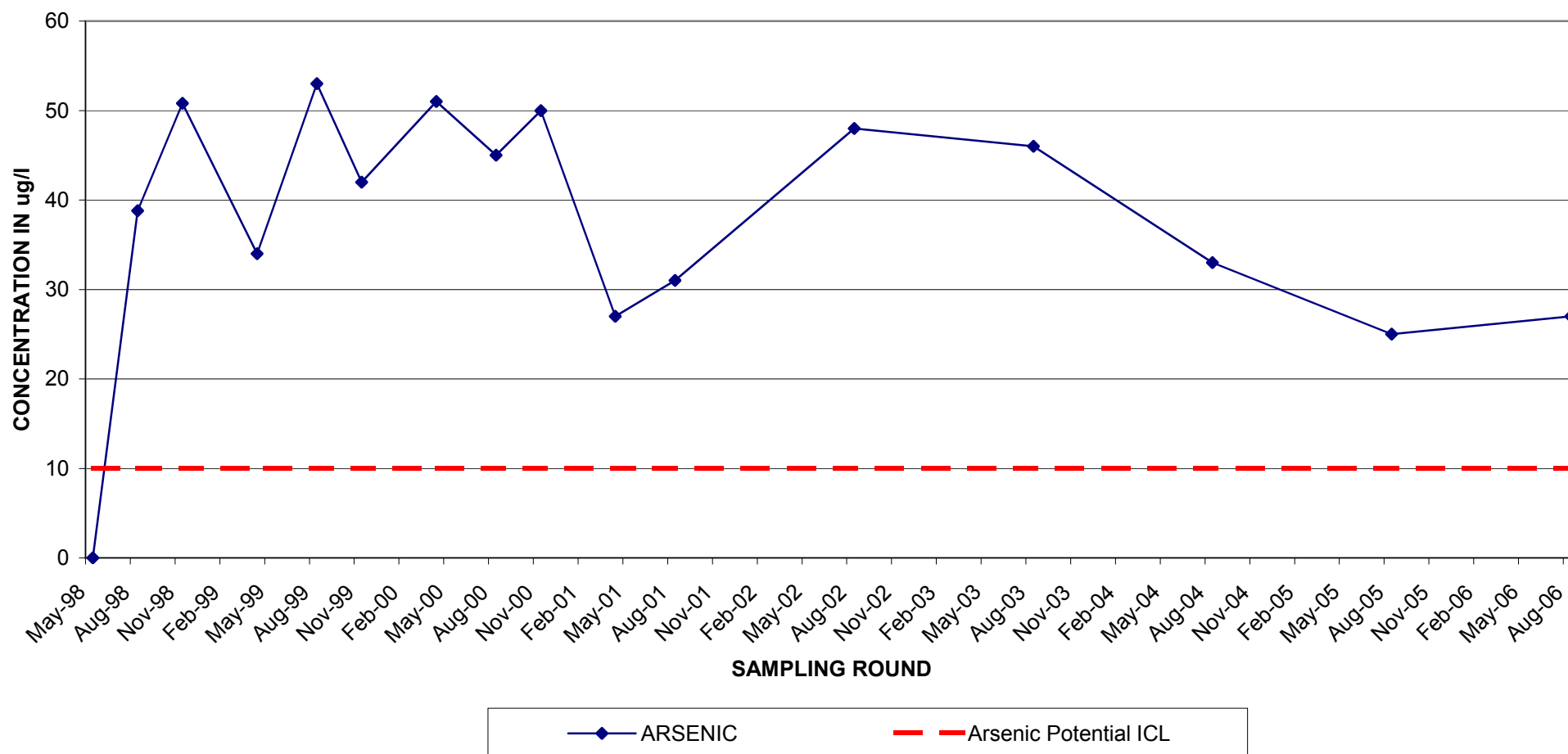


CHART A8

POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERN ARSENIC FPC-9A

COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

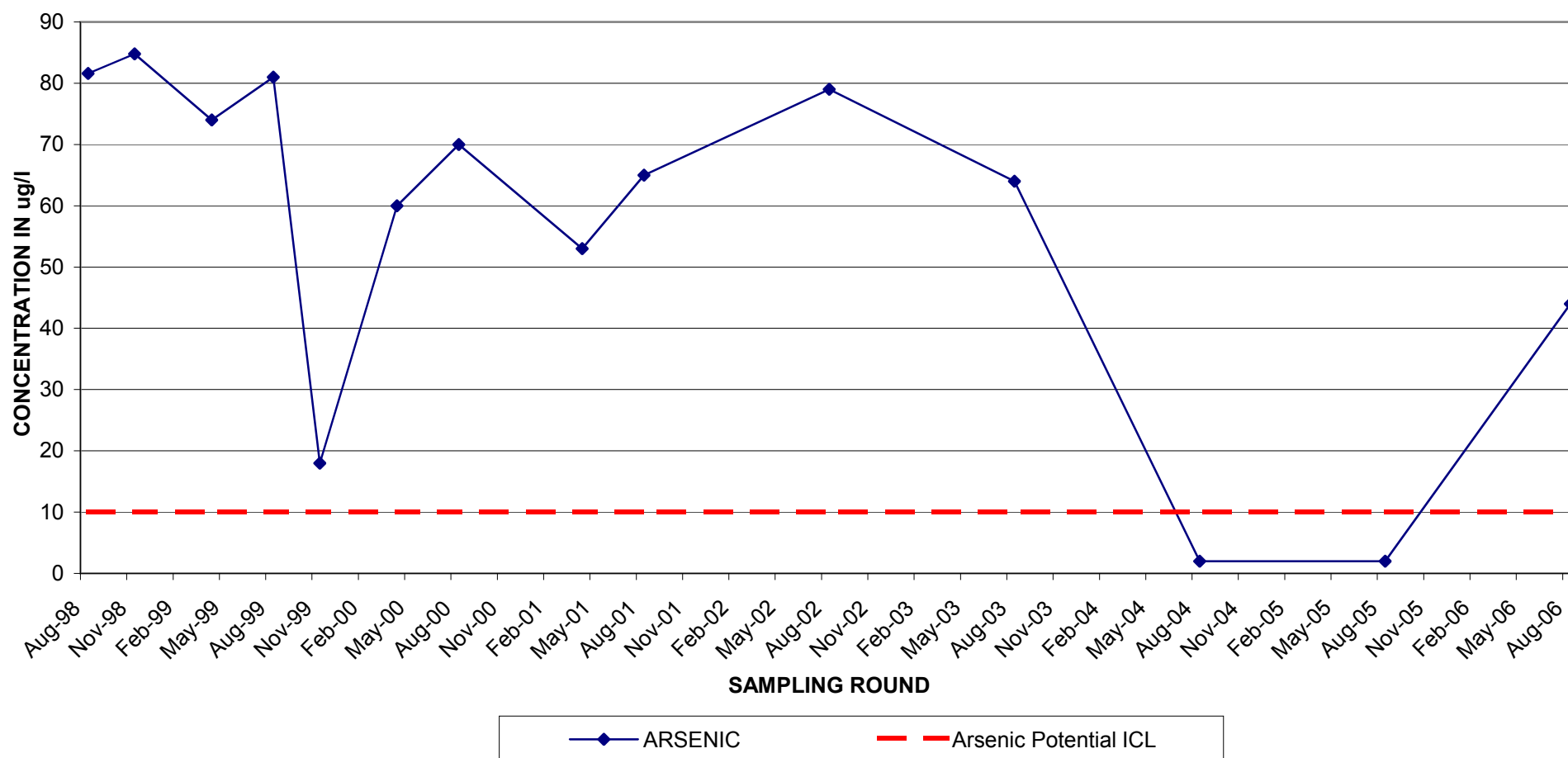


CHART A9

POST-CAP CONSTRUCTION TRENDS IN BEDROCK
GROUNDWATER METALS CONTAMINANTS OF CONCERN ARSENIC MW-11

COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

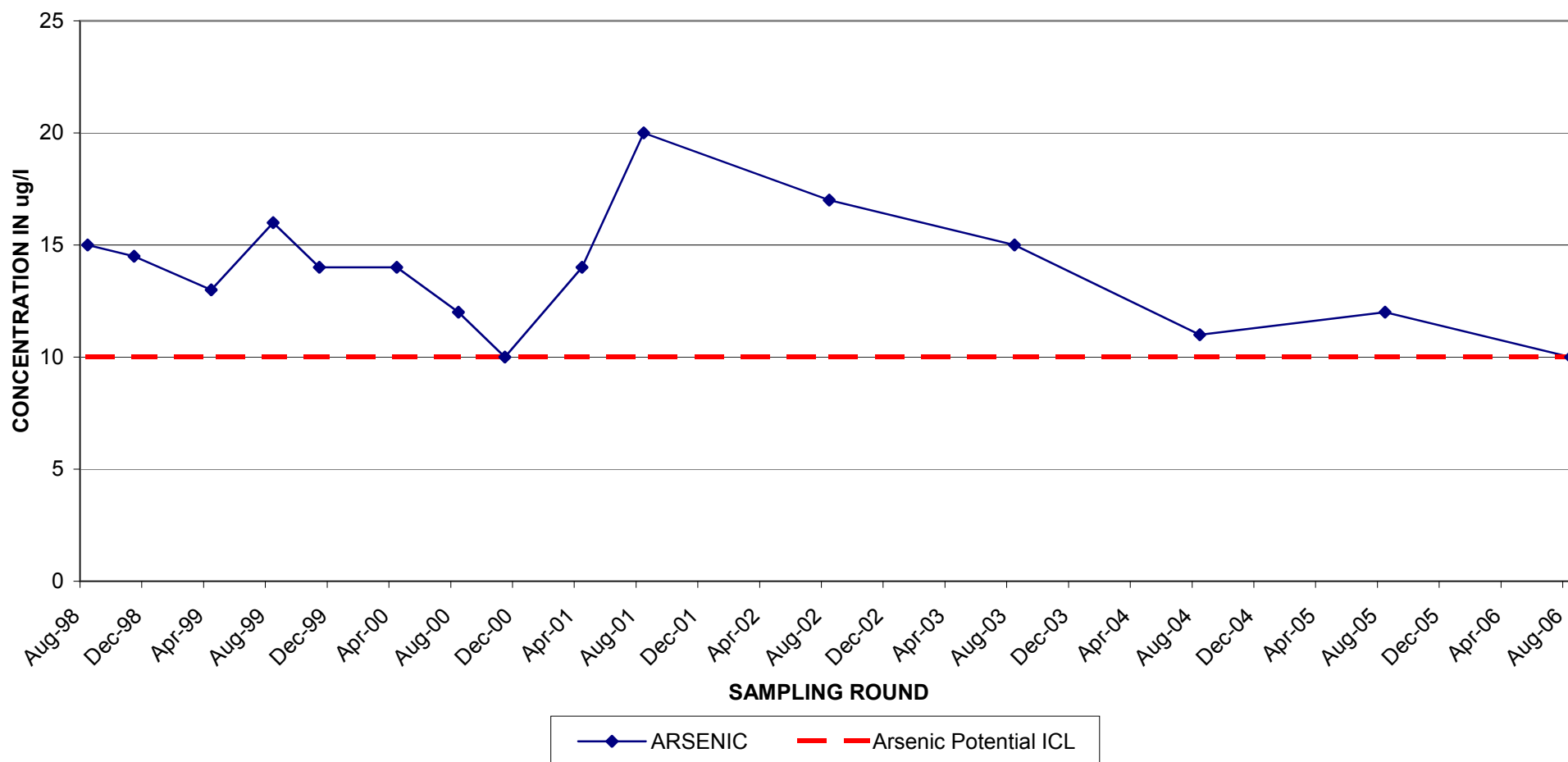


CHART A10
POST-CAP CONSTRUCTION TRENDS IN BEDROCK
GROUNDWATER METALS CONTAMINANTS OF CONCERN ARSENIC BP-4
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

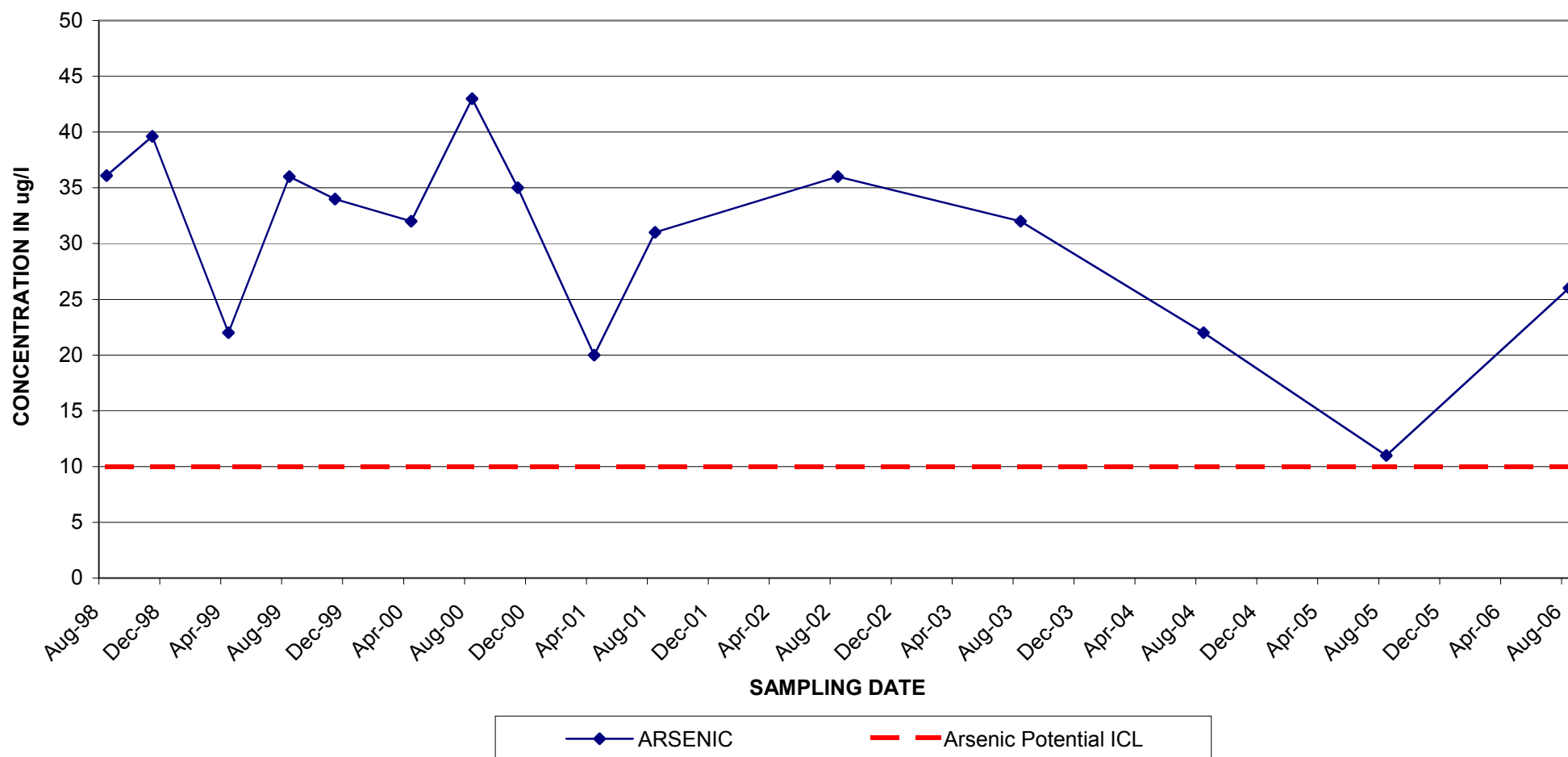


CHART A11

POST-CAP CONSTRUCTION TRENDS IN BEDROCK
GROUNDWATER METALS CONTAMINANTS OF CONCERN ARSENIC MW-5D

COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

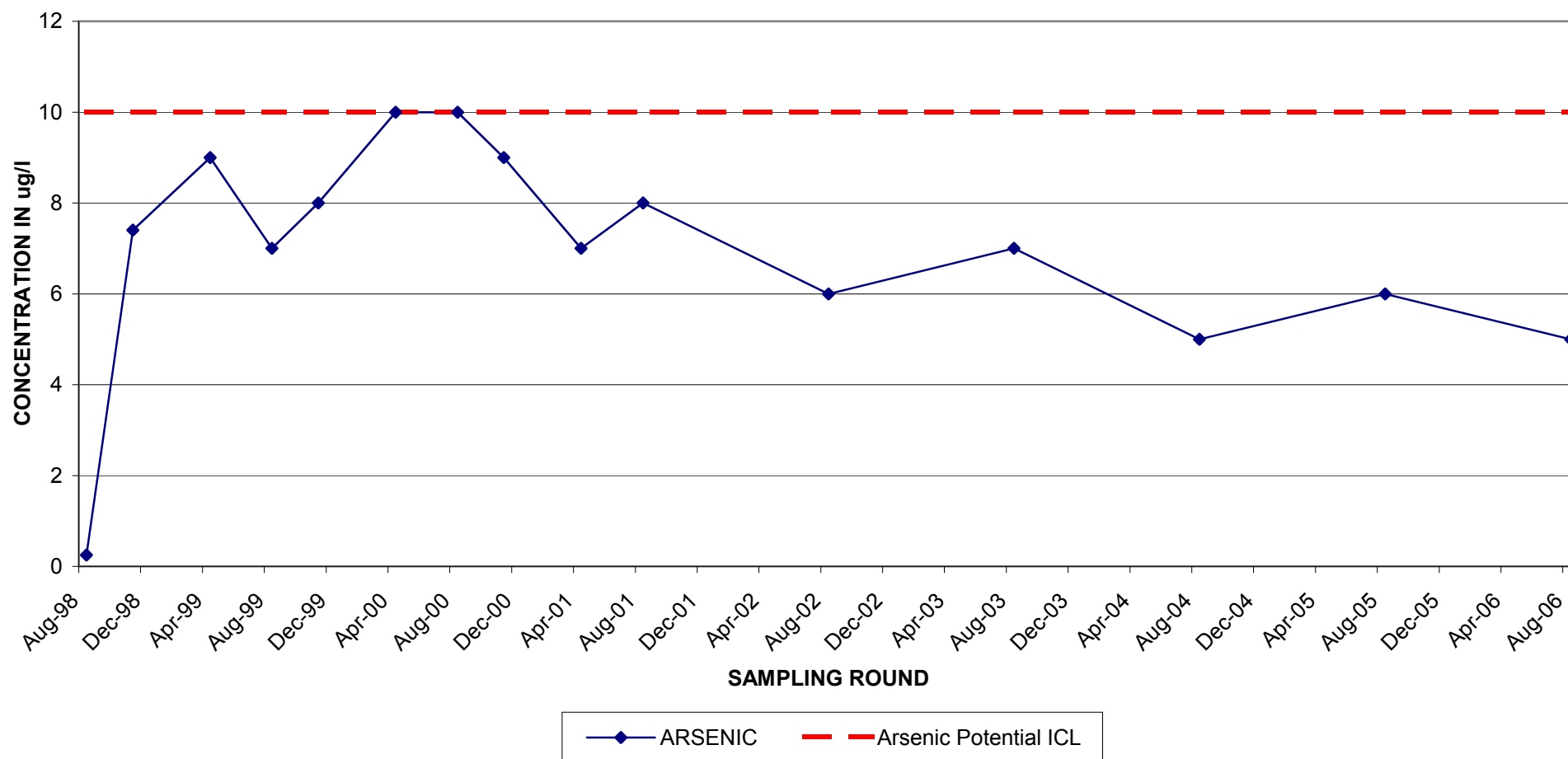


CHART A12
POST-CAP CONSTRUCTION TRENDS IN BEDROCK
GROUNDWATER METALS CONTAMINANTS OF CONCERN ARSENIC MW-6
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

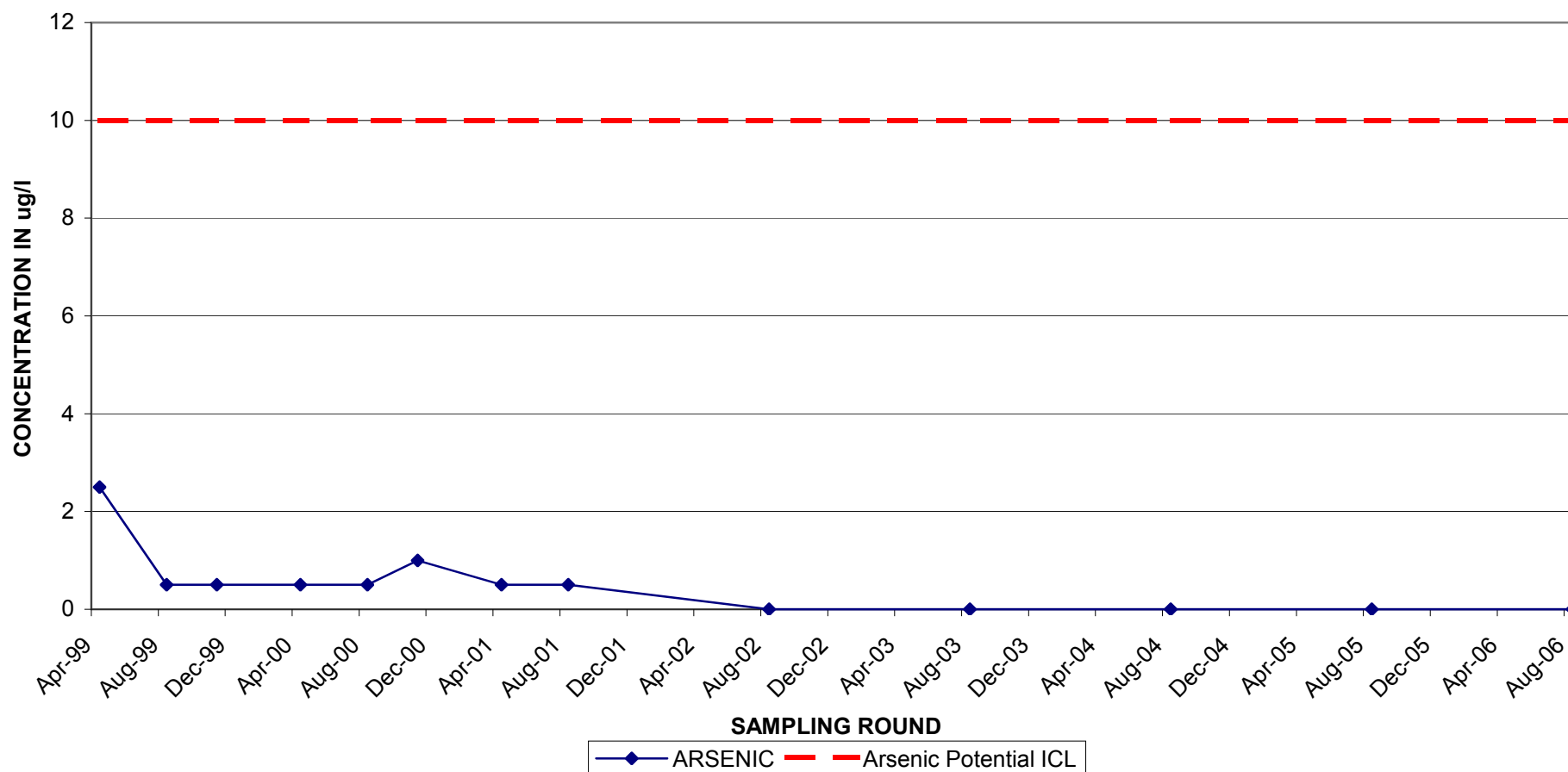


CHART A13

POST-CAP CONSTRUCTION TRENDS IN BEDROCK
GROUNDWATER METALS CONTAMINANTS OF CONCERN ARSENIC MW-8

COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

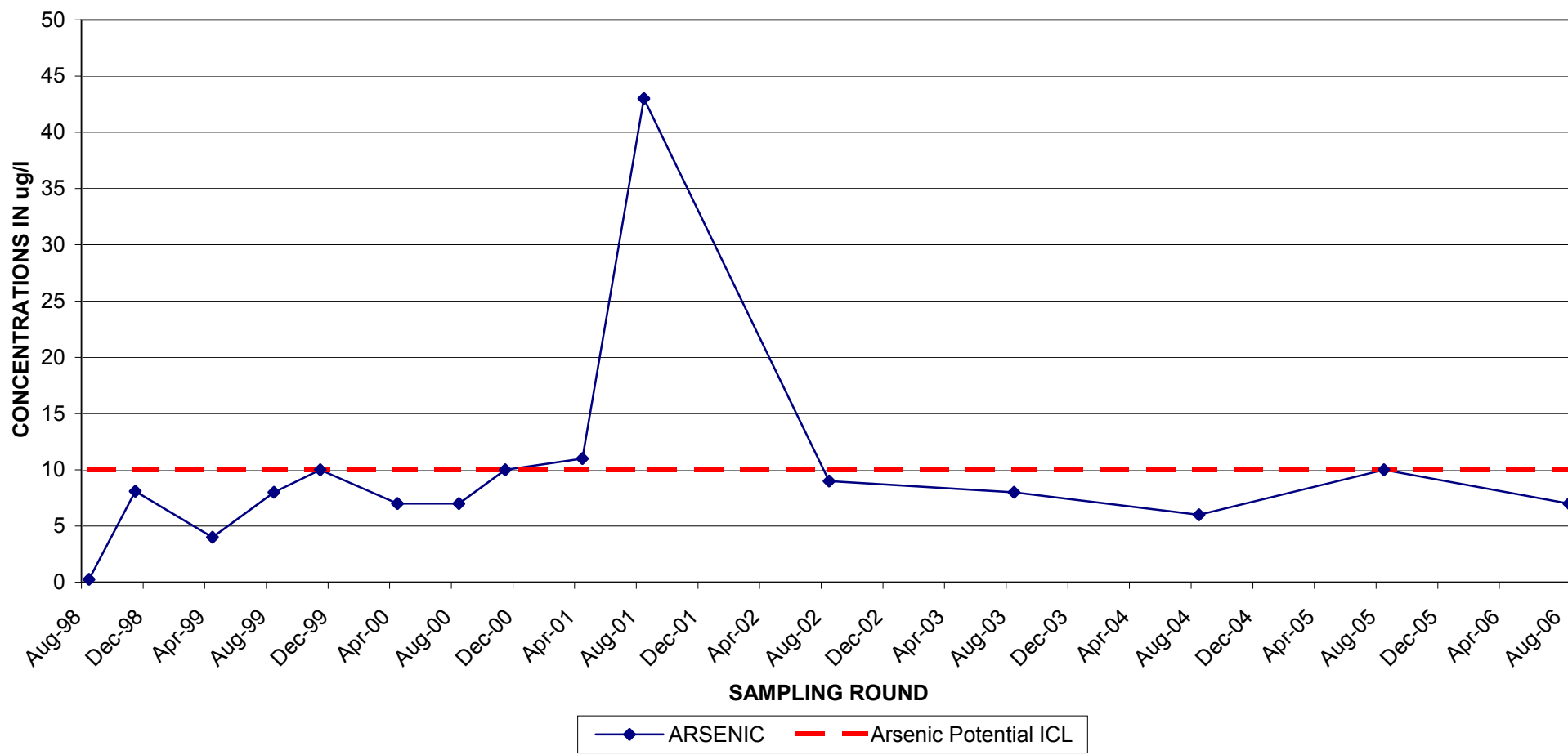


CHART A14

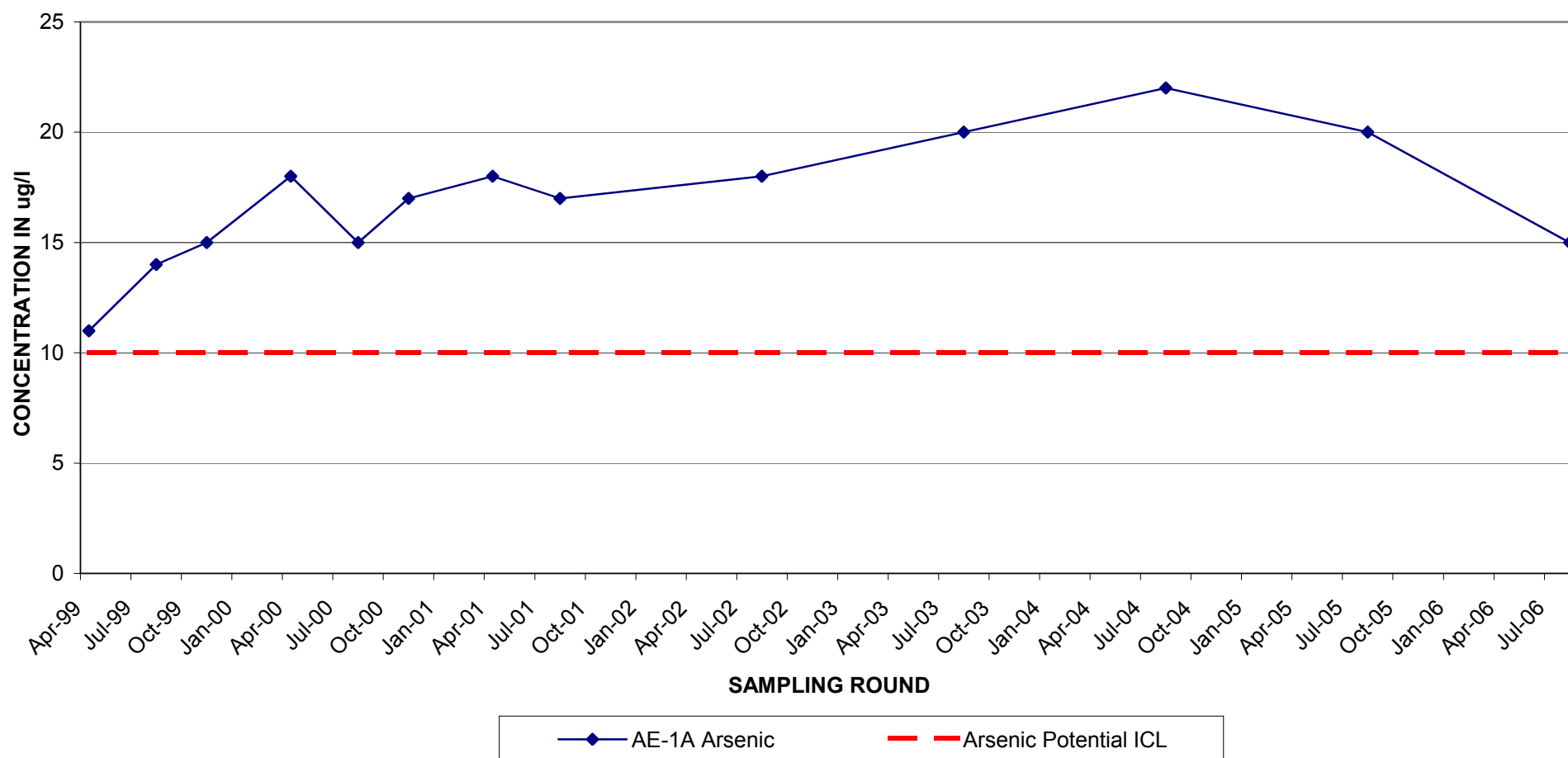
POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERNCOAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

CHART A-14

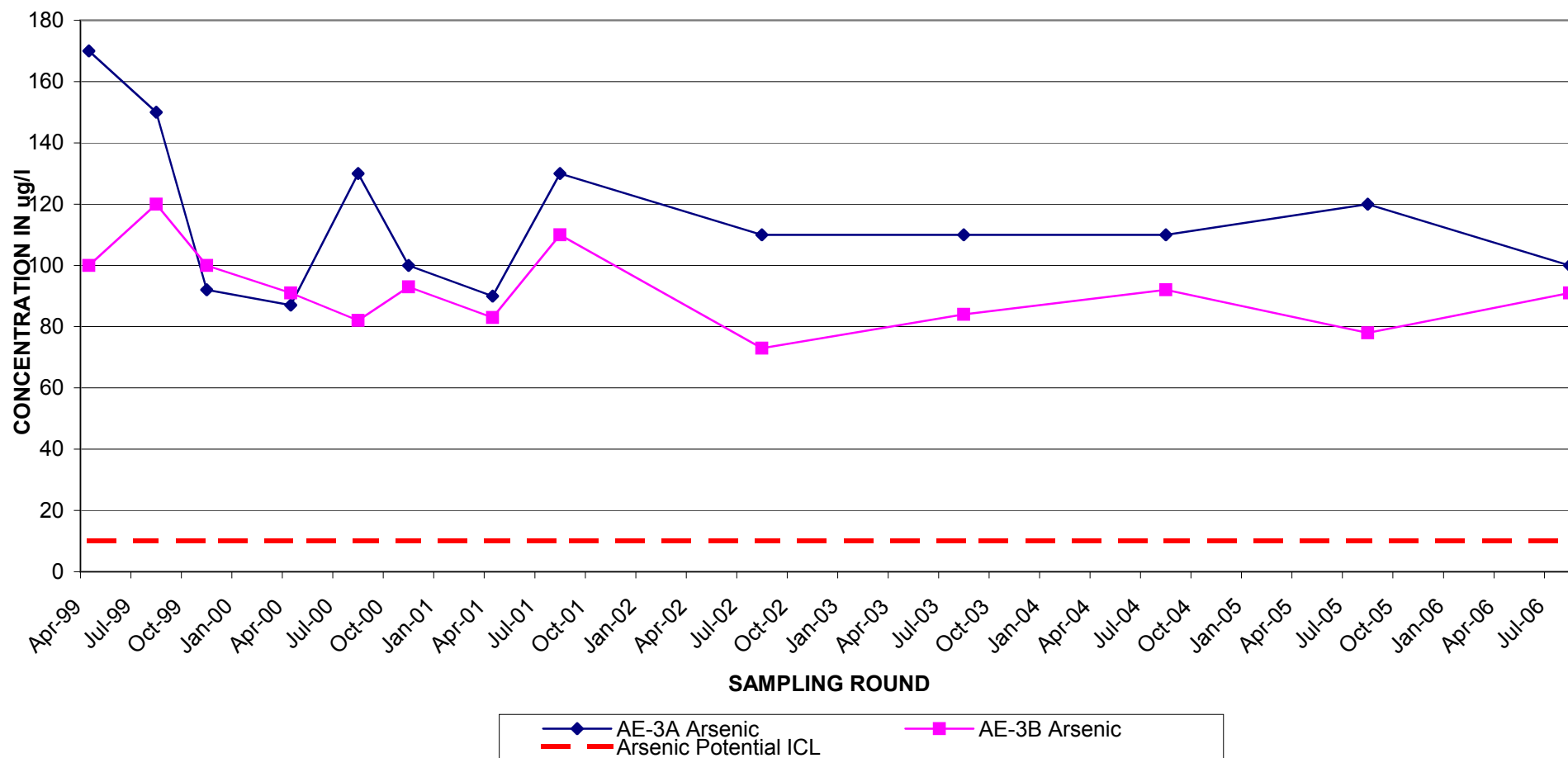
POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN & BEDROCK
GROUNDWATER CONTAMINANTS OF CONCERNCOAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

CHART A16

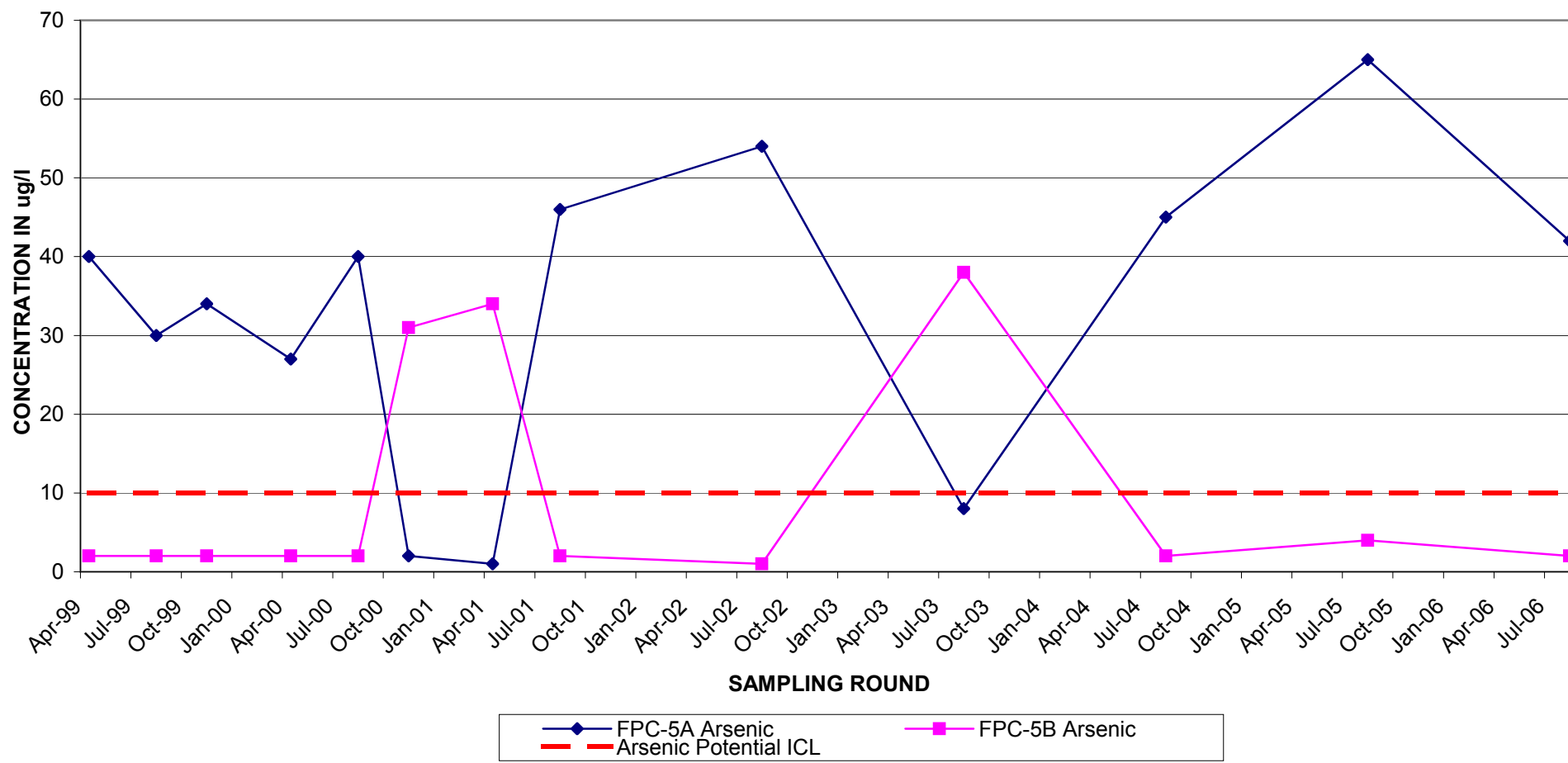
POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN & BEDROCK
GROUNDWATER CONTAMINANTS OF CONCERNCOAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

CHART A17

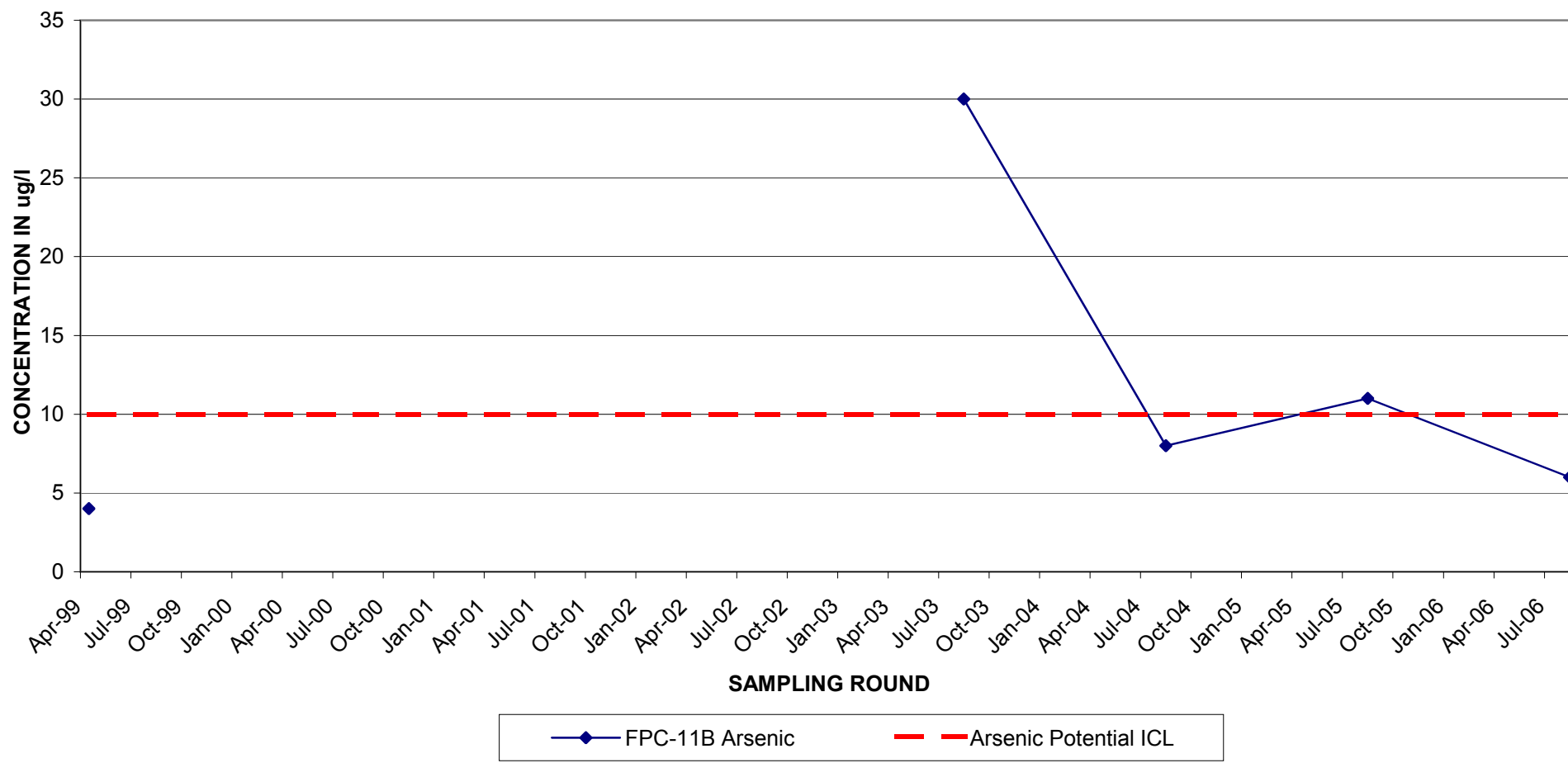
POST-CAP CONSTRUCTION TRENDS IN BEDROCK
GROUNDWATER CONTAMINANTS OF CONCERNCOAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

CHART A18

POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN & BEDROCK
GROUNDWATER CONTAMINANTS OF CONCERN

COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

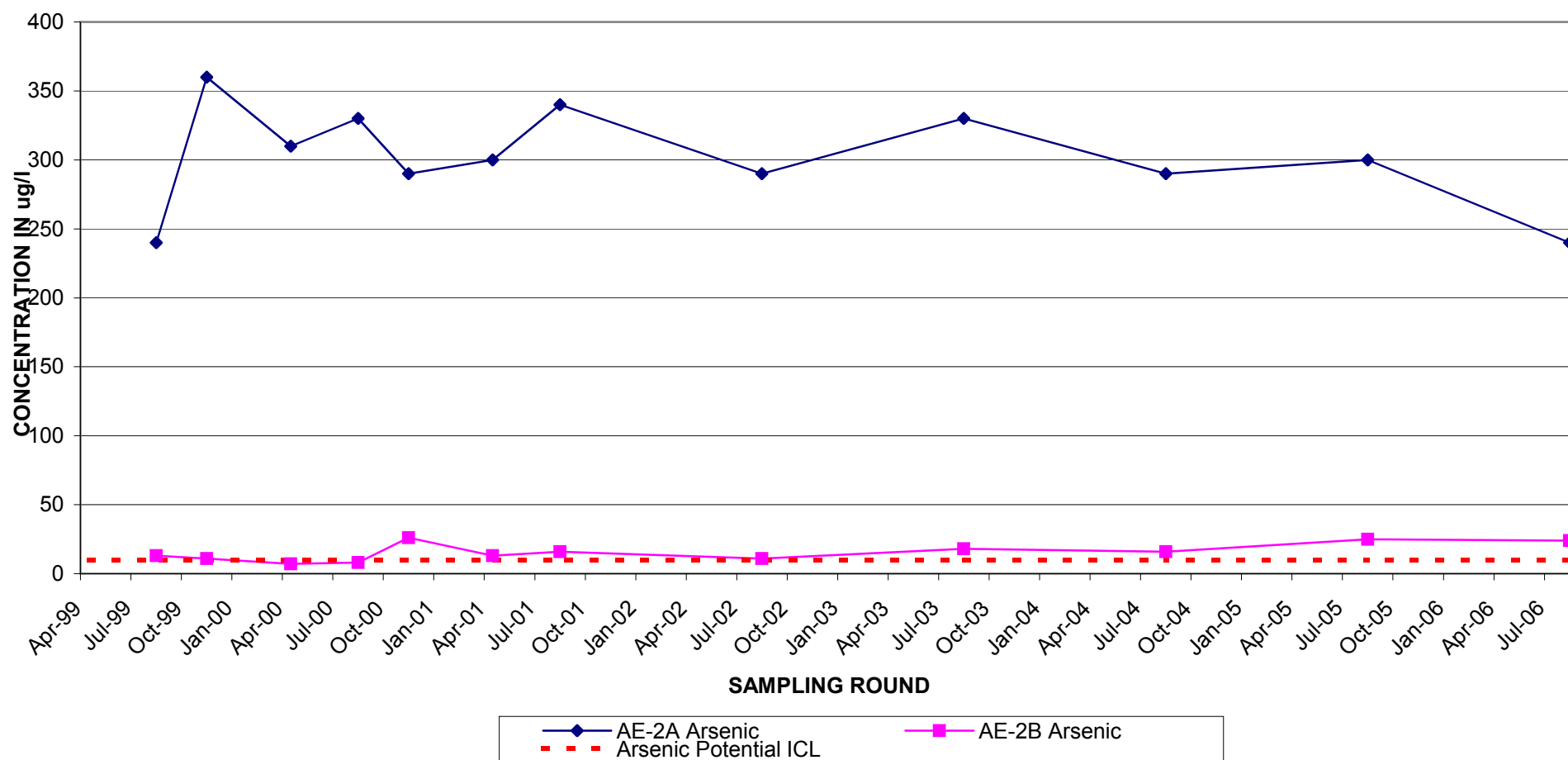


CHART M1

POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERN MANGANESE MW-4

COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

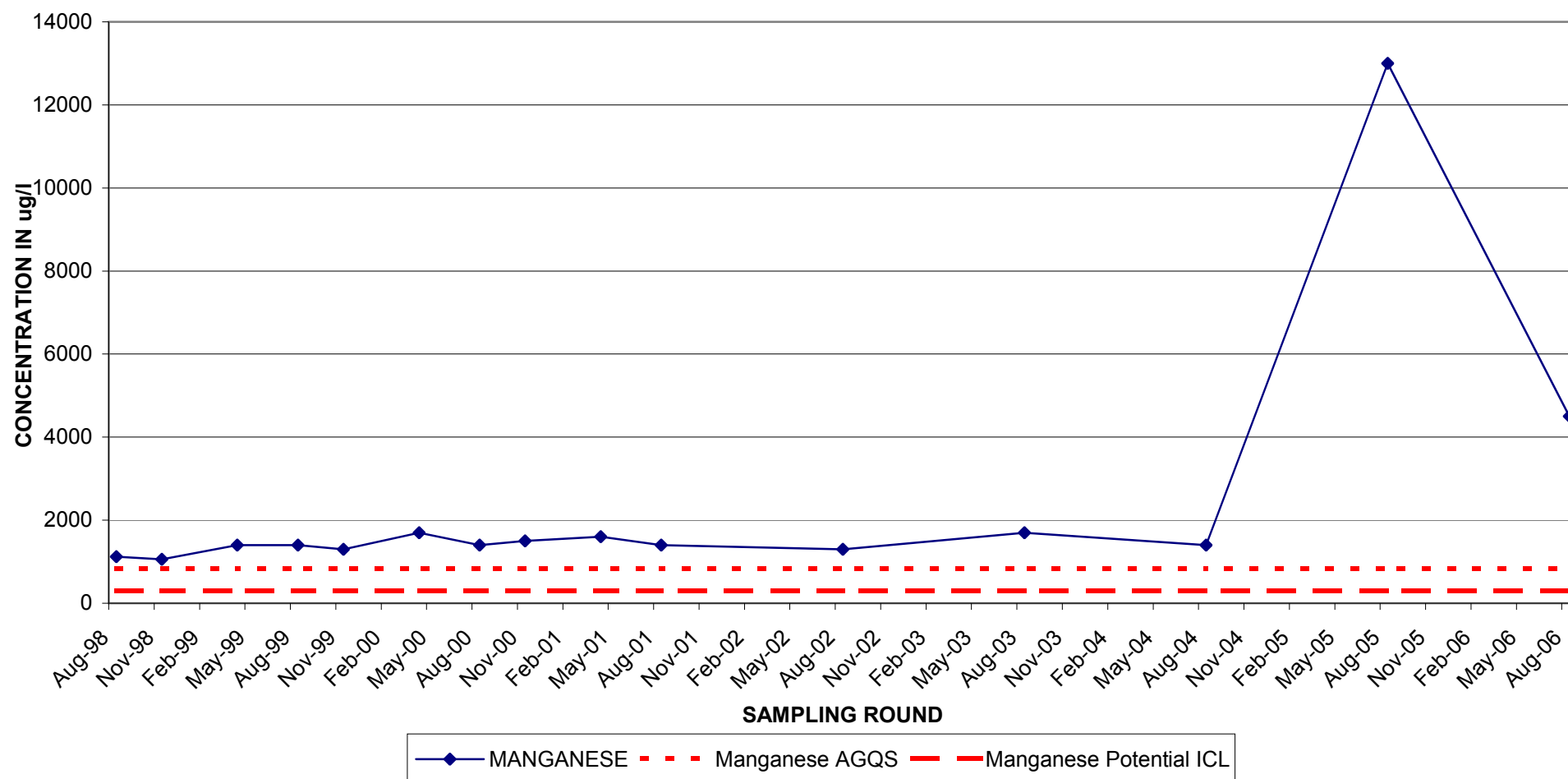


CHART M2
POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERN MANGANESE MW-5S
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

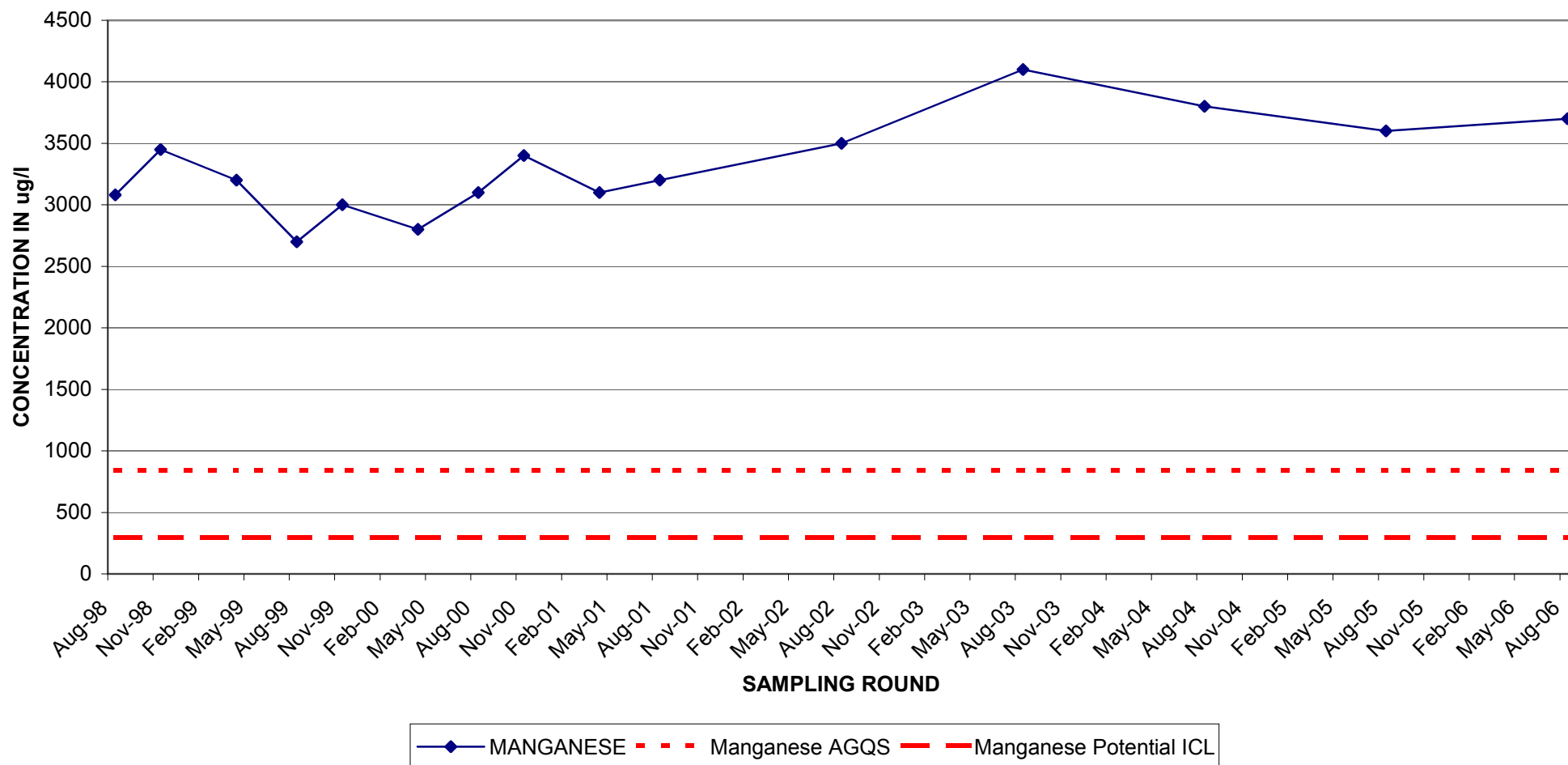


CHART M3
POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERN MANGANESE MW-9
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

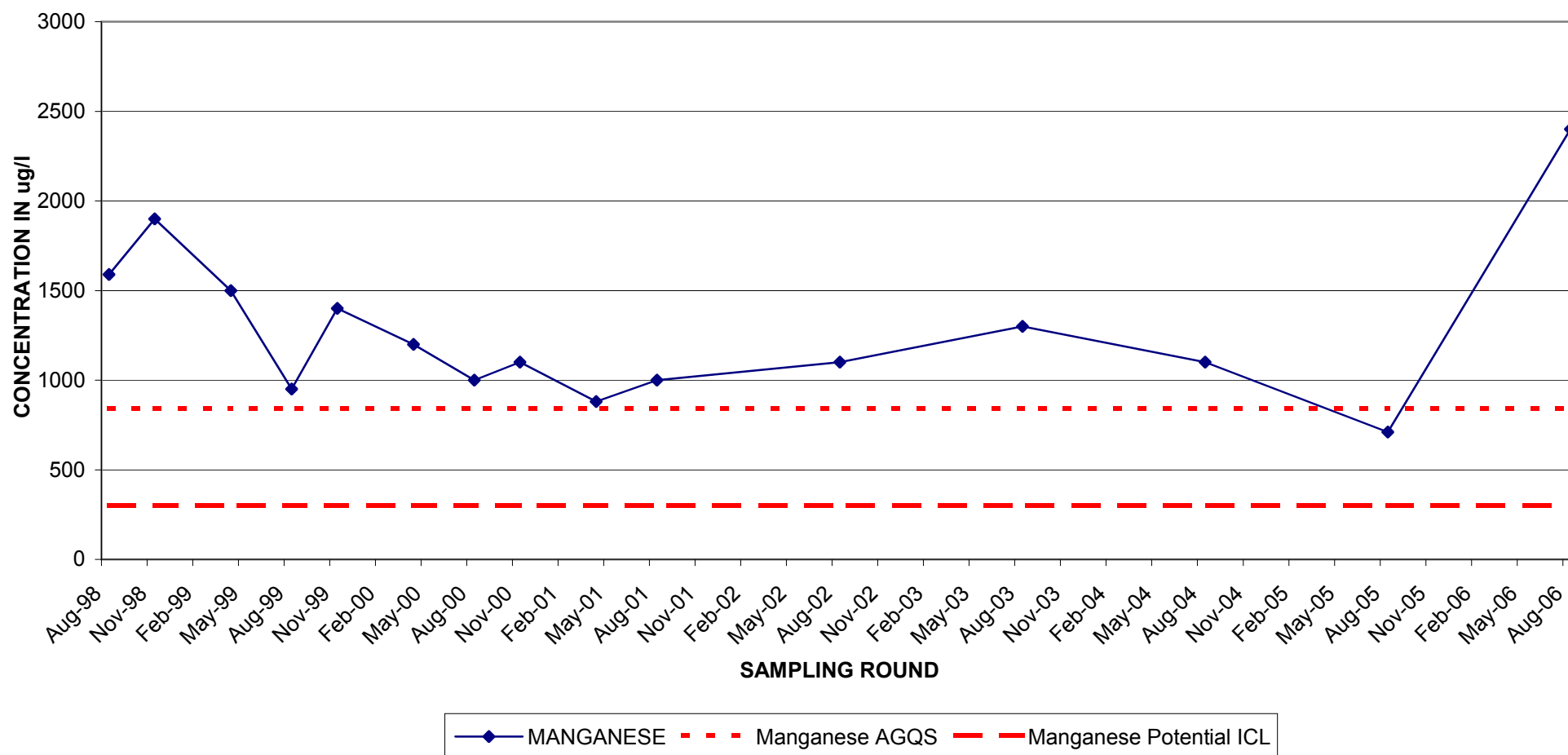


CHART M4
POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERN MANGANESE MW-10
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

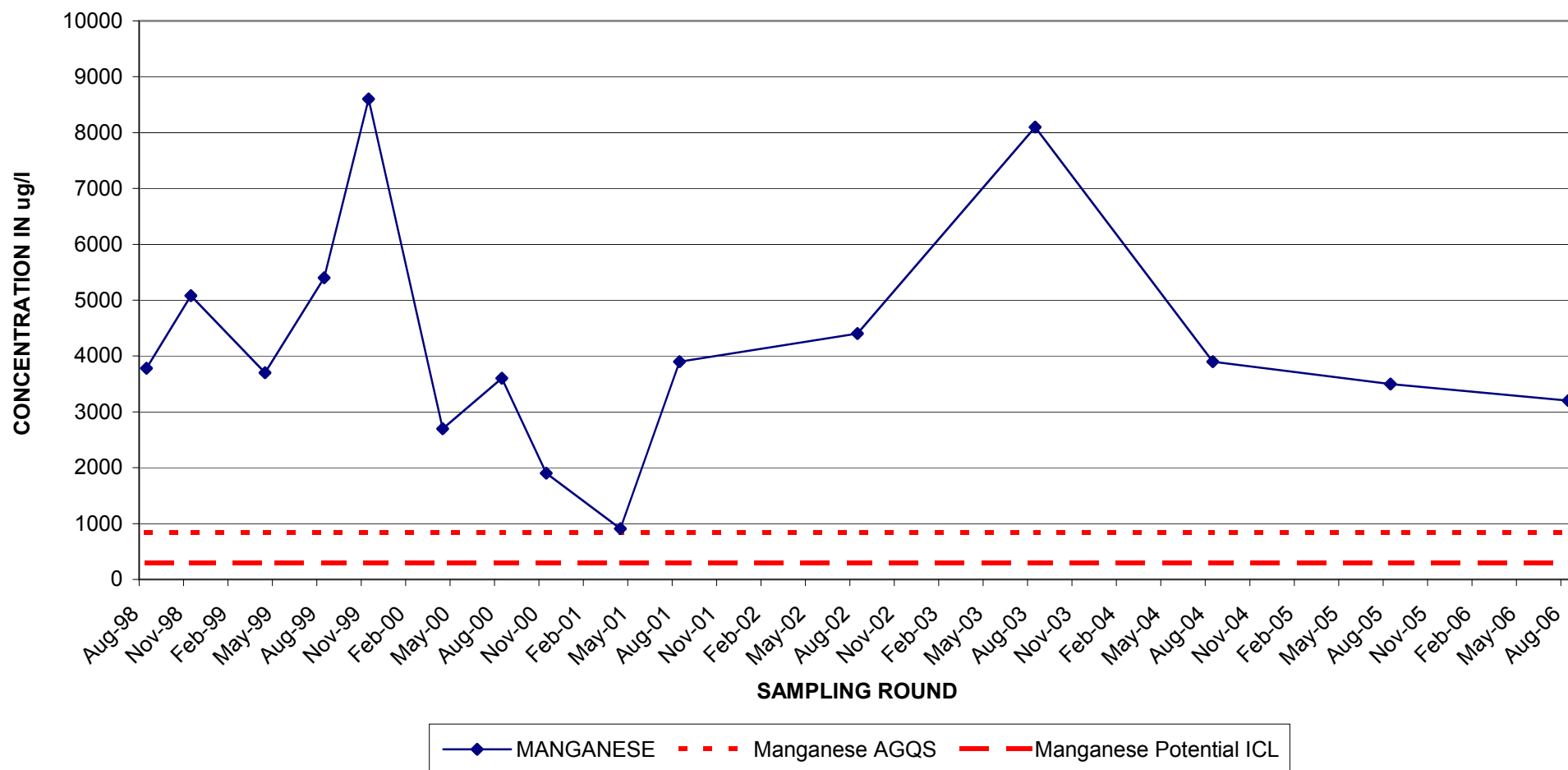


CHART M5
POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERN MANGANESE RMW-3
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

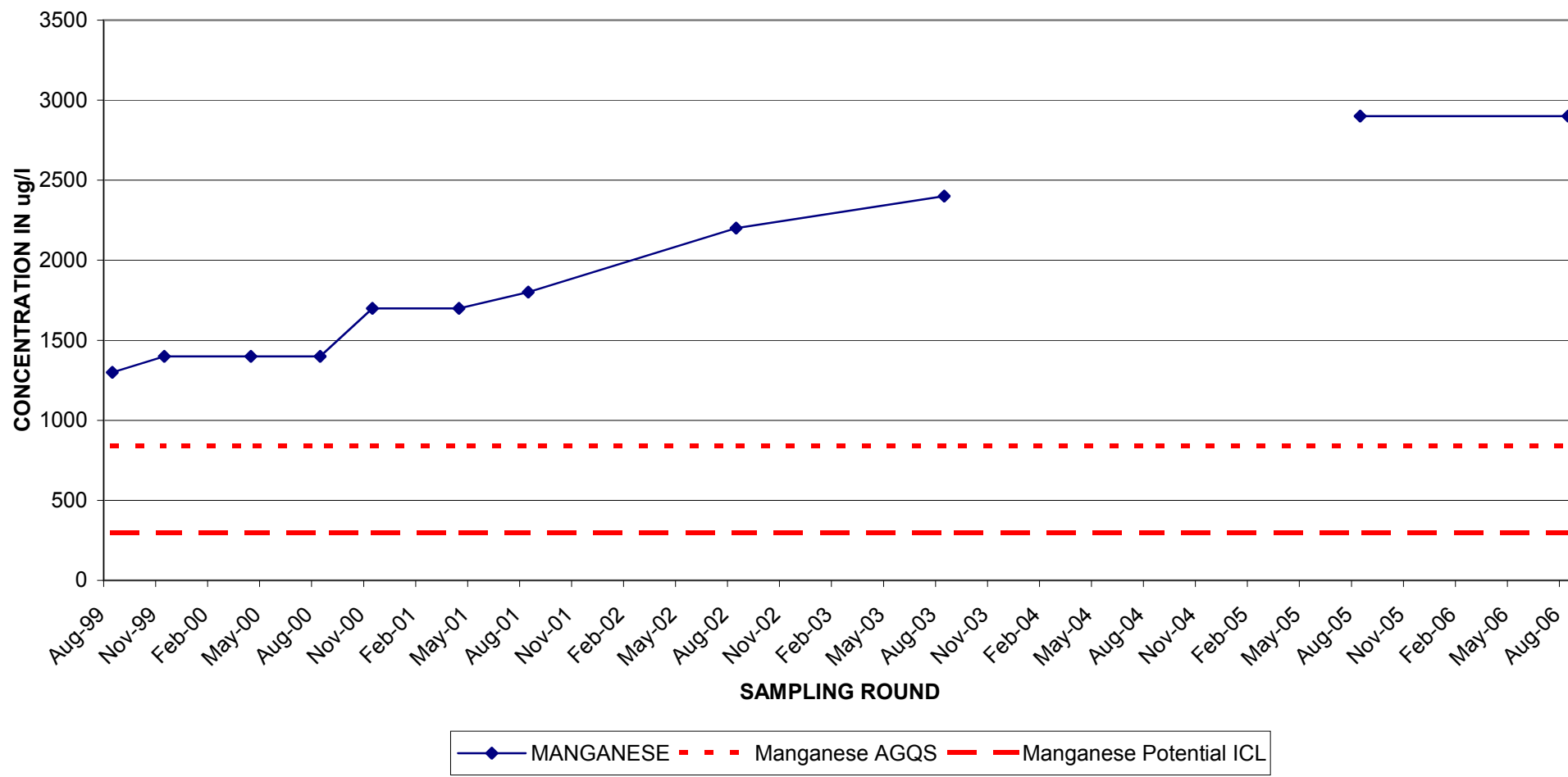
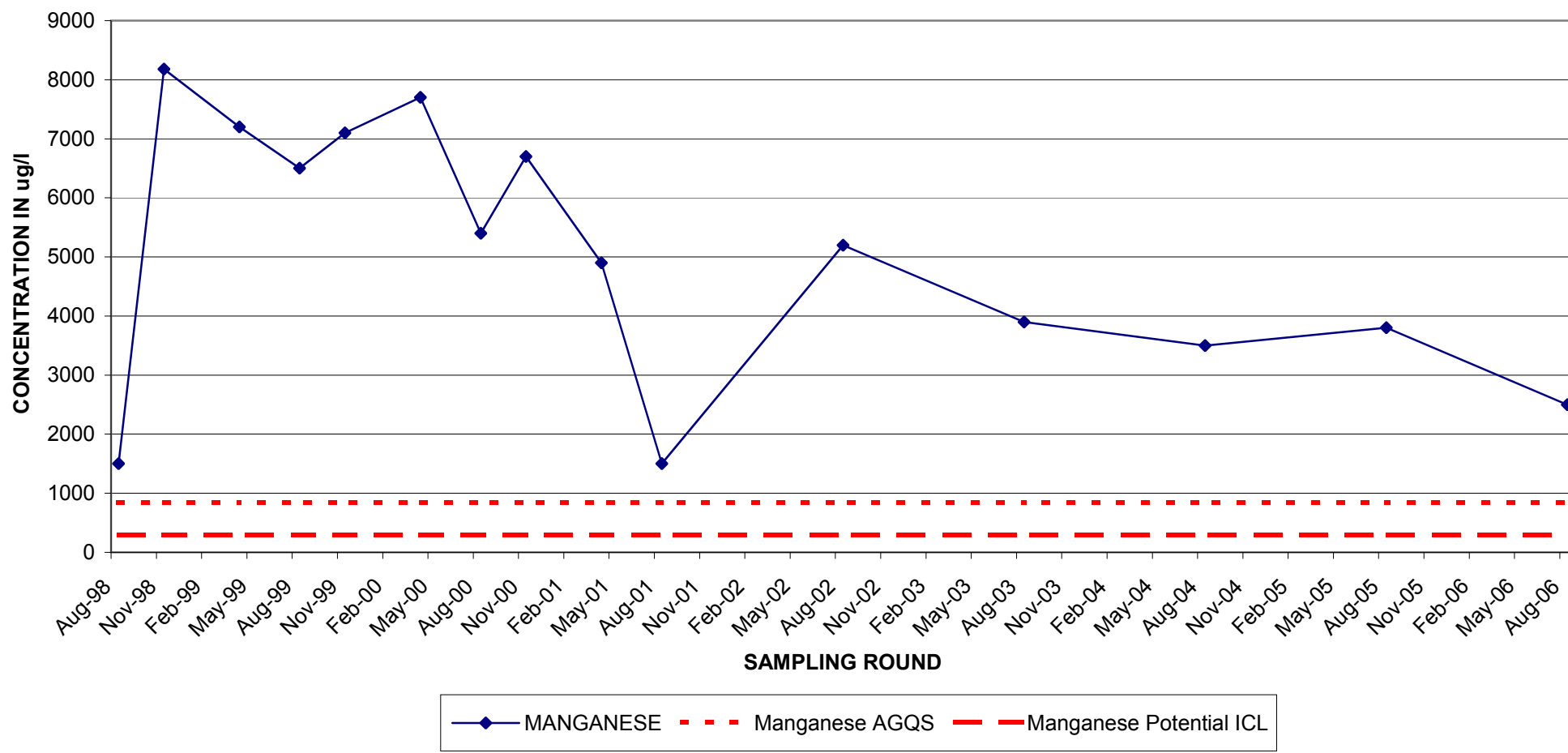


CHART M6
POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERN MANGANESE OP-5
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE



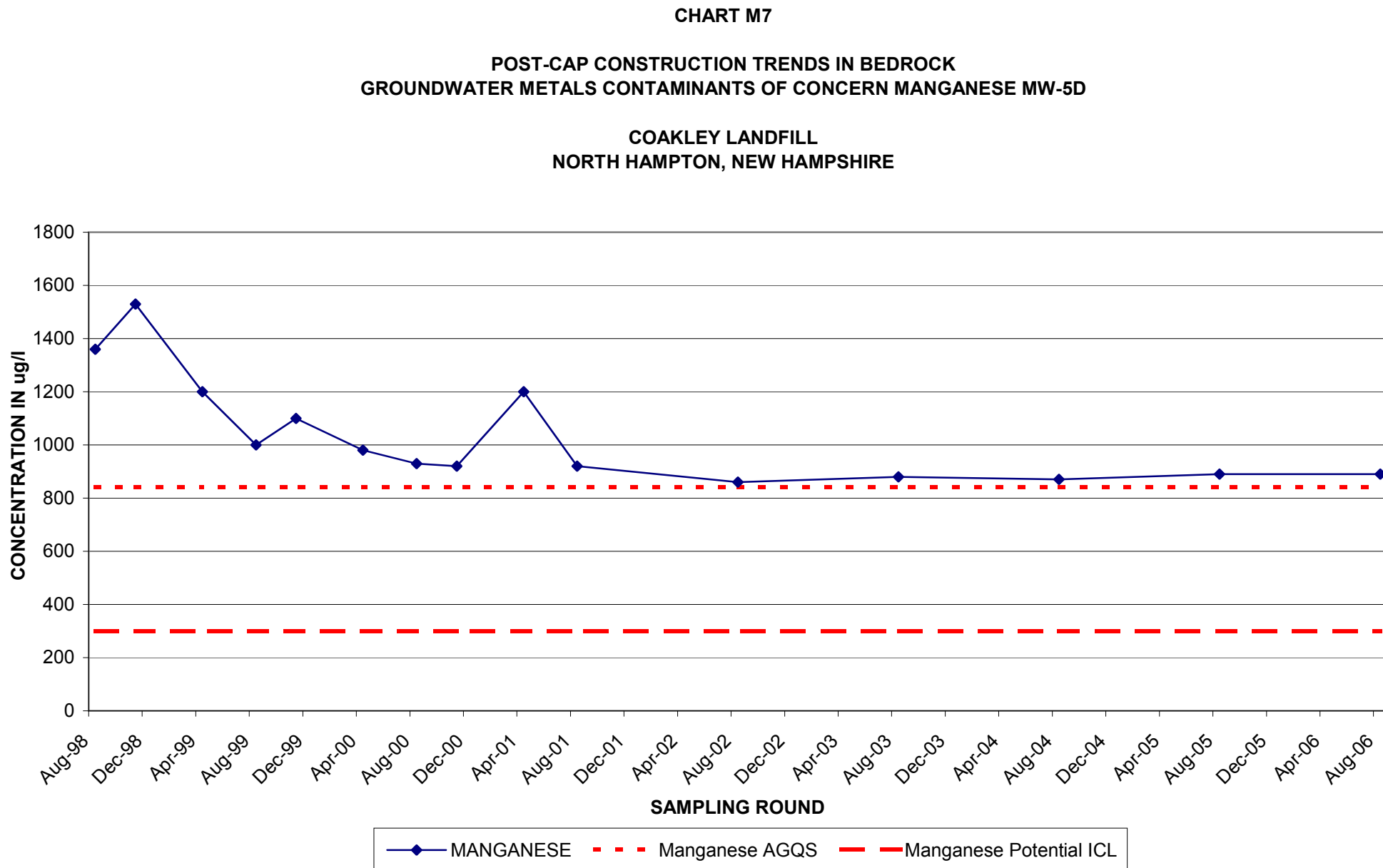


CHART M8
POST-CAP CONSTRUCTION TRENDS IN BEDROCK
GROUNDWATER METALS CONTAMINANTS OF CONCERN MANGANESE MW-6
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

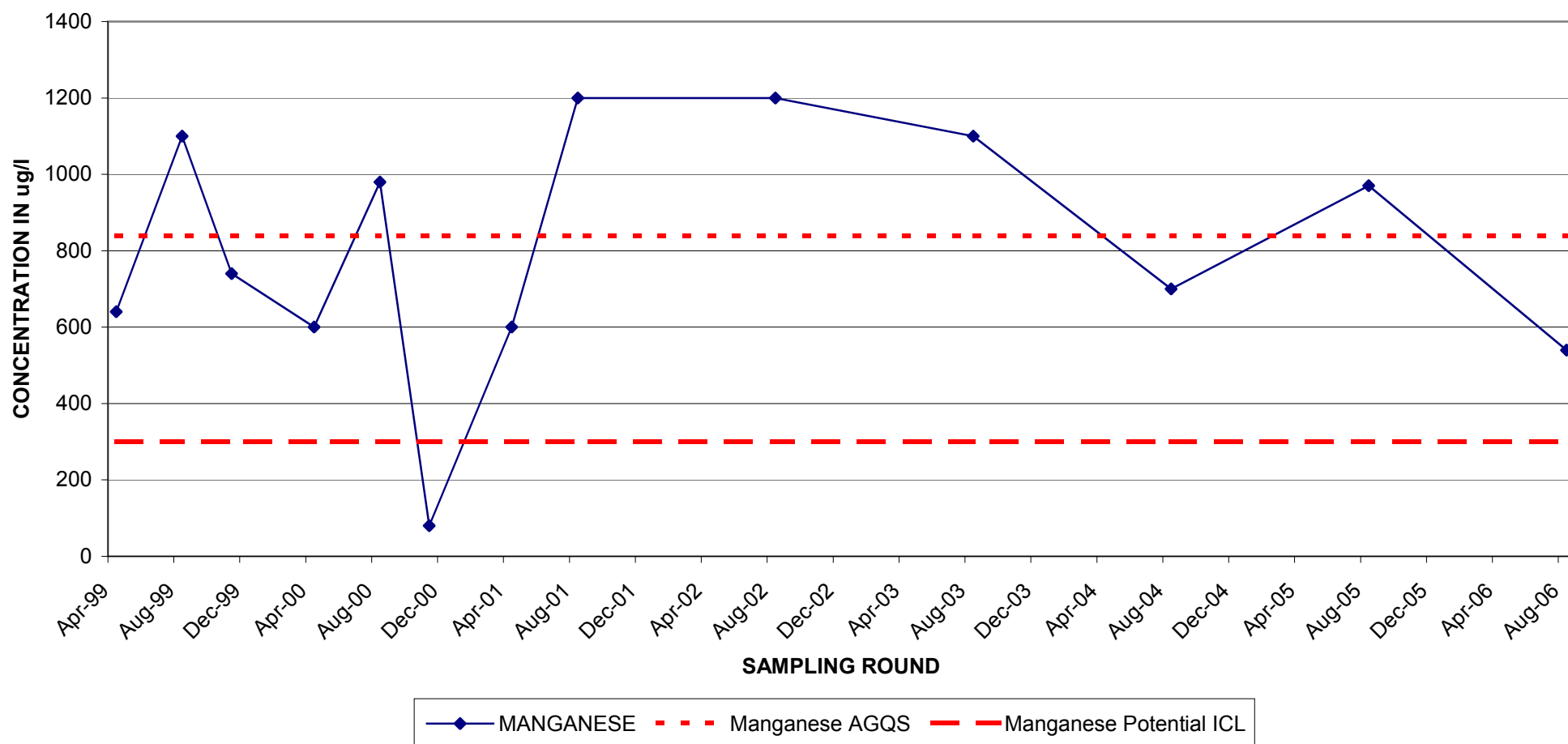


CHART M9
POST-CAP CONSTRUCTION TRENDS IN BEDROCK
GROUNDWATER METALS CONTAMINANTS OF CONCERN MANGANESE MW-8
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

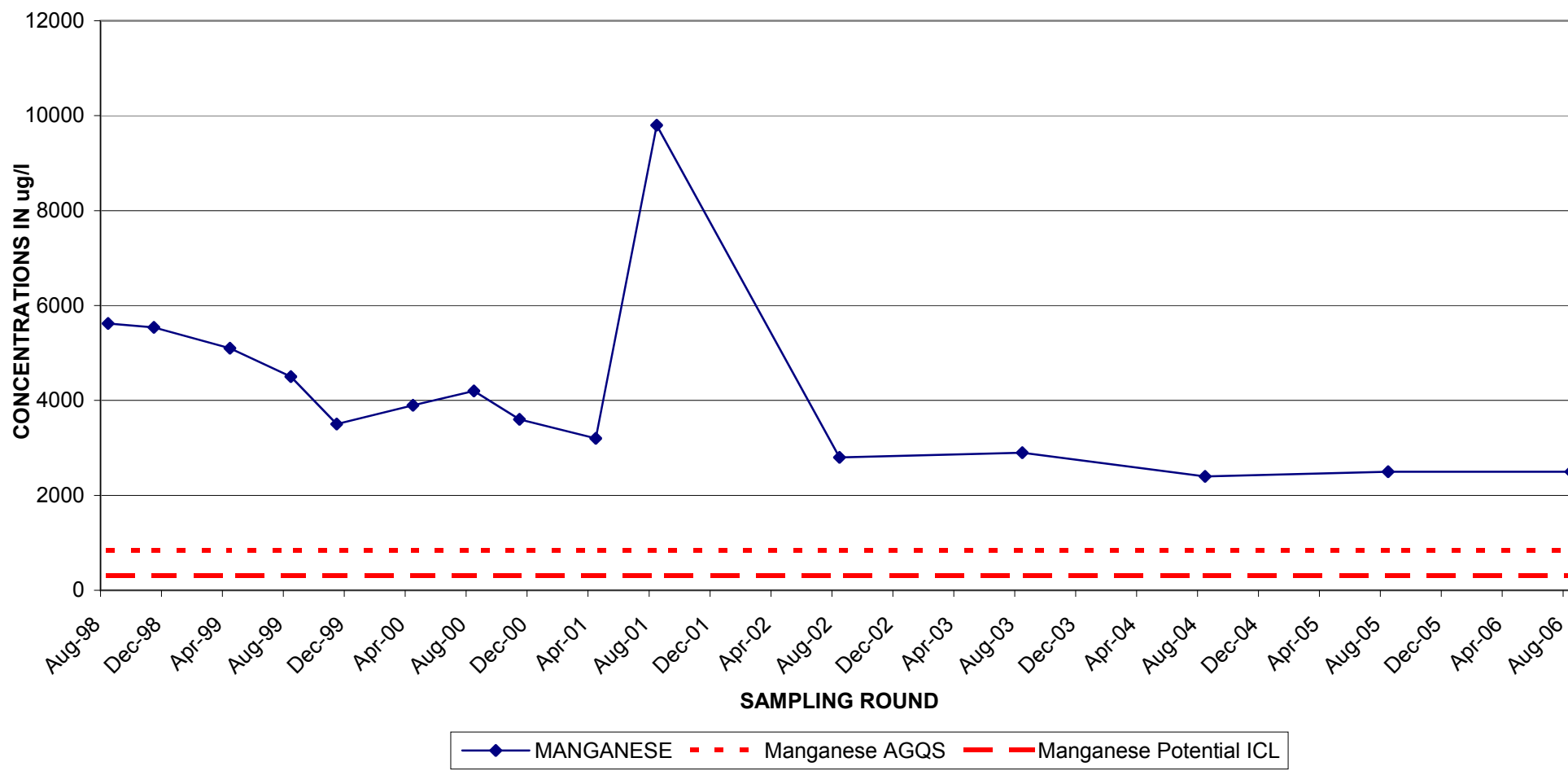
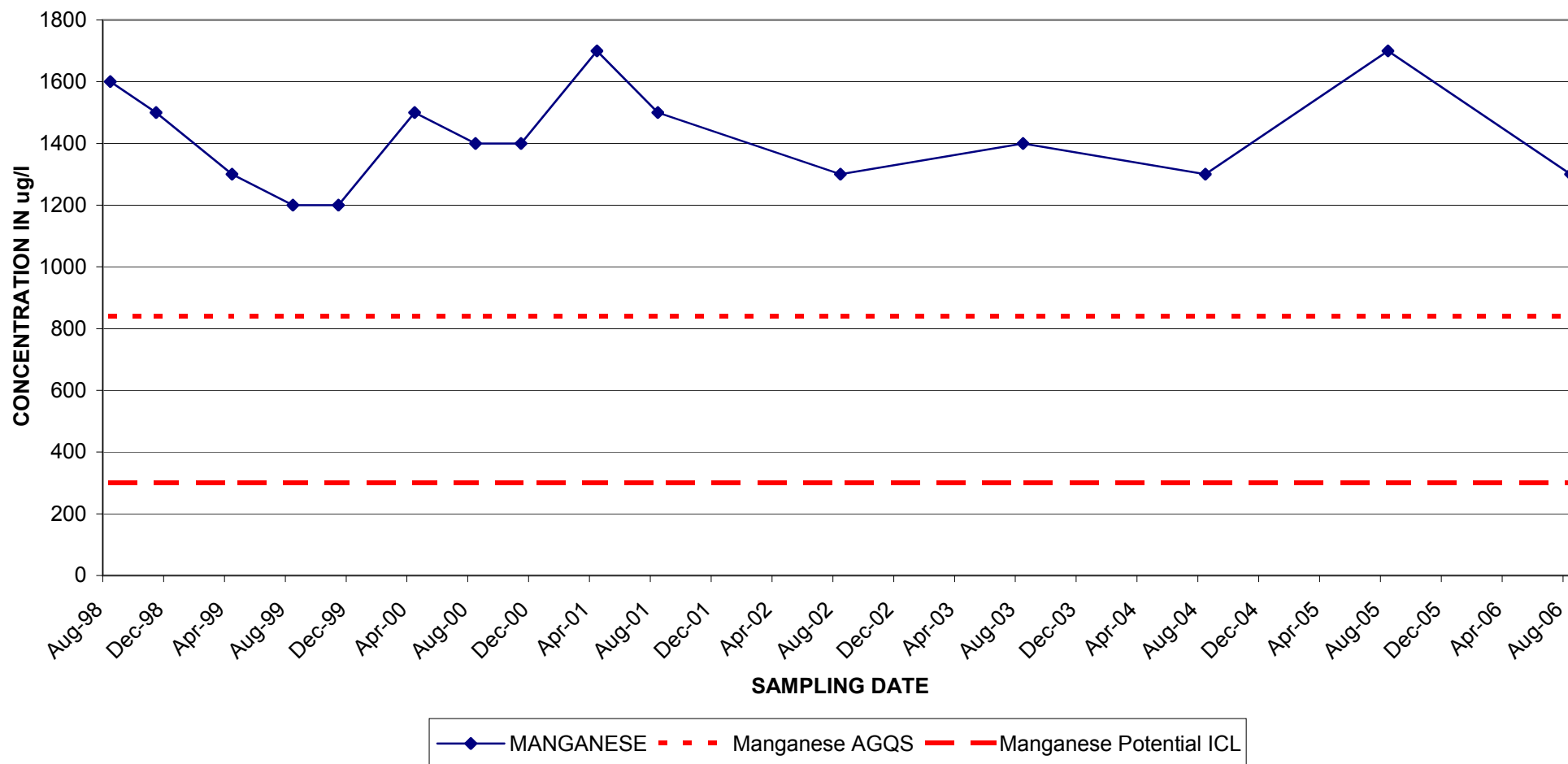


CHART M10
POST-CAP CONSTRUCTION TRENDS IN BEDROCK
GROUNDWATER METALS CONTAMINANTS OF CONCERN MANGANESE BP-4
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE



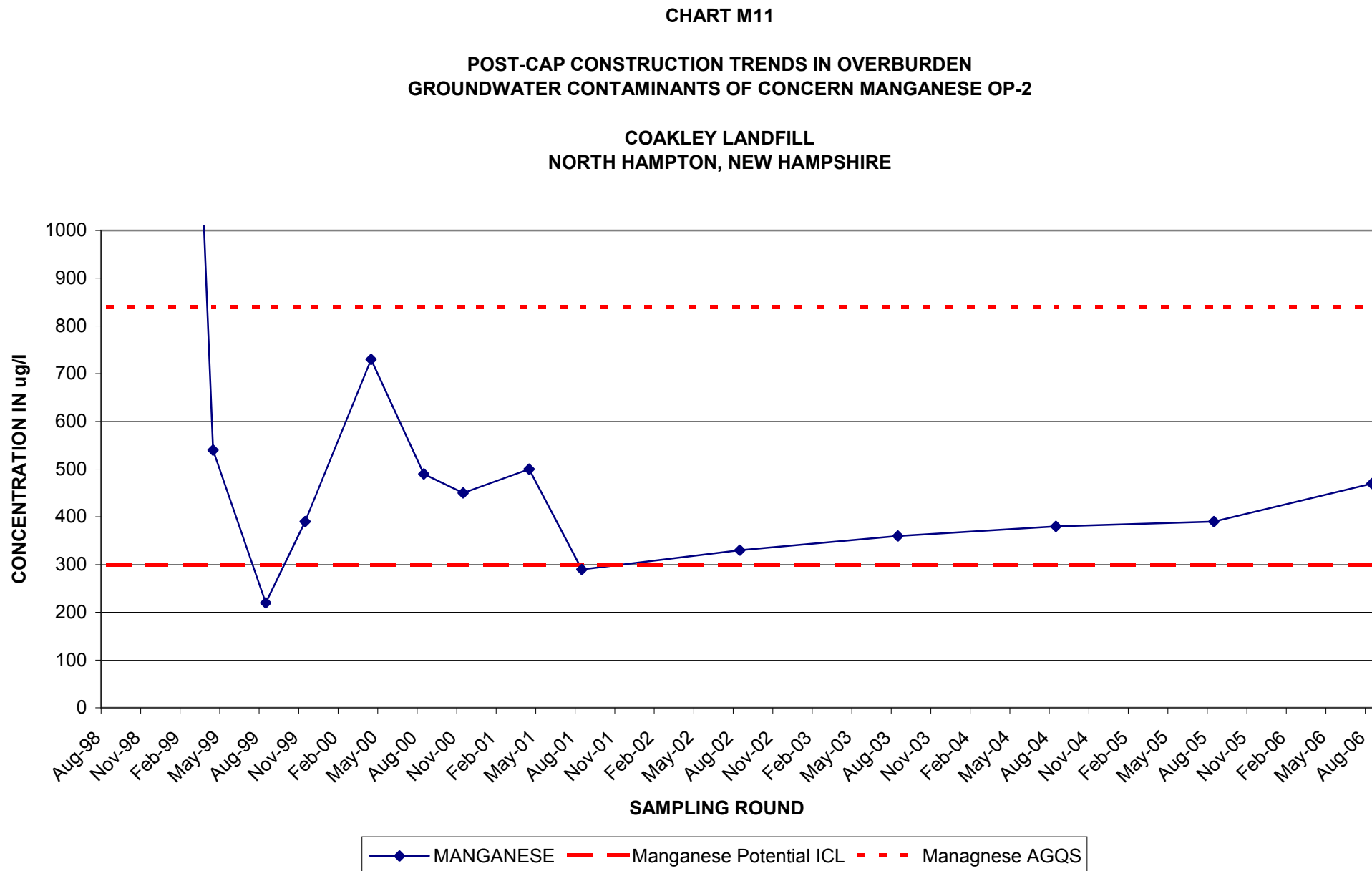


CHART M12
POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN
GROUNDWATER CONTAMINANTS OF CONCERN MANGANESE FPC-9A
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

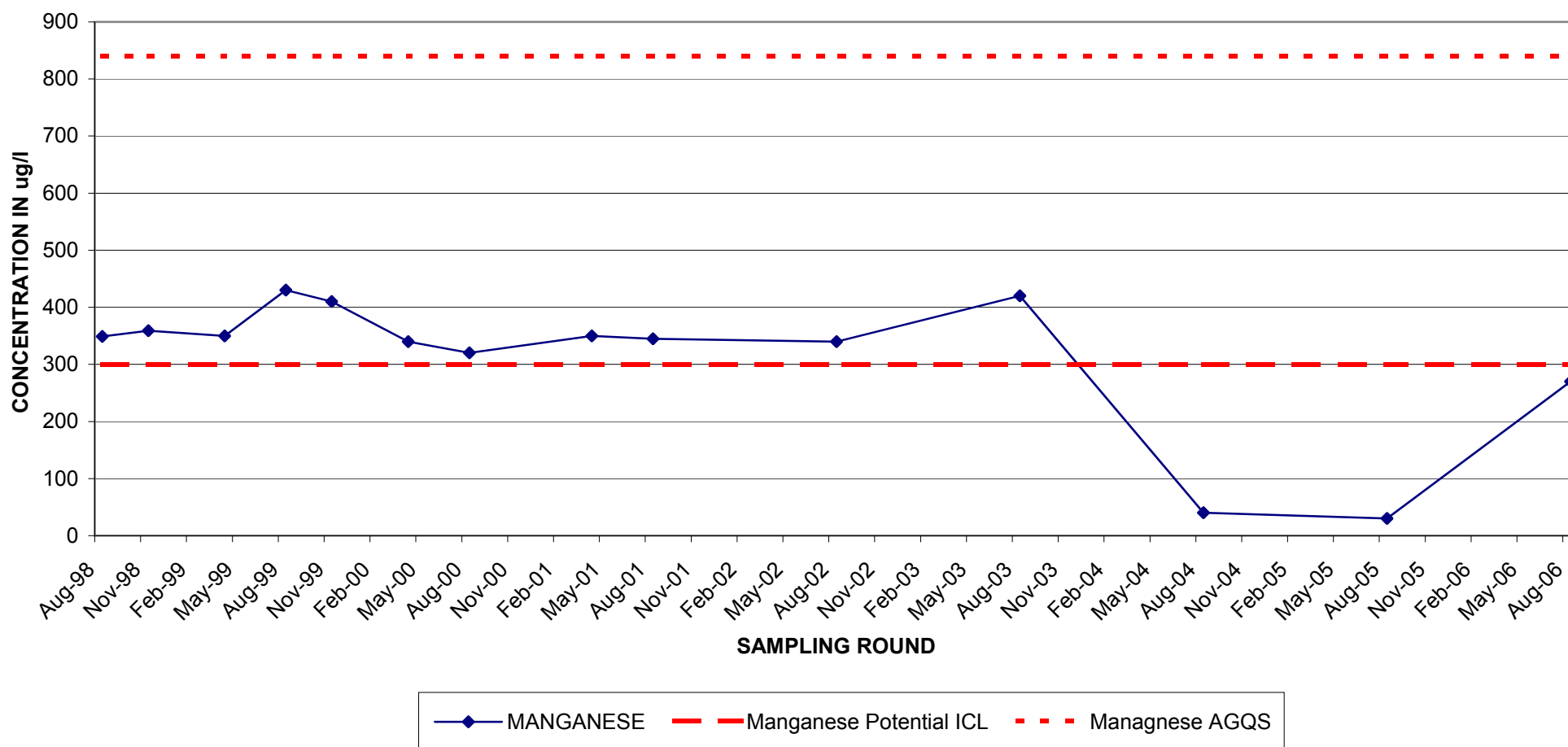


CHART M13
POST-CAP CONSTRUCTION TRENDS IN BEDROCK
GROUNDWATER METALS CONTAMINANTS OF CONCERN MANGANESE MW-11
COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

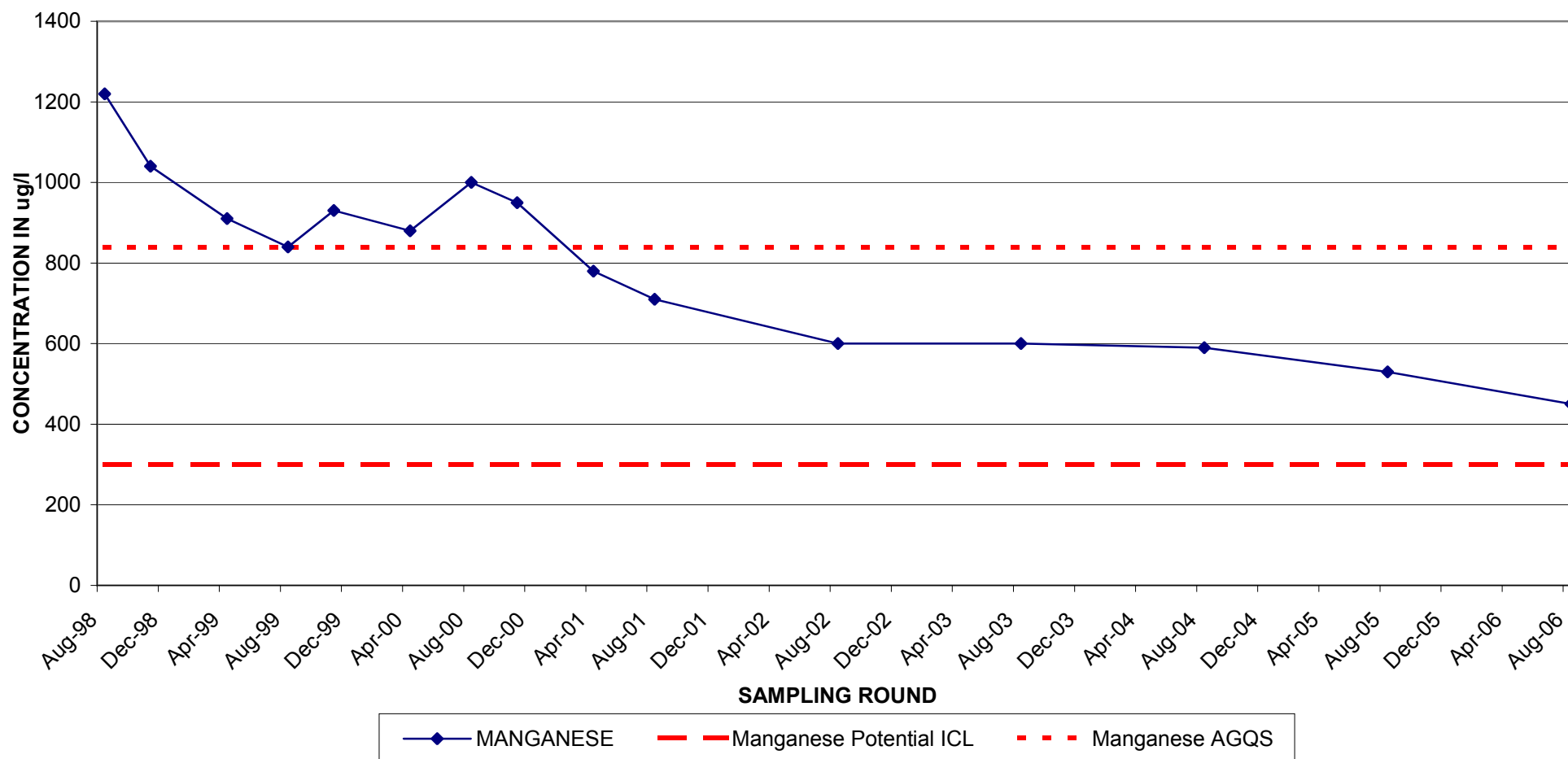


CHART A-14

**POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN & BEDROCK
GROUNDWATER CONTAMINANTS OF CONCERN**

**COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE**

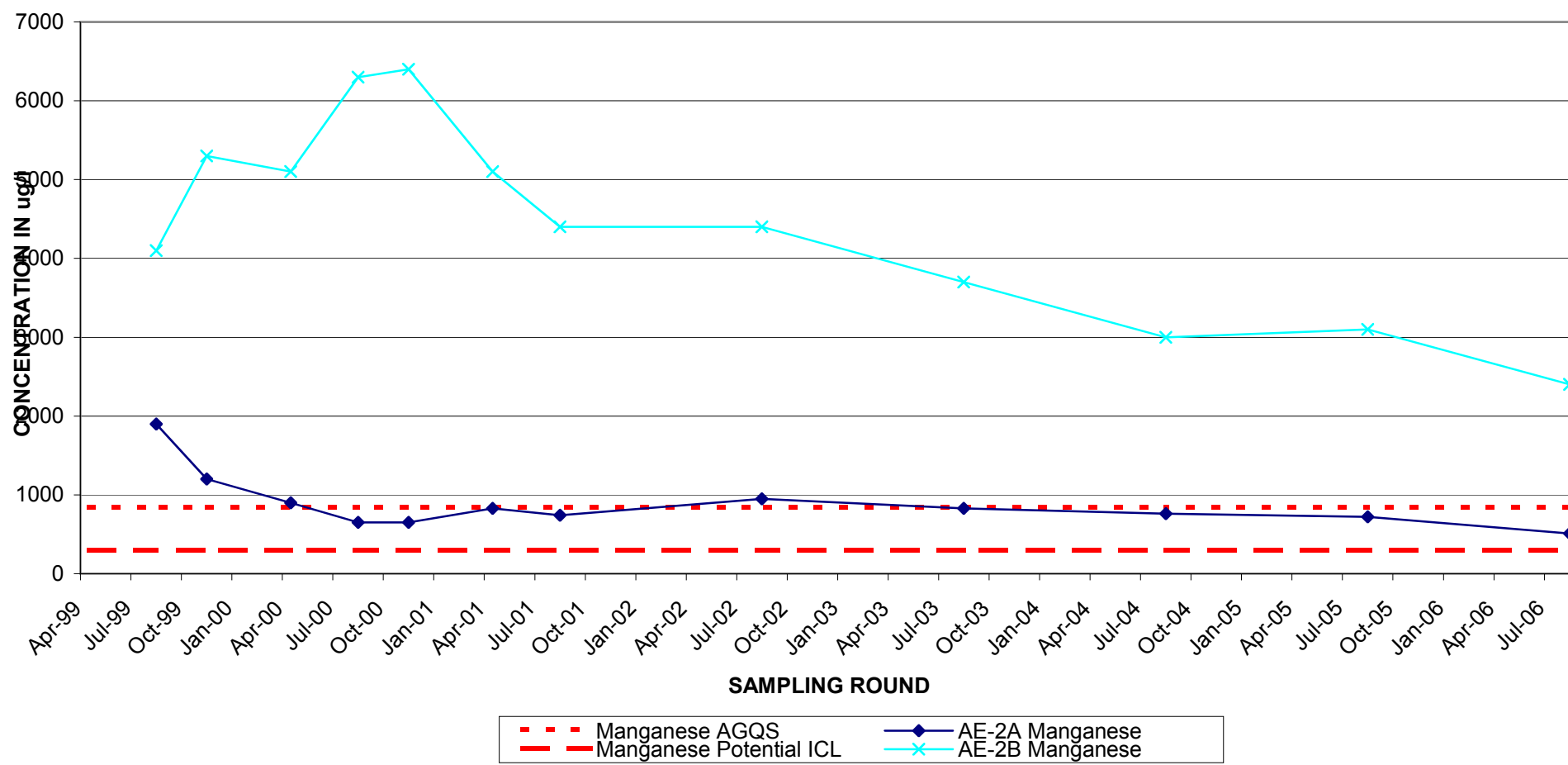


CHART M15

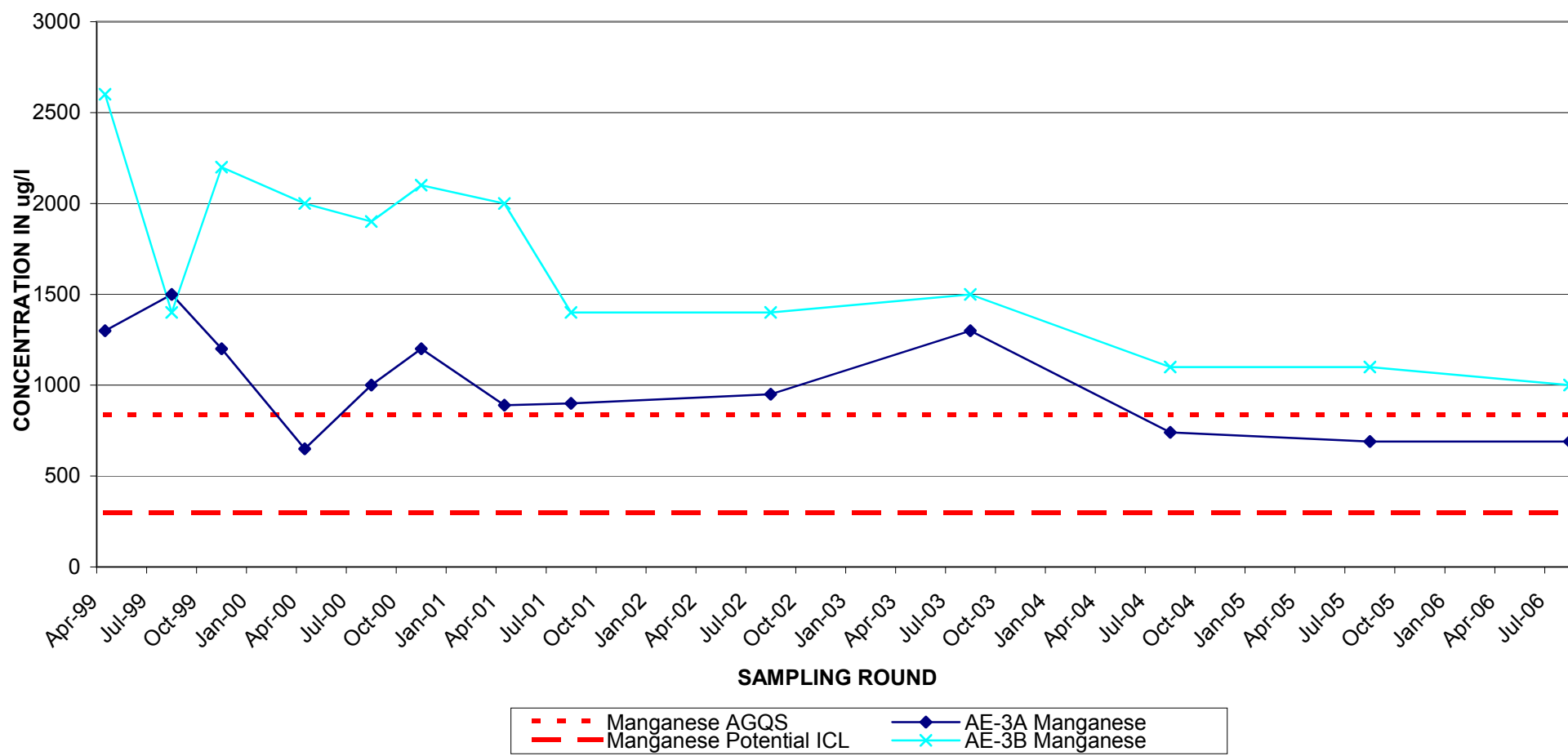
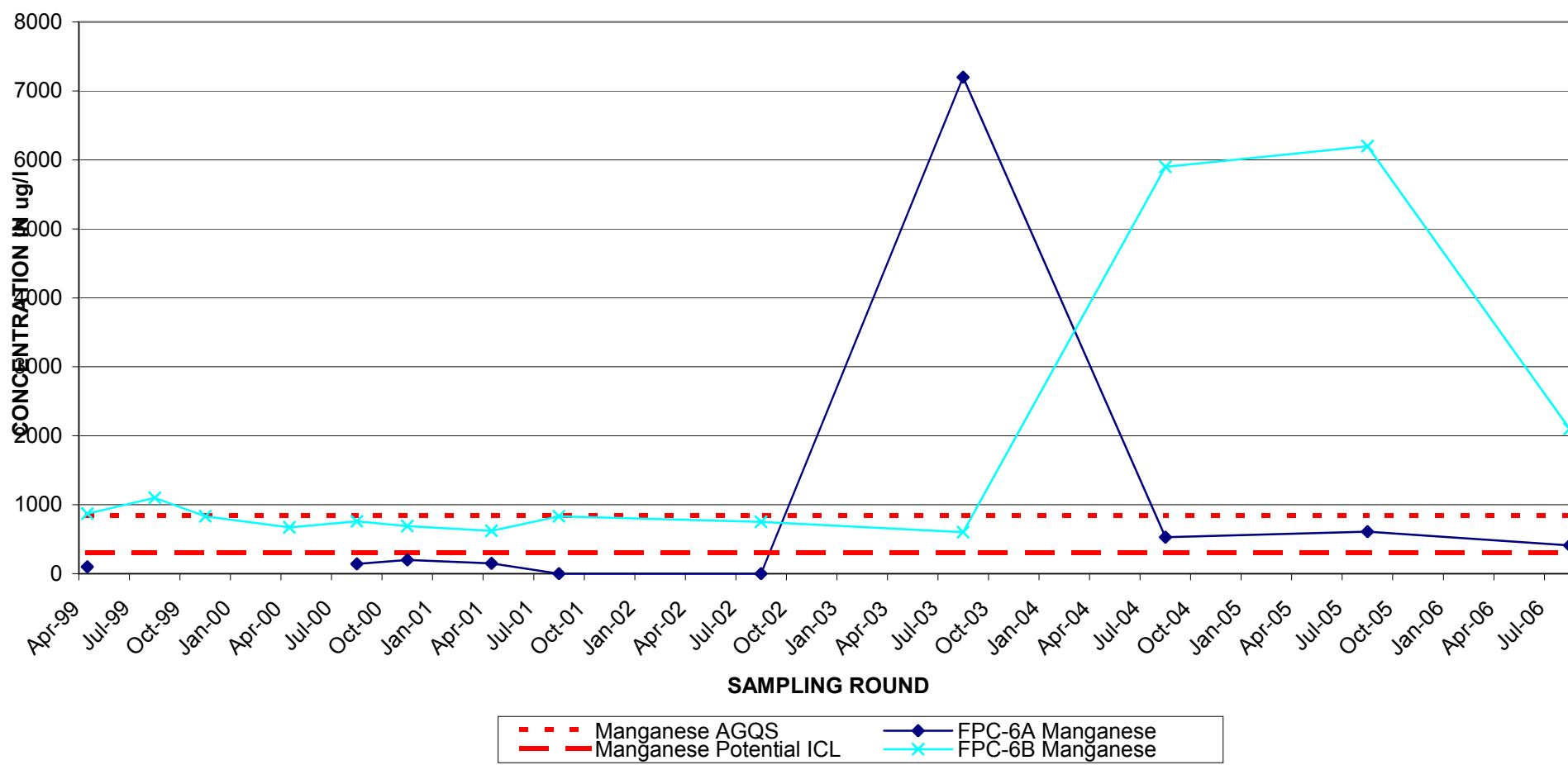
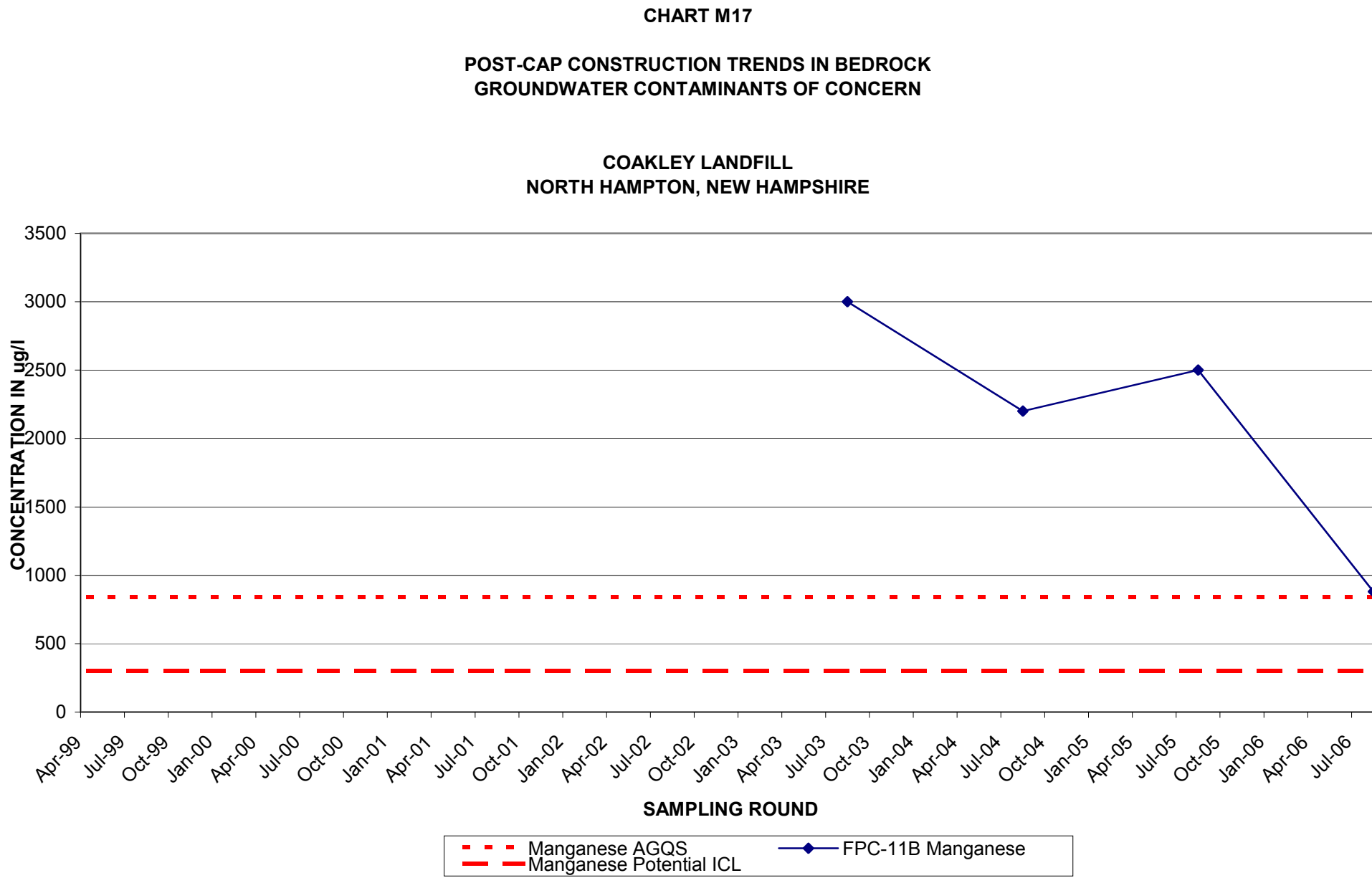
POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN & BEDROCK
GROUNDWATER CONTAMINANTS OF CONCERNCOAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

CHART M16

**POST-CAP CONSTRUCTION TRENDS IN OVERBURDEN & BEDROCK
GROUNDWATER CONTAMINANTS OF CONCERN**

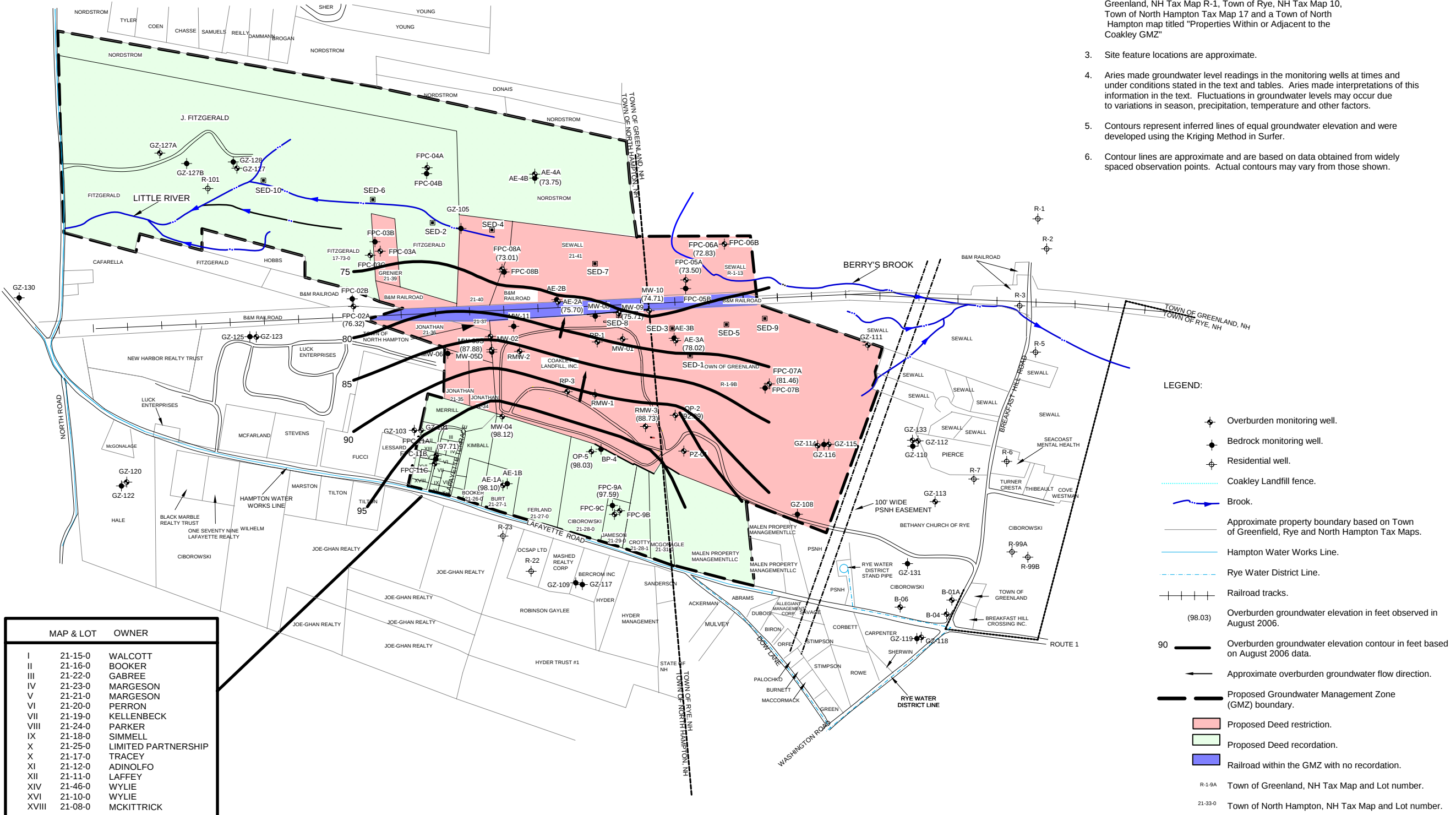
**COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE**





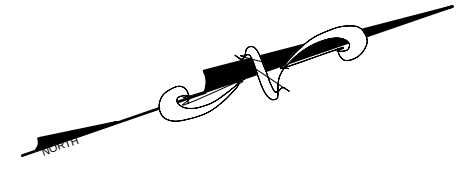
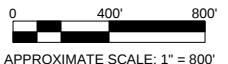
Appendix B

August 2006 Groundwater Elevation Contour Plans



- NOTES:
- Aries developed this plan from a plan titled "Study Area Base Map" contained in the May 1994 Management of Migration Remedial Investigation / Feasibility Study prepared by Camp Dresser & McKee Inc. of Boston, MA.
 - Approximate property boundary locations are from Town of Greenland, NH Tax Map R-1, Town of Rye, NH Tax Map 10, Town of North Hampton Tax Map 17 and a Town of North Hampton map titled "Properties Within or Adjacent to the Coakley GMZ"
 - Site feature locations are approximate.
 - Aries made groundwater level readings in the monitoring wells at times and under conditions stated in the text and tables. Aries made interpretations of this information in the text. Fluctuations in groundwater levels may occur due to variations in season, precipitation, temperature and other factors.
 - Contours represent inferred lines of equal groundwater elevation and were developed using the Kriging Method in Surfer.
 - Contour lines are approximate and are based on data obtained from widely spaced observation points. Actual contours may vary from those shown.

MAP & LOT	OWNER
I 21-15-0	WALCOTT
II 21-16-0	BOOKER
III 21-22-0	GABREE
IV 21-23-0	MARGESON
V 21-21-0	MARGESON
VI 21-20-0	PERRON
VII 21-19-0	KELLENBECK
VIII 21-24-0	PARKER
IX 21-18-0	SIMMELL
X 21-25-0	LIMITED PARTNERSHIP
X 21-17-0	TRACEY
XI 21-12-0	ADINOLFO
XII 21-11-0	LAFFEY
XIV 21-46-0	WYLIE
XVI 21-10-0	WYLIE
XVIII 21-08-0	MCKITTRICK



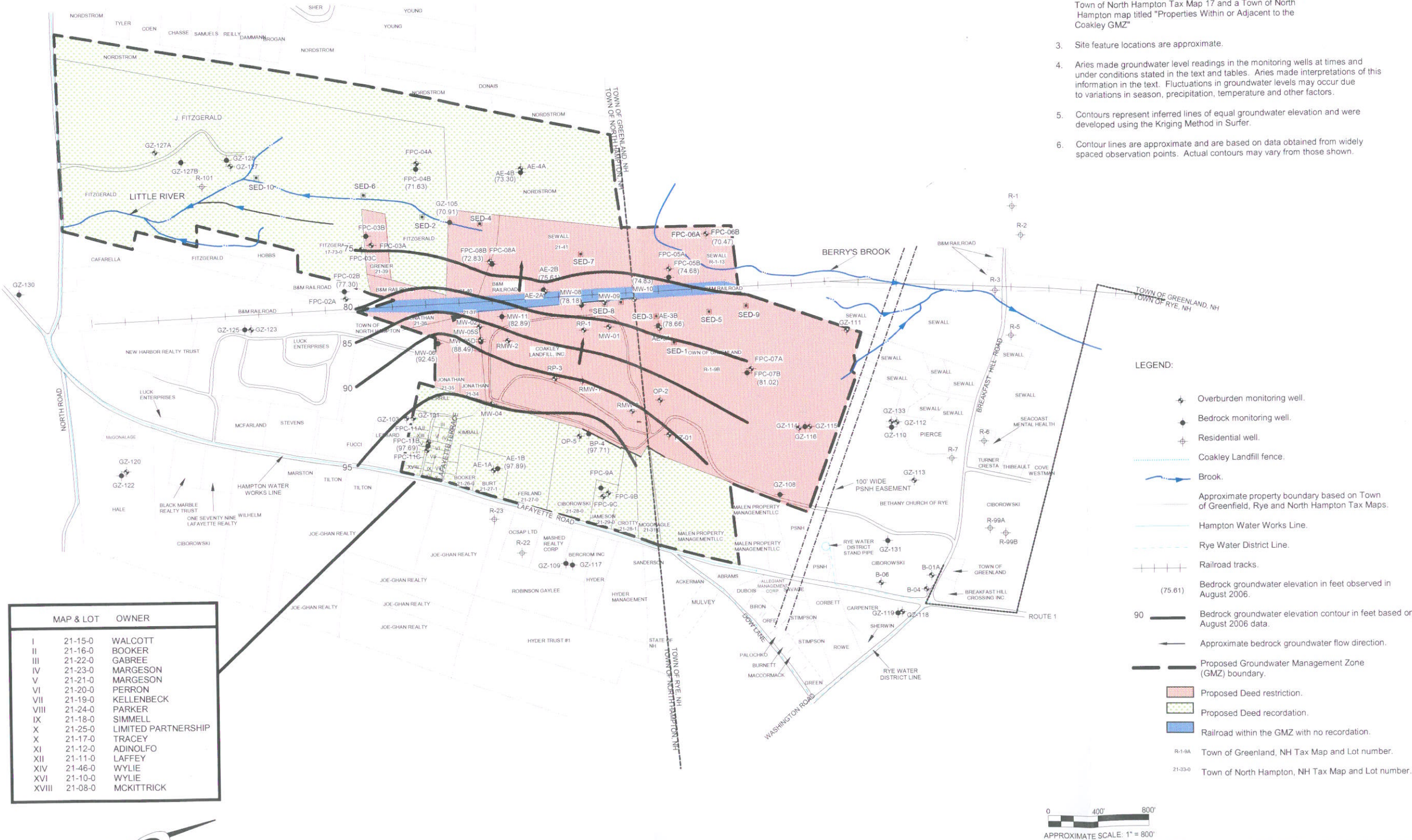
ACTION	DATE	INITIALS	REVISION NUMBER	DATE	DESCRIPTION
DESIGNED:	2/9/07	JJ			
DRAWN:	3/8/07	JJ			
CHECKED:	3/8/07	AP			
APPROVED:	3/8/07	TR			
PROJECT No.: 97070 F.06.08					

COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

AUGUST 2006 POST-CAP
CONSTRUCTION
OVERBURDEN GROUNDWATER
ELEVATION CONTOUR PLAN
MARCH 2007 FIGURE 29

NOTES:

1. Aries developed this plan from a plan titled "Study Area Base Map" contained in the May 1994 Management of Migration Remedial Investigation / Feasibility Study prepared by Camp Dresser & McKee Inc. of Boston, MA.
2. Approximate property boundary locations are from Town of Greenland, NH Tax Map R-1, Town of Rye, NH Tax Map 10, Town of North Hampton Tax Map 17 and a Town of North Hampton map titled "Properties Within or Adjacent to the Coakley GMZ"
3. Site feature locations are approximate.
4. Aries made groundwater level readings in the monitoring wells at times and under conditions stated in the text and tables. Aries made interpretations of this information in the text. Fluctuations in groundwater levels may occur due to variations in season, precipitation, temperature and other factors.
5. Contours represent inferred lines of equal groundwater elevation and were developed using the Kriging Method in Surfer.
6. Contour lines are approximate and are based on data obtained from widely spaced observation points. Actual contours may vary from those shown.



ACTION	DATE	INITIALS	REVISION NUMBER	DATE	DESCRIPTION
DESIGNED:	2/9/07	JJ			
DRAWN:	3/8/07	JJ			
CHECKED:	3/8/07	AP			
APPROVED:	3/8/07	TR			

PROJECT No : 97070 F.8.06.BR

COAKLEY LANDFILL
NORTH HAMPTON, NEW HAMPSHIRE

AUGUST 2006 POST-CAP
CONSTRUCTION
BEDROCK GROUNDWATER
ELEVATION CONTOUR PLAN
MARCH 2007 FIGURE 30

Appendix C

August 24, 2006 and December 13, 2006 EPA letters regarding monitoring plan revisions



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
ONE CONGRESS STREET SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

August 24, 2006

Mr. Peter Britz, Environmental Planner
Coakley Technical Committee Member
City of Portsmouth
1 Junkins Avenue
Portsmouth, NH 03801

RE: USEPA and NHDES Comments on Recommended Monitoring Plan Revisions dated August 11, 2006 and teleconference on August 22, 2006

1. We agree with the Group to continue monitoring bedrock wells GZ-105 and MW-11. We also suggest adding MW-8. Primary reason for adding this well is because it contains Tetrahydrofuran (THF) above the NHDES Groundwater Quality Standard of 154 ppb (even though it is not currently a COC at the site).

August 22 Teleconference: All parties agreed to add MW-8.

2. In addition to wells identified in your proposed sampling plan, please include FPC-6A & B or other appropriate well cluster to represent a clean edge on the Greenland Sewell parcel. Also continue to monitor wells AE-3A/B, AE-2A/B and FPC-8A/B for VOC analysis since these wells have been historically at or near the 5 ppb MCL for benzene, and since it would appear that groundwater flow is generally in the N-NW-West direction which is where these wells are located with respect to the landfill proper.

August 22 Teleconference: The Group will include FPC-6A & B and will submit a table to USEPA with full list of agreed upon sampling wells based on this conference call.

Note: table was submitted on August 23 and approved by USEPA on August 24 (see attached).

3. Regarding MW-6; in reviewing the data and concentration figures (#3, 4, and 7) for this well, it would appear that we do not have a "clean edge" for the GMZ here (especially with regards to arsenic in the bedrock and manganese in both the overburden and bedrock). This would require installation of an additional overburden and bedrock well towards the south of well MW-6.

August 22 Teleconference: Tom Roy will provide USEPA and NHDES historical analysis of MW-6. This well is side-gradient of the landfill and it is not clear if contamination is coming from the Coakley site.

4. Figures – Groundwater contours for overburden and bedrock should be provided in all annual reports. Upward or downward gradients for all wells in Table 1 need to be identified.

August 22 Teleconference: The Group will provide contours in all future annual reports.

5. Figures 5 & 7 – FPC-6B does not define a “clean edge” for bedrock arsenic or manganese. This is particularly important based on the status of ICs in this area and the fact that both the arsenic and manganese in this well have increased significantly above the ICLs since 2003. These figures also suggest that the landfill may not be causing the elevated arsenic in FPC-6B, given the reduced concentrations in FPC-5B and the hydraulic divide of Berry’s Brook. The Group needs to further investigate the cause of elevated inorganic levels in FPC-6B (e.g., using surface water sampling and “fingerprinting” to determine if these inorganics are or are not landfill-related).

August 22 Teleconference: The Group will conduct one more round of sampling and investigate further before a determination is made regarding clean edge in this area.

6. Arsenic and manganese trend plots need to be provided for wells FPC-6A & B and for wells FPC-5A & B.

August 22 Teleconference: The Group will include trend plots for all wells sampled in each annual report.

As discussed on the August 22 call there appears to be numerous violations of NHDES acute and chronic surface water standards. An EPA risk assessor is working with the case team to review these results and will visit the site during the August 2006 sampling event. Additional analysis will likely be required.

If you have any questions, please feel free to contact me at (617) 918-1357.

Sincerely,



Brenda M. Haslett, Remedial Project Manager
Technical Support and Site Assessment Section
Office of Site Remediation and Restoration

cc: Mike Jasinski, USEPA
Dave Peterson, USEPA
Drew Hoffman, NHDES

Attachment

Teleconference Summary

Date: August 22, 2006

Time: 2pm

Present on call:

Mike Jasinski,	USEPA
Brenda Haslett,	USEPA
Dave Peterson,	USEPA
Andrew Hoffman	NHDES
Tom Roy,	Aries Engineering Inc.
Anne Piekarski,	Aries Engineering Inc
Dan MacRitchie,	Coakley Group / CD MacRitchie Inc.
Peter Britz,	Coakley Group / City of Portsmouth

The purpose of the call was to go over the comments provided by USEPA on August 11, 2006.

At the outset Peter Britz asked that EPA consider waiting until after this sampling round which will occur next week to take a closer look at some of the trends that they are commenting on. Britz went on to discuss the VOC reduction proposed in the comments provided by USEPA. After clarifying that we would reduce the VOC's to the set suggested in the 2005 annual report and the ones added in we agreed upon the following sampling for VOC's GZ-105, MW-11, AE-4A, AE-4B, FPC-4B, FPC-2B, MW-6, MW-5D, MW-5S, AE-2A, AE-2B, MW-8, FPC-6A, FPC-6B, AE-3A, AE-3B, FPC 8A, FPC-8B which is a reduction from previous years' VOC sampling. Britz agreed to send a table along confirming the VOC sampling.

The next point in the comments from EPA discussed the need to address the exceedences at MW-6 for arsenic and manganese and that the Group may need to put a new well in to demonstrate a clean edge. Tom Roy explained the fact that the landfill groundwater direction was from East to West and that MW-6 was in fact side gradient to the landfill and hydrogeologically out of the area of influence from landfill influence. He said that study on this issue had been conducted and that it was likely that these manganese exceedences were from a source other than the landfill. Some discussion ensued regarding the difficulty of defining a clean edge given that elevated arsenic and manganese are influenced by factors other than the landfill. Roy said he would provide reference to the report(s) which discussed the hydrogeology of this area. Jasinski and Peterson questioned the "clean edge" guidance of the groundwater management zone as defined by the NH DES and asked for some feedbacks from Andrew Hoffman as to what NHDES would normally do in a situation like this, where the clean edge is not defined by one area of impact, in this case the landfill site.

This discussion then moved to FPC-6B and that this area on the Sewall property does not appear to define a clean edge. There was some discussion about the fact this too could be that influences other than the landfill could be influencing the Arsenic and Manganese in

this location. Roy said they had not studied this area and that he thought it was quite possible that this area was being influenced by recent development in the area and high rainfall for this year. He said they would likely need to study this area further however before he could make any substantive comments about why there is not a clean edge here. Britz agreed that we would look at doing a study in this area, and that they would like to take a look at the data for this year before going ahead with any formal study. EPA stated that they would need to include something in their 5 year report about the high levels of Arsenic and Manganese. They said they would be looking for a proposal from the Coakley group to try and address the exceedences at this location.

The next point on the comments from USEPA was that the EPA would like to see more trend plots. In particular in the annual report starting next year, they would like to see trend plots for FPC-6A and FPC-6B and FPC-5A and FPC-5B.

Jasinski also stated that he would like to see the groundwater contours added back into the annual report and if possible these should show the upward and downward gradient.

One area of discussion that was not included on the comments provided by EPA was the surface water and sediment samples and the trends that appear to be showing up with these samples. Jasinski in particular noted that SW-5 and SD-5 are of concern with the ecological folks at EPA. It is likely that some additional work will be needed to address these factors and try to explain why we are getting high readings in for some of these samples. In particular, at L-1 and SW-5 on the North West side of the site, there were very high readings for Aluminum and Iron and they did not know what to make of these numbers. They suggested the Coakley group try to comment in a preliminary fashion before EPA completes their 5 year review. We agreed that it made sense to address this part of the dataset and we would have to get back to them in terms of what we could put together as a response.

Last point brought up by Jasinski was that he was curious as to how we got the ICL for Manganese up to 840 where it had been 180 and he could not find an ESD defining the change. He was able to find a health advisory of 300 for Manganese but he could not find any justification for our use of 840 as the ICL for Manganese. MacRitchie said he would investigate back in his notes as the change occurred in the 2001 annual report.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

1 CONGRESS STREET, SUITE 1100
BOSTON, MASSACHUSETTS 02114-2023

December 13, 2006

Mr. Peter L. Britz
Environmental Planner
City of Portsmouth
City Hall, Planning Department
1 Junkins Avenue
Portsmouth, NH 03801

Dear Mr. Britz:

On November 30, 2006, representatives from EPA, NHDES, CLG and Aries visited the Coakley Landfill site. The purpose of the visit was to find and determine whether current surface water/sediment sampling locations continue to best represent what the Agencies would require as part of the annual monitoring program. Below is a summary of follow up actions as discussed during the site visit:

1. It was determined, during the site visit, that an alternate (incorrect) surface water location (L-1) was sampled during the August 2006 sampling round. Corrections will be made to clarify locations in future submittals. A sample from the correct location was collected on November 30, 2006 and the results will be provided to the Agencies as soon as possible.
2. CLG will provide the Agencies with the draft workplan submitted by Aries for fingerprint analysis at monitoring wells FPC-5 and -6. Upon EPA and NHDES approval, CLG will proceed.
3. CLG will identify via GPS coordinates the locations of wells FPC-5A and B and FPC-6A and B on the recent wetlands map provided for the Sewall property.
4. Aries will provide both Agencies with the historic report on MW-06 fingerprint analysis.
5. CLG will provide Rick Sugatt, EPA Risk Assessor with all historical sediment data from all historic sample locations (with an associated map) in an excel spreadsheet for analysis.

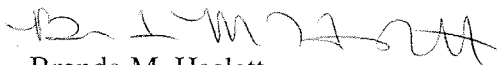
In addition, it was agreed that the following changes will be made to the current annual monitoring program for the August, 2007 sampling round:

1. Aries will GPS all current surface water and sediment sampling locations and provide these locations on the appropriate figure in all future annual report submissions.
2. SW-101 and SW-102 surface water sample locations will be dropped from program.
3. Aries will walk deep into the wetland for all future SW-103 samples to avoid the railroad ditch.
4. Surface water and sediment samples will be taken from locations SW-103, L-1, SED-4 and SED-5.
5. CLG will perform tier 2 of the 3 tier approach for ecological toxicity testing. Toxicity sample location(s) will be determined, in consultation with the Agencies, following receipt of unvalidated metal results from the August 2007 sampling round. See NHDES guidance document attached for toxicity testing protocols.

Finally, CLG will include with the next Landfill Gas Monitoring Results Report a cover memo and NHDES correspondence justifying possible revised approach based on none detects at compliance monitoring probes for the last year.

If you have any questions, or require additional information, please feel free to contact me at (617) 918-1357 or Michael Jasinski at (617) 918-1352.

Sincerely,



Brenda M. Haslett
Environmental Protection Specialist

cc: Mike Jasinski, EPA
Rick Sugatt, EPA
Dave Peterson, EPA
Ann Gardner, EPA
Andrew Hoffman, NHDES
Anne Piekarski, Aries

Attachment: NHDES-WD-04-9