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2007 ANNUAL REMEDIAL ACTION GROUND-WATER MONITORING REPORT ORMET CORPORATION SUPERFUND SITE

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2007 ANNUAL REMEDIAL ACTION GROUND-WATER MONITORING REPORT ORMET CORPORATION SUPERFUND SITE HANNIBAL, OHIO

BACKGROUND

Under the terms of a Consent Decree entered on December 18, 1995 between the United States Environmental Protection Agency (USEPA) and the Ormet Primary Aluminum Corporation for the Ormet Corporation Superfund Site, Ormet has undertaken Remedial Action (RA) at the site consisting of the following:

- Containment of the plume in the alluvial aquifer through continued pumping of the interceptor wells and Ormet Ranney well and treatment of ground water pumped by the interceptor wells using ferrous salt precipitation;

- Installation and operation of a soil-flushing system in the Former Spent Potliner Storage Area (FSPSA);

- Capping of the former construction material scrap dump (CMSD) with a multi-layer cap, including construction of a TSCA-compliant cell within the CMSD for disposal of backwater area sediment containing PCBs;

- Installation of a drain system around the toe of the former CMSD to collect seeps, with treatment of the collected seep water using activated carbon followed by treatment at the ground-water treatment plant;

- Excavation of carbon material from the former carbon runoff and deposition area and disposal of the material in the former CMSD;

- Excavation of sediment from the former Outfall 004 backwater area and disposal of the sediment in the CMSD; and

- Relocation of the Outfall 004 channel.

Areas of the site that were subject to remedial action are shown on Figure 1.

Remedial construction was initiated in April 1997 and was certified as being complete in August 1998. During the period from August 1998 through October 1998, the FSPSA soil-flushing system was operated on a trial basis, with flushing for a period of approximately three hours per day. Beginning in April 1999, the soil-flushing system began full operation (i.e., flushing for eight hours per day). To reduce ponding of water that occurred over a portion of the FSPSA, the flushing schedule was modified during 2001. Under the modified schedule, the flushing system is on for 1 ½ hours and off for ¾ of an hour for a total of about 14 hours per day. The flushing system is not operated during that period when freezing of the lines could occur and the ground may be frozen, typically from November through March.

As specified in the Statement of Work (SOW) attached to the Consent Decree, Ormet began a program of routine ground-water monitoring in conjunction with the completion of remedial construction. The purpose of ground-water monitoring is to document and evaluate changes in the ground-water condition beneath the site associated with the remedial actions. To provide a baseline characterization of ground-water conditions immediately prior to remedial activities, a sitewide ground-water monitoring event was conducted during May 5 to 9, 1997. Routine ground-water monitoring was initiated in May 1998. Ground-water monitoring activities have been conducted in accordance with the Remedial Action Ground-Water Monitoring Plan (Revision 1 - April 28, 1997) that was submitted to the USEPA during Remedial Design.

SUMMARY OF GROUND-WATER MONITORING PROGRAM

The current system of ground-water monitoring wells and piezometers at the Ormet site is shown on Figure 1. Under the RA Ground-Water Monitoring Plan, monitoring is conducted three times per year (approximately once every four months). During 2007, ground-water monitoring events were conducted during February 22 and 26, May 7 and 15 to 17, and September 5 and 6.

Each monitoring event included measurement of water-level elevations at MW- and TH-series monitoring wells, PPB-series piezometers monitoring the alluvial aquifer, and at Ohio River pool measuring points RP-1 and RP-2. Water-level elevation data collected in conjunction with the 2007 monitoring events are provided in Tables 1, 2, and 3, respectively, and a ground-water contour map based on May 2007 data is provided as Figure 2.

During each monitoring event, ground-water samples were collected from the following wells located within and downgradient of the FSPSA, and immediately downgradient of the CMSD (the latter wells are denoted by "*"):

MW - 2	MW - 31
MW - 5	MW - 32
MW - 12*	MW - 35
MW - 16	MW - 36
MW - 18	MW - 37
MW - 28	MW - 44S*
	MW - 44D*

These wells were identified in the RA Ground-Water Monitoring Plan as Points of Compliance, as required under Section II.6. of the Consent Decree SOW.

The RA Ground-Water Monitoring Plan specifies that one monitoring event each year is to be an expanded monitoring event that includes sampling of selected wells not hydraulically downgradient from the potential source areas at the site (i.e., background wells) and additional wells located within the plume. These wells include the following:

MW-1	MW-19 (background)
MW-7 (background)	MW-29S & D
MW-8	MW-30
MW-10	MW-34S & D
MW-11	MW-39S & D
MW-14	MW-40S & D
MW-15	MW-41 (background)
MW-17	MW-42S & D

Water Sampling Log forms for each of the three monitoring events conducted during 2007 are provided in Appendix A.

The primary purpose of the annual expanded monitoring event is to collect data to prepare plume isopleth maps. The isopleth maps are then used to estimate contaminant mass-in-place and the total area of the aquifer having fluoride concentrations greater than 4.0 mg/L and total cyanide concentrations greater than 0.2 mg/L. These estimates are then compared to previous year's estimates to document changes in ground-water quality during the remediation program. The expanded monitoring event to document baseline conditions at the start of remedial construction in 1997 was conducted in May, and subsequent expanded monitoring events have also been conducted in May.

Ground-water samples from all monitoring wells except MW-44S and MW-44D are analyzed for constituents for which cleanup goals were specified in the Record of Decision (ROD) for the site; i.e., arsenic, beryllium, cyanide, manganese, vanadium, and fluoride. Samples are also analyzed for pH, specific conductance, and sodium, which are additional indicators of the plume in the alluvial aquifer. Tetrachloroethene (PCE) is analyzed in samples from the MW-2, MW-5, MW-18, MW-30, and MW-31 monitoring wells, in which PCE was detected during the Remedial Investigation (RI). Samples from wells MW-44S and MW-44D are analyzed for PCBs only. Ground-water analyses for samples collected during the 2007 monitoring events were performed by Pace Analytical Services, Inc. (Pace) of Export, PA. Methods used by Pace to analyze ground-water samples from the 2007 RA monitoring events are shown below.

Analytical Parameter	Analytical Method	Ground-Water Clean-Up Goal (mg/L)	Reporting Limit (mg/L)
Arsenic	SW846/6010B	0.01*	0.004
Beryllium	SW846/6010B	0.004	0.0005
Manganese	SW846/6010B	0.23*	0.01
Vanadium	SW846/6010B	0.26	0.01
Cyanide (total)	EPA 335.2	N/A	0.01
Cyanide (amenable)	EPA 335.1	0.2	0.01
Fluoride	EPA 340.2	4	0.1
PCBs	SW846/8082	N/A	0.0005
Tetrachloroethene	SW846/8260B	0.005	0.005
pH	EPA 150.1	N/A	N/A
Specific Conductance	EPA 120.1	N/A	N/A
Sodium	SW846/6010B	N/A	0.050

N/A - Not Applicable

* - Final determination of cleanup goals for arsenic and manganese are pending. The USEPA and Ormet negotiated a Consent Decree and associated Statement of Work for implementation of the ROD. Because arsenic and manganese are common ground-water constituents in the Ohio River Valley and can occur naturally at concentrations above the cleanup goals presented in the ROD, the SOW specified that as part of the Remedial Design process, Ormet would conduct a statistical evaluation to determine background levels of arsenic and manganese in the alluvial aquifer. The resulting background levels would then be considered for use as cleanup goals in place of the levels presented in the ROD. The results of the statistical analyses, which were presented to USEPA in the August 28, 1996 HydroSystems Management, Inc. report titled, "Statistical Analyses of Background Levels of Manganese and Arsenic in Ground Water", indicated background levels of 40 ug/L for arsenic and 9,780 ug/L for manganese.

Laboratory analytical reports for the 2007 monitoring events are provided in Appendix B. The analytical results are summarized in Table 4 and Table 5 (PCBs). For purposes of comparison, Table 4 also includes historical results for the parameters and wells being monitored. Analytical results for the 2007 monitoring events were validated by applying principles and concepts of the USEPA National Functional Guidelines. A data validation summary report is provided in Appendix C.

RESULTS OF 2007 REMEDIAL ACTION GROUND-WATER MONITORING

GROUND-WATER FLOW

Water-level elevation data collected during the May 2007 monitoring event (Table 2) were used to construct the ground-water contour map presented as Figure 2. The ground-water elevation contours and associated ground-water flow patterns shown in Figure 2 are consistent with those previously mapped. As shown, the ground-water pumping component of the site remedy is effective in containing the plume in the alluvial aquifer beneath the Ormet Reduction Plant property. Ground-water flow in the alluvial aquifer is generally from northeast to southwest, toward the Ormet Reduction Plant Ranney well and interceptor well. Pumping maintained the water table at an elevation below the pool of the Ohio River, and the hydraulic potential along the river/plant boundary indicates recharge of the alluvial aquifer from the Ohio River. The ground-water elevation contour map shows no discernable effect by the FSPSA soil flushing system on ground-water flow patterns beneath that area of the site; i.e., soil flushing has not caused mounding of water or a reversal of hydraulic gradients, such that ground water would discharge from the alluvial aquifer to the Ohio River.

Pumping by the Ormet Reduction Plant Ranney well during 2007 created a large cone of influence around this pumping center. Pumping of the Ormet Rolling Mill Ranney well (located about 2000 feet west of the Reduction Plant Ranney well) was discontinued in late 2005. By this change, the ground-water divide that in previous years existed roughly parallel to and west of the fenceline separating the two plants, was not present in 2007. Ground-water flow beneath the former Rolling Mill property during 2007 was toward the Reduction Plant Ranney well (see Figure 2), and a hydraulic potential did not exist for ground water beneath the Reduction Plant to flow toward the former Rolling Mill.

GROUND-WATER QUALITY

Concentration vs. Time Trends

To evaluate changes in plume concentrations within the alluvial aquifer beneath the Ormet site, recent and historical results were used to prepare concentration versus time graphs for each monitoring parameter for which a cleanup goal was established in the ROD, with each parameter being graphed separately for each of the compliance point wells identified in the RA Ground-Water Monitoring Plan (see Appendix D). Analytical results for sodium are also graphed, because it is an additional indicator of the plume.

Discussions in the following text regarding concentration versus time trends focus mainly on the period since pre-remediation baseline data were collected at the site (i.e., since 1997). If one compares historical (1983 to 1985) and recent (2007) ground-water data for wells defining the portion of the plume extending downgradient from the source areas toward the Ranney well and interceptor well (i.e., MW-2, MW-5, MW-8, MW-11, MW-16), improvements in ground-water quality are indicated at most of the wells, as shown on the following table.

Date	MW-2	MW-5	MW-8	MW-11	MW-16
			Total Cyanide		
12/83	56	18.8	0.32	0.52	7.35
02/84	48	14.5	0.14	0.25	5.5
09/84	41	4.9	0.35	0.2	2.1
05/85	95	25	0.11	0.3	10
10/85	140	22			3.9
02/07	15	6.2			7.4
05/07	11	5.9/6.2	0.59	0.066	6.8
09/07	12	5.8			8.4
			Fluoride		
12/83	400	130	18	33	110
02/84	420	120	18	27	98
09/84	480	140	22	22	80
05/85	400	91	7.9	13	72
10/85	390	70			30
02/07	32	21			38
05/07	47	23/23	3.1	1	59
09/07	45	26			52
			Sodium		
12/83	1,950	880	202	238	530
02/84	2,290	1,030	199	232	570
09/84	2,460	850	216	213	475
05/85	2,150	710	151	181	443
10/85	2,060	650			186
02/07	330	230			240
05/07	330	230/230	120	69	240
09/07	310	240			240

Note: All results given in mg/L.

The decreases in downgradient concentrations of indicator parameters in ground water are attributed to an overall decrease in the concentrations and amounts of leachate introduced to the ground-water system beneath the source areas (primarily the FSPSA). They are credited to the passage of time and leaching/depletion of source materials by infiltrating precipitation, and operational procedures/changes effected by Ormet prior to initiation of RA activities (e.g., pumping of the Ranney well and interceptor wells, discontinued use of disposal ponds, discontinued storage of spent potliner at the FSPSA). Soil flushing within the FSPSA, which became fully operational in 1999, is to accelerate the leaching/depletion process.

With regard to the cleanup goals specified in the ROD and, in the case of arsenic and manganese, the background values calculated by HMI, the latest (i.e., September) reported concentrations for samples collected from the compliance wells are compared with the cleanup goals on the following table.

COMPARISON OF LATEST REPORTED CONCENTRATION TO CLEANUP GOALS/BACKGROUND[1]

	Amenable Cyanide	Arsenic	Beryllium	Manganese	Vanadium	Fluoride
Cleanup Goal/Background (mg/L)	0.2	0.01/ 0.04(1)	0.004	0.23/ 9.8(1)	0.26	4.0
Wells within FSPSA						
MW - 32	+	x	*	o	*	+
MW - 35	+	o	*	o	*	+
MW - 36	*	*	*	*	*	+
MW - 37	*	*	*	*	*	*
Downgradient Edge of FSPSA						
MW - 16	+	x	*	o	*	+
MW - 18	*	x	*	o	*	+
MW - 28	*	*	*	*	*	*
MW - 31	*	x	*	o	*	+
Mid-Plant Area						
MW - 2	+	x	*	o	*	+
MW - 5	*	*	*	o	*	+
Downgradient of CMSD						
MW - 12	*	*	*	o	*	*

* - Latest result at or below ROD Cleanup Goal.

0 - Latest result is above cleanup goal, but below calculated background (arsenic and manganese only).

+ - Latest result is above cleanup goal.

X – Latest result is above calculated background (arsenic and manganese only).

(1) Background values calculated by HMI (August, 1996). Arsenic background = 0.04 mg/L; manganese background = 9.78 mg/L.

Discussions of the time versus concentrations trends for each parameter for which a cleanup goal has been established are provided in the following sections. As noted earlier, this evaluation focuses mainly on data collected since the pre-remediation monitoring event performed in 1997.

Cyanide

The cleanup goal for cyanide established in the ROD (0.2 mg/L) is the Safe Drinking Water Act Maximum Contaminant Level (MCL) for cyanide amenable to chlorination. Cyanide amenable to chlorination is that portion of total cyanide which is weakly bound in cyanide complexes or is in the form of free cyanide or cyanide salts. Cyanide amenable to chlorination is a more reactive form of cyanide than the more strongly bound metal-cyanide complexes (e.g., iron cyanide). The form of cyanide occurring in the ground water beneath the Ormet site appears to be predominantly cyanide complexes. This interpretation is supported by the relative concentrations of total versus amenable or free cyanide typically reported for ground-water samples collected at the site; i.e., for a given sample, the concentration of amenable or free cyanide is typically much lower than the total cyanide concentration. Also, the area of the alluvial aquifer containing concentrations of amenable cyanide above its 0.2 mg/L cleanup goal is substantially smaller than the area of aquifer containing total cyanide above 0.2 mg/L (see Figure 6).

Concentration versus time graphs for total cyanide and amenable cyanide are presented in Appendix D-1 and D-2, respectively. Concentrations reported for amenable cyanide at a given well exhibit a higher degree of analytical variability (i.e., fluctuations in reported concentrations from one monitoring event to the next) than for other plume indicators, (e.g., total cyanide, fluoride, sodium). Consequently, concentration versus time graphs for amenable cyanide tend to be erratic, thus limiting the usefulness of this indicator parameter for identifying time-related trends. The cleanup goal for amenable cyanide of 0.2 mg/L has consistently been achieved at MW-12 and, during the last (September) 2007 monitoring event, also achieved at MW-5, MW-18, MW-28, MW-31, MW-36 and MW-37.

For total cyanide, the concentration versus time graphs show either a downward trend or no clear trend at most of the compliance point wells. At several of the wells (e.g., MW-2, MW-16, MW-18, MW-28, MW-31), concentration increases during or shortly following 1999 (when soil flushing began) have been followed by decreases. The latter four of these wells are located immediately downgradient of the FSPSA, and MW-2 is further downgradient (see Figure 2). At MW-5 and, to a lesser extent MW-32, increases in total cyanide concentrations following the start of soil flushing continue to be observed. Overall, the total cyanide concentration data indicate that soil flushing within the FSPSA, and/or the excavation/rearrangement of shallow soil during installation of the soil-flushing system, caused initial increases in leachate generation and ground-water concentrations, but, at most of the wells exhibiting these effects, there has been a subsequent decline.

Fluoride

Of the main plume indicators, fluoride is less prone to analytical variability than cyanide, and is potentially a more reliable/consistent indicator of changes in plume quality. Concentration versus time graphs for fluoride for each of the compliance wells are provided in Appendix D-3.

Fluoride concentrations have consistently been below the cleanup goal of 4 mg/L at two of the eleven compliance wells, MW-12 and MW-28. Recently, fluoride concentrations have also been below the cleanup goal at MW-37. A general downward concentration trend was observed at six of the compliance wells (MW-2, MW-18, MW-31, MW-35, MW-36, and MW-37). At MW-5, analyses of samples collected since 1997 have reported relatively consistent concentrations (i.e., no clear increasing nor decreasing trend). At compliance wells MW-16 and MW-32, reported concentrations of fluoride increased following the start of soil flushing, but appear to have leveled off.

Arsenic

Concentration versus time graphs for arsenic for each of the compliance point wells are provided in Appendix D-4. At three of the eleven wells, MW-5, MW-12, and MW-28, concentrations of arsenic reported since 1997 have consistently been below the clean-up goal of 0.01 mg/L listed in the ROD, and at MW-36 and MW-37 recently reported concentrations (i.e., since mid 2006) were also below the 0.01 mg/L clean-up goal. At MW-35, reported arsenic concentrations, though sporadically exceeding the ROD-specified cleanup goal, have consistently been below the calculated background value (i.e., $\leq$ 0.04 mg/L) during recent years. Data for MW-2, MW-5, MW-36, and MW-37 wells show a general trend of decreasing concentrations, and data for MW-18, MW-31, and MW-35 exhibit no consistent trend. For MW-16 and MW-32, more recently reported concentrations have been higher than in the past, but not with sufficient consistency or duration to clearly establish an increasing trend.

As discussed earlier, the final cleanup goal for arsenic is pending. In the ROD, the cleanup goal for arsenic was set at 0.01 mg/L. However, because arsenic is a common constituent of ground water in the Ohio River Valley for which naturally-occurring concentrations can exceed the cleanup goal presented in the ROD, the SOW specified that as part of the Remedial Design process, Ormet would conduct a statistical evaluation to determine the background level of arsenic in the alluvial aquifer. The resulting background level would then be considered for use as the cleanup goal in place of the level presented in the ROD. The results of the statistical analyses, which were presented to USEPA in the August 28, 1996 HydroSystems Management, Inc. report titled, "Statistical Analyses of Background Levels of Manganese and Arsenic in Ground Water", indicated a background level of 0.04 mg/L for arsenic. At six of the eleven compliance wells (MW-5, MW-12, MW-28, MW-35, MW-36, and MW-37), the recent results are below the 0.04 mg/L background level determined for arsenic.

Beryllium

Concentration versus time graphs for beryllium are provided in Appendix D-5. The cleanup goal for beryllium established in the ROD was the MCL, 0.004 mg/L. In all but three of the compliance wells (MW-18, MW-32, MW-37), there has never been a reported detection of beryllium that exceeded the cleanup goal; in some of the earlier samples, the analytical detection

limit was higher than 0.004 mg/L. At MW-18, MW-32, and MW-37, detections of beryllium exceeding the cleanup goal have been few and isolated, giving no indication of ground-water quality impacts by this constituent. Beryllium concentrations were consistently below the cleanup goal in all samples from all of the compliance point monitoring wells analyzed during each of the 2007 monitoring events.

Manganese

Concentration versus time graphs for manganese are provided in Appendix D-6. Manganese results for MW-28 have consistently been below the ROD-specified clean-up goal of 0.23 mg/L and, in recent samples, also below the cleanup goal at MW-36 and MW-37. At MW-36, data collected since 1997 show an overall decrease in manganese concentrations. At MW-2 and MW-12, the data give no clear indication of either increasing or decreasing concentrations. At MW-5, MW-16, MW-18, MW-31, MW-32, MW-35, and MW-37, increased manganese concentrations that appear to have roughly coincided with soil flushing activities appear to have peaked and, in the case of MW-37, have steadily decreased in recent years.

The final cleanup goal for manganese is pending. In the ROD, the cleanup goal for manganese was set at 0.230 mg/L. Because manganese is a common constituent of ground-water in the Ohio River Valley for which naturally-occurring concentrations can be well above the cleanup goal presented in the ROD, the SOW specified that as part of the Remedial Design process, Ormet would conduct a statistical evaluation to determine the background level of manganese in the alluvial aquifer. The resulting background level would then be considered for use as the cleanup goal in place of the level presented in the ROD. The results of the statistical analyses, which were presented to USEPA in the August 28, 1996 HydroSystems Management, Inc. report titled, "Statistical Analyses of Background Levels of Manganese and Arsenic in Ground Water", indicated a background level of 9.78 mg/L for manganese. With the exception of MW-18 and MW-37, manganese concentrations were below the background level at all of the compliance wells during all recent and historical monitoring events. At MW-18 and MW-37, results from all 2007 monitoring events were also below the background level.

Vanadium

Concentration versus time graphs for vanadium are provided in Appendix D-7. The cleanup goal for vanadium established in the ROD was 0.26 mg/L. With the exception of MW-18 and MW-37, vanadium concentrations have been below the cleanup goal at all compliance wells during all recent and historical monitoring events. For MW-37, only a single reported value (in 1988) exceeded the cleanup goal, and for MW-18, only two reported values (January 2002 and September 2004) exceeded the cleanup goal.

Tetrachloroethene (PCE)

Under the RA Ground-Water Monitoring Plan, analyses for tetrachloroethene (PCE) were performed on samples from the five compliance wells where PCE was detected during the RI; MW-2, MW-5, MW-18, MW-30, and MW-31. Concentration versus time graphs for PCE for these five wells are provided in Appendix D-8. Since the Phase I RI, PCE concentrations have been predominantly below detection at MW-5 and, in recent samples, also below detection at MW-18. PCE concentrations have shown increases at MW-2, and increases followed by decreases at MW-18 and MW-30. At MW-31, PCE concentrations have fluctuated, showing no clear indication of either an increasing or decreasing trend. The cleanup goal for PCE is the MCL of 0.005 mg/L. In the 2007 samples from the five wells, the reported concentrations of PCE consistently met the cleanup goal at MW-5 and MW-18.

Sodium

Sodium is not a constituent for which a cleanup goal was specified in the ROD, but has been graphed (Appendix D-9) and is discussed because it is a good indicator of changes in the overall condition of the plume. At compliance wells MW-2, MW-18, MW-31, MW-36, and MW-37, data collected since 1997 show decreases in sodium concentrations, and at MW-5, MW-

12, MW-28, and MW-35 no clear trend of increasing or decreasing concentrations. At MW-16 and MW-32, sodium concentrations appreciably increased in 2001 and 2004, respectively, and have been stable since.

Contaminant Mass-in-Place

In accordance with Section II.3.C. of the Consent Decree SOW, data from the May 2007 expanded routine monitoring event were used to estimate the masses of fluoride and total cyanide (primary plume indicators) in the alluvial aquifer as a means of documenting changes in the overall ground-water quality during the remediation. The procedure used for estimating the mass-in-place was as described in the RD Work Plan and the HydroSystems Management, Inc. (HMI) report titled, "Estimation of Dissolved Contaminant Mass in the Alluvial Aquifer, Ormet Primary Aluminum Corporation Superfund Site, Hannibal, Ohio" (August 28, 1996) that was submitted to the USEPA in conjunction with the 30% RD submittal. The approach used for estimation of contaminant mass-in-place is based on methods described in "Methods for Monitoring Pump-and-Treat Performance" (USEPA, July 1994). Results of the mass-in-place estimates for fluoride and cyanide are summarized in Table 6. For comparison, Table 6 also includes fluoride and cyanide mass-in-place estimates based on previous monitoring events. The mass-in-place estimates are based on the fluoride and total cyanide isopleth maps presented as Figures 3 and 4, respectively. Data and supporting calculations for the May 2007 mass-in-place estimates are provided in Appendix E. Data and supporting calculations for the previous mass-in-place estimates were submitted to the USEPA in prior annual reports.

Based on the estimates presented in Table 6, the mass of fluoride in the alluvial aquifer calculated for 1999 (about 30,416 pounds), after the start of full-time soil flushing in the FSPSA, increased by about 6,528 pounds relative to the 1998 value of 23,888 pounds. Between May 1999 and May 2001, the fluoride mass-in-place declined to an estimated 21,741 pounds. From May 2001 to May 2004, the estimated fluoride mass-in-place increased to 38,836 pounds. In 2005 the estimated fluoride mass-in-place decreased slightly to about 37,656 pounds, and in

2006 decreased further to about 32,735 pounds. For 2007, the estimated fluoride mass-in-place increased to about 35,219 pounds.

Similar to fluoride, the estimated total cyanide mass-in-place calculated for 1999, following the start of full-time soil flushing, increased by about 2,969 pounds relative to 1998 estimates (i.e., 2,597 pounds in 1998 vs. 5,566 pounds in 1999). Between 1999 and 2003, the estimated cyanide mass-in-place showed an overall decreasing trend, to a low of about 2,773 pounds. In 2004, the estimated cyanide mass-in-place increased to about 3,062 pounds, and continued to increase in 2005 (about 4,681 pounds) and 2006 (about 6,615 pounds). For 2007, the estimated total cyanide mass-in-place decreased slightly to about 6,438 pounds.

As discussed in the ROD and the remedial design (RD) documents for the Ormet site, the purpose of soil flushing in the FSPSA is to accelerate the rate at which contaminants are leached from the source area soils and subsequently removed from the aquifer by ground-water pumping. Overall, the mass-in-place estimates suggest that soil flushing has had a discernable effect, though it is unclear why the initial increases observed in 1999 were followed by several years of decreased values, which were then followed by several years of increased values.

To assess the removal of cyanide and fluoride from the alluvial aquifer by pumping of the interceptor well and Ranney well, the mass removals achieved during the period between the two most recent expanded monitoring events (i.e., May 2006 through May 2007) were calculated and compared to changes in the estimated masses in the aquifer over the same period (see Table 7). The masses of cyanide and fluoride removed by pumping of the interceptor well were calculated using analytical and flow data for the influent to Ormet's ground-water treatment plant, which receives the water pumped by the interceptor well, and the masses removed by pumping of the Reduction Plant Ranney well were calculated using analytical data and flow data collected by Ormet for NPDES reporting purposes.

During the period from June 1, 2006 to May 31, 2007, approximately 6,085 pounds of fluoride and approximately 1,151 pounds of cyanide were removed from the alluvial aquifer by the interceptor well and the Ranney well. During the same period, the estimated mass of fluoride

in the aquifer increased by approximately 2,484 pounds and the estimated mass of cyanide decreased by approximately 177 pounds. That changes (typically decreases) in each year's mass removal by ground-water pumping are not mirrored by similar changes in the calculated mass-in-place may be due to one or more of the following types of factors:

- Localized differences in the alluvial aquifer matrix (affecting hydraulic conductivity) and/or differences in hydraulic gradients from one location to the next result in a range of flow velocities (and travel times), that potentially allow certain parts of the plume to travel to the pumping centers more quickly than other parts of the plume (i.e., the aquifer is not being uniformly flushed).

- Certain areas of the plume that are accounted for in the mass-in-place estimates may be subject to relatively limited mobility (for the reasons given above), and do not contribute proportionally to the flux of fluoride and cyanide moving toward the pumping centers.

- Concentration contour area estimates made from the isopleth maps and used in the mass-in-place calculations are strongly influenced by the placement of the contour lines, which is interpretative and will vary from year to year depending on the individual preparing the isopleth maps, analytical variability in the data, and the selection of contour intervals used to map a given data set.

- Natural attenuation of plume constituents within the aquifer matrix, which is likely variable and would be difficult to accurately quantify, may immobilize a portion of the constituent mass accounted for in the mass-in-place calculations.

- Variations in the soil flushing operation (e.g., duration of flushing, volumes of water applied, extent/duration frozen ground), variations in natural precipitation patterns, and differences in infiltration rates from one location to the next may result in relatively complex, non-uniform contaminant distributions that have more effect on the

preparation of isopleth maps and calculation of mass-in-place, than on the actual flux of contaminants toward the pumping centers (for all of the reasons listed above).

For these reasons, long-term trends in the calculated mass-in-place and mass removals are more meaningful than year to year variations. Figure 7 presents graphs of the estimated masses of fluoride and cyanide in the alluvial aquifer versus time.

Effected Aquifer Areas

As a further check on changes in ground-water quality during the remediation, the approximate areas of the aquifer containing fluoride and total cyanide at concentrations above 4.0 mg/L and 0.2 mg/L, respectively, were estimated using analytical results from the May 2007 sampling event. The results are summarized in Table 6. The estimates of aquifer areas are based on the fluoride and total cyanide isopleth maps shown as Figures 3 and 4, respectively. For comparison, Table 6 also includes previous year's estimates of the aquifer areas containing fluoride and total cyanide concentrations above 4.0 mg/L and 0.2 mg/L, respectively.

As shown in Table 6, the area of the alluvial aquifer containing fluoride above 4.0 mg/L has been relatively consistent since 1997, ranging from 36.9 acres to 45.4 acres. For 2007, the aquifer area with fluoride concentrations above 4.0 mg/L was about 42.1 acres.

A gradual increase in the area of the aquifer with concentrations of total cyanide above 0.2 mg/L has been apparent since 2000, ranging from 36.5 acres in 2000 to 46.6 acres in 2007. Soil flushing in the FSPSA is a possible cause of the increased area of aquifer containing total cyanide above 0.2 mg/L.

As discussed previously, analytical results for total cyanide and cyanide amenable to chlorination indicate that the form of cyanide occurring in the ground water beneath the Ormet site is predominantly the relatively stable cyanide complexes. This interpretation is supported by

a comparison of the area of the alluvial aquifer with total cyanide concentrations above 0.2 mg/L to the area of the aquifer with amenable cyanide concentrations above 0.2 mg/L. As shown on Figure 6, the area of the aquifer with amenable cyanide above 0.2 mg/L is substantially smaller than the area with total cyanide above 0.2 mg/L.

Analytical Results for PCBs

During each of the three 2007 sampling events, ground-water samples from monitoring wells MW-44S and MW-44D were analyzed for PCBs. During the February and May 2007 monitoring events, samples from MW-12 were also analyzed for PCBs. Analytical results for these samples, and all previous samples (i.e., since 2002) reported no detections of PCBs (see Table 5). These data give no indication of ground-water quality impacts by PCBs.

SUMMARY/CONCLUSIONS

- Pumping of the Ranney well and interceptor well at the Ormet Reduction Plant continues to provide containment of the plume beneath the Ormet property and removes contaminant mass from the alluvial aquifer.

- Operation of the soil-flushing system has no discernable effect on ground-water flow patterns beneath the FSPSA. Along the river/plant boundary, the flow of ground water continues to be from the river to the aquifer.

- Pumping of the interceptor well and Ranney well removed approximately 6,085 pounds of fluoride and approximately 1,151 pounds of cyanide from the alluvial aquifer during the period May 2006 to May 2007. During the same period, the estimated mass of fluoride in the aquifer increased by about 2,484 pounds and the estimated mass of cyanide in the aquifer decreased slightly by about 177 pounds. These results indicate continued leaching of residual spent potliner materials in the soil of the FSPSA.

- Over time, as the leachable material in the soils in the FSPSA is depleted, the removal of fluoride and cyanide mass from the aquifer by pumping of the interceptor well and the Ranney well is expected to result in sustained decreases in the contaminant mass-in-place.

- The estimated area of the alluvial aquifer with fluoride concentrations above 4.0 mg/L decreased by about 7.3% between 2006 and 2007, and the estimated area of the aquifer with total cyanide concentrations above the 0.2 mg/L increased by about 4% between 2006 and 2007.

- Reductions in contaminant mass-in-place were occurring prior to the completion of Remedial Construction and full-time operation of the FSPSA soil-flushing system. These decreases are attributed to the passage of time and natural flushing by infiltrating precipitation, and to operational changes and remedial activities undertaken by Ormet

prior to the Superfund project, including pumping of wells that intercept the plume, which has been ongoing since 1972, and discontinued use of the disposal ponds and the spent potliner storage area. Increases in the fluoride and cyanide mass-in-place since initiation of soil flushing may be due to the flushing itself, and/or the excavation/ rearrangement of shallow soil during the installation of the flushing system.

- Analyses of ground water samples for PCBs during 2007 and previous monitoring events reported no detections of PCBs. These data give no indication of ground-water quality impacts by PCBs.

RESPONSES TO USEPA QUESTIONS REGARDING THE 2006 ANNUAL REPORT

Following the USEPA's review of the 2006 Annual Remedial Action Ground-Water Monitoring Report (March 31, 2007), there were several questions, particularly regarding the plume isopleth maps. These were conveyed in an April 18, 2007 email from Mr. Bernard Schorle (USEPA) to Mr. John Reggi (Ormet). The substance of each of the USEPA's questions is summarized below, followed by the response regarding same.

Figure 3 Fluoride Isopleth Map: 1) Why does the legend indicate "ground-water elevation contour (feet, msl)", when no ground-water elevation data are apparent on the figure?; (2) Why does the legend indicate "concentration reported for the "D" well of a given cluster", when it appears that averages of the shallow and the deep well data were used on the isopleth figures?

Response 1): This portion of the legend on Figure 3 and also Figures 4 and 5 is actually correct. Ground-water elevation contours are plotted on each of these figures, but are lightly shaded so as not to compete with the plume concentration contours. The reason for including the ground-water contours is to better show the relationship between ground-water flow and the extent and concentrations of the plume. In the 2007 Annual Report, the ground-water contours have been darkened slightly to be more easily seen.

Response 2): The portion of the legend on Figure 3 indicating "concentration reported for the "D" well of a given cluster" is incorrect. As stated in Note 2 on each of the isopleth maps (Figures 3, 4, and 5), "For well clusters at which both the shallow well and the deep well were sampled, the average of the two values was used" to prepare the plume isopleth maps. The subject portion of the legend on Figure 3 has been corrected in the 2007 Annual Report.

For well clusters at which both the shallow well and the deep well were sampled, why was an average of the two values used to prepare the plume isopleth maps? This was not done in the previous report.

Response: An average of the concentrations reported for the shallow well and the deep well of a given cluster was used to derive a more representative concentration value to assign to the entire saturated thickness of the aquifer, which is more comparable to the data obtained from the "fully penetrating" wells (22 total) being monitored at the site. Because there commonly is a substantial difference in the concentrations reported for the shallow well and the deep well, it can be somewhat misleading (and less representative of the overall condition) to use either the high value or the low value of the cluster to prepare an isopleth map. Averaging was also done because the isopleth maps are used in mass-in-place calculations, and use of an average concentration value, as opposed to either the high or the low value of a given cluster, reduces the potential for over estimating or under estimating contaminant mass. It is correct that use of shallow/deep-well average concentrations to prepare plume isopleth maps was not done in previous Annual Reports. This procedure was adopted in the 2006 Annual Report, and is proposed for future Annual Reports, because it is regarded to provide a more representative depiction of the overall plume condition, and also simplifies the mass-in-place calculations.

The 2006 Annual Report did not contain discussions concerning changes made since the 2002 five-year review. Were any significant changes made to the remediation/monitoring system since 2002?

Response: The main changes affecting the site since 2002 were the discontinued pumping of the Rolling Mill Ranney well in 2005, and the institutional controls prohibiting future ground-water use for any reason at the former Rolling Mill property that were put into place this year. Potable use of ground water at the Reduction Plant property will also be restricted by new institutional controls expanding the current

restriction from the CERLA Site to the complete boundary of the production areas. Remediation, monitoring, and O&M activities since 2002 have remained essentially the same.

The 2002 five-year review report discussed sampling of MW-39S three times a year instead of once. This was not done.

Response: MW-39S was sampled twice during 2007 (May and September sampling events) and will be sampled three times per year during 2008.

TABLES

TABLE 1
WATER-LEVEL ELEVATION DATA
ORMET CORPORATION
HANNIBAL, OHIO
DATE: FEBRUARY 22, 2007

WATER-LEVEL MEASURING POINT	MEASURING POINT ELEVATION (ft. MSL)	DEPTH TO WATER (feet)	GROUND-WATER ELEVATION (ft. MSL)
MW-1	668.07	46.95	621.12
MW-2	668.12	47.45	620.67
MW-3	645.17	22.39	622.78
MW-4	661.07	43.05	618.02
MW-5	668.16	49.77	618.39
MW-7	667.94	48.96	618.98
MW-8	667.71	51.23	616.48
MW-9	666.59	49.20	617.39
MW-10	667.16	50.53	616.63
MW-11	667.31	49.19	618.12
MW-12	636.73	15.03	621.70
MW-13	661.44	38.00	623.44
MW-14	653.59	31.16	622.43
MW-15	657.31	33.60	623.71
MW-16	662.72	40.68	622.04
MW-17	655.03	NM	–
MW-18	660.91	37.02	623.89
MW-19	662.03	38.14	623.89
MW-20	632.33	9.52	622.81
MW-21s	664.02	NM	–
MW-21d	663.60	45.87	617.73
MW-22s	667.47	49.97	617.50
MW-22d	667.21	49.76	617.45
MW-23s	663.18	45.20	617.98
MW-23d	663.41	45.55	617.86
MW-24s	667.88	50.91	616.97
MW-24d	667.75	50.80	616.95
MW-25	667.73	49.85	617.88
MW-26s	665.54	48.40	617.14
MW-26d	665.59	48.50	617.09
MW-27	667.86	49.96	617.90
MW-28	663.27	21.90	641.37
MW-29s	653.40	31.60	621.80
MW-29d	653.07	31.29	621.78
MW-30	667.58	44.24	623.34
MW-31	661.59	39.05	622.54
MW-32	656.66	33.70	622.96
MW-34s	655.67	33.06	622.61
MW-34d	654.67	31.18	623.49
MW-35	661.90	35.40	626.50
MW-36	655.14	33.35	621.79
MW-37	661.14	22.85	638.29
MW-38	666.64	20.28	646.36
MW-39s	657.30	34.52	622.78
MW-39d	657.18	34.39	622.79
MW-40s	662.22	41.61	620.61
MW-40d	661.95	NM	–
MW-41	637.67	NM	–
MW-42s	654.37	32.53	621.84
MW-42d	654.34	32.48	621.86
MW-44s	662.01	41.42	620.59
MW-44d	661.76	41.96	619.80

TABLE 1 (CONT.)
WATER-LEVEL ELEVATION DATA
ORMET CORPORATION
HANNIBAL, OHIO
DATE: FEBRUARY 22, 2007

WATER-LEVEL MEASURING POINT	MEASURING POINT ELEVATION (ft. MSL)	DEPTH TO WATER (feet)	GROUND-WATER ELEVATION (ft. MSL)
PPB-01*	663.24	17.89	645.35
PPB-02s*	663.14	17.92	645.22
PPB-02d+	662.78	39.46	623.32
PPB-04+	661.57	39.15	622.42
PPB-05*	661.62	NM	–
PPB-06+	663.04	NM	–
PPB-07*	661.71	NM	–
PPB-09+	664.30	40.79	623.51
PPB-10*	663.45	13.30	650.15
PPB-14*	660.64	NM	–
TH-3	667.81	47.76	620.05
TH-10	658.17	34.33	623.84
TH-11	659.08	34.50	624.58
TH-15	663.62	46.50	617.12
TH-16	664.62	46.99	617.63
TH-17	663.93	46.12	617.81
RP-1	643.17	19.58	623.59
RP-2	643.05	19.38	623.67

NOTE:

All MW-series wells are measured from the top of the PVC casing.

All TH-series wells are measured from the top of steel casing.

River pool measuring point RP-2 is located on the walkway below the dry scrubbers and RP-1 is located on the walkway at the barge unloading dock.

* - Designates a perched zone piezometer

+ - Designates an alluvial aquifer piezometer.

NM = Not measured.

FEB 2007 WATER LEVELS.XLS

TABLE 2
WATER-LEVEL ELEVATION DATA
ORMET CORPORATION
HANNIBAL, OHIO
DATE: MAY 7, 2007

WATER-LEVEL MEASURING POINT	MEASURING POINT ELEVATION (ft. MSL)	DEPTH TO WATER (feet)	GROUND-WATER ELEVATION (ft. MSL)
MW-1	668.07	46.68	621.39
MW-2	668.12	47.09	621.03
MW-3	645.17	22.29	622.88
MW-4	661.07	42.57	618.50
MW-5	668.16	49.35	618.81
MW-7	667.94	48.69	619.25
MW-8	667.71	50.79	616.92
MW-9	666.59	48.74	617.85
MW-10	667.16	50.05	617.11
MW-11	667.31	48.75	618.56
MW-12	636.73	14.51	622.22
MW-13	661.44	37.32	624.12
MW-14	653.59	30.59	623.00
MW-15	657.31	32.70	624.61
MW-16	662.72	40.22	622.50
MW-17	655.03	31.23	623.80
MW-18	660.91	36.59	624.32
MW-19	662.03	37.33	624.70
MW-20	632.33	8.97	623.36
MW-21s	664.02	45.80	618.22
MW-21d	663.60	45.45	618.15
MW-22s	667.47	NM	—
MW-22d	667.21	NM	—
MW-23s	663.18	44.89	618.29
MW-23d	663.41	45.20	618.21
MW-24s	667.88	50.44	617.44
MW-24d	667.75	50.33	617.42
MW-25	667.73	49.54	618.19
MW-26s	665.54	NM	—
MW-26d	665.59	NM	—
MW-27	667.86	49.65	618.21
MW-28	663.27	20.31	642.96
MW-29s	653.40	31.10	622.30
MW-29d	653.07	30.78	622.29
MW-30	667.58	43.99	623.59
MW-31	661.59	38.57	623.02
MW-32	656.66	32.95	623.71
MW-34s	655.67	32.26	623.41
MW-34d	654.67	30.42	624.25
MW-35	661.90	35.00	626.90
MW-36	655.14	32.45	622.69
MW-37	661.14	21.42	639.72
MW-38	666.64	19.42	647.22
MW-39s	657.30	33.91	623.39
MW-39d	657.18	33.77	623.41
MW-40s	662.22	41.18	621.04
MW-40d	661.95	40.92	621.03
MW-41	637.67	NM	–
MW-42s	654.37	31.98	622.39
MW-42d	654.34	31.91	622.43
MW-44s	662.01	40.96	621.05
MW-44d	661.76	41.49	620.27

TABLE 2 (CONT.)
WATER-LEVEL ELEVATION DATA
ORMET CORPORATION
HANNIBAL, OHIO
DATE: MAY 7, 2007

WATER-LEVEL MEASURING POINT	MEASURING POINT ELEVATION (ft. MSL)	DEPTH TO WATER (feet)	GROUND-WATER ELEVATION (ft. MSL)
PPB-01*	663.24	NM	#VALUE!
PPB-02s*	663.14	NM	#VALUE!
PPB-02d+	662.78	38.45	624.33
PPB-04+	661.57	38.50	623.07
PPB-05*	661.62	17.06	644.56
PPB-06+	663.04	NM	--
PPB-07*	661.71	NM	--
PPB-09+	664.30	40.22	624.08
PPB-10*	663.45	12.45	651.00
PPB-14*	660.64	NM	--
TH-3	667.81	47.26	620.55
TH-10	658.17	33.57	624.60
TH-11	659.08	NM	#VALUE!
TH-15	663.62	46.02	617.60
TH-16	664.62	45.53	619.09
TH-17	663.93	45.76	618.17
RP-1 (Downriver)	643.17	18.90	624.27
RP-2 (Upriver)	643.05	18.72	624.33

NOTE:

All MW-series wells are measured from the top of the PVC casing.

All TH-series wells are measured from the top of steel casing.

River pool measuring point RP-2 is located on the walkway below the dry scrubbers and RP-1 is located on the walkway at the barge unloading dock.

* - Designates a perched zone piezometer

+ - Designates an alluvial aquifer piezometer.

NM = Not measured.

FEB 2007 WATER LEVELS.XLS

TABLE 3
WATER-LEVEL ELEVATION DATA
ORMET CORPORATION
HANNIBAL, OHIO
DATE: SEPTEMBER 5, 2007

WATER-LEVEL MEASURING POINT	MEASURING POINT ELEVATION (ft. MSL)	DEPTH TO WATER (feet)	GROUND-WATER ELEVATION (ft. MSL)
MW-1	668.07	46.62	621.45
MW-2	668.12	47.02	621.10
MW-3	645.17	22.60	622.57
MW-4	661.07	42.63	618.44
MW-5	668.16	49.30	618.86
MW-7	667.94	48.60	619.34
MW-8	667.71	50.91	616.80
MW-9	666.59	48.77	617.82
MW-10	667.16	50.12	617.04
MW-11	667.31	48.80	618.51
MW-12	636.73	14.52	622.21
MW-13	661.44	37.66	623.78
MW-14	653.59	30.65	622.94
MW-15	657.31	32.97	624.34
MW-16	662.72	40.19	622.53
MW-17	655.03	NM	—
MW-18	660.91	36.42	624.49
MW-19	662.03	37.80	624.23
MW-20	632.33	9.29	623.04
MW-21s	664.02	45.85	618.17
MW-21d	663.60	45.46	618.14
MW-22s	667.47	49.56	617.91
MW-22d	667.21	49.33	617.88
MW-23s	663.18	44.86	618.32
MW-23d	663.41	45.19	618.22
MW-24s	667.88	50.50	617.38
MW-24d	667.75	50.40	617.35
MW-25	667.73	49.57	618.16
MW-26s	665.54	NM	—
MW-26d	665.59	NM	—
MW-27	667.86	49.68	618.18
MW-28	663.27	21.69	641.58
MW-29s	653.40	31.08	622.32
MW-29d	653.07	30.80	622.27
MW-30	667.58	43.65	623.93
MW-31	661.59	38.48	623.11
MW-32	656.66	32.95	623.71
MW-34s	655.67	32.42	623.25
MW-34d	654.67	30.71	623.96
MW-35	661.90	34.89	627.01
MW-36	655.14	32.59	622.55
MW-37	661.14	21.62	639.52
MW-38	666.64	20.22	646.42
MW-39s	657.30	34.00	623.30
MW-39d	657.18	33.90	623.28
MW-40s	662.22	41.14	621.08
MW-40d	661.95	40.86	621.09
MW-41	637.67	NM	—
MW-42s	654.37	32.04	622.33
MW-42d	654.34	31.99	622.35
MW-44s	662.01	40.95	621.06
MW-44d	661.76	41.48	620.28

TABLE 3 (cont.)
WATER-LEVEL ELEVATION DATA
ORMET CORPORATION
HANNIBAL, OHIO
DATE: SEPTEMBER 5, 2007

WATER-LEVEL MEASURING POINT	MEASURING POINT ELEVATION (ft. MSL)	DEPTH TO WATER (feet)	GROUND-WATER ELEVATION (ft. MSL)
PPB-01*	663.24	NM	--
PPB-02s*	663.14	NM	--
PPB-02d+	662.78	39.00	623.78
PPB-04+	661.57	38.59	622.98
PPB-05*	661.62	19.05	642.57
PPB-06+	663.04	NM	--
PPB-07*	661.71	NM	--
PPB-09+	664.30	40.51	623.79
PPB-10*	663.45	NM	--
PPB-14*	660.64	NM	--
TH-3	667.81	47.24	620.57
TH-10	658.17	33.40	624.77
TH-11	659.08	34.01	625.07
TH-15	663.62	46.05	617.57
TH-16	664.62	46.55	618.07
TH-17	663.93	45.69	618.24
RP-1 (Downriver)	643.17	19.45	623.72
RP-2 (Upriver)	643.05	19.33	623.72

NOTE:

All MW-series wells are measured from the top of the PVC casing.

All TH-series wells are measured from the top of steel casing.

River pool measuring point RP-2 is located on the walkway below the dry scrubbers and RP-1 is located on the walkway at the barge unloading dock.

* - Designates a perched zone piezometer

+ - Designates an alluvial aquifer piezometer.

NM = Not measured.

SEPT-07 WATER LEVELS.XLS

TABLE 4
SUMMARY OF ANALYTICAL RESULTS FOR REMEDIAL ACTION
GROUND-WATER MONITORING WELLS AND PARAMETERS
ORMET CORPORATION
HANNIBAL, OHIO

	pH (lab)	pH (field)	Specific Conductance (lab)	Specific Conductance (field)	Cyanide Total	Cyanide Free	Cyanide Amenable	Fluoride	Arsenic	Beryllium	Iron	Manganese	Sodium	Vanadium	Tetrachloroethene
MW-1															
12/83	6.4	6.0	270	210	0.018	0.014		0.1			0.04	0.65	14.2		
2/84	6.1	6.1	270	215	0.04			0.1			0.01	0.54	14.9		
9/84	6.1	5.7	195	210	<0.01	<0.01		<0.2			0.02	0.33	13.8		
5/85	6.4	6.0	200	210	0.13	0.13		<0.2			0.04	0.15	16.2		
6/88	6.2	6.4	670	540	<0.01		<0.01	0.2	0.0024	<0.0015	6.21	0.379	20.3	0.006	
1/95	6.2	4.7	370	550	0.02		<0.01	0.1	<0.004	<0.01	<0.04	0.39	21	<0.01	
5/97	5.9	6.32	470	365	<0.01			0.1	<0.004	<0.0005		0.13	19	<0.01	
5/98	6.01	5.65	480	505	<0.01			0.20	<0.004	<0.0005		0.10	20	<0.01	
5/01	5.95	6.35	460	392	<0.01			0.13	<0.004	<0.0005		0.098	19	<0.01	
5/02	6.62	6.78	470	343	<0.01			0.67	<0.004	<0.0005		0.0298	24.6	<0.01	
5/03	6.32	6.39	570	416	<0.01			0.25	<0.004	<0.0005		0.048	24	<0.01	
5/04	6.66	6.46	690	701	<0.01			2.1	<0.004	<0.0005		0.47	50	<0.01	
5/05	6.66	6.46	660	591	<0.01			1.8 J	<0.004	<0.0005		0.40	47	<0.01	
5/06	6.87	6.75	800	650	<0.01			<2.0B	<0.004	<0.0005		0.43	46	<0.01	
5/07	6.61	6.52	660	516	<0.01			1.1	<0.004	<0.0005		0.66	49	<0.01	
MW-2															
12/83	10.3	10.3	6,000	6,000	56.0	0.27		400			55.2	1.98	1,950		
2/84	10.3	10.3	7,752	2,750	48.0			420			58	2.46	2,290		
9/84	10.5	9.9	6,308	6,900	40.8	0.095		480			59.3	2.1	2,460		
5/85	10.4	10.4	13,200	5,800	95	0.10		400			54.0	1.74	2150		
10/85	10.5		7,100		140	12		390		<0.01	54.0	1.82	2,060		
7/88	10.4	10.4	6,200	6,000	22		12	330	0.394	<0.0015	34.2	1.00	1,450	0.251	0.011
2/90	10.34	10.2	4,800	3,900	36.2		29.6	200			31.0		1,200		
1/95	10.0	9.6	2,400	>2,000	7.1		<0.01	93	0.085	<0.01	8.6	0.82	520	0.09	
5/97	10.1	10.07	2,100	1,865	17		<1.0	63	0.092	0.001		1	470	0.06	0.008
5/98	9.98	10.24	1,900	1,880	13		<0.01	68	0.082	0.001		0.93	450	0.06	0.0053
9/98	9.96	9.96	1,900	1,991	21		0.30	69	0.086	0.00089		0.90	440	0.051	<0.005
1/99	9.98	10.27	2,000	2,000	21		5.3	65	0.085	0.00064		1.1	440	0.054	<0.005
1/99 (Dup.)	9.98	10.27	1,900	2,000	22		<0.1	66	0.087	0.00064		1.0	440	0.053	<0.005
5/99	10.1	9.94	1,900	1,940	25		3.5	67	0.095	0.00088		0.96	400	0.046	<0.005
9/99	9.88	10.60	1,800	1,830	22		2.6	59	0.077	<0.0005		0.85	430	0.032	<0.005
9/99 (Dup.)	9.88	10.60	1,900	1,830	22		2.5	60	0.079	<0.0005		0.95	460	0.039	<0.005
1/00	9.88	9.65	2,000	1,825	23		2.4	66	0.086	0.0006		0.99	360	0.041	<0.005
5/00	9.92	9.84	2,000	1,863	18		<0.5	66	0.0809	0.00075	13	1.0	430	0.045	<0.005
5/00 (Dup.)	9.97	9.84	1,900	1,863	18		11	67	0.081	0.00076	13	1.1	410	0.045	<0.005
10/00	9.92	9.95	1,800	1,518	17		0.73	61	0.077	0.00051		1.0	270	0.039	<0.005
1/01	9.91	11.34	1,900	1,708	18		3.4	68	0.082	0.00073		1.1	450	0.045	<0.005
5/01	9.88	10.66	1,900	1,621	15		13	67	0.087	0.00078		0.96	360	0.048	<0.005
5/01 (Dup.)	9.87	10.66	1,800	1,621	15		15	68	0.076	0.00071		0.89	360	0.045	<0.005
9/01	9.80	10.14	1,800	1,635	17		2.5	63	0.089	0.00088		1.1	400	0.056	<0.005
1/02	9.90	10.10	2,000	1,767	16		2.7	58	0.0858	0.000866		0.998	354	0.0531	<0.005
5/02	9.91	9.99	1,700	1,458	15		2.1	63	0.103	0.000873		0.845	347	0.0489	<0.005
5/02 (Dup.)	9.90	9.99	1,800	1,458	15		<0.50	66	0.107	0.000980		0.870	368	0.0531	<0.005
9/02	9.73	10.04	1,740	1,637	14.8		1.5	55.4	0.0969	0.000717		0.845	298	0.0474	0.00684
1/03	9.99	9.97	1,680	1,748	14.6		1.05	56.8	0.123	0.001140		0.978	324	0.0575	0.00644
5/03	9.80	10.08	1,700	1,246	14.0		5.1	74	0.088	<0.0005		0.94	310	0.057	0.009
5/03 (Dup.)	9.76	10.08	1,700	1,246	14.0		0.76	82	0.089	0.000850		0.95	310	0.058	0.0075
9/03	9.77	9.90	1,700	1,428	16		0.93	76	0.089	<0.0005		0.73	330	0.048	0.012
1/04	9.67	9.97	1,600	1,354	14		3.4	50	0.080	<0.0005		0.89	310	0.053	0.014
5/04	9.72	9.82	1,500	1,148	14		1.2	47	0.071	0.00088		0.91	490	0.056	0.017
5/04 (Dup.)	9.72	9.82	1,500	1,148	12		1.4	59	0.067	0.0008		0.85	490	0.053	0.018
9/04	9.55	9.79	1,600	1,099	13		4.6	54	0.069	0.00081		0.88	350	0.049	0.02
1/05	9.74	9.74	1,500	1,340	10		4.0	73	0.066	0.0011		1.1	330	0.053	0.023
5/05	6.66	9.64	1,500	1,387	14		7.1	44 J	0.066	0.00081		0.96	360	0.05	0.024
5/05 (Dup.)	9.61	9.64	1,500	1,387	15		2.1	35 J	0.066	0.00093		0.98	370	0.051	0.024
10/05	9.57	9.63	1,500	1,414	16		<0.01	43	0.067	0.00081		0.95	370	0.048	0.026
1/06	9.63	7.62	1,000	1,401	12		0.43	58J	0.064	0.00099		1.1	350	0.052	0.024
5/06	9.70	9.80	1,700	1,390	6.5		<0.01	46J	0.066	0.00084		1.0	370	0.05	0.024
5/06 (Dup.)	9.69	9.80	1,700	1,390	11		<0.01	52J	0.064	0.00083		1.0	380	0.049	0.024
9/06	9.75	9.81	1,700	1,356	19		5.70	48	0.061	<0.00050		0.63	350	0.032	0.021
2/07	9.54		1,600		15	0.046	2.50	32	0.048	<.0005		0.49	330	0.028	0.037
5/07	9.60	9.55	1,300	1,183	11		<0.01	47	0.050	0.00050		0.56	330	0.032	0.036
9/07	9.49	9.89	1,400	1,103	12		0.56	45	0.049	<0.00050		0.59	310	0.034	0.054

Note: All results in mg/L unless otherwise noted.

J = One or more quality control criteria not met. Value considered estimated.

TABLE 4
SUMMARY OF ANALYTICAL RESULTS FOR REMEDIAL ACTION
GROUND-WATER MONITORING WELLS AND PARAMETERS
ORMET CORPORATION
HANNIBAL, OHIO

	pH (lab)	pH (field)	Specific Conductance (lab)	Specific Conductance (field)	Cyanide Total	Cyanide Free	Cyanide Amenable	Fluoride	Arsenic	Beryllium	Iron	Manganese	Sodium	Vanadium	Tetrachloroethene
MW-5															
12/83	9.7	9.5	3,058	2,825	18.8	0.064		130			17.5	1.61	880		
2/84	9.6	9.6	3,636	2,700	14.5			120			18.0	1.39	1,030		
9/84	9.8	9.3	2,278	3,100	4.94	0.032		140			19.4	1.7	850		
5/85	9.8	9.9	4,800	2,400	25.0	0.037		91			15.8	1.01	710		
10/85	9.8		2,550		22.0	2.0		70		<0.01	13.0	0.93	650		
7/88	9.5	9.6	2,000	2,050	5.5		0.10	90	0.076	<0.0015	7.05	0.514	449	0.025	0.012
1/95	8.6	8.5	1,500	1,250	3.1		<0.01	32	0.008	<0.01	1.3	0.27	270	<0.01	
5/97	9.0	9.2	1,500	1,318	3.5		<0.25	16	0.015	<0.0005		0.4	310	<0.01	<0.005
5/98	8.83	8.84	1,400	1,340	2.1		<0.01	18	0.007	<0.0005		0.17	300	<0.01	<0.005
5/98 (Dup.)	8.83	8.84	1,400	1,340	1.3		<0.01	18	0.007	<0.0005		0.18	300	<0.01	<0.005
9/98	8.92	8.66	1,200	1,219	2.0		0.02	18	0.0089	<0.0005		0.16	240	<0.01	<0.005
1/99	8.95	8.93	1,100	1,175	1.8		0.14	17	0.0086	<0.0005		0.16	240	<0.01	<0.005
5/99	8.97	8.60	1,200	1,260	1.9		<0.01	16	0.0094	<0.0005		0.27	250	<0.01	<0.005
5/99 (Dup.)	8.97	8.60	1,200	1,260	2.2		2.2	16	0.0097	<0.0005		0.25	240	<0.01	<0.005
9/99	8.78	9.10	1,100	1,030	2.4		0.10	17	0.0074	<0.0005		0.23	230	<0.01	<0.005
1/00	8.76	8.30	1,200	1,040	2.0		2.0	15	0.0063	<0.0005		0.24	180	<0.01	<0.005
1/00 (Dup.)	8.77	8.30	1,100	1,040	1.9		1.9	16	0.006	<0.005		0.23	180	<0.01	<0.005
5/00	8.81	8.59	1,100	1,020	2.3		2.3	16	0.0082	<0.0005	1.8	0.37	110	<0.01	<0.005
10/00	8.71	8.59	1,000	817	2.6		2.6	11	0.006	<0.0005		0.35	120	<0.01	<0.005
10/00 (Dup.)	8.71	9	1,000	817	2.5		2.5	11	0.0061	<0.0005		0.35	110	<0.01	<0.005
1/01	8.65	9.27	1,000	863	2.7		0.13	13	<0.004	<0.0005		0.72	190	<0.01	<0.005
1/01 (Dup.)	8.65	9.27	1,000	863	2.8		0.33	14	<0.004	<0.0005		0.58	210	<0.01	<0.005
5/01	8.51	8.99	960	791	2.9		2.9	13	<0.004	<0.0005		0.66	170	<0.01	<0.005
9/01	8.42	8.69	708	970	3.6		0.34	11	<0.004	<0.0005		0.80	160	<0.01	<0.005
9/01 (Dup.)	8.46	8.69	708	950	3.6		0.22	13	<0.004	<0.0005		0.80	170	<0.01	<0.005
1/02	8.53	8.75	908	793	3.1		3.1	13	0.00445	<0.0005		0.59	162	<0.01	<0.005
5/02	7.80	8.51	930	600	2.9		<0.20	14	<0.004	<0.0005		0.67	171	<0.01	<0.005
10/02	8.28	8.59	1,090	1,013	4.13		0.66	15.3	<0.004	<0.0005		0.708	165	<0.01	<0.005
1/03	7.61	7.39	1,190	1,208	1.63		0.17	18.4	<0.004	<0.0005		0.303	246	<0.01	<0.005
5/03	8.35	8.55	1,100	797	3.8		0.093	25	<0.004	<0.0005		0.66	160	<0.01	<0.005
9/03	7.76	7.53	1,300	1,045	4.8		0.15	33	0.0073	<0.0005		0.61	210	<0.01	0.008
9/03 (Dup.)	7.74	7.53	1,300	1,045	4.6		0.34	37	0.0065	<0.0005		0.60	210	<0.01	0.0055
1/04	7.94	8.00	1,200	854	3.9		3.80	23	<0.004	<0.0005		0.41	190	<0.01	
5/04	8.00	8.03	1,200	907	3.6		0.59	25	<0.004	<0.0005		0.42	310	<0.01	<0.005
9/04	7.88	7.94	1,300	838	3.7		0.34	19	0.0046	<0.0005		0.52	210	<0.01	<0.005
1/05	8.19	8.13	1,200	1,093	3.6		0.67	16	0.0046	<0.0005		0.82	220	<0.01	<0.005
5/05	7.87	7.79	1,200	1,070	4.7		0.55	20 J	<0.004	<0.0005		0.57	250	<0.01	<0.005
10/05	7.83	7.79	1,400	1,211	6.4		0.51	17	<0.004	<0.0005		0.61	250	<0.01	<0.005
1/06	8.10	7.28	1,400	1,206	1.3		<0.01	17J	0.0048	<0.0005		0.80	250	<0.01	<0.005
5/06	8.05	8.04	1,400	1,150	5.2		0.38	16J	<0.004	<0.0005		0.70	250	<0.01	<0.005
9/06	7.97	7.98	1,400	1,075	5.4		1.80	17	<0.004	<0.0005		0.44	240	,0.010	<0.005
2/07	8.27		1,400		6.2		0.90	21	<.004	<.0005		0.36	230	<.01	<.005
5/07	8.00	7.92	1,200	857	5.9		<0.010	23	<0.004	<0.0005		0.40	230	<0.010	<0.005
5/07 (Dup.)	7.87	7.92	1,200	857	6.2		<o.01	23	<0.004	<0.0005		0.38	230	<0.01	<0.005
9/07	8.03	8.50	1,300	856	5.8		0.15	26	0.0046	>0.00050		0.45	240	<0.010	<0.0050
MW-7															
12/83	6.8	6.2	613	700	0.019	0.020		0.1			1.01	7.88	49.0		
2/84	5.9	5.9	581	750	<0.01			0.1			9.0	4.72	49.2		
9/84	5.8	5.7	410	680	<0.01	<0.01		<0.2			11.6	4.85	58.0		
5/85	6.1	5.6	720	890	0.023	0.021		<0.2			24.7	3.70	61.0		
6/88	5.7	5.8	740	780	0.02		0.01	0.2	0.012	<0.0015	17.6	3.05	64.2	0.0032	
1/95	5.5	5.3	850	1,500	<0.01		<0.01	0.2	0.040	<0.01	22	2.3	72	<0.01	
5/97	5.6	6.04	790	670	<0.01			0.10	0.038	<0.0005		2.2	89	<0.01	
5/97 (Dup.)	5.7		800	670	<0.01			0.20	0.038	<0.0005		2.2	84	<0.01	
5/98	5.71	5.69	770	900	<0.01			0.20	0.051	<0.0005		2.2	78	<0.01	
5/99	5.81	6.00	780	700	<0.01			0.16	0.042	<0.0005		2.0	78	<0.01	
5/00	5.74	5.96	810	777	<0.01			0.14	0.041	<0.0005	18	2.0	93	<0.01	
5/01	5.69	5.27	770	771	<0.01			0.13	0.033	<0.0005		2.0	75	<0.01	
5/02	5.73	5.79	750	515	<0.01			0.16	0.0343	<0.0005		2.01	75.9	<0.01	
5/03	5.70	5.85	810	627	0.098		0.09	<0.10	0.025	<0.0005		2.3	64	<0.01	
5/04	6.12	5.81	640	631	<0.01			2.7	0.041	<0.0005		2.3	120	<0.01	
5/05	5.87	5.64	770	718	<0.01			1.6 J	0.051	<0.0005		2.4	86	<0.01	
5/06	5.99	5.86	790	672	0.019		0.019	<2.0B	0.044	<0.0005		2.1	79	<0.01	
5/07	6.04	5.68	660	509	<0.010			0.1	0.038	<0.0005		2.4	69	<0.010	

Note: All results in mg/L unless otherwise noted.

J = One or more quality control criteria not met. Value considered estimated.

TABLE 4
SUMMARY OF ANALYTICAL RESULTS FOR REMEDIAL ACTION
GROUND-WATER MONITORING WELLS AND PARAMETERS
ORMET CORPORATION
HANNIBAL, OHIO

	pH (lab)	pH (field)	Specific Conductance (lab)	Specific Conductance (field)	Cyanide Total	Cyanide Free	Cyanide Amenable	Fluoride	Arsenic	Beryllium	Iron	Manganese	Sodium	Vanadium	Tetrachloroethene
MW-8															
12/83	9.5	9.2	820	700	0.32	0.017		18			0.20	0.01	202		
2/84	9.5	9.5	820	700	0.14			18			0.23	0.04	199		
9/84	9.5	9.0	661	800	0.35	0.013		22			1.00	0.04	216		
5/85	9.2	9.2	830	550	0.11	0.024		7.9			0.21	0.01	151		
5/86	8.8		550		0.04						<0.01	<0.01	111		
6/88	8.4	8.3	560	550	0.06		<0.01	2.8	0.0018	<0.0015	0.044	0.023	67.8	<0.0026	<0.005
1/95	7.8	7.8	610	930	0.09		<0.01	3.1	<0.004	<0.01	<0.04	0.08	50	<0.01	
5/97	7.8	8.02	560	442	0.040		<0.01	2.2	<0.004	<0.0005		0.12	44	<0.01	
5/98	7.81	7.60	490	514	0.02		<0.01	2.3	<0.004	<0.0005		0.14	30	<0.01	
5/99	8.00	8.10	530	455	0.028		0.028	2.4	<0.004	<0.0005		0.15	34	<0.01	
5/00	7.91	8.01	600	533	0.026		0.026	2.2	<0.004	<0.0005	0.054	0.24	36	<0.01	
5/01	8.24	7.48	560	482	0.024		0.024	1.9	<0.004	<0.0005		0.26	34	<0.01	
5/02	7.81	7.76	530	374	0.019		<0.01	1.9	<0.004	<0.0005		0.268	33.9	<0.01	
5/03	7.74	7.90	580	440	0.023		<0.01	2.4	<0.004	<0.0005		0.36	42	<0.01	
5/04	7.79	7.80	670	487	0.068		<0.01	3.2	<0.004	<0.0005		0.46	77	<0.01	
5/05	7.40	7.28	680	607	0.034		<0.01	2.5 J	<0.004	<0.0005		0.16	61	<0.01	
5/06	7.80	7.71	1000	856	0.094		<0.01	<2.0B	<0.004	<0.0005		0.57	140	<0.01	
5/07	7.56	7.51	890	622	0.59		<0.01	3.1	<0.004	<0.0005		0.19	120	<0.01	
MW-10															
12/83	7.7	7.6	1,205	1,280	1.36	0.083		6.9			0.60	0.26	195		
2/84	7.6	7.5	820	800	0.79			5.5			0.30	0.26	106		
9/84	7.6	6.5	547	675	0.22	0.14		4.3			0.13	0.34	88		
5/85	7.7	7.0	800	710	0.33	0.060		2.9			0.07	0.05	53		
6/88	7.3	7.2	770	750	<0.01		<0.01	2.1	0.0038	<0.0015	0.081	<0.001	28.7	<0.0026	
1/95	7.0	6.8	800	560	0.02		0.02	0.5	<0.004	<0.01	<0.04	<0.01	26	<0.01	
5/97	7.2	7.4	670	510	<0.01			0.70	<0.004	<0.0005		<0.01	25	<0.01	
5/98	7.22	7.23	970	1,110	0.15		0.01	0.60	<0.008	<0.0005		<0.01	120	<0.01	
5/99	7.40	7.32	750	545	<0.01			0.41	<0.004	<0.0005		0.012	30	<0.01	
5/00	7.45	7.51	650	549	<0.01			0.48	<0.004	<0.0005	0.079	<0.01	21	<0.01	
5/01	8.19	7.21	610	502	0.013		0.013	0.47	<0.004	<0.0005		<0.01	27	<0.01	
5/02	7.27	7.13	990	605	0.19		<0.01	0.77	<0.004	<0.0005		0.0499	117	<0.01	
5/03	7.17	7.23	1200	897	0.13		0.019	1.0	<0.004	<0.0005		<0.01	120	<0.01	
5/04	7.81	7.25	740	542	<0.01			0.46	<0.004	<0.0005		0.011	31	<0.01	
5/05	7.27	7.28	520	607	<0.01			0.51 J	<0.004	<0.0005		0.011	24	<0.01	
5/06	7.36	7.21	820	669	<0.01			<2.0B	<0.004	<0.0005		<0.01	27	<0.01	
5/07	7.17	7.18	750	521	<0.01			0.2	<0.004	<0.0005		<0.01	20	<0.01	
MW-11															
12/83	9.6	9.4	980	825	0.52	0.021		33			0.48	0.06	236		
2/84	9.6	9.5	962	775	0.25			27			7.9	0.37	232		
9/84	9.7	9.1	656	800	0.20	0.015		22			4.90	0.21	213		
5/85	9.4	9.5	750	650	0.30	0.026		13			2.68	0.13	181		
6/88	8.5	8.4	570	565	0.12		<0.01	4.9	0.0043	<0.0015	0.071	0.227	78.5	<0.0026	<0.005
1/95	7.6	7.9	640	680	0.02		<0.01	2.3	<0.004	<0.01	<0.04	0.40	30	<0.01	
5/97	7.8	7.64	530	404	0.09		<0.01	1.8	<0.004	<0.0005		0.42	33	<0.01	
5/98	7.84	7.57	490	507	0.02		<0.01	1.7	<0.004	<0.0005		0.45	31	<0.01	
5/98 (Dup.)	7.85	7.57	500	507	0.02		<0.01	1.7	<0.004	<0.0005		0.43	29	<0.01	
5/99	8.07	8.39	490	425	0.024		0.011	1.7	<0.004	<0.0005		0.45	28	<0.01	
5/00	7.96	7.58	580	500	0.013		0.013	1.4	<0.004	<0.0005	0.046	0.54	32	<0.01	
5/01	7.84	7.26	550	458	<0.01			1.6	<0.004	<0.0005		0.52	35	<0.01	
5/02	8.42	7.87	510	352	0.017		0.017	1.8	<0.004	<0.0005		0.488	34	<0.01	
5/03	7.87	7.99	540	405	0.016		<0.01	2.1	<0.004	<0.0005		0.57	37	<0.01	
5/04	7.83	7.86	530	394	<0.01		<0.01	1.9	<0.004	<0.0005		0.53	47	<0.01	
5/05	7.79	7.64	480	439	<0.01			1.7 J	<0.004	<0.0005		0.52	36	<0.01	
5/06	7.85	7.84	620	518	0.013		<0.01	<2.0B	<0.004	<0.0005		0.59	29	<0.01	
5/07	7.8	7.8	700	527	0.066		<0.010	1	<0.004	<0.0005		0.62	69	<0.01	

Note: All results in mg/L unless otherwise noted.

J = One or more quality control criteria not met. Value considered estimated.

TABLE 4
SUMMARY OF ANALYTICAL RESULTS FOR REMEDIAL ACTION
GROUND-WATER MONITORING WELLS AND PARAMETERS
ORMET CORPORATION
HANNIBAL, OHIO

	pH (lab)	pH (field)	Specific Conductance (lab)	Specific Conductance (field)	Cyanide Total	Cyanide Free	Cyanide Amenable	Fluoride	Arsenic	Beryllium	Iron	Manganese	Sodium	Vanadium	Tetrachloroethene
MW-12															
12/83	7.5	7.3	476	400	0.074	0.021		2.1			<0.01	0.94	24.3		
2/84	7.5	7.2	476	385	0.02			2.0			0.02	0.71	23.8		
9/84	7.7	6.3	366	375	<0.01	<0.01		2.2			<0.01	0.61	29.0		
5/85	7.7	7.4	540	390	0.024	0.022		1.6			<0.01	1.00	27.7		
5/86	7.6		494		<0.01						<0.01	1.23	27		
6/88	7.2	7.5	510	515	<0.01		<0.01	1.3	<0.0015	<0.0015	0.066	1.09	24.4	<0.0026	<0.005
1/95	7.4	7.6	530	350	<0.01		<0.01	1.1	<0.004	<0.01	<0.04	1.5	23	<0.01	
5/97	7.5	7.7	540	422	<0.01			0.90	<0.004	<0.0005		1.7	19	<0.01	
5/98	7.43	7.43	470	550	<0.01			0.80	<0.008	<0.0005		1.9	23	<0.01	
9/98	7.57	7.38	470	481	<0.01			0.92	<0.004	<0.0005		1.6	20	<0.01	
1/99	7.53	7.04	470	440	<0.01			0.89	<0.004	<0.0005		1.8	22	<0.01	
5/99	7.42	7.39	630	515	0.026		0.026	0.73	<0.004	<0.0005		2.5	29	<0.01	
9/99	7.54	7.25	530	565	0.017		0.012	0.68	<0.004	<0.0005		1.9	27	<0.01	
1/00	7.44	6.85	570	495	<0.01			0.74	<0.004	<0.0005		1.8	22	<0.01	
5/00	7.53	7.57	600	558	<0.01			0.73	<0.004	<0.0005	0.043	2.0	29	<0.01	
10/00	7.64	7.33	530	429	<0.01			0.83	<0.004	<0.0005		1.6	22	<0.01	
1/01	7.56	7.69	530	484	<0.01			0.92	<0.004	<0.0005		1.8	28	<0.01	
5/01	7.48	7.13	530	442	<0.01			0.82	<0.004	<0.0005		1.6	23	<0.01	
9/01	7.46	7.96	520	460	<0.01			0.83	<0.004	<0.0005		1.8	28	<0.01	
1/02	7.43	7.66	560	436	<0.01			1.1	<0.004	<0.0005		1.75	27	<0.01	
5/02	7.58	7.6	540	322	<0.01			1.1	<0.004	<0.0005		1.82	27.5	<0.01	
9/02	7.48	7.65	572	540	<0.01			0.629	<0.004	<0.0005		1.72	27.1	<0.01	
1/03	7.70	7.48	536	564	<0.01			0.884	<0.004	<0.0005		1.80	32.2	<0.01	
5/03	7.55	7.21	560	421	<0.01			0.76	<0.004	<0.0005		2.0	31	<0.01	
9/03	7.57	7.44	560	477	<0.01		<0.01	<3.2 B	<0.004	<0.0005		2.0	32	<0.01	
9/03 (Dup.)	7.60	7.44	560	477	<0.01		<0.01	<3.2 B	<0.004	<0.0005		2.0	33	<0.01	
1/04	7.58	7.66	510	400	<0.01			0.69	<0.004	<0.0005		1.9	28	<0.01	
1/04 (Dup.)	7.58	7.66	510	400	<0.01			0.60	<0.004	<0.0005		1.9	28	<0.01	
5/04	7.65	7.55	520	596	<0.01			0.61	<0.004	<0.0005		1.9	31	<0.01	
9/04	7.52	7.55	540	361	<0.01			<1.25 B	<0.004	<0.0005		1.9	30	<0.01	
9/04 (Dup.)	7.53	7.55	540	361	<0.01			<1.25 B	<0.004	<0.0005		1.9	30	<0.01	
1/05	7.67	7.40	520	466	<0.01			0.51	0.0042	<0.0005		1.9	29	<0.01	
1/05 (Dup.)	7.60	7.40	520	466	<0.01			0.50	<0.004	<0.0005		2.0	29	<0.01	
5/05	7.71	7.30	520	443	<0.01			0.87 J	<0.004	<0.0005		2.0	32	<0.01	
10/05	7.55	7.49	520	491	<0.01			2.3	<0.004	<0.0005		1.9	27	<0.01	
10/05 (Dup.)	7.59	7.49	540	491	<0.01			1.4	<0.004	<0.0005		1.9	27	<0.01	
1/06	7.67	7.14	550	480	<0.01			0.61J	<0.004	<0.0005		1.8	25	<0.01	
1/06 (Dup.)	7.65	7.14	550	480	<0.01			0.48J	<0.004	<0.0005		1.8	25	<0.01	
5/06	7.55	7.57	510	473	<0.01			<2.0B	<0.004	<0.0005		1.9	23	<0.01	
9/06	7.61	7.57	610	508	<0.01			0.57	<0.004	<0.0005		2.2	26	<0.01	
9/06 (Dup.)	7.60		610		<0.01			0.62	<0.004	<0.0005		2.2	26	<0.01	
2/07	7.68		620		<.01			0.63	<.004	<.0005		2.0	25	<.01	
5/07	7.61	7.50	560	413	<0.01			1.40	<0.004	<0.0005		2.1	26	<0.01	
MW-14															
5/02	7.64	7.61	500	309	0.018		<0.01	1.9	<0.004	<0.0005		1.05	29.5	<0.01	
5/03	7.59	7.20	530	398	0.014		<0.01	2.1	<0.004	<0.0005		1.2	34	<0.01	
5/04	7.67	7.64	560	633	0.022		<0.01	2.0	<0.004	<0.0005		1.2	51	<0.01	
5/05	7.75	7.50	520	469	0.025		<0.01	2.5	<0.004	<0.0005		1.2	44	<0.01	
5/06	7.80	7.70	530	503	0.014		<0.01	2.2J	<0.004	<0.0005		1.2	38	<0.01	
5/07	7.55	7.33	520	423	0.031		<0.01	2.5	<0.004	<0.0005		1.1	44	<0.01	
MW-15															
12/83	6.9	6.7	568	435	0.44	0.018		0.1			0.14	0.03	28.8		
2/84	6.9	6.7	550	435	0.51			0.1			0.13	<0.01	29.4		
5/85	7.4	6.8	590	446	0.44	0.034		0.3			0.18	<0.01	32.5		
5/86	7.1		550		0.39						0.15	<0.01	34		
7/88	7.0/7.1	7.1/7.1	610/630	600/600	0.43/0.32		0.10/<0.01	0.2/0.2	0.0045	0.0025	10.8	0.117	34.4	0.0059	<0.005
1/95	7.0	7.1	720	420	0.49		0.12	1.4	<0.004	<0.01	0.26	<0.01	45	<0.01	
7/96	6.8	7.07	570	613	1.0	<0.020		2.1	<0.004	<0.0005		<0.01		<0.01	
5/97	7.4	7.44	800	731	2.8		0.20	11	<0.004	<0.0005		0.02	140	<0.01	
5/97 (Dup.)	7.4	7.44	800	731	3.3		0.40	8.9	<0.004	<0.0005		0.05	140	<0.01	
5/98	6.99	6.78	610	625	0.49		0.02	0.40	<0.004	<0.0005		<0.01	40	<0.01	
5/99	7.49	7.70	980	785	8.5		<0.01	15	<0.004	<0.0005		0.017	150	<0.01	
5/00	7.53	7.56	1,200	1,169	12		<0.01	25	<0.004	<0.0005	10	0.17	120	<0.01	
5/01	7.03	6.83	600	501	0.49		0.32	2.0	<0.004	<0.0005		0.017	51	<0.01	
5/02	7.29	7.21	590	333	1.1		<0.10	2.5	0.0222	<0.0005		0.0696	56.8	<0.01	
5/03	7.23	7.47	610	469	0.80		0.11	1.6	<0.004	<0.0005		<0.010	49	<0.01	
5/04	7.53	7.54	1,300	982	4.60		<0.01	13	<0.004	<0.0005		0.024	360	<0.01	
5/05	8.17	8.01	1,200	1,105	8.2		6.6	49 J	0.023	0.0024		0.69	290	0.074	
5/06	8.22	8.34	1,300	1,100	16.0		5.9	35J	0.020	0.0024		0.75	280	0.069	
5/07	8.07	7.91	930	727	6.7		0.8	23	0.007	<0.0005		0.14	210	0.014	
5/07 (Dup.)	8.04	7.91	930	727	6.5		0.8	23	0.009	<0.0005		0.14	210	0.015	

Note: All results in mg/L unless otherwise noted.

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TABLE 4
SUMMARY OF ANALYTICAL RESULTS FOR REMEDIAL ACTION
GROUND-WATER MONITORING WELLS AND PARAMETERS
ORMET CORPORATION
HANNIBAL, OHIO

	pH (lab)	pH (field)	Specific Conductance (lab)	Specific Conductance (field)	Cyanide Total	Cyanide Free	Cyanide Amenable	Fluoride	Arsenic	Beryllium	Iron	Manganese	Sodium	Vanadium	Tetrachloroethene
MW-16															
12/83	9.8	9.9	2,092	1,800	7.35	0.034		110			12.4	0.91	530		
2/84	9.7	9.7	2,049	1,550	5.5			98			13.9	1.41	570		
9/84	9.8	9.2	1,390	10,500	2.11	<0.01		80			9.5	0.5	475		
5/85	9.4	9.0	2,300	1,400	10.0	0.11		72			10.3	1.09	443		
10/85	8.4		1,540		3.9	0.0		30		<0.01	2.10	0.41	186		
7/88	9.4	9.7	1,400	1,410	4.6		<0.01	61	0.063	<0.0015	6.57	0.22	300	0.018	0.006
1/95	7.7	9.0	850	930	1.4		0.13	7.9	<0.004	<0.01	0.52	1.1	81	<0.01	
7/96	7.3	7.75	990	941	1.6	<0.020		7.9	<0.004	<0.0005		1		<0.01	
5/97	7.6	7.6	980	801	1.3		0.3	11	<0.004	<0.0005		0.43	130	<0.01	
5/98	7.72	7.70	750	760	2.0		0.40	11	<0.004	<0.0005		1.2	80	<0.01	
9/98	7.70	7.50	860	790	1.4		1.4	9.5	<0.004	<0.0005		1.3	75	<0.01	
1/99	7.70	7.12	740	665	1.4		<0.04	9.8	<0.004	<0.0005		1.5	85	<0.01	
5/99	7.88	7.90	750	800	2.8		0.16	9.0	<0.004	<0.0005		1.5	82	<0.01	
9/99	7.62	8.15	730	745	2.9		0.88	8.2	<0.004	<0.0005		1.7	78	<0.01	
1/00	7.76	6.95	950	810	5.5		5.5	7.6	<0.004	<0.0005		2.2	68	<0.01	
1/00 (Dup.)	7.77	6.95	940	810	5.8		5.8	7.8	<0.004	<0.005		2.2	70	<0.01	
5/00	7.69	7.53	1,100	945	12		12	7.9	<0.004	<0.0005	4.3	2.3	91	<0.01	
5/00 (Dup.)	7.72	7.53	1,000	945	12		12	8.1	<0.004	<0.0005	4.4	2.4	91	<0.01	
10/00	7.74	7.67	1,000	774	16		<0.01	13	<0.004	<0.0005		1.6	130	<0.01	
10/00 (Dup.)	7.77	7.67	1,000	774	15		<0.01	13	<0.004	<0.0005		1.7	130	<0.01	
1/01	7.84	7.42	1,200	939	16		3.2	24	<0.004	<0.0005		1.6	250	<0.01	
1/01 (Dup.)	7.85	7.42	1,200	939	17		2.5	24	<0.004	<0.0005		1.6	250	<0.01	
5/01	7.89	8.04	1,100	920	12		12	39	<0.004	<0.0005		1.2	200	<0.01	
5/01 (Dup.)	7.90	8.04	1,100	920	11		11	40	<0.004	<0.0005		1.2	210	<0.01	
9/01	7.91	7.86	1,300	754	9.7		0.85	43	<0.004	0.00058		0.89	270	0.013	
9/01 (Dup.)	7.90	7.86	1,200	754	9.0		0.65	43	0.019	0.00096		1.1	260	0.021	
1/02	8.03	8.11	1,300	913	9.5		<0.5	57	0.0102	0.00211		1.46	237	0.055	
1/02 (Dup.)	8.05	8.11	1,300	913	10		0.58	59	0.00816	0.00171		1.33	211	0.0422	
5/02	7.92	7.92	1,300	695	7.9		<0.20	57	0.0332	0.0015		1.12	254	0.0469	
5/02 (Dup.)	8.06	7.92	1,300	695	7.4		<0.20	59	0.0269	0.0016		1.10	242	0.0500	
9/02	8.17	8.33	1,280	1176	9.75		0.56	50.1	0.0263	0.00155		1.12	208	0.0426	
9/02 (Dup.)	8.16	8.33	1,280	1176	10.9		1.56	49	0.0222	0.00198		1.4	211	0.0535	
1/03	8.31	7.78	1,310	1,299	7.03		0.77	27.5	0.0449	0.00136		0.792	235	0.0308	
1/03 (Dup.)	8.28	7.78	1,290	1,299	8.48		1.20	54	0.0381	0.00175		1.0	242	0.0441	
5/03	8.00	8.17	1,300	933	5.5		<0.01	58	0.012	0.0012		1.1	220	0.052	
5/03 (Dup.)	8.05	8.17	1,300	933	5.9		<0.01	52	0.0099	0.00093		1.0	220	0.044	
9/03	8.21	8.17	1,200	1,036	3.9		0.062	74	0.011	<0.0005		0.61	240	0.023	
1/04	7.89	8.07	1,300	883	6.0		1.5	52	<0.004	<0.0005		0.83	220	0.017	
5/04	8.18	8.22	1,300	1,410	5.3		0.35	71	0.0071	0.0014		1.1	390	0.037	
5/04 (Dup.)	8.15	8.22	1,300	1,410	5.9		0.35	71	0.016	0.0014		1.1	390	0.04	
9/04	8.10	8.15	1,400	914	12		3.1	56	0.0053	0.0011		1.2	270	0.027	
1/05	8.46	8.38	1,200	1,048	5.2		0.67	65	0.0085	0.00089		0.86	250	0.021	
5/05	8.46	8.57	1,200	998	6.7		0.14	64 J	0.023	0.0018		1.7	260	0.061	
5/05 (Dup.)	8.61	8.57	1,200	998	7.3		0.14	55 J	0.025	0.0018		1.7	280	0.064	
10/05	9.05	9.18	1,200	1,095	12		0.88	29	0.057	0.0029		2.7	280	0.12	
1/06	9.17	7.51	1,100	972	2.8		<0.01	62J	0.067	0.0021J		2.1	220	0.10	
5/06	9.34	9.45	1,200	963	4.9		<0.01	49J	0.082	0.0019		1.4	250	0.12	
5/06 (Dup.)	9.35	9.45	1,200	963	5.9		<0.01	44J	0.078	0.0019		1.5	250	0.12	
9/06	9.39	9.44	1,200	1002	6.6		2.4	41	0.058	<0.0005		0.48	240	0.051	
2/07	9.3		1,300		7.4		<.01	38	0.045	<.0005		0.62	240	0.045	
5/07	9.19	9.22	1,100	854	6.8		<0.01	59	0.042	0.00083		1	240	0.056	
9/07	9.24	9.62	1,100	816	8.4		0.83	52	0.047	0.00076		1.3	240	0.058	
MW-17															
12/83	7.9	7.6	613	475	0.99	0.021		5.6			0.44	1.38	78		
2/84	7.6	7.4	581	470	1.03			4.4			0.39	1.77	52		
9/84	8.0	6.7	485	550	0.17	<0.01		9.1			0.28	1.27	99		
5/85	7.9	7.9	610	470	0.76	0.045		4.1			0.28	1.80	45.3		
10/85	7.9		564		0.56	0.43		4.2		<0.01	6.80	1.93	43.4		
6/88	7.7	7.5	590	475	1.3		0.46	5.2	0.0054	<0.0015	0.973	1.72	39.7	<0.0026	<0.005
2/90	7.7	7.55	680	640	0.582		<0.005	4.1			18		40		
1/95	7.5	7.7	710	420	0.64		<0.01	3.9	<0.004	<0.01	0.26	1.9	36	<0.01	
5/97	7.5	7.67	870	488	0.54		<0.01	3.1	<0.004	<0.0005		1.9	30	<0.01	
5/98	7.6	7.40	570	580	0.72		0.09	3.4	<0.004	<0.0005		1.8	34	<0.01	
5/99	7.50	7.40	550	470	0.46		0.46	3.2	<0.004	<0.0005		1.8	31	<0.01	
5/99 (Dup.)	7.37	7.40	550	470	0.49		0.49	3.2	<0.004	<0.0005		1.8	30	<0.01	
5/00	7.57	7.61	610	523	0.53		0.31	2.9	<0.004	<0.0005	0.34	1.8	24	<0.01	
5/01	7.87	7.36	570	460	0.50		0.50	3.0	<0.004	<0.0005		1.7	28	<0.01	
5/02	7.64	7.62	550	328	0.35		0.35	5.4	<0.004	<0.0005		1.42	40.3	<0.01	
5/03	7.65	7.80	580	435	0.41		0.096	9.8	<0.004	<0.0005		1.6	44	<0.01	
5/04	7.71	7.83	670	511	0.41		<0.01	23	0.0044	<0.0005		1.1	130	<0.01	
5/05	7.66	7.55	910	819	6.2		3.1	17 J	0.0044	<0.0005		1.1	170	<0.01	
5/06	7.73	7.76	910	759	4.2		2.1	13J	<0.004	<0.0005		1.4	130	<0.01	
5/06 (Dup.)	7.85	7.76	910	759	3.5		0.64	22J	<0.004	<0.0005		1.4	130	<0.01	
5/07	7.58	7.56	740	544	2.2		<0.01	11	<0.004	<0.0005		1.6	87	<0.01	

TABLE 4
SUMMARY OF ANALYTICAL RESULTS FOR REMEDIAL ACTION
GROUND-WATER MONITORING WELLS AND PARAMETERS
ORMET CORPORATION
HANNIBAL, OHIO

	pH (lab)	pH (field)	Specific Conductance (lab)	Specific Conductance (field)	Cyanide Total	Cyanide Free	Cyanide Amenable	Fluoride	Arsenic	Beryllium	Iron	Manganese	Sodium	Vanadium	Tetrachloroethene
MW-18															
12/83	9.9	10.0	10,526	8,750	110.0	0.45		460			58.7	0.26	3,150		
2/84	9.8	9.8	9,615	7,500	52.0			350			61	0.50	2,750		
9/84	10.1	9.5	9,111	10,000	194	0.19		690			103	0.3	4,130		
5/85	9.8	9.9		7,000	35.2	0.091		410			64.2	0.35	2,540		
10/85	9.9		6,300		120	12		350		<0.01	71.4	1.06	1,940		
7/88	10.0	10.1	9,700	10,000	29		25	820	0.159	0.0071	144	1.75	2,640	0.191	0.022
2/90	10.0	10.1	8,000	11,400	67.0		10.5	710			110		3,500		
1/95	9.6	11.1	5,900	>2,000	15		6.6	290	0.062	<0.01	56	0.22	1,500	0.02	
7/96	9.1	8.67	4,300	4,200	7.2	<0.020		180	0.065	0.0006	56	0.19	1,500	0.01	0.006
5/97	9.7	9.58	4,000	4,110	8.7		<0.50	200	0.078	0.0009		0.29	1,100	0.02	
5/98	9.76	10.06	4200	4,300	9.8		0.40	260	0.094	0.0014		0.49	1100	0.05	0.024
9/98	9.70	9.88	3,600	3,590	5.9		<0.01	210	0.085	0.00084		0.29	800	0.022	0.014
1/99	9.67	10.04	3,600	3,450	79		3.0	210	0.088	0.00063		0.29	830	0.028	0.0219
5/99	9.72	9.80	3,000	3,000	95		81	370	0.088	0.0014		0.92	650	0.045	0.017
9/99	9.62	10.26	3,000	2,870	90		14	170	0.074	<0.0005		0.24	700	0.011	0.016
1/00	9.56	9.15	3,000	2,700	27		19	180	0.078	0.00059		0.28	680	0.017	0.020
5/00	9.59	9.73	2,800	2,270	84		75	160	0.075	0.00089	25	0.56	620	0.035	0.019
5/00 (Dup.)	9.60	9.73	2,800	2,270	64		50	160	0.073	0.00062	20	0.33	620	0.023	0.016
10/00	9.54	9.67	2,400	1,948	29		<0.01	130	0.074	0.0024		2.1	400	0.08	0.012
1/01	9.62	10.82	2,500	1,980	53		9.2	170	0.067	0.0006		0.3	580	0.019	0.043
5/01	9.52	10.36	2,100	1,780	15		<0.50	100	0.065	0.0014		0.97	380	0.042	0.040
5/01 (Dup.)	9.52	10.36	2,000	1,780	49		49	110	0.079	0.0037		3.1	380	0.140	0.046
9/01	9.61	9.75	2,100	1,668	91		11	180	0.12	0.00099		0.3	520	0.024	0.027
1/02	9.44	9.65	2,400	1,680	36		<0.01	150	0.15	0.0125		16.8	436	0.360	0.024
5/02	9.48	9.55	2,300	1,693	110		40	150	0.0716	0.00105		0.432	517	0.0269	0.020
5/02 (Dup.)	9.49	9.55	2,300	1,693	72		8.3	150	0.0703	0.00104		0.401	510	0.0248	0.052
9/02	9.49	9.77	1,720	1,599	74		<0.01	108	0.0906	0.00141		0.927	303	0.0525	0.0172
1/03	9.48	9.57	2,010	2,160	62.1		<2.5	163	0.0932	0.00133		0.285	452	0.0220	0.058
5/03	9.34	9.58	1,400	1,257	15		3.0	88	0.061	<0.0005		0.20	240	0.021	0.027
5/03 (Dup.)	9.39	9.58	1,400	1,257	20		<0.01	83	0.066	0.00068		0.30	230	0.034	0.047
9/03	9.42	9.61	1,800	1,424	4		<0.01	97	0.12	0.0044		5.60	380	0.17	0.018
1/04	9.33	9.62	2,400	1,237	17		5.5	77	0.081	0.00066		0.43	290	0.028	0.012
5/04	9.51	9.66	2,300	1,546	1.8		0.33	150	0.081	0.00095		0.35	680	0.037	0.012
5/04 (Dup.)	9.49	9.66	2,200	1,546	2		<0.01	140	0.079	0.00092		0.35	680	0.035	0.014
9/04	9.30	9.48	1,800	1,145	35		22	42	0.17	0.012		13	380	0.43	0.0097
1/05	9.40	9.45	3,000	2,920	81		4.7	130	0.056	0.0014		0.55	570	0.021	0.0071
5/05	9.44	9.45	1,700	1,056	13		0.34	97 J	0.07	0.0014		0.78	430	0.049	0.0057
5/05 (Dup.)	9.49	9.45	1,600	1,056	8.2		0.14	94 J	0.073	0.0012		0.75	440	0.037	0.0056
10/05	9.35	9.47	2,300	1,937	6.6		0.24	52	0.05	0.0015		0.68	510	0.033	0.0071
1/06	9.55	7.60	2,900	2,990	4.6		<0.01	210J	0.049	0.0022J		0.78	650	0.034	0.0088
5/06	9.77	10.07	3,400	2,830	7.7		<0.01	380J	0.13	0.0013		0.54	700	0.043	0.0078
9/06	9.61	9.79	1,900	1,720	36.0		38	100	0.11	0.0026		1.80	380	0.099	<0.005
2/07	9.47		2,000		2.2		<.01	84	0.058	0.0012		1.20	300	0.056	<.005
5/07	9.39	9.45	1,700	1,471	3.0		<0.01	140	0.065	0.00091		0.43	350	0.039	<0.005
9/07	9.53	9.83	1,300	1,087	9.0		<0.010	75	0.067	0.00067		0.32	300	0.037	<0.0050
MW-19															
12/83	7.2	7.1	581	435	0.068	0.013		0.3			<0.01	0.54	22.9		
2/84	7.1	6.8	575	405	0.04			0.5			0.05	0.26	20.2		
9/84	7.2	6.3	451	460	0.01	<0.01		0.4			0.02	0.04	23.5		
5/85	7.6	7.0	640	460	0.019	0.014		0.5			0.12	0.02	23.6		
7/88	7.3	7.3	630	600	<0.01		<0.01	0.5	0.0067	<0.0015	17.6	0.23	32.2	0.015	<0.005
2/90	7.3	7.27	520	560	0.2		<0.005	0.7					21.0		
1/95	7.3	7.2	630	410	<0.01		<0.01	1.0	<0.004	<0.01	0.09	<0.01	24	<0.01	
5/97	7.4	7.5	520	431	<0.01		<0.01	2.0	<0.004	<0.0005		<0.01	18	<0.01	
5/98	7.23	6.95	560	575	<0.01			1.4	<0.008	<0.0005		<0.01	23	<0.01	
5/99	7.47	7.40	570	460	<0.01			1.3	<0.004	<0.0005		<0.01	22	<0.01	
5/00	7.33	7.20	580	538	<0.01			1.2	<0.004	<0.0005	0.13	<0.01	16	<0.01	
5/01	7.18	6.96	580	494	<0.01			1.1	<0.004	<0.0005		<0.01	20	<0.01	
5/02	7.39	7.38	530	324	<0.01			1.2	<0.004	<0.0005		<0.005	23.4	<0.01	
5/03	7.53	7.38	550	420	<0.01			2.2	<0.004	<0.0005		<0.01	20	<0.01	
5/04	7.87	7.59	460	342	<0.01			3.6	<0.004	<0.0005		<0.01	16	<0.01	
5/05	7.27	7.10	780	700	0.012		<0.01	2.8 J	<0.004	<0.0005		<0.01	38	<0.01	
5/06	7.48	7.46	590	541	<0.01			3.5J	<0.004	<0.0005		0.014	15	<0.01	
5/07	7.33	7.03	810	583	<0.01			1.1	0.0042	<0.0005		<0.01	49	<0.01	

Note: All results in mg/L unless otherwise noted.

J = One or more quality control criteria not met. Value considered estimated.

TABLE 4
SUMMARY OF ANALYTICAL RESULTS FOR REMEDIAL ACTION
GROUND-WATER MONITORING WELLS AND PARAMETERS
ORMET CORPORATION
HANNIBAL, OHIO

	pH (lab)	pH (field)	Specific Conductance (lab)	Specific Conductance (field)	Cyanide Total	Cyanide Free	Cyanide Amenable	Fluoride	Arsenic	Beryllium	Iron	Manganese	Sodium	Vanadium	Tetrachloroethene
MW-28															
5/88	5.5		382		0.89	0.08		<0.1			0.36	0.02	41		
6/88	5.7	5.8	640	665	7.4		0.6	<0.1	<0.0015	<0.0015	2.41	0.035	83.3	<0.0026	<0.005
1/95	6.2	7.4	500	700	0.74		0.26	2.7	<0.004	<0.01	0.38	0.02	79	<0.01	
7/96	5.7	5.92	440	429	0.26	<0.020		0.50	<0.004	<0.0005		0.01		<0.01	
5/97	5.6	6.4	590	453	0.11		<0.02	0.2	<0.004	<0.0005		0.01	82	<0.01	
5/98	5.74	5.32	500	550	0.12		<0.01	0.20	<0.004	<0.0005		0.01	65	<0.01	
9/98	5.81	5.28	540	527	0.11		0.11	0.27	<0.004	<0.0005		0.011	64	<0.01	
9/98 (Dup.)	5.83	5.28	540	527	0.11		0.11	0.24	<0.004	<0.0005		0.01	65	<0.01	
1/99	5.72	5.17	470	450	0.087		0.027	0.38	<0.004	<0.0005		0.013	67	<0.01	
5/99	5.72	5.43	460	405	0.13		0.13	0.35	<0.004	<0.0005		0.011	70	<0.01	
9/99	5.95	6.15	480	480	0.12		0.016	0.26	<0.004	<0.0005		<0.01	57	<0.01	
1/00	6.04	5.25	460	410	0.23		0.22	0.35	<0.004	<0.0005		<0.01	58	<0.01	
5/00	5.89	5.90	470	464	1.0		1.0	0.30	<0.004	<0.0005	0.89	0.014	77	<0.01	
10/00	5.85	5.47	460	384	0.96		0.28	0.27	<0.004	<0.0005		0.014	52	<0.01	
1/01	5.75	5.45	460	412	0.9		0.9	0.32	<0.004	<0.0005		0.015	64	<0.01	
5/01	5.65	5.20	420	391	1.1		0.36	0.22	<0.004	<0.0005		0.014	54	<0.01	
9/01	5.70	6.01	430	415	1.3		<0.1	0.56	<0.004	<0.0005		0.015	64	<0.01	
1/02	5.73	5.77	450	396	0.9		0.9	0.37	<0.004	<0.0005		0.0196	60.5	<0.01	
5/02	5.63	5.71	400	311	0.60		<0.04	0.22	<0.004	<0.0005		0.0146	62.1	<0.01	
9/02	5.65	6.00	449	443	0.975		0.13	0.164	<0.004	<0.0005		0.0285	59.1	<0.01	
1/03	5.72	5.99	412	462	0.65		<0.02	0.305	<0.004	<0.0005		0.0192	70.4	<0.01	
5/03	5.73	6.09	390	305	0.38		0.068	0.13	<0.004	<0.0005		0.017	47	<0.01	
9/03	5.93	6.25	440	377	0.35		0.016	<3.2 B	0.0068	<0.0005		0.018	61	<0.01	
1/04	6.01	7.24	400	341	0.40		0.40	0.53	<0.004	<0.0005		0.021	54	<0.01	
5/04	6.48	5.77	410	306	0.15		0.01	0.21	<0.004	<0.0005		0.024	81	<0.01	
9/04	5.84	5.65	410	276	0.25		0.12	<1.25 B	<0.004	<0.0005		0.03	53	<0.01	
1/05	6.23	5.47	360	293	0.29		0.01	0.19	<0.004	<0.0005		0.018	51	<0.01	
5/05	6.06	5.54	380	336	0.15		0.14	0.27 J	<0.004	<0.0005		0.023	56	<0.01	
10/05	6.08	5.58	380	289	0.54		0.017	2.1	<0.004	<0.0005		0.024	47	<0.01	
1/06	6.03	5.69	420	372	0.38		<0.01	1.5J	<0.004	<0.0005		<0.10B	72	<0.01	
5/06	6.12	5.70	380	316	0.48		<0.01	<2.0B	<0.004	<0.0005		0.032	51	<0.01	
9/06	6.06	5.77	380	345	0.23		0.230	<0.55B	<0.004	<0.0005		<0.01	52	<0.01	
2/07	6.24		470		0.47		0.020	0.78	<.004	<.0005		<.01	65	<.01	
5/07	6.04	5.68	380	341	0.26		<0.01	0.14	<0.004	<0.0005		0.018	61	<0.01	
5/07 (Dup.)	6.13	5.68	380	341	0.26		<0.01	<0.1	0.0044	<0.0005		0.010	61	<0.01	
9/07	6.69	6.59	360	295	0.28		<0.010	0.17	<0.0040	<0.00050		0.120	59	<0.010	
MW-29S															
5/88	8.4		2,350		1.5	0.02		28			0.64	0.08	590		
6/88	9.0	9.0	1,100	1,090	0.99		0.37	44	0.0052	<0.0015	1.52	0.094	224	0.0044	<0.005
1/95	8.3	10.0	2,900	1,750	0.79		0.07	56	<0.004	<0.01	0.37	0.12	590	<0.01	
5/97	8.3	8.43	2,200	1,735	0.6		<0.1	44	<0.004	<0.0005		0.14	410	<0.01	
5/98	8.64	8.70	1,700	1,665	0.18		<0.01	26	<0.004	<0.0005		0.09	370	<0.01	
5/99	8.35	8.37	1,300	1,090	0.22		0.021	16	<0.004	<0.0005		0.30	230	<0.01	
5/00	8.11	8.11	1,200	1,023	0.17		0.17	18	0.0057	<0.0005	0.14	0.41	130	<0.01	
5/01	7.89	7.54	1,000	828	0.16		0.16	16	<0.004	<0.0005		0.42	160	<0.01	
5/02	7.73	7.71	700	408	0.08		<0.01	10	<0.004	<0.0005		0.563	79.6	<0.01	
5/03	7.68	7.81	1,000	759	0.21		0.049	9.1	<0.004	<0.0005		0.78	110	<0.01	
5/04	7.48	7.56	1,700	1,760	0.93		0.93	8.7	<0.004	<0.0005		1.2	380	<0.01	
5/05	7.82	7.37	1,200	950	1.3		<0.01	9.7 J	<0.004	<0.0005		0.78	170	<0.01	
5/06	7.47	7.32	2,000	1,510	1.7		<0.01	15J	<0.004	<0.0005		1.7	300	<0.01	
5/07	7.56	7.63	1,000	789	6.2		<0.01	20	<0.004	<0.0005		0.5	180	<0.01	
MW-29D															
5/88	8.6		648		0.31	0.01		9.7			0.18	0.26	139		
6/88	8.1	8.0	590	570	0.25		<0.01	4.2	0.002	<0.0015	0.082	1.16	60.4	<0.0028	<0.005
1/95	7.5	8.9	650	770	0.22		0.03	3.7	<0.004	<0.01	0.09	2.0	33	<0.01	
5/97	7.7	7.9	600	479	0.18		<0.02	3.3	<0.004	<0.0005		2	31	<0.01	
5/98	7.65	7.53	550	560	0.17		<0.01	3.5	<0.004	<0.0005		1.8	28	<0.01	
5/99	7.82	7.60	550	465	0.19		0.19	3.4	<0.004	<0.0005		1.8	28	<0.01	
5/00	7.75	7.66	590	503	0.15		0.15	3.1	<0.004	<0.0005	0.12	1.9	24	<0.01	
5/01	7.55	6.82	570	489	0.15		0.15	3.1	<0.004	<0.0005		1.8	27	<0.01	
5/02	7.56	7.42	540	342	0.13		<0.01	3.6	<0.004	<0.0005		1.7	30.3	<0.01	
5/03	7.64	7.74	590	449	0.13		<0.01	3.8	<0.004	<0.0005		2.0	32	<0.01	
5/04	8.03	7.68	610	682	0.16		0.16	2.4	<0.004	<0.0005		2.0	33	<0.01	
5/05	7.77	7.47	600	530	0.15		0.14	3.9 J	<0.004	<0.0005		2.1	38	<0.01	
5/06	7.78	7.55	680	560	0.23		<0.01	2.4J	<0.004	<0.0005		2.1	39	<0.01	
5/07	7.54	7.58	660	509	0.23		<0.01	3.1	<0.004	<0.0005		2.0	45	<0.01	

Note: All results in mg/L unless otherwise noted.

J = One or more quality control criteria not met. Value considered estimated.

TABLE 4
SUMMARY OF ANALYTICAL RESULTS FOR REMEDIAL ACTION
GROUND-WATER MONITORING WELLS AND PARAMETERS
ORMET CORPORATION
HANNIBAL, OHIO

	pH (lab)	pH (field)	Specific Conductance (lab)	Specific Conductance (field)	Cyanide Total	Cyanide Free	Cyanide Amenable	Fluoride	Arsenic	Beryllium	Iron	Manganese	Sodium	Vanadium	Tetrachloroethene
MW-30															
5/86	6.6		342		0.01	<0.01		0.5			<0.01	2.10	20		
6/88	6.3	6.3	340	400	0.01		<0.01	<0.1	0.0018	<0.0015	4.42	0.753	18.7	0.0044	0.005
1/95	6.2	6.0	430	570	0.01		<0.01	<0.1	<0.004	<0.01	0.78	0.60	19	<0.01	
5/97	6.2	6.47	420	334	<0.01			<0.1	<0.004	<0.005		0.6	18	<0.01	0.012
5/98	6.19	5.70	390	418	<0.01			0.10	<0.004	<0.0005		0.68	21	<0.01	0.013
5/99	6.43	6.10	400	390	0.016		0.013	0.19	<0.004	<0.0005		0.71	21	<0.01	0.02
5/00	6.34	5.91	430	380	0.026		0.028	0.12	<0.004	<0.0005	1.5	0.70	21	<0.01	0.017
5/01	6.14	6.21	420	409	0.79		0.79	0.17	<0.004	<0.0005		0.54	19	<0.01	0.015
5/02	6.27	6.27	430	282	0.051		0.05	0.18	<0.004	<0.0005		0.434	31.2	<0.01	0.024
5/03	6.27	6.70	440	342	0.019		<0.01	0.16	<0.004	<0.0005		0.81	23	<0.01	0.028
5/04	6.61	6.27	450	512	<0.01			2.1	<0.004	<0.0005		0.50	25	<0.01	0.0065
5/05	7.16	6.16	470	427	4.5		0.96	3.1 J	<0.004	<0.0005		0.90	37	<0.01	0.012
5/06	6.86	6.13	500	428	<0.01			<2.0B	<0.004	<0.0005		0.51	26	<0.01	0.009
5/07	6.56	6.22	540	435	2.7		<0.01	7.6	0.0057	<0.0005		0.74	53	<0.01	0.016
MW-31															
5/86	9.1		1,250		12	1.5		46			84.5	3.67	380		
6/88	10.2	10.5	3,400	3,500	39		<0.01	140	0.046	<0.0015	20.3	1.93	703	0.184	0.040
2/90	10.0	9.95	2,300	2,700	4.80		3.94	110			49		660		
1/95	9.6	10.4	1,900	1,600	7.1		<0.01	89	0.027	<0.01	4.6	0.66	420	<0.02	
7/96	9.5	9.52	2,300	2,100	12	<0.020		91	0.042	0.0007		0.62		0.04	0.041
5/97	9.9	9.69	2,500	2,100	12		<0.50	110	0.04	0.0007		0.68	480	0.05	0.028
5/97 (Dup.)	9.9	9.69	2,500	2,100	6.2			93	0.038	0.0008		0.74	480	0.05	0.029
5/98	9.63	9.80	2,400	2,350	9.3		<0.01	100	0.036	0.0013		1.1	490	0.04	0.022
9/98	9.67	9.86	2,600	2,520	9.8		<0.01	120	0.044	0.0014		1.1	620	0.045	0.017
9/98 (Dup.)	9.67	9.86	2,700	2,520	9.5		<0.01	130	0.045	0.0013		1.1	600	0.043	0.020
1/99	9.72	9.97	2,500	2,240	22		0.63	120	0.047	0.0012		1.3	620	0.065	0.019
5/99	9.91	10.02	2,600	2,510	29		6.5	130	0.06	0.0014		1.2	600	0.07	0.034
9/99	9.83	10.03	2,600	2,810	30		4.3	150	0.063	0.0011		1.6	750	0.088	<0.005
1/00	9.98	9.80	2,900	2,600	24		6.3	150	0.072	0.001		1.4	650	0.120	0.028
5/00	10.1	10.10	2,900	2,400	21		1.7	140	0.096	0.0011	13	1.6	820	0.12	0.020
10/00	9.99	10.18	2,800	2,550	20		0.54	140	0.056	0.00076		1.1	480	0.079	0.043
1/01	10.1	11.21	2,100	1,900	13		1.5	110	0.056	0.001		1.3	560	0.11	0.020
5/01	9.93	10.85	2,100	1,866	12		12	77	0.046	0.0012		1.4	430	0.081	0.027
9/01	9.95	9.98	2,300	1,877	16		1.2	110	0.054	0.0014		1.4	590	0.09	0.032
1/02	9.96	10.17	2,400	1,720	13		1.6	110	0.0493	0.00116		1.46	406	0.0968	0.017
1/02 (Dup.)	9.97	10.17	2,400	1,720	13		2.8	110	0.0519	0.00148		1.98	400	0.106	0.020
5/02	9.91	9.95	1,900	1,651	14		<0.50	91	0.0628	0.00105		1.0	395	0.0691	0.017
9/02	9.80	10.02	1,520	1,991	11.3		3.55	91	0.056	0.000982		1.21	357	0.0698	0.0234
9/02 (Dup.)	9.79	10.02	2,150	1,991	14.7		2.70	92.6	0.0592	0.00106		1.30	356	0.0694	0.0232
1/03	9.87	9.93	2,090	2,270	13.6		<0.5	99.5	0.0745	0.00181		1.47	472	0.0797	0.0323
1/03 (Dup.)	9.88	9.93	2,140	2,270	14		1.41	102	0.0706	0.00146		1.16	438	0.0664	0.029
5/03	9.69	10.00	1,800	1,310	15		4.1	80	0.038	0.001		0.99	330	0.064	0.022
9/03	9.69	9.81	1,800	1,648	12		7.7	91	0.046	0.001		1.3	410	0.074	0.032
1/04	9.55	9.83	2,300	1,375	12		1.3	85	0.033	0.00084		1.2	380	0.062	0.045
1/04 (Dup.)	9.55	9.83	2,300	1,375	13		1.3	82	0.027	0.00097		1.2	380	0.063	0.043
5/04	9.72	9.85	1,700	1,281	15		1.6	71	0.044	0.0015		1.5	570	0.078	0.025
9/04	9.50	9.81	1,800	1,215	15		<0.01	81	0.044	0.0018		1.6	400	0.087	0.041
9/04 (Dup.)	9.52	9.81	1,800	1,215	15		<0.01	95	0.044	0.0019		1.7	410	0.093	0.043
1/05	9.73	9.79	1,600	1,383	12		1.7	88	0.054	0.0018		1.8	350	0.099	0.034
1/05 (Dup.)	9.76	9.79	1,600	1,383	13		1.8	82	0.054	0.0017		1.8	340	0.096	0.029
5/05	9.65	9.68	1,700	1,519	16		0.21	86 J	0.057	0.0024		2.3	430	0.12	0.036
10/05	9.68	9.78	2,100	1,674	22		3.9	86	0.07	0.0031		3.1	440	0.16	0.038
10/05 (Dup.)	9.68	9.78	1,900	1,674	23		8.6	90	0.066	0.003		3.0	440	0.16	0.039
1/06	9.77	7.64	1,700	1,427	8.3		1.2	70J	0.06	0.0022J		2.3	370	0.12	0.030
1/06 (Dup.)	9.81	7.64	1,700	1,427	7.8		2.5	66J	0.061	0.0038J		2.2	360	0.12	0.028
5/06	9.82	9.98	1,600	1,291	9.7		<0.01	84J	0.05	0.0016		2.2	350	0.1	0.025
9/06	9.82	9.91	1,700	1,417	12		3.4	63	0.045	0.0006		0.6	360	0.048	0.026
9/06 (Dup.)	9.82	9.91	1,700	1,417	12		12	55	0.05	0.0013		1	390	0.071	0.027
2/07	9.72		1,600		6.8		1.5	42	0.034	<.0005		0.59	330	0.036	0.048
5/07	9.59	9.66	1,400	1,120	11		0.066	81	0.049	0.0016		1.5	320	0.082	0.063
9/07	9.62	9.93	1,300	1,104	8.6		0.16	62	0.043	0.00089		1.2	310	0.063	0.09
9/07 (Dup.)	9.62		1,400		8.1		<0.010	61	0.044	0.00086		1.2	310	0.064	0.089

Note: All results in mg/L unless otherwise noted.

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TABLE 4
SUMMARY OF ANALYTICAL RESULTS FOR REMEDIAL ACTION
GROUND-WATER MONITORING WELLS AND PARAMETERS
ORMET CORPORATION
HANNIBAL, OHIO

	pH (lab)	pH (field)	Specific Conductance (lab)	Specific Conductance (field)	Cyanide Total	Cyanide Free	Cyanide Amenable	Fluoride	Arsenic	Beryllium	Iron	Manganese	Sodium	Vanadium	Tetrachloroethene
MW-32															
5/86	10.5		6430		97	18		369			27.4	0.69	2120		
7/88	9.2	9.3	890	1,040	7.2		0.30	39	0.014	<0.0015	4.05	0.513	234	0.024	<0.005
1/95	9.4	9.4	1,300	630	12		3.6	47	0.014	<0.01	2.7	0.37	230	0.03	
7/96	8.6	8.89	1,000	1,038	6.9	<0.020		29	0.011	<0.0005		0.84		0.01	
5/97	8.7	8.71	930	697	4.4		1.3	19	0.008	<0.0005		1.1	110	<0.01	
5/98	8.03	8.10	630	697	2.5		0.34	7.7	<0.004	<0.0005		1.9	61	<0.01	
5/98 (Dup.)	8.05	8.10	690	697	2.5		0.09	8.0	<0.004	<0.0005		2.0	68	<0.01	
9/98	8.30	8.28	760	760	4.5		1.0	13	<0.004	<0.0005		1.8	76	<0.01	
1/99	8.39	8.00	710	650	3.1		<0.02	13	<0.004	<0.0005		1.7	77	<0.01	
1/99 (Dup.)	8.39	8.00	720	650	3.7		<0.02	13	<0.004	<0.0005		1.7	76	<0.01	
5/99	8.38	8.50	690	555	4.4		0.59	12	<0.004	<0.0005		2.0	78	<0.01	
9/99	9.84	10.01	2,200	2,300	18		1.8	120	0.057	0.0014		2.2	520	0.093	
1/00	8.93	8.28	950	770	4.8		0.57	27	0.017	<0.0005		1.9	97	0.024	
5/00	8.80	8.95	830	858	3.9		<0.01	19	0.013	<0.0005	3.1	1.6	70	<0.01	
10/00	9.75	9.98	1,500	1,227	8.3		0.76	70	0.051	0.00099		1.6	290	0.058	
1/01	8.46	9.24	740	675	4.3		0.82	13	0.004	<0.0005		2.0	95	<0.01	
5/01	8.51	8.84	790	624	4.9		4.9	17	0.0054	<0.0005		2.1	94	0.012	
9/01	8.69	8.74	720	606	4.9		0.53	99	0.0088	<0.0005		1.9	110	0.011	
1/02	8.45	8.69	770	627	4.3		2.4	14	0.0047	<0.0005		1.68	98.1	<0.01	
5/02	8.75	8.72	850	543	6.9		<0.25	28	0.0293	<0.0005		1.83	134	0.0107	
9/02	8.73	9.02	940	869	6.13		0.55	25.4	0.0299	<0.0005		1.60	101	0.0122	
1/03	8.35	7.70	747	768	4.41		0.11	13	0.00403	<0.0005		1.91	93.1	<0.01	
5/03	8.31	8.47	820	816	3.6		<0.01	21	0.010	<0.0005		2.2	82	<0.01	
9/03	8.67	8.88	920	745	5.9		1.4	32	0.013	<0.0005		1.7	130	0.011	
1/04	8.54	8.77	790	588	5.2		2.0	21	0.0082	<0.0005		1.7	99	<0.01	
5/04	9.43	9.76	1,200	872	5.2		0.38	49	0.034	0.00084		1.1	360	0.054	
9/04	9.72	10.03	1,600	1,100	13		<0.01	90	0.091	0.0026		2.6	360	0.16	
1/05	9.96	9.96	1,600	1,372	17		2.1	70	0.1	0.0028		3.8	330	0.17	
5/05	9.98	9.76	1,600	1,474	15		1.0	95 J	0.11	0.0027		4.3	370	0.19	
10/05	9.99	10.05	1,600	1,444	14		1.1	83	0.1	0.0042		4.9	380	0.24	
1/06	9.97	7.68	1,600	1,332	9.4		1.1	52J	0.065	0.003J		3.2	330	0.14	
5/06	9.93	10.16	1,500	1,300	16		1.4	50J	0.049	0.0021		3.3	350	0.11	
9/06	10.03	10.08	1,700	1,395	12		12.0	60	0.059	0.0012		1.5	350	0.1	
2/07	10.03		1,700		9.7		0.3	69	0.059	0.00078		1.8	340	0.095	
5/07	9.93	9.96	1,400	1,211	11		11.0	69	0.063	0.0018		3.1	340	0.12	
9/07	10.00		1,500		6.5		0.0	64	0.060	0.00098		1.9	341	0.1	
9/07 (Dup.)	10.01		1,500		7		0.3	63	0.053	0.00095		1.8	330	0.1	
MW-34S															
5/86	7.4		668		0.13	<0.01		9.4			0.07	0.42	64		
7/88	7.2	7.2	690	670	40		38	7.3	0.0087	<0.0015	14.6	0.416	33.1	0.018	<0.005
2/90	7.4	6.93	690	740	0.113		0.26	6.5			21		49		
1/95	7.2	7.1	700	430	0.03		<0.01	7.3	<0.004	<0.01	0.18	0.01	35	<0.01	
5/97	7.4	7.43	710	579	0.18		0.04	8.1	<0.004	<0.0005		0.04	69	<0.01	
5/98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/99	7.34	7.55	650	505	0.19		<0.01	6.8	<0.004	<0.0005		0.014	46	<0.01	
5/00	7.60	7.46	740	607	1.1		1.1	11	<0.004	<0.0005	1.2	0.044	83	<0.01	
5/01	7.71	7.34	670	537	0.12		0.12	8.6	0.025	0.0019		2.9	50	0.054	
5/02	7.90	7.98	920	457	0.064		<0.01	49	0.0367	0.00246		2.12	172	0.072	
5/03	7.36	7.63	700	520	0.14		0.012	13	<0.004	<0.0005		0.055	52	<0.01	
5/04	8.08	8.21	950	729	0.38		0.26	41	0.0043	<0.0005		0.068	270	0.01	
5/05	8.63	8.51	1,700	1,673	9.1		0.21	130 J	0.028	0.0038		0.8	520	0.074	
5/06	8.59	8.75	1,600	1,358	6.4		0.47	68J	0.012	0.0021		0.51	380	0.036	
5/07	8.26	8.14	1,100	831	5.8		0.37	32	0.011	0.0007		0.38	250	0.02	
MW-34D															
5/86	7.3		602		0.05	<0.01		10.2			0.02	0.55	42		
7/88	7.4	7.4	560	580	0.07		<0.01	4.4	0.0031	<0.0015	0.538	0.762	32.4	<0.0026	<0.005
1/95	7.3	7.4	640	400	0.07		0.07	4.2	<0.004	<0.01	<0.04	0.82	34	<0.01	
5/97	7.4	7.43	630	492	0.05		<0.01	3.6	<0.004	<0.0005		0.79	31	<0.01	
5/98	7.37	7.23	590	595	0.09		0.01	3.9	<0.004	<0.0005		0.68	35	<0.01	
5/99	7.40	7.52	470	475	0.062		<0.01	3.6	<0.004	<0.0005		0.72	29	<0.01	
5/00	7.65	7.37	620	519	0.063		0.063	4.2	<0.004	<0.0005	0.14	0.76	28	<0.01	
5/01	8.00	7.16	600	453	0.13		0.13	3.9	<0.004	<0.0005		0.70	30	<0.01	
5/02	7.38	7.37	560	298	0.059		0.022	4.6	<0.004	<0.0005		0.68	32.9	<0.01	
5/03	7.38	7.52	630	470	0.047		<0.01	4.4	0.0041	<0.0005		0.58	31	<0.01	
5/04	7.44	7.35	660	505	0.45		0.37	6.0	<0.004	<0.0005		<0.01	83	<0.01	
5/05	7.83	7.36	1000	653	10		0.14	24 J	<0.004	<0.0005		0.12	190	<0.01	
5/06	7.80	7.77	910	760	7.5		1.8	23J	<0.004	<0.0005		0.26	170	<0.01	
5/07	8.10	7.95	1,000	799	2.6		<0.01	31	0.0066	0.00055		0.34	230	0.018	

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ORMET CORPORATION
HANNIBAL, OHIO

	pH (lab)	pH (field)	Specific Conductance (lab)	Specific Conductance (field)	Cyanide Total	Cyanide Free	Cyanide Amenable	Fluoride	Arsenic	Beryllium	Iron	Manganese	Sodium	Vanadium	Tetrachloroethene
MW-35															
5/86	10.2		8,430		240	38		358			125	1.76	2,070		
7/88	10.2	10.4	6,100	6,150	43		41	400	0.147	0.002	56.5	0.337	1,630	0.053	<0.005
2/90	9.6	9.7	1,500	1,540	8.0		<0.005	71			20		350		
1/95	9.5	9.7	1,200	562	16		<0.01	35	0.018	<0.01	11	0.43	220	<0.01	
7/96	9.5	9.5	1,700	1,851	6.0	0.040		71	0.028	0.0006		0.5		0.03	
5/97	9.4	9.47	1,000	900	16		<1.0	40	0.02	0.0006		0.68	220	0.02	
5/98	8.93	9.10	710	766	15		2.9	27	0.012	<0.0005		0.92	140	0.01	
9/98	8.97	8.90	650	778	16		0.99	26	0.01	<0.0005		0.88	130	<0.01	
1/99	9.28	9.15	820	925	23		2.9	40	0.019	<0.0005		0.81	190	0.016	
5/99	9.35	9.70	830	870	28		10	38	0.013	<0.0005		0.86	160	0.015	
9/99	9.18	9.60	790	930	18		2.0	34	0.012	<0.0005		0.53	170	0.05	
1/00	8.91	8.15	610	500	13		3.3	21	0.0077	<0.0005		0.47	94	0.068	
5/00	9.07	9.24	690	693	27		20	28	0.081	<0.0005	5.2	0.48	69	0.077	
10/00	8.76	8.84	520	470	7.3		0.59	17	0.0076	<0.0005		0.57	81	0.11	
1/01	8.86	9.59	530	549	10		3.1	19	0.008	<0.0005		0.50	89	0.075	
5/01	9.17	9.43	800	790	17		2.6	35	0.013	<0.0005		0.48	130	0.04	
9/01	9.26	9.03	820	749	15		<0.5	41	0.0097	<0.0005		0.48	120	0.062	
1/02	9.24	9.44	850	862	14		2.1	41	0.0106	<0.0005		0.511	129	0.0659	
5/02	9.03	9.21	600	528	24		7.4	27	0.0347	0.000537		0.576	172	0.0365	
9/02	8.60	9.33	542	733	8.96		1.21	17.5	0.0254	<0.0005		0.435	70.3	0.0259	
1/03	8.85	8.94	579	621	10.8		<0.5	23.6	0.00733	<0.0005		0.449	72.4	0.0255	
5/03	8.87	9.05	660	466	6.6		<0.01	31	0.0099	<0.0005		0.52	76	0.025	
9/03	8.46	8.57	540	437	6.4		1.1	23	0.0098	<0.0005		0.52	53	0.016	
1/04	8.12	8.32	480	335	5.5		2.4	15	0.0046	<0.0005		0.68	49	0.015	
5/04	8.50	8.60	550	401	6.6		<0.01	22	0.011	<0.0005		0.63	120	0.017	
9/04	8.04	8.20	430	305	5.5		2.9	7.5	0.0096	<0.0005		0.61	48	<0.01	
1/05	8.66	8.65	540	529	12		2.3	18	0.011	<0.0005		0.72	76	0.011	
5/05	8.45	8.08	480	467	7.9		4.1	15 J	0.012	<0.0005		0.86	75	0.014	
10/05	8.54	8.62	610	514	15		2.4	33	0.011	<0.0005		0.88	81	0.015	
1/06	8.18	7.25	530	453	7.9		1.6	12J	0.0096	<0.0005		0.92	62	0.01	
5/06	9.51	9.78	1,300	1,222	16		<0.01	90J	0.028	0.0008		0.71	230	0.028	
9/06	9.16	8.78	860	568	32		32.00	27	0.013	<0.0005		0.82	100	0.015	
2/07	9.49		1,200		22		<.01	45	0.014	<.0005		0.61	120	<.01	
5/07	8.61	7.79	700	369	22		0.86	22	0.027	0.00059		0.74	180	0.023	
9/07	9.18	9.39	800	592	14		<0.010	32	0.016	<0.00050		0.79	150	<0.010	
MW-36															
5/86	9.7		2,700		25	1.4		97			39.5	1.13	760		
7/88	8.9	9.6	940	1,255	8.6		1.3	18	0.0078	<0.0015	3.52	0.332	161	0.0063	<0.005
1/95	9.8	9.7	3,500	1,350	18		<0.01	160	0.034	<0.01	8.7	0.83	770	0.07	
7/96	9.6	9.55	3,300	3,280	8.1	<0.020		160	0.058	0.0021		0.67		0.07	
5/97	9.8	9.64	3,600	3,290	9.2		3.5	180	0.084	0.0035		1.7	850	0.1	
5/98	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
9/98	9.90	10.10	4,500	4,380	6.5		0.03	230	0.11	0.0036		1.4	990	0.074	
1/99	9.76	10.20	3,500	3,300	41		1.2	190	0.076	0.0036		1.5	820	0.072	
5/99	10.10	10.40	2,500	2,260	19		4.4	150	0.12	0.0019		1.3	600	0.12	
9/99	10.10	10.10	1,800	1,790	6.2		0.69	93	0.059	0.00055		1.2	420	0.067	
9/99 (Dup.)	10.10	10.10	1,800	1,790	6.3		<0.5	96	0.061	0.00062		1.2	450	0.07	
1/00	10.2	9.80	1,600	1,450	3.9		0.51	80	0.072	<0.0005		0.70	290	0.082	
5/00	10.2	10.42	1,200	1,272	1.6		<0.01	50	0.03	<0.0005	4.0	0.54	150	0.03	
10/00	9.84	10.05	1,200	1,043	4.9		<0.01	41	0.024	0.00061		1.6	210	0.033	
1/01	9.79	11.00	1,700	1,567	12		2.0	89	0.027	0.0018		1.4	450	0.049	
5/01	9.87	10.28	1,100	1,109	3.0		3.0	49	0.029	0.00054		0.68	220	0.045	
9/01	9.80	9.75	1,100	960	2.7		<0.25	44	0.018	0.00053		0.59	210	0.026	
1/02	9.57	9.83	1,800	1,691	14		<0.01	120	0.0209	0.00205		1.0	310	0.0413	
5/02	9.61	9.61	1,800	1,286	16		4.6	98	0.0336	0.0018		1.15	381	0.0216	
9/02	9.55	9.80	1,400	1,304	4.14		<0.01	52	0.0217	0.000709		1.07	219	<0.01	
1/03	9.65	9.65	2,120	2,130	23.7		1.35	119	0.0711	0.0033		1.37	446	0.0791	
5/03	9.51	9.80	2,000	1,422	9.3		<0.01	120	0.049	0.0027		1.7	380	0.091	
9/03	9.50	9.56	1,500	1,252	6.2		0.74	110	0.046	<0.0005		0.75	290	0.038	
1/04	9.54	9.79	2,000	1,350	9.5		2.7	93	0.048	0.0013		0.81	350	0.077	
5/04	9.39	9.64	2,000	1,393	13		<0.01	120	0.043	0.0022		0.96	610	0.05	
9/04	9.63	9.82	1,000	701	4.9		2.3	52	0.047	0.00077		0.56	220	0.05	
1/05	9.69	9.61	860	750	3.4		0.69	33	0.026	0.00068		0.44	170	0.03	
5/05	9.66	9.44	800	774	1.8		0.53	30 J	0.02	0.0007		0.41	180	0.029	
10/05	9.44	9.50	1,000	764	12		2.3	28	0.02	<0.0005		0.28	180	0.02	
1/06	9.32	7.52	1,100	970	12		4.4	36J	0.02	0.0018		0.81	230	0.058	
5/06	9.17	9.31	1,000	878	3.8		0.15	38J	0.0068	<0.0005		0.41	220	0.016	
9/06	9.32	9.25	870	737	9.7		9.6	22	0.0059	<0.0005		0.026	170	<0.010	
2/07	9.07		940		12		<.01	22	<.004	<.0005		0.082	180	<.01	
5/07	8.9	8.8	790	666	10		0.86	32	0.0071	<0.0005		0.18	180	<0.01	
9/07	9.07		560		0.55		<0.010	20	0.0065	<0.00050		0.16	120	0.013	

Note: All results in mg/L unless otherwise noted.

J = One or more quality control criteria not met. Value considered estimated.

TABLE 4
SUMMARY OF ANALYTICAL RESULTS FOR REMEDIAL ACTION
GROUND-WATER MONITORING WELLS AND PARAMETERS
ORMET CORPORATION
HANNIBAL, OHIO

	pH (lab)	pH (field)	Specific Conductance (lab)	Specific Conductance (field)	Cyanide Total	Cyanide Free	Cyanide Amenable	Fluoride	Arsenic	Beryllium	Iron	Manganese	Sodium	Vanadium	Tetrachloroethene
MW-37															
5/86	10.1		7,340		97	8.2		890			498	46.3	1,800		
7/88	9.9	9.8	5,600	5,500	0.30		<0.01	1000	0.169	0.035	115	15.4	1,470	0.369	<0.005
2/90	9.6	9.65	2,700	3,100	4.6		22.7	360			1000		970		
1/95	9.1	9.2	1,200	970	18		<0.01	87	0.033	<0.01	8.5	0.58	280	0.01	
7/96	9.1	8.89	570	832	14	<0.020		45	0.042	0.0005		0.51		0.03	
5/97	9.2	9.07	1,100	846	13		1.7	53	0.027	<0.0005		0.56	210	0.02	
5/98	8.57	8.30	530	505	6.4		<0.01	6.8	0.018	<0.0005		0.28	120	0.02	
9/98	8.90	8.26	670	682	15		5.5	52	0.020	<0.0005		0.53	140	0.017	
1/99	9.02	9.25	660	750	19		<0.10	25	0.02	<0.0005		0.68	140	0.029	
5/99	9.39	9.45	610	540	11		3.6	22	0.023	<0.0005		0.23	130	0.016	
9/99	8.78	8.91	760	753	7.9		0.91	31	0.01	<0.0005		0.33	170	<0.01	
1/00	8.83	8.40	860	822	10		2.2	32	0.011	<0.0005		0.49	110	<0.01	
5/00	8.51	8.89	770	765	5.2		0.93	32	0.015	<0.0005	9.0	0.72	92	<0.01	
10/00	8.39	8.46	750	830	6.6		<0.01	17	0.0089	<0.0005		0.61	79	<0.01	
1/01	8.42	8.99	780	878	8.8		2.7	29	0.02	0.00088		1.5	160	0.035	
5/01	7.89	7.97	650	528	7.9		<0.01	10	0.018	0.00075		2.0	110	0.026	
9/01	7.84	7.54	680	590	5.6		<0.5	21	0.0042	<0.0005		3.0	110	0.011	
1/02	7.83	8.06	700	570	5.9		0.58	20	0.014	0.00113		3.12	129	0.0355	
5/02	8.15	8.05	610	406	5.0		<0.20	18	0.139	0.0169		14.8	141	0.273	
9/02	7.87	7.59	679	601	5.09		0.65	16.7	<0.004	<0.0005		<0.005	0.975	<0.01	
1/03	7.63	7.89	569	608	5.52		0.83	14.4	<0.004	<0.0005		2.48	107	<0.01	
5/03	7.25	7.50	440	342	6.3		0.093	9.8	0.0061	<0.0005		4.2	53	0.014	
9/03	6.89	7.31	520	444	2.4		0.093	14	0.01	0.0005		4.8	83	0.028	
1/04	7.06	7.34	570	422	1.7		0.72	17	<0.004	<0.0005		3.2	82	0.012	
5/04	7.34	7.01	460	365	2.5		0.66	14	0.0055	<0.0005		2.8	110	0.012	
9/04	6.58	6.60	520	367	4.1		2.0	8.8	0.0055	<0.0005		2.1	85	<0.01	
1/05	6.90	6.39	420	370	2.6		1.0	8.7	<0.004	<0.0005		1.9	59	<0.01	
5/05	6.92	6.51	420	374	3.0		0.068	9.5 J	0.012	0.0016		1.7	72	0.045	
10/05	6.82	6.60	630	512	5.8		0.58	17	0.013	0.0014		0.88	100	0.042	
1/06	7.96	7.14	550	463	7.7		2.8	6.3J	0.016	0.0015J		1.6	80	0.043	
5/06	7.00	6.56	570	476	4.0		0.9	8.4J	0.0088	0.00081		0.56	94	0.025	
9/06	6.91	6.53	490	414	2.4		2.4	7.3	<0.004	0.0005		0.60	74	<0.010	
2/07	7.22		500		2.1		<.01	12	0.0090	0.00085		1.70	54	0.03	
5/07	6.85	6.24	310	275	0.9		0.0	3.9	0.0087	<0.0005		0.19	40	0.011	
9/07	7.09	6.88	310	267	1.6		0.2	3.9	<0.0040	<0.00050		0.22	46	0.012	
MW-39S															
5/86	9.5		8,360		11	2.9		244			25.0	1.35	2780		
6/88	9.3	9.1	3,500	2,550	3.8		0.10	110	0.016	<0.0015	36.6	1.83	826	0.053	<0.005
1/95	8.9	8.7	2,700	900	0.84		<0.01	59	<0.004	<0.01	0.36	0.22	520	<0.01	
5/97	8.9	9.2	5,500	5,500	3.6		<0.2	150	0.009	<0.0005		0.15	1300	<0.01	
5/98	9.04	9.09	4,000	4,000	2.3		<0.01	98	0.009	<0.0005		0.11	700	<0.01	
5/99	9.05	9.30	4,300	3,620	3.4		0.24	120	0.0096	<0.0005		0.12	950	<0.01	
5/99 (Dup.)	9.05	9.30	4,200	3,620	3.6		0.89	120	0.009	<0.0005		0.11	1,100	<0.01	
5/00	9.18	9.19	4,500	3,870	3.5		3.5	110	0.013	<0.0005	2.3	0.097	1,100	<0.01	
5/01	8.91	9.38	3,700	2,820	2.0		0.86	97	0.011	<0.005		0.22	880	0.015	
5/02	9.06	9.01	4,200	2,420	4.6		0.55	130	0.0311	0.000859		0.269	1,070	0.0244	
5/03	8.95	9.20	3,800	4,120	3.1		<0.01	140	0.012	<0.0005		0.15	800	0.013	
5/04	9.28	9.46	3,400	5,040	8.5		0.76	150	0.016	<0.0005		0.19	2,000	0.015	
5/05	9.24	9.14	4,800	4,440	7.9		0.025	190 J	0.014	<0.0005		0.15	1,200	<0.01	
5/06	8.96	9.24	4,400	3,530	7.2		2.4	130J	0.011	<0.0005		0.21	940	0.017	
5/07	9.08	9.22	4,000	3,380	5.7		0.069	180	0.012	<0.0005		0.11	950	<0.01	
9/07	9.12	9.55	3,300	2,810	3.2		<0.010	120	0.015	<0.00050		0.16	750	0.01	
MW-39D															
5/86	8.1		627		0.21	0.02		7.4			0.14	0.54	103		
6/88	7.9	7.8	590	595	0.17		0.03	6.1	0.0021	<0.0015	0.36	0.681	53.9	<0.0026	<0.005
1/95	7.5	7.6	630	410	0.07		<0.01	3.9	<0.004	<0.01	0.06	0.87	36	<0.01	
5/97	7.5	7.66	630	457	0.06		0.06	3.8	<0.004	<0.0005		0.87	32	<0.01	
5/98	7.52	7.35	590	560	0.04		<0.01	3.6	<0.004	<0.0005		0.77	34	<0.01	
5/99	7.59	7.64	540	447	0.037		<0.01	3.4	<0.004	<0.0005		0.87	33	<0.01	
5/00	7.68	7.60	580	503	0.027		0.027	3.2	<0.004	<0.0005	0.13	0.90	29	<0.01	
5/01	7.50	7.63	550	423	0.024		0.024	3.1	<0.004	<0.0005		0.78	32	<0.01	
5/02	7.61	7.56	510	301	0.026		<0.01	3.7	<0.004	<0.0005		0.785	32.3	<0.01	
5/03	7.60	7.78	580	430	0.033		<0.01	4.0	<0.004	<0.0005		0.93	33	<0.01	
5/04	7.57	7.66	590	649	0.024		0.024	4.2	<0.004	<0.0005		1.0	33	<0.01	
5/05	7.63	7.25	2,600	2,510	4.2		0.017	15 J	<0.004	<0.0005		2.6	650	<0.01	
5/06	7.63	7.62	860	720	0.32		<0.01	9.0J	<0.004	<0.0005		0.94	110	<0.01	
5/07	7.42	7.27	1,200	829	0.74		0.012	4.3	<0.004	<0.0005		1.90	150	<0.01	

Note: All results in mg/L unless otherwise noted.

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GROUND-WATER MONITORING WELLS AND PARAMETERS
ORMET CORPORATION
HANNIBAL, OHIO

	pH (lab)	pH (field)	Specific Conductance (lab)	Specific Conductance (field)	Cyanide Total	Cyanide Free	Cyanide Amenable	Fluoride	Arsenic	Beryllium	Iron	Manganese	Sodium	Vanadium	Tetrachloroethene
MW-40S															
5/86	8.9		2,550		1.7	0.03		28			12.8	0.49	650		
6/88	9.2	9.2	2,100	2,200	1.5		<0.01	5.9	0.018	<0.0015	1.89	0.139	445	0.0056	<0.005
1/95	7.9	7.9	2,500	1,600	0.87		<0.01	40	<0.004	<0.01	0.36	0.33	470	<0.01	
5/97	7.9	8.07	1,900	1,417	0.72		0.40	21	<0.004	<0.0005		0.66	380	<0.01	
5/98	8.2	8.18	1,400	1,335	0.36		<0.01	39	<0.004	<0.0005		0.13	270	<0.01	
5/99	8.50	8.83	1,300	1,100	0.32		<0.01	30	<0.004	<0.0005		0.11	250	<0.01	
5/00	8.08	8.04	1,100	900	0.25		0.25	14	<0.004	<0.0005	0.19	0.42	110	<0.01	
5/01	8.10	7.61	950	693	0.25		0.25	13	<0.004	<0.0005		0.57	140	<0.01	
5/02	7.89	7.91	720	543	0.20		0.17	14	<0.004	<0.0005		0.0577	147	<0.01	
5/03	7.85	7.98	1,400	1,042	0.58		0.02	21	<0.004	<0.0005		0.64	200	<0.01	
5/04	7.86	7.83	1,200	855	0.61		0.017	9.2	<0.004	<0.0005		0.84	220	<0.01	
5/05	7.76	7.51	960	804	0.24		<0.01	7.3 J	<0.004	<0.0005		1.1	160	<0.01	
5/06	7.95	7.82	1,000	831	10		2.9	21J	<0.004	<0.0005		0.4	170	<0.01	
5/07	7.95	8.01	1,100	823	7		<0.01	44	0.0074	0.00068		0.57	230	0.016	
MW-40D															
5/86	9.4		1,120		7.4	0.06		20			11.7	0.62	280		
6/88	9.4	9.4	1,200	1,290	7.0		<0.01	36	0.018	<0.0015	7.81	0.454	258	0.012	<0.005
1/95	7.6	7.7	2,000	1,375	0.70		<0.01	16	<0.004	<0.01	0.29	0.74	340	<0.01	
5/97	7.6	7.9	1,800	1,350	0.59		<0.1	7.6	<0.004	<0.0005		1.3	340	<0.01	
5/98	7.85	7.73	1,300	1,250	0.49		0.47	19	<0.004	<0.0005		0.36	250	<0.01	
5/99	7.99	8.25	920	745	0.16		0.16	12	<0.004	<0.0005		0.42	150	<0.01	
5/00	7.88	7.84	960	810	0.25		0.25	11	<0.004	<0.0005	0.16	0.69	97	<0.01	
5/01	8.01	7.45	790	611	0.15		0.15	8.6	<0.004	<0.0005		0.90	78	<0.01	
5/02	7.68	7.73	600	450	0.10		<0.01	7.7	<0.004	<0.0005		1.14	79.4	<0.01	
5/03	7.65	7.9	1,000	739	0.13		<0.01	9.6	<0.004	<0.0005		1.2	86	<0.01	
5/04	7.69	7.79	820	595	0.11		0.012	11	<0.004	<0.0005		0.9	120	<0.01	
5/05	7.89	7.56	1,000	849	0.68		0.034	4.9 J	<0.004	<0.0005		0.73	140	<0.01	
5/06	7.91	7.82	1,100	915	6.6		0.15	11J	<0.004	<0.0005		0.98	180	<0.01	
5/07	7.76	7.76	1,000	738	4.1		<0.01	17	<0.004	<0.0005		0.94	180	<0.01	
MW-41															
1/95	6.6	8.2	490	600	0.04		0.02	0.2	0.017	<0.01	8.9	1.3	22	<0.01	
5/97	6.8	6.98	490	357	<0.01			0.20	0.022	<0.0005		1.6	21	<0.01	
5/98	6.67	6.74	420	449	<0.01			0.30	0.016	<0.0005		1.3	21	<0.01	
5/99	6.79	6.80	420	370	<0.01			0.33	0.014	<0.0005		1.1	20	<0.01	
5/00	6.79	6.96	430	424	<0.01			0.25	0.016	<0.0005	9.2	1.1	17	<0.01	
5/01	6.70	7.00	450	421	<0.01			0.34	0.015	<0.0005		1.0	19	<0.01	
5/02	7.01	7.10	430	377	<0.01			0.24	0.0135	<0.0005		0.938	22.9	<0.01	
5/03	6.87	6.83	460	372	<0.01			0.28	0.016	<0.0005		1.1	23	<0.01	
5/04	6.85	6.85	450	361	<0.01			0.45	0.017	<0.0005		1.1	26	<0.01	
5/07	6.79	6.89	430	339	<0.01			0.23	0.015	<0.0005		1.3	22	<0.01	
MW-42S															
6/88	8.0	8.4	930	870	0.70		0.25	14.0	0.002	<0.0015	0.232	0.237	143	0.0027	<0.005
2/90	8.4	8.25	2,100	2,400	0.266		0.079	35.0			0.88		520		
1/95	8.2	8.4	1,600	765	0.45		<0.01	22	<0.004	<0.01	0.2	0.35	280	<0.01	
5/97	8.2	8.57	1,700	1,350	0.56		<0.02	29	<0.004	<0.0005		0.33	300	<0.01	
5/98	8.26	8.46	1,400	1,460	0.52		<0.01	27	<0.004	<0.0005		0.37	270	<0.01	
5/99	8.19	8.54	1,500	1,100	0.54		0.033	26	<0.004	<0.0005		0.49	260	<0.01	
5/00	8.19	8.18	1,900	1,530	0.66		0.66	28	<0.004	<0.0005	0.39	0.65	280	<0.01	
5/01	8.03	8.03	1,700	1,208	0.51		0.062	23	<0.004	<0.0005		0.84	300	<0.01	
5/02	8.20	8.15	1,900	859	0.52		<0.02	37	<0.004	<0.0005		0.603	475	<0.01	
5/03	8.25	7.32	2,300	1,721	0.94		0.14	51	<0.004	<0.0005		0.41	430	<0.01	
5/04	8.29	8.37	4,500	4,040	3.1		<0.01	74	0.0068	<0.0005		0.38	1,500	<0.01	
5/05	8.30	8.10	2,700	3,110	4.0		0.068	69 J	<0.004	<0.0005		1.2	580	<0.01	
5/06	8.58	7.80	4,400	1,737	3.8		0.13	100J	0.0065	<0.0005		0.23	930	<0.01	
5/07	8.36	8.49	2,600	1,601	1.8		<0.01	39	<0.004	<0.0005		0.2	560	<0.01	
MW-42D															
6/88	7.9	8.1	550	600	0.16		<0.01	6.0	0.0026	<0.0015	1.11	0.636	66.6	0.0028	<0.005
1/95	7.5	7.7	640	410	0.04		<0.01	3.6	<0.004	<0.01	0.08	1.5	31	<0.01	
5/97	7.6	7.99	580	468	0.04		<0.01	3.2	<0.004	<0.0005		1.3	27	<0.01	
5/98	7.54	7.64	550	535	0.07		0.01	3.3	<0.008	<0.0005		1.2	26	<0.01	
5/99	7.56	7.83	530	435	0.03		<0.01	3.4	<0.004	<0.0005		1.3	26	<0.01	
5/00	7.73	7.74	580	490	0.027		0.027	3.0	<0.004	<0.0005	0.053	1.3	24	<0.01	
5/01	7.53	7.68	550	462	0.023		0.023	3.1	<0.004	<0.0005		1.3	32	<0.01	
5/02	7.57	7.60	530	316	0.021		<0.01	3.0	<0.004	<0.0005		1.17	29.5	<0.01	
5/03	7.57	7.21	600	461	0.017		0.017	4.0	<0.004	<0.0005		1.4	34	<0.01	
5/04	7.66	7.70	1,700	1,899	0.65		0.65	9.6	<0.004	<0.0005		1.6	430	<0.01	
5/05	7.87	7.53	2,100	1,844	1.6		0.017	11 J	0.0073	<0.0005		0.35	810	<0.01	
5/06	7.73	7.80	2,000	1,737	2.7		0.92	10.0J	<0.004	<0.0005		1.2	450	<0.01	
5/07	7.81	7.68	1,200	832	0.63		<0.01	9.2	<0.004	<0.0005		0.9	220	<0.01	

Note: All results in mg/L unless otherwise noted.

J = One or more quality control criteria not met. Value considered estimated.

TABLE 5

SUMMARY OF ANALYTICAL RESULTS FOR PCBS

ORMET CORPORATION

HANNIBAL, OHIO

	MV-12																
	5/15/02	10/01/02	1/15/03	5/22/03	9/11/03	1/13/04	5/11/04	9/28/04	1/18/05	5/19/05	10/6/05	1/18/06	5/18/06	9/18/06	2/26/07	5/17/07	9/6/07
Aroclor-1016	<0.52	<0.521	<0.5	<0.5	<0.5/<0.5	<0.52/<0.52	<0.5	<0.51/<0.53	<0.51/<0.5	<0.5	<0.5/<0.5	<0.5/<0.5	<0.5	---	<0.5	<0.5	---
Aroclor-1221	<0.52	<0.521	<0.5	<0.5	<0.5/<0.5	<0.52/<0.52	<0.5	<0.51/<0.53	<0.51/<0.5	<0.5	<0.5/<0.5	<0.5/<0.5	<0.5	---	<0.5	<0.5	---
Aroclor-1232	<0.52	<0.521	<0.5	<0.5	<0.5/<0.5	<0.52/<0.52	<0.5	<0.51/<0.53	<0.51/<0.5	<0.5	<0.5/<0.5	<0.5/<0.5	<0.5	---	<0.5	<0.5	---
Aroclor-1242	<0.52	<0.521	<0.5	<0.5	<0.5/<0.5	<0.52/<0.52	<0.5	<0.51/<0.53	<0.51/<0.5	<0.5	<0.5/<0.5	<0.5/<0.5	<0.5	---	<0.5	<0.5	---
Aroclor-1248	<0.52	<0.521	<0.5	<0.5	<0.5/<0.5	<0.52/<0.52	<0.5	<0.51/<0.53	<0.51/<0.5	<0.5	<0.5/<0.5	<0.5/<0.5	<0.5	---	<0.5	<0.5	---
Aroclor-1254	<0.52	<0.521	<0.5	<0.5	<0.5/<0.5	<0.52/<0.52	<0.5	<0.51/<0.53	<0.51/<0.5	<0.5	<0.5/<0.5	<0.5/<0.5	<0.5	---	<0.5	<0.5	---
Aroclor-1260	<0.52	<0.521	<0.5	<0.5	<0.5/<0.5	<0.52/<0.52	<0.5	<0.51/<0.53	<0.51/<0.5	<0.5	<0.5/<0.5	<0.5/<0.5	<0.5	---	<0.5	<0.5	---

	MW-44S																
	5/15/02	10/01/02	1/15/03	5/22/03	9/11/03	1/14/04	5/14/04	9/28/04	1/18/05	5/18/05	10/5/05	1/17/06	5/16/06	9/18/06	2/26/07	5/17/07	9/6/07
Aroclor-1016	<0.52	<0.5	<0.5	<0.5	<0.5	<0.52	<0.5	<0.52	<0.51	<0.5	<0.5	<0.5	<0.5	<0.52	<0.5	<0.5	<0.5
Aroclor-1221	<0.52	<0.5	<0.5	<0.5	<0.5	<0.52	<0.5	<0.52	<0.51	<0.5	<0.5	<0.5	<0.5	<0.52	<0.5	<0.5	<0.5
Aroclor-1232	<0.52	<0.5	<0.5	<0.5	<0.5	<0.52	<0.5	<0.52	<0.51	<0.5	<0.5	<0.5	<0.5	<0.52	<0.5	<0.5	<0.5
Aroclor-1242	<0.52	<0.5	<0.5	<0.5	<0.5	<0.52	<0.5	<0.52	<0.51	<0.5	<0.5	<0.5	<0.5	<0.52	<0.5	<0.5	<0.5
Aroclor-1248	<0.52	<0.5	<0.5	<0.5	<0.5	<0.52	<0.5	<0.52	<0.51	<0.5	<0.5	<0.5	<0.5	<0.52	<0.5	<0.5	<0.5
Aroclor-1254	<0.52	<0.5	<0.5	<0.5	<0.5	<0.52	<0.5	<0.52	<0.51	<0.5	<0.5	<0.5	<0.5	<0.52	<0.5	<0.5	<0.5
Aroclor-1260	<0.52	<0.5	<0.5	<0.5	<0.5	<0.52	<0.5	<0.52	<0.51	<0.5	<0.5	<0.5	<0.5	<0.52	<0.5	<0.5	<0.5

	MW-44D																
	5/15/02	10/01/02	1/15/03	5/22/03	9/11/03	1/14/04	5/14/04	9/28/04	1/18/05	5/18/05	10/5/05	1/17/06	5/16/06	9/18/06	2/26/07	5/17/07	9/6/07
Aroclor-1016	<0.5	<0.51	<0.5	<0.5	<0.5	<0.51	<0.5	<0.51	<0.51	<0.5	<0.5	<0.5	<0.5	<0.53	<0.5	<0.5	<0.5
Aroclor-1221	<0.5	<0.51	<0.5	<0.5	<0.5	<0.51	<0.5	<0.51	<0.51	<0.5	<0.5	<0.5	<0.5	<0.53	<0.5	<0.5	<0.5
Aroclor-1232	<0.5	<0.51	<0.5	<0.5	<0.5	<0.51	<0.5	<0.51	<0.51	<0.5	<0.5	<0.5	<0.5	<0.53	<0.5	<0.5	<0.5
Aroclor-1242	<0.5	<0.51	<0.5	<0.5	<0.5	<0.51	<0.5	<0.51	<0.51	<0.5	<0.5	<0.5	<0.5	<0.53	<0.5	<0.5	<0.5
Aroclor-1248	<0.5	<0.51	<0.5	<0.5	<0.5	<0.51	<0.5	<0.51	<0.51	<0.5	<0.5	<0.5	<0.5	<0.53	<0.5	<0.5	<0.5
Aroclor-1254	<0.5	<0.51	<0.5	<0.5	<0.5	<0.51	<0.5	<0.51	<0.51	<0.5	<0.5	<0.5	<0.5	<0.53	<0.5	<0.5	<0.5
Aroclor-1260	<0.5	<0.51	<0.5	<0.5	<0.5	<0.51	<0.5	<0.51	<0.51	<0.5	<0.5	<0.5	<0.5	<0.53	<0.5	<0.5	<0.5

All results in ug/L. --- Not Analyzed

TABLE 6
SUMMARY OF ESTIMATED AQUIFER AREAS ABOVE CLEANUP GOALS
AND CONTAMINANT MASS-IN-PLACE
ORMET CORPORATION
HANNIBAL REDUCTION DIVISION
HANNIBAL, OHIO

Sampling Date	Estimated Area of Aquifer Above 4 mg/L Fluoride	% Change	Estimated Area of Aquifer Above 0.2 mg/L Total CN	% Change
6/88	43.3 a.		24.5 a.	
1/95	48.4 a.	+11.6	5.9 a.	-75.8
5/97	43.7 a.	-9.7	21.3 a.	+259
5/98	36.9 a.	-15.6	10.5 a.	-50.6
5/99	43.7 a.*	+18.4	27.5 a.	+161
5/00	41.6 a.	-4.8	36.5 a.	+32.7
5/01	41.4 a.	-0.5	36.7 a.	+0.5
5/02	37.9 a.	-8.5	37.2 a.	+1.3
5/03	38.8 a.	+2.3	37.2 a.	0.0
5/04	42.1 a.	+7.8	38.1 a.	+2.4
5/05	39.5 a.	-6.2	43.7 a.	+12.8
5/06	45.4 a.	+14.9	44.8 a.	+2.5
5/07	42.1 a.	-7.3	46.6 a.	+4.0

Sampling Date	Estimated Fluoride Mass-in-Place	% Change	Estimated Total CN Mass-in-Place	% Change
6/88	85,702 lbs.		6,821 lbs.	
1/95	28,168 lbs.	-67.1	4,271 lbs.	-37.4
5/97	29,033 lbs.	+3.1	2,943 lbs.	-31.1
5/98	23,888 lbs.	-17.7	2,597 lbs.	-11.8
5/99	30,416 lbs.*	+27.3	5,566 lbs.	+114
5/00	27,071 lbs.	-11.0	4,679 lbs.	-15.9
5/01	21,741 lbs.	-19.7	4,300 lbs.	-8.1
5/02	28,789 lbs.	+24.5	4,530 lbs.	+5.1
5/03	32,127 lbs.	+10.4	2,773 lbs.	-38.8
5/04	38,836 lbs.	+17.3	3,062 lbs.	+9.4
5/05	37,656 lbs.	-3.0	4,681 lbs.	+34.6
5/06	32,725 lbs.	-13.1	6,615 lbs.	+41.3
5/07	35,219 lbs.	+7.6	6,438 lbs.	-2.7

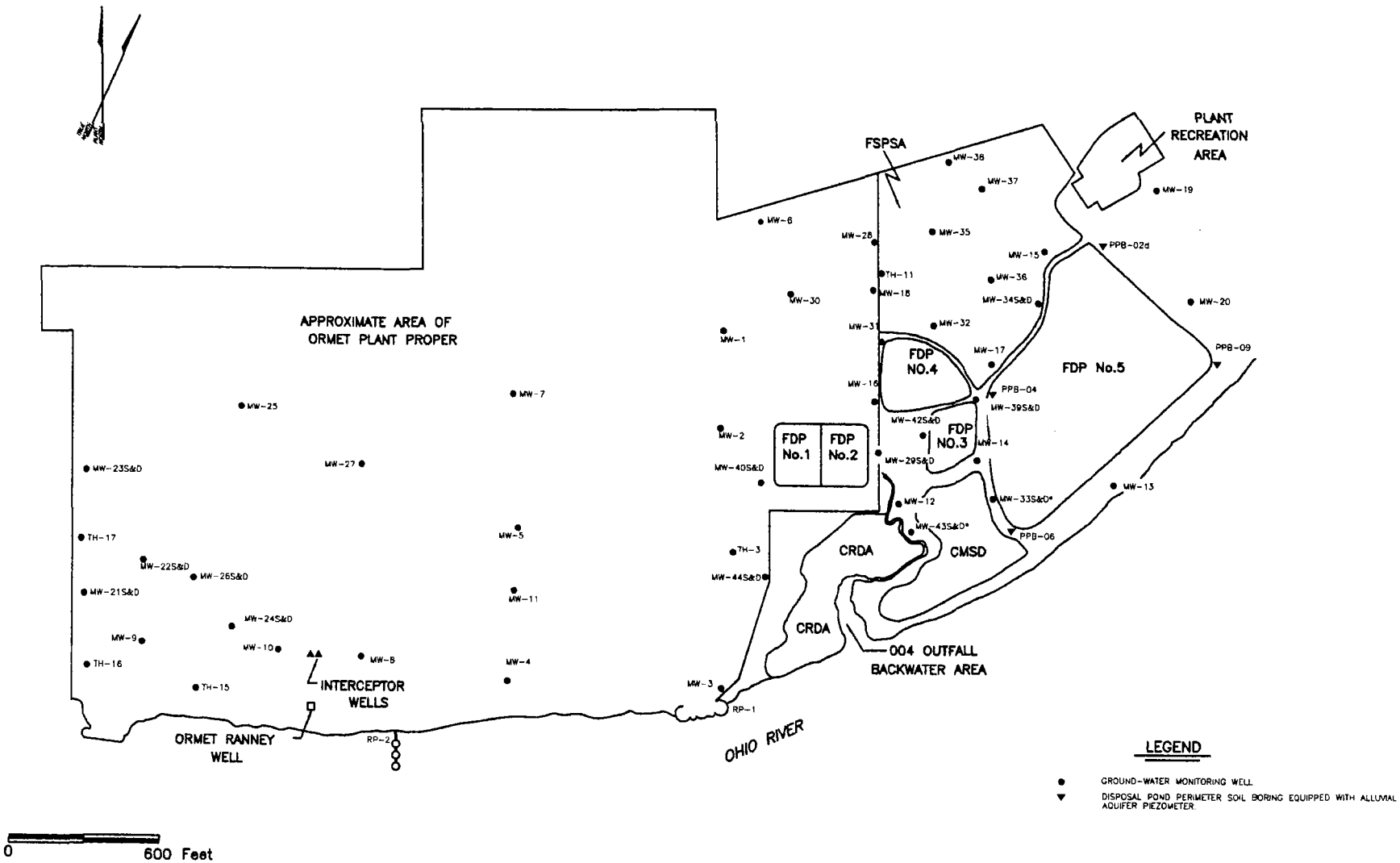
* - Value corrected due to omission during 1999 calculation.

TABLE 7
COMPARISON OF CALCULATED MASS REMOVAL TO CHANGES IN ESTIMATED MASS-IN-PLACE

	FLUORIDE			TOTAL CYANIDE		
SAMPLE DATE	ESTIMATED MASS-IN-PLACE	CHANGE	MASS REMOVED	ESTIMATED MASS-IN-PLACE	CHANGE	MASS REMOVED
6/88	85,702			6,821		
1/95	28,168	-57,534		4,271	-2,550	
5/97	29,033	+864		2,943	-1,328	
5/98	23,888	-5,145	26,383	2,597	-346	3,462
5/99	30,416	+6,528	29,516	5,566	+2,969	3,248
5/00	27,071	-3,345	18,934	4,679	-887	2,884
5/01	21,741	-5,330	19,653	4,300	-379	2,897
5/02	28,789	+7,048	16,470	4,530	+230	2,321
5/03	32,127	+3,338	12,042	2,773	-1,757	1,726
5/04	38,836	+6,709	9,845	3,062	+289	1,597
5/05	37,656	-1,180	8,802	4,681	+1,619	1,075
5/06	32,735	-4,921	8,607	6,615	+1,934	1,392
5/07	35,219	+2,484	6,085	6,438	-177	1,151
	TOTAL MASS REMOVED		156,337	TOTAL MASS REMOVED		21,753

All values given in pounds.

FIGURES



HMI Environmental Consulting Services

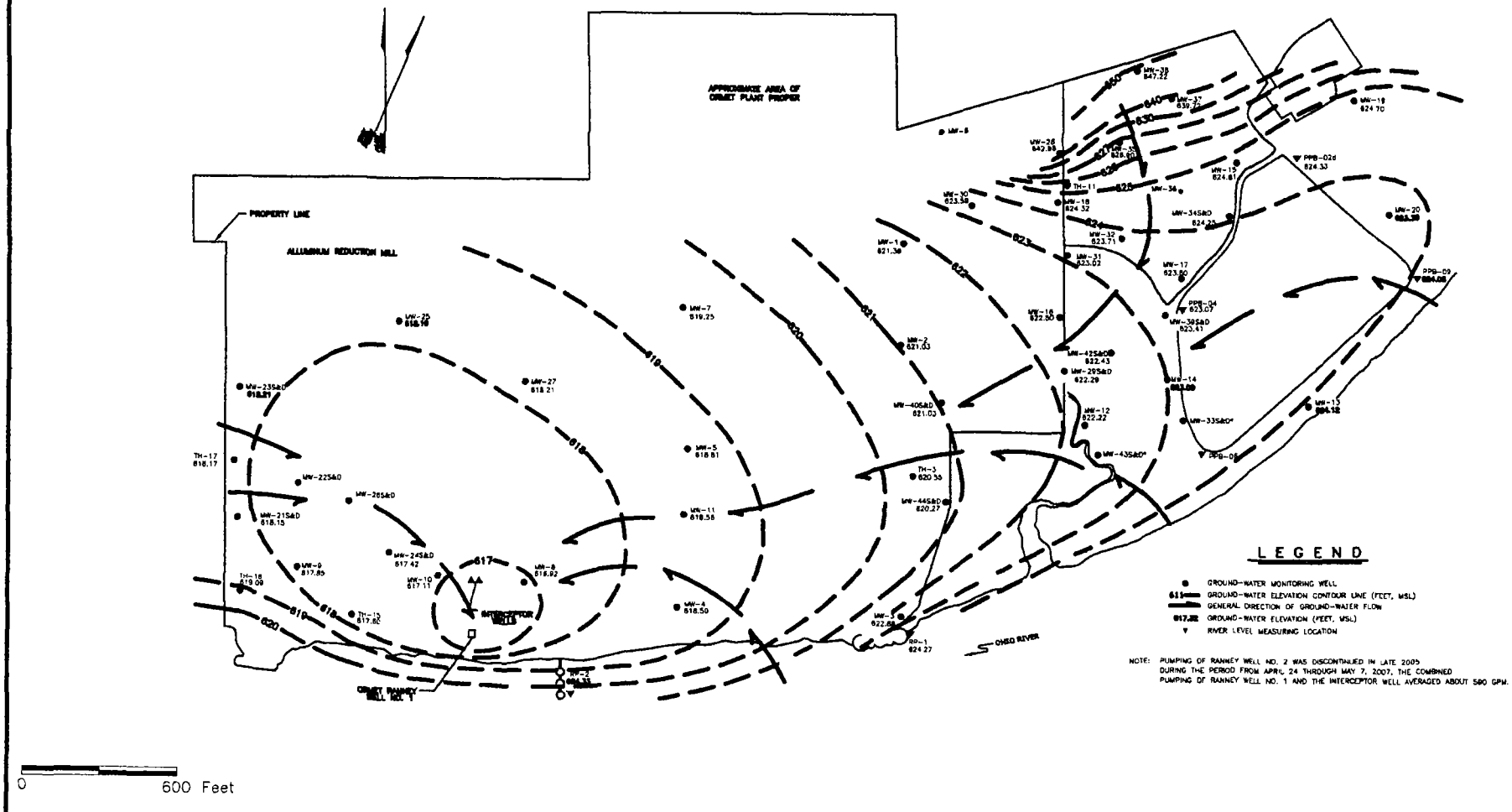
HydroSystems Management, Inc.
P.O. Box 789
Washington, Pennsylvania 15301

PROJECT NO: HM00319	FILE NO:
DRAWING: 012308CL	PLOT SIZE=1"=600'
DRAFTED BY: CL	DATE: 05/20/2008
CHECKED BY: CPS	DATE: 05/20/2008
APPROVED BY: CPS	DATE: 05/20/2008
REVISION NO:	DATE:

LOCATION OF GROUND-WATER MONITORING WELLS

ORMET PRIMARY ALUMINUM CORPORATION — HANNIBAL, OHIO

FIGURE 1



HMI Environmental Consulting Services

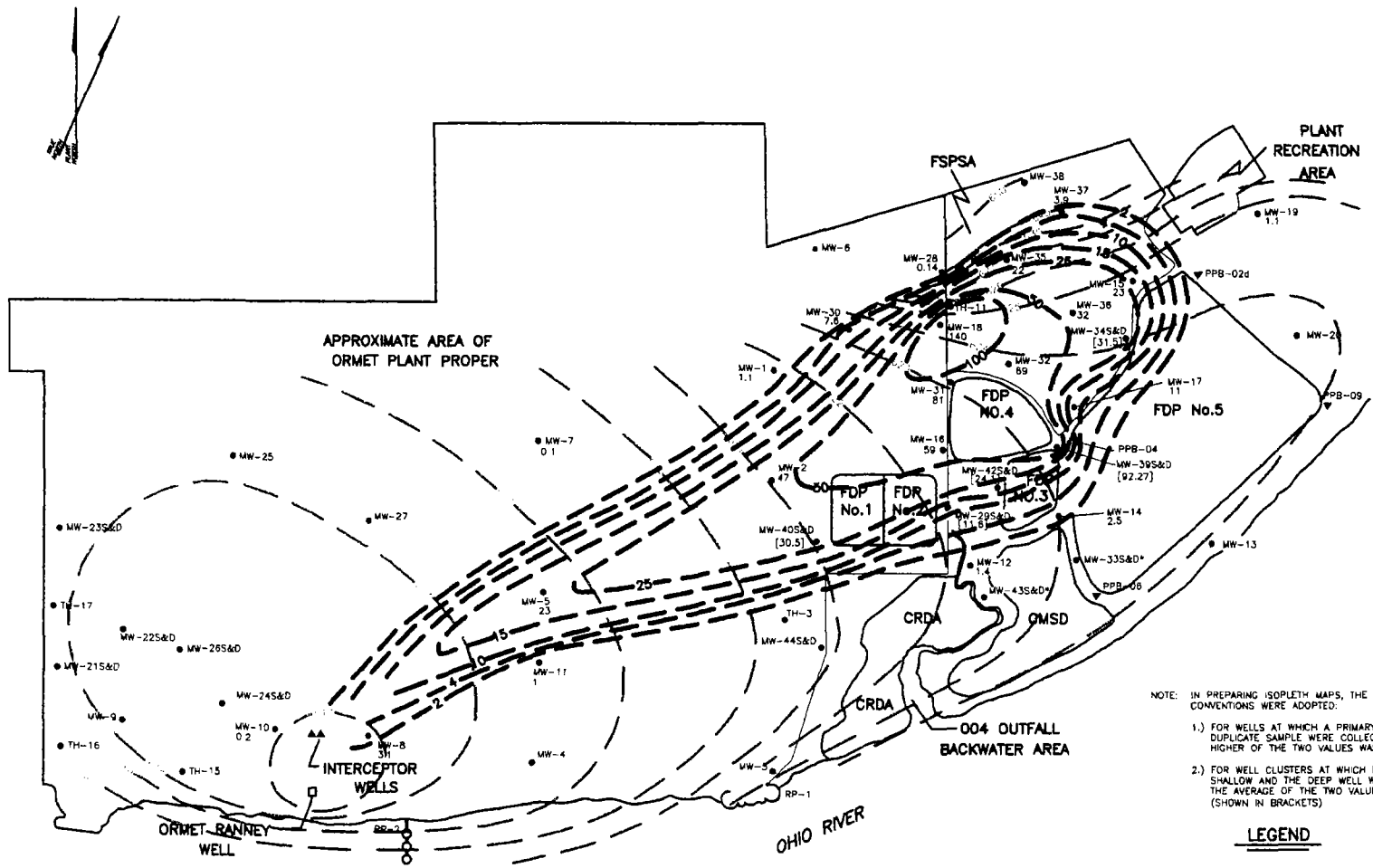
HydroSystems Management, Inc.
P.O. Box 789
Washington, Pennsylvania 15301

PROJECT NO: HM00319	FILE NO:
DRAWING: 052708CL	PLOT SIZE-1"=600'
DRAFTED BY: CL	DATE: 02/20/2008
CHECKED BY: CPS	DATE: 02/20/2008
APPROVED BY: CPS	DATE: 02/22/2008
REVISION NO:	DATE:

GROUND-WATER ELEVATIONS AND FLOW PATTERNS
WITHIN THE ALLUVIAL AQUIFER
BASED ON MAY 7, 2007 WATER-LEVEL DATA

ORMET PRIMARY ALUMINUM CORPORATION HANNIBAL, OHIO

FIGURE 2



NOTE: IN PREPARING ISOPLETH MAPS, THE FOLLOWING CONVENTIONS WERE ADOPTED:

1.) FOR WELLS AT WHICH A PRIMARY SAMPLE AND A DUPLICATE SAMPLE WERE COLLECTED, THE HIGHER OF THE TWO VALUES WAS USED.

2.) FOR WELL CLUSTERS AT WHICH BOTH THE SHALLOW AND THE DEEP WELL WERE SAMPLED, THE AVERAGE OF THE TWO VALUES WAS USED. (SHOWN IN BRACKETS)

LEGEND

- GROUND-WATER MONITORING WELL
- DISPOSAL POND PERIMETER SOIL BORING EQUIPPED WITH ALLUVIAL AQUIFER PIEZOMETER.
- WELLS ABANDONED ON APRIL 29 AND APRIL 30, 1997.
- FLUORIDE CONCENTRATION CONTOUR (mg/L)
- GROUND-WATER ELEVATION CONTOUR LINE (FEET, MSL)

HMI Environmental Consulting Services

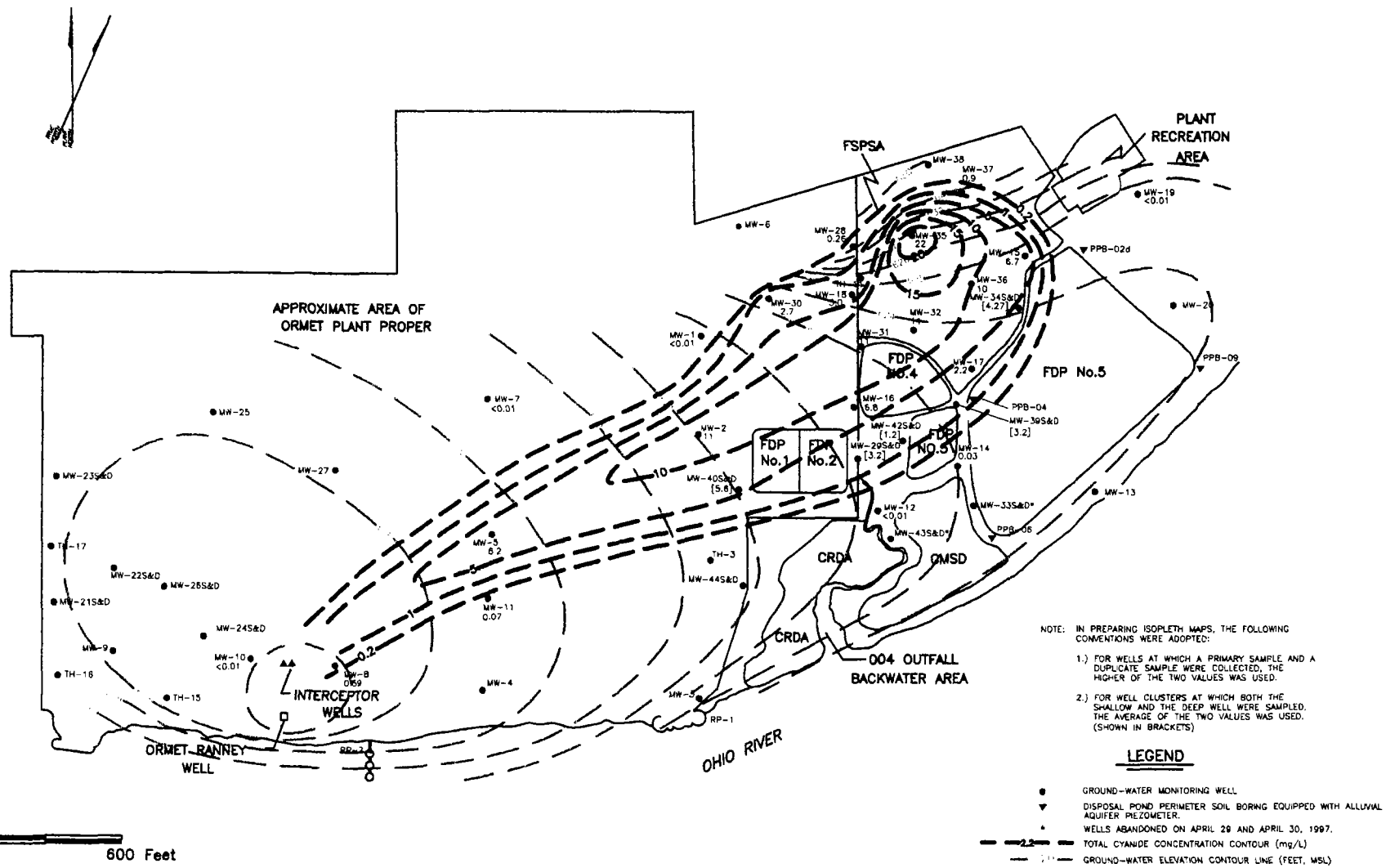
HydroSystems Management, Inc.
P.O. Box 789
Washington, Pennsylvania 15301

PROJECT NO: HM00319	FILE NO:
DRAWING: 022008CL	PLOT SIZE=1"=600'
DRAFTED BY: CL	DATE: 02/20/2008
CHECKED BY: CPS	DATE: 02/20/2008
APPROVED BY: CPS	DATE: 02/22/2008
REVISION NO:	DATE:

FLUORIDE ISOPLETH MAP FOR THE ALLUVIAL AQUIFER (BASED ON SAMPLES COLLECTED IN MAY 2007)

ORMET PRIMARY ALUMINUM CORPORATION — HANNIBAL, OHIO

FIGURE 3



HMI Environmental Consulting Services

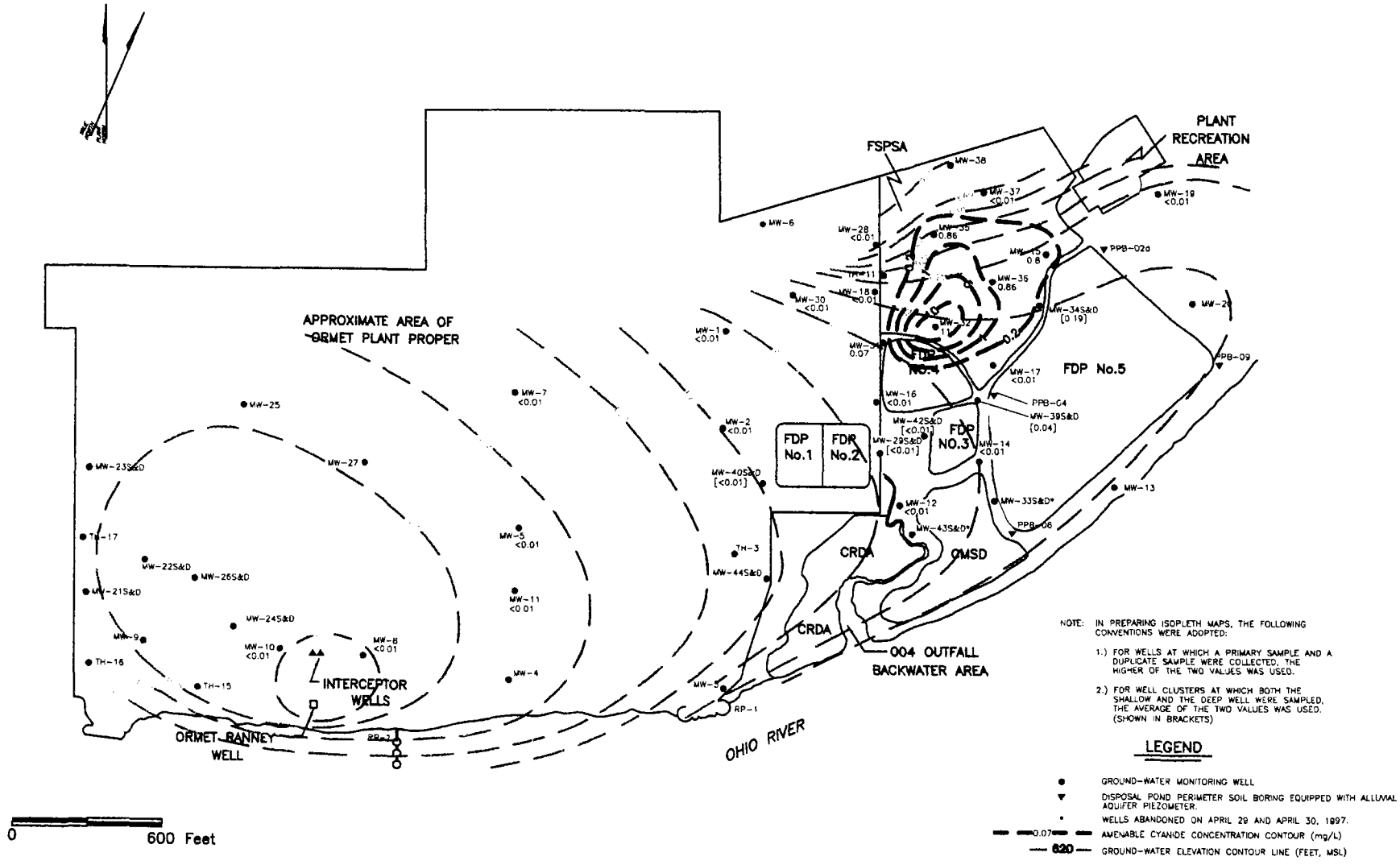
HydroSystems Management, Inc.
P.O. Box 789
Washington, Pennsylvania 15301

PROJECT NO: HM00319	FILE NO:
DRAWING: 02200BCL	PLOT SIZE=1"=600'
DRAFTED BY: CL	DATE: 02/20/2008
CHECKED BY: CPS	DATE: 02/20/2008
APPROVED BY: CPS	DATE: 02/22/2008
REVISION NO:	DATE:

TOTAL CYANIDE ISOPLETH MAP FOR THE ALLUVIAL AQUIFER (BASED ON SAMPLES COLLECTED IN MAY 2007)

ORMET PRIMARY ALUMINUM CORPORATION — HANNIBAL, OHIO

FIGURE 4



HMI Environmental Consulting Services

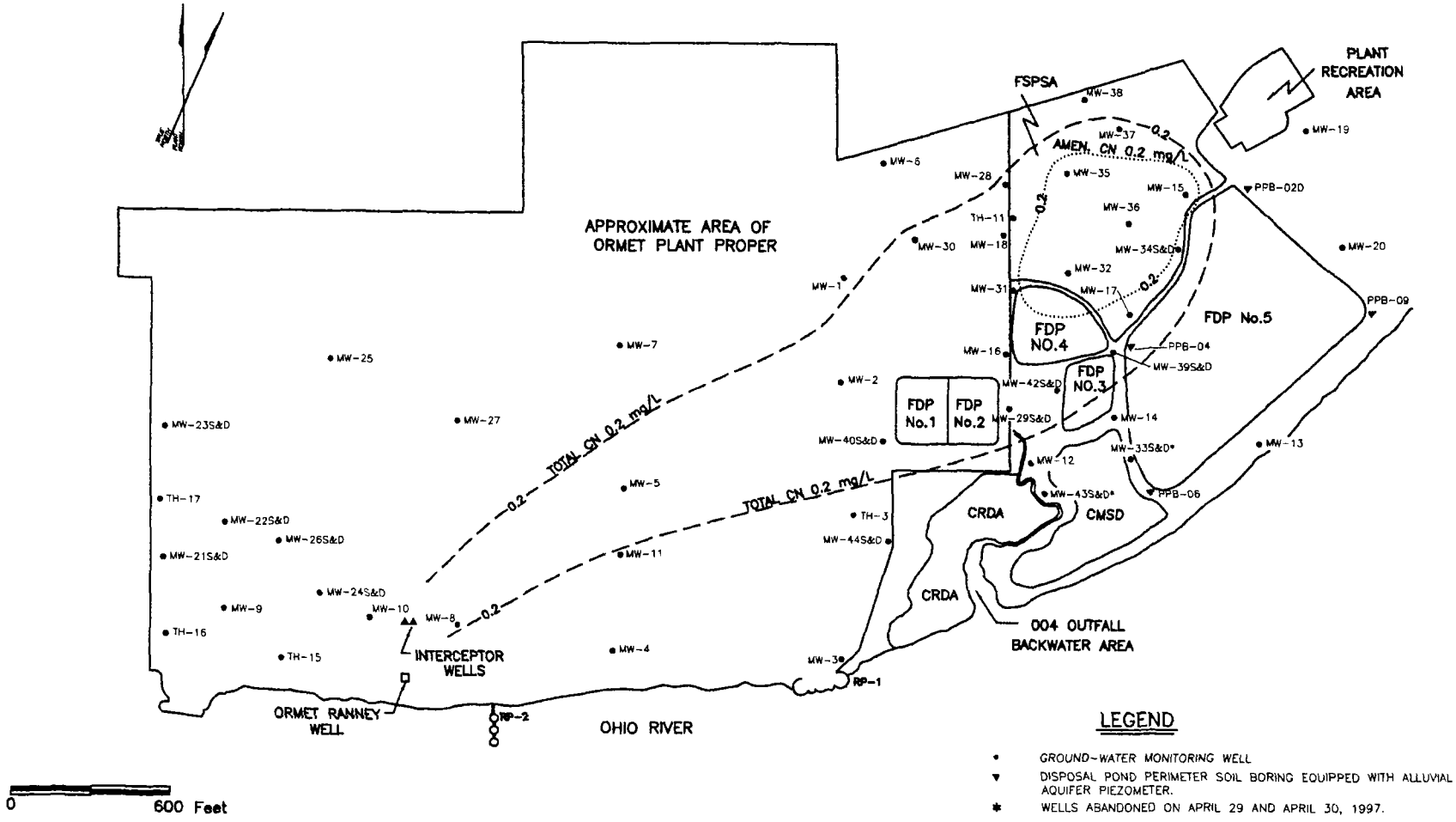
HydroSystems Management, Inc.
P.O. Box 789
Washington, Pennsylvania 15301

PROJECT NO: HM00319	FILE NO:
DRAWING: 0220080L	PLOT SIZE=1"=600'
DRAFTED BY: CL	DATE: 02/20/2008
CHECKED BY: CPS	DATE: 02/20/2008
APPROVED BY: CPS	DATE: 02/22/2008
REVISION NO:	DATE:

AMENABLE CYANIDE ISOPLETH MAP
FOR THE ALLUVIAL AQUIFER
(BASED ON SAMPLES COLLECTED IN MAY 2007)

ORMET PRIMARY ALUMINUM CORPORATION — HANNIBAL, OHIO

FIGURE 5



HMI Environmental Consulting Services

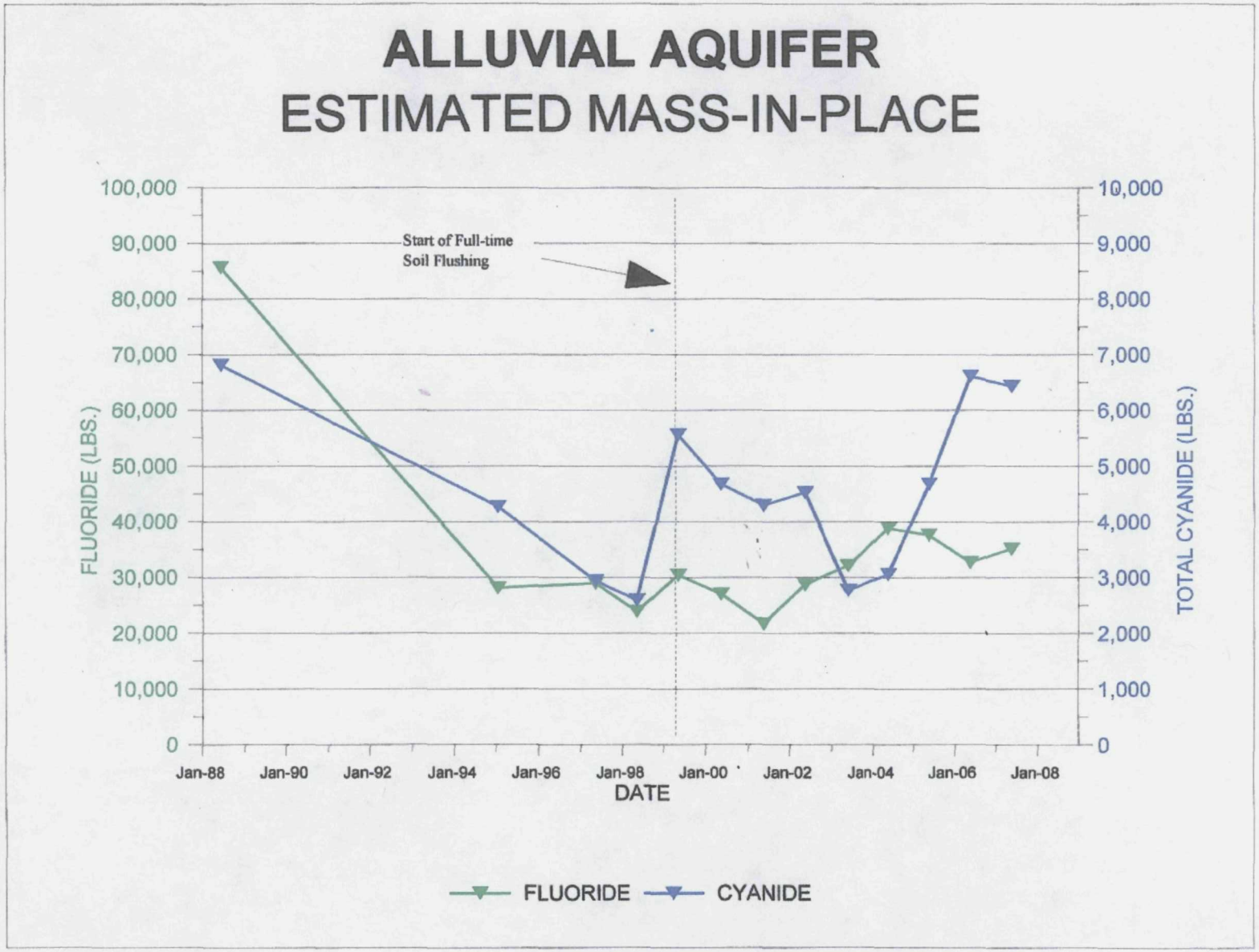
HydroSystems Management, Inc.
P.O. Box 789
Washington, Pennsylvania 15301

PROJECT NO: HM00319	FILE NO:
DRAWING: 012507CL	PLOT SIZE=1"=600'
DRAFTED BY: CL	DATE: 02/20/2008
CHECKED BY: CPS	DATE: 02/20/2008
APPROVED BY: CPS	DATE: 02/22/2008
REVISION NO:	DATE:

2007 COMPARISON OF TOTAL VS. AMENABLE CYANIDE DISTRIBUTION IN GROUND WATER
(BASED ON 0.2 mg/L CONCENTRATION CONTOURS)

ORMET PRIMARY ALUMINUM CORPORATION HANNIBAL, OHIO

FIGURE 6


ALLUVIAL AQUIFER
ESTIMATED MASS-IN-PLACE
Start of Full-time
Soil Flushing
FLUORIDE (LBS.)
TOTAL CYANIDE (LBS.)
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Jan-88
Jan-90
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
DATE
FLUORIDE
CYANIDE

APPENDIX A

APPENDIX A

WATER SAMPLING LOG FORMS

Appendix A-1	Water Sampling Log Forms for February 2007 Monitoring Event
Appendix A-2	Water Sampling Log Forms for May 2007 Monitoring Event
Appendix A-3	Water Sampling Log Forms for September 2007 Monitoring Event

APPENDIX A-1

WATER SAMPLING LOG FORMS FOR FEBRUARY 2007 MONITORING EVENT

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 2/26/07

Sample I.D.: MW-2
Duplicate I.D.:
Time Sampling Began: 930
Time Sampling Complete: 950

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 82.25
Depth to Water Below MP (DTW): 47.45
Water Column (WC) in Well (TD - DTW): 34.80
Casing Diameter: 2"
Gallons in Well (WC x GPF): 5.6

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 17 GAL.

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: DK. BROWN Odor: NONE Turbidity: CLEAR

Well Volumes:		7 GAL.	12 GAL.			
pH:		9.30	9.29	9.25		
Spec. Cond.:		1310	1346	1323		
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:		14.5	14.6	14.7		

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH
PCE	3 x 40 ml. GLASS	HCl

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 2/26/07

Sample I.D.: MW-5
Duplicate I.D.:
Time Sampling Began: 7:50
Time Sampling Complete: 8:15

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 92
Depth to Water Below MP (DTW): 49.77
Water Column (WC) in Well (TD - DTW): 42.23
Casing Diameter: 2"
Gallons in Well (WC x GPF): 7

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 21

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: TEA Odor: NONE Turbidity: CLEAR

Well Volumes:		20 GAL.				
pH:		7.75				
Spec. Cond.:		986				
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:		14.2				

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH
PCE	3 x 40 ml. GLASS	HCl

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 2/26/07

Sample I.D.: MW-12
Duplicate I.D.: MW-12D
Time Sampling Began: 1215
Time Sampling Complete: 1245

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 68.42
Depth to Water Below MP (DTW): 15.03
Water Column (WC) in Well (TD - DTW): 53.39
Casing Diameter: 2"
Gallons in Well (WC x GPF): 8.5

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 25.5

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: CLEAR Odor: NONE Turbidity: CLEAR

Well Volumes:	8 GAL	16 GAL	25 GAL			
pH:	7.36	7.36	7.36			
Spec. Cond.:	491	494	495			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	14.6	14.8	14.7			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH
PCBs	1 LITER AMBER GLASS	4 degrees C

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 2/26/07

Sample I.D.: MW-16
Duplicate I.D.:
Time Sampling Began: 1005
Time Sampling Complete: 1030

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 83.12
Depth to Water Below MP (DTW): 40.68
Water Column (WC) in Well (TD - DTW): 42.44
Casing Diameter: 2"
Gallons in Well (WC x GPF): 6.8

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 21

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: DK. BROWN Odor: NONE Turbidity: CLEAR

Well Volumes:		3 GAL.	9 GAL.	20 GAL.		
pH:		9.05	8.98	8.99		
Spec. Cond.:		1036	991	993		
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:		14.1	14.8	14.9		

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 2/26/07

Sample I.D.: MW-18
Duplicate I.D.:
Time Sampling Began: 1100
Time Sampling Complete: 1130

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 61.16
Depth to Water Below MP (DTW): 37.02
Water Column (WC) in Well (TD - DTW): 24.14
Casing Diameter: 2"
Gallons in Well (WC x GPF): 3.8

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 11.4

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: DK. BROW Odor: NONE Turbidity: SILTY

Well Volumes:		4 GAL.	8 GAL.	10 GAL.		
pH:		9.29	9.22	9.22		
Spec. Cond.:		1289	1588	1660		
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:		13.8	14.2	14.2		

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH
PCE	3 x 40 ml. GLASS	HCl

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 2/26/07

Sample I.D.: MW-28
Duplicate I.D.:
Time Sampling Began: 1035
Time Sampling Complete: 1050

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 46.2
Depth to Water Below MP (DTW): 21.90
Water Column (WC) in Well (TD - DTW): 24.30
Casing Diameter: 2"
Gallons in Well (WC x GPF): 3.8

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 12 GAL.

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: LT. BROWN Odor: NONE Turbidity: CLOUDY

Well Volumes:		4 GAL.	8 GAL	12 GAL.		
pH:		5.80	5.75	5.93		
Spec. Cond.:		382	384	409		
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:		14.4	14.7	12.7		

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 2/26/07

Sample I.D.: MW-31
Duplicate I.D.: ~~MW-31D~~
Time Sampling Began: 1140
Time Sampling Complete: 1200

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 67.58
Depth to Water Below MP (DTW): 39.05
Water Column (WC) in Well (TD - DTW): 28.53
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4.6

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 14

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: BROWN Odor: NONE Turbidity: SL. CLOUDY

Well Volumes:	4 gal	8 gal	12 gal			
pH:	9.38	9.38	9.37			
Spec. Cond.:	1263	1277	1288			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:		14.9	14.9			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH
PCE	3 x 40 ml. GLASS	HCl

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 2/26/07

Sample I.D.: MW-32
Duplicate I.D.:
Time Sampling Began: 1255
Time Sampling Complete: 1320

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 57.36
Depth to Water Below MP (DTW): 33.70
Water Column (WC) in Well (TD - DTW): 23.66
Casing Diameter: 2"
Gallons in Well (WC x GPF): 3.8

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 11.4

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: DK. BROWN Odor: NONE Turbidity: SL. CLOUDY

Well Volumes:		4 GAL	8 GAL	12 GAL		
pH:		9.68	9.68	9.68		
Spec. Cond.:		1294	1314	1316		
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:		16.4	16.8	16.8		

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 2/26/07

Sample I.D.: MW-35
Duplicate I.D.:
Time Sampling Began: 1400
Time Sampling Complete: 1415

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 46.94
Depth to Water Below MP (DTW): 35.40
Water Column (WC) in Well (TD - DTW): 11.54
Casing Diameter: 2"
Gallons in Well (WC x GPF): 2

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 6

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: BROWN-BLACK Odor: NONE Turbidity: SL. CLOUDY

Well Volumes:		2 GAL.	3 GAL.	4 GAL.	5 GAL	
pH:		7.11	7.69	9.02	9.12	
Spec. Cond.:		301	422	803	869	
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:		15.4	16.0	15.9	15.9	

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 2/26/07

Sample I.D.: MW-36
Duplicate I.D.: MW-36D
Time Sampling Began: 1320
Time Sampling Complete: 1350

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 52.08
Depth to Water Below MP (DTW): 33.35
Water Column (WC) in Well (TD - DTW): 19.73
Casing Diameter: 2"
Gallons in Well (WC x GPF): 2.4

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 7.2

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: Odor: Turbidity:

Well Volumes:	2.5 gal	5 gal	7.5 gal			
pH:	8.73	8.67	8.69			
Spec. Cond.:	768	762	775			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	17.9	18.5	17.8			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 2/26/07

Sample I.D.: MW-37
Duplicate I.D.:
Time Sampling Began: 1350
Time Sampling Complete: 1400

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 36.9
Depth to Water Below MP (DTW): 22.85
Water Column (WC) in Well (TD - DTW): 14.05
Casing Diameter: 2"
Gallons in Well (WC x GPF): 2.3

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 6.9

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: LT. BROWN Odor: NONE Turbidity: CLOUDY

Well Volumes:	2.5gal	5.0gal	7.5gal			
pH:	6.42					
Spec. Cond.:	373					
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	14.7					

DRY @ ±3 GAL. SAMPLE ON RECOVERY

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL; OHIO
Date: 2/26/07

Sample I.D.: MW-44s
Duplicate I.D.:
Time Sampling Began: 905
Time Sampling Complete: 915

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 69.05
Depth to Water Below MP (DTW): 41.42
Water Column (WC) in Well (TD - DTW): 27.63
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4.4

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 13+

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: CLEAR Odor: NONE Turbidity: CLEAR

Well Volumes:		6 GAL.	12 GAL.			
pH:		6.73	6.74			
Spec. Cond.:		498	496			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:		15.4	15.4			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
PCBs	1 LITER AMBER GLASS	4 degrees C

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 2/26/07

Sample I.D.: MW-44D
Duplicate I.D.:
Time Sampling Began: 8:50
Time Sampling Complete: 900

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 93.97
Depth to Water Below MP (DTW): 41.96
Water Column (WC) in Well (TD - DTW): 52.01
Casing Diameter: 2"
Gallons in Well (WC x GPF): 8.3

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 25

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: CLEAR Odor: NONE Turbidity: CLEAR

Well Volumes:		10 GAL.	25 GAL.			
pH:		7.68	7.52			
Spec. Cond.:		374	379			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:		15.3	15.6			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
PCBs	1 LITER AMBER GLASS	4 degrees C

Sampline Personnel: R. FARGO, C. SMITH
Comments:

APPENDIX A-2

WATER SAMPLING LOG FORMS FOR MAY 2007 MONITORING EVENT

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-18-07

Sample I.D.: MW-1
Duplicate I.D.:
Time Sampling Began: 1520
Time Sampling Complete: 1540

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 668.07
Depth of Well Below MP (TD): 71.11
Depth to Water Below MP (DTW): 46.68
Water Column (WC) in Well (TD - DTW): 24.43
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4.0

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 12

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: NONE Odor: NONE Turbidity: CLEAR

Well Volumes:	2 GAL.	6 GAL.	9 GAL.	12 GAL.		
pH:	6.78	6.62	6.53	6.52		
Spec. Cond.:	543	519	514	516		
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.6	15.6	15.6	15.7		

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-16-07

Sample I.D.: MW-2
Duplicate I.D.:
Time Sampling Began: 1550
Time Sampling Complete: 1620

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 668.12
Depth of Well Below MP (TD): 85.23
Depth to Water Below MP (DTW): 47.09
Water Column (WC) in Well (TD - DTW): 38.14
Casing Diameter: 2"
Gallons in Well (WC x GPF): 6

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 18

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: Odor: Turbidity:

Well Volumes:	2 GAL.	9 GAL.	12 GAL	20 GAL.		
pH:	8.89	9.61	9.57	9.55		
Spec. Cond.:	1014	1153	11.88	1183		
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.9	15.7	15.6	15.6		

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius
TETRACHLOROETHENE	3 x 40ml. GLASS	HCL

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-17-07

Sample I.D.: MW-5
Duplicate I.D.: MW-5D (945)
Time Sampling Began: 900
Time Sampling Complete: 940

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 668.16
Depth of Well Below MP (TD): 91.88
Depth to Water Below MP (DTW): 49.35
Water Column (WC) in Well (TD - DTW): 42.53
Casing Diameter: 2"
Gallons in Well (WC x GPF): 6.8

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 20+

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: LT. BROWN Odor: NONE Turbidity: CLEAR

Well Volumes:	3 GAL	7 GAL.	19 GAL.			
pH:	7.89	7.92	7.92			
Spec. Cond.:	874	881	857			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.4	15.2	15.2			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius
TETRACHLOROETHENE	3 x 40ml. GLASS	HCL

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-17-07

Sample I.D.: MW-7
Duplicate I.D.:
Time Sampling Began: 835
Time Sampling Complete: 900

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 667.94
Depth of Well Below MP (TD): 79.70
Depth to Water Below MP (DTW): 48.69
Water Column (WC) in Well (TD - DTW): 31.01
Casing Diameter: 2"
Gallons in Well (WC x GPF): 5.0

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 15.0

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: LT. BROWN - ORANGE Odor: NONE Turbidity: CLOUDY

Well Volumes:	3 GAL.	9 GAL.	12 GAL.			
pH:	5.60	5.64	5.68			
Spec. Cond.:	498	508	509			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	27.7	32.6	33.5			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-17-07

Sample I.D.: MW-8
Duplicate I.D.:
Time Sampling Began: 1020
Time Sampling Complete: 1050

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 667.71
Depth of Well Below MP (TD): 99.78
Depth to Water Below MP (DTW): 50.79
Water Column (WC) in Well (TD - DTW): 48.99
Casing Diameter: 2"
Gallons in Well (WC x GPF): 7.8

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 24

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: NONE Odor: NONE Turbidity: CLEAR

Well Volumes:	5 GAL.	14 GAL	21 GAL.			
pH:	7.36	7.50	7.51			
Spec. Cond.:	461	617	622			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	16.3	16.0	16.1			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-17-07

Sample I.D.: MW-10
Duplicate I.D.:
Time Sampling Began: 1045
Time Sampling Complete: 1110

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 667.16
Depth of Well Below MP (TD): 100.72
Depth to Water Below MP (DTW): 50.05
Water Column (WC) in Well (TD - DTW): 50.67
Casing Diameter: 2"
Gallons in Well (WC x GPF):

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 24+

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: NONE Odor: NONE Turbidity: CLEAR

Well Volumes:	3 GAL.	12 GAL	19 GAL.			
pH:	7.13	7.22	7.18			
Spec. Cond.:	537	521	521			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	16.9	16.8	16.9			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-17-07

Sample I.D.: MW-11
Duplicate I.D.:
Time Sampling Began: 945
Time Sampling Complete: 1015

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 667.31
Depth of Well Below MP (TD): 97.35
Depth to Water Below MP (DTW): 48.75
Water Column (WC) in Well (TD - DTW): 48.60
Casing Diameter: 2"
Gallons in Well (WC x GPF): 7.8

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 24

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: NONE Odor: NONE Turbidity: CLEAR

Well Volumes:	2 GAL.	6 GAL	10 GAL.	15 GAL.		
pH:	7.79	7.79	7.80	7.80		
Spec. Cond.:	542	543	529	527		
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.5	15.5	15.5	15.5		

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampling Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5/17/07

Sample I.D.: MW-12
Duplicate I.D.:
Time Sampling Began: 1210
Time Sampling Complete: 1230

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 636.73
Depth of Well Below MP (TD): 68.24
Depth to Water Below MP (DTW): 14.51
Water Column (WC) in Well (TD - DTW): 53.73
Casing Diameter: 2"
Gallons in Well (WC x GPF): 8.6

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 26

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: NONE Odor: NONE Turbidity: CLEAR

Well Volumes:	6 GAL.	15 GAL.	25 GAL.			
pH:	7.46	7.49	7.50			
Spec. Cond.:	414	413	413			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.1	15.2	15.2			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius
PCB's	1 LITER GLASS	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-15-07

Sample I.D.: MW-14
Duplicate I.D.:
Time Sampling Began: 1250
Time Sampling Complete: 1320

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 653.59
Depth of Well Below MP (TD): 86.9
Depth to Water Below MP (DTW): 30.59
Water Column (WC) in Well (TD - DTW): 56.31
Casing Diameter: 2"
Gallons in Well (WC x GPF):

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 27

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: NONE Odor: NONE Turbidity: CLEAR

Well Volumes:	±10 GAL.	±15 GAL	20+ GAL.			
pH:	6.98	7.33	7.33			
Spec. Cond.:	442	422	423			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	16.4	16.5	16.0			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-15-07

Sample I.D.: MW-15
Duplicate I.D.: MW-15D (1650)
Time Sampling Began: 1625
Time Sampling Complete: 1645

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 657.31
Depth of Well Below MP (TD): 57.86
Depth to Water Below MP (DTW): 32.70
Water Column (WC) in Well (TD - DTW): 25.16
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4.0

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 12

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: DK. BROWN Odor: NONE Turbidity: SLIGHTLY CLOUDY

Well Volumes:	5 GAL.	12 GAL.	15 GAL.			
pH:	7.91	7.91	7.91			
Spec. Cond.:	730	725	727			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	16.6	16.3	16.3			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-16-07

Sample I.D.: MW-16
Duplicate I.D.:
Time Sampling Began: 1455
Time Sampling Complete: 1520

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 662.72
Depth of Well Below MP (TD): 83.11
Depth to Water Below MP (DTW): 40.22
Water Column (WC) in Well (TD - DTW): 42.89
Casing Diameter: 2"
Gallons in Well (WC x GPF): 7

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 21

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: DK. BROWN Odor: NONE Turbidity: CLOUDY

Well Volumes:	5 GAL.	10 GAL.	16 GAL.	25 GAL.		
pH:	9.27	9.22	9.22			
Spec. Cond.:	894	864	854			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.8	15.8	15.8			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-15-07

Sample I.D.: MW-17
Duplicate I.D.:
Time Sampling Began: 1525
Time Sampling Complete: 1545

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 655.03
Depth of Well Below MP (TD): 77.91
Depth to Water Below MP (DTW): 31.23
Water Column (WC) in Well (TD - DTW): 46.68
Casing Diameter: 2"
Gallons in Well (WC x GPF): 7.5

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 23

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: BROWN (TEA) Odor: NONE Turbidity: SLIGHTLY CLOUDY

Well Volumes:	5+ GAL.	12 GAL.	22 GAL.			
pH:	7.60	7.58	7.56			
Spec. Cond.:	536	542	544			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	16.5	16.4	16.4			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-16-07

Sample I.D.: MW-18
Duplicate I.D.:
Time Sampling Began: 1330
Time Sampling Complete: 1400

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 660.91
Depth of Well Below MP (TD): 57.00
Depth to Water Below MP (DTW): 36.59
Water Column (WC) in Well (TD - DTW): 20.41
Casing Diameter: 2"
Gallons in Well (WC x GPF): 3.3

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 10

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: BROWN Odor: NONE Turbidity: SILTY

Well Volumes:	3 GAL.	6 GAL.	8 GAL.			
pH:	9.58	9.52	9.45			
Spec. Cond.:	1361	1374	1471			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.5	15.6	15.6			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius
TETRACHLOROETHENE	3 x 40ml. GLASS	HCL

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-16-07

Sample I.D.: MW-19
Duplicate I.D.:
Time Sampling Began: 900
Time Sampling Complete: 930

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 662.03
Depth of Well Below MP (TD): 65.20
Depth to Water Below MP (DTW): 37.22
Water Column (WC) in Well (TD - DTW): 27.98
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4.5

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 14

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: LT. BROWN Odor: NONE Turbidity: CLOUDY

Well Volumes:	5 GAL.	12 GAL.	15+ GAL.			
pH:	7.02	7.05	7.03			
Spec. Cond.:	624	588	583			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	14.8	14.6	14.7			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-16-07

Sample I.D.: MW-28
Duplicate I.D.: MW-28D (1310)
Time Sampling Began: 1240
Time Sampling Complete: 1300

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 663.27
Depth of Well Below MP (TD): 46.06
Depth to Water Below MP (DTW): 20.31
Water Column (WC) in Well (TD - DTW): 25.75
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4.1

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 12+

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: LT. BROWN Odor: NONE Turbidity: SLIGHTLY CLOUDY

Well Volumes:	5 GAL.	8 GAL.	12 GAL.			
pH:	5.76	5.73	5.68			
Spec. Cond.:	358	341	341			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	14.1	14.1	14.1			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-16-07

Sample I.D.: MW-29S
Duplicate I.D.:
Time Sampling Began: 1440
Time Sampling Complete: 1500

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 653.4
Depth of Well Below MP (TD): 61.35
Depth to Water Below MP (DTW): 31.10
Water Column (WC) in Well (TD - DTW): 30.25
Casing Diameter: 2"
Gallons in Well (WC x GPF): 5

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 15

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: LT. GREEN-YELLOW Odor: NONE Turbidity: CLEAR

Well Volumes:	3 GAL.	9 GAL.	15+ GAL.			
pH:	7.64	7.69	7.63			
Spec. Cond.:	760	726	769			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.3	15.4	15.3			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-16-07

Sample I.D.: MW-29D
Duplicate I.D.:
Time Sampling Began: 1410
Time Sampling Complete: 1440

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 653.07
Depth of Well Below MP (TD): 81.98
Depth to Water Below MP (DTW): 30.78
Water Column (WC) in Well (TD - DTW): 51.20
Casing Diameter: 2"
Gallons in Well (WC x GPF): 8.2

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 25

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: NONE Odor: NONE Turbidity: CLEAR

Well Volumes:	5 GAL.	10 GAL.	15 GAL.	25 GAL.+		
pH:	7.56	7.61	7.56	7.58		
Spec. Cond.:	519	518	511	509		
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.3	14.9	15.0	15.0		

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-16-07

Sample I.D.: MW-30
Duplicate I.D.:
Time Sampling Began: 1300
Time Sampling Complete: 1315

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 667.58
Depth of Well Below MP (TD): 60.41
Depth to Water Below MP (DTW): 44.00
Water Column (WC) in Well (TD - DTW): 16.41
Casing Diameter: 2"
Gallons in Well (WC x GPF): 2.6

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 8

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: LT. BROWN Odor: NONE Turbidity: CLOUDY

Well Volumes:	3 GAL.	6 GAL	8+ GAL.			
pH:	6.02	6.26	6.22			
Spec. Cond.:	400	438	435			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.0	15.1	15.1			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius
TETRACHLOROETHENE	3 x 40ml. GLASS	HCL

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-16-07

Sample I.D.: MW-31
Duplicate I.D.:
Time Sampling Began: 935
Time Sampling Complete: 1000

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 661.59
Depth of Well Below MP (TD): 67.51
Depth to Water Below MP (DTW): 38.57
Water Column (WC) in Well (TD - DTW): 28.94
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4.6

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 14

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: DK. BROWN-BLACK Odor: NONE Turbidity: CLOUDY

Well Volumes:	7 GAL.	12 GAL.	15+ GAL			
pH:	9.53	9.55	9.56			
Spec. Cond.:	1066	1116	1120			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.5	15.5	15.5			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius
TETRACHLOROETHENE	3 X 40ml. GLASS	HCL

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-15-07

Sample I.D.: MW-32
Duplicate I.D.:
Time Sampling Began: 1705
Time Sampling Complete: 1720

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 656.66
Depth of Well Below MP (TD): 57.18
Depth to Water Below MP (DTW): 32.95
Water Column (WC) in Well (TD - DTW): 24.23
Casing Diameter: 2"
Gallons in Well (WC x GPF): 3.9

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 12

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: DK. BROWN Odor: NONE Turbidity: CLOUDY

Well Volumes:	3 GAL.	9 GAL.	12+GAL.			
pH:	9.98	9.97	9.96			
Spec. Cond.:	1238	1213	1211			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	17.7	17.4	17.5			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5/15/07

Sample I.D.: MW-34S
Duplicate I.D.:
Time Sampling Began: 1610
Time Sampling Complete: 1625

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 655.67
Depth of Well Below MP (TD): 49.35
Depth to Water Below MP (DTW): 32.26
Water Column (WC) in Well (TD - DTW): 17.09
Casing Diameter: 2"
Gallons in Well (WC x GPF): 2.8

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 8+

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: DK. BROWN Odor: NONE Turbidity: SLIGHTLY CLOUDY

Well Volumes:	3 GAL.	6 GAL.	9 GAL.			
pH:	8.14	8.14	8.14			
Spec. Cond.:	826	832	831			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	16.1	15.5	15.6			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-15-07

Sample I.D.: MW-34D
Duplicate I.D.:
Time Sampling Began: 1550
Time Sampling Complete: 1620

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 654.67
Depth of Well Below MP (TD): 68.24
Depth to Water Below MP (DTW): 30.42
Water Column (WC) in Well (TD - DTW): 37.82
Casing Diameter: 2"
Gallons in Well (WC x GPF): 6

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 18

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: BROWN Odor: NONE Turbidity: SLIGHTLY CLOUDY

Well Volumes:	4 GAL.	9 GAL.	15 GAL.			
pH:	7.98	7.96	7.95			
Spec. Cond.:	777	796	799			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.6	15.4	15.4			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5/16/07

Sample I.D.: MW-35
Duplicate I.D.:
Time Sampling Began: 1000
Time Sampling Complete: 1020

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 661.9
Depth of Well Below MP (TD): 46.7
Depth to Water Below MP (DTW): 35.00
Water Column (WC) in Well (TD - DTW): 11.70
Casing Diameter: 2"
Gallons in Well (WC x GPF): 2

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 6

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: LT. BROWN Odor: NONE Turbidity: CLOUDY

Well Volumes:						
pH:	7.79					
Spec. Cond.:	369					
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	16.7					

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-15-07

Sample I.D.: MW-36
Duplicate I.D.:
Time Sampling Began: 1650
Time Sampling Complete: 1705

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 655.14
Depth of Well Below MP (TD): 52.08
Depth to Water Below MP (DTW): 32.45
Water Column (WC) in Well (TD - DTW): 19.63
Casing Diameter: 2"
Gallons in Well (WC x GPF): 3.1

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 10 GAL.

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: DK. BROWN Odor: NONE Turbidity: CLOUDY

Well Volumes:	4 GAL.	8 GAL.	10+ GAL.			
pH:	8.78	8.80	8.80			
Spec. Cond.:	660	665	666			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	18.6	18.7	18.7			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-16-07

Sample I.D.: MW-37
Duplicate I.D.:
Time Sampling Began: 1215
Time Sampling Complete: 1240

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 661.14
Depth of Well Below MP (TD): 36.98
Depth to Water Below MP (DTW): 21.42
Water Column (WC) in Well (TD - DTW): 15.56
Casing Diameter: 2"
Gallons in Well (WC x GPF): 2.56

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 8

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: GREY-BROWN Odor: NONE Turbidity: CLOUDY

Well Volumes: 3+ GAL.						
pH:	6.39	6.44	6.24			
Spec. Cond.:	274	289	275			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	14.5	14.4	14.3			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments: WELL PUMPS DRY. ALLOW TO RECOVER TWICE THEN SAMPLE.

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-15-07

Sample I.D.: MW-39S
Duplicate I.D.:
Time Sampling Began: 1350
Time Sampling Complete: 1405

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 657.3
Depth of Well Below MP (TD): 60.23
Depth to Water Below MP (DTW): 33.91
Water Column (WC) in Well (TD - DTW): 26.32
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4.2

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 13

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: LT. BROWN Odor: NONE Turbidity: CLEAR

Well Volumes:	5 GAL.	10 GAL.	15 GAL.			
pH:	9.25	9.23	9.22			
Spec. Cond.:	3400	3450	3380			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.4	15.3	15.4			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-15-07

Sample I.D.: MW-39D
Duplicate I.D.:
Time Sampling Began: 1325
Time Sampling Complete: 1355

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 657.18
Depth of Well Below MP (TD): 80.21
Depth to Water Below MP (DTW): 33.77
Water Column (WC) in Well (TD - DTW): 46.44
Casing Diameter: 2"
Gallons in Well (WC x GPF): 7.5

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 23

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: NONE Odor: NONE Turbidity: CLEAR

Well Volumes:	±7 GAL.	±10 GAL.	±20 GAL.	±25 GAL.		
pH:	7.25	7.24	7.27	7.27		
Spec. Cond.:	667	942	845	829		
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.6	15.0	14.9	15.0		

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius
	~~3 X 40ml. GLASS~~	

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-16-07

Sample I.D.: MW-40S
Duplicate I.D.:
Time Sampling Began: 1700
Time Sampling Complete: 1720

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 662.22
Depth of Well Below MP (TD): 70.40
Depth to Water Below MP (DTW): 41.18
Water Column (WC) in Well (TD - DTW): 29.22
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4.7

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 15 GAL.

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: DK. BROWN Odor: NONE Turbidity: CLOUDY

Well Volumes:	4 GAL.	9 GAL.	15 GAL.			
pH:	8.09	8.03	8.01			
Spec. Cond.:	801	815	823			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.4	15.4	15.4			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-16-07

Sample I.D.: MW-40D
Duplicate I.D.:
Time Sampling Began: 1630
Time Sampling Complete: 1700

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 661.95
Depth of Well Below MP (TD): 90.40
Depth to Water Below MP (DTW): 40.92
Water Column (WC) in Well (TD - DTW): 49.48
Casing Diameter: 2"
Gallons in Well (WC x GPF): 8

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 24

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: GREY-BROWN Odor: NONE Turbidity: CLOUDY

Well Volumes:	3 GAL.	9 GAL.	18 GAL.			
pH:	7.60	7.69	7.76			
Spec. Cond.:	741	747	738			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.4	15.2	15.2			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments: WELLHEAD COVERED W/ FINE CARBON. ANNULUS FLOODED.

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date:

Sample I.D.: MW-41
Duplicate I.D.:
Time Sampling Began: 1310
Time Sampling Complete: 1330

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 637.67
Depth of Well Below MP (TD): 62.26
Depth to Water Below MP (DTW): 13.10
Water Column (WC) in Well (TD - DTW): 49.16
Casing Diameter: 2"
Gallons in Well (WC x GPF): 7.9

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 24

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: NONE Odor: NONE Turbidity: CLEAR

Well Volumes:	5 GAL.	15 GAL.	25 GAL			
pH:	6.86	6.86	6.89			
Spec. Cond.:	293	336	339			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	14.1	14.1	14.1			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5-15-07

Sample I.D.: MW-42S
Duplicate I.D.:
Time Sampling Began:
Time Sampling Complete:

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 654.37
Depth of Well Below MP (TD): 52.30
Depth to Water Below MP (DTW): 31.98
Water Column (WC) in Well (TD - DTW): 20.32
Casing Diameter: 2"
Gallons in Well (WC x GPF): 3.25

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 10

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: BROWN (TEA) Odor: NONE Turbidity: SLIGHT CLOUDY

Well Volumes:	3 GAL.	9 GAL.	12 GAL.			
pH:	8.51	8.51	8.49			
Spec. Cond.:	1573	1594	1601			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.2	15.2	15.2			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5/15/07

Sample I.D.: MW-42D
Duplicate I.D.:
Time Sampling Began:
Time Sampling Complete:

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 654.34
Depth of Well Below MP (TD): 85.10
Depth to Water Below MP (DTW): 31.91
Water Column (WC) in Well (TD - DTW): 53.19
Casing Diameter: 2"
Gallons in Well (WC x GPF): 8.5

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 25+

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: NONE Odor: NONE Turbidity: CLEAR

Well Volumes:	5 GAL.	*10 GAL.	15 GAL.	25 GAL.		
pH:	7.81	7.67	7.69	7.68		
Spec. Cond.:	528	822	834	832		
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.5	15.2	15.2	15.2		

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5/17/07

Sample I.D.: MW-44S
Duplicate I.D.:
Time Sampling Began: 1135
Time Sampling Complete: 1145

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 662.01
Depth of Well Below MP (TD): 69.05
Depth to Water Below MP (DTW): 40.96
Water Column (WC) in Well (TD - DTW): 28.09
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4.5

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 14

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: NONE Odor: NONE Turbidity: CLEAR

Well Volumes:	4 GAL.	8 GAL.	14 GAL.			
pH:	6.94	6.93	6.89			
Spec. Cond.:	418	420	421			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.7	15.4	15.6			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
PCB's	1 LITER GLASS	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 5/17/07

Sample I.D.: MW-44D
Duplicate I.D.:
Time Sampling Began: 1115
Time Sampling Complete: 1140

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 661.76
Depth of Well Below MP (TD): 93.97
Depth to Water Below MP (DTW): 41.49
Water Column (WC) in Well (TD - DTW): 52.48
Casing Diameter: 2"
Gallons in Well (WC x GPF): 8.4

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 25+

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: NONE Odor: NONE Turbidity: CLEAR

Well Volumes:	3 GAL.	6 GAL.	18 GAL.	25+ GAL.		
pH:	7.40	7.52	7.63	7.62		
Spec. Cond.:	330	334	338	337		
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.7	15.7	15.6	15.6		

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
PCB's	1 LITER GLASS	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

APPENDIX A-3

WATER SAMPLING LOG FORMS FOR SEPTEMBER 2007 MONITORING EVENT

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 9/6/07

Sample I.D.: MW-2
Duplicate I.D.:
Time Sampling Began: 1055
Time Sampling Complete: 1130

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 82.25
Depth to Water Below MP (DTW): 47.02
Water Column (WC) in Well (TD - DTW): 35.23
Casing Diameter: 2"
Gallons in Well (WC x GPF): 6

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 18

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: DK. BROWN Odor: NONE Turbidity: TURBID

Well Volumes:		8 GAL.	15 GAL.			
pH:	10.02	9.92	9.89			
Spec. Cond.:	1160	1135	1103			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	16.1	16.1	15.9			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH
PCE	3 x 40 ml. GLASS	HCl

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 9-6-07

Sample I.D.: MW-5
Duplicate I.D.:
Time Sampling Began: 920
Time Sampling Complete: 945

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 92
Depth to Water Below MP (DTW): 49.3
Water Column (WC) in Well (TD - DTW): 42.7
Casing Diameter: 2"
Gallons in Well (WC x GPF): 7.0

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 21

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: LT. BROWN Odor: NONE Turbidity: CLEAR

Well Volumes:	5 GAL.	10 GAL.	20 GAL.			
pH:	8.47	8.48	8.50			
Spec. Cond.:	912	872	856			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	16.5	15.7	15.9			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH
PCE	3 x 40 ml. GLASS	HCl

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 9/6/07

Sample I.D.: MW-12
Duplicate I.D.: MW-12D
Time Sampling Began:
Time Sampling Complete:

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 68.42
Depth to Water Below MP (DTW): 14.52
Water Column (WC) in Well (TD - DTW):
Casing Diameter: 2"
Gallons in Well (WC x GPF):

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged:

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: Odor: Turbidity:

Well Volumes:						
pH:						
Spec. Cond.:						
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:						

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH
PCBs	1 LITER AMBER GLASS	4 degrees C

Sampline Personnel: R. FARGO, C. SMITH
Comments: NO SAMPLE.
WELL DAMAGED.

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 9/6/07

Sample I.D.: MW-16
Duplicate I.D.:
Time Sampling Began: 1125
Time Sampling Complete: 1145

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 83.12
Depth to Water Below MP (DTW): 40.19
Water Column (WC) in Well (TD - DTW): 42.93
Casing Diameter: 2"
Gallons in Well (WC x GPF):

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 21

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: DK. BROWN Odor: NONE Turbidity: TURBID

Well Volumes:	3 GAL.	12 GAL.	22 GAL.			
pH:	9.66	9.62	9.62			
Spec. Cond.:	905	830	816			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	16.2	16.0	15.9			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 9-6-07

Sample I.D.: MW-18
Duplicate I.D.:
Time Sampling Began: 1210
Time Sampling Complete: 1230

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 61.16
Depth to Water Below MP (DTW): 36.42
Water Column (WC) in Well (TD - DTW): 24.74
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 12

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: BROWN Odor: NONE Turbidity: CLOUDY

Well Volumes:	3 GAL.	7 GAL.		±10 GAL.		
pH:	9.94	9.79	9.82	9.83		
Spec. Cond.:	1082	1319	1121	1087		
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	16.2	16.8	17.9	17.9		

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH
PCE	3 x 40 ml. GLASS	HCl

Sampline Personnel: R. FARGO, C. SMITH
Comments: PUMPED TO MAX. DRAWDOWN, THEN SAMPLED.

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 9-6-07

Sample I.D.: MW-28
Duplicate I.D.:
Time Sampling Began: 1150
Time Sampling Complete: 1220

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 46.20
Depth to Water Below MP (DTW): 21.69
Water Column (WC) in Well (TD - DTW): 24.51
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4.0

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 12

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: LT. BROWN Odor: NONE Turbidity: CLOUDY

Well Volumes:	2 GAL.	6 GAL.	12 GAL.			
pH:	6.77	6.75	6.59			
Spec. Cond.:	323	299	295			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.8	15.4	15.5			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 9-6-07

Sample I.D.: MW-31
Duplicate I.D.: MW-31D (1320)
Time Sampling Began: 1245
Time Sampling Complete: 1315

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 67.58
Depth to Water Below MP (DTW): 38.48
Water Column (WC) in Well (TD - DTW): 29.10
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4.6

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 14

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: dark brown Odor: none Turbidity: slight

Well Volumes:		3 gal	10 GAL.	15 GAL.		
pH:		9.91	9.94	9.93		
Spec. Cond.:		1098	1105	1104		
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:		16.3	15.6	15.6		

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH
PCE	3 x 40 ml. GLASS	HCl

Sampline Personnel: R. FARGO, C. SMITH
Comments:

FB-1
1645

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 9-6-07

Sample I.D.: MW-32
Duplicate I.D.: MW-32D 1630
Time Sampling Began: 1600
Time Sampling Complete: 1620

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 57.36
Depth to Water Below MP (DTW): 32.95
Water Column (WC) in Well (TD - DTW): 24.41
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 12

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: BROWN Odor: NONE Turbidity: SLIGHT

Well Volumes:						
pH:						
Spec. Cond.:						
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:						

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH

Sampline Personnel: R. FARGO, C. SMITH
Comments: NO FIELD PARAMETERS. METER DEAD.
PURGED 15 GAL. THEN SAMPLED.

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 9-6-07

Sample I.D.: MW-35
Duplicate I.D.:
Time Sampling Began: 1515
Time Sampling Complete: 1530

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 46.94
Depth to Water Below MP (DTW): 34.89
Water Column (WC) in Well (TD - DTW): 12.05
Casing Diameter: 2"
Gallons in Well (WC x GPF): 2

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 6

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: DK. BROWN Odor: NONE Turbidity: CLOUDY

Well Volumes:	2 GAL.	4 GAL.	6 GAL.	8 GAL.		
pH:	7.66	9.22	9.40	9.39		
Spec. Cond.:	271	528	581	592		
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	17.2	18.6	19.0	19.2		

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 9-6-07

Sample I.D.: MW-36
Duplicate I.D.:
Time Sampling Began: 1545
Time Sampling Complete: 1610

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 52.08
Depth to Water Below MP (DTW): 32.59
Water Column (WC) in Well (TD - DTW): 19.49
Casing Diameter: 2"
Gallons in Well (WC x GPF): 3+

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 9+

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: Odor: Turbidity:

Well Volumes:						
pH:						
Spec. Cond.:						
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:						

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH

Sampline Personnel: R. FARGO, C. SMITH
Comments: NO FIELD PARAMETERS, METER COOKED BY SUN?
PURGED 12+ GALLONS, THEN SAMPLED.

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 9-6-07

Sample I.D.: MW-37
Duplicate I.D.:
Time Sampling Began: 1455
Time Sampling Complete: 1515

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 36.90
Depth to Water Below MP (DTW): 21.62
Water Column (WC) in Well (TD - DTW): 15.28
Casing Diameter: 2"
Gallons in Well (WC x GPF): 2.5

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 8

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: LT. BROWN Odor: NONE Turbidity: TURBID

Well Volumes:	2 GAL.	8 GAL.	10+GAL.			
pH:	7.10	6.84	6.88			
Spec. Cond.:	296	265	267			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	17.4	17.6	17.5			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
pH, Spec. Cond., F	500 ml. PLASTIC	4 degrees C
DISS. As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (1 MICRON)
TOTAL & AMENABLE CN	250 ml. PLASTIC	NaOH

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 9/6/07

Sample I.D.: MW-44s
Duplicate I.D.:
Time Sampling Began: 1020
Time Sampling Complete: 1040

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 69.05
Depth to Water Below MP (DTW): 40.95
Water Column (WC) in Well (TD - DTW): 28.1
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4.5

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 14

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: NONE Odor: NONE Turbidity: CLEAR

Well Volumes:		8 GAL.	15 GAL.			
pH:	7.52	7.50	7.50			
Spec. Cond.:	416	415	420			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.9	15.9	15.9			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
PCBs	1 LITER AMBER GLASS	4 degrees C

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 9/6/07

Sample I.D.: MW-44D
Duplicate I.D.:
Time Sampling Began: 1000
Time Sampling Complete: 1020

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation:
Depth of Well Below MP (TD): 93.97
Depth to Water Below MP (DTW): 41.48
Water Column (WC) in Well (TD - DTW): 52.49
Casing Diameter: 2"
Gallons in Well (WC x GPF): 8.4

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 25

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: NONE Odor: NONE Turbidity: CLEAR

Well Volumes:	3 GAL.	12 GAL.	25 GAL.			
pH:	8.22	8.19	8.16			
Spec. Cond.:	351	340	338			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	16.0	15.9	15.9			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
PCBs	1 LITER AMBER GLASS	4 degrees C

Sampline Personnel: R. FARGO, C. SMITH
Comments:

HYDROSYSTEMS MANAGEMENT, INC.
WATER SAMPLING LOG FORM

Project Name: ORMET-REDUCTION MILL
Project #: HM00322
Location: HANNIBAL, OHIO
Date: 9-6-07

Sample I.D.: MW-39S
Duplicate I.D.:
Time Sampling Began: 1415
Time Sampling Complete: 1430

WELL EVACUATION DATA

Description of Measuring Point (MP): TOP OF PVC
MP Elevation: 657.3
Depth of Well Below MP (TD): 60.23
Depth to Water Below MP (DTW): 34.00
Water Column (WC) in Well (TD - DTW): 26.23
Casing Diameter: 2"
Gallons in Well (WC x GPF): 4+

GALLONS PER FOOT (GPF)				
1"=0.04	2"=0.16	3"=0.37	4"=0.65	6"=1.47

Gallons to be Purged: 13

Evacuation Method: 12 Volt submersible purge pump

SAMPLING DATA AND FIELD PARAMETERS

Color: BROWN Odor: NONE Turbidity: SLIGHT

Well Volumes:	5 GAL	10 GAL	20 GAL			
pH:	9.59	9.57	9.55			
Spec. Cond.:	3240	2930	2810			
Diss. Oxygen:						
Turbidity:						
Redox:						
Temp.:	15.9	15.4	15.2			

Sampling Method and Materials: VOCs-disposable polypropylene bailer and rope; All others 12 volt submersible pump

Parameters to be Analyzed	Container Description	Preservative
DISSOLVED As, Be, Mn, Na, V	250 ml. PLASTIC	HNO_3 - FIELD FILTERED (IMICRON)
TOTAL CN, AMENABLE CN	250 ml. PLASTIC	NAOH
pH, SPEC. COND., F	500 ml. PLASTIC	4 degrees celsius

Sampline Personnel: R. FARGO, C. SMITH
Comments:

Appendix B

APPENDIX B

LABORATORY ANALYTICAL REPORTS

Appendix B-1 Laboratory Analytical Report for February 2007 Monitoring Event

Appendix B-2 Laboratory Analytical Report for May 2007 Monitoring Event

Appendix B-3 Laboratory Analytical Report for September 2007 Monitoring Event

APPENDIX B-1

LABORATORY ANALYTICAL REPORT FOR FEBRUARY 2007 MONITORING EVENT

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Export, PA 15632
Phone: (724) 733-1161
Fax: (724) 327-7793

Client Receipt

Mr. Robert L. Fargo
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Pace Project: 07-1502
No. of Samples: 17
Date Logged: 02/28/2007
Date Printed: 02/28/2007

Client Ref. : HM00322
Client Site : Reduction Mill

Samples were received into Pace Analytical on Wednesday, February 28, 2007. Listed below are the assigned laboratory sample IDs with the requested test programs appearing on subsequent pages. In all correspondence regarding these samples, please make reference to project number 07-1502. This document confirms the receipt of your samples. Project inquiries should be directed to Rachel D. Christner at (724) 733-1161.

Pace Sample ID	Client Reference	Location	Matrix	Date Sampled
0702-3542	MW-2	MW-2	Aqueous	02/26/2007
0702-3543	MW-5	MW-5	Aqueous	02/26/2007
0702-3544	MW-12	MW-12	Aqueous	02/26/2007
0702-3545	MW-12D	MW-12	Aqueous	02/26/2007
0702-3546	MW-16	MW-16	Aqueous	02/26/2007
0702-3547	MW-18	MW-18	Aqueous	02/26/2007
0702-3548	MW-28	MW-28	Aqueous	02/26/2007
0702-3549	MW-31	MW-31	Aqueous	02/26/2007
0702-3550	MW-32	MW-32	Aqueous	02/26/2007
0702-3551	MW-35	MW-35	Aqueous	02/26/2007
0702-3552	MW-36	MW-36	Aqueous	02/26/2007
0702-3553	MW-36D	MW-36	Aqueous	02/26/2007
0702-3554	MW-37	MW-37	Aqueous	02/26/2007
0702-3555	MW-44S	MW-44S	Aqueous	02/26/2007
0702-3556	MW-44D	MW-44D	Aqueous	02/26/2007
0702-3557	Field Blank	Field Blank	Aqueous	02/26/2007
0702-3558	Trip Blank	Trip Blank	Aqueous	02/26/2007

Login Notes:

The recommended holding time for pH requires immediate analysis. The samples were received past the recommended holding time for pH. Cooler temperature 1 ° C upon receipt. Ice was present.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0702-3542 , 0702-3543 , 0702-3547 , 0702-3549 , 0702-3557

Suite/Test Name	Test Method	Report Limit
Dissolved Metals		
Trace Metals, Dissolved, ICP	6010B[1]	
Arsenic		0.0040 mg/l
Beryllium		0.00050 mg/l
Manganese		0.010 mg/l
Sodium		0.50 mg/l
Vanadium		0.010 mg/l
Dissolved Metals Digestion	3005	N/A
General Chemistry		
Cyanide (Amenable)	335.1[2]	0.010 mg/l
Cyanide (Total)	335.4[2]	0.0050 mg/l
Fluoride	340.2[2]	0.10 mg/l
pH	150.1[2]	1.00 pH
Specific Conductance	120.1[2]	1.0 umhos/cm
Cyanide Distillation	335.1[2]	N/A
Cyanide Distillation	335.4[2]	N/A
Fluoride Distillation	340.2[2]	N/A
VOC's		
Volatile Organic Compounds, MS	8260B[1]	
Tetrachloroethene		0.0050 mg/l
VOA 8260 Prep	8260B[1]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

[2] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0702-3544 , 0702-3545

Suite/Test Name	Test Method	Report Limit
Dissolved Metals		
Trace Metals, Dissolved, ICP	6010B[1]	
Arsenic		0.0040 mg/l
Beryllium		0.00050 mg/l
Manganese		0.010 mg/l
Sodium		0.50 mg/l
Vanadium		0.010 mg/l
Dissolved Metals Digestion	3005	N/A
General Chemistry		
Cyanide (Amenable)	335.1[2]	0.010 mg/l
Cyanide (Total)	335.4[2]	0.0050 mg/l
Fluoride	340.2[2]	0.10 mg/l
pH	150.1[2]	1.00 pH
Specific Conductance	120.1[2]	1.0 umhos/cm
Cyanide Distillation	335.1[2]	N/A
Cyanide Distillation	335.4[2]	N/A
Fluoride Distillation	340.2[2]	N/A
PCB's		
Polychlorinated Biphenyls, ECD	8082[1]	
Aroclor-1016		0.50 mg/l
Aroclor-1221		0.50 mg/l
Aroclor-1232		0.50 mg/l
Aroclor-1242		0.50 mg/l
Aroclor-1248		0.50 mg/l
Aroclor-1254		0.50 mg/l
Aroclor-1260		0.50 mg/l
PCB Total-TCL		0.50 ug/l
PCB Prep	8082[1]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

[2] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0702-3546 , 0702-3548 , 0702-3550 , 0702-3551 , 0702-3552 , 0702-3553 , 0702-3554

Suite/Test Name	Test Method	Report Limit
Dissolved Metals		
Trace Metals, Dissolved, ICP	6010B[1]	
Arsenic		0.0040 mg/l
Beryllium		0.00050 mg/l
Manganese		0.010 mg/l
Sodium		0.50 mg/l
Vanadium		0.010 mg/l
Dissolved Metals Digestion	3005	N/A
General Chemistry		
Cyanide (Amenable)	335.1[2]	0.010 mg/l
Cyanide (Total)	335.4[2]	0.0050 mg/l
Fluoride	340.2[2]	0.10 mg/l
pH	150.1[2]	1.00 pH
Specific Conductance	120.1[2]	1.0 umhos/cm
Cyanide Distillation	335.1[2]	N/A
Cyanide Distillation	335.4[2]	N/A
Fluoride Distillation	340.2[2]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

[2] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0702-3555 , 0702-3556

Suite/Test Name	Test Method	Report Limit
PCB's		
Polychlorinated Biphenyls, ECD	8082[1]	
Aroclor-1016		0.50 mg/l
Aroclor-1221		0.50 mg/l
Aroclor-1232		0.50 mg/l
Aroclor-1242		0.50 mg/l
Aroclor-1248		0.50 mg/l
Aroclor-1254		0.50 mg/l
Aroclor-1260		0.50 mg/l
PCB Total-TCL		0.50 ug/l
PCB Prep	8082[1]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0702-3558

Suite/Test Name	Test Method	Report Limit
Trip Blank		
Volatile Organic Compounds, MS	8260B[1]	
Tetrachloroethene		0.0050 mg/l
VOA 8260 Prep	8260B[1]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

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March 16, 2007

Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Dear Mr. Fargo:

Enclosed are analytical results for samples submitted to Pace Analytical by Hydro Systems Management, Inc.. The samples were received on February 28, 2007. The results reported in this project meet the requirements as specified in Chapter 5 of the NELAC Standards. Any deviations or discrepancies from the NELAC standards are documented in the case narrative(s) of this report. Parameters printed in italics represent Non-NELAC accredited parameters. Please reference Pace project number 07-1502 when inquiring about this report.

Client Site: Reduction Mill
Client Ref.: HM00322

Pace Sample Identification	Client Sample Identification
0702-3542	MW-2
0702-3543	MW-5
0702-3544	MW-12
0702-3545	MW-12D
0702-3546	MW-16
0702-3547	MW-18
0702-3548	MW-28
0702-3549	MW-31
0702-3550	MW-32

Pace Sample Identification	Client Sample Identification
0702-3551	MW-35
0702-3552	MW-36
0702-3553	MW-36D
0702-3554	MW-37
0702-3555	MW-44S
0702-3556	MW-44D
0702-3557	Field Blank
0702-3558	Trip Blank

General Comments: The recommended holding time for pH requires immediate analysis. The samples were received past the recommended holding time for pH. Cooler temperature 1 ° C upon receipt. Ice was present. Insufficient sample volume has been provided for the performance of a sample matrix spike/matrix spike duplicate, therefore extraction of a blank (reagent water) spike and spike duplicate have been performed.

REPORT OF LABORATORY ANALYSIS

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Please call me if you have any questions regarding the information contained within this report.

Sincerely,

Rachel D. Christner
Project Manager

RDC: jld

Enclosures

Page 1 of 47

cc: John Reggi, Ormet Primary Aluminum Corporation

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-1502**
Lab Sample ID: **0702-3542**
Client Sample ID: MW-2
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	2.5	0.010	mg/l	DAH	03/08/2007	0058460-1	<0.010
Cyanide (Total)	335.4(1)	15	0.35	mg/l	DAH	02/28/2007	0058103-1	<0.010
Fluoride	340.2(1)	32	0.20	mg/l	CK0	03/02/2007	0058463-1	0.10
pH	150.1(1)	9.54	1.00	pH	APD	02/28/2007	0058096-1	7.75
Specific Conductance	120.1(1)	1600	1.0	umhos/cm	AMC	03/01/2007	0058098-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.046	0.0040	mg/l	CS0	03/06/2007	0058089-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	03/06/2007	0058089-1	<0.00050
Manganese	6010B(2)	0.49	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010
Sodium	6010B(2)	330	0.50	mg/l	CS0	03/06/2007	0058089-1	<0.50
Vanadium	6010B(2)	0.028	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	0.037	0.0050	mg/l	MAK	03/11/2007	0058468-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Fluoride Method Blank at detection limit, results near this level may also be biased high. CK 3/13/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-1502**
Lab Sample ID: **0702-3543**
Client Sample ID: MW-5
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.90	0.010	mg/l	DAH	03/08/2007	0058460-1	<0.010
Cyanide (Total)	335.4(1)	6.2	0.11	mg/l	DAH	02/28/2007	0058103-1	<0.010
Fluoride	340.2(1)	21	0.10	mg/l	CK0	03/02/2007	0058463-1	0.10
pH	150.1(1)	8.27	1.00	pH	APD	02/28/2007	0058096-1	7.75
Specific Conductance	120.1(1)	1400	1.0	umhos/cm	AMC	03/01/2007	0058098-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	*6010B(2)*	*<0.0040*	*0.0040*	*mg/l*	*CS0*	*03/06/2007*	*0058089-1*	*<0.0040*
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	03/06/2007	0058089-1	<0.00050
Manganese	6010B(2)	0.36	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010
Sodium	6010B(2)	230	0.50	mg/l	CS0	03/06/2007	0058089-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	<0.0050	0.0050	mg/l	MAK	03/11/2007	0058468-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Fluoride Method Blank at detection limit, results near this level may also be biased high. CK 3/13/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-1502**
Lab Sample ID: **0702-3544**
Client Sample ID: MW-12
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Total)	335.4(1)	<0.010	0.010	mg/l	DAH	02/28/2007	0058103-1	<0.010
Fluoride	340.2(1)	0.63	0.10	mg/l	CK0	03/02/2007	0058463-1	0.10
pH	150.1(1)	7.68	1.00	pH	APD	02/28/2007	0058096-1	7.75
Specific Conductance	120.1(1)	620	1.0	umhos/cm	AMC	03/01/2007	0058098-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	03/06/2007	0058089-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	03/06/2007	0058089-1	<0.00050
Manganese	6010B(2)	2.0	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010
Sodium	6010B(2)	25	0.50	mg/l	CS0	03/06/2007	0058089-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010

Pesticides/PCB

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Polychlorinated Biphenyls, ECD								
Aroclor-1016	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1221	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1232	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1242	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1248	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1254	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1260	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
PCB Total-TCL	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Fluoride Method Blank at detection limit, results near this level may also be biased high. CK 3/13/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-1502**
Lab Sample ID: **0702-3545**
Client Sample ID: MW-12D
Sample Matrix: Aqueous

MW-12 DUP.

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Total)	335.4(1)	<0.010	0.010	mg/l	DAH	02/28/2007	0058103-1	<0.010
Fluoride	340.2(1)	0.60	0.10	mg/l	CK0	03/02/2007	0058463-1	0.10
pH	150.1(1)	7.50	1.00	pH	APD	02/28/2007	0058096-1	7.75
Specific Conductance	120.1(1)	620	1.0	umhos/cm	AMC	03/01/2007	0058098-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	03/06/2007	0058089-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	03/06/2007	0058089-1	<0.00050
Manganese	6010B(2)	1.9	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010
Sodium	6010B(2)	24	0.50	mg/l	CS0	03/06/2007	0058089-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010

Pesticides/PCB

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Polychlorinated Biphenyls, ECD								
Aroclor-1016	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1221	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1232	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1242	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1248	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1254	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1260	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
PCB Total-TCL	8082(2)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Fluoride Method Blank at detection limit, results near this level may also be biased high. CK 3/13/07

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Washington, PA 15301

Lab Project ID: **07-1502**
Lab Sample ID: **0702-3546**
Client Sample ID: MW-16
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	03/08/2007	0058460-1	<0.010
Cyanide (Total)	335.4(1)	7.4	0.21	mg/l	DAH	02/28/2007	0058103-1	<0.010
Fluoride	340.2(1)	38	0.20	mg/l	CK0	03/02/2007	0058463-1	0.10
pH	150.1(1)	9.30	1.00	pH	APD	02/28/2007	0058096-1	7.75
Specific Conductance	120.1(1)	1300	1.0	umhos/cm	AMC	03/01/2007	0058098-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.045	0.0040	mg/l	CS0	03/06/2007	0058089-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	03/06/2007	0058089-1	<0.00050
Manganese	6010B(2)	0.62	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010
Sodium	6010B(2)	240	0.50	mg/l	CS0	03/06/2007	0058089-1	<0.50
Vanadium	6010B(2)	0.045	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Fluoride Method Blank at detection limit, results near this level may also be biased high. CK 3/13/07

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Washington, PA 15301

Lab Project ID: **07-1502**
Lab Sample ID: **0702-3547**
Client Sample ID: MW-18
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	03/08/2007	0058460-1	<0.010
Cyanide (Total)	335.4(1)	2.2	0.050	mg/l	DAH	02/28/2007	0058103-1	<0.010
Fluoride	340.2(1)	84	0.20	mg/l	CK0	03/02/2007	0058463-1	0.10
pH	150.1(1)	9.47	1.00	pH	APD	02/28/2007	0058096-1	7.75
Specific Conductance	120.1(1)	2000	1.0	umhos/cm	AMC	03/01/2007	0058098-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.058	0.0040	mg/l	CS0	03/06/2007	0058089-1	<0.0040
Beryllium	6010B(2)	0.0012	0.00050	mg/l	CS0	03/06/2007	0058089-1	<0.00050
Manganese	6010B(2)	1.2	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010
Sodium	6010B(2)	300	0.50	mg/l	CS0	03/06/2007	0058089-1	<0.50
Vanadium	6010B(2)	0.056	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	<0.0050	0.0050	mg/l	MAK	03/11/2007	0058468-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Matrix interference in total cyanide MS due to sample concentration 10 X that of the spike concentration. DAH 3/1/07 Total cyanide concentration significantly greater after chlorination than before, possibly due to oxidation of organic nitrogen compounds. DAH 3/12/07 Fluoride Method Blank at detection limit, results near this level may also be biased high. CK 3/13/07

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Lab Project ID: **07-1502**
Lab Sample ID: **0702-3548**
Client Sample ID: MW-28
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.020	0.010	mg/l	DAH	03/08/2007	0058460-1	<0.010
Cyanide (Total)	335.4(1)	0.47	0.050	mg/l	DAH	02/28/2007	0058103-1	<0.010
Fluoride	340.2(1)	0.78	0.15	mg/l	CK0	03/02/2007	0058463-1	0.10
pH	150.1(1)	6.24	1.00	pH	APD	02/28/2007	0058096-1	7.75
Specific Conductance	120.1(1)	470	1.0	umhos/cm	AMC	03/01/2007	0058098-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	03/06/2007	0058089-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	03/06/2007	0058089-1	<0.00050
Manganese	6010B(2)	<0.010	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010
Sodium	6010B(2)	65	0.50	mg/l	CS0	03/06/2007	0058089-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Fluoride Method Blank at detection limit, results near this level may also be biased high. CK 3/13/07

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Lab Project ID: **07-1502**
Lab Sample ID: **0702-3549**
Client Sample ID: MW-31
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	1.5	0.010	mg/l	DAH	03/08/2007	0058460-1	<0.010
Cyanide (Total)	335.4(1)	8.8	0.21	mg/l	DAH	02/28/2007	0058103-1	<0.010
Fluoride	340.2(1)	42	0.30	mg/l	CK0	03/02/2007	0058463-1	0.10
pH	150.1(1)	9.72	1.00	pH	APD	02/28/2007	0058096-1	7.75
Specific Conductance	120.1(1)	1600	1.0	umhos/cm	AMC	03/01/2007	0058098-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.034	0.0040	mg/l	CS0	03/06/2007	0058089-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	03/06/2007	0058089-1	<0.00050
Manganese	6010B(2)	0.59	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010
Sodium	6010B(2)	330	0.50	mg/l	CS0	03/06/2007	0058089-1	<0.50
Vanadium	6010B(2)	0.036	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	0.046	0.0050	mg/l	MAK	03/11/2007	0058468-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Fluoride Method Blank at detection limit, results near this level may also be biased high. CK 3/13/07

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Lab Project ID: **07-1502**
Lab Sample ID: **0702-3550**
Client Sample ID: MW-32
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.30	0.010	mg/l	DAH	03/08/2007	0058460-1	<0.010
Cyanide (Total)	335.4(1)	9.7	0.21	mg/l	DAH	02/28/2007	0058103-1	<0.010
Fluoride	340.2(1)	69	0.30	mg/l	CK0	03/02/2007	0058463-1	0.10
pH	150.1(1)	10.03	1.00	pH	APD	02/28/2007	0058096-1	7.75
Specific Conductance	120.1(1)	1700	1.0	umhos/cm	AMC	03/01/2007	0058098-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.059	0.0040	mg/l	CS0	03/06/2007	0058089-1	<0.0040
Beryllium	6010B(2)	0.00078	0.00050	mg/l	CS0	03/06/2007	0058089-1	<0.00050
Manganese	6010B(2)	1.8	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010
Sodium	6010B(2)	340	0.50	mg/l	CS0	03/06/2007	0058089-1	<0.50
Vanadium	6010B(2)	0.095	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Fluoride Method Blank at detection limit, results near this level may also be biased high. CK 3/13/07

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Lab Project ID: **07-1502**
Lab Sample ID: **0702-3551**
Client Sample ID: MW-35
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	03/08/2007	0058460-1	<0.010
Cyanide (Total)	335.4(1)	22	0.35	mg/l	DAH	02/28/2007	0058103-1	<0.010
Fluoride	340.2(1)	45	0.10	mg/l	CK0	03/02/2007	0058463-1	0.10
pH	150.1(1)	9.49	1.00	pH	APD	02/28/2007	0058096-1	7.75
Specific Conductance	120.1(1)	1200	1.0	umhos/cm	AMC	03/01/2007	0058098-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.014	0.0040	mg/l	CS0	03/06/2007	0058089-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	03/06/2007	0058089-1	<0.00050
Manganese	6010B(2)	0.61	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010
Sodium	6010B(2)	120	0.50	mg/l	CS0	03/06/2007	0058089-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide concentration significantly greater after chlorination than before, possibly due to oxidation of organic nitogen compounds. DAH 3/12/07 Fluoride Method Blank at detection limit, results near this level may also be biased high. CK 3/13/07

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Lab Project ID: **07-1502**
Lab Sample ID: **0702-3552**
Client Sample ID: MW-36
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	03/08/2007	0058460-1	<0.010
Cyanide (Total)	335.4(1)	12	0.21	mg/l	DAH	02/28/2007	0058103-1	<0.010
Fluoride	340.2(1)	22	0.20	mg/l	CK0	03/02/2007	0058463-1	0.10
pH	150.1(1)	9.07	1.00	pH	APD	02/28/2007	0058096-1	7.75
Specific Conductance	120.1(1)	940	1.0	umhos/cm	AMC	03/01/2007	0058098-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	03/06/2007	0058089-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	03/06/2007	0058089-1	<0.00050
Manganese	6010B(2)	0.082	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010
Sodium	6010B(2)	180	0.50	mg/l	CS0	03/06/2007	0058089-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide concentration significantly greater after chlorination than before, possibly due to oxidation of organic nitrogen compounds. DAH 3/12/07 Fluoride Method Blank at detection limit, results near this level may also be biased high. CK 3/13/07

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Lab Project ID: **07-1502**
Lab Sample ID: **0702-3553**
Client Sample ID: MW-36D
Sample Matrix: Aqueous

MW-36 DUP.

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	03/08/2007	0058460-1	<0.010
Cyanide (Total)	335.4(1)	13	0.35	mg/l	DAH	02/28/2007	0058103-1	<0.010
Fluoride	340.2(1)	20	0.20	mg/l	CKO	03/02/2007	0058463-1	0.10
pH	150.1(1)	9.07	1.00	pH	APD	02/28/2007	0058096-1	7.75
Specific Conductance	120.1(1)	950	1.0	umhos/cm	AMC	03/01/2007	0058098-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.0056	0.0040	mg/l	CSO	03/06/2007	0058089-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CSO	03/06/2007	0058089-1	<0.00050
Manganese	6010B(2)	0.11	0.010	mg/l	CSO	03/06/2007	0058089-1	<0.010
Sodium	6010B(2)	180	0.50	mg/l	CSO	03/06/2007	0058089-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CSO	03/06/2007	0058089-1	<0.010

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Fluoride Method Blank at detection limit, results near this level may also be biased high. CK 3/13/07

REPORT OF LABORATORY ANALYSIS

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-1502**
Lab Sample ID: **0702-3554**
Client Sample ID: MW-37
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	03/08/2007	0058460-1	<0.010
Cyanide (Total)	335.4(1)	2.1	0.050	mg/l	DAH	02/28/2007	0058103-1	<0.010
Fluoride	340.2(1)	12	0.20	mg/l	CK0	03/02/2007	0058463-1	0.10
pH	150.1(1)	7.22	1.00	pH	APD	02/28/2007	0058096-1	7.75
Specific Conductance	120.1(1)	500	1.0	umhos/cm	AMC	03/01/2007	0058098-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.0090	0.0040	mg/l	CS0	03/06/2007	0058089-1	<0.0040
Beryllium	6010B(2)	0.00085	0.00050	mg/l	CS0	03/06/2007	0058089-1	<0.00050
Manganese	6010B(2)	1.7	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010
Sodium	6010B(2)	54	0.50	mg/l	CS0	03/06/2007	0058089-1	<0.50
Vanadium	6010B(2)	0.030	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Duplicate of this sample for amenable cyanide failed; normal error is exaggerated by large concentrations requiring dilution. DAH 3/12/07 Fluoride Method Blank at detection limit, results near this level may also be biased high. CK 3/13/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
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Washington, PA 15301

Lab Project ID: **07-1502**
Lab Sample ID: **0702-3555**
Client Sample ID: MW-44S
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

Pesticides/PCB

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Polychlorinated Biphenyls, ECD								
Aroclor-1016	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1221	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1232	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1242	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1248	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1254	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1260	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
PCB Total-TCL	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50

(1) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Washington, PA 15301

Lab Project ID: **07-1502**
Lab Sample ID: **0702-3556**
Client Sample ID: MW-44D
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

Pesticides/PCB

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Polychlorinated Biphenyls, ECD								
Aroclor-1016	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1221	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1232	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1242	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1248	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1254	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
Aroclor-1260	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50
PCB Total-TCL	8082(1)	<0.50	0.50	mg/l	RDJ	03/08/2007	0058142-1	<0.50

(1) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Lab Project ID: **07-1502**
Lab Sample ID: **0702-3557**
Client Sample ID: Field Blank
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Total)	335.4(1)	<0.010	0.010	mg/l	DAH	03/02/2007	0058149-1	<0.010
Fluoride	340.2(1)	0.14	0.10	mg/l	CK0	03/02/2007	0058463-1	0.10
pH	150.1(1)	6.87	1.00	pH	APD	02/28/2007	0058096-1	7.75
Specific Conductance	120.1(1)	4.1	1.0	umhos/cm	AMC	03/01/2007	0058098-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	03/06/2007	0058089-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	03/06/2007	0058089-1	<0.00050
Manganese	6010B(2)	<0.010	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010
Sodium	6010B(2)	<0.50	0.50	mg/l	CS0	03/06/2007	0058089-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	03/06/2007	0058089-1	<0.010

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	<0.0050	0.0050	mg/l	MAK	03/11/2007	0058468-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Fluoride Method Blank at detection limit, results near this level may also be biased high. CK 3/13/07

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Washington, PA 15301

Lab Project ID: **07-1502**
Lab Sample ID: **0702-3558**
Client Sample ID: Trip Blank
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 02/26/2007
Date Received: 02/28/2007

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B[1]	<0.0050	0.0050	mg/l	MAK	03/11/2007	0058468-1	<0.0050

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Project Number 07-1502

Metals Analysis - ICP

Parameter	Chemical Symbol	EPA or Standard Method	SW846 Method	Holding Time	Bottle Type and Volume	Preservative
Arsenic	As	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Beryllium	Be	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Manganese	Mn	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Sodium	Na	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Vanadium	V	200.7	6010	6 Months	250ml Plastic	Nitric Acid

Pace Analytical

Metals Data Reporting Form

Preparation Blank Results

Lab Sample ID: QC58089MB D

Matrix: Water **Units:** ug/L **Prep Date:** 3/1/2007 **Prep Batch:** 58089

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	IDL	Report Limit	Conc	Q	DF	Instr	Anal Date	Anal Time
Arsenic	189.042	1.7	5.0	1.7	U	1	ICP	3/6/2007	22:11
Beryllium	313.042	0.070	1.0	0.070	U	1	ICP	3/6/2007	22:11
Manganese	**257.61**	**0.20**	**5.0**	**0.53**	**B**	**1**	**ICP**	**3/6/2007**	**22:11**
Sodium	330.232	170	1000	170	U	1	ICP	3/6/2007	22:11
Vanadium	292.402	0.40	5.0	-0.56	B	1	ICP	3/6/2007	22:11

Comments: QC Data for 07-1502

U Result is less than the MDL

B Result is between MDL and RL

Pace Analytical

Metals Data Reporting Form

Laboratory Control Sample Results

Lab Sample ID: QC58089LCS

Matrix: Water **Units:** ug/L **Prep Date:** 3/1/2007 **Prep Batch:** 58089

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	Spike Level	Conc	Percent Recovery	Q	Range	DF	Instr	Anal Date	Anal Time
Arsenic	189.042	500	507	101.5		80-120	1	ICP	3/6/2007	22:15
Beryllium	313.042	500	499	99.9		80-120	1	ICP	3/6/2007	22:15
Manganese	257.61	500	499	99.7		80-120	1	ICP	3/6/2007	22:15
Sodium	330.232	5000	4580	91.6		80-120	1	ICP	3/6/2007	22:15
Vanadium	292.402	500	503	100.6		80-120	1	ICP	3/6/2007	22:15

Comments:

Version 4.80.0

U Result is less than the MDL

B Result is between MDL and RL

Form 7 Equivalent

Pace Analytical

Metals Data Reporting Form

Sample Duplicate RPD Report

Duplicate Sample ID:	1502-0702-3545 D		**Client ID:**	MW-12	
Original Sample ID:	1502-0702-3544 D		**Acceptable Range:**	+/- 20%	
Matrix: Water	**Units:** ug/L		**Prep Date:** 3/1/2007		**Prep Batch:** 58089
Weight: NA	**Volume:** 50		**Percent Moisture:** NA		

Element	WL/ Mass	OS Conc	Q	Dupe Conc	Q	% RPD	OS DF	Dupe DF	Instr	OS Anal Date	OS Anal Time	Dupe Anal Date	Dupe Anal Time
Arsenic	189.042	3.3	B	1.7	U	-64.0%	1	1	ICP	3/6/2007	22:20	3/6/2007	22:23
Beryllium	313.042	0.07	U	0.07	U	0.0%	1	1	ICP	3/6/2007	22:20	3/6/2007	22:23
Manganese	257.61	1980		1890		-4.7%	1	1	ICP	3/6/2007	22:20	3/6/2007	22:23
Sodium	330.232	24500		24200		-1.2%	1	1	ICP	3/6/2007	22:20	3/6/2007	22:23
Vanadium	292.402	0.4	U	0.4	U	0.0%	1	1	ICP	3/6/2007	22:20	3/6/2007	22:23

U Result is less than the MDL
B Result is between MDL and RL
R Duplicate analysis RPD was not within limits

Pace Analytical

Metals Data Reporting Form

Matrix Spike Sample Results

Spike Sample ID: QC58089MS D

Original Sample ID: 1502-0702-3544 D **Client ID:** MW-12

Matrix: Water **Units:** ug/L **Prep Date:** 3/1/2007 **Prep Batch:** 58089

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	OS Conc	Q	MS Conc	Q	Spike Level	% Rec	OS DF	MS DF	Instr	OS Anal Date	OS Anal Time	MS Anal Date	MS Anal Time
Arsenic	189.0	3.3	B	498		500	98.8	1	1	ICP	3/6/2007	22:20	3/6/2007	22:26
Beryllium	313.0	0.070	U	491		500	98.2	1	1	ICP	3/6/2007	22:20	3/6/2007	22:26
Manganese	257.6	1980		2380		500	81.1	1	1	ICP	3/6/2007	22:20	3/6/2007	22:26
Sodium	330.2	24500		29800	NC	5000		1	1	ICP	3/6/2007	22:20	3/6/2007	22:26
Vanadium	292.4	0.40	U	495		500	99.0	1	1	ICP	3/6/2007	22:20	3/6/2007	22:26

Comments: **QC Range 80 - 120**

Version 4.80.0

U Result is less than the MDL
B Result is between MDL and RL
N Spike recovery failed
NC Percent recovery was not calculated
R Duplicate analysis RPD was not within limits

Form 5A Equivalent

Pace Analytical

Metals Data Reporting Form

Matrix Spike Duplicate Sample Results

Spike Sample ID: QC58089MSD

Original Sample ID: 1502-0702-3544 D **Client ID:** MW-12

Matrix: Water **Units:** ug/L **Prep Date:** 3/1/2007 **Prep Batch:** 58089

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	OS Conc	Q	MSD Conc	Q	Spike Level	% Rec	OS DF	MSD DF	Instr	OS Anal Date	OS Anal Time	MSD Anal Date	MSD Anal Time
Arsenic	189.0	3.3	B	493		500	97.9	1	1	ICP	3/6/2007	22:20	3/6/2007	22:29
Beryllium	313.0	0.070	U	486		500	97.2	1	1	ICP	3/6/2007	22:20	3/6/2007	22:29
Manganese	257.6	1980		2360		500	77.3	1	1	ICP	3/6/2007	22:20	3/6/2007	22:29
Sodium	330.2	24500		29400	NC	5000		1	1	ICP	3/6/2007	22:20	3/6/2007	22:29
Vanadium	292.4	0.40	U	490		500	98.0	1	1	ICP	3/6/2007	22:20	3/6/2007	22:29

Comments: **QC Range 80 - 120**

Version 4.80.0

U Result is less than the MDL
B Result is between MDL and RL
N Spike recovery failed
NC Percent recovery was not calculated
R Duplicate analysis RPD was not within limits

Form 5A Equivalent

Pace Analytical

Metals Data Reporting Form

Matrix Spike Duplicate RPD Report

Matrix Spike Duplicate Sample ID:	QC58089MSD	**Client ID:**	MW-12
Marix Spike Sample ID:	QC58089MSD	**Acceptable Range:**	+/- 20%
Matrix: Water	**Units:** ug/L	**Prep Date:** 3/1/2007	**Prep Batch:** 58089
Weight: NA	**Volume:** 50	**Percent Moisture:** NA	

Element	WL/ Mass	MS Conc	Q	MSD Conc	Q	% RPD	MS DF	MSD DF	Instr	MS Anal Date	MS Anal Time	MSD Anal Date	MSD Anal Time
Arsenic	189.042	498		493		-1.0%	1	1	ICP	3/6/2007	22:26	3/6/2007	22:29
Beryllium	313.042	491		486		-1.0%	1	1	ICP	3/6/2007	22:26	3/6/2007	22:29
Manganese	257.61	2380		2360		-0.8%	1	1	ICP	3/6/2007	22:26	3/6/2007	22:29
Sodium	330.232	29800		29400		-1.4%	1	1	ICP	3/6/2007	22:26	3/6/2007	22:29
Vanadium	292.402	495		490		-1.0%	1	1	ICP	3/6/2007	22:26	3/6/2007	22:29

U Result is less than the MDL
B Result is between MDL and RL
R Duplicate analysis RPD was not within limits

Project Number 07-1502

Volatiles Analysis

Parameter	EPA or Standard Method	SW846 Method	Holding Time	Bottle Type and Volume	Preservative
Tetrachloroethene	624	8260	14 Days	3/ 40ml Vials	Hydrochloric Acid

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : PASI-PGH Contract :
Project : 07-1502 Site : Location : Group :
Lab File ID (Standard): 20311004.D Date Analyzed : 11 Mar 2007
Instrument ID : GC/MS Ins Time Analyzed : 14:35
GC Column : Rtx-VMS ID : 0.18(mm) Heated Purge (Y:N) : N

File	Sample	SMC1 (DCE) #	SMC2 (TOL) #	SMC3 (BFB) #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
20311006	LCS[20]	104	89	91	0	0	0	0
20311008	VBLK	108	87	91	0	0	0	0
20311022	07-1502 02-3542	111	90	95	0	0	0	0
20311024	07-1502 02-3543	114	91	90	0	0	0	0
20311026	07-1502 02-3547	107	91	92	0	0	0	0
20311028	07-1502 02-3549	108	88	91	0	0	0	0
20311030	07-1502 02-3557	105	89	92	0	0	0	0
20311032	07-1502 02-3558	109	90	91	0	0	0	0

		QC Limits
SMC1 (DCE)	= 1,2-Dichloroethane-d4	(70 -130)
SMC2 (TOL)	= Toluene-d8	(70 -130)
SMC3 (BFB)	= Bromofluorobenzene	(70 -130)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

VOA LCS Blank Summary Report

Data File : D:\DATA\2070311\2\20311006.D
Acq On : 11 Mar 2007 15:02
Sample : LCS[20]
Misc : V2-26-5
Matrix : WATERrams: RTEINT.P

Vial: 6
Operator: MAK
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\METHODS\2AL03052.M (RTE Integrator)
Title : 8260 Water Concentrator #2
Last Update : Tue Mar 06 14:49:59 2007
Response via : Single (D:\DATA\2070311\2\20311004.D 11 Mar 2007 14:35)

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
42)	S	1,2-Dichloroethane-d	31.26	30.00	104.20	70 to 130%	[ ]
58)	S	Toluene-d8	26.62	30.00	88.72	70 to 130%	[ ]
83)	S	Bromofluorobenzene	27.22	30.00	90.74	70 to 130%	[ ]
2)	T	Dichlorodifluorometh	9.01	20.00	45.04	70 to 130%	[*]
3)	T	Chloromethane	12.83	20.00	64.15	70 to 130%	[*]
4)	T	Vinyl Chloride	13.96	20.00	69.80	70 to 130%	[*]
5)	T	Bromomethane	19.42	20.00	97.08	70 to 130%	[ ]
6)	M	Chloroethane	19.57	20.00	97.84	70 to 130%	[ ]
7)	T	Trichlorofluorometha	19.93	20.00	99.63	70 to 130%	[ ]
8)	T	Ethyl Ether	28.27	20.00	141.35	70 to 130%	[*]
9)	T	Acrolein	26.95	20.00	134.73	70 to 130%	[*]
10)	T	1,1-Dichloroethene	21.15	20.00	105.73	70 to 130%	[ ]
11)	T	112Trichloro122trifl	32.26	20.00	161.31	70 to 130%	[*]
12)	T	Acetone	19.92	20.00	99.60	70 to 130%	[ ]
13)	M	Iodomethane	76.65	50.00	153.31	70 to 130%	[*]
14)	T	Carbon Disulfide	43.42	20.00	217.12	70 to 130%	[*]
15)	M	Acetonitrile	52.05	50.00	104.09	70 to 130%	[ ]
16)	T	Methyl acetate	48.71	20.00	243.54	70 to 130%	[*]
17)	T	Methylene Chloride	21.28	20.00	106.38	70 to 130%	[ ]
18)	T	TBA, tertButylalcoho	50.04	50.00	100.08	70 to 130%	[ ]
19)	T	Acrylonitrile	17.83	20.00	89.16	70 to 130%	[ ]
20)	T	trans-1,2-Dichloroet	22.72	20.00	113.61	70 to 130%	[ ]
21)	T	Allyl chloride	74.18	50.00	148.36	70 to 130%	[*]
22)	T	tert-butyl Methyleth	22.87	20.00	114.37	70 to 130%	[ ]
23)	T	Vinyl acetate	3.73	20.00	18.65	70 to 130%	[*]
24)	T	Hexane	38.89	20.00	194.45	70 to 130%	[*]
25)	T	1,1-Dichloroethane	21.68	20.00	108.38	70 to 130%	[ ]
26)	M	Chloroprene	24.78	20.00	123.92	70 to 130%	[ ]
27)	M	t-Butyl ethyl ether	22.72	20.00	113.60	70 to 130%	[ ]
28)	M	2,2-Dichloropropane	22.38	20.00	111.91	70 to 130%	[ ]
29)	T	cis-1,2-Dichloroethe	20.26	20.00	101.30	70 to 130%	[ ]
30)	T	2-Butanone	19.15	20.00	95.73	70 to 130%	[ ]
31)	T	Propionitrile	19.58	20.00	97.92	70 to 130%	[ ]
32)	T	Ethyl acetate	3.93	20.00	19.64	70 to 130%	[*]
33)	T	Diisopropylether	22.26	20.00	111.30	70 to 130%	[ ]
34)	T	Bromochloromethane	21.40	20.00	106.99	70 to 130%	[ ]
35)	M	Methacrylonitrile	18.97	20.00	94.87	70 to 130%	[ ]
36)	T	Tetrahydrofuran	14.65	20.00	73.26	70 to 130%	[ ]
37)	T	Chloroform	21.89	20.00	109.46	70 to 130%	[ ]
38)	T	1,1,1-Trichloroethan	22.27	20.00	111.36	70 to 130%	[ ]
39)	T	Cyclohexane	24.55	20.00	122.76	70 to 130%	[ ]

* = out of control limits

VOA LCS Blank Summary Report

Data File : D:\DATA\2070311\2\20311006.D
Acq On : 11 Mar 2007 15:02
Sample : LCS[20]
Misc : V2-26-5
Matrix : WATERrams: RTEINT.P

Vial: 6
Operator: MAK
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\METHODS\2AL03052.M (RTE Integrator)
Title : 8260 Water Concentrator #2
Last Update : Tue Mar 06 14:49:59 2007
Response via : Single (D:\DATA\2070311\2\20311004.D 11 Mar 2007 14:35)

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
40)	T	Carbon Tetrachloride	21.43	20.00	107.14	70 to 130%	[ ]
41)	T	1,1-Dichloropropene	19.63	20.00	98.16	70 to 130%	[ ]
43)	T	Benzene	19.84	20.00	99.18	70 to 130%	[ ]
44)	T	1,2-Dichloroethane	21.28	20.00	106.39	70 to 130%	[ ]
45)	M	Isobutanol	60.74	50.00	121.49	70 to 130%	[ ]
46)	M	t-Amyl methyl ether	20.81	20.00	104.06	70 to 130%	[ ]
47)	T	Trichloroethene	19.86	20.00	99.29	70 to 130%	[ ]
48)	T	Methylcyclohexane	22.71	20.00	113.56	70 to 130%	[ ]
49)	T	1,2-Dichloropropane	19.40	20.00	97.01	70 to 130%	[ ]
50)	T	Dibromomethane	20.68	20.00	103.40	70 to 130%	[ ]
51)	M	Methyl methacrylate	18.96	20.00	94.80	70 to 130%	[ ]
52)	T	Bromodichloromethane	20.39	20.00	101.95	70 to 130%	[ ]
53)	M	2-Nitropropane	57.74	50.00	115.48	70 to 130%	[ ]
54)	T	2-Chloroethylvinylet	23.99	20.00	119.95	70 to 130%	[ ]
55)	T	cis-1,3-Dichloroprop	19.91	20.00	99.56	70 to 130%	[ ]
56)	T	4-Methyl-2-Pentanone	18.90	20.00	94.51	70 to 130%	[ ]
59)		1,4-Dioxane	172.03	200.00	86.02	70 to 130%	[ ]
60)	T	Toluene	18.44	20.00	92.18	70 to 130%	[ ]
61)	T	trans-1,3-Dichloropr	18.40	20.00	92.01	70 to 130%	[ ]
62)	M	Ethyl methacrylate	18.49	20.00	92.47	70 to 130%	[ ]
63)	T	1,1,2-Trichloroethan	18.48	20.00	92.39	70 to 130%	[ ]
64)	T	Tetrachloroethene	20.21	20.00	101.05	70 to 130%	[ ]
65)	T	1,3-Dichloropropane	18.87	20.00	94.33	70 to 130%	[ ]
66)	T	2-Hexanone	16.82	20.00	84.12	70 to 130%	[ ]
67)	T	Dibromochloromethane	18.58	20.00	92.92	70 to 130%	[ ]
68)	T	1,2-Dibromoethane,ED	19.20	20.00	95.99	70 to 130%	[ ]
69)	T	Chlorobenzene	19.52	20.00	97.62	70 to 130%	[ ]
70)	T	1,1,1,2-Tetrachloroe	19.05	20.00	95.23	70 to 130%	[ ]
71)	T	Ethylbenzene	19.18	20.00	95.92	70 to 130%	[ ]
72)	T	m,p-Xylene	38.04	40.00	95.11	70 to 130%	[ ]
73)	T	o-Xylene	18.89	20.00	94.44	70 to 130%	[ ]
74)	MG	Xylenes (Total)	56.91	60.00	94.84	70 to 130%	[ ]
75)	T	Styrene	19.65	20.00	98.23	70 to 130%	[ ]
77)	T	Bromoform	18.02	20.00	90.11	70 to 130%	[ ]
78)	M	Cyclohexanone	33.80	50.00	67.61	70 to 130%	[*]
79)	T	n-Propylbenzene	18.25	20.00	91.24	70 to 130%	[ ]
80)	M	2-Chlorotoluene	19.92	20.00	99.61	70 to 130%	[ ]
81)	T	1,3,5-Trimethylbenze	18.59	20.00	92.93	70 to 130%	[ ]
82)	T	Isopropylbenzene,Cum	18.91	20.00	94.56	70 to 130%	[ ]
84)	M	Bromobenzene	19.34	20.00	96.68	70 to 130%	[ ]
85)	T	1,1,2,2-Tetrachloroe	17.11	20.00	85.53	70 to 130%	[ ]

* = out of control limits

VOA LCS Blank Summary Report

Data File : D:\DATA\2070311\2\20311006.D
Acq On : 11 Mar 2007 15:02
Sample : LCS[20]
Misc : V2-26-5
Matrix : WATERrams: RTEINT.P

Vial: 6
Operator: MAK
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\METHODS\2AL03052.M (RTE Integrator)
Title : 8260 Water Concentrator #2
Last Update : Tue Mar 06 14:49:59 2007
Response via : Single (D:\DATA\2070311\2\20311004.D 11 Mar 2007 14:35)

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
86)	T	1,2,3-Trichloropropa	16.95	20.00	84.77	70 to 130%	[ ]
87)	M	trans-1,4-Dichloro-2	21.84	20.00	109.20	70 to 130%	[ ]
88)	M	4-Chlorotoluene	19.27	20.00	96.35	70 to 130%	[ ]
89)	M	tert-Butyl benzene	18.35	20.00	91.76	70 to 130%	[ ]
90)	T	1,2,4-Trimethylbenze	18.23	20.00	91.14	70 to 130%	[ ]
91)	M	sec-Butyl benzene	16.83	20.00	84.16	70 to 130%	[ ]
92)	T	1,3-Dichlorobenzene	19.22	20.00	96.09	70 to 130%	[ ]
93)	M	4-Isopropyl toluene	18.44	20.00	92.20	70 to 130%	[ ]
94)	T	1,4-Dichlorobenzene	19.41	20.00	97.04	70 to 130%	[ ]
95)	T	1,2-Dichlorobenzene	19.63	20.00	98.13	70 to 130%	[ ]
96)	M	n-Butyl benzene	17.85	20.00	89.23	70 to 130%	[ ]
97)	M	bis(2-Chloro-1-methy	15.63	20.00	78.17	70 to 130%	[ ]
98)	T	1,2-Dibromo-3-chloro	18.28	20.00	91.42	70 to 130%	[ ]
99)	T	1,2,4-Trichlorobenze	19.22	20.00	96.11	70 to 130%	[ ]
100)	M	Hexachlorobutadiene	17.33	20.00	86.65	70 to 130%	[ ]
101)	T	Naphthalene	18.20	20.00	91.01	70 to 130%	[ ]
102)	M	1,2,3-Trichlorobenze	19.32	20.00	96.60	70 to 130%	[ ]

* = out of control limits

Spike Recovery and RPD Summary Report - WATER

Method : D:\METHODS\2AL03052.M (RTE Integrator)
Title : 8260 Water Concentrator #2
Last Update : Tue Mar 06 14:49:59 2007
Response via : Initial Calibration

Non-Spiked Sample: 20311022.D

	Spike Sample	Spike Duplicate Sample
File ID :	20311050.D	20311052.D
Sample :	07-1502 02-3542MS	07-1502 02-3542MSD
Acq Time:	12 Mar 2007 00:46	12 Mar 2007 1:12

Surrogate	Sample Conc	Amnt Added	Sampl %Rec	Spike Conc	Spike %Rec	Dup Conc	Dup %Rec	QC Limits % Rec
1,2-Dichloroethane-d	33.4	30	111	32.5	108	31.8	106	70-130
Toluene-d8	27.1	30	90	27.8	93	26.9	90	70-130
Bromofluorobenzene	28.5	30	95	28.1	94	27.1	90	70-130

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
Dichlorodiflu	0.0	20	9	9	44.0#	45.6#	3.7	30	70-130
Chloromethane	0.0	20	12	12	59.9#	59.2#	1.2	30	70-130
Vinyl Chlorid	0.0	20	13	13	65.8#	67.5#	2.6	30	70-130
Bromomethane	0.0	20	15	17	76.8	83.0	7.7	30	70-130
Chloroethane	0.0	20	19	19	94.4	95.2	0.9	30	70-130
Trichlorofluo	0.0	20	20	20	97.8	100.0	2.3	30	70-130
Ethyl Ether	0.0	20	24	25	117.9	125.0	5.8	30	70-130
Acrolein	0.0	20	27	29	136.4#	144.1#	5.5	30	70-130
1,1-Dichloroe	2.5	20	23	24	103.8	107.9	3.9	30	70-130
112Trichloro1	0.0	20	29	30	145.2#	150.6#	3.7	30	70-130
Acetone	0.0	20	17	18	86.8	87.9	1.3	30	70-130
Iodomethane	0.0	50	62	68	123.9	136.0#	9.3	30	70-130
Carbon Disulf	0.0	20	38	40	190.0#	202.2#	6.2	30	70-130
Acetonitrile	0.0	50	43	47	86.5	94.4	8.7	30	70-130
Methyl acetat	0.0	20	41	41	207.1#	202.7#	2.1	30	70-130
Methylene Chl	0.0	20	21	21	103.4	105.4	1.9	30	70-130
TBA, tertButy	0.0	50	42	44	84.3	88.8	5.2	30	70-130
Acrylonitrile	0.0	20	17	17	83.9	83.1	0.9	30	70-130
trans-1,2-Dic	0.0	20	22	22	109.5	112.1	2.3	30	70-130
Allyl chlorid	0.0	50	56	62	113.0	124.1	9.4	30	70-130
tert-butyl Me	0.0	20	19	20	97.0	99.7	2.8	30	70-130
Vinyl acetate	0.0	20	3	3	14.1#	16.0#	12.8	30	70-130
Hexane	0.0	20	32	35	159.3#	175.1#	9.4	30	70-130
1,1-Dichloroe	11.6	20	33	33	104.9	109.5	4.2	30	70-130
Chloroprene	0.0	20	23	24	114.8	119.9	4.3	30	70-130
t-Butyl ethyl	0.0	20	20	20	99.8	101.7	1.9	30	70-130
2,2-Dichlorop	0.0	20	19	19	93.7	95.3	1.7	30	70-130
cis-1,2-Dichl	1.4	20	20	20	94.1	90.5	3.9	30	70-130
2-Butanone	0.0	20	15	15	76.6	76.3	0.4	30	70-130
Propionitrile	0.0	20	16	17	79.5	83.6	5.1	30	70-130
Ethyl acetate	0.0	20	3	3	15.4#	15.5#	0.8	30	70-130
Diisopropylet	0.0	20	19	19	94.2	96.5	2.4	30	70-130
Bromochlorome	0.0	20	20	20	101.4	102.0	0.5	30	70-130
Methacrylonit	0.0	20	16	16	81.6	81.2	0.4	30	70-130
Tetrahydrofur	0.0	20	13	13	63.5#	64.5#	1.4	30	70-130
Chloroform	0.0	20	21	20	103.4	102.0	1.3	30	70-130
1,1,1-Trichlo	45.4	20	69	70	119.2	125.2	4.9	30	70-130
Cyclohexane	0.0	20	22	23	110.6	114.9	3.8	30	70-130
Carbon Tetrac	0.0	20	21	22	103.0	108.6	5.3	30	70-130
1,1-Dichlorop	0.0	20	19	19	96.6	97.4	0.8	30	70-130
Benzene	0.0	20	18	19	91.1	93.4	2.5	30	70-130
1,2-Dichloroe	0.0	20	20	20	101.7	101.5	0.1	30	70-130
Isobutanol	14.6	50	47	43	65.3#	57.2#	13.3	30	70-130
t-Amyl methyl	0.0	20	17	17	85.0	86.4	1.6	30	70-130
Trichloroethe	3.2	20	21	22	90.5	94.4	4.2	30	70-130
Methylcyclohe	0.0	20	20	21	99.9	107.2	7.1	30	70-130
1,2-Dichlorop	0.0	20	18	18	89.8	88.1	2.0	30	70-130
Dibromomethan	0.0	20	19	19	97.2	97.4	0.2	30	70-130

Methyl methac	0.0	20	15	16	75.4	78.8	4.4	30	70-130
Bromodichloro	0.0	20	19	19	93.1	94.6	1.5	30	70-130
2-Nitropropan	0.0	50	49	51	97.8	101.7	3.9	30	70-130
2-Chloroethyl	0.0	20	4	4	20.7#	18.7#	10.3	30	70-130
cis-1,3-Dichl	0.0	20	17	18	84.1	89.1	5.7	30	70-130
4-Methyl-2-Pe	0.0	20	16	16	79.8	80.2	0.6	30	70-130
Toluene	0.0	20	18	17	87.9	85.6	2.7	30	70-130
trans-1,3-Dic	0.0	20	17	16	83.4	82.0	1.7	30	70-130
Ethyl methacr	0.0	20	15	15	76.5	76.3	0.3	30	70-130
1,1,2-Trichlo	0.0	20	17	17	87.4	85.6	2.1	30	70-130
Tetrachloroet	37.3	20	57	57	98.0	97.5	0.4	30	70-130
1,3-Dichlorop	0.0	20	18	18	87.9	87.9	0.0	30	70-130
2-Hexanone	0.0	20	14	14	70.9	70.9	0.0	30	70-130
Dibromochloro	0.0	20	17	17	84.0	84.9	1.0	30	70-130
1,2-Dibromoet	0.0	20	17	18	87.3	88.6	1.6	30	70-130
Chlorobenzene	0.0	20	18	18	91.2	88.1	3.4	30	70-130
1,1,1,2-Tetra	0.0	20	17	17	84.5	87.1	3.1	30	70-130
Ethylbenzene	0.0	20	18	17	88.3	87.0	1.6	30	70-130
m,p-Xylene	0.0	40	36	35	88.8	87.3	1.6	30	70-130
o-Xylene	0.0	20	17	17	85.4	84.8	0.7	30	70-130
Xylenes (Tota	0.0	60	53	52	87.6	86.5	1.3	30	70-130
Styrene	0.0	20	17	17	84.6	84.6	0.1	30	70-130
Bromoform	0.0	20	16	16	80.7	81.6	1.1	30	70-130
Cyclohexanone	0.0	50	8	8	15.3#	16.2#	6.2	30	70-130
n-Propylbenze	0.0	20	16	16	81.9	81.7	0.2	30	70-130
2-Chlorotolue	0.0	20	17	17	85.3	84.8	0.7	30	70-130
1,3,5-Trimeth	0.0	20	17	16	82.9	82.5	0.5	30	70-130
Isopropylbenz	0.0	20	17	17	85.1	84.3	0.9	30	70-130
Bromobenzene	0.0	20	17	18	87.2	87.6	0.5	30	70-130
1,1,2,2-Tetra	0.0	20	15	15	77.2	77.0	0.3	30	70-130
1,2,3-Trichlo	0.0	20	15	16	77.2	81.1	5.0	30	70-130
trans-1,4-Dic	0.0	20	16	18	78.8	88.0	11.1	30	70-130
4-Chlorotolue	0.0	20	17	17	85.3	82.8	2.9	30	70-130
tert-Butyl be	0.0	20	17	17	85.0	85.5	0.6	30	70-130
1,2,4-Trimeth	0.0	20	16	16	80.5	77.8	3.5	30	70-130
sec-Butyl ben	0.0	20	15	15	74.8	75.2	0.5	30	70-130
1,3-Dichlorob	0.0	20	17	17	84.0	83.1	1.2	30	70-130
4-Isopropyl t	0.0	20	16	16	81.2	81.2	0.1	30	70-130
1,4-Dichlorob	0.0	20	16	17	82.4	82.8	0.5	30	70-130
1,2-Dichlorob	0.0	20	17	17	85.4	83.8	1.9	30	70-130
n-Butyl benze	0.0	20	15	15	75.0	75.2	0.3	30	70-130
bis(2-Chloro-	0.0	20	13	13	63.0#	64.6#	2.5	30	70-130
1,2-Dibromo-3	0.0	20	16	16	80.3	80.7	0.5	30	70-130
1,2,4-Trichlo	0.0	20	15	14	73.0	71.6	2.0	30	70-130
Hexachlorobut	0.0	20	12	13	61.3#	63.7#	3.7	30	70-130
Naphthalene	0.0	20	14	14	70.7	71.3	0.9	30	70-130
1,2,3-Trichlo	0.0	20	14	14	71.3	72.2	1.3	30	70-130

- Fails Limit Check

2AL03052.M Tue Mar 13 07:26:47 2007 HP2

Pace Analytical Services, Inc.-PGH

Matrix: H_2O

LIMS QC Batch #: 58142

Analytical Method: 8082

Extraction Method: 3510

Solvent	Lot #				
CH_2Cl_2	X295-02	NaOH			
Hexane	X289-03B	H_2SO_4			
Na_2SO_4	X297-01	Surrogate: X291-03, 1.0 ppm, 1.0 mL			
		Matrix Spike: X295-03, 2.5 ppm, 1.0 mL			
		Matrix Spike:			

Date	Project #	Sample ID	Analyst	Initial Volume	Final Volume	pH 5-9	Comments
03/02/07	1516	BLK	CMB	1L	10 mL	✓	
		LCS		1L			
		LCSD		1L			Insufficient sample provided for MS/MSD.
		3619 A		950 mL			logged in Past Holding Time
	1502	3544 B		960 mL			
		3545 B		950 mL			
		3555 A		960 mL			
		3556 A		965 mL			

AC
3/2/07

AC
3/2/07
6:50PM

Project Number 07-1502

PCB Analysis

Parameter	EPA or Standard Method	SW846 Method	Holding Time	Bottle Type and Volume	Preservative
Aroclor-1016	608	8082	7/30 days*	Liter Glass Amber	None
Aroclor-1221	608	8082	7/30 days*	Liter Glass Amber	None
Aroclor-1232	608	8082	7/30 days*	Liter Glass Amber	None
Aroclor-1242	608	8082	7/30 days*	Liter Glass Amber	None
Aroclor-1248	608	8082	7/30 days*	Liter Glass Amber	None
Aroclor-1254	608	8082	7/30 days*	Liter Glass Amber	None
Aroclor-1260	608	8082	7/30 days*	Liter Glass Amber	None
PCB Total-TCL	608	8082	7/30 days*	Liter Glass Amber	None

*7/30 days = 7 days for extraction, 30 days for analysis on extract

2E
WATER AROCLOR SURROGATE RECOVERY

Lab Name: PACE ANALYTICAL SERVICES, Contract:

Lab Code: Case No.: 07-1502 SAS No.: SDG No.: 07-1502

GC Column(1): RTX-1701 ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX %REC #	DCB %REC #	S3 %REC #	S4 %REC #	S5 %REC #	S6 %REC #	TOT OUT
01	MW-12	93	71					0
02	MW-12D	105	91					0
03	MW-44S	87	90					0
04	MW-44D	105	94					0
05	PBLK	97	81					0
06	LCS	86	73					0
07	LCSD	92	83					0
08								
09								
10								
11								
12								
13								
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15								
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24								
25								
26								
27								
28								
29								
30								

ADVISORY
QC LIMITS

S1 (TCX) = Tetrachloro-m-xylene (30-150)
S2 (DCB) = Decachlorobiphenyl (30-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

FORM 3E
WATER AROCLOR LAB CONTROL SAMPLE

Lab Name: PACE ANALYTICAL SERVICES, Contract:

Lab Code: Case No.: 07-1502 SAS No.: SDG No.: 07-1502

Matrix Spike - Sample No.: LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Aroclor-1248	2.50		2.18	87	55-145

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Aroclor-1248	2.50	2.36	94	8	25	55-145

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

COMMENTS: The QC is Batch QC from Project 07-1516.

Project Number 07-1502

General Chemistry

Parameter	EPA or Standard Method	SW846 Method	Holding Time	Bottle Type and Volume	Preservative
Cyanide (Amenable)	335.1		14 days	250ml Plastic*	Sodium Hydroxide
Cyanide (Total)	335.2	4500-CN	14 days	250ml Plastic*	Sodium Hydroxide
Fluoride	340.1	4500-Fl	28 days	500ml Plastic**	None
pH	150.1	9040/9045	Immediate	500ml Plastic**	None
Specific Conductance	120.1	9050	28 days	500ml Plastic**	None

*Cyanide Total and Amenable are analyzed from the same bottle.
**Fluoride, pH, and Specific Conductance are analyzed from the same bottle.

Pace Analytical Services, Inc.
General Chemistry

Project 07-1502

	Sample	Blank	LCS	% REC	MS/MSD	% REC	DUP	% RPD
Total Cyanide	14.6	0	0.0935	93.5	2.14	0	15	3
Ammenable Cyanide	0	0	NA	NA	NA	NA	0.1	100%
Fluoride	0.631	0	2.08	104	19.92	98	0.602	5%

Ammenable Cyanide sample was zero and dup was 0.1
Total Cn sample >20 times spike value. Spike totally consumed by sample

Project Number 07-1502

Chain of Custody

HMI
Environmental Consulting Services

CHAIN-OF-CUSTODY RECORD

07-01502

Project Number	Project Name/Location	Container Description/ Number of Containers									
HM00322	ORMET REDUCTION Laboratory: PACE Sampling Personnel: R. FARGO / C. SMITH	500 mL PLASTIC pH, SPEC. COND, FLUORIDE	250 mL PLASTIC DISS. As, Be, Mn, Na, V	250 mL PLASTIC TOTAL & AMEN, CN	40 mL GLASS VIAL PCE	1L AMBER GLASS PCBs					
Sample ID	Date/Time 2-26-07	Sample Code									TOTAL
MW-2	950	L	1	1	1	3			02-3542		6
MW-5	815		1	1	1	3			43		6
MW-12	1245		1	1	1		1		44		4
MW-12D	1300		1	1	1		1		45		4
MW-16	1030		1	1	1				46		3
MW-18	1130		1	1	1	3			47		6
MW-28	1050		1	1	1				48		3
MW-31	1200		1	1	1	3			49		6
MW-32	1320		1	1	1				50		3
MW-35	1415		1	1	1				51		3
MW-36	1350		1	1	1				52		3
MW-36D	1350		1	1	1				53		3
MW-37	1400		1	1	1				54		3
MW-44S	915						1		55		1
MW-44D	900						1		56		1

Sample Code: L = Liquid; S = Solid; A = Air

Total Number of Containers: 55

Relinquished by: R J Fargo	Organization: HMI	Date: 2/27/07	Time: 730AM	Seal Intact?	
Received by:	Organization:	Date:	Time:	Yes No NA	
Relinquished by: Fed Ex	~~Organization:~~ Courier	Date:	Time:	Seal Intact?	
Received by: C Urbowitz	Organization: Pace	Date: 2-28-07	Time: 9:45	Yes No NA	

REMARKS: ~~[illegible]~~ ~~[illegible]~~
SAMPLES SHIPPED IN 2 COOLERS

DELIVERY METHOD: In Person [ ] Common Carrier [✓] Cou[illegible] [illegible]ther [ ]

HMI
Environmental Consulting Services

CHAIN–OF–CUSTODY RECORD

07-01502

Project Number	Project Name/Location		Container Description/ Number of Containers									
HM00322	ORMET REDUCTION		500 mL PLASTIC PH, SPEC. COND., FLUORIDE	250 mL PLASTIC DISS. As, Be, Mn, Na, V	250 mL PLASTIC TOTAL & AMEN, CN	40 mL GLASS VIALS PCE						
	Laboratory: PACE											
Sampling Personnel: R. FARGO / C. SMITH												
Sample ID	Date/Time: 2-26-07	Sample Code										TOTAL
FB	1440	L	1	1	1	3	02-	3557				6
TRIPBLANK		L				2		3558				2

Sample Code: L = Liquid; S = Solid; A = Air

Total Number of Containers: 8

Relinquished by: R Fargo	Organization: HMI	Date: 2/27/07	Time: 730AM	Seal Intact?		
Received by:	Organization:	Date:	Time:	Yes No NA		
Relinquished by: FedEx	Organization: Courier	Date:	Time:	Seal Intact?		
Received by: C Urbowitz	Organization: Pace	Date: 2-28-07	Time: 9:45	Yes No NA		

REMARKS: ~~SAMPLES IN 2 COOLERS~~
SAMPLES SHIPPED IN 2 COOLERS

DELIVERY METHOD: In Person [ ] Common Carrier [X] Lab Courier [ ] Other [ ]

APPENDIX B-2

LABORATORY ANALYTICAL REPORT FOR MAY 2007 MONITORING EVENT

Pace Analytical™
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5203 Triangle Lane
Export, PA 15632
Phone: (724) 733-1161
Fax: (724) 327-7793

Client Receipt

Mr. Robert L. Fargo
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Pace Project: 07-3724
No. of Samples: 12
Date Logged: 05/16/2007
Date Printed: 05/17/2007

Client Ref. : HM00322
Client Site : Reduction Mill

Samples were received into Pace Analytical on Wednesday, May 16, 2007. Listed below are the assigned laboratory sample IDs with the requested test programs appearing on subsequent pages. In all correspondence regarding these samples, please make reference to project number 07-3724. This document confirms the receipt of your samples. Project inquiries should be directed to Rachel D. Christner at (724) 733-1161.

Pace Sample ID	Client Reference	Location	Matrix	Date Sampled
0705-2511	MW-14	MW-14	Aqueous	05/15/2007
0705-2512	MW-39D	MW-39D	Aqueous	05/15/2007
0705-2513	MW-39S	MW-39S	Aqueous	05/15/2007
0705-2514	MW-42D	MW-42D	Aqueous	05/15/2007
0705-2515	MW-42S	MW-42S	Aqueous	05/15/2007
0705-2516	MW-17	MW-17	Aqueous	05/15/2007
0705-2517	MW-34D	MW-34D	Aqueous	05/15/2007
0705-2518	MW-34S	MW-34S	Aqueous	05/15/2007
0705-2519	MW-15	MW-15	Aqueous	05/15/2007
0705-2520	MW-15D	MW-15	Aqueous	05/15/2007
0705-2521	MW-36	MW-36	Aqueous	05/15/2007
0705-2522	MW-32	MW-32	Aqueous	05/15/2007

Login Notes:

The recommended holding time for pH requires immediate analysis. The samples were received past the recommended holding time for pH. Cooler temperature 2 ° C upon receipt. Ice was present.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0705-2511 , 0705-2512 , 0705-2513 , 0705-2514 , 0705-2515 , 0705-2516 , 0705-2517 , 0705-2518 , 0705-2519 , 0705-2520 , 0705-2521 , 0705-2522

Suite/Test Name	Test Method	Report Limit
Dissolved Metals		
Trace Metals, Dissolved, ICP	6010B[1]	
Arsenic		0.0040 mg/l
Beryllium		0.00050 mg/l
Manganese		0.010 mg/l
Sodium		0.50 mg/l
Vanadium		0.010 mg/l
Dissolved Metals Digestion	3005	N/A
General Chemistry		
Cyanide (Amenable)	335.1[2]	0.010 mg/l
Cyanide (Total)	335.2[2]	0.0050 mg/l
Fluoride	340.2[2]	0.10 mg/l
pH	150.1[2]	1.00 pH
Specific Conductance	120.1[2]	1.0 umhos/cm
Cyanide Distillation	335.1[2]	N/A
Cyanide Distillation	335.2[2]	N/A
Fluoride Distillation	340.2[2]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

[2] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

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Fax: (724) 327-7793

Client Receipt

Mr. John Reggi
Ormet Primary Aluminum Corporation
P.O. Box 176 / State Route 7
Hannibal, OH 43831

Pace Project: 07-3763
No. of Samples: 16
Date Logged: 05/17/2007
Date Printed: 05/23/2007

Client Ref. : Ground Water Program
Client Site : Hannibal, Ohio

Samples were received into Pace Analytical on Thursday, May 17, 2007. Listed below are the assigned laboratory sample IDs with the requested test programs appearing on subsequent pages. In all correspondence regarding these samples, please make reference to project number 07-3763. This document confirms the receipt of your samples. Project inquiries should be directed to Rachel D. Christner at (724) 733-1161.

Pace Sample ID	Client Reference	Location	Matrix	Date Sampled
0705-2753	MW-19		Aqueous	05/16/2007
0705-2754	MW-31		Aqueous	05/16/2007
0705-2755	MW-35		Aqueous	05/16/2007
0705-2756	MW-37		Aqueous	05/16/2007
0705-2757	MW-28		Aqueous	05/16/2007
0705-2758	MW-28D		Aqueous	05/16/2007
0705-2759	MW-30		Aqueous	05/16/2007
0705-2760	MW-18		Aqueous	05/16/2007
0705-2761	MW-29D		Aqueous	05/16/2007
0705-2762	MW-29S		Aqueous	05/16/2007
0705-2763	MW-16		Aqueous	05/16/2007
0705-2764	MW-1		Aqueous	05/16/2007
0705-2765	MW-2		Aqueous	05/16/2007
0705-2766	MW-40D		Aqueous	05/16/2007
0705-2767	MW-40S		Aqueous	05/16/2007
0705-2768	TB-1		Aqueous	05/16/2007

Login Notes:

Cooler temperature 4 ° C upon receipt. Ice was present.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0705-2753 , 0705-2755 , 0705-2756 , 0705-2757 , 0705-2758 , 0705-2761 , 0705-2762 , 0705-2763 , 0705-2764 , 0705-2766 , 0705-2767

Suite/Test Name	Test Method	Report Limit
General Chemistry		
Cyanide (Amenable)	335.1[1]	0.010 mg/l
Cyanide (Total)	9010B/9014[2]	0.010 mg/l
Fluoride	340.2[1]	0.10 mg/l
pH	150.1[1]	1.00 pH
Specific Conductance	120.1[1]	1.0 umhos/cm
Trace Metals, Dissolved, ICP	6010B[2]	
Arsenic		0.0040 mg/l
Beryllium		0.00050 mg/l
Manganese		0.010 mg/l
Sodium		0.50 mg/l
Vanadium		0.010 mg/l
Cyanide Distillation	335.1[1]	N/A
Cyanide Distillation	9010B/9014[2]	N/A
Dissolved Metals Digestion	3005	N/A
Fluoride Distillation	340.2[1]	N/A

[1] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

[2] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0705-2754 , 0705-2759 , 0705-2760 , 0705-2765

Suite/Test Name	Test Method	Report Limit
General Chemistry		
Cyanide (Amenable)	335.1[1]	0.010 mg/l
Cyanide (Total)	9010B/9014[2]	0.010 mg/l
Fluoride	340.2[1]	0.10 mg/l
pH	150.1[1]	1.00 pH
Specific Conductance	120.1[1]	1.0 umhos/cm
Trace Metals, Dissolved, ICP	6010B[2]	
Arsenic		0.0040 mg/l
Beryllium		0.00050 mg/l
Manganese		0.010 mg/l
Sodium		0.50 mg/l
Vanadium		0.010 mg/l
Volatile Organic Compounds, MS	8260B[2]	
Tetrachloroethene		0.0050 mg/l
Cyanide Distillation	335.1[1]	N/A
Cyanide Distillation	9010B/9014[2]	N/A
Dissolved Metals Digestion	3005	N/A
Fluoride Distillation	340.2[1]	N/A
VOA 8260 Prep	8260B[2]	N/A

[1] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
[2] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0705-2768

Suite/Test Name	Test Method	Report Limit
Volatile Organic Compounds, MS	8260B[1]	
Trichloroethene		5.0 ug/l
VOA 8260 Prep	8260B[1]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

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Client Receipt

Mr. Robert L. Fargo
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Pace Project: 07-3816
No. of Samples: 11
Date Logged: 05/18/2007
Date Printed: 05/18/2007

Client Ref. : HM00318
Client Site : Reduction Mill

Samples were received into Pace Analytical on Friday, May 18, 2007. Listed below are the assigned laboratory sample IDs with the requested test programs appearing on subsequent pages. In all correspondence regarding these samples, please make reference to project number 07-3816. This document confirms the receipt of your samples. Project inquiries should be directed to Rachel D. Christner at (724) 733-1161.

Pace Sample ID	Client Reference	Location	Matrix	Date Sampled
0705-2994	MW-7	MW-7	Aqueous	05/17/2007
0705-2995	MW-5	MW-5	Aqueous	05/17/2007
0705-2996	MW-11	MW-11	Aqueous	05/17/2007
0705-2997	MW-8	MW-8	Aqueous	05/17/2007
0705-2998	MW-10	MW-10	Aqueous	05/17/2007
0705-2999	MW-44D	MW-44D	Aqueous	05/17/2007
0705-3000	MW-44S	MW-44S	Aqueous	05/17/2007
0705-3001	MW-5D	MW-5	Aqueous	05/17/2007
0705-3002	MW-12	MW-12	Aqueous	05/17/2007
0705-3003	FB-1	Field Blank	Aqueous	05/17/2007
0705-3004	MW-41	MW-41	Aqueous	05/17/2007

Login Notes:

The recommended holding time for pH requires immediate analysis. The samples were received past the recommended holding time for pH. Cooler temperature 2 ° C upon receipt. Ice was present.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0705-2994 , 0705-2996 , 0705-2997 , 0705-2998 , 0705-3004

Suite/Test Name	Test Method	Report Limit
Dissolved Metals		
Trace Metals, Dissolved, ICP	6010B[1]	
Arsenic		0.0040 mg/l
Beryllium		0.00050 mg/l
Manganese		0.010 mg/l
Sodium		0.50 mg/l
Vanadium		0.010 mg/l
Dissolved Metals Digestion	3005	N/A
General Chemistry		
Cyanide (Amenable)	335.1[2]	0.010 mg/l
Cyanide (Total)	335.2[2]	0.0050 mg/l
Fluoride	340.2[2]	0.10 mg/l
pH	150.1[2]	1.00 pH
Specific Conductance	120.1[2]	1.0 umhos/cm
Cyanide Distillation	335.1[2]	N/A
Cyanide Distillation	335.2[2]	N/A
Fluoride Distillation	340.2[2]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

[2] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0705-2995 , 0705-3001

Suite/Test Name	Test Method	Report Limit
Dissolved Metals		
Trace Metals, Dissolved, ICP	6010B[1]	
Arsenic		0.0040 mg/l
Beryllium		0.00050 mg/l
Manganese		0.010 mg/l
Sodium		0.50 mg/l
Vanadium		0.010 mg/l
Dissolved Metals Digestion	3005	N/A
General Chemistry		
Cyanide (Amenable)	335.1[2]	0.010 mg/l
Cyanide (Total)	335.2[2]	0.0050 mg/l
Fluoride	340.2[2]	0.10 mg/l
pH	150.1[2]	1.00 pH
Specific Conductance	120.1[2]	1.0 umhos/cm
Cyanide Distillation	335.1[2]	N/A
Cyanide Distillation	335.2[2]	N/A
Fluoride Distillation	340.2[2]	N/A
VOC's		
Volatile Organic Compounds, MS	8260B[1]	
Tetrachloroethene		0.0050 mg/l
VOA 8260 Prep	8260B[1]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

[2] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0705-2999 , 0705-3000

Suite/Test Name	Test Method	Report Limit
PCB's		
Polychlorinated Biphenyls, ECD	8082[1]	
Aroclor-1016		0.50 mg/l
Aroclor-1221		0.50 mg/l
Aroclor-1232		0.50 mg/l
Aroclor-1242		0.50 mg/l
Aroclor-1248		0.50 mg/l
Aroclor-1254		0.50 mg/l
Aroclor-1260		0.50 mg/l
PCB Total-TCL		0.50 mg/l
PCB Prep	8082[1]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0705-3002

Suite/Test Name	Test Method	Report Limit
Trace Metals, Dissolved, ICP	6010B[1]	
Arsenic		0.0040 mg/l
Beryllium		0.00050 mg/l
Manganese		0.010 mg/l
Sodium		0.50 mg/l
Vanadium		0.010 mg/l
Dissolved Metals Digestion	3005	N/A
Cyanide (Amenable)	335.1[2]	0.010 mg/l
Cyanide (Total)	335.4[2]	0.010 mg/l
Fluoride	340.2[2]	0.10 mg/l
pH	150.1[2]	1.00 pH
Specific Conductance	120.1[2]	1.0 umhos/cm
Cyanide Distillation	335.1[2]	N/A
Cyanide Distillation	335.2[2]	N/A
Cyanide Distillation	335.4[2]	N/A
Fluoride Distillation	340.2[2]	N/A
PCB's		
Polychlorinated Biphenyls, ECD	8082[1]	
Aroclor-1016		0.50 mg/l
Aroclor-1221		0.50 mg/l
Aroclor-1232		0.50 mg/l
Aroclor-1242		0.50 mg/l
Aroclor-1248		0.50 mg/l
Aroclor-1254		0.50 mg/l
Aroclor-1260		0.50 mg/l
PCB Total-TCL		0.50 mg/l
PCB Prep	8082[1]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

[2] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0705-3003

Suite/Test Name	Test Method	Report Limit
Trace Metals, Dissolved, ICP	6010B[1]	
Arsenic		0.0040 mg/l
Beryllium		0.00050 mg/l
Manganese		0.010 mg/l
Sodium		0.50 mg/l
Vanadium		0.010 mg/l
Dissolved Metals Digestion	3005	N/A
Cyanide (Amenable)	335.1[2]	0.010 mg/l
Cyanide (Total)	335.2[2]	0.0050 mg/l
Fluoride	340.2[2]	0.10 mg/l
pH	150.1[2]	1.00 pH
Specific Conductance	120.1[2]	1.0 umhos/cm
Cyanide Distillation	335.1[2]	N/A
Cyanide Distillation	335.2[2]	N/A
Fluoride Distillation	340.2[2]	N/A
Volatile Organic Compounds, MS	8260B[1]	
Tetrachloroethene		0.0050 mg/l
VOA 8260 Prep	8260B[1]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

[2] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

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5203 Triangle Lane
Export, PA 15632
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Fax: 724.327.7793

May 31, 2007

Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Dear Mr. Fargo:

Enclosed are analytical results for samples submitted to Pace Analytical by Hydro Systems Management, Inc.. The samples were received on May 16, 2007. The results reported in this project meet the requirements as specified in Chapter 5 of the NELAC Standards. Any deviations or discrepancies from the NELAC standards are documented in the case narrative(s) of this report. Parameters printed in italics represent Non-NELAC accredited parameters. Please reference Pace project number 07-3724 when inquiring about this report.

Client Site: Reduction Mill
Client Ref.: HM00322

Pace Sample Identification	Client Sample Identification
0705-2511	MW-14
0705-2512	MW-39D
0705-2513	MW-39S
0705-2514	MW-42D
0705-2515	MW-42S
0705-2516	MW-17

Pace Sample Identification	Client Sample Identification
0705-2517	MW-34D
0705-2518	MW-34S
0705-2519	MW-15
0705-2520	MW-15D
0705-2521	MW-36
0705-2522	MW-32

General Comments: The recommended holding time for pH requires immediate analysis. The samples were received past the recommended holding time for pH. Cooler temperature 2 ° C upon receipt. Ice was present. The samples were subcontracted to Pace Analytical Services, Inc., 9800 Kincey Ave., Suite 100, Huntersville, NC 28078 for Specific Conductance analysis. Results of the analysis are reported on the Pace Analytical, Charlotte data tables.

REPORT OF LABORATORY ANALYSIS

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Export, PA 15632
Phone: 724.733.1161
Fax: 724.327.7793

Please call me if you have any questions regarding the information contained within this report.

Sincerely,

Rachel D. Christner
Project Manager

RDC: jld

Enclosures

Page 1 of 44

cc: John Reggi, Ormet Primary Aluminum Corporation

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Export, PA 15632
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Fax: 724.327.7793

Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3724**
Lab Sample ID: **0705-2511**
Client Sample ID: MW-14
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 05/15/2007
Date Received: 05/16/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1[1]	<0.010	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	335.4[1]	0.031	0.010	mg/l	DAH	05/18/2007	0060980-1	<0.010
Fluoride	340.2[1]	2.5	0.10	mg/l	CK0	05/30/2007	0061307-1	<0.10
pH	150.1[1]	7.55	1.00	pH	APD	05/16/2007	0060871-1	5.33

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B[2]	<0.0040	0.0040	mg/l	CS0	05/18/2007	0060849-1	<0.0040
Beryllium	6010B[2]	<0.00050	0.00050	mg/l	CS0	05/18/2007	0060849-1	<0.00050
Manganese	6010B[2]	1.1	0.010	mg/l	CS0	05/18/2007	0060849-1	<0.010
Sodium	6010B[2]	44	0.50	mg/l	CS0	05/18/2007	0060849-1	<0.50
Vanadium	6010B[2]	<0.010	0.010	mg/l	CS0	05/18/2007	0060849-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1[1]	Completed	1.0	umhos/cm			N/A	N/A

[1] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
[2] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3724**
Lab Sample ID: **0705-2512**
Client Sample ID: MW-39D
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 05/15/2007
Date Received: 05/16/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.012	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	335.4(1)	0.74	0.050	mg/l	DAH	05/18/2007	0060980-1	<0.010
Fluoride	340.2(1)	4.3	0.10	mg/l	CK0	05/30/2007	0061307-1	<0.10
pH	150.1(1)	7.42	1.00	pH	APD	05/16/2007	0060871-1	5.33

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	05/18/2007	0060849-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/18/2007	0060849-1	<0.00050
Manganese	6010B(2)	1.9	0.010	mg/l	CS0	05/18/2007	0060849-1	<0.010
Sodium	6010B(2)	150	0.50	mg/l	CS0	05/18/2007	0060849-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/18/2007	0060849-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Washington, PA 15301

Lab Project ID: **07-3724**
Lab Sample ID: **0705-2513**
Client Sample ID: MW-39S
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 05/15/2007
Date Received: 05/16/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.069	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	335.4(1)	5.7	0.50	mg/l	DAH	05/18/2007	0060980-1	<0.010
Fluoride	340.2(1)	180	0.50	mg/l	CK0	05/30/2007	0061307-1	<0.10
pH	150.1(1)	9.08	1.00	pH	APD	05/16/2007	0060871-1	5.33

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.012	0.0040	mg/l	CS0	05/18/2007	0060849-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/18/2007	0060849-1	<0.00050
Manganese	6010B(2)	0.11	0.010	mg/l	CS0	05/18/2007	0060849-1	<0.010
Sodium	6010B(2)	950	0.50	mg/l	CS0	05/18/2007	0060849-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/18/2007	0060849-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3724**
Lab Sample ID: **0705-2514**
Client Sample ID: MW-42D
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 05/15/2007
Date Received: 05/16/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	335.4(1)	0.63	0.050	mg/l	DAH	05/18/2007	0060980-1	<0.010
Fluoride	340.2(1)	9.2	0.10	mg/l	CK0	05/30/2007	0061307-1	<0.10
pH	150.1(1)	7.81	1.00	pH	APD	05/16/2007	0060871-1	5.33

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	05/18/2007	0060849-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/18/2007	0060849-1	<0.00050
Manganese	6010B(2)	0.90	0.010	mg/l	CS0	05/18/2007	0060849-1	<0.010
Sodium	6010B(2)	220	0.50	mg/l	CS0	05/18/2007	0060849-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/18/2007	0060849-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Lab Project ID: **07-3724**
Lab Sample ID: **0705-2515**
Client Sample ID: MW-42S
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 05/15/2007
Date Received: 05/16/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	335.4(1)	1.8	0.050	mg/l	DAH	05/18/2007	0060980-1	<0.010
Fluoride	340.2(1)	39	0.10	mg/l	CK0	05/30/2007	0061307-1	<0.10
pH	150.1(1)	8.38	1.00	pH	APD	05/16/2007	0060871-1	5.33

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	05/18/2007	0060849-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/18/2007	0060849-1	<0.00050
Manganese	6010B(2)	0.20	0.010	mg/l	CS0	05/18/2007	0060849-1	<0.010
Sodium	6010B(2)	560	0.50	mg/l	CS0	05/18/2007	0060849-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/18/2007	0060849-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Lab Project ID: **07-3724**
Lab Sample ID: **0705-2516**
Client Sample ID: MW-17
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 05/15/2007
Date Received: 05/16/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	335.4(1)	2.2	0.050	mg/l	DAH	05/18/2007	0060980-1	<0.010
Fluoride	340.2(1)	11	0.10	mg/l	CK0	05/30/2007	0061307-1	<0.10
pH	150.1(1)	7.58	1.00	pH	APD	05/16/2007	0060871-1	5.33

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	05/22/2007	0060849-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/22/2007	0060849-1	<0.00050
Manganese	6010B(2)	1.6	0.010	mg/l	CS0	05/22/2007	0060849-1	<0.010
Sodium	6010B(2)	87	0.50	mg/l	CS0	05/22/2007	0060849-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/22/2007	0060849-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Washington, PA 15301

Lab Project ID: **07-3724**
Lab Sample ID: **0705-2517**
Client Sample ID: MW-34D
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 05/15/2007
Date Received: 05/16/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	335.4(1)	2.6	0.050	mg/l	DAH	05/18/2007	0060980-1	<0.010
Fluoride	340.2(1)	31	0.10	mg/l	CK0	05/30/2007	0061307-1	<0.10
pH	150.1(1)	8.10	1.00	pH	APD	05/16/2007	0060871-1	5.33

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.0066	0.0040	mg/l	CS0	05/22/2007	0060849-1	<0.0040
Beryllium	6010B(2)	0.00055	0.00050	mg/l	CS0	05/22/2007	0060849-1	<0.00050
Manganese	6010B(2)	0.34	0.010	mg/l	CS0	05/22/2007	0060849-1	<0.010
Sodium	6010B(2)	230	0.50	mg/l	CS0	05/22/2007	0060849-1	<0.50
Vanadium	6010B(2)	0.018	0.010	mg/l	CS0	05/22/2007	0060849-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Lab Project ID: **07-3724**
Lab Sample ID: **0705-2518**
Client Sample ID: MW-34S
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 05/15/2007
Date Received: 05/16/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.37	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	335.4(1)	5.8	0.50	mg/l	DAH	05/18/2007	0060980-1	<0.010
Fluoride	340.2(1)	32	0.10	mg/l	CK0	05/30/2007	0061307-1	<0.10
pH	150.1(1)	8.26	1.00	pH	APD	05/16/2007	0060871-1	5.33

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.011	0.0040	mg/l	CS0	05/22/2007	0060849-1	<0.0040
Beryllium	6010B(2)	0.00070	0.00050	mg/l	CS0	05/22/2007	0060849-1	<0.00050
Manganese	6010B(2)	0.38	0.010	mg/l	CS0	05/22/2007	0060849-1	<0.010
Sodium	6010B(2)	250	0.50	mg/l	CS0	05/22/2007	0060849-1	<0.50
Vanadium	6010B(2)	0.020	0.010	mg/l	CS0	05/22/2007	0060849-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Lab Project ID: **07-3724**
Lab Sample ID: **0705-2519**
Client Sample ID: MW-15
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 05/15/2007
Date Received: 05/16/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.75	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	335.4(1)	6.7	0.50	mg/l	DAH	05/18/2007	0060980-1	<0.010
Fluoride	340.2(1)	23	0.10	mg/l	CK0	05/30/2007	0061307-1	<0.10
pH	150.1(1)	8.07	1.00	pH	APD	05/16/2007	0060871-1	5.33

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.0066	0.0040	mg/l	CS0	05/22/2007	0060849-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/22/2007	0060849-1	<0.00050
Manganese	6010B(2)	0.14	0.010	mg/l	CS0	05/22/2007	0060849-1	<0.010
Sodium	6010B(2)	210	0.50	mg/l	CS0	05/22/2007	0060849-1	<0.50
Vanadium	6010B(2)	0.014	0.010	mg/l	CS0	05/22/2007	0060849-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Lab Project ID: **07-3724**
Lab Sample ID: **0705-2520**
Client Sample ID: MW-15D
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 05/15/2007
Date Received: 05/16/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.79	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	335.4(1)	6.5	0.50	mg/l	DAH	05/18/2007	0060980-1	<0.010
Fluoride	340.2(1)	23	0.10	mg/l	CK0	05/30/2007	0061307-1	<0.10
pH	150.1(1)	8.04	1.00	pH	APD	05/16/2007	0060871-1	5.33

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.0093	0.0040	mg/l	CS0	05/22/2007	0060849-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/22/2007	0060849-1	<0.00050
Manganese	6010B(2)	0.14	0.010	mg/l	CS0	05/22/2007	0060849-1	<0.010
Sodium	6010B(2)	210	0.50	mg/l	CS0	05/22/2007	0060849-1	<0.50
Vanadium	6010B(2)	0.015	0.010	mg/l	CS0	05/22/2007	0060849-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

REPORT OF LABORATORY ANALYSIS

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Fax: 724.327.7793

Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3724**
Lab Sample ID: **0705-2521**
Client Sample ID: MW-36
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 05/15/2007
Date Received: 05/16/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.86	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	335.4(1)	10	0.21	mg/l	DAH	05/21/2007	0060981-1	<0.010
Fluoride	340.2(1)	32	0.10	mg/l	CK0	05/30/2007	0061307-1	<0.10
pH	150.1(1)	8.90	1.00	pH	APD	05/16/2007	0060871-1	5.33

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.0071	0.0040	mg/l	CS0	05/22/2007	0060849-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/22/2007	0060849-1	<0.00050
Manganese	6010B(2)	0.18	0.010	mg/l	CS0	05/22/2007	0060849-1	<0.010
Sodium	6010B(2)	180	0.50	mg/l	CS0	05/22/2007	0060849-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/22/2007	0060849-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3724**
Lab Sample ID: **0705-2522**
Client Sample ID: MW-32
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 05/15/2007
Date Received: 05/16/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	11	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	335.4(1)	11	0.21	mg/l	DAH	05/21/2007	0060981-1	<0.010
Fluoride	340.2(1)	69	0.50	mg/l	CK0	05/30/2007	0061307-1	<0.10
pH	150.1(1)	9.93	1.00	pH	APD	05/16/2007	0060871-1	5.33

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.063	0.0040	mg/l	CS0	05/22/2007	0060849-1	<0.0040
Beryllium	6010B(2)	0.0018	0.00050	mg/l	CS0	05/22/2007	0060849-1	<0.00050
Manganese	6010B(2)	3.1	0.010	mg/l	CS0	05/22/2007	0060849-1	<0.010
Sodium	6010B(2)	340	0.50	mg/l	CS0	05/22/2007	0060849-1	<0.50
Vanadium	6010B(2)	0.12	0.010	mg/l	CS0	05/22/2007	0060849-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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CREDITED IN ACCORDANCE WITH nelac

Project No.: 07-3724

Pace Analytical Services, Inc.
Charlotte Laboratory
Subcontracting Report

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May 25, 2007

Client Services
Pace Analytical Services, Inc.
5203 Triangle Lane
Export, PA 15632

RE: Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

Dear Services:

Enclosed are the analytical results for sample(s) received by the laboratory on May 16, 2007. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals Analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Charlotte laboratory unless otherwise footnoted.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Kevin Herring
kevin.herring@pacelabs.com
Project Manager

Enclosures

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Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

Lab Sample No: 928405091 | Project Sample Number: 92144929-001 | Date Collected: 05/15/07 00:00
Client Sample ID: MW-14 | Matrix: Water | Date Received: 05/16/07 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	520	umhos/cm	10.	05/24/07 12:00	MJR1			

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Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

Lab Sample No: 928405109 | Project Sample Number: 92144929-002 | Date Collected: 05/15/07 00:00
Client Sample ID: MW-39D | Matrix: Water | Date Received: 05/16/07 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	1200	umhos/cm	10.	05/24/07 12:00	MJR1			

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Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

Lab Sample No: 928405117 | Project Sample Number: 92144929-003 | Date Collected: 05/15/07 00:00
Client Sample ID: MW-39S | Matrix: Water | Date Received: 05/16/07 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	4000	umhos/cm	10.	05/24/07 12:00	MJR1			

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Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

Lab Sample No: 928405125 | Project Sample Number: 92144929-004 | Date Collected: 05/15/07 00:00
Client Sample ID: MW-42D | Matrix: Water | Date Received: 05/16/07 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	1200	umhos/cm	10.	05/24/07 12:00	MJR1			

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Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

Lab Sample No: 928405133 | Project Sample Number: 92144929-005 | Date Collected: 05/15/07 00:00
Client Sample ID: MW-42S | Matrix: Water | Date Received: 05/16/07 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	2600	umhos/cm	10.	05/24/07 12:00	MJR1			

Date: 05/25/07

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Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

Lab Sample No: 928405141 | Project Sample Number: 92144929-006 | Date Collected: 05/15/07 00:00
Client Sample ID: MW-17 | Matrix: Water | Date Received: 05/16/07 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	740	umhos/cm	10.	05/24/07 12:00	MJR1			

Date: 05/25/07

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Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

Lab Sample No: 928405158 | Project Sample Number: 92144929-007 | Date Collected: 05/15/07 00:00
Client Sample ID: MW-34D | Matrix: Water | Date Received: 05/16/07 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	1000	umhos/cm	10.	05/24/07 12:00	MJR1			

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Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

Lab Sample No: 928405166 | Project Sample Number: 92144929-008 | Date Collected: 05/15/07 00:00
Client Sample ID: MW-34S | Matrix: Water | Date Received: 05/16/07 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	1100	umhos/cm	10.	05/24/07 12:00	MJR1			

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Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

Lab Sample No: 928405174 Project Sample Number: 92144929-009 Date Collected: 05/15/07 00:00
Client Sample ID: MW-15 Matrix: Water Date Received: 05/16/07 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	930	umhos/cm	10.	05/24/07 12:00	MJR1			

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Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

Lab Sample No: 928405182 Project Sample Number: 92144929-010 Date Collected: 05/15/07 00:00
Client Sample ID: MW-15D Matrix: Water Date Received: 05/16/07 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	930	umhos/cm	10.	05/24/07 12:00	MJR1			

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Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

Lab Sample No: 928405190 Project Sample Number: 92144929-011 Date Collected: 05/15/07 00:00
Client Sample ID: MW-36 Matrix: Water Date Received: 05/16/07 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	790	umhos/cm	10.	05/24/07 12:00	MJR1			

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Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

Lab Sample No: 928405208 | Project Sample Number: 92144929-012 | Date Collected: 05/15/07 00:00
Client Sample ID: MW-32 | Matrix: Water | Date Received: 05/16/07 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	1400	umhos/cm	10.	05/24/07 12:00	MJR1			

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Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

PARAMETER FOOTNOTES

Method 9071B modified to use ASE.

All pH, Free Chlorine, Total Chlorine and Ferrous Iron analyses conducted outside of EPA recommended immediate hold time.

Depending on the moisture content the PRLs can be elevated for all soil samples reported on a dry weight basis.

2-Chloroethyl vinyl ether has been shown to degrade in the presence of acid.

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit

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QUALITY CONTROL DATA

Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

QC Batch: 189591 — Analysis Method: EPA 120.1
QC Batch Method: EPA 120.1 — Analysis Description: Specific Conductance
Associated Lab Samples: 928405091 928405109 928405117 928405125 928405133 928405141 928405158 928405166 928405174 928405182 928405190 928405208

METHOD BLANK: 928423110
Associated Lab Samples: 928405091 928405109 928405117 928405125 928405133 928405141 928405158 928405166 928405174 928405182 928405190 928405208

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Specific Conductance	umhos/cm	ND	10.	

LABORATORY CONTROL SAMPLE: 928423128

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Specific Conductance	umhos/cm	1412.00	1400	99	

SAMPLE DUPLICATE: 928423136

Parameter	Units	928404813 Result	DUP Result	RPD	Footnotes
Specific Conductance	umhos/cm	330.0	330.0	0	

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Lab Project Number: 92144929
Client Project ID: Ormet 07-3724

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference

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Project No.: 07-3724

General Chemistry

Parameter	EPA or Standard Method	SW846 Method	Holding Time	Bottle Type and Volume	Preservative
Cyanide (Amenable)	335.1		14 days	250ml Plastic*	Sodium Hydroxide
Cyanide (Total)	335.2	4500-CN	14 days	250ml Plastic*	Sodium Hydroxide
Fluoride	340.1	4500-Fl	28 days	500ml Plastic**	None
pH	150.1	9040/9045	Immediate	500ml Plastic**	None
Specific Conductance	120.1	9050	28 days	500ml Plastic**	None

*Cyanide Total and Amenable are analyzed from the same bottle.
**Fluoride, pH, and Specific Conductance are analyzed from the same bottle.

Pace Analytical Report of Quality Control

Project: 07-3724 General Chemistry

Laboratory Control Sample								
Parameter	Method	Batch	Units	MB Found	LCS Spike	LCS Found	LCS %Rec	QC Limits
pH	150.1	60871	pH	5.33	7	7.06	100.86*	0- 0
Cyanide (Total)	335.4	60980	ppm	0.00080	0.1	0.21	207.70*	85-115
Cyanide (Total)	335.4	60981	ppm	0.0012	0.1	0.21	205.90*	85-115
Fluoride	340.2	61307	ppm	0.0	2	2.07	103.50	85-115

* Denotes recovery outside of QC limits.

Summary of LCS Batches for Project 07-3724

Batch	Analyzed	Samples
60871	05/17/2007	0705-2511 0705-2512 0705-2513 0705-2514 0705-2515 0705-2516 0705-2517 0705-2518 0705-2519 0705-2520 0705-2521 0705-2522
60980	05/22/2007	0705-2511 0705-2512 0705-2513 0705-2514 0705-2515 0705-2516 0705-2517 0705-2518 0705-2519 0705-2520
60981	05/22/2007	0705-2521 0705-2522
61307	05/31/2007	0705-2511 0705-2512 0705-2513 0705-2514 0705-2515 0705-2516 0705-2517 0705-2518 0705-2519 0705-2520 0705-2521 0705-2522

Pace Analytical Report of Quality Control

Project: 07-3724 General Chemistry

Matrix Spike Sample								
Parameter	Method	Batch	Units	Sample Found	MS Spike	MS Found	MS %Rec	QC Limits
Cyanide (Total)	335.4	60980	ppm	1.5	1	1.37	-9.15*	0- 0
Fluoride	340.2	61307	ppm	2.5	4	6.98	110.75	85-115

* Denotes recovery outside of QC limits.

Summary of MS Batches for Project 07-3724

Batch	Analyzed	Samples
60980	05/22/2007	0705-2511 0705-2512 0705-2513 0705-2514 0705-2515 0705-2516 0705-2517 0705-2518 0705-2519 0705-2520
60981	05/22/2007	0705-2521 0705-2522
61307	05/31/2007	0705-2511 0705-2512 0705-2513 0705-2514 0705-2515 0705-2516 0705-2517 0705-2518 0705-2519 0705-2520 0705-2521 0705-2522

Pace Analytical Report of Quality Control

Project 07-3724 General Chemistry

Matrix Spike RPD								
Parameter	Method	Batch	Units	Sample Found	MS Spike	MS Found	MS %RPD	QC Limits
Cyanide (Total)	335.4	60980	ppm	1.5	1	1.37	31%	25%
Fluoride	340.2	61307	ppm	2.5	4	6.98	54%	25%

Summary of MS Batches for Project 07-3724

Batch	Analyzed	Samples
60980	5/22/2007	0705-2511 0705-2512 0705-2513 0705-2514 0705-2515 0705-2516 0705-2517 0705-2518 0705-2519 0705-2520
60981	5/22/2007	0705-2521 0705-2522
61307	5/31/2007	0705-2511 0705-2512 0705-2513 0705-2514 0705-2515 0705-2516 0705-2517 0705-2518 0705-2519 0705-2520 0705-2521 0705-2522

Metals

Project No.: 07-3724

Metals Analysis - ICP

Parameter	Chemical Symbol	EPA or Standard Method	SW846 Method	Holding Time	Bottle Type and Volume	Preservative
Arsenic	As	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Beryllium	Be	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Manganese	Mn	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Sodium	Na	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Vanadium	V	200.7	6010	6 Months	250ml Plastic	Nitric Acid

Pace Analytical

Metals Data Reporting Form

Matrix Spike Sample Results

Spike Sample ID: QC60849MS D

Original Sample ID: 3724-0705-2511 D **Client ID:** MW-14

Matrix: Water **Units:** ug/L **Prep Date:** 5/17/2007 **Prep Batch:** 60849

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	OS Conc	Q	MS Conc	Q	Spike Level	% Rec	OS DF	MS DF	Instr	OS Anal Date	OS Anal Time	MS Anal Date	MS Anal Time
Arsenic	189.0	1.7	U	537		500	107.3	1	1	ICP	5/18/2007	17:13	5/18/2007	17:19
Beryllium	313.0	0.14	B	510		500	102.0	1	1	ICP	5/18/2007	17:13	5/18/2007	17:19
Manganese	257.6	1060		1560		500	98.8	1	1	ICP	5/18/2007	17:13	5/18/2007	17:19
Sodium	330.2	44100		47300	NC	5000		1	1	ICP	5/18/2007	17:13	5/18/2007	17:19
Vanadium	292.4	0.40	U	512		500	102.5	1	1	ICP	5/18/2007	17:13	5/18/2007	17:19

Comments: QC Ranges 75-125% recovery

Version 4.80.0

U Result is less than the MDL
B Result is between MDL and RL
N Spike recovery failed
NC Percent recovery was not calculated
R Duplicate analysis RPD was not within limits

Form 5A Equivalent

Pace Analytical

Metals Data Reporting Form

Matrix Spike Duplicate Sample Results

Spike Sample ID: QC60849MSD

Original Sample ID: 3724-0705-2511 D **Client ID:** MW-14

Matrix: Water **Units:** ug/L **Prep Date:** 5/17/2007 **Prep Batch:** 60849

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	OS Conc	Q	MSD Conc	Q	Spike Level	% Rec	OS DF	MSD DF	Instr	OS Anal Date	OS Anal Time	MSD Anal Date	MSD Anal Time
Arsenic	189.0	1.7	U	537		500	107.4	1	1	ICP	5/18/2007	17:13	5/18/2007	17:22
Beryllium	313.0	0.14	B	516		500	103.1	1	1	ICP	5/18/2007	17:13	5/18/2007	17:22
Manganese	257.6	1060		1570		500	101.7	1	1	ICP	5/18/2007	17:13	5/18/2007	17:22
Sodium	330.2	44100		47400	NC	5000		1	1	ICP	5/18/2007	17:13	5/18/2007	17:22
Vanadium	292.4	0.40	U	517		500	103.4	1	1	ICP	5/18/2007	17:13	5/18/2007	17:22

Comments: QC Ranges 75-125% recovery, 80-120% RPD

Version 4.80.0

U Result is less than the MDL
B Result is between MDL and RL
N Spike recovery failed
NC Percent recovery was not calculated
R Duplicate analysis RPD was not within limits

Form 5A Equivalent

Pace Analytical

Metals Data Reporting Form

Matrix Spike Duplicate RPD Report

Matrix Spike Duplicate Sample ID:	QC60849MSD	**Client ID:**	MW-14
Marix Spike Sample ID:	3724-0705-2511 D	**Acceptable Range:**	+/- 20%
Matrix: Water	**Units:** ug/L	**Prep Date:** 5/17/2007	**Prep Batch:** 60849
Weight: NA	**Volume:** 50	**Percent Moisture:** NA	

Element	WL/ Mass	MS Conc	Q	MSD Conc	Q	% RPD	MS DF	MSD DF	Instr	MS Anal Date	MS Anal Time	MSD Anal Date	MSD Anal Time
Arsenic	189.042	537		537		0.0%	1	1	ICP	5/18/2007	17:19	5/18/2007	17:22
Beryllium	313.042	510		516		1.2%	1	1	ICP	5/18/2007	17:19	5/18/2007	17:22
Manganese	257.61	1560		1570		0.6%	1	1	ICP	5/18/2007	17:19	5/18/2007	17:22
Sodium	330.232	47300	NC	47400	NC	0.2%	1	1	ICP	5/18/2007	17:19	5/18/2007	17:22
Vanadium	292.402	512		517		1.0%	1	1	ICP	5/18/2007	17:19	5/18/2007	17:22

U Result is less than the MDL
B Result is between MDL and RL
R Duplicate analysis RPD was not within limits

Pace Analytical

Metals Data Reporting Form

Laboratory Control Sample Results

Lab Sample ID: QC60849LCS

Matrix: Water **Units:** ug/L **Prep Date:** 5/17/2007 **Prep Batch:** 60849

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	Spike Level	Conc	Percent Recovery	Q	Range	DF	Instr	Anal Date	Anal Time
Arsenic	189.042	500	526	105.2		80-120	1	ICP	5/18/2007	16:29
Beryllium	313.042	500	504	100.8		80-120	1	ICP	5/18/2007	16:29
Manganese	257.61	500	509	101.8		80-120	1	ICP	5/18/2007	16:29
Sodium	330.232	5000	4910	98.1		80-120	1	ICP	5/18/2007	16:29
Vanadium	292.402	500	506	101.2		80-120	1	ICP	5/18/2007	16:29

Comments: QC Data for 07-3724

U Result is less than the MDL

B Result is between MDL and RL

Project No.: 07-3724

Chain of Custody

HMI
Environmental Consulting Services

CHAIN-OF-CUSTODY RECORD

Project Number: HM00322 ~~HM037~~
Project Name/Location: ORMET-HANNIBAL
Laboratory: PACE
Sampling Personnel: R. FARGO / C. SMITH

Sample ID	Date/Time (5-15-07)	Sample Code	500 mL PLASTIC pH SPEC. COND.	250 mL PLASTIC F	250 mL PLASTIC CYANIDE TOTAL/AMEN.	250 mL PLASTIC DISS. As, Be, Mn, Na V	07-03724					TOTAL
MW-14	1320	L	1	1	1	1	05-2511					4
MW-39D	1355		1	1	1	1		12				4
MW-39S	1405		1	1	1	1		13				4
MW-42D	1505		1	1	1	1		14				4
MW-42S	1520		1	1	1	1		15				4
MW-17	1545		1	1	1	1		16				4
MW-34D	1620		1	1	1	1		17				4
MW-34S	1625		1	1	1	1		18				4
MW-15	1645		1	1	1	1		19				4
MW-15D	1650		1	1	1	1		20				4
MW-36	1705		1	1	1	1		21				4
MW-32	1720		1	1	1	1		22				4

Sample Code: L = Liquid; S = Solid; A = Air

Total Number of Containers: 48

Relinquished by: R Fargo	Organization: HMI	Date: 5-16-07	Time: 930	Seal Intact?	
Received by:	Organization:	Date:	Time:	Yes No NA	
Relinquished by: Eric Fargo	Organization: HMI	Date: 5-16-07	Time: 10:30	Seal Intact?	
Received by: C Urbowitz	Organization: Pace	Date: 5-16-07	Time: 10:30	Yes No NA	

REMARKS: 2° Cooler

DELIVERY METHOD: In Person [X] Common Carrier [ ] Lab Courier [ ] Other [ ]

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June 5, 2007

Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Dear Mr. Fargo:

Enclosed are analytical results for samples submitted to Pace Analytical by Hydro Systems Management, Inc.. The samples were received on May 17, 2007. The results reported in this project meet the requirements as specified in Chapter 5 of the NELAC Standards. Any deviations or discrepancies from the NELAC standards are documented in the case narrative(s) of this report. Parameters printed in italics represent Non-NELAC accredited parameters. Please reference Pace project number 07-3763 when inquiring about this report.

Client Site: Hannibal, Ohio
Client Ref.: Ground Water Program

Pace Sample Identification	Client Sample Identification
0705-2753	MW-19
0705-2754	MW-31
0705-2755	MW-35
0705-2756	MW-37
0705-2757	MW-28
0705-2758	MW-28D
0705-2759	MW-30
0705-2760	MW-18

Pace Sample Identification	Client Sample Identification
0705-2761	MW-29D
0705-2762	MW-29S
0705-2763	MW-16
0705-2764	MW-1
0705-2765	MW-2
0705-2766	MW-40D
0705-2767	MW-40S
0705-2768	TB-1

General Comments: Cooler temperature 4 ° C upon receipt. Ice was present. The samples were subcontracted to Pace Analytical Services, Inc., 9800 Kincey Ave., Suite 100, Huntersville, NC 28078 for specific conductance analysis. Results of the analysis are reported on the Pace Analytical, Charlotte data tables.

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Please call me if you have any questions regarding the information contained within this report.

Sincerely,

Rachel D. Christner
Project Manager

RDC: jld

Enclosures

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3763**
Lab Sample ID: **0705-2753**
Client Sample ID: MW-19
Sample Matrix: Aqueous

Client Site: Hannibal, Ohio
Client Ref.: Ground Water Program

Date Sampled: 05/16/2007
Date Received: 05/17/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Total)	9010B/9014(1)	<0.010	0.010	mg/l	DAH	05/21/2007	0060982-1	<0.010
Fluoride	340.2(2)	1.1	0.10	mg/l	CK0	06/01/2007	0061440-1	<0.10
pH	150.1(2)	7.33	1.00	pH	APD	05/17/2007	0060872-1	5.68

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(1)	0.0042	0.0040	mg/l	CS0	05/22/2007	0060878-1	<0.0040
Beryllium	6010B(1)	<0.00050	0.00050	mg/l	CS0	05/22/2007	0060878-1	<0.00050
Manganese	6010B(1)	<0.010	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010
Sodium	6010B(1)	49	0.50	mg/l	CS0	05/22/2007	0060878-1	<0.50
Vanadium	6010B(1)	<0.010	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(2)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.
(2) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3763**
Lab Sample ID: **0705-2754**
Client Sample ID: MW-31
Sample Matrix: Aqueous

Client Site: Hannibal, Ohio
Client Ref.: Ground Water Program

Date Sampled: 05/16/2007
Date Received: 05/17/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.066	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	9010B/9014(2)	11	0.21	mg/l	DAH	05/21/2007	0060982-1	<0.010
Fluoride	340.2(1)	81	0.50	mg/l	CK0	06/01/2007	0061440-1	<0.10
pH	150.1(1)	9.59	1.00	pH	APD	05/17/2007	0060872-1	5.68

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.049	0.0040	mg/l	CS0	05/22/2007	0060878-1	<0.0040
Beryllium	6010B(2)	0.0016	0.00050	mg/l	CS0	05/22/2007	0060878-1	<0.00050
Manganese	6010B(2)	1.5	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010
Sodium	6010B(2)	320	0.50	mg/l	CS0	05/22/2007	0060878-1	<0.50
Vanadium	6010B(2)	0.082	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	0.083	0.0050	mg/l	EAC	05/29/2007	0061265-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3763**
Lab Sample ID: **0705-2755**
Client Sample ID: MW-35
Sample Matrix: Aqueous

Client Site: Hannibal, Ohio
Client Ref.: Ground Water Program

Date Sampled: 05/16/2007
Date Received: 05/17/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.86	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	9010B/9014(2)	22	0.35	mg/l	DAH	05/21/2007	0060982-1	<0.010
Fluoride	340.2(1)	22	0.10	mg/l	CK0	06/01/2007	0061440-1	<0.10
pH	150.1(1)	8.81	1.00	pH	APD	05/17/2007	0060872-1	5.68

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.027	0.0040	mg/l	CS0	05/22/2007	0060878-1	<0.0040
Beryllium	6010B(2)	0.00059	0.00050	mg/l	CS0	05/22/2007	0060878-1	<0.00050
Manganese	6010B(2)	0.74	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010
Sodium	6010B(2)	180	0.50	mg/l	CS0	05/22/2007	0060878-1	<0.50
Vanadium	6010B(2)	0.023	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3763**
Lab Sample ID: **0705-2756**
Client Sample ID: MW-37
Sample Matrix: Aqueous

Client Site: Hannibal, Ohio
Client Ref.: Ground Water Program

Date Sampled: 05/16/2007
Date Received: 05/17/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1[1]	0.029	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	9010B/9014[2]	0.93	0.050	mg/l	DAH	05/21/2007	0060982-1	<0.010
Fluoride	340.2[1]	3.9	0.10	mg/l	CK0	06/01/2007	0061440-1	<0.10
pH	150.1[1]	6.85	1.00	pH	APD	05/17/2007	0060872-1	5.68

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B[2]	0.0087	0.0040	mg/l	CS0	05/22/2007	0060878-1	<0.0040
Beryllium	6010B[2]	<0.00050	0.00050	mg/l	CS0	05/22/2007	0060878-1	<0.00050
Manganese	6010B[2]	0.19	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010
Sodium	6010B[2]	40	0.50	mg/l	CS0	05/22/2007	0060878-1	<0.50
Vanadium	6010B[2]	0.011	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1[1]	Completed	1.0	umhos/cm			N/A	N/A

[1] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
[2] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3763**
Lab Sample ID: **0705-2757**
Client Sample ID: MW-28
Sample Matrix: Aqueous

Client Site: Hannibal, Ohio
Client Ref.: Ground Water Program

Date Sampled: 05/16/2007
Date Received: 05/17/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	05/25/2007	0061355-1	<0.010
Cyanide (Total)	9010B/9014(2)	0.26	0.010	mg/l	DAH	05/21/2007	0060982-1	<0.010
Fluoride	340.2(1)	0.14	0.10	mg/l	CK0	06/01/2007	0061440-1	<0.10
pH	150.1(1)	6.04	1.00	pH	APD	05/17/2007	0060872-1	5.68

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	05/22/2007	0060878-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/22/2007	0060878-1	<0.00050
Manganese	6010B(2)	0.018	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010
Sodium	6010B(2)	61	0.50	mg/l	CS0	05/22/2007	0060878-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3763**
Lab Sample ID: **0705-2758**
Client Sample ID: MW-28D
Sample Matrix: Aqueous

Client Site: Hannibal, Ohio
Client Ref.: Ground Water Program

Date Sampled: 05/16/2007
Date Received: 05/17/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1[1]	<0.010	0.010	mg/l	DAH	05/29/2007	0061357-1	<0.010
Cyanide (Total)	9010B/9014[2]	0.26	0.010	mg/l	DAH	05/21/2007	0060982-1	<0.010
Fluoride	340.2[1]	<0.10	0.10	mg/l	CK0	06/01/2007	0061440-1	<0.10
pH	150.1[1]	6.13	1.00	pH	APD	05/17/2007	0060872-1	5.68

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B[2]	0.0044	0.0040	mg/l	CS0	05/22/2007	0060878-1	<0.0040
Beryllium	6010B[2]	<0.00050	0.00050	mg/l	CS0	05/22/2007	0060878-1	<0.00050
Manganese	6010B[2]	0.018	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010
Sodium	6010B[2]	61	0.50	mg/l	CS0	05/22/2007	0060878-1	<0.50
Vanadium	6010B[2]	<0.010	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1[1]	Completed	1.0	umhos/cm			N/A	N/A

[1] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
[2] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3763**
Lab Sample ID: **0705-2759**
Client Sample ID: MW-30
Sample Matrix: Aqueous

Client Site: Hannibal, Ohio
Client Ref.: Ground Water Program

Date Sampled: 05/16/2007
Date Received: 05/17/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	05/29/2007	0061357-1	<0.010
Cyanide (Total)	9010B/9014(2)	2.7	0.050	mg/l	DAH	05/22/2007	0061086-1	<0.010
Fluoride	340.2(1)	7.6	0.10	mg/l	CK0	06/01/2007	0061440-1	<0.10
pH	150.1(1)	6.56	1.00	pH	APD	05/17/2007	0060872-1	5.68

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.0057	0.0040	mg/l	CS0	05/22/2007	0060878-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/22/2007	0060878-1	<0.00050
Manganese	6010B(2)	0.74	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010
Sodium	6010B(2)	53	0.50	mg/l	CS0	05/22/2007	0060878-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	0.016	0.0050	mg/l	EAC	05/29/2007	0061265-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3763**
Lab Sample ID: **0705-2760**
Client Sample ID: MW-18
Sample Matrix: Aqueous

Client Site: Hannibal, Ohio
Client Ref.: Ground Water Program

Date Sampled: 05/16/2007
Date Received: 05/17/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	05/29/2007	0061357-1	<0.010
Cyanide (Total)	9010B/9014(2)	3.0	0.10	mg/l	DAH	05/23/2007	0061240-1	<0.010
Fluoride	340.2(1)	140	0.50	mg/l	CK0	06/01/2007	0061440-1	<0.10
pH	150.1(1)	9.39	1.00	pH	APD	05/17/2007	0060872-1	5.68

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.065	0.0040	mg/l	CS0	05/22/2007	0060878-1	<0.0040
Beryllium	6010B(2)	0.00091	0.00050	mg/l	CS0	05/22/2007	0060878-1	<0.00050
Manganese	6010B(2)	0.43	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010
Sodium	6010B(2)	350	0.50	mg/l	CS0	05/22/2007	0060878-1	<0.50
Vanadium	6010B(2)	0.039	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	<0.0050	0.0050	mg/l	EAC	05/29/2007	0061265-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3763**
Lab Sample ID: **0705-2761**
Client Sample ID: MW-29D
Sample Matrix: Aqueous

Client Site: Hannibal, Ohio
Client Ref.: Ground Water Program

Date Sampled: 05/16/2007
Date Received: 05/17/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	05/29/2007	0061357-1	<0.010
Cyanide (Total)	9010B/9014(2)	0.23	0.010	mg/l	DAH	05/23/2007	0061240-1	<0.010
Fluoride	340.2(1)	3.1	0.10	mg/l	CK0	06/01/2007	0061440-1	<0.10
pH	150.1(1)	7.54	1.00	pH	APD	05/17/2007	0060872-1	5.68

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	05/22/2007	0060878-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/22/2007	0060878-1	<0.00050
Manganese	6010B(2)	2.0	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010
Sodium	6010B(2)	45	0.50	mg/l	CS0	05/22/2007	0060878-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3763**
Lab Sample ID: **0705-2764**
Client Sample ID: MW-1
Sample Matrix: Aqueous

Client Site: Hannibal, Ohio
Client Ref.: Ground Water Program

Date Sampled: 05/16/2007
Date Received: 05/17/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Total)	9010B/9014(1)	<0.010	0.010	mg/l	DAH	05/23/2007	0061240-1	<0.010
Fluoride	340.2(2)	1.1	0.10	mg/l	CK0	06/01/2007	0061440-1	<0.10
pH	150.1(2)	6.61	1.00	pH	APD	05/17/2007	0060872-1	5.68

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(1)	<0.0040	0.0040	mg/l	CS0	05/22/2007	0060878-1	<0.0040
Beryllium	6010B(1)	<0.00050	0.00050	mg/l	CS0	05/22/2007	0060878-1	<0.00050
Manganese	6010B(1)	0.66	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010
Sodium	6010B(1)	49	0.50	mg/l	CS0	05/22/2007	0060878-1	<0.50
Vanadium	6010B(1)	<0.010	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(2)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.
(2) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3763**
Lab Sample ID: **0705-2765**
Client Sample ID: MW-2
Sample Matrix: Aqueous

Client Site: Hannibal, Ohio
Client Ref.: Ground Water Program

Date Sampled: 05/16/2007
Date Received: 05/17/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	05/29/2007	0061357-1	<0.010
Cyanide (Total)	9010B/9014(2)	11	0.50	mg/l	DAH	05/23/2007	0061240-1	<0.010
Fluoride	340.2(1)	47	0.10	mg/l	CK0	06/01/2007	0061440-1	<0.10
pH	150.1(1)	9.50	1.00	pH	APD	05/17/2007	0060872-1	5.68

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.050	0.0040	mg/l	CS0	05/22/2007	0060878-1	<0.0040
Beryllium	6010B(2)	0.00050	0.00050	mg/l	CS0	05/22/2007	0060878-1	<0.00050
Manganese	6010B(2)	0.56	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010
Sodium	6010B(2)	330	0.50	mg/l	CS0	05/22/2007	0060878-1	<0.50
Vanadium	6010B(2)	0.032	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	0.036	0.0050	mg/l	EAC	05/29/2007	0061265-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3763**
Lab Sample ID: **0705-2766**
Client Sample ID: MW-40D
Sample Matrix: Aqueous

Client Site: Hannibal, Ohio
Client Ref.: Ground Water Program

Date Sampled: 05/16/2007
Date Received: 05/17/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1[1]	<0.010	0.010	mg/l	DAH	05/29/2007	0061357-1	<0.010
Cyanide (Total)	9010B/9014[2]	4.1	0.10	mg/l	DAH	05/23/2007	0061240-1	<0.010
Fluoride	340.2[1]	17	0.10	mg/l	CKO	06/01/2007	0061440-1	<0.10
pH	150.1[1]	7.76	1.00	pH	APD	05/17/2007	0060872-1	5.68

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B[2]	<0.0040	0.0040	mg/l	CS0	05/22/2007	0060878-1	<0.0040
Beryllium	6010B[2]	<0.00050	0.00050	mg/l	CS0	05/22/2007	0060878-1	<0.00050
Manganese	6010B[2]	0.94	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010
Sodium	6010B[2]	180	0.50	mg/l	CS0	05/22/2007	0060878-1	<0.50
Vanadium	6010B[2]	<0.010	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1[1]	Completed	1.0	umhos/cm			N/A	N/A

[1] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
[2] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3763**
Lab Sample ID: **0705-2767**
Client Sample ID: MW-40S
Sample Matrix: Aqueous

Client Site: Hannibal, Ohio
Client Ref.: Ground Water Program

Date Sampled: 05/16/2007
Date Received: 05/17/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1[1]	<0.010	0.010	mg/l	DAH	05/29/2007	0061357-1	<0.010
Cyanide (Total)	9010B/9014[2]	7.0	0.25	mg/l	DAH	05/23/2007	0061240-1	<0.010
Fluoride	340.2[1]	44	0.10	mg/l	CK0	06/01/2007	0061440-1	<0.10
pH	150.1[1]	7.95	1.00	pH	APD	05/17/2007	0060872-1	5.68

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B[2]	0.0074	0.0040	mg/l	CS0	05/22/2007	0060878-1	<0.0040
Beryllium	6010B[2]	0.00066	0.00050	mg/l	CS0	05/22/2007	0060878-1	<0.00050
Manganese	6010B[2]	0.57	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010
Sodium	6010B[2]	230	0.50	mg/l	CS0	05/22/2007	0060878-1	<0.50
Vanadium	6010B[2]	0.016	0.010	mg/l	CS0	05/22/2007	0060878-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1[1]	*Completed*	1.0	*umhos/cm*			N/A	N/A

[1] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
[2] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3763**
Lab Sample ID: **0705-2768**
Client Sample ID: TB-1
Sample Matrix: Aqueous

Client Site: Hannibal, Ohio
Client Ref.: Ground Water Program

Date Sampled: 05/16/2007
Date Received: 05/17/2007

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Trichloroethene	8260B[1]	<5.0	5.0	ug/l	EAC	05/29/2007	0061265-1	<5.0

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Project No.: 07-3763

Pace Analytical Services, Inc.
Charlotte Laboratory
Subcontracting Report

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May 29, 2007

Client Services
Pace Analytical Services, Inc.
5203 Triangle Lane
Export, PA 15632

RE: Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Dear Services:

Enclosed are the analytical results for sample(s) received by the laboratory on May 17, 2007. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals Analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Charlotte laboratory unless otherwise footnoted.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Kevin Herring
kevin.herring@pacelabs.com
Project Manager

Enclosures

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9800 Kincey Avenue, Suite 100
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Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Lab Sample No: 928404912 | Project Sample Number: 92144927-001 | Date Collected: 05/16/07 00:00
Client Sample ID: MW-19 | Matrix: Water | Date Received: 05/17/07 10:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	810	umhos/cm	10.	05/24/07 14:30	MJR1			

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SC Environmental 99030
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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Lab Sample No: 928404920 | Project Sample Number: 92144927-002 | Date Collected: 05/16/07 00:00
Client Sample ID: MW-31 | Matrix: Water | Date Received: 05/17/07 10:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	1400	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Lab Sample No: 928404938 | Project Sample Number: 92144927-003 | Date Collected: 05/16/07 00:00
Client Sample ID: MW-35 | Matrix: Water | Date Received: 05/17/07 10:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	700	umhos/cm	10.	05/24/07 14:30	MJR1			

Date: 05/29/07

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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Lab Sample No: 928404946 | Project Sample Number: 92144927-004 | Date Collected: 05/16/07 00:00
Client Sample ID: MW-37 | Matrix: Water | Date Received: 05/17/07 10:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	310	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Lab Sample No: 928404953 | Project Sample Number: 92144927-005 | Date Collected: 05/16/07 00:00
Client Sample ID: MW-28 | Matrix: Water | Date Received: 05/17/07 10:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	380	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Lab Sample No: 928404961 | Project Sample Number: 92144927-006 | Date Collected: 05/16/07 00:00
Client Sample ID: MW-28D | Matrix: Water | Date Received: 05/17/07 10:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	380	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Lab Sample No: 928404979 | Project Sample Number: 92144927-007 | Date Collected: 05/16/07 00:00
Client Sample ID: MW-30 | Matrix: Water | Date Received: 05/17/07 10:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	540	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Lab Sample No: 928404987 | Project Sample Number: 92144927-008 | Date Collected: 05/16/07 00:00
Client Sample ID: MW-18 | Matrix: Water | Date Received: 05/17/07 10:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	1700	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Lab Sample No: 928404995 | Project Sample Number: 92144927-009 | Date Collected: 05/16/07 00:00
Client Sample ID: MW-29D | Matrix: Water | Date Received: 05/17/07 10:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	660	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Lab Sample No: 928405000 Project Sample Number: 92144927-010 Date Collected: 05/16/07 00:00
Client Sample ID: MW-29S Matrix: Water Date Received: 05/17/07 10:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	1000	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Lab Sample No: 928405018 | Project Sample Number: 92144927-011 | Date Collected: 05/16/07 00:00
Client Sample ID: MW-16 | Matrix: Water | Date Received: 05/17/07 10:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	ReqLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	1100	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Lab Sample No: 928405026 | Project Sample Number: 92144927-012 | Date Collected: 05/16/07 00:00
Client Sample ID: MW-1 | Matrix: Water | Date Received: 05/17/07 10:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	660	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Lab Sample No: 928405034 Project Sample Number: 92144927-013 Date Collected: 05/16/07 00:00
Client Sample ID: MW-2 Matrix: Water Date Received: 05/17/07 10:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	1300	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Lab Sample No: 928405042 | Project Sample Number: 92144927-014 | Date Collected: 05/16/07 00:00
Client Sample ID: MW-40D | Matrix: Water | Date Received: 05/17/07 10:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	1000	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

Lab Sample No: 928405059 | Project Sample Number: 92144927-015 | Date Collected: 05/16/07 00:00
Client Sample ID: MW-40S | Matrix: Water | Date Received: 05/17/07 10:25

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	1100	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

PARAMETER FOOTNOTES

Method 9071B modified to use ASE.

All pH, Free Chlorine, Total Chlorine and Ferrous Iron analyses conducted outside of EPA recommended immediate hold time.

Depending on the moisture content the PRLs can be elevated for all soil samples reported on a dry weight basis.

2-Chloroethyl vinyl ether has been shown to degrade in the presence of acid.

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit

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QUALITY CONTROL DATA

Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

QC Batch: 189633 — Analysis Method: EPA 120.1
QC Batch Method: EPA 120.1 — Analysis Description: Specific Conductance
Associated Lab Samples: 928404912 928404920 928404938 928404946 928404953 928404961 928404979 928404987 928404995 928405000 928405018 928405026 928405034 928405042 928405059

METHOD BLANK: 928424316
Associated Lab Samples: 928404912 928404920 928404938 928404946 928404953 928404961 928404979 928404987 928404995 928405000 928405018 928405026 928405034 928405042 928405059

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Specific Conductance	umhos/cm	ND	10.	

LABORATORY CONTROL SAMPLE: 928424324

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Specific Conductance	umhos/cm	1412.00	1360	96	

SAMPLE DUPLICATE: 928424332

Parameter	Units	928405083 Result	DUP Result	RPD	Footnotes
Specific Conductance	umhos/cm	ND	ND	NC	

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Lab Project Number: 92144927
Client Project ID: Ormet 07-3763

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference

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Metals

Project No.: 07-3763

Metals Analysis - ICP

Parameter	Chemical Symbol	EPA or Standard Method	SW846 Method	Holding Time	Bottle Type and Volume	Preservative
Arsenic	As	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Beryllium	Be	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Manganese	Mn	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Sodium	Na	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Vanadium	V	200.7	6010	6 Months	250ml Plastic	Nitric Acid

Pace Analytical

Metals Data Reporting Form

Matrix Spike Sample Results

Spike Sample ID: QC60878MS D

Original Sample ID: 3758-0705-2726 **Client ID:** Batch

Matrix: Water **Units:** ug/L **Prep Date:** 5/18/2007 **Prep Batch:** 60878

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	OS Conc	Q	MS Conc	Q	Spike Level	% Rec	OS DF	MS DF	Instr	OS Anal Date	OS Anal Time	MS Anal Date	MS Anal Time
Arsenic	189.0	1.7	U	554		500	110.7	1	1	ICP	5/22/2007	13:13	5/22/2007	13:20
Beryllium	313.0	0.070	U	484		500	96.7	1	1	ICP	5/22/2007	13:13	5/22/2007	13:20
Manganese	257.6	4.2	B	512		500	101.5	1	1	ICP	5/22/2007	13:13	5/22/2007	13:20
Sodium	330.2	2100000		2100000	NC	5000		1	1	ICP	5/22/2007	13:13	5/22/2007	13:20
Vanadium	292.4	7.9		510		500	100.3	1	1	ICP	5/22/2007	13:13	5/22/2007	13:20

Comments: QC Ranges 75-125% Recovery

Version 4.80.0

U Result is less than the MDL
B Result is between MDL and RL
N Spike recovery failed
NC Percent recovery was not calculated
R Duplicate analysis RPD was not within limits

Form 5A Equivalent

Pace Analytical

Metals Data Reporting Form

Matrix Spike Duplicate Sample Results

Spike Sample ID: QC60878MSD

Original Sample ID: 3758-0705-2726 **Client ID:** Batch

Matrix: Water **Units:** ug/L **Prep Date:** 5/18/2007 **Prep Batch:** 60878

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	OS Conc	Q	MSD Conc	Q	Spike Level	% Rec	OS DF	MSD DF	Instr	OS Anal Date	OS Anal Time	MSD Anal Date	MSD Anal Time
Arsenic	189.0	1.7	U	543		500	108.5	1	1	ICP	5/22/2007	13:13	5/22/2007	13:23
Beryllium	313.0	0.070	U	476		500	95.2	1	1	ICP	5/22/2007	13:13	5/22/2007	13:23
Manganese	257.6	4.2	B	504		500	99.9	1	1	ICP	5/22/2007	13:13	5/22/2007	13:23
Sodium	330.2	2100000		2070000	NC	5000		1	1	ICP	5/22/2007	13:13	5/22/2007	13:23
Vanadium	292.4	7.9		503		500	99.1	1	1	ICP	5/22/2007	13:13	5/22/2007	13:23

Comments: QC Data ranges 75-125% recovery, 80-120% RPD

Version 4.80.0

U Result is less than the MDL
B Result is between MDL and RL
N Spike recovery failed
NC Percent recovery was not calculated
R Duplicate analysis RPD was not within limits

Form 5A Equivalent

Pace Analytical

Metals Data Reporting Form

Matrix Spike Duplicate RPD Report

Matrix Spike Duplicate Sample ID:	QC60878MS D	**Client ID:**	Batch
Marix Spike Sample ID:	3758-0705-2726	**Acceptable Range:**	+/- 20%

Matrix:	Water	**Units:**	ug/L	**Prep Date:**	5/18/2007	**Prep Batch:**	60878
Weight:	NA	**Volume:**	50	**Percent Moisture:**	NA		

Element	WL/ Mass	MS Conc	Q	MSD Conc	Q	% RPD	MS DF	MSD DF	Instr	MS Anal Date	MS Anal Time	MSD Anal Date	MSD Anal Time
Arsenic	189.042	554		543		-2.0%	1	1	ICP	5/22/2007	13:20	5/22/2007	13:23
Beryllium	313.042	484		476		-1.7%	1	1	ICP	5/22/2007	13:20	5/22/2007	13:23
Manganese	257.61	512		504		-1.6%	1	1	ICP	5/22/2007	13:20	5/22/2007	13:23
Sodium	330.232	2100000	NC	2070000	NC	-1.4%	1	1	ICP	5/22/2007	13:20	5/22/2007	13:23
Vanadium	292.402	510		503		-1.4%	1	1	ICP	5/22/2007	13:20	5/22/2007	13:23

U Result is less than the MDL
B Result is between MDL and RL
R Duplicate analysis RPD was not within limits

Pace Analytical

Metals Data Reporting Form

Laboratory Control Sample Results

Lab Sample ID: QC60878LCS

Matrix: Water **Units:** ug/L **Prep Date:** 5/18/2007 **Prep Batch:** 60878

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	Spike Level	Conc	Percent Recovery	Q	Range	DF	Instr	Anal Date	Anal Time
Arsenic	189.042	500	514	102.8		80-120	1	ICP	5/22/2007	13:08
Beryllium	313.042	500	502	100.3		80-120	1	ICP	5/22/2007	13:08
Manganese	257.61	500	507	101.4		80-120	1	ICP	5/22/2007	13:08
Sodium	330.232	5000	4730	94.5		80-120	1	ICP	5/22/2007	13:08
Vanadium	292.402	500	505	101.0		80-120	1	ICP	5/22/2007	13:08

Comments: QC Data for 07-3763

U Result is less than the MDL

B Result is between MDL and RL

Volatiles

Project No.: 07-3763

Volatiles Analysis

Parameter	EPA or Standard Method	SW846 Method	Holding Time	Bottle Type and Volume	Preservative
Tetrachloroethene	624	8260	14 Days	3/ 40ml Vials	Hydrochloric Acid

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : PASI-PGH
Project : 07-3763 Site :
Lab File ID (Standard): 40529003.D
Instrument ID : GC/MS Ins
GC Column : Rtx-VMS ID : 0.18
Level :

Contract :
Location : Group :
Date Analyzed : 29 May 2007
Time Analyzed : 9:10
Heated Purge (Y:N) : N

File	Sample	SMC1 (DCE) #	SMC2 (TOL) #	SMC3 (BFB) #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
40529005	LCS[20]	91	103	99	0	0	0	0
40529009	VBLK	91	100	99	0	0	0	0
40529031	07-3763 05-2754	77	88	106	0	0	0	0
40529033	07-3763 05-2759	78	90	108	0	0	0	0
40529035	07-3763 05-2760	80	87	107	0	0	0	0
40529037	07-3763 05-2765	79	88	104	0	0	0	0
40529039	07-3763 05-2768	78	90	110	0	0	0	0

		QC Limits
SMC1 (DCE)	= 1,2-Dichloroethane-d4	(70 -130)
SMC2 (TOL)	= Toluene-d8	(70 -130)
SMC3 (BFB)	= Bromofluorobenzene	(70 -130)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

LCS Blank Summary Report

Data File : C:\DATA\4070529\1\40529005.D
Acq On : 29 May 2007 9:35
Sample : LCS[20]
Misc : V2-44-1
Matrix : WATERrams: RTEINT.P

Vial: 5
Operator: EAC
Inst : GC/MS Ins
Multiplr: 1.00

Method : C:\DATA\METHODS\4AL05201.M (RTE Integrator)
Title : 8260 Water Concentrator #1
Last Update : Mon May 21 09:21:39 2007
Response via : Single (C:\DATA\4070522\1\40522003.D 22 May 2007 10:08)

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
42)	S	1,2-Dichloroethane-d	27.18	30.00	90.60	70 to 130%	[ ]
58)	S	Toluene-d8	30.81	30.00	102.69	70 to 130%	[ ]
83)	S	Bromofluorobenzene	29.61	30.00	98.70	70 to 130%	[ ]
2)	M	Dichlorodifluorometh	12.29	20.00	61.46	70 to 130%	[*]
3)	MP	Chloromethane	14.11	20.00	70.56	70 to 130%	[ ]
4)	MC	Vinyl Chloride	15.59	20.00	77.96	70 to 130%	[ ]
5)	M	Bromomethane	12.56	20.00	62.79	70 to 130%	[*]
6)	M	Chloroethane	13.45	20.00	67.25	70 to 130%	[*]
7)	M	Trichlorofluorometha	14.75	20.00	73.75	70 to 130%	[ ]
8)	M	Ethyl Ether	19.31	20.00	96.55	70 to 130%	[ ]
9)	M	Acrolein	28.06	20.00	140.32	70 to 130%	[*]
10)	MC	1,1-Dichloroethene	15.60	20.00	78.00	70 to 130%	[ ]
11)	M	112Trichloro122trifl	20.08	20.00	100.40	70 to 130%	[ ]
12)	M	Acetone	14.80	20.00	73.99	70 to 130%	[ ]
13)	M	Iodomethane	34.73	50.00	69.45	70 to 130%	[*]
14)	M	Carbon Disulfide	25.02	20.00	125.09	70 to 130%	[ ]
15)	M	Acetonitrile	58.56	50.00	117.12	70 to 130%	[ ]
16)	M	Methyl acetate	24.96	20.00	124.78	70 to 130%	[ ]
17)	M	Methylene Chloride	17.54	20.00	87.69	70 to 130%	[ ]
18)	M	TBA, tertButylalcoho	41.22	50.00	82.44	70 to 130%	[ ]
19)	M	Acrylonitrile	17.53	20.00	87.63	70 to 130%	[ ]
20)	M	trans-1,2-Dichloroet	18.26	20.00	91.28	70 to 130%	[ ]
21)	M	Allyl chloride	52.12	50.00	104.24	70 to 130%	[ ]
22)	M	tert-butyl Methyleth	16.59	20.00	82.94	70 to 130%	[ ]
23)	M	Vinyl acetate	11.75	20.00	58.77	70 to 130%	[*]
24)	M	Hexane	20.09	20.00	100.47	70 to 130%	[ ]
25)	MP	1,1-Dichloroethane	16.77	20.00	83.83	70 to 130%	[ ]
26)	M	Chloroprene	18.47	20.00	92.37	70 to 130%	[ ]
27)	M	t-Butyl ethyl ether	16.47	20.00	82.37	70 to 130%	[ ]
28)	M	2,2-Dichloropropane	13.82	20.00	69.10	70 to 130%	[*]
29)	M	cis-1,2-Dichloroethe	18.30	20.00	91.52	70 to 130%	[ ]
30)	M	2-Butanone	15.74	20.00	78.71	70 to 130%	[ ]
31)	M	Propionitrile	14.86	20.00	74.29	70 to 130%	[ ]
32)	M	Ethyl acetate	1.70	20.00	8.48	70 to 130%	[*]
33)	M	Diisopropylether	16.97	20.00	84.86	70 to 130%	[ ]
34)	M	Bromochloromethane	18.77	20.00	93.87	70 to 130%	[ ]
35)	M	Methacrylonitrile	15.29	20.00	76.46	70 to 130%	[ ]
36)	M	Tetrahydrofuran	10.86	20.00	54.28	70 to 130%	[*]
37)	MC	Chloroform	17.09	20.00	85.46	70 to 130%	[ ]
38)	M	1,1,1-Trichloroethan	15.74	20.00	78.72	70 to 130%	[ ]
39)	M	Cyclohexane	17.76	20.00	88.82	70 to 130%	[ ]

* = out of control limits
Wed May 30 13:04:12 2007

LCS Blank Summary Report

Data File : C:\DATA\4070529\1\40529005.D
Acq On : 29 May 2007 9:35
Sample : LCS[20]
Misc : V2-44-1
Matrix : WATERrams: RTEINT.P

Vial: 5
Operator: EAC
Inst : GC/MS Ins
Multiplr: 1.00

Method : C:\DATA\METHODS\4AL05201.M (RTE Integrator)
Title : 8260 Water Concentrator #1
Last Update : Mon May 21 09:21:39 2007
Response via : Single (C:\DATA\4070522\1\40522003.D 22 May 2007 10:08)

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
40)	M	Carbon Tetrachloride	14.07	20.00	70.35	70 to 130%	[ ]
41)	M	1,1-Dichloropropene	16.72	20.00	83.59	70 to 130%	[ ]
43)	M	Benzene	17.40	20.00	86.99	70 to 130%	[ ]
44)	M	1,2-Dichloroethane	14.68	20.00	73.42	70 to 130%	[ ]
45)	M	Isobutanol	38.35	50.00	76.70	70 to 130%	[ ]
46)	M	t-Amyl methyl ether	15.73	20.00	78.66	70 to 130%	[ ]
47)	M	Trichloroethene	16.81	20.00	84.06	70 to 130%	[ ]
48)	M	Methylcyclohexane	18.02	20.00	90.11	70 to 130%	[ ]
49)	MC	1,2-Dichloropropane	16.79	20.00	83.94	70 to 130%	[ ]
50)	M	Dibromomethane	16.98	20.00	84.88	70 to 130%	[ ]
51)	M	Methyl methacrylate	13.37	20.00	66.87	70 to 130%	[*]
52)	M	Bromodichloromethane	15.93	20.00	79.67	70 to 130%	[ ]
53)	M	2-Nitropropane	47.60	50.00	95.21	70 to 130%	[ ]
54)	M	2-Chloroethylvinylet	7.42	20.00	37.10	70 to 130%	[*]
55)	M	cis-1,3-Dichloroprop	16.76	20.00	83.80	70 to 130%	[ ]
56)	M	4-Methyl-2-Pentanone	15.46	20.00	77.29	70 to 130%	[ ]
60)	MC	Toluene	17.13	20.00	85.66	70 to 130%	[ ]
61)	M	trans-1,3-Dichloropr	14.72	20.00	73.62	70 to 130%	[ ]
62)	M	Ethyl methacrylate	14.56	20.00	72.78	70 to 130%	[ ]
63)	M	1,1,2-Trichloroethan	17.34	20.00	86.71	70 to 130%	[ ]
64)	M	Tetrachloroethene	17.57	20.00	87.87	70 to 130%	[ ]
65)	M	1,3-Dichloropropane	16.81	20.00	84.04	70 to 130%	[ ]
66)	M	2-Hexanone	15.60	20.00	78.02	70 to 130%	[ ]
67)	M	Dibromochloromethane	14.61	20.00	73.07	70 to 130%	[ ]
68)	M	1,2-Dibromoethane,ED	17.55	20.00	87.76	70 to 130%	[ ]
69)	MP	Chlorobenzene	17.55	20.00	87.73	70 to 130%	[ ]
70)	M	1,1,1,2-Tetrachloroe	15.88	20.00	79.40	70 to 130%	[ ]
71)	MC	Ethylbenzene	17.40	20.00	87.00	70 to 130%	[ ]
72)	M	m,p-Xylene	34.32	40.00	85.80	70 to 130%	[ ]
73)	M	o-Xylene	17.94	20.00	89.69	70 to 130%	[ ]
74)	MG	Xylenes (Total)	52.18	60.00	86.97	70 to 130%	[ ]
75)	M	Styrene	17.17	20.00	85.86	70 to 130%	[ ]
77)	MP	Bromoform	16.65	20.00	83.25	70 to 130%	[ ]
78)	M	Cyclohexanone	36.90	50.00	73.79	70 to 130%	[ ]
79)	M	n-Propylbenzene	16.99	20.00	84.93	70 to 130%	[ ]
80)	M	2-Chlorotoluene	18.25	20.00	91.25	70 to 130%	[ ]
81)	M	1,3,5-Trimethylbenze	16.96	20.00	84.79	70 to 130%	[ ]
82)	M	Isopropylbenzene,Cum	17.15	20.00	85.74	70 to 130%	[ ]
84)	M	Bromobenzene	18.37	20.00	91.85	70 to 130%	[ ]
85)	MP	1,1,2,2-Tetrachloroe	16.87	20.00	84.37	70 to 130%	[ ]
86)	M	1,2,3-Trichloropropa	16.02	20.00	80.10	70 to 130%	[ ]

* = out of control limits
Wed May 30 13:04:12 2007

LCS Blank Summary Report

Data File : C:\DATA\4070529\1\40529005.D
Acq On : 29 May 2007 9:35
Sample : LCS[20]
Misc : V2-44-1
Matrix : WATERrams: RTEINT.P

Vial: 5
Operator: EAC
Inst : GC/MS Ins
Multiplr: 1.00

Method : C:\DATA\METHODS\4AL05201.M (RTE Integrator)
Title : 8260 Water Concentrator #1
Last Update : Mon May 21 09:21:39 2007
Response via : Single (C:\DATA\4070522\1\40522003.D 22 May 2007 10:08)

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
87)	M	trans-1,4-Dichloro-2	16.34	20.00	81.71	70 to 130%	[ ]
88)	M	4-Chlorotoluene	17.20	20.00	86.02	70 to 130%	[ ]
89)	M	tert-Butyl benzene	16.74	20.00	83.72	70 to 130%	[ ]
90)	M	1,2,4-Trimethylbenze	17.07	20.00	85.33	70 to 130%	[ ]
91)	M	sec-Butyl benzene	16.64	20.00	83.20	70 to 130%	[ ]
92)	M	1,3-Dichlorobenzene	18.17	20.00	90.83	70 to 130%	[ ]
93)	M	4-Isopropyl toluene	17.45	20.00	87.23	70 to 130%	[ ]
94)	M	1,4-Dichlorobenzene	17.80	20.00	89.02	70 to 130%	[ ]
95)	M	1,2-Dichlorobenzene	17.71	20.00	88.56	70 to 130%	[ ]
96)	M	n-Butyl benzene	17.63	20.00	88.17	70 to 130%	[ ]
97)	M	bis(2-Chloro-1-methy	14.36	20.00	71.82	70 to 130%	[ ]
98)	M	1,2-Dibromo-3-chloro	15.73	20.00	78.65	70 to 130%	[ ]
99)	M	1,2,4-Trichlorobenze	18.33	20.00	91.64	70 to 130%	[ ]
100)	M	Hexachlorobutadiene	15.91	20.00	79.56	70 to 130%	[ ]
101)	M	Naphthalene	18.46	20.00	92.31	70 to 130%	[ ]
102)	M	1,2,3-Trichlorobenze	17.89	20.00	89.47	70 to 130%	[ ]

* = out of control limits

Spike Recovery and RPD Summary Report - WATER

Method : C:\DATA\METHODS\4AL05201.M (RTE Integrator)
Title : 8260 Water Concentrator #1
Last Update : Mon May 21 09:21:39 2007
Response via : Initial Calibration

Non-Spiked Sample: 40529011.D

	Spike Sample	Spike Duplicate Sample
File ID :	40529051.D	40529053.D
Sample :	07-3721 05-2500MS	07-3721 05-2500MSD
Acq Time:	29 May 2007 19:36	29 May 2007 20:03

Surrogate	Sample Conc	Amnt Added	Sampl %Rec	Spike Conc	Spike %Rec	Dup Conc	Dup %Rec	QC Limits % Rec
1,2-Dichloroethane-d	27.8	30	93	24.8	83	24.0	80	70-130
Toluene-d8	30.7	30	102	27.3	91	26.3	88	70-130
Bromofluorobenzene	30.4	30	101	33.6	112	33.0	110	70-130

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
Dichlorodiflu	0.0	20	14	14	69.9#	72.5	3.6	30	70-130
Chloromethane	0.0	20	14	14	69.4#	71.2	2.5	30	70-130
Vinyl Chlorid	0.0	20	17	18	87.3	92.1	5.3	30	70-130
Bromomethane	0.0	20	11	14	55.1#	71.5	25.9	30	70-130
Chloroethane	0.0	20	17	17	84.6	85.5	1.0	30	70-130
Trichlorofluo	0.0	20	22	23	110.3	116.6	5.6	30	70-130
Ethyl Ether	0.0	20	22	21	111.8	106.6	4.8	30	70-130
Acrolein	1.7	20	28	30	133.4#	141.0#	5.5	30	70-130
1,1-Dichloroe	0.0	20	17	18	86.3	88.1	2.1	30	70-130
112Trichloro1	0.0	20	26	24	129.3	118.0	9.1	30	70-130
Acetone	0.0	20	16	15	77.6	74.8	3.7	30	70-130
Iodomethane	0.0	50	33	45	66.7#	89.7	29.5	30	70-130
Carbon Disulf	0.0	20	30	28	149.4#	140.7#	6.0	30	70-130
Acetonitrile	0.0	50	66	60	131.9#	120.1	9.4	30	70-130
Methyl acetat	0.0	20	27	25	133.2#	124.9	6.4	30	70-130
Methylene Chl	0.0	20	18	20	92.0	99.6	7.9	30	70-130
TBA, tertButy	0.0	50	40	41	80.3	82.1	2.2	30	70-130
Acrylonitrile	0.0	20	17	18	87.0	88.8	2.0	30	70-130
trans-1,2-Dic	0.0	20	20	20	99.0	100.4	1.4	30	70-130
Allyl chlorid	0.0	50	62	60	125.0	119.7	4.3	30	70-130
tert-butyl Me	1.0	20	21	19	97.7	92.4	5.7	30	70-130
Vinyl acetate	0.0	20	11	12	56.0#	59.7#	6.4	30	70-130
Hexane	0.0	20	24	21	121.0	104.5	14.7	30	70-130
1,1-Dichloroe	0.0	20	18	18	89.0	92.5	3.8	30	70-130
Chloroprene	0.0	20	20	22	101.9	107.7	5.5	30	70-130
t-Butyl ethyl	0.0	20	20	18	98.5	91.0	8.0	30	70-130
2,2-Dichlorop	0.0	20	12	14	62.5#	72.0	14.1	30	70-130
cis-1,2-Dichl	0.0	20	19	20	94.0	97.8	4.0	30	70-130
2-Butanone	0.0	20	15	16	76.8	78.4	1.9	30	70-130
Propionitrile	0.0	20	18	16	89.0	81.4	8.9	30	70-130
Ethyl acetate	0.0	20	2	2	10.3#	8.2#	23.2	30	70-130
Diisopropylet	0.0	20	19	18	97.5	90.6	7.3	30	70-130
Bromochlorome	0.0	20	21	22	106.0	110.9	4.5	30	70-130
Methacrylonit	0.0	20	18	17	91.2	85.6	6.3	30	70-130
Tetrahydrofur	0.0	20	14	13	69.1#	63.8#	8.0	30	70-130
Chloroform	0.0	20	17	19	87.4	92.6	5.8	30	70-130
1,1,1-Trichlo	0.0	20	16	17	79.4	87.4	9.6	30	70-130
Cyclohexane	0.0	20	22	21	111.4	104.5	6.4	30	70-130
Carbon Tetrac	0.0	20	14	16	69.2#	77.9	11.8	30	70-130
1,1-Dichlorop	0.0	20	18	18	89.0	91.8	3.1	30	70-130
Benzene	0.0	20	18	19	90.7	96.2	5.9	30	70-130
1,2-Dichloroe	0.0	20	15	16	77.1	82.1	6.3	30	70-130
Isobutanol	0.0	50	36	29	72.0	58.9#	20.0	30	70-130
t-Amyl methyl	0.0	20	18	17	90.1	85.6	5.1	30	70-130
Trichloroethe	0.0	20	17	18	86.3	91.1	5.3	30	70-130
Methylcyclohe	0.0	20	22	20	111.3	99.7	11.0	30	70-130
1,2-Dichlorop	0.0	20	17	18	85.8	90.6	5.4	30	70-130
Dibromomethan	0.0	20	18	19	88.5	94.6	6.7	30	70-130
Methyl methac	0.0	20	16	15	78.3	77.2	1.4	30	70-130

Bromodichloro	0.0	20	15	17	75.8	83.1	9.2	30	70-130
2-Nitropropan	0.0	50	47	48	94.7	96.2	1.5	30	70-130
2-Chloroethyl	0.0	20	0	0	0.0#	0.0#	99.0#	30	70-130
cis-1,3-Dichl	0.0	20	16	17	78.3	86.4	9.9	30	70-130
4-Methyl-2-Pe	0.0	20	16	16	77.9	80.3	3.1	30	70-130
1,4-Dioxane	0.0	0	116	135	0.0	0.0	99.0#	0	0- 0
Toluene	0.0	20	16	17	80.3	84.7	5.3	30	70-130
trans-1,3-Dic	0.0	20	13	14	62.9#	68.3#	8.3	30	70-130
Ethyl methacr	0.0	20	16	15	79.3	75.6	4.8	30	70-130
1,1,2-Trichlo	0.0	20	15	17	75.7	85.5	12.2	30	70-130
Tetrachloroet	0.0	20	18	18	87.7	87.6	0.1	30	70-130
1,3-Dichlorop	0.0	20	15	16	77.3	81.1	4.8	30	70-130
2-Hexanone	0.0	20	15	15	72.6	76.4	5.2	30	70-130
Dibromochloro	0.0	20	12	14	61.0#	68.1#	11.0	30	70-130
1,2-Dibromoet	0.0	20	16	17	78.0	83.8	7.2	30	70-130
Chlorobenzene	0.0	20	16	17	81.2	86.3	6.1	30	70-130
1,1,1,2-Tetra	0.0	20	13	16	67.4#	79.1	16.0	30	70-130
Ethylbenzene	0.0	20	16	17	81.2	85.6	5.3	30	70-130
m,p-Xylene	0.0	40	32	34	79.8	83.9	5.0	30	70-130
o-Xylene	0.0	20	16	17	80.8	85.8	6.0	30	70-130
Xylenes (Tota	0.0	60	48	51	79.9	84.6	5.7	30	70-130
Styrene	0.0	20	15	16	76.5	81.0	5.6	30	70-130
Bromoform	0.0	20	13	15	65.3#	76.0	15.1	30	70-130
Cyclohexanone	0.0	50	22	21	44.0#	42.4#	3.7	30	70-130
n-Propylbenze	0.0	20	15	16	77.2	81.6	5.6	30	70-130
2-Chlorotolue	0.0	20	16	18	82.1	89.1	8.2	30	70-130
1,3,5-Trimeth	0.0	20	15	16	75.2	81.2	7.6	30	70-130
Isopropylbenz	0.0	20	16	17	79.1	83.8	5.8	30	70-130
Bromobenzene	0.0	20	16	18	81.9	90.0	9.4	30	70-130
1,1,2,2-Tetra	0.0	20	15	17	76.4	83.3	8.7	30	70-130
1,2,3-Trichlo	0.0	20	14	16	71.6	79.7	10.7	30	70-130
trans-1,4-Dic	0.0	20	14	15	68.1#	73.7	7.9	30	70-130
4-Chlorotolue	0.0	20	15	16	76.2	82.5	7.9	30	70-130
tert-Butyl be	0.0	20	15	16	75.4	80.8	6.9	30	70-130
1,2,4-Trimeth	0.0	20	15	16	74.6	82.0	9.4	30	70-130
sec-Butyl ben	0.0	20	15	16	72.8	78.8	7.8	30	70-130
1,3-Dichlorob	0.0	20	16	17	80.7	85.4	5.6	30	70-130
4-Isopropyl t	0.0	20	15	17	77.3	83.0	7.1	30	70-130
1,4-Dichlorob	0.0	20	16	17	81.1	85.9	5.8	30	70-130
1,2-Dichlorob	0.0	20	16	18	81.8	88.9	8.3	30	70-130
n-Butyl benze	0.0	20	15	15	75.2	77.4	2.9	30	70-130
bis(2-Chloro-	0.0	20	14	14	70.7	68.4#	3.3	30	70-130
1,2-Dibromo-3	0.0	20	13	14	63.2#	72.3	13.4	30	70-130
1,2,4-Trichlo	0.0	20	16	17	79.6	85.8	7.4	30	70-130
Hexachlorobut	0.0	20	13	14	64.7#	71.4	9.9	30	70-130
Naphthalene	0.0	20	16	17	79.2	86.9	9.3	30	70-130
1,2,3-Trichlo	0.0	20	15	17	76.7	85.0	10.2	30	70-130

- Fails Limit Check

4AL05201.M Wed May 30 10:50:44 2007

Project No.: 07-

General Chemistry

Project No.: 07-3763

General Chemistry

Parameter	EPA or Standard Method	SW846 Method	Holding Time	Bottle Type and Volume	Preservative
Cyanide (Amenable)	335.1		14 days	250ml Plastic*	Sodium Hydroxide
Cyanide (Total)	335.2	4500-CN	14 days	250ml Plastic*	Sodium Hydroxide
Fluoride	340.1	4500-Fl	28 days	500ml Plastic**	None
pH	150.1	9040/9045	Immediate	500ml Plastic**	None
Specific Conductance	120.1	9050	28 days	500ml Plastic**	None

*Cyanide Total and Amenable are analyzed from the same bottle.
**Fluoride, pH, and Specific Conductance are analyzed from the same bottle.

Pace Analytical Report of Quality Control

Project: 07-3763 General Chemistry

Laboratory Control Sample								
Parameter	Method	Batch	Units	MB Found	LCS Spike	LCS Found	LCS %Rec	QC Limits
pH	150.1	60872	pH	5.68	7	7.08	101.14*	0- 0
Cyanide (Total)	9010B/9014	60982	ppm	0.0012	0.1	0.21	205.90*	85-115
Cyanide (Total)	9010B/9014	61086	ppm	0.0010	0.1	0.21	214.10*	85-115
Cyanide (Total)	9010B/9014	61240	ppm	0.0011	0.1	0.21	209.60*	85-115
Fluoride	340.2	61440	ppm	0.0	2	2.08	104.00	85-115

* Denotes recovery outside of QC limits.

Summary of LCS Batches for Project 07-3763

Batch	Analyzed	Samples
60872	05/17/2007	0705-2753 0705-2754 0705-2755 0705-2756 0705-2757 0705-2758 0705-2759 0705-2760 0705-2761 0705-2762 0705-2763 0705-2764 0705-2765 0705-2766 0705-2767
60982	05/22/2007	0705-2753 0705-2754 0705-2755 0705-2756 0705-2757 0705-2758
61086	05/24/2007	0705-2759
61240	05/29/2007	0705-2760 0705-2761 0705-2762 0705-2763 0705-2764 0705-2765 0705-2766 0705-2767
61440	06/01/2007	0705-2753 0705-2754 0705-2755 0705-2756 0705-2757 0705-2758 0705-2759 0705-2760 0705-2761 0705-2762 0705-2763 0705-2764 0705-2765 0705-2766 0705-2767

Pace Analytical Report of Quality Control

Project 07-3763 General Chemistry

Laboratory Control Sample RPD								
Parameter	Method	Batch	Units	Sample Found	LCS Spike	LCS Found	LCS % RPD	QC Limits
pH	150.1	60872	pH	5.68	1	1.37	31%	25%
Fluoride	340.2	61307	ppm	2.5	4	6.98	54%	25%

Summary of MS Batches for Project 07-3724

Batch	Analyzed	Samples
60980	5/22/2007	0705-2511 0705-2512 0705-2513 0705-2514 0705-2515 0705-2516 0705-2517 0705-2518 0705-2519 0705-2520
60981	5/22/2007	0705-2521 0705-2522
61307	5/31/2007	0705-2511 0705-2512 0705-2513 0705-2514 0705-2515 0705-2516 0705-2517 0705-2518 0705-2519 0705-2520 0705-2521 0705-2522

HMI
Environmental Consulting Services

07-03763

CHAIN-OF-CUSTODY RECORD

Project Number: HM00322
Project Name/Location: ORMET-HANNIBAL
Laboratory: PACE
Sampling Personnel: R. FARGO / C. SMITH

Sample ID	Date/Time (5-16-07)	Sample Code	500 mL PLASTIC pH, SPEC. COND.	250 mL PLASTIC F	250 mL PLASTIC CN TOTAL/AMEN.	250 mL PLASTIC DISS. As, Be, Mn, Na V	40 mL GLASS # PCE					TOTAL
MW-19	930	L	1	1	1	1					05-2753	4
MW-31	1000		1	1	1	1	3				54	7
MW-35	1020		1	1	1	1					55	4
MW-37	1240		1	1	1	1					56	4
MW-28	1300		1	1	1	1					57	4
MW-28D	1310		1	1	1	1					58	4
MW-30	1315		1	1	1	1	3				59	7
MW-18	1400		1	1	1	1	3				60	7
MW-29D	1440		1	1	1	1					61	4
MW-29S	1500		1	1	1	1					62	4
MW-16	1520		1	1	1	1					63	4
MW-1	1540		1	1	1	1					64	4
MW-2	1620		1	1	1	1	3				65	7
MW-40D	1700		1	1	1	1					66	4
MW-40S	1720		1	1	1	1					67	4
TB-1							2				68	2

Sample Code: L = Liquid; S = Solid; A = Air

Total Number of Containers: 74

Relinquished by: R. Fargo	Organization: HMI	Date: 5-17-07	Time: 900	Seal Intact? Yes No NA
Received by:	Organization:	Date:	Time:	
Relinquished by: Eric Fargo	Organization: HMI	Date: 5-17-07	Time: 10:25	Seal Intact? Yes No NA
Received by: [illegible]	Organization: Pace	Date: 5/17/07	Time: 1025	

REMARKS: 4°C Ice Present

DELIVERY METHOD: In Person [X] Common Carrier [ ] Lab Courier [ ] Other [ ]

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June 5, 2007

Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Dear Mr. Fargo:

Enclosed are analytical results for samples submitted to Pace Analytical by Hydro Systems Management, Inc.. The samples were received on May 18, 2007. The results reported in this project meet the requirements as specified in Chapter 5 of the NELAC Standards. Any deviations or discrepancies from the NELAC standards are documented in the case narrative(s) of this report. Parameters printed in italics represent Non-NELAC accredited parameters. Please reference Pace project number 07-3816 when inquiring about this report.

Client Site: Reduction Mill
Client Ref.: HM00318

Pace Sample Identification	Client Sample Identification
0705-2994	MW-7
0705-2995	MW-5
0705-2996	MW-11
0705-2997	MW-8
0705-2998	MW-10
0705-2999	MW-44D

Pace Sample Identification	Client Sample Identification
0705-3000	MW-44S
0705-3001	MW-5D
0705-3002	MW-12
0705-3003	FB-1
0705-3004	MW-41

General Comments: The recommended holding time for pH requires immediate analysis. The samples were received past the recommended holding time for pH. Cooler temperature 2 ° C upon receipt. Ice was present. Insufficient sample volume has been provided for the performance of a sample matrix spike/matrix spike duplicate, therefore extraction of a blank (reagent water) spike and spike duplicate have been performed.

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Please call me if you have any questions regarding the information contained within this report.

Sincerely,

Rachel D. Christner
Project Manager

RDC: jld

Enclosures

Page 1 of 56

cc: John Reggi, Ormet Primary Aluminum Corporation

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3816**
Lab Sample ID: **0705-2994**
Client Sample ID: MW-7
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00318

Date Sampled: 05/17/2007
Date Received: 05/18/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Total)	335.4(1)	<0.010	0.010	mg/l	DAH	05/23/2007	0061239-1	<0.010
Fluoride	340.2(1)	0.11	0.10	mg/l	CK0	06/04/2007	0061470-1	<0.10
pH	150.1(1)	6.04	1.00	pH	APD	05/18/2007	0060967-1	5.63

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.038	0.0040	mg/l	CS0	05/24/2007	0061009-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/24/2007	0061009-1	<0.00050
Manganese	6010B(2)	2.4	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010
Sodium	6010B(2)	69	0.50	mg/l	CS0	05/24/2007	0061009-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3816**
Lab Sample ID: **0705-2995**
Client Sample ID: MW-5
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00318

Date Sampled: 05/17/2007
Date Received: 05/18/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	05/29/2007	0061357-1	<0.010
Cyanide (Total)	335.4(1)	5.9	0.25	mg/l	DAH	05/23/2007	0061239-1	<0.010
Fluoride	340.2(1)	23	0.10	mg/l	CK0	06/04/2007	0061470-1	<0.10
pH	150.1(1)	8.00	1.00	pH	APD	05/18/2007	0060967-1	5.63

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	05/24/2007	0061009-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/24/2007	0061009-1	<0.00050
Manganese	6010B(2)	0.40	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010
Sodium	6010B(2)	230	0.50	mg/l	CS0	05/24/2007	0061009-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	<0.0050	0.0050	mg/l	JHC	05/30/2007	0061337-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3816**
Lab Sample ID: **0705-2996**
Client Sample ID: MW-11
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00318

Date Sampled: 05/17/2007
Date Received: 05/18/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	05/29/2007	0061357-1	<0.010
Cyanide (Total)	335.4(1)	0.066	0.010	mg/l	DAH	05/23/2007	0061239-1	<0.010
Fluoride	340.2(1)	1.0	0.10	mg/l	CK0	06/04/2007	0061470-1	<0.10
pH	150.1(1)	7.80	1.00	pH	APD	05/18/2007	0060967-1	5.63

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	05/24/2007	0061009-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/24/2007	0061009-1	<0.00050
Manganese	6010B(2)	0.62	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010
Sodium	6010B(2)	69	0.50	mg/l	CS0	05/24/2007	0061009-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3816**
Lab Sample ID: **0705-2997**
Client Sample ID: MW-8
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00318

Date Sampled: 05/17/2007
Date Received: 05/18/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	05/29/2007	0061357-1	<0.010
Cyanide (Total)	335.4(1)	0.59	0.050	mg/l	DAH	05/23/2007	0061239-1	<0.010
Fluoride	340.2(1)	3.1	0.10	mg/l	CK0	06/04/2007	0061470-1	<0.10
pH	150.1(1)	7.56	1.00	pH	APD	05/18/2007	0060967-1	5.63

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	05/24/2007	0061009-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/24/2007	0061009-1	<0.00050
Manganese	6010B(2)	0.19	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010
Sodium	6010B(2)	120	0.50	mg/l	CS0	05/24/2007	0061009-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3816**
Lab Sample ID: **0705-2998**
Client Sample ID: MW-10
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00318

Date Sampled: 05/17/2007
Date Received: 05/18/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Total)	335.4(1)	<0.010	0.010	mg/l	DAH	05/23/2007	0061239-1	<0.010
Fluoride	340.2(1)	0.19	0.10	mg/l	CK0	06/04/2007	0061470-1	<0.10
pH	150.1(1)	7.17	1.00	pH	APD	05/18/2007	0060967-1	5.63

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	05/24/2007	0061009-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/24/2007	0061009-1	<0.00050
Manganese	6010B(2)	<0.010	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010
Sodium	6010B(2)	20	0.50	mg/l	CS0	05/24/2007	0061009-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, *Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.*
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3816**
Lab Sample ID: **0705-2999**
Client Sample ID: MW-44D
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00318

Date Sampled: 05/17/2007
Date Received: 05/18/2007

Pesticides/PCB

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Polychlorinated Biphenyls, ECD								
Aroclor-1016	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1221	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1232	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1242	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1248	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1254	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1260	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
PCB Total-TCL	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3816**
Lab Sample ID: **0705-3000**
Client Sample ID: MW-44S
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00318

Date Sampled: 05/17/2007
Date Received: 05/18/2007

Pesticides/PCB

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Polychlorinated Biphenyls, ECD								
Aroclor-1016	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1221	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1232	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1242	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1248	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1254	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1260	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
PCB Total-TCL	8082[1]	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Fax: 724.327.7793

Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3816**
Lab Sample ID: **0705-3001**
Client Sample ID: MW-5D
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00318

Date Sampled: 05/17/2007
Date Received: 05/18/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	DAH	05/29/2007	0061357-1	<0.010
Cyanide (Total)	335.4(1)	6.2	0.25	mg/l	DAH	05/23/2007	0061239-1	<0.010
Fluoride	340.2(1)	23	0.10	mg/l	CK0	06/04/2007	0061470-1	<0.10
pH	150.1(1)	7.87	1.00	pH	APD	05/18/2007	0060967-1	5.63

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	05/24/2007	0061009-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/24/2007	0061009-1	<0.00050
Manganese	6010B(2)	0.38	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010
Sodium	6010B(2)	230	0.50	mg/l	CS0	05/24/2007	0061009-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	<0.0050	0.0050	mg/l	JHC	05/30/2007	0061337-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis. Total cyanide significantly greater after chlorination than before. DAH 5/31/07

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3816**
Lab Sample ID: **0705-3002**
Client Sample ID: MW-12
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00318

Date Sampled: 05/17/2007
Date Received: 05/18/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Total)	335.4(1)	<0.010	0.010	mg/l	DAH	05/24/2007	0061303-1	<0.010
Fluoride	340.2(1)	1.4	0.10	mg/l	CK0	06/04/2007	0061470-1	<0.10
pH	150.1(1)	7.61	1.00	pH	APD	05/18/2007	0060967-1	5.63

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	05/24/2007	0061009-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/24/2007	0061009-1	<0.00050
Manganese	6010B(2)	2.1	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010
Sodium	6010B(2)	26	0.50	mg/l	CS0	05/24/2007	0061009-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010

Pesticides/PCB

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Polychlorinated Biphenyls, ECD								
Aroclor-1016	8082(2)	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1221	8082(2)	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1232	8082(2)	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1242	8082(2)	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1248	8082(2)	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1254	8082(2)	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
Aroclor-1260	8082(2)	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50
PCB Total-TCL	8082(2)	<0.50	0.50	mg/l	RDJ	05/24/2007	0061073-1	<0.50

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Client Site: Reduction Mill
Client Ref.: HM00318

Lab Project ID: **07-3816**
Lab Sample ID: **0705-3003**
Client Sample ID: FB-1
Sample Matrix: Aqueous

Date Sampled: 05/17/2007
Date Received: 05/18/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Total)	335.4(1)	<0.010	0.010	mg/l	DAH	05/24/2007	0061303-1	<0.010
Fluoride	340.2(1)	<0.10	0.10	mg/l	CK0	06/04/2007	0061470-1	<0.10
pH	150.1(1)	5.90	1.00	pH	APD	05/18/2007	0060967-1	5.63

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	05/24/2007	0061009-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/24/2007	0061009-1	<0.00050
Manganese	6010B(2)	<0.010	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010
Sodium	6010B(2)	<0.50	0.50	mg/l	CS0	05/24/2007	0061009-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	<0.0050	0.0050	mg/l	JHC	05/30/2007	0061337-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-3816**
Lab Sample ID: **0705-3004**
Client Sample ID: MW-41
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00318

Date Sampled: 05/17/2007
Date Received: 05/18/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Total)	335.4(1)	<0.010	0.010	mg/l	DAH	05/24/2007	0061303-1	<0.010
Fluoride	340.2(1)	0.23	0.10	mg/l	CK0	06/04/2007	0061470-1	<0.10
pH	150.1(1)	6.79	1.00	pH	APD	05/18/2007	0060967-1	5.63

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.015	0.0040	mg/l	CS0	05/24/2007	0061009-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	05/24/2007	0061009-1	<0.00050
Manganese	6010B(2)	1.3	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010
Sodium	6010B(2)	22	0.50	mg/l	CS0	05/24/2007	0061009-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	05/24/2007	0061009-1	<0.010

Subcontracted Work

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Specific Conductance	120.1(1)	Completed	1.0	umhos/cm			N/A	N/A

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Project No.: 07-

Pace Analytical Services, Inc.
Charlotte Laboratory
Subcontracting Report

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Huntersville, NC 28078
Phone: 704.875.9092
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May 29, 2007

Client Services
Pace Analytical Services, Inc.
5203 Triangle Lane
Export, PA 15632

RE: Lab Project Number: 92144926
Client Project ID: Ormet 07-3816

Dear Services:

Enclosed are the analytical results for sample(s) received by the laboratory on May 18, 2007. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals Analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Charlotte laboratory unless otherwise footnoted.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Kevin Herring
kevin.herring@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 92144926
Client Project ID: Ormet 07-3816

Lab Sample No: 928404821 Project Sample Number: 92144926-001 Date Collected: 05/17/07 00:00
Client Sample ID: MW-7 Matrix: Water Date Received: 05/18/07 10:40

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	660	umhos/cm	10.	05/24/07 14:30	MJR1			

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SC Environmental 99030
FL NELAP E87648

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Lab Project Number: 92144926
Client Project ID: Ormet 07-3816

Lab Sample No: 928404839 | Project Sample Number: 92144926-002 | Date Collected: 05/17/07 00:00
Client Sample ID: MW-5 | Matrix: Water | Date Received: 05/18/07 10:40

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	1200	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144926
Client Project ID: Ormet 07-3816

Lab Sample No: 928404847 Project Sample Number: 92144926-003 Date Collected: 05/17/07 00:00
Client Sample ID: MW-11 Matrix: Water Date Received: 05/18/07 10:40

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	700	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144926
Client Project ID: Ormet 07-3816

Lab Sample No: 928404854 | Project Sample Number: 92144926-004 | Date Collected: 05/17/07 00:00
Client Sample ID: MW-8 | Matrix: Water | Date Received: 05/18/07 10:40

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	890	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144926
Client Project ID: Ormet 07-3816

Lab Sample No: 928404862 Project Sample Number: 92144926-005 Date Collected: 05/17/07 00:00
Client Sample ID: MW-10 Matrix: Water Date Received: 05/18/07 10:40

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	750	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144926
Client Project ID: Ormet 07-3816

Lab Sample No: 928404870 | Project Sample Number: 92144926-006 | Date Collected: 05/17/07 00:00
Client Sample ID: MW-5D | Matrix: Water | Date Received: 05/18/07 10:40

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	1200	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144926
Client Project ID: Ormet 07-3816

Lab Sample No: 928404888 Project Sample Number: 92144926-007 Date Collected: 05/17/07 00:00
Client Sample ID: MW-12 Matrix: Water Date Received: 05/18/07 10:40

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	560	umhos/cm	10.	05/24/07 14:30	MJR1			

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Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 92144926
Client Project ID: Ormet 07-3816

Lab Sample No: 928404896 | Project Sample Number: 92144926-008 | Date Collected: 05/17/07 00:00
Client Sample ID: FB-1 | Matrix: Water | Date Received: 05/18/07 10:40

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	ND	umhos/cm	10.	05/24/07 14:30	MJR1			

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Lab Project Number: 92144926
Client Project ID: Ormet 07-3816

Lab Sample No: 928404904 | Project Sample Number: 92144926-009 | Date Collected: 05/17/07 00:00
Client Sample ID: MW-41 | Matrix: Water | Date Received: 05/18/07 10:40

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry								
Specific Conductance	Method: EPA 120.1							
Specific Conductance	430	umhos/cm	10.	05/24/07 14:30	MJR1			

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Phone: 704.875.9092
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Lab Project Number: 92144926
Client Project ID: Ormet 07-3816

PARAMETER FOOTNOTES

Method 9071B modified to use ASE.

All pH, Free Chlorine, Total Chlorine and Ferrous Iron analyses conducted outside of EPA recommended immediate hold time.

Depending on the moisture content the PRLs can be elevated for all soil samples reported on a dry weight basis.

2-Chloroethyl vinyl ether has been shown to degrade in the presence of acid.

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit

Asheville Certification IDs
NC Wastewater 40
NC Drinking Water 37712
SC Environmental 99030
FL NELAP E87648

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QUALITY CONTROL DATA

Lab Project Number: 92144926
Client Project ID: Ormet 07-3816

QC Batch: 189661 — Analysis Method: EPA 120.1
QC Batch Method: EPA 120.1 — Analysis Description: Specific Conductance
Associated Lab Samples: 928404821 928404839 928404847 928404854 928404862 928404870 928404888 928404896 928404904

METHOD BLANK: 928425834
Associated Lab Samples: 928404821 928404839 928404847 928404854 928404862 928404870 928404888 928404896 928404904

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Specific Conductance	umhos/cm	ND	10.	

LABORATORY CONTROL SAMPLE: 928425842

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Specific Conductance	umhos/cm	1412.00	1347	95	

SAMPLE DUPLICATE: 928425859

Parameter	Units	928419662 Result	DUP Result	RPD	Footnotes
Specific Conductance	umhos/cm	6600	6600	0	

Asheville Certification IDs
NC Wastewater 40
NC Drinking Water 37712
SC Environmental 99030
FL NELAP E87648

REPORT OF LABORATORY ANALYSIS
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Charlotte Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006
FL NELAP E87627

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 92144926
Client Project ID: Ormet 07-3816

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference

Asheville Certification IDs
NC Wastewater 40
NC Drinking Water 37712
SC Environmental 99030
FL NELAP E87648

REPORT OF LABORATORY ANALYSIS
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Charlotte Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006
FL NELAP E87627

Project No.: 07-3816

Metals Analysis - ICP

Parameter	Chemical Symbol	EPA or Standard Method	SW846 Method	Holding Time	Bottle Type and Volume	Preservative
Arsenic	As	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Beryllium	Be	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Manganese	Mn	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Sodium	Na	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Vanadium	V	200.7	6010	6 Months	250ml Plastic	Nitric Acid

Pace Analytical

Metals Data Reporting Form

Matrix Spike Sample Results

Spike Sample ID: 3812-0705-2970

Original Sample ID: Blank **Client ID:** Batch

Matrix: Water **Units:** ug/L **Prep Date:** 5/22/2007 **Prep Batch:** 61009

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	OS Conc	Q	MS Conc	Q	Spike Level	% Rec	OS DF	MS DF	Instr	OS Anal Date	OS Anal Time	MS Anal Date	MS Anal Time
Arsenic	189.0	0.0		559		500	111.9	1	1	ICP	5/24/2007	8:02	5/24/2007	9:24
Beryllium	313.0	0.0		503		500	100.5	1	1	ICP	5/24/2007	8:02	5/24/2007	9:24
Manganese	257.6	0.0		524		500	104.8	1	1	ICP	5/24/2007	8:02	5/24/2007	9:24
Sodium	330.2	0.0		2000000	N	5000	0002.0	1	1	ICP	5/24/2007	8:02	5/24/2007	9:24
Vanadium	292.4	0.0		514		500	102.8	1	1	ICP	5/24/2007	8:02	5/24/2007	9:24

Comments: QC Range 75-125% recovery

Version 4.80.0

U Result is less than the MDL
B Result is between MDL and RL
N Spike recovery failed
NC Percent recovery was not calculated
R Duplicate analysis RPD was not within limits

Form 5A Equivalent

Pace Analytical

Metals Data Reporting Form

Matrix Spike Duplicate Sample Results

Spike Sample ID: QC61009MSD

Original Sample ID: 3812-0705-2969 **Client ID:** Batch

Matrix: Water **Units:** ug/L **Prep Date:** 5/22/2007 **Prep Batch:** 61009

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	OS Conc	Q	MSD Conc	Q	Spike Level	% Rec	OS DF	MSD DF	Instr	OS Anal Date	OS Anal Time	MSD Anal Date	MSD Anal Time
Arsenic	189.0	1.7	U	561		500	112.1	1	1	ICP	5/24/2007	9:18	5/24/2007	9:27
Beryllium	313.0	0.070	U	502		500	100.4	1	1	ICP	5/24/2007	9:18	5/24/2007	9:27
Manganese	257.6	0.94	B	523		500	104.4	1	1	ICP	5/24/2007	9:18	5/24/2007	9:27
Sodium	330.2	1990000	N	1990000	NC	5000		1	1	ICP	5/24/2007	9:18	5/24/2007	9:27
Vanadium	292.4	0.40	U	514		500	102.8	1	1	ICP	5/24/2007	9:18	5/24/2007	9:27

Comments: QC Ranges 75-125% recovery, 80-120% RPD

Version 4.80.0

U Result is less than the MDL
B Result is between MDL and RL
N Spike recovery failed
NC Percent recovery was not calculated
R Duplicate analysis RPD was not within limits

Form 5A Equivalent

Pace Analytical

Metals Data Reporting Form

Matrix Spike Duplicate RPD Report

Matrix Spike Duplicate Sample ID:	QC61009MSD	**Client ID:**	Batch
Marix Spike Sample ID:	3812-0705-2970	**Acceptable Range:**	+/- 20%
Matrix: Water	**Units:** ug/L	**Prep Date:** 5/22/2007	**Prep Batch:** 61009
Weight: NA	**Volume:** 50	**Percent Moisture:** NA	

Element	WL/ Mass	MS Conc	Q	MSD Conc	Q	% RPD	MS DF	MSD DF	Instr	MS Anal Date	MS Anal Time	MSD Anal Date	MSD Anal Time
Arsenic	189.042	559		561		0.4%	1	1	ICP	5/24/2007	9:24	5/24/2007	9:27
Beryllium	313.042	503		502		-0.2%	1	1	ICP	5/24/2007	9:24	5/24/2007	9:27
Manganese	257.61	524		523		-0.2%	1	1	ICP	5/24/2007	9:24	5/24/2007	9:27
Sodium	330.232	2000000	N	1990000	NC	-0.5%	1	1	ICP	5/24/2007	9:24	5/24/2007	9:27
Vanadium	292.402	514		514		0.0%	1	1	ICP	5/24/2007	9:24	5/24/2007	9:27

U Result is less than the MDL
B Result is between MDL and RL
R Duplicate analysis RPD was not within limits

Pace Analytical

Metals Data Reporting Form

Laboratory Control Sample Results

Lab Sample ID: QC61009LCS

Matrix: Water **Units:** ug/L **Prep Date:** 5/22/2007 **Prep Batch:** 61009

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	Spike Level	Conc	Percent Recovery	Q	Range	DF	Instr	Anal Date	Anal Time
Arsenic	189.042	500	492	98.3		80-120	1	ICP	5/24/2007	9:13
Beryllium	313.042	500	485	97.0		80-120	1	ICP	5/24/2007	9:13
Manganese	257.61	500	492	98.5		80-120	1	ICP	5/24/2007	9:13
Sodium	330.232	5000	4850	96.9		80-120	1	ICP	5/24/2007	9:13
Vanadium	292.402	500	489	97.7		80-120	1	ICP	5/24/2007	9:13

Comments: QC Data for 07-3816

U Result is less than the MDL
B Result is between MDL and RL

Project No.: 07-3816

Volatiles Analysis

Parameter	EPA or Standard Method	SW846 Method	Holding Time	Bottle Type and Volume	Preservative
Tetrachloroethene	624	8260	14 Days	3/ 40ml Vials	Hydrochloric Acid

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : PASI-PGH Contract :
Project : 07-3816 Site : Location : Group :
Lab File ID (Standard): 20530058.D Date Analyzed : 31 May 2007
Instrument ID : GC/MS Ins Time Analyzed : 00:38
GC Column : RTX-VMS ID : 0.18(mm) Heated Purge (Y:N) : N

File	Sample	SMC1 (DCE) #	SMC2 (TOL) #	SMC3 (BFB) #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
20530064	VBLK	99	92	90	0	0	0	0
20530078	07-3816 05-2995	93	85	82	0	0	0	0
20530080	07-3816 05-3001	90	83	79	0	0	0	0
20530082	07-3816 05-3003	89	80	73	0	0	0	0

		QC Limits
SMC1 (DCE)	= 1,2-Dichloroethane-d4	(70 -130)
SMC2 (TOL)	= Toluene-d8	(70 -130)
SMC3 (BFB)	= Bromofluorobenzene	(70 -130)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

VOA LCS Blank Summary Report

Data File : D:\DATA\2070530\2A\20530060.D
Acq On : 31 May 2007 1:04
Sample : VLCS[20]
Misc : V2-26-5
Matrix : WATERrams: RTEINT.P

Vial: 60
Operator: JHC
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\METHODS\2AL05172.M (RTE Integrator)
Title : 8260 Water Concentrator #2
Last Update : Thu May 17 15:26:40 2007
Response via : Single (D:\DATA\2070531\2\20531008.D 31 May 2007 13:11)

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
42)	S	1,2-Dichloroethane-d	27.38	30.00	91.25	70 to 130%	[ ]
58)	S	Toluene-d8	26.46	30.00	88.20	70 to 130%	[ ]
83)	S	Bromofluorobenzene	25.74	30.00	85.80	70 to 130%	[ ]
2)	T	Dichlorodifluorometh	12.41	20.00	62.04	70 to 130%	[*]
3)	T	Chloromethane	9.38	20.00	46.90	70 to 130%	[*]
4)	T	Vinyl Chloride	14.99	20.00	74.95	70 to 130%	[ ]
5)	T	Bromomethane	20.61	20.00	103.03	70 to 130%	[ ]
6)	M	Chloroethane	15.99	20.00	79.94	70 to 130%	[ ]
7)	T	Trichlorofluorometha	14.58	20.00	72.89	70 to 130%	[ ]
8)	T	Ethyl Ether	17.24	20.00	86.22	70 to 130%	[ ]
9)	T	Acrolein	27.45	20.00	137.24	70 to 130%	[*]
10)	T	1,1-Dichloroethene	14.93	20.00	74.65	70 to 130%	[ ]
11)	T	112Trichloro122trifl	19.04	20.00	95.19	70 to 130%	[ ]
12)	T	Acetone	13.23	20.00	66.17	70 to 130%	[*]
13)	M	Iodomethane	51.70	50.00	103.39	70 to 130%	[ ]
14)	T	Carbon Disulfide	19.68	20.00	98.38	70 to 130%	[ ]
15)	M	Acetonitrile	38.15	50.00	76.29	70 to 130%	[ ]
16)	T	Methyl acetate	9.76	20.00	48.80	70 to 130%	[*]
17)	T	Methylene Chloride	18.49	20.00	92.43	70 to 130%	[ ]
18)	T	TBA, tertButylalcoho	43.76	50.00	87.53	70 to 130%	[ ]
19)	T	Acrylonitrile	16.39	20.00	81.95	70 to 130%	[ ]
20)	T	trans-1,2-Dichloroet	16.66	20.00	83.29	70 to 130%	[ ]
21)	T	Allyl chloride	42.25	50.00	84.49	70 to 130%	[ ]
22)	T	tert-butyl Methyleth	17.22	20.00	86.09	70 to 130%	[ ]
23)	T	Vinyl acetate	11.14	20.00	55.70	70 to 130%	[*]
24)	T	Hexane	27.75	20.00	138.73	70 to 130%	[*]
25)	T	1,1-Dichloroethane	17.42	20.00	87.08	70 to 130%	[ ]
26)	M	Chloroprene	16.65	20.00	83.24	70 to 130%	[ ]
27)	M	t-Butyl ethyl ether	21.28	20.00	106.41	70 to 130%	[ ]
28)	M	2,2-Dichloropropane	14.34	20.00	71.69	70 to 130%	[ ]
29)	T	cis-1,2-Dichloroethe	18.99	20.00	94.95	70 to 130%	[ ]
30)	T	2-Butanone	15.46	20.00	77.29	70 to 130%	[ ]
31)	T	Propionitrile	21.40	20.00	107.01	70 to 130%	[ ]
32)	T	Ethyl acetate	1.99	20.00	9.93	70 to 130%	[*]
33)	T	Diisopropylether	14.68	20.00	73.42	70 to 130%	[ ]
34)	T	Bromochloromethane	22.38	20.00	111.91	70 to 130%	[ ]
35)	M	Methacrylonitrile	17.07	20.00	85.33	70 to 130%	[ ]
36)	T	Tetrahydrofuran	14.54	20.00	72.69	70 to 130%	[ ]
37)	T	Chloroform	19.67	20.00	98.37	70 to 130%	[ ]
38)	T	1,1,1-Trichloroethan	19.06	20.00	95.28	70 to 130%	[ ]
39)	T	Cyclohexane	20.07	20.00	100.37	70 to 130%	[ ]

* = out of control limits

Data File : D:\DATA\2070530\2A\20530060.D
Acq On : 31 May 2007 1:04
Sample : VLCS[20]
Misc : V2-26-5
Matrix : WATERrams: RTEINT.P

Vial: 60
Operator: JHC
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\METHODS\2AL05172.M (RTE Integrator)
Title : 8260 Water Concentrator #2
Last Update : Thu May 17 15:26:40 2007
Response via : Single (D:\DATA\2070531\2\20531008.D 31 May 2007 13:11)

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
40)	T	Carbon Tetrachloride	22.25	20.00	111.26	70 to 130%	[ ]
41)	T	1,1-Dichloropropene	19.20	20.00	95.99	70 to 130%	[ ]
43)	T	Benzene	18.71	20.00	93.53	70 to 130%	[ ]
44)	T	1,2-Dichloroethane	19.09	20.00	95.44	70 to 130%	[ ]
45)	M	Isobutanol	84.13	50.00	168.26	70 to 130%	[*]
46)	M	t-Amyl methyl ether	18.87	20.00	94.37	70 to 130%	[ ]
47)	T	Trichloroethene	18.78	20.00	93.91	70 to 130%	[ ]
48)	T	Methylcyclohexane	18.54	20.00	92.68	70 to 130%	[ ]
49)	T	1,2-Dichloropropane	17.96	20.00	89.81	70 to 130%	[ ]
50)	T	Dibromomethane	19.50	20.00	97.50	70 to 130%	[ ]
51)	M	Methyl methacrylate	17.62	20.00	88.09	70 to 130%	[ ]
52)	T	Bromodichloromethane	21.09	20.00	105.43	70 to 130%	[ ]
53)	M	2-Nitropropane	57.88	50.00	115.76	70 to 130%	[ ]
54)	T	2-Chloroethylvinylet	11.64	20.00	58.21	70 to 130%	[*]
55)	T	cis-1,3-Dichloroprop	19.49	20.00	97.44	70 to 130%	[ ]
56)	T	4-Methyl-2-Pentanone	17.99	20.00	89.94	70 to 130%	[ ]
59)		1,4-Dioxane	225.03	200.00	112.51	70 to 130%	[ ]
60)	T	Toluene	17.49	20.00	87.45	70 to 130%	[ ]
61)	T	trans-1,3-Dichloropr	17.42	20.00	87.10	70 to 130%	[ ]
62)	M	Ethyl methacrylate	16.79	20.00	83.93	70 to 130%	[ ]
63)	T	1,1,2-Trichloroethan	18.02	20.00	90.11	70 to 130%	[ ]
64)	T	Tetrachloroethene	19.85	20.00	99.24	70 to 130%	[ ]
65)	T	1,3-Dichloropropane	18.12	20.00	90.62	70 to 130%	[ ]
66)	T	2-Hexanone	17.25	20.00	86.24	70 to 130%	[ ]
67)	T	Dibromochloromethane	20.10	20.00	100.52	70 to 130%	[ ]
68)	T	1,2-Dibromoethane,ED	23.11	20.00	115.57	70 to 130%	[ ]
69)	T	Chlorobenzene	19.04	20.00	95.22	70 to 130%	[ ]
70)	T	1,1,1,2-Tetrachloroe	20.07	20.00	100.34	70 to 130%	[ ]
71)	T	Ethylbenzene	18.49	20.00	92.46	70 to 130%	[ ]
72)	T	m,p-Xylene	37.83	40.00	94.59	70 to 130%	[ ]
73)	T	o-Xylene	18.43	20.00	92.15	70 to 130%	[ ]
74)	MG	Xylenes (Total)	56.27	60.00	93.79	70 to 130%	[ ]
75)	T	Styrene	18.82	20.00	94.10	70 to 130%	[ ]
77)	T	Bromoform	19.35	20.00	96.75	70 to 130%	[ ]
78)	M	Cyclohexanone	11.22	50.00	22.44	70 to 130%	[*]
79)	T	n-Propylbenzene	17.68	20.00	88.38	70 to 130%	[ ]
80)	M	2-Chlorotoluene	19.43	20.00	97.13	70 to 130%	[ ]
81)	T	1,3,5-Trimethylbenze	18.42	20.00	92.11	70 to 130%	[ ]
82)	T	Isopropylbenzene,Cum	17.67	20.00	88.34	70 to 130%	[ ]
84)	M	Bromobenzene	19.84	20.00	99.19	70 to 130%	[ ]
85)	T	1,1,2,2-Tetrachloroe	15.75	20.00	78.76	70 to 130%	[ ]

* = out of control limits

VOA LCS Blank Summary Report

Data File : D:\DATA\2070530\2A\20530060.D
Acq On : 31 May 2007 1:04
Sample : VLCS[20]
Misc : V2-26-5
Matrix : WATERrams: RTEINT.P

Vial: 60
Operator: JHC
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\METHODS\2AL05172.M (RTE Integrator)
Title : 8260 Water Concentrator #2
Last Update : Thu May 17 15:26:40 2007
Response via : Single (D:\DATA\2070531\2\20531008.D 31 May 2007 13:11)

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
86)	T	1,2,3-Trichloropropa	15.75	20.00	78.77	70 to 130%	[ ]
87)	M	trans-1,4-Dichloro-2	16.79	20.00	83.95	70 to 130%	[ ]
88)	M	4-Chlorotoluene	17.43	20.00	87.16	70 to 130%	[ ]
89)	M	tert-Butyl benzene	18.16	20.00	90.82	70 to 130%	[ ]
90)	T	1,2,4-Trimethylbenze	17.93	20.00	89.65	70 to 130%	[ ]
91)	M	sec-Butyl benzene	16.60	20.00	83.02	70 to 130%	[ ]
92)	T	1,3-Dichlorobenzene	18.57	20.00	92.87	70 to 130%	[ ]
93)	M	4-Isopropyl toluene	18.15	20.00	90.73	70 to 130%	[ ]
94)	T	1,4-Dichlorobenzene	18.91	20.00	94.54	70 to 130%	[ ]
95)	T	1,2-Dichlorobenzene	18.78	20.00	93.91	70 to 130%	[ ]
96)	M	n-Butyl benzene	17.44	20.00	87.22	70 to 130%	[ ]
97)	M	bis(2-Chloro-1-methy	15.77	20.00	78.86	70 to 130%	[ ]
98)	T	1,2-Dibromo-3-chloro	17.95	20.00	89.75	70 to 130%	[ ]
99)	T	1,2,4-Trichlorobenze	19.19	20.00	95.94	70 to 130%	[ ]
100)	M	Hexachlorobutadiene	18.11	20.00	90.57	70 to 130%	[ ]
101)	T	Naphthalene	18.97	20.00	94.84	70 to 130%	[ ]
102)	M	1,2,3-Trichlorobenze	18.73	20.00	93.66	70 to 130%	[ ]

* = out of control limits

VOA LCS Blank Summary Report

Data File : D:\DATA\2070530\2A\20530062.D
Acq On : 31 May 2007 1:29
Sample : VLCS[20] DUP
Misc : V2-26-5
Matrix : WATERrams: RTEINT.P

Vial: 62
Operator: JHC
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\METHODS\2AL05172.M (RTE Integrator)
Title : 8260 Water Concentrator #2
Last Update : Thu May 17 15:26:40 2007
Response via : Single (D:\DATA\2070531\2\20531008.D 31 May 2007 13:11)

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
42)	S	1,2-Dichloroethane-d	30.22	30.00	100.74	70 to 130%	[ ]
58)	S	Toluene-d8	28.91	30.00	96.35	70 to 130%	[ ]
83)	S	Bromofluorobenzene	27.43	30.00	91.42	70 to 130%	[ ]
2)	T	Dichlorodifluorometh	11.34	20.00	56.72	70 to 130%	[*]
3)	T	Chloromethane	8.65	20.00	43.27	70 to 130%	[*]
4)	T	Vinyl Chloride	14.11	20.00	70.55	70 to 130%	[ ]
5)	T	Bromomethane	20.85	20.00	104.27	70 to 130%	[ ]
6)	M	Chloroethane	14.68	20.00	73.38	70 to 130%	[ ]
7)	T	Trichlorofluorometha	13.72	20.00	68.61	70 to 130%	[*]
8)	T	Ethyl Ether	16.26	20.00	81.29	70 to 130%	[ ]
9)	T	Acrolein	23.38	20.00	116.91	70 to 130%	[ ]
10)	T	1,1-Dichloroethene	13.85	20.00	69.24	70 to 130%	[*]
11)	T	112Trichloro122trifl	17.71	20.00	88.53	70 to 130%	[ ]
12)	T	Acetone	13.83	20.00	69.16	70 to 130%	[*]
13)	M	Iodomethane	48.37	50.00	96.74	70 to 130%	[ ]
14)	T	Carbon Disulfide	18.41	20.00	92.07	70 to 130%	[ ]
15)	M	Acetonitrile	36.60	50.00	73.21	70 to 130%	[ ]
16)	T	Methyl acetate	10.17	20.00	50.86	70 to 130%	[*]
17)	T	Methylene Chloride	17.58	20.00	87.91	70 to 130%	[ ]
18)	T	TBA, tertButylalcoho	40.53	50.00	81.07	70 to 130%	[ ]
19)	T	Acrylonitrile	16.54	20.00	82.68	70 to 130%	[ ]
20)	T	trans-1,2-Dichloroet	15.86	20.00	79.30	70 to 130%	[ ]
21)	T	Allyl chloride	39.74	50.00	79.47	70 to 130%	[ ]
22)	T	tert-butyl Methyleth	16.57	20.00	82.86	70 to 130%	[ ]
23)	T	Vinyl acetate	9.50	20.00	47.49	70 to 130%	[*]
24)	T	Hexane	10.87	20.00	54.34	70 to 130%	[*]
25)	T	1,1-Dichloroethane	16.95	20.00	84.76	70 to 130%	[ ]
26)	M	Chloroprene	16.71	20.00	83.53	70 to 130%	[ ]
27)	M	t-Butyl ethyl ether	20.84	20.00	104.20	70 to 130%	[ ]
28)	M	2,2-Dichloropropane	13.62	20.00	68.12	70 to 130%	[*]
29)	T	cis-1,2-Dichloroethe	18.04	20.00	90.19	70 to 130%	[ ]
30)	T	2-Butanone	15.10	20.00	75.48	70 to 130%	[ ]
31)	T	Propionitrile	20.63	20.00	103.17	70 to 130%	[ ]
32)	T	Ethyl acetate	1.90	20.00	9.52	70 to 130%	[*]
33)	T	Diisopropylether	14.36	20.00	71.81	70 to 130%	[ ]
34)	T	Bromochloromethane	21.23	20.00	106.14	70 to 130%	[ ]
35)	M	Methacrylonitrile	16.86	20.00	84.32	70 to 130%	[ ]
36)	T	Tetrahydrofuran	14.90	20.00	74.51	70 to 130%	[ ]
37)	T	Chloroform	18.88	20.00	94.38	70 to 130%	[ ]
38)	T	1,1,1-Trichloroethan	18.24	20.00	91.18	70 to 130%	[ ]
39)	T	Cyclohexane	18.97	20.00	94.87	70 to 130%	[ ]

* = out of control limits

VOA LCS Blank Summary Report

Data File : D:\DATA\2070530\2A\20530062.D
Acq On : 31 May 2007 1:29
Sample : VLCS[20] DUP
Misc : V2-26-5
Matrix : WATERrams: RTEINT.P

Vial: 62
Operator: JHC
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\METHODS\2AL05172.M (RTE Integrator)
Title : 8260 Water Concentrator #2
Last Update : Thu May 17 15:26:40 2007
Response via : Single (D:\DATA\2070531\2\20531008.D 31 May 2007 13:11)

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
40)	T	Carbon Tetrachloride	21.65	20.00	108.25	70 to 130%	[ ]
41)	T	1,1-Dichloropropene	17.60	20.00	87.98	70 to 130%	[ ]
43)	T	Benzene	17.67	20.00	88.37	70 to 130%	[ ]
44)	T	1,2-Dichloroethane	17.93	20.00	89.67	70 to 130%	[ ]
45)	M	Isobutanol	78.15	50.00	156.29	70 to 130%	[*]
46)	M	t-Amyl methyl ether	18.46	20.00	92.32	70 to 130%	[ ]
47)	T	Trichloroethene	17.70	20.00	88.50	70 to 130%	[ ]
48)	T	Methylcyclohexane	17.60	20.00	88.01	70 to 130%	[ ]
49)	T	1,2-Dichloropropane	17.10	20.00	85.49	70 to 130%	[ ]
50)	T	Dibromomethane	18.77	20.00	93.86	70 to 130%	[ ]
51)	M	Methyl methacrylate	16.90	20.00	84.51	70 to 130%	[ ]
52)	T	Bromodichloromethane	20.61	20.00	103.06	70 to 130%	[ ]
53)	M	2-Nitropropane	56.85	50.00	113.70	70 to 130%	[ ]
54)	T	2-Chloroethylvinylet	11.64	20.00	58.20	70 to 130%	[*]
55)	T	cis-1,3-Dichloroprop	18.79	20.00	93.96	70 to 130%	[ ]
56)	T	4-Methyl-2-Pentanone	17.44	20.00	87.21	70 to 130%	[ ]
59)		1,4-Dioxane	212.02	200.00	106.01	70 to 130%	[ ]
60)	T	Toluene	16.56	20.00	82.82	70 to 130%	[ ]
61)	T	trans-1,3-Dichloropr	16.94	20.00	84.71	70 to 130%	[ ]
62)	M	Ethyl methacrylate	16.64	20.00	83.22	70 to 130%	[ ]
63)	T	1,1,2-Trichloroethan	17.66	20.00	88.31	70 to 130%	[ ]
64)	T	Tetrachloroethene	18.67	20.00	93.36	70 to 130%	[ ]
65)	T	1,3-Dichloropropane	17.50	20.00	87.50	70 to 130%	[ ]
66)	T	2-Hexanone	16.81	20.00	84.04	70 to 130%	[ ]
67)	T	Dibromochloromethane	19.38	20.00	96.91	70 to 130%	[ ]
68)	T	1,2-Dibromoethane,ED	22.50	20.00	112.51	70 to 130%	[ ]
69)	T	Chlorobenzene	18.31	20.00	91.57	70 to 130%	[ ]
70)	T	1,1,1,2-Tetrachloroe	19.15	20.00	95.77	70 to 130%	[ ]
71)	T	Ethylbenzene	17.59	20.00	87.97	70 to 130%	[ ]
72)	T	m,p-Xylene	35.82	40.00	89.56	70 to 130%	[ ]
73)	T	o-Xylene	17.70	20.00	88.52	70 to 130%	[ ]
74)	MG	Xylenes (Total)	53.53	60.00	89.22	70 to 130%	[ ]
75)	T	Styrene	17.94	20.00	89.72	70 to 130%	[ ]
77)	T	Bromoform	18.97	20.00	94.87	70 to 130%	[ ]
78)	M	Cyclohexanone	18.43	50.00	36.86	70 to 130%	[*]
79)	T	n-Propylbenzene	16.58	20.00	82.92	70 to 130%	[ ]
80)	M	2-Chlorotoluene	18.28	20.00	91.41	70 to 130%	[ ]
81)	T	1,3,5-Trimethylbenze	17.10	20.00	85.48	70 to 130%	[ ]
82)	T	Isopropylbenzene,Cum	16.27	20.00	81.37	70 to 130%	[ ]
84)	M	Bromobenzene	18.37	20.00	91.83	70 to 130%	[ ]
85)	T	1,1,2,2-Tetrachloroe	15.35	20.00	76.76	70 to 130%	[ ]

* = out of control limits

VOA LCS Blank Summary Report

Data File : D:\DATA\2070530\2A\20530062.D
Acq On : 31 May 2007 1:29
Sample : VLCS[20] DUP
Misc : V2-26-5
Matrix : WATERrams: RTEINT.P

Vial: 62
Operator: JHC
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\METHODS\2AL05172.M (RTE Integrator)
Title : 8260 Water Concentrator #2
Last Update : Thu May 17 15:26:40 2007
Response via : Single (D:\DATA\2070531\2\20531008.D 31 May 2007 13:11)

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
86)	T	1,2,3-Trichloropropa	15.58	20.00	77.91	70 to 130%	[ ]
87)	M	trans-1,4-Dichloro-2	16.23	20.00	81.13	70 to 130%	[ ]
88)	M	4-Chlorotoluene	16.64	20.00	83.18	70 to 130%	[ ]
89)	M	tert-Butyl benzene	14.69	20.00	73.47	70 to 130%	[ ]
90)	T	1,2,4-Trimethylbenze	16.49	20.00	82.43	70 to 130%	[ ]
91)	M	sec-Butyl benzene	15.47	20.00	77.37	70 to 130%	[ ]
92)	T	1,3-Dichlorobenzene	17.86	20.00	89.30	70 to 130%	[ ]
93)	M	4-Isopropyl toluene	16.99	20.00	84.93	70 to 130%	[ ]
94)	T	1,4-Dichlorobenzene	17.93	20.00	89.67	70 to 130%	[ ]
95)	T	1,2-Dichlorobenzene	17.99	20.00	89.94	70 to 130%	[ ]
96)	M	n-Butyl benzene	16.10	20.00	80.50	70 to 130%	[ ]
97)	M	bis(2-Chloro-1-methy	14.99	20.00	74.93	70 to 130%	[ ]
98)	T	1,2-Dibromo-3-chloro	17.59	20.00	87.94	70 to 130%	[ ]
99)	T	1,2,4-Trichlorobenze	18.16	20.00	90.80	70 to 130%	[ ]
100)	M	Hexachlorobutadiene	16.51	20.00	82.55	70 to 130%	[ ]
101)	T	Naphthalene	17.50	20.00	87.52	70 to 130%	[ ]
102)	M	1,2,3-Trichlorobenze	17.41	20.00	87.05	70 to 130%	[ ]

* = out of control limits

Pace Analytical Report of Quality Control

Project 07-3816 Volatiles

Laboratory Control Sample RPD							
Parameter	Method	Batch	Units	LCS	LCS Dup	% RPD	QC Limits
(S) 1,2-Dichloroethane	8260B	61337	ppm	27.38	30.22	10%	30%
(S) Toluene-d8	8260B	61337	ppm	26.46	28.91	9%	30%
(S) Bromofluorobenzer	8260B	61337	ppm	25.74	27.43	6%	30%
Dichlorodifluoromethar	8260B	61337	ppm	12.41	11.34	-9%	30%
Chloromethane	8260B	61337	ppm	9.38	8.65	-8%	30%
Vinyl Chloride	8260B	61337	ppm	14.99	14.11	-6%	30%
Bromomethane	8260B	61337	ppm	20.61	20.85	1%	30%
Chloroethane	8260B	61337	ppm	15.99	14.68	-9%	30%
Trichlorofluoromethane	8260B	61337	ppm	14.58	13.72	-6%	30%
Ethyl Ether	8260B	61337	ppm	17.24	16.26	-6%	30%
Acrolein	8260B	61337	ppm	27.45	23.38	-16%	30%
1,1-Dichloroethene	8260B	61337	ppm	14.93	13.85	-8%	30%
112Trichloro122trifluor	8260B	61337	ppm	19.04	17.71	-7%	30%
Acetone	8260B	61337	ppm	13.23	13.83	4%	30%
Iodomethane	8260B	61337	ppm	51.7	48.37	-7%	30%
Carbon Disulfide	8260B	61337	ppm	19.68	18.41	-7%	30%
Acetonitrile	8260B	61337	ppm	38.15	36.6	-4%	30%
Methyl acetate	8260B	61337	ppm	9.76	10.17	4%	30%
Methylene Chloride	8260B	61337	ppm	18.49	17.58	-5%	30%
TBA, tertButylalcohol	8260B	61337	ppm	43.76	40.53	-8%	30%
Acrylonitrile	8260B	61337	ppm	16.39	16.54	1%	30%
trans-1,2-Dichloroetha	8260B	61337	ppm	16.66	15.86	-5%	30%
Allyl chloride	8260B	61337	ppm	42.25	39.74	-6%	30%
tert-butyl Methylethane	8260B	61337	ppm	17.22	16.57	-4%	30%
Vinyl acetate	8260B	61337	ppm	11.14	9.5	-16%	30%
Hexane	8260B	61337	ppm	27.75	10.87	-87%	30%
1,1-Dichloroethane	8260B	61337	ppm	17.42	16.95	-3%	30%
Chloropropene	8260B	61337	ppm	16.65	16.71	0%	30%
t-Butyl ethyl ether	8260B	61337	ppm	21.28	20.84	-2%	30%
2,2-Dichloropropane	8260B	61337	ppm	14.34	13.62	-5%	30%
cis-1,2-Dichloroethene	8260B	61337	ppm	18.99	18.04	-5%	30%
2-Butanone	8260B	61337	ppm	15.46	15.1	-2%	30%
Propionitrile	8260B	61337	ppm	21.4	20.63	-4%	30%
Ethyl acetate	8260B	61337	ppm	1.99	1.9	-5%	30%
Diisopropylether	8260B	61337	ppm	14.68	14.36	-2%	30%
Bromochloromethane	8260B	61337	ppm	22.38	21.23	-5%	30%
Methacrylonitrile	8260B	61337	ppm	17.07	16.86	-1%	30%
Tetrahydrofuran	8260B	61337	ppm	14.54	14.9	2%	30%
Chloroform	8260B	61337	ppm	19.67	18.88	-4%	30%
1,1,1-Trichloroethane	8260B	61337	ppm	19.06	18.24	-4%	30%
Cyclohexane	8260B	61337	ppm	20.07	18.97	-6%	30%
Carbon Tetrachloride	8260B	61337	ppm	22.25	21.65	-3%	30%
1,1-Dichloropropene	8260B	61337	ppm	19.2	17.6	-9%	30%
Benzene	8260B	61337	ppm	18.71	17.67	-6%	30%
1,2-Dichloroethane	8260B	61337	ppm	19.09	17.93	-6%	30%
Isobutanol	8260B	61337	ppm	84.13	78.15	-7%	30%
t-Amyl methyl ether	8260B	61337	ppm	18.87	18.46	-2%	30%
Trichloroethene	8260B	61337	ppm	18.78	17.7	-6%	30%
Methylcyclohexane	8260B	61337	ppm	18.54	17.6	-5%	30%

Pace Analytical Report of Quality Control

Project 07-3816 Volatiles

Laboratory Control Sample RPD							
Parameter	Method	Batch	Units	LCS	LCS Dup	% RPD	QC Limits
1,2-Dichloropropane	8260B	61337	ppm	17.96	17.1	-5%	30%
Dibromomethane	8260B	61337	ppm	19.5	18.77	-4%	30%
Methyl methacrylate	8260B	61337	ppm	17.62	16.9	-4%	30%
Bromiodichloromethan	8260B	61337	ppm	21.09	20.61	-2%	30%
2-Nitropropane	8260B	61337	ppm	57.88	56.85	-2%	30%
2-Chloroehylvinylether	8260B	61337	ppm	11.64	11.64	0%	30%
cis-1,3-Dichloropropen	8260B	61337	ppm	19.49	18.79	-4%	30%
4-Methyl-2-Pentanone	8260B	61337	ppm	17.99	17.44	-3%	30%
1,4-Dioxane	8260B	61337	ppm	225.03	212.02	-6%	30%
Toluene	8260B	61337	ppm	17.49	16.56	-5%	30%
trans-1,3-Dichloroprop	8260B	61337	ppm	17.42	16.94	-3%	30%
Ethyl methacrylate	8260B	61337	ppm	16.79	16.64	-1%	30%
1,1,2-Trichloroethane	8260B	61337	ppm	18.02	17.66	-2%	30%
Tetrachloroethene	8260B	61337	ppm	19.85	18.67	-6%	30%
1,3-Dichloropropane	8260B	61337	ppm	18.12	17.5	-3%	30%
2-Hexanone	8260B	61337	ppm	17.25	16.81	-3%	30%
Dibromochloromethane	8260B	61337	ppm	20.1	19.38	-4%	30%
1,2-Dibromoethane, E	8260B	61337	ppm	23.11	22.5	-3%	30%
Chlorobenzene	8260B	61337	ppm	19.04	18.31	-4%	30%
1,1,1,2-Tetrachloroeth	8260B	61337	ppm	20.07	19.15	-5%	30%
Ethylbenzene	8260B	61337	ppm	18.49	17.59	-5%	30%
m,p-Xylene	8260B	61337	ppm	37.83	35.82	-5%	30%
o-Xylene	8260B	61337	ppm	18.43	17.7	-4%	30%
Xylenes (Total)	8260B	61337	ppm	56.27	53.53	-5%	30%
Styrene	8260B	61337	ppm	18.82	17.94	-5%	30%
Bromoform	8260B	61337	ppm	19.35	18.97	-2%	30%
Cyclohexanone	8260B	61337	ppm	11.22	18.43	49%	30%
n-Propylbenzene	8260B	61337	ppm	17.68	16.58	-6%	30%
2-Chlorotoluene	8260B	61337	ppm	19.43	18.28	-6%	30%
1,3,5-Trimethylbenzen	8260B	61337	ppm	18.42	17.1	-7%	30%
Isopropylbenzene, Cu	8260B	61337	ppm	17.67	16.27	-8%	30%
Bromobenzene	8260B	61337	ppm	19.84	18.37	-8%	30%
1,1,2,2-Tetrachloroeth	8260B	61337	ppm	15.75	15.35	-3%	30%
1,2,3-Trichloropropane	8260B	61337	ppm	15.75	15.58	-1%	30%
trans-1,4-Dichloro-2	8260B	61337	ppm	16.79	16.23	-3%	30%
4-Chlorotoluene	8260B	61337	ppm	17.43	16.64	-5%	30%
tert-Butyl benzene	8260B	61337	ppm	18.16	14.69	-21%	30%
1,2,4-Trimethylbenzen	8260B	61337	ppm	17.93	16.49	-8%	30%
sec-Butyl benzene	8260B	61337	ppm	16.6	15.47	-7%	30%
1,3-Dichlorobenzene	8260B	61337	ppm	18.57	17.86	-4%	30%
4-Isopropyl toluene	8260B	61337	ppm	18.15	16.99	-7%	30%
1,4-Dichlorobenzene	8260B	61337	ppm	18.91	17.93	-5%	30%
1,2-Dichlorobenzene	8260B	61337	ppm	18.78	17.99	-4%	30%
n-Butyl benzene	8260B	61337	ppm	17.44	16.1	-8%	30%
bis (2-Chloro-1-methyl	8260B	61337	ppm	15.77	14.99	-5%	30%
1,2-Dibromo-3-chloro	8260B	61337	ppm	17.95	17.59	-2%	30%
1,2,4-Trichorobenzene	8260B	61337	ppm	19.19	18.16	-6%	30%
Hexachlorobutadiene	8260B	61337	ppm	18.11	16.51	-9%	30%
Naphthalene	8260B	61337	ppm	18.97	17.5	-8%	30%
1,2,3-Trichlorobenzene	8260B	61337	ppm	18.73	17.41	-7%	30%

Summary of LCS Batches for Project 07-3816

Batch	Analyzed	Samples
61337	5/30/2007	0705-2995 0705-3001 0705-3003

Project No.: 07-3816

Organic Prep

Pace Analytical Services, Inc.-PGH

Matrix: H_2O

LIMS QC Batch #: 61073

Analytical Method: 8082

Extraction Method: 3510

Solvent	Lot #				
CH_2Cl_2	~~X~~ 07-03	NaOH			
Hexane	~~X~~ 06-04 D	H_2SO_4			
Na_2SO_4	~~X~~ 12-05	Surrogate: ~~X~~ 05-08, 1.0 ppm, 1.0 mL			
		Matrix Spike: ~~X~~ 295-03, 2.5 ppm, 1.0 mL			
		Matrix Spike:			

Cartridge, hyg gel and AC C

Date	Project #	Sample ID	Analyst	Initial Volume	Final Volume	pH 5-9	Comments
5/23/07	3546	BLK	KM	1L	10.0 mL	✓	
		LCS	~~1L~~	1L			
		LCSD		1L			
		1551 A	895 ml	→	→ 24 ml		centrifuged due to emulsion, extracted past holding time. woman't go to volume
	3816	2999 A	975 ml	→			
		3000 B	965 ml	→			
		3002 C	895 ml	→			

5/23/07

5/31/07

Polychlorinated Biphenyls

Project No.: 07-3816

PCB Analysis

Parameter	EPA or Standard Method	SW846 Method	Holding Time	Bottle Type and Volume	Preservative
Aroclor-1016	608	8082	7/30 days*	Liter Glass Amber	None
Aroclor-1221	608	8082	7/30 days*	Liter Glass Amber	None
Aroclor-1232	608	8082	7/30 days*	Liter Glass Amber	None
Aroclor-1242	608	8082	7/30 days*	Liter Glass Amber	None
Aroclor-1248	608	8082	7/30 days*	Liter Glass Amber	None
Aroclor-1254	608	8082	7/30 days*	Liter Glass Amber	None
Aroclor-1260	608	8082	7/30 days*	Liter Glass Amber	None
PCB Total-TCL	608	8082	7/30 days*	Liter Glass Amber	None

*7/30 days = 7 days for extraction, 30 days for analysis on extract

2E
WATER AROCLOR SURROGATE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: 07-3816 SAS No.: SDG No.: 07-3816

GC Column(1): RTX-5 ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX %REC #	DCB %REC #	S3 %REC #	S4 %REC #	S5 %REC #	S6 %REC #	TOT OUT
01	LCS	75	73					0
02	LCSD	72	67					0
03	BLK	67	75					0
04	MW-44D	74	77					0
05	MW-44S	74	80					0
06	MW-12	77	83					0
07								
08								
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

ADVISORY
QC LIMITS

S1 (TCX) = Tetrachloro-m-xylene (30-150)
S2 (DCB) = Decachlorobiphenyl (30-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

FORM 3
WATER AROCLOR LAB CONTROL SAMPLE

Lab Name: Contract:

Lab Code: Case No.: 07-3816 SAS No.: SDG No.: 07-3816

Matrix Spike - Sample No.: LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
Aroclor-1248	2.50		1.72	69	55-145

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Aroclor-1248	2.50	1.75	70	1	25	55-145

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 1 outside limits
Spike Recovery: 0 out of 2 outside limits

COMMENTS: Project 07-3816 is associated with the QC from 07-3546.

Project No.: 07-3816

General Chemistry

General Chemistry

Parameter	EPA or Standard Method	SW846 Method	Holding Time	Bottle Type and Volume	Preservative
Cyanide (Amenable)	335.1		14 days	250ml Plastic*	Sodium Hydroxide
Cyanide (Total)	335.2	4500-CN	14 days	250ml Plastic*	Sodium Hydroxide
Fluoride	340.1	4500-Fl	28 days	500ml Plastic**	None
pH	150.1	9040/9045	Immediate	500ml Plastic**	None
Specific Conductance	120.1	9050	28 days	500ml Plastic**	None

*Cyanide Total and Amenable are analyzed from the same bottle.
**Fluoride, pH, and Specific Conductance are analyzed from the same bottle.

Pace Analytical Report of Quality Control

Project: 07-3816 General Chemistry

Laboratory Control Sample								
Parameter	Method	Batch	Units	MB Found	LCS Spike	LCS Found	LCS %Rec	QC Limits
pH	150.1	60967	pH	5.63	7	7.02	100.29*	0- 0
Cyanide (Total)	335.4	61239	ppm	0.0011	0.1	0.21	209.60*	85-115
Cyanide (Total)	335.4	61303	ppm	0.0022	0.1	0.21	208.20*	85-115
Fluoride	340.2	61470	ppm	0.0	2	2.04	102.00	85-115

* Denotes recovery outside of QC limits.

Summary of LCS Batches for Project 07-3816

Batch	Analyzed	Samples
60967	05/21/2007	0705-2994 0705-2995 0705-2996 0705-2997 0705-2998 0705-3001 0705-3002 0705-3003 0705-3004
61239	05/29/2007	0705-2994 0705-2995 0705-2996 0705-2997 0705-2998 0705-3001
61303	05/31/2007	0705-3002 0705-3003 0705-3004
61470	06/04/2007	0705-2994 0705-2995 0705-2996 0705-2997 0705-2998 0705-3001 0705-3002 0705-3003 0705-3004

Pace Analytical Report of Quality Control

Project 07-3816 General Chemistry

Laboratory Control Sample RPD								
Parameter	Method	Batch	Units	MB Found	LCS Spike	LCS Found	LCS % RPD	QC Limits
pH	150.1	60967	pH	5.63	7	7.02	0%	25%
Cyanide (Total)	9010B/9014	61239	ppm	0.0011	0.1	0.21	71%	
Cyanide (Total)	9010B/9014	61303	ppm	0.0022	0.1	0.21	71%	
Fluoride	340.2	61470	ppm	0	2	2.04	2%	25%

Summary of LCS Batches for Project 07-3816

Batch	Analyzed	Samples
60967	5/21/2007	0705-2994 0705-2995 0705-2996 0705-2997 0705-2998 0705-3001 0705-3002 0705-3003 0705-3004
61239	5/29/2007	0705-2994 0705-2995 0705-2996 0705-2997 0705-2998 0705-3001
61303	5/31/2007	0705-3002 0705-3003 0705-3004
61470	6/4/2007	0705-2994 0705-2995 0705-2996 0705-2997 0705-2998 0705-3001 0705-3002 0705-3003 0705-3004

Chain of Custody

HMI
Environmental Consulting Services

CHAIN-OF-CUSTODY RECORD

Project Number: HM00322
Project Name/Location: ORMET-HANNIBAL
Laboratory: PACE
Sampling Personnel: R. FARGO, C. SMITH

Sample ID	Date/Time (5-17-07)	Sample Code	500 mL PLASTIC PH, SPEC. COND.	250 mL PLASTIC F	250 mL PLASTIC CN TOTAL/AMEN.	250 mL PLASTIC DISS. As, Be, Mn, Na, V	40 mL GLASS VOCs	1 L AMBER GLASS PCBs				TOTAL
										07-03916		
MW-7	900	L	1	1	1	1				05-2994		4
MW-5	940		1	1	1	1	3			95		7
MW-11	1015		1	1	1	1				96		4
MW-8	1050		1	1	1	1				97		4
MW-10	1110		1	1	1	1				98		4
MW-44D	1140							2		99		2
MW-44S	1145							2		05-3000		2
MW-5D	945		1	1	1	1	3			01		7
MW-12	1230		1	1	1	1		2		02		6
FB-1	1240		1	1	1	1	3			03		7
~~FB-2~~										04	(mw41)	

Sample Code: L = Liquid; S = Solid; A = Air

Total Number of Containers: 47

Relinquished by: R. Fargo	Organization: HMI	Date: 5/18/07	Time: 900	Seal Intact? Yes No NA
Received by:	Organization:	Date:	Time:	
Relinquished by: Eric Fargo	Organization: HMI	Date: 5/18/07	Time: 10:40	Seal Intact? Yes No NA
Received by: [illegible]	Organization: Pace-Pgh	Date: 5/18/07	Time: 10:40	

20C on Ice

REMARKS:

DELIVERY METHOD: Person [X] Courier [ ] Other [ ]

APPENDIX B-3

LABORATORY ANALYTICAL REPORT FOR SEPTEMBER 2007 MONITORING EVENT

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5203 Triangle Lane
Export, PA 15632
Phone: (724) 733-1161
Fax: (724) 327-7793

Client Receipt

Mr. Robert L. Fargo
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Pace Project: 07-6867
No. of Samples: 17
Date Logged: 09/07/2007
Date Printed: 09/10/2007

Client Ref. : HM00322
Client Site : Reduction Mill

Samples were received into Pace Analytical on Friday, September 7, 2007. Listed below are the assigned laboratory sample IDs with the requested test programs appearing on subsequent pages. In all correspondence regarding these samples, please make reference to project number 07-6867. This document confirms the receipt of your samples. Project inquiries should be directed to Rachel D. Christner at (724) 733-1161.

Pace Sample ID	Client Reference	Location	Matrix	Date Sampled
0709-0991	MW-2	MW-2	Aqueous	09/06/2007
0709-0992	MW-5	MW-5	Aqueous	09/06/2007
0709-0993	MW-16	MW-16	Aqueous	09/06/2007
0709-0994	MW-18	MW-18	Aqueous	09/06/2007
0709-0995	MW-28	MW-28	Aqueous	09/06/2007
0709-0996	MW-31	MW-31	Aqueous	09/06/2007
0709-0997	MW-31D	MW-31	Aqueous	09/06/2007
0709-0998	MW-32	MW-32	Aqueous	09/06/2007
0709-0999	MW-32D	MW-32	Aqueous	09/06/2007
0709-1000	MW-35	MW-35	Aqueous	09/06/2007
0709-1001	MW-36	MW-36	Aqueous	09/06/2007
0709-1002	MW-37	MW-37	Aqueous	09/06/2007
0709-1003	MW-39S	MW-39S	Aqueous	09/06/2007
0709-1004	MW-42S	MW-42S	Aqueous	09/06/2007
0709-1005	MW-44D	MW-44D	Aqueous	09/06/2007
0709-1006	FB-1	Field Blank	Aqueous	09/06/2007
0709-1007	Trip Blank	Trip Blank	Aqueous	09/06/2007

Login Notes:

The recommended holding time for pH requires immediate analysis. The samples were received past the recommended holding time for pH. Cooler temperature 4 ° C upon receipt. Ice was present.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0709-0991 , 0709-0992 , 0709-0994 , 0709-0996 , 0709-0997

Suite/Test Name	Test Method	Report Limit
Dissolved Metals		
Trace Metals, Dissolved, ICP	6010B[1]	
Arsenic		0.0040 mg/l
Beryllium		0.00050 mg/l
Manganese		0.010 mg/l
Sodium		0.50 mg/l
Vanadium		0.010 mg/l
Dissolved Metals Digestion	3005	N/A
General Chemistry		
Cyanide (Amenable)	335.1[2]	0.010 mg/l
Cyanide (Total)	335.4[2]	0.010 mg/l
Fluoride	340.2[2]	0.10 mg/l
pH	150.1[2]	1.00 pH
Specific Conductance	120.1[2]	1.0 umhos/cm
Cyanide Distillation	335.1[2]	N/A
Cyanide Distillation	335.4[2]	N/A
Fluoride Distillation	340.2[2]	N/A
VOC's		
Volatile Organic Compounds, MS	8260B[1]	
Tetrachloroethene		0.0050 mg/l
VOA 8260 Prep	8260B[1]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

[2] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0709-0993 , 0709-0995 , 0709-0998 , 0709-0999 , 0709-1000 , 0709-1001 , 0709-1002 , 0709-1003

Suite/Test Name	Test Method	Report Limit
Dissolved Metals		
Trace Metals, Dissolved, ICP	6010B[1]	
Arsenic		0.0040 mg/l
Beryllium		0.00050 mg/l
Manganese		0.010 mg/l
Sodium		0.50 mg/l
Vanadium		0.010 mg/l
Dissolved Metals Digestion	3005	N/A
General Chemistry		
Cyanide (Amenable)	335.1[2]	0.010 mg/l
Cyanide (Total)	335.4[2]	0.010 mg/l
Fluoride	340.2[2]	0.10 mg/l
pH	150.1[2]	1.00 pH
Specific Conductance	120.1[2]	1.0 umhos/cm
Cyanide Distillation	335.1[2]	N/A
Cyanide Distillation	335.4[2]	N/A
Fluoride Distillation	340.2[2]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

[2] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0709-1004 , 0709-1005

Suite/Test Name	Test Method	Report Limit
PCB's		
Polychlorinated Biphenyls, ECD	8082[1]	
Aroclor-1016		0.50 mg/l
Aroclor-1221		0.50 mg/l
Aroclor-1232		0.50 mg/l
Aroclor-1242		0.50 mg/l
Aroclor-1248		0.50 mg/l
Aroclor-1254		0.50 mg/l
Aroclor-1260		0.50 mg/l
PCB Total-TCL		0.50 mg/l
PCB Prep	8082[1]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0709-1006

Suite/Test Name	Test Method	Report Limit
Trace Metals, Dissolved, ICP	6010B[1]	
Arsenic		0.0040 mg/l
Beryllium		0.00050 mg/l
Manganese		0.010 mg/l
Sodium		0.50 mg/l
Vanadium		0.010 mg/l
Dissolved Metals Digestion	3005	N/A
Cyanide (Amenable)	335.1[2]	0.010 mg/l
Cyanide (Total)	335.4[2]	0.010 mg/l
Fluoride	340.2[2]	0.10 mg/l
pH	150.1[2]	1.00 pH
Specific Conductance	120.1[2]	1.0 umhos/cm
Cyanide Distillation	335.1[2]	N/A
Cyanide Distillation	335.4[2]	N/A
Fluoride Distillation	340.2[2]	N/A
Volatile Organic Compounds, MS	8260B[1]	
Tetrachloroethene		0.0050 mg/l
VOA 8260 Prep	8260B[1]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

[2] U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Client Receipt
Test Program Details

Test Program for Pace Sample ID(s): 0709-1007

Suite/Test Name	Test Method	Report Limit
Trip Blank		
Volatile Organic Compounds, MS	8260B[1]	
Tetrachloroethene		0.0050 mg/l
VOA 8260 Prep	8260B[1]	N/A

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

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September 26, 2007

Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Dear Mr. Fargo:

Enclosed are analytical results for samples submitted to Pace Analytical by Hydro Systems Management, Inc.. The samples were received on September 7, 2007. The results reported in this project meet the requirements as specified in Chapter 5 of the NELAC Standards. Any deviations or discrepancies from the NELAC standards are documented in the case narrative(s) of this report. Parameters printed in italics represent Non-NELAC accredited parameters. Please reference Pace project number 07-6867 when inquiring about this report.

Client Site: Reduction Mill
Client Ref.: HM00322

Pace Sample Identification	Client Sample Identification
0709-0991	MW-2
0709-0992	MW-5
0709-0993	MW-16
0709-0994	MW-18
0709-0995	MW-28
0709-0996	MW-31
0709-0997	MW-31D
0709-0998	MW-32
0709-0999	MW-32D

Pace Sample Identification	Client Sample Identification
0709-1000	MW-35
0709-1001	MW-36
0709-1002	MW-37
0709-1003	MW-39S
0709-1004	MW-44S
0709-1005	MW-44D
0709-1006	FB-1
0709-1007	Trip Blank

General Comments: The recommended holding time for pH requires immediate analysis. The samples were received past the recommended holding time for pH. Cooler temperature 4 ° C upon receipt. Ice was present. Insufficient sample volume has been provided for the performance of a sample matrix spike/matrix spike duplicate, therefore extraction of a blank (reagent water) spike and spike duplicate have been performed.

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Please call me if you have any questions regarding the information contained within this report.

Sincerely,

Rachel D. Christner

Rachel D. Christner
Project Manager

RDC: jld

Enclosures

Page 1 of 49

cc: John Reggi, Ormet Primary Aluminum Corporation

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-6867**
Lab Sample ID: **0709-0991**
Client Sample ID: MW-2
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.56	0.010	mg/l	SAB	09/19/2007	0065346-1	<0.010
Cyanide (Total)	335.4(1)	12	0.21	mg/l	SAB	09/12/2007	0065055-1	<0.010
Fluoride	340.2(1)	45	0.10	mg/l	CKO	09/14/2007	0065227-1	<0.10
pH	150.1(1)	9.49	1.00	pH	DJT	09/07/2007	0064939-1	5.60
Specific Conductance	120.1(1)	1400	1.0	umhos/cm	BKH	09/18/2007	0065256-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.049	0.0040	mg/l	CS0	09/13/2007	0064955-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	09/13/2007	0064955-1	<0.00050
Manganese	6010B(2)	0.59	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010
Sodium	6010B(2)	310	0.50	mg/l	CS0	09/13/2007	0064955-1	<0.50
Vanadium	6010B(2)	0.034	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	0.054	0.0050	mg/l	MAK	09/17/2007	0065214-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Fax: 724.327.7793

Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-6867**
Lab Sample ID: **0709-0992**
Client Sample ID: MW-5
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.15	0.010	mg/l	SAB	09/19/2007	0065346-1	<0.010
Cyanide (Total)	335.4(1)	5.8	0.11	mg/l	SAB	09/12/2007	0065055-1	<0.010
Fluoride	340.2(1)	26	0.10	mg/l	CK0	09/14/2007	0065227-1	<0.10
pH	150.1(1)	8.03	1.00	pH	DJT	09/07/2007	0064939-1	5.60
Specific Conductance	120.1(1)	1300	1.0	umhos/cm	BKH	09/18/2007	0065256-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.0046	0.0040	mg/l	CS0	09/13/2007	0064955-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	09/13/2007	0064955-1	<0.00050
Manganese	6010B(2)	0.45	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010
Sodium	6010B(2)	240	0.50	mg/l	CS0	09/13/2007	0064955-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	<0.0050	0.0050	mg/l	MAK	09/17/2007	0065214-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-6867**
Lab Sample ID: **0709-0993**
Client Sample ID: MW-16
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.83	0.010	mg/l	SAB	09/19/2007	0065346-1	<0.010
Cyanide (Total)	335.4(1)	8.4	1.0	mg/l	SAB	09/13/2007	0065123-1	<0.010
Fluoride	340.2(1)	52	0.17	mg/l	CK0	09/14/2007	0065227-1	<0.10
pH	150.1(1)	9.24	1.00	pH	DJT	09/07/2007	0064939-1	5.60
Specific Conductance	120.1(1)	1100	1.0	umhos/cm	BKH	09/18/2007	0065256-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.047	0.0040	mg/l	CS0	09/13/2007	0064955-1	<0.0040
Beryllium	6010B(2)	0.00076	0.00050	mg/l	CS0	09/13/2007	0064955-1	<0.00050
Manganese	6010B(2)	1.3	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010
Sodium	6010B(2)	240	0.50	mg/l	CS0	09/13/2007	0064955-1	<0.50
Vanadium	6010B(2)	0.058	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-6867**
Lab Sample ID: **0709-0994**
Client Sample ID: MW-18
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	SAB	09/19/2007	0065346-1	<0.010
Cyanide (Total)	335.4(1)	9.0	0.50	mg/l	SAB	09/13/2007	0065123-1	<0.010
Fluoride	340.2(1)	75	0.25	mg/l	CK0	09/14/2007	0065227-1	<0.10
pH	150.1(1)	9.53	1.00	pH	DJT	09/07/2007	0064939-1	5.60
Specific Conductance	120.1(1)	1300	1.0	umhos/cm	BKH	09/18/2007	0065256-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.067	0.0040	mg/l	CS0	09/13/2007	0064955-1	<0.0040
Beryllium	6010B(2)	0.00067	0.00050	mg/l	CS0	09/13/2007	0064955-1	<0.00050
Manganese	6010B(2)	0.32	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010
Sodium	6010B(2)	300	0.50	mg/l	CS0	09/13/2007	0064955-1	<0.50
Vanadium	6010B(2)	0.037	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	<0.0050	0.0050	mg/l	MAK	09/17/2007	0065214-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-6867**
Lab Sample ID: **0709-0995**
Client Sample ID: MW-28
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	SAB	09/19/2007	0065346-1	<0.010
Cyanide (Total)	335.4(1)	0.26	0.010	mg/l	SAB	09/13/2007	0065123-1	<0.010
Fluoride	340.2(1)	0.17	0.10	mg/l	CK0	09/14/2007	0065227-1	<0.10
pH	150.1(1)	6.69	1.00	pH	DJT	09/07/2007	0064939-1	5.60
Specific Conductance	120.1(1)	360	1.0	umhos/cm	BKH	09/18/2007	0065266-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	09/13/2007	0064955-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	09/13/2007	0064955-1	<0.00050
Manganese	6010B(2)	0.12	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010
Sodium	6010B(2)	59	0.50	mg/l	CS0	09/13/2007	0064955-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-6867**
Lab Sample ID: **0709-0996**
Client Sample ID: MW-31
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.16	0.010	mg/l	SAB	09/19/2007	0065346-1	<0.010
Cyanide (Total)	335.4(1)	8.6	0.25	mg/l	SAB	09/19/2007	0065305-1	<0.010
Fluoride	340.2(1)	62	0.17	mg/l	CK0	09/14/2007	0065227-1	<0.10
pH	150.1(1)	9.62	1.00	pH	DJT	09/07/2007	0064939-1	5.60
Specific Conductance	120.1(1)	1300	1.0	umhos/cm	BKH	09/18/2007	0065266-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.043	0.0040	mg/l	CS0	09/13/2007	0064955-1	<0.0040
Beryllium	6010B(2)	0.00089	0.00050	mg/l	CS0	09/13/2007	0064955-1	<0.00050
Manganese	6010B(2)	1.2	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010
Sodium	6010B(2)	310	0.50	mg/l	CS0	09/13/2007	0064955-1	<0.50
Vanadium	6010B(2)	0.063	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	0.090	0.0050	mg/l	MAK	09/17/2007	0065214-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

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P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-6867**
Lab Sample ID: **0709-0997**
Client Sample ID: MW-31D
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	SAB	09/19/2007	0065346-1	<0.010
Cyanide (Total)	335.4(1)	8.1	0.25	mg/l	SAB	09/19/2007	0065305-1	<0.010
Fluoride	340.2(1)	61	0.17	mg/l	CK0	09/14/2007	0065227-1	<0.10
pH	150.1(1)	9.62	1.00	pH	DJT	09/07/2007	0064939-1	5.60
Specific Conductance	120.1(1)	1400	1.0	umhos/cm	BKH	09/18/2007	0065266-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.044	0.0040	mg/l	CS0	09/13/2007	0064955-1	<0.0040
Beryllium	6010B(2)	0.00086	0.00050	mg/l	CS0	09/13/2007	0064955-1	<0.00050
Manganese	6010B(2)	1.2	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010
Sodium	6010B(2)	310	0.50	mg/l	CS0	09/13/2007	0064955-1	<0.50
Vanadium	6010B(2)	0.064	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	0.089	0.0050	mg/l	MAK	09/17/2007	0065214-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

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Lab Project ID: **07-6867**
Lab Sample ID: **0709-0998**
Client Sample ID: MW-32
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.55	0.010	mg/l	SAB	09/19/2007	0065346-1	<0.010
Cyanide (Total)	335.4(1)	6.5	0.25	mg/l	SAB	09/19/2007	0065305-1	<0.010
Fluoride	340.2(1)	64	0.17	mg/l	CK0	09/14/2007	0065227-1	<0.10
pH	150.1(1)	10.0	1.00	pH	DJT	09/07/2007	0064939-1	5.60
Specific Conductance	120.1(1)	1500	1.0	umhos/cm	BKH	09/18/2007	0065266-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.060	0.0040	mg/l	CS0	09/13/2007	0064955-1	<0.0040
Beryllium	6010B(2)	0.00096	0.00050	mg/l	CS0	09/13/2007	0064955-1	<0.00050
Manganese	6010B(2)	1.9	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010
Sodium	6010B(2)	340	0.50	mg/l	CS0	09/13/2007	0064955-1	<0.50
Vanadium	6010B(2)	0.10	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

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Lab Project ID: **07-6867**
Lab Sample ID: **0709-0999**
Client Sample ID: MW-32D
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.32	0.010	mg/l	SAB	09/19/2007	0065346-1	<0.010
Cyanide (Total)	335.4(1)	7.0	0.25	mg/l	SAB	09/19/2007	0065305-1	<0.010
Fluoride	340.2(1)	63	0.17	mg/l	CK0	09/14/2007	0065227-1	<0.10
pH	150.1(1)	10.01	1.00	pH	DJT	09/07/2007	0064939-1	5.60
Specific Conductance	120.1(1)	1500	1.0	umhos/cm	BKH	09/18/2007	0065266-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.053	0.0040	mg/l	CS0	09/13/2007	0064955-1	<0.0040
Beryllium	6010B(2)	0.00095	0.00050	mg/l	CS0	09/13/2007	0064955-1	<0.00050
Manganese	6010B(2)	1.8	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010
Sodium	6010B(2)	330	0.50	mg/l	CS0	09/13/2007	0064955-1	<0.50
Vanadium	6010B(2)	0.10	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

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Lab Project ID: **07-6867**
Lab Sample ID: **0709-1000**
Client Sample ID: MW-35
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	SAB	09/19/2007	0065346-1	<0.010
Cyanide (Total)	335.4(1)	14	0.50	mg/l	SAB	09/19/2007	0065305-1	<0.010
Fluoride	340.2(1)	32	0.10	mg/l	CK0	09/14/2007	0065227-1	<0.10
pH	150.1(1)	9.18	1.00	pH	DJT	09/07/2007	0064939-1	5.60
Specific Conductance	120.1(1)	800	1.0	umhos/cm	BKH	09/18/2007	0065266-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.016	0.0040	mg/l	CS0	09/13/2007	0064955-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	09/13/2007	0064955-1	<0.00050
Manganese	6010B(2)	0.79	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010
Sodium	6010B(2)	150	0.50	mg/l	CS0	09/13/2007	0064955-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

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Lab Project ID: **07-6867**
Lab Sample ID: **0709-1001**
Client Sample ID: MW-36
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	SAB	09/19/2007	0065346-1	<0.010
Cyanide (Total)	335.4(1)	0.55	0.50	mg/l	SAB	09/19/2007	0065305-1	<0.010
Fluoride	340.2(1)	20	0.10	mg/l	CK0	09/14/2007	0065227-1	<0.10
pH	150.1(1)	9.07	1.00	pH	DJT	09/07/2007	0064939-1	5.60
Specific Conductance	120.1(1)	560	1.0	umhos/cm	BKH	09/18/2007	0065266-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.0085	0.0040	mg/l	CS0	09/13/2007	0064955-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	09/13/2007	0064955-1	<0.00050
Manganese	6010B(2)	0.16	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010
Sodium	6010B(2)	120	0.50	mg/l	CS0	09/13/2007	0064955-1	<0.50
Vanadium	6010B(2)	0.013	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

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Lab Project ID: **07-6867**
Lab Sample ID: **0709-1002**
Client Sample ID: MW-37
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	0.15	0.010	mg/l	SAB	09/19/2007	0065346-1	<0.010
Cyanide (Total)	335.4(1)	1.6	0.050	mg/l	SAB	09/19/2007	0065305-1	<0.010
Fluoride	340.2(1)	3.9	0.10	mg/l	CK0	09/14/2007	0065227-1	<0.10
pH	150.1(1)	7.09	1.00	pH	DJT	09/07/2007	0064939-1	5.60
Specific Conductance	120.1(1)	310	1.0	umhos/cm	BKH	09/18/2007	0065266-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	09/13/2007	0064955-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	09/13/2007	0064955-1	<0.00050
Manganese	6010B(2)	0.22	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010
Sodium	6010B(2)	46	0.50	mg/l	CS0	09/13/2007	0064955-1	<0.50
Vanadium	6010B(2)	0.012	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

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Lab Project ID: **07-6867**
Lab Sample ID: **0709-1003**
Client Sample ID: MW-39S
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Amenable)	335.1(1)	<0.010	0.010	mg/l	SAB	09/19/2007	0065346-1	<0.010
Cyanide (Total)	335.4(1)	3.2	0.10	mg/l	SAB	09/19/2007	0065305-1	<0.010
Fluoride	340.2(1)	120	0.25	mg/l	CK0	09/14/2007	0065227-1	<0.10
pH	150.1(1)	9.12	1.00	pH	DJT	09/07/2007	0064939-1	5.60
Specific Conductance	120.1(1)	3300	1.0	umhos/cm	BKH	09/18/2007	0065266-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	0.015	0.0040	mg/l	CS0	09/13/2007	0064955-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	09/13/2007	0064955-1	<0.00050
Manganese	6010B(2)	0.16	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010
Sodium	6010B(2)	750	0.50	mg/l	CS0	09/13/2007	0064955-1	<0.50
Vanadium	6010B(2)	0.014	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

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Lab Project ID: **07-6867**
Lab Sample ID: **0709-1004**
Client Sample ID: MW-44S
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

Pesticides/PCB

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Polychlorinated Biphenyls, ECD								
Aroclor-1016	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50
Aroclor-1221	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50
Aroclor-1232	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50
Aroclor-1242	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50
Aroclor-1248	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50
Aroclor-1254	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50
Aroclor-1260	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50
PCB Total-TCL	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50

(1) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-6867**
Lab Sample ID: **0709-1005**
Client Sample ID: MW-44D
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

Pesticides/PCB

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Polychlorinated Biphenyls, ECD								
Aroclor-1016	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50
Aroclor-1221	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50
Aroclor-1232	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50
Aroclor-1242	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50
Aroclor-1248	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50
Aroclor-1254	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50
Aroclor-1260	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50
PCB Total-TCL	8082(1)	<0.50	0.50	mg/l	SJG	09/18/2007	0065089-1	<0.50

(1) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

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Mr. Robert L. Fargo (Principal/Senior Consultant)
Hydro Systems Management, Inc.
P.O. Box 789
Washington, PA 15301

Lab Project ID: **07-6867**
Lab Sample ID: **0709-1006**
Client Sample ID: FB-1
Sample Matrix: Aqueous

Client Site: Reduction Mill
Client Ref.: HM00322

Date Sampled: 09/06/2007
Date Received: 09/07/2007

General Chemistry

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Cyanide (Total)	335.4(1)	<0.010	0.010	mg/l	SAB	09/19/2007	0065305-1	<0.010
Fluoride	340.2(1)	0.11	0.10	mg/l	CK0	09/14/2007	0065227-1	<0.10
pH	150.1(1)	6.20	1.00	pH	DJT	09/07/2007	0064942-1	5.47
Specific Conductance	120.1(1)	5.9	1.0	umhos/cm	BKH	09/18/2007	0065256-1	<1.0

Metals

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Trace Metals, Dissolved, ICP								
Arsenic	6010B(2)	<0.0040	0.0040	mg/l	CS0	09/13/2007	0064955-1	<0.0040
Beryllium	6010B(2)	<0.00050	0.00050	mg/l	CS0	09/13/2007	0064955-1	<0.00050
Manganese	6010B(2)	<0.010	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010
Sodium	6010B(2)	0.79	0.50	mg/l	CS0	09/13/2007	0064955-1	<0.50
Vanadium	6010B(2)	<0.010	0.010	mg/l	CS0	09/13/2007	0064955-1	<0.010

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B(2)	<0.0050	0.0050	mg/l	MAK	09/17/2007	0065214-1	<0.0050

(1) U.S. Environmental Protection Agency, 1983, Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.
(2) U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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P.O. Box 789
Washington, PA 15301

Client Site: Reduction Mill
Client Ref.: HM00322

Lab Project ID: **07-6867**
Lab Sample ID: **0709-1007**
Client Sample ID: Trip Blank
Sample Matrix: Aqueous

Date Sampled: 09/06/2007
Date Received: 09/07/2007

Volatiles

Test	Method	Result	Reporting Limit	Units	Analyst	Analysis Date	Method Blank ID	Blank Result
Volatile Organic Compounds, MS								
Tetrachloroethene	8260B[1]	<0.0050	0.0050	mg/l	MAK	09/17/2007	0065214-1	<0.0050

[1] U.S. Environmental Protection Agency, 1996, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Sample Comments: Results reported on an as received basis.

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Project No.: 07-6867

Metals Analysis - ICP

Parameter	Chemical Symbol	EPA or Standard Method	SW846 Method	Holding Time	Bottle Type and Volume	Preservative
Arsenic	As	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Beryllium	Be	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Manganese	Mn	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Sodium	Na	200.7	6010	6 Months	250ml Plastic	Nitric Acid
Vanadium	V	200.7	6010	6 Months	250ml Plastic	Nitric Acid

Pace Analytical

Metals Data Reporting Form

Laboratory Control Sample Results

Lab Sample ID: QC64955LCS

Matrix: Water **Units:** ug/L **Prep Date:** 9/10/2007 **Prep Batch:** 644955

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	Spike Level	Conc	Percent Recovery	Q	Range	DF	Instr	Anal Date	Anal Time
Arsenic	189.042	500	527	105.4		80-120	1	ICP	9/13/2007	9:29
Beryllium	313.042	500	516	103.2		80-120	1	ICP	9/13/2007	9:29
Manganese	257.61	500	522	104.4		80-120	1	ICP	9/13/2007	9:29
Sodium	330.232	5000	5020	100.4		80-120	1	ICP	9/13/2007	9:29
Vanadium	292.402	500	517	103.4		80-120	1	ICP	9/13/2007	9:29

Comments:

U Result is less than the MDL

B Result is between MDL and RL

Pace Analytical

Metals Data Reporting Form

Sample Duplicate RPD Report

Matrix Spike Duplicate Sample ID:	QC64955DUP D	**Client ID:**	MW-2
Marix Spike Sample ID:	6867-0709-0991 D	**Acceptable Range:**	+/- 20%
Matrix: Water	**Units:** ug/L	**Prep Date:** 9/10/2007	**Prep Batch:** 644955
Weight: NA	**Volume:** 50	**Percent Moisture:** NA	

Element	WL/ Mass	OS Conc	Q	Dupe Conc	Q	% RPD	OS DF	Dupe DF	Instr	OS Anal Date	OS Anal Time	Dupe Anal Date	Dupe Anal Time
Arsenic	189.042	48.6		50.3		3.4%	1	1	ICP	9/13/2007	9:34	9/13/2007	9:37
Beryllium	313.042	0.31	B	0.32	B	3.2%	1	1	ICP	9/13/2007	9:34	9/13/2007	9:37
Manganese	257.61	590		593		0.5%	1	1	ICP	9/13/2007	9:34	9/13/2007	9:37
Sodium	330.232	312000		311000		-0.3%	1	1	ICP	9/13/2007	9:34	9/13/2007	9:37
Vanadium	292.402	34.1		34.6		1.5%	1	1	ICP	9/13/2007	9:34	9/13/2007	9:37

U Result is less than the MDL
B Result is between MDL and RL
R Duplicate analysis RPD was not within limits

Pace Analytical

Metals Data Reporting Form

Matrix Spike Sample Results

Spike Sample ID: QC64955MS D

Original Sample ID: 6867-0709-0991 D **Client ID:** MW-2

Matrix: Water **Units:** ug/L **Prep Date:** 9/10/2007 **Prep Batch:** 644955

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	OS Conc	Q	MS Conc	Q	Spike Level	% Rec	OS DF	MS DF	Instr	OS Anal Date	OS Anal Time	MS Anal Date	MS Anal Time
Arsenic	189.0	48.6		594		500	109.0	1	1	ICP	9/13/2007	9:34	9/13/2007	9:40
Beryllium	313.0	0.31	B	526		500	105.1	1	1	ICP	9/13/2007	9:34	9/13/2007	9:40
Manganese	257.6	590		1120		500	105.8	1	1	ICP	9/13/2007	9:34	9/13/2007	9:40
Sodium	330.2	312000		318000	NC	5000		1	1	ICP	9/13/2007	9:34	9/13/2007	9:40
Vanadium	292.4	34.1		558		500	104.7	1	1	ICP	9/13/2007	9:34	9/13/2007	9:40

Comments:

Version 4.80.0

U Result is less than the MDL
B Result is between MDL and RL
N Spike recovery failed
NC Percent recovery was not calculated
R Duplicate analysis RPD was not within limits

Form 5A Equivalent

Pace Analytical

Metals Data Reporting Form

Matrix Spike Duplicate Sample Results

Spike Sample ID: QC64955MSD D

Original Sample ID: 6867-0709-0991 D **Client ID:** MW-2

Matrix: Water **Units:** ug/L **Prep Date:** 9/10/2007 **Prep Batch:** 644955

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	OS Conc	Q	MSD Conc	Q	Spike Level	% Rec	OS DF	MSD DF	Instr	OS Anal Date	OS Anal Time	MSD Anal Date	MSD Anal Time
Arsenic	189.0	48.6		583		500	106.9	1	1	ICP	9/13/2007	9:34	9/13/2007	9:43
Beryllium	313.0	0.31	B	518		500	103.4	1	1	ICP	9/13/2007	9:34	9/13/2007	9:43
Manganese	257.6	590		1100		500	102.5	1	1	ICP	9/13/2007	9:34	9/13/2007	9:43
Sodium	330.2	312000		313000	NC	5000		1	1	ICP	9/13/2007	9:34	9/13/2007	9:43
Vanadium	292.4	34.1		549		500	102.9	1	1	ICP	9/13/2007	9:34	9/13/2007	9:43

Comments:

Version 4.80.0

U Result is less than the MDL
B Result is between MDL and RL
N Spike recovery failed
NC Percent recovery was not calculated
R Duplicate analysis RPD was not within limits

Form 5A Equivalent

Pace Analytical

Metals Data Reporting Form

Matrix Spike Duplicate RPD Report

Matrix Spike Duplicate Sample ID: QC64955MSD D

Matrix Spike Sample ID: QC64955MS D **Client ID:** MW-2

Matrix: Water **Units:** ug/L **Prep Date:** 9/10/2007 **Prep Batch:** 644955

Weight: NA **Volume:** 50 **Percent Moisture:** NA

Element	WL/ Mass	MS Conc	Q	MSD Conc	Q	% RPD	MS DF	MSD DF	Instr	MS Anal Date	MS Anal Time	MSD Anal Date	MSD Anal Time
Arsenic	189.042	594		583		1.8	1	1	ICP	9/13/2007	9:40	9/13/2007	9:43
Beryllium	313.042	526		518		1.6	1	1	ICP	9/13/2007	9:40	9/13/2007	9:43
Manganese	257.61	1120		1100		1.5	1	1	ICP	9/13/2007	9:40	9/13/2007	9:43
Sodium	330.232	318000	NC	313000	NC	1.6	1	1	ICP	9/13/2007	9:40	9/13/2007	9:43
Vanadium	292.402	558		549		1.7	1	1	ICP	9/13/2007	9:40	9/13/2007	9:43

Comments:

Version 4.80.0

U Result is less than the MDL
B Result is between MDL and RL
N Spike recovery failed
NC Percent recovery was not calculated
R Duplicate analysis RPD was not within limits

Form 6 Equivalent

Volatiles

Project No.: 07-6867

Volatiles Analysis

Parameter	EPA or Standard Method	SW846 Method	Holding Time	Bottle Type and Volume	Preservative
Tetrachloroethene	624	8260	14 Days	3/ 40ml Vials	Hydrochloric Acid

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name : PASI-PGH Contract :
Project : 07-6867 Site : Location : Group :
Lab File ID (Standard): 30917003.D Date Analyzed : 17 Sep 2007
Instrument ID : GC/MS Ins Time Analyzed : 10:22
GC Column : RTX-VMS ID : 0.18(mm) Heated Purge (Y:N) : N

File	Sample	SMC1 (DCE) #	SMC2 (TOL) #	SMC3 (BFB) #	SMC4 #	SMC5 #	SMC6 #	TOTAL OUT
30917005	VLCS[20]	97	99	101	0	0	0	0
30917007	VBLK	97	98	102	0	0	0	0
30917009	07-6867 09-0991	93	96	94	0	0	0	0
30917011	07-6867 09-0992	99	98	102	0	0	0	0
30917013	07-6867 09-0994	93	97	100	0	0	0	0
30917015	07-6867 09-0996	100	98	99	0	0	0	0
30917017	07-6867 09-0997	98	95	97	0	0	0	0
30917019	07-6867 09-1006	97	95	98	0	0	0	0
30917021	07-6867 09-1007	98	95	96	0	0	0	0

		QC Limits
SMC1 (DCE)	= 1,2-Dichloroethane-d4	(70 -130)
SMC2 (TOL)	= Toluene-d8	(70 -130)
SMC3 (BFB)	= Bromofluorobenzene	(70 -130)
SMC4	=	(0 -0)
SMC5	=	(0 -0)
SMC6	=	(0 -0)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

LCS Spike Summary Report

Data File : D:\DATA\3070917\1\30917005.D
Acq On : 17 Sep 2007 10:47
Sample : VLCS[20]
Misc : V2-26-5
Matrix : WATERrams: RTEINT.P

Vial: 5
Operator: mak
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\METHODS\3AL09131.M (RTE Integrator)
Title : 8260 Water Concentrator #1
Last Update : Fri Sep 14 07:33:57 2007
Response via : Single (D:\DATA\3070917\1\30917003.D 17 Sep 2007 10:22)

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
42)	S	1,2-Dichloroethane-d	28.97	30.00	96.57	70 to 130%	[ ]
58)	S	Toluene-d8	29.65	30.00	98.82	70 to 130%	[ ]
83)	S	Bromofluorobenzene	30.34	30.00	101.14	70 to 130%	[ ]
2)	M	Dichlorodifluorometh	16.23	20.00	81.14	70 to 130%	[ ]
3)	MP	Chloromethane	17.53	20.00	87.64	70 to 130%	[ ]
4)	MC	Vinyl Chloride	17.06	20.00	85.31	70 to 130%	[ ]
5)	M	Bromomethane	17.81	20.00	89.04	70 to 130%	[ ]
6)	M	Chloroethane	15.16	20.00	75.82	70 to 130%	[ ]
7)	M	Trichlorofluorometha	26.01	20.00	130.03	70 to 130%	[*]
8)	M	Ethyl Ether	17.46	20.00	87.29	70 to 130%	[ ]
9)	M	Acrolein	20.06	20.00	100.30	70 to 130%	[ ]
10)	MC	1,1-Dichloroethene	17.00	20.00	84.99	70 to 130%	[ ]
11)	M	112Trichloro122trifl	18.92	20.00	94.59	70 to 130%	[ ]
12)	M	Acetone	13.75	20.00	68.75	70 to 130%	[*]
13)	M	Iodomethane	89.46	50.00	178.91	70 to 130%	[*]
14)	M	Carbon Disulfide	15.36	20.00	76.81	70 to 130%	[ ]
15)	M	Acetonitrile	84.34	50.00	168.68	70 to 130%	[*]
16)	M	Methyl acetate	17.02	20.00	85.12	70 to 130%	[ ]
17)	M	Methylene Chloride	17.19	20.00	85.97	70 to 130%	[ ]
18)	M	TBA, tertButylalcoho	65.88	50.00	131.75	70 to 130%	[*]
19)	M	Acrylonitrile	17.09	20.00	85.43	70 to 130%	[ ]
20)	M	trans-1,2-Dichloroet	17.55	20.00	87.75	70 to 130%	[ ]
21)	M	Allyl chloride	102.20	50.00	204.41	70 to 130%	[*]
22)	M	tert-butyl Methyleth	17.00	20.00	85.00	70 to 130%	[ ]
23)	M	Vinyl acetate	18.23	20.00	91.14	70 to 130%	[ ]
24)	M	Hexane	19.11	20.00	95.56	70 to 130%	[ ]
25)	MP	1,1-Dichloroethane	17.41	20.00	87.07	70 to 130%	[ ]
26)	M	Chloroprene	18.44	20.00	92.20	70 to 130%	[ ]
27)	M	t-Butyl ethyl ether	16.57	20.00	82.86	70 to 130%	[ ]
28)	M	2,2-Dichloropropane	18.40	20.00	91.99	70 to 130%	[ ]
29)	M	cis-1,2-Dichloroethe	19.13	20.00	95.66	70 to 130%	[ ]
30)	M	2-Butanone	16.53	20.00	82.65	70 to 130%	[ ]
31)	M	Propionitrile	15.26	20.00	76.29	70 to 130%	[ ]
32)	M	Ethyl acetate	16.96	20.00	84.81	70 to 130%	[ ]
33)	M	Diisopropylether	17.49	20.00	87.45	70 to 130%	[ ]
34)	M	Bromochloromethane	21.10	20.00	105.49	70 to 130%	[ ]
35)	M	Methacrylonitrile	16.89	20.00	84.44	70 to 130%	[ ]
36)	M	Tetrahydrofuran	17.84	20.00	89.21	70 to 130%	[ ]
37)	MC	Chloroform	18.51	20.00	92.56	70 to 130%	[ ]
38)	M	1,1,1-Trichloroethan	17.95	20.00	89.76	70 to 130%	[ ]
39)	M	Cyclohexane	20.60	20.00	103.02	70 to 130%	[ ]

* = out of control limits

LCS Spike Summary Report

Data File : D:\DATA\3070917\1\30917005.D
Acq On : 17 Sep 2007 10:47
Sample : VLCS[20]
Misc : V2-26-5
Matrix : WATERrams: RTEINT.P

Vial: 5
Operator: mak
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\METHODS\3AL09131.M (RTE Integrator)
Title : 8260 Water Concentrator #1
Last Update : Fri Sep 14 07:33:57 2007
Response via : Single (D:\DATA\3070917\1\30917003.D 17 Sep 2007 10:22)

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
40)	M	Carbon Tetrachloride	17.52	20.00	87.60	70 to 130%	[ ]
41)	M	1,1-Dichloropropene	18.81	20.00	94.06	70 to 130%	[ ]
43)	M	Benzene	19.57	20.00	97.84	70 to 130%	[ ]
44)	M	1,2-Dichloroethane	18.53	20.00	92.64	70 to 130%	[ ]
45)	M	Isobutanol	82.13	50.00	164.26	70 to 130%	[*]
46)	M	t-Amyl methyl ether	17.49	20.00	87.44	70 to 130%	[ ]
47)	M	Trichloroethene	19.25	20.00	96.26	70 to 130%	[ ]
48)	M	Methylcyclohexane	20.00	20.00	100.01	70 to 130%	[ ]
49)	MC	1,2-Dichloropropane	19.38	20.00	96.92	70 to 130%	[ ]
50)	M	Dibromomethane	20.62	20.00	103.08	70 to 130%	[ ]
51)	M	Methyl methacrylate	16.32	20.00	81.61	70 to 130%	[ ]
52)	M	Bromodichloromethane	18.45	20.00	92.26	70 to 130%	[ ]
53)	M	2-Nitropropane	61.40	50.00	122.79	70 to 130%	[ ]
54)	M	2-Chloroethylvinylet	16.47	20.00	82.33	70 to 130%	[ ]
55)	M	cis-1,3-Dichloroprop	19.22	20.00	96.09	70 to 130%	[ ]
56)	M	4-Methyl-2-Pentanone	16.89	20.00	84.46	70 to 130%	[ ]
60)	MC	Toluene	19.07	20.00	95.36	70 to 130%	[ ]
61)	M	trans-1,3-Dichloropr	19.06	20.00	95.31	70 to 130%	[ ]
62)	M	Ethyl methacrylate	17.79	20.00	88.97	70 to 130%	[ ]
63)	M	1,1,2-Trichloroethan	18.86	20.00	94.28	70 to 130%	[ ]
64)	M	Tetrachloroethene	19.84	20.00	99.22	70 to 130%	[ ]
65)	M	1,3-Dichloropropane	19.50	20.00	97.48	70 to 130%	[ ]
66)	M	2-Hexanone	16.04	20.00	80.19	70 to 130%	[ ]
67)	M	Dibromochloromethane	17.09	20.00	85.44	70 to 130%	[ ]
68)	M	1,2-Dibromoethane,ED	18.61	20.00	93.06	70 to 130%	[ ]
69)	MP	Chlorobenzene	19.01	20.00	95.03	70 to 130%	[ ]
70)	M	1,1,1,2-Tetrachloroe	18.62	20.00	93.08	70 to 130%	[ ]
71)	MC	Ethylbenzene	18.86	20.00	94.28	70 to 130%	[ ]
72)	M	m,p-Xylene	38.59	40.00	96.46	70 to 130%	[ ]
73)	M	o-Xylene	19.53	20.00	97.66	70 to 130%	[ ]
74)	MG	Xylenes (Total)	58.12	60.00	96.87	70 to 130%	[ ]
75)	M	Styrene	19.50	20.00	97.49	70 to 130%	[ ]
77)	MP	Bromoform	17.00	20.00	84.98	70 to 130%	[ ]
78)	M	Cyclohexanone	89.90	50.00	179.79	70 to 130%	[*]
79)	M	n-Propylbenzene	19.49	20.00	97.47	70 to 130%	[ ]
80)	M	2-Chlorotoluene	18.50	20.00	92.50	70 to 130%	[ ]
81)	M	1,3,5-Trimethylbenze	18.47	20.00	92.34	70 to 130%	[ ]
82)	M	Isopropylbenzene,Cum	18.80	20.00	94.02	70 to 130%	[ ]
84)	M	Bromobenzene	19.90	20.00	99.51	70 to 130%	[ ]
85)	MP	1,1,2,2-Tetrachloroe	17.75	20.00	88.74	70 to 130%	[ ]
86)	M	1,2,3-Trichloropropa	16.96	20.00	84.78	70 to 130%	[ ]

* = out of control limits

LCS Spike Summary Report

Data File : D:\DATA\3070917\1\30917005.D
Acq On : 17 Sep 2007 10:47
Sample : VLCS[20]
Misc : V2-26-5
Matrix : WATERrams: RTEINT.P

Vial: 5
Operator: mak
Inst : GC/MS Ins
Multiplr: 1.00

Method : D:\METHODS\3AL09131.M (RTE Integrator)
Title : 8260 Water Concentrator #1
Last Update : Fri Sep 14 07:33:57 2007
Response via : Single (D:\DATA\3070917\1\30917003.D 17 Sep 2007 10:22)

		Compound Name	Conc	Added	Recv(%)	QC Range	Q
87)	M	trans-1,4-Dichloro-2	18.13	20.00	90.64	70 to 130%	[ ]
88)	M	4-Chlorotoluene	18.97	20.00	94.85	70 to 130%	[ ]
89)	M	tert-Butyl benzene	18.29	20.00	91.45	70 to 130%	[ ]
90)	M	1,2,4-Trimethylbenze	18.91	20.00	94.56	70 to 130%	[ ]
91)	M	sec-Butyl benzene	18.74	20.00	93.68	70 to 130%	[ ]
92)	M	1,3-Dichlorobenzene	18.61	20.00	93.04	70 to 130%	[ ]
93)	M	4-Isopropyl toluene	18.85	20.00	94.23	70 to 130%	[ ]
94)	M	1,4-Dichlorobenzene	18.72	20.00	93.61	70 to 130%	[ ]
95)	M	1,2-Dichlorobenzene	19.08	20.00	95.38	70 to 130%	[ ]
96)	M	n-Butyl benzene	18.48	20.00	92.42	70 to 130%	[ ]
97)	M	bis(2-Chloro-1-methy	15.14	20.00	75.72	70 to 130%	[ ]
98)	M	1,2-Dibromo-3-chloro	15.03	20.00	75.15	70 to 130%	[ ]
99)	M	1,2,4-Trichlorobenze	18.76	20.00	93.81	70 to 130%	[ ]
100)	M	Hexachlorobutadiene	19.80	20.00	98.99	70 to 130%	[ ]
101)	M	Naphthalene	17.89	20.00	89.43	70 to 130%	[ ]
102)	M	1,2,3-Trichlorobenze	19.17	20.00	95.83	70 to 130%	[ ]

* = out of control limits

Spike Recovery and RPD Summary Report - WATER

Method : D:\METHODS\3AL09131.M (RTE Integrator)
Title : 8260 Water Concentrator #1
Last Update : Fri Sep 14 07:33:57 2007
Response via : Initial Calibration

Non-Spiked Sample: 30917009.D

	Spike Sample	Spike Duplicate Sample
File ID :	30917049.D	30917051.D
Sample :	07-6897 09-0991MS	07-6897 09-0991MSD
Acq Time:	17 Sep 2007 20:18	17 Sep 2007 20:44

Surrogate	Sample Conc	Amnt Added	Sampl %Rec	Spike Conc	Spike %Rec	Dup Conc	Dup %Rec	QC Limits % Rec
1,2-Dichloroethane-d	27.8	30	93	35.6	119	36.3	121	70-130
Toluene-d8	28.8	30	96	29.7	99	30.5	102	70-130
Bromofluorobenzene	28.1	30	94	28.9	96	28.5	95	70-130

Compound	Sample Conc	Spike Added	Spike Res	Dup Res	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
Dichlorodiflu	0.0	20	21	22	107.3	109.9	2.3	30	70-130
Chloromethane	0.0	20	18	18	87.9	89.4	1.7	30	70-130
Vinyl Chlorid	0.0	20	18	19	89.9	96.8	7.4	30	70-130
Bromomethane	0.0	20	14	17	71.7	84.7	16.6	30	70-130
Chloroethane	0.0	20	21	20	102.6	102.0	0.5	30	70-130
Trichlorofluo	0.0	20	37	39	185.6#	194.8#	4.8	30	70-130
Ethyl Ether	0.0	20	16	18	82.5	90.5	9.3	30	70-130
Acrolein	0.0	20	19	21	94.8	105.6	10.8	30	70-130
1,1-Dichloroe	1.5	20	18	21	83.9	99.1	16.6	30	70-130
112Trichlorol	0.0	20	23	25	112.8	122.5	8.3	30	70-130
Acetone	0.0	20	17	17	82.8	83.5	0.7	30	70-130
Iodomethane	0.0	50	85	102	170.4#	204.1#	18.0	30	70-130
Carbon Disulf	0.0	20	14	16	68.0#	79.9	16.2	30	70-130
Acetonitrile	0.0	50	82	99	163.0#	197.5#	19.1	30	70-130
Methyl acetat	0.0	20	18	20	87.6	98.6	11.8	30	70-130
Methylene Chl	0.0	20	17	19	83.3	94.1	12.1	30	70-130
TBA, tertButy	0.0	50	79	95	158.5#	190.2#	18.2	30	70-130
Acrylonitrile	0.0	20	18	18	88.8	92.3	3.9	30	70-130
trans-1,2-Dic	0.0	20	17	20	86.5	100.4	14.8	30	70-130
Allyl chlorid	0.0	50	100	110	200.3#	220.8#	9.8	30	70-130
tert-butyl Me	0.0	20	17	19	86.2	92.8	7.5	30	70-130
Vinyl acetate	0.0	20	17	17	85.1	83.8	1.6	30	70-130
Hexane	0.0	20	21	23	102.6	112.7	9.3	30	70-130
1,1-Dichloroe	10.4	20	32	34	105.4	117.0	10.5	30	70-130
Chloroprene	0.0	20	18	20	87.5	99.1	12.5	30	70-130
t-Butyl ethyl	0.0	20	17	18	84.6	91.0	7.4	30	70-130
2,2-Dichlorop	0.0	20	16	19	79.2	95.5	18.6	30	70-130
cis-1,2-Dichl	1.6	20	18	20	82.1	93.5	12.9	30	70-130
2-Butanone	0.0	20	14	18	72.3	92.4	24.4	30	70-130
Propionitrile	0.0	20	15	18	74.9	88.0	16.1	30	70-130
Ethyl acetate	0.0	20	15	17	72.9	84.7	14.9	30	70-130
Diisopropylet	0.0	20	17	19	87.4	94.2	7.4	30	70-130
Bromochlorome	0.0	20	19	21	96.4	104.2	7.7	30	70-130
Methacrylonit	0.0	20	15	18	75.3	90.5	18.4	30	70-130
Tetrahydrofur	0.0	20	16	18	79.9	88.7	10.4	30	70-130
Chloroform	0.0	20	18	20	88.3	101.3	13.7	30	70-130
1,1,1-Trichlo	46.9	20	77	80	149.8#	165.8#	10.1	30	70-130
Cyclohexane	0.0	20	21	23	102.8	112.7	9.2	30	70-130
Carbon Tetrac	0.0	20	16	19	78.0	94.3	18.9	30	70-130
1,1-Dichlorop	0.0	20	18	21	89.6	104.0	14.9	30	70-130
Benzene	0.0	20	17	19	84.4	95.5	12.3	30	70-130
1,2-Dichloroe	0.0	20	20	22	99.9	110.5	10.1	30	70-130
Isobutanol	0.0	50	73	95	146.5#	189.1#	25.4	30	70-130
t-Amyl methyl	0.0	20	16	18	80.3	88.9	10.2	30	70-130

Trichloroethe	2.9	20	21	24	92.0	106.4	14.5	30	70-130
Methylcyclohe	0.0	20	20	23	101.7	113.4	10.9	30	70-130
1,2-Dichlorop	0.0	20	17	20	85.4	98.0	13.8	30	70-130
Dibromomethan	0.0	20	18	22	91.4	107.5	16.2	30	70-130
Methyl methac	0.0	20	16	19	81.1	93.4	14.1	30	70-130
Bromodichloro	0.0	20	16	19	81.2	95.5	16.2	30	70-130
2-Nitropropan	0.0	50	51	88	102.3	175.2#	52.5#	30	70-130
2-Chloroethyl	0.0	20	0	0	0.0#	0.0#	99.0#	30	70-130
cis-1,3-Dichl	0.0	20	16	19	77.8	93.3	18.2	30	70-130
4-Methyl-2-Pe	0.0	20	16	20	80.1	98.0	20.1	30	70-130
1,4-Dioxane	0.0	0	160	183	0.0	0.0	99.0#	0	0- 0
Toluene	0.0	20	16	18	80.1	90.6	12.2	30	70-130
trans-1,3-Dic	0.0	20	16	19	81.3	92.9	13.3	30	70-130
Ethyl methacr	0.0	20	15	18	74.1	88.7	17.9	30	70-130
1,1,2-Trichlo	0.0	20	16	19	82.4	93.2	12.3	30	70-130
Tetrachloroet	54.4	20	75	78	104.3	117.9	12.3	30	70-130
1,3-Dichlorop	0.0	20	17	20	84.3	99.3	16.3	30	70-130
2-Hexanone	0.0	20	14	19	68.7#	95.1	32.2#	30	70-130
Dibromochloro	0.0	20	14	16	68.8#	81.0	16.3	30	70-130
1,2-Dibromoet	0.0	20	16	18	78.4	90.1	13.8	30	70-130
Chlorobenzene	0.0	20	16	19	81.4	94.3	14.7	30	70-130
1,1,1,2-Tetra	0.0	20	15	19	75.3	94.0	22.1	30	70-130
Ethylbenzene	0.0	20	16	19	79.1	93.0	16.1	30	70-130
m,p-Xylene	0.0	40	33	37	83.3	93.0	11.1	30	70-130
o-Xylene	0.0	20	17	19	85.8	95.7	10.9	30	70-130
Xylenes (Tota	0.0	60	50	56	83.9	93.8	11.2	30	70-130
Styrene	0.0	20	13	13	64.5#	67.3#	4.4	30	70-130
Bromoform	0.0	20	13	15	62.8#	73.1	15.2	30	70-130
Cyclohexanone	0.0	50	0	0	0.0#	0.0#	99.0#	30	70-130
n-Propylbenze	0.0	20	17	19	86.6	93.2	7.3	30	70-130
2-Chlorotolue	0.0	20	16	18	79.7	91.9	14.1	30	70-130
1,3,5-Trimeth	0.0	20	16	18	80.3	88.8	10.1	30	70-130
Isopropylbenz	0.0	20	16	18	81.0	90.0	10.5	30	70-130
Bromobenzene	0.0	20	16	18	81.4	92.4	12.8	30	70-130
1,1,2,2-Tetra	0.0	20	15	16	74.9	82.3	9.5	30	70-130
1,2,3-Trichlo	0.0	20	15	16	73.2	82.4	11.8	30	70-130
trans-1,4-Dic	0.0	20	11	13	55.3#	66.8#	18.7	30	70-130
4-Chlorotolue	0.0	20	16	18	81.7	92.4	12.2	30	70-130
tert-Butyl be	0.0	20	17	20	86.6	98.7	13.0	30	70-130
1,2,4-Trimeth	0.0	20	16	18	82.1	89.0	8.0	30	70-130
sec-Butyl ben	0.0	20	17	19	85.4	92.8	8.3	30	70-130
1,3-Dichlorob	0.0	20	16	18	80.2	89.0	10.4	30	70-130
4-Isopropyl t	0.0	20	17	19	84.9	93.9	10.1	30	70-130
1,4-Dichlorob	0.0	20	16	18	80.6	88.4	9.3	30	70-130
1,2-Dichlorob	0.0	20	16	18	79.5	90.5	12.9	30	70-130
n-Butyl benze	0.0	20	16	18	81.7	89.6	9.3	30	70-130
bis(2-Chloro-	0.0	20	13	18	67.1#	88.2	27.2	30	70-130
1,2-Dibromo-3	0.0	20	12	14	60.9#	68.6#	11.9	30	70-130
1,2,4-Trichlo	0.0	20	16	18	78.8	87.8	10.8	30	70-130
Hexachlorobut	0.0	20	17	19	84.3	96.5	13.5	30	70-130
Naphthalene	0.0	20	15	16	75.1	80.1	6.5	30	70-130
1,2,3-Trichlo	0.0	20	16	17	78.4	86.3	9.6	30	70-130

- Fails Limit Check

3AL09131.M Tue Sep 18 07:58:30 2007 MSD-3

Quantitation Report (QT Reviewed)

Data File : D:\DATA\3070917\1\30917007.D
Acq On : 17 Sep 2007 11:13
Sample : VBLK
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 7:48 2007

Vial: 7
Operator: mak
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 3AL09131.RES

Quant Method : D:\METHODS\3AL09131.M (RTE Integrator)
Title : 8260 Water Concentrator #1
Last Update : Tue Sep 18 07:31:48 2007
Response via : Initial Calibration
DataAcq Meth : 38260N
IS QA File : D:\DATA\3070917\1\30917003.D (17 Sep 2007 10:22)

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) Fluorobenzene	4.12	96	242604	30.00 ug/l	0.00 96.34%
57) Chlorobenzene-d5	5.43	117	198647	30.00 ug/l	0.00 95.94%
76) 1,4-Dichlorobenzene-d4	6.26	152	114687	30.00 ug/l	0.00 98.88%

System Monitoring Compounds

42) 1,2-Dichloroethane-d4	3.94	65	141283	29.05 ug/l	0.00
Spiked Amount 30.000	Range 70 - 130		Recovery = 96.83%		
58) Toluene-d8	4.86	98	295837	29.39 ug/l	0.00
Spiked Amount 30.000	Range 70 - 130		Recovery = 97.97%		
83) Bromofluorobenzene	5.86	174	108937	30.62 ug/l	0.00
Spiked Amount 30.000	Range 70 - 130		Recovery = 102.07%		

Target Compounds

					Qvalue
6) Chloroethane	1.22	64	736	Below Cal	# 1
7) Trichlorofluoromethane	1.28	101	189	Below Cal	# 1
12) Acetone	1.98	43	13691	Below Cal	95
15) Acetonitrile	2.36	41	554	Below Cal	95
23) Vinyl acetate	2.82	86	43	Below Cal	91
78) Cyclohexanone	6.00	55	1022	Below Cal	# 70

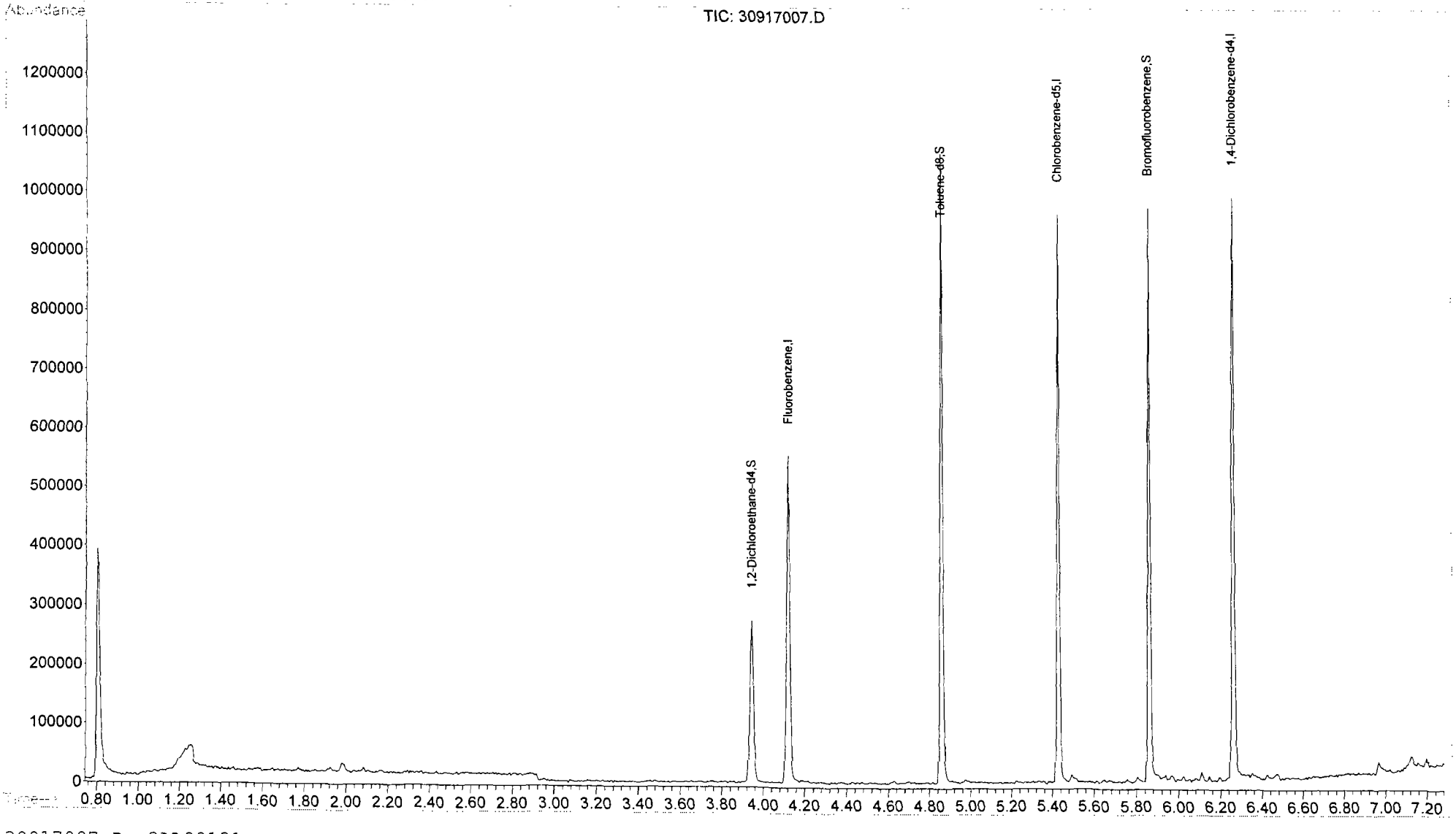
(#) = qualifier out of range (m) = manual integration

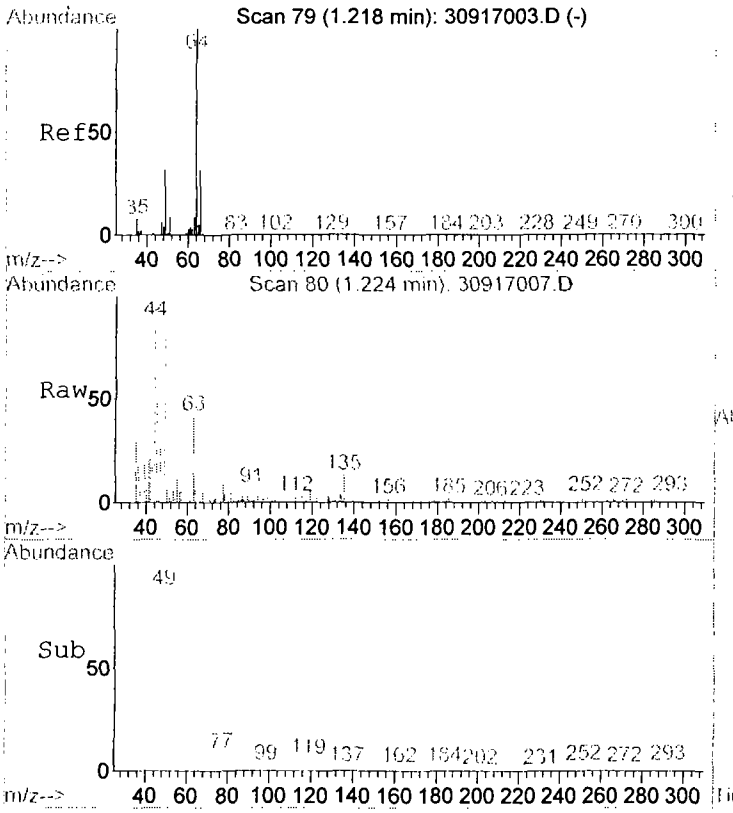
Data File : D:\DATA\3070917\1\30917007.D
Acq On : 17 Sep 2007 11:13
Sample : VBLK
Misc :
MS Integration Params: RTEINT.P
Quant Time: Sep 18 7:48 2007

Vial: 7
Operator: mak
Inst : GC/MS Ins
Multiplr: 1.00

Quant Results File: 3AL09131.RES

Method : D:\METHODS\3AL09131.M (RTE Integrator)
Title : 8260 Water Concentrator #1
Last Update : Fri Sep 14 07:33:57 2007
Response via : Initial Calibration

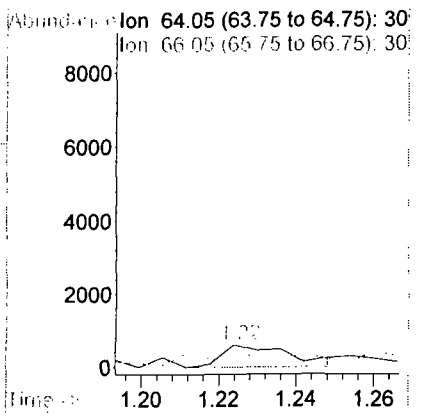


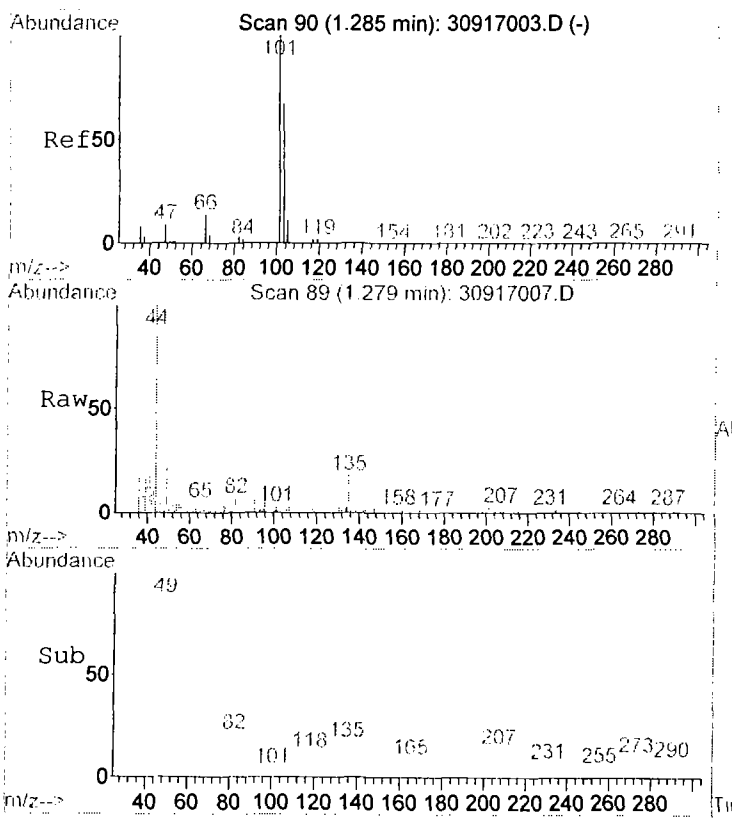


#6
Chloroethane
Concen: Below Cal
RT: 1.22 min Scan# 80
Delta R.T. 0.01 min
Lab File: 30917007.D
Acq: 17 Sep 2007 11:13

Tgt Ion: 64 Resp: 736

Ion	Ratio	Lower	Upper
64	100		
66	45.1	23.6	35.4#
49	2135.6	44.9	67.3#

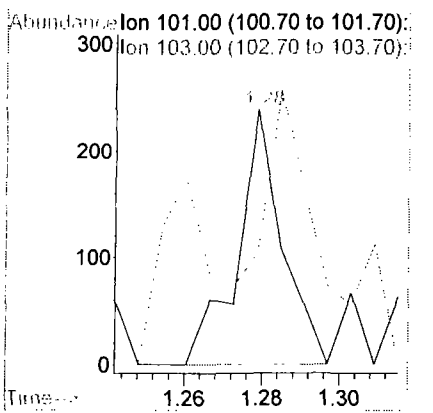


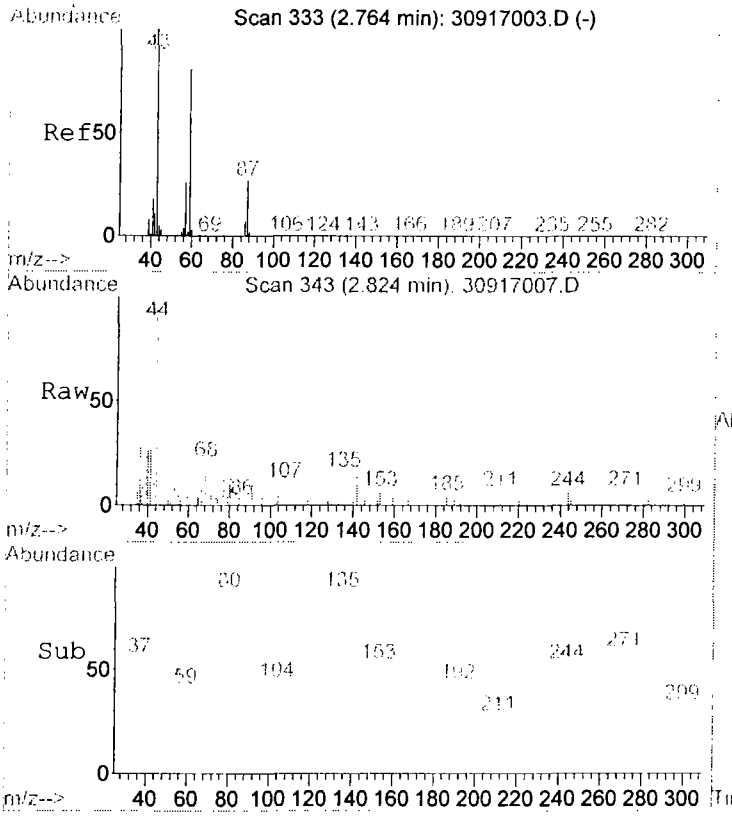


#7
Trichlorofluoromethane
Concen: Below Cal
RT: 1.28 min Scan# 89
Delta R.T. -0.01 min
Lab File: 30917007.D
Acq: 17 Sep 2007 11:13

Tgt Ion:101 Resp: 189

Ion	Ratio	Lower	Upper
101	100		
103	158.2	53.8	80.6#

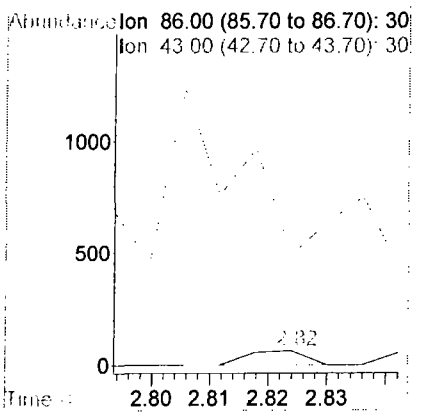




#23
Vinyl acetate
Concen: Below Cal
RT: 2.82 min Scan# 343
Delta R.T. 0.06 min
Lab File: 30917007.D
Acq: 17 Sep 2007 11:13

Tgt Ion: 86 Resp: 43

Ion	Ratio	Lower	Upper
86	100		
43	1539.5	1188.2	1782.4



Project No.: 07-6867

Organic Prep

Pace Analytical Services, Inc.-PGH

Matrix: H_2O

LIMS QC Batch #: 65089

Analytical Method: 8082 PCB

Extraction Method: 3510

Solvent	Lot #				
CH_2Cl_2	XI-32-08	NaOH			
Hexane	XI 34-06 A	H_2SO_4			
Na_2SO_4	XI-37-03	Surrogate: XI-32-04, 1.0 ppm, 1.0 ml			
		Matrix Spike: XI-28-08, 2.5 ppm, 1.0 ml			
		Matrix Spike:			

Date	Project #	Sample ID	Analyst	Initial Volume	Final Volume	pH 5-9	Comments
9/13/07	6847	BLK	CWB	1L	10 ml	✓	
↓	↓	LCS	↓	1L	↓	↓	
		LCSD		1L			insufficient sample for MS/MSD
	↓	0926		110 ml			limited sample provided; extracted past hold
	6867	1004 A		970 ml			
	↓	1005 A		975 ml			
	6879	1062 B		965 ml			
	↓	1063 A		950 ml			
		1064 A		620 ml			
		1065 A		1L			
		1066 A		945 mL			
		1067 A		985 mL			
		1068 A		905 mL			
		1069 B		970 mL			
		1070 B		980 mL			
↓	↓	1071 B	↓	970 mL	↓	↓	

XSL 9/14/07

Peer Review_____

Project No.: 07-6867

Polychlorinated Biphenyls

2E
WATER AROCLOR SURROGATE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: 07-6867 SAS No.: SDG No.: 07-6867

GC Column(1): RTX-CLPESTICIDES ID: 0.53 (mm)

	EPA SAMPLE NO.	TCX %REC #	DCB %REC #	S3 %REC #	S4 %REC #	S5 %REC #	S6 %REC #	TOT OUT
01	LCS	64	59					0
02	LCSD	72	61					0
03	BLK	68	57					0
04	MW-44S	68	72					0
05	MW-44D	66	70					0
06								
07								
08								
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

ADVISORY
QC LIMITS

S1 (TCX) = Tetrachloro-m-xylene (30-150)
S2 (DCB) = Decachlorobiphenyl (30-150)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

Project No.: 07-6867

General Chemistry

Ormet Level II
Project 07-6867

	Sample	Blank	LCS	% REC	MS/MSD	% REC	DUP	% RPD
Total Cyanide	14.3	0	0.1882	94.1	4	0	12.2	15.8490566
Ammenable Cyanide	0	0	NA	NA	NA	NA	0	#DIV/0!
Fluoride	3.9	0	2.2	110	8.14	106.3	4.14	-5.970149254

Total Cn sample >20 times spike value. Spike totally consumed by sample

HMI Environmental Consulting Services

* ATTN: RACHEL CHRISTNER *

Page 1 of 1

CHAIN-OF-CUSTODY RECORD

07-06867

Project Number: HM00322

Project Name/Location: ORMET / HANNIBAL

Laboratory: PACE

Sampling Personnel: R. FARGO / C. SMITH

Sample ID	Date/Time (9-6-07)	Sample Code	250 mL PLASTIC CN	250 mL PLASTIC As, Be, Mn, Na, V	500 mL PLASTIC pH, COND., F	40 mL GLASS VIALS PCE	1 L AMBER GLASS PCBs					TOTAL
MW-2	1130	L	1	1	1	3					0989-0991	6
MW-5	945		1	1	1	3					-0992	6
MW-16	1145		1	1	1						0993	3
MW-18	1230		1	1	1	3					0994	6
MW-28	1220		1	1	1						0995	3
MW-31	1315		1	1	1	3					0996	6
MW-31D	1320		1	1	1	3					0997	6
MW-32	1620		1	1	1						0998	3
MW-32D	1630		1	1	1						0999	3
MW-35	1530		1	1	1						1000	3
MW-36	1610		1	1	1						1001	3
MW-37	1515		1	1	1						1002	3
MW-39S	1430		1	1	1						1003	3
MW-44S	1040						1				1004	1
MW-44D	1020						1				1005	1
FB-1	1645		1	1	1	3					1006	6
											1007 FB	
										Total Number of Containers:		62

Sample Code: L = Liquid; S = Solid; A = Air

Relinquished by: R. Fargo	Organization: HMI	Date: 9-7-07	Time: 800	Seal Intact?	
Received by: [illegible]	Organization: PACE	Date: 9-7-7	Time: 900	Yes (No) NA	
Relinquished by: [illegible]	Organization: PACE	Date: 9-7-7	Time: 1445	Seal Intact?	
Received by: [illegible]	Organization: PACE-PGH	Date: 9/7/07	Time: 1445	Yes (No) NA	

REMARKS: Metals samples field filtered.

DELIVERY METHOD: In Person [ ] Common Carrier [ ] Lab Courier [X] Other [ ]

APPENDIX C

APPENDIX C

DATA VALIDATION SUMMARY REPORT FOR 2007 MONITORING EVENTS

APPENDIX C

2007 DATA VALIDATION SUMMARY
ORMET CORPORATION SUPERFUND SITE
HANNIBAL, OHIO

FEBRUARY 2007 SAMPLING EVENT
PACE ANALYTICAL SERVICES, INC. PROJECT #07-1502

General

Holding Time
All sample holding times met, except pH and specific conductance. Specific conductance and pH also measured in field at time of sample collection.

Field Blank
All results below detection.

Trip Blank
All results below detection.

Field Duplicate RPD
RPD values for all field duplicate results within +/- 20%.
No data qualification considered warranted.

Metals

MS/MSD
Manganese recovery for MW-12 MS 77.3%, slightly less than QC range of 80-120%. No qualification of data considered warranted.

LCS
All LCS recovery values within limits.

Volatiles

Surrogates
All recovery values within limits.

LCS
Certain compounds not within control limits. PCE recovery within control limits. No data qualification warranted.

Quantitation Report
Certain compounds not within control limits. PCE recovery within control limits. No data qualification warranted.

Spike Recovery & RPD Report
Certain compounds not within control limits. PCE recovery within control limits. No data qualification warranted.

LCS Blank Summary Report
Certain compounds not within control limits. PCE recovery within control limits. No data qualification warranted.

PCBs

Extraction and analysis holding times met.

Surrogate Recovery
All recovery values within control limits.

LCS
Spike recovery and RPD values within control limits.

MAY 2007 SAMPLING EVENT
PACE ANALYTICAL SERVICES, INC. PROJECT #07-3816, #07-3724, #07-3763

General

Holding Time
All sample holding times met, except pH. pH also measured in field at time of sample collection.

Field Blank

Trip Blank
All results below detection.

Field Duplicate RPD
MW-5: As RPD = 25%. No data qualification applied.
MW-28: Fluoride RPD = 33%. No data qualification applied.
MW-28: Manganese RPD = 28.6%. No data qualification applied.

Metals

MS/MSD

PROJECT #07-3724
All MS and MSD results and RPD values within limits.
PROJECT #07-3816
Sodium MS recovery of 73% compared to QC range of 75-125%.
No data qualification considered warranted.

LCS
All LCS recovery values within limits.

Volatiles

Surrogates
All recovery values within limits.

LCS
Certain compounds not within control limits. PCE recovery within control limits. No data qualification warranted.

Quantitation Report
Certain compounds not within control limits. PCE recovery within control limits. No data qualification warranted.

Spike Recovery & RPD Report
Certain compounds not within control limits. PCE recovery within control limits. No data qualification warranted.

LCS Blank Summary Report
Certain compounds not within control limits. PCE recovery within control limits. No data qualification warranted.

PCBs

Extraction and analysis holding times met.

Surrogate Recovery
All recovery values within control limits.

LCS
Spike recovery and RPD values within control limits.

General Chemistry

LCS
All results within control limits.

MS

Project #07-3816
Cyanide MS recovery values = 208.20% - 209.60%. Control Limits 85 – 115%.

Project #07-3724
Cyanide MS recovery values = 205.90% - 207.70%. Control Limits 85 – 115%.

Project # 07-3763
Cyanide MS recovery values = 205.90% - 214.1%. Control Limits 85 – 115%.

Cyanide analysis commonly prone to variability.
No data qualification considered warranted.

SEPTEMBER 2007 SAMPLING EVENT
PACE ANALYTICAL SERVICES, INC. PROJECT #07-6867

General

Holding Time
All sample holding times met, except pH. pH also measured in field at time of sample collection.

Field Blank
Fluoride reported at 0.11 mg/L. By 5x rule, results below 0.55 mg/L considered below detection. No results modified by this result.

Sodium reported at 0.79 mg/L. By 5x rule, results below 3.95 mg/L considered below detection. No results modified by this result.

Trip Blank
All results below detection.

Field Duplicate RPD
RPD values for all field duplicate results within +/- 20%.

Metals

MS/MSD
All MS and MSD results and RPD values within limits.

LCS
All LCS recovery values within limits.

Volatiles

Surrogates
All recovery values within limits.

LCS
Certain compounds not within control limits. PCE recovery within control limits. No data qualification warranted.

Spike Recovery & RPD Report
Certain compounds not within control limits. PCE recovery within control limits. No data qualification warranted.

PCBs

Extraction and analysis holding times met.

Surrogate Recovery
All recovery values within control limits.

LCS
Spike recovery and RPD values within control limits.

General Chemistry

LCS
All results within control limits.

MS
All recovery values and RPD results within QC limits.

APPENDIX D

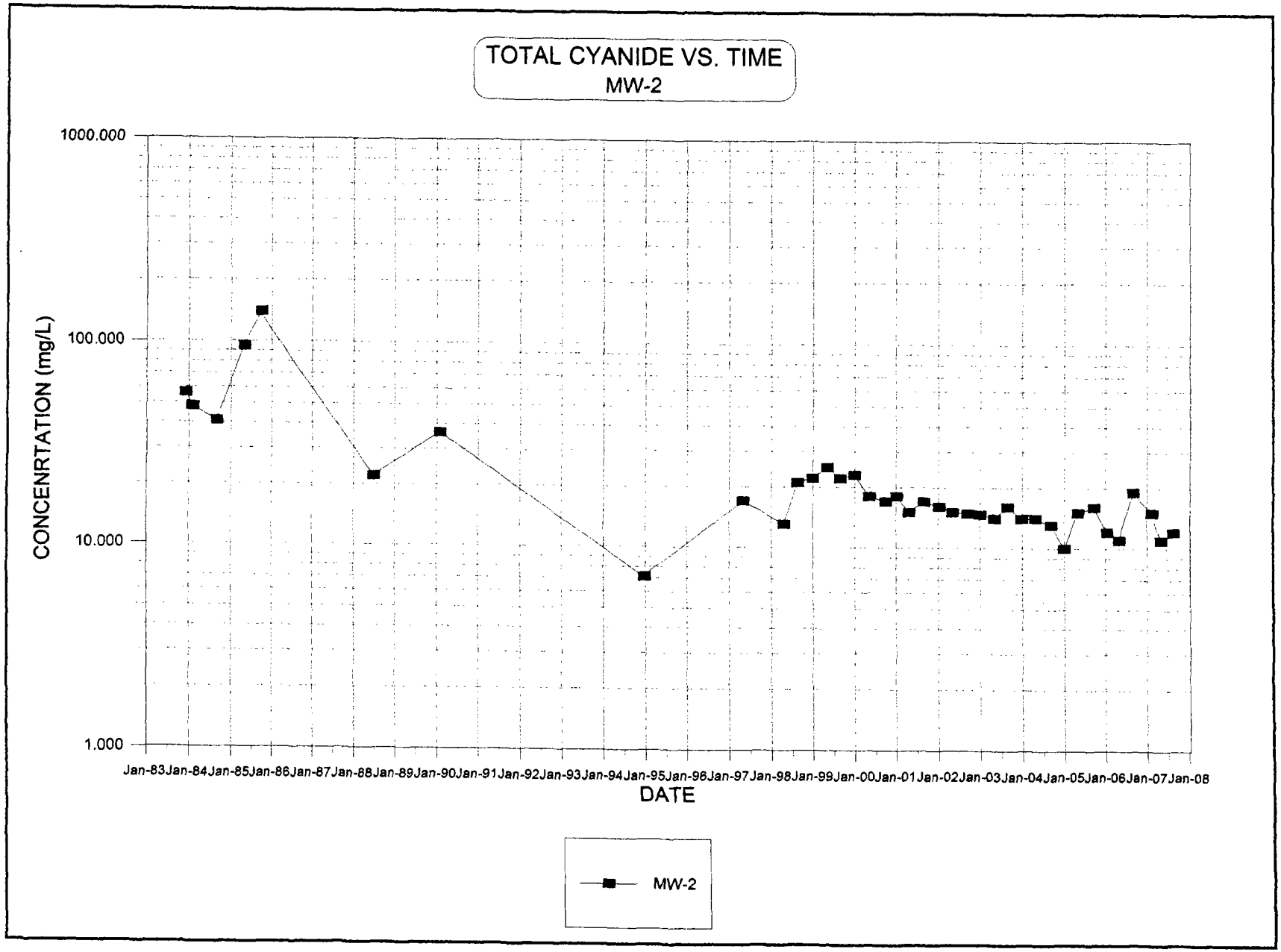
APPENDIX D

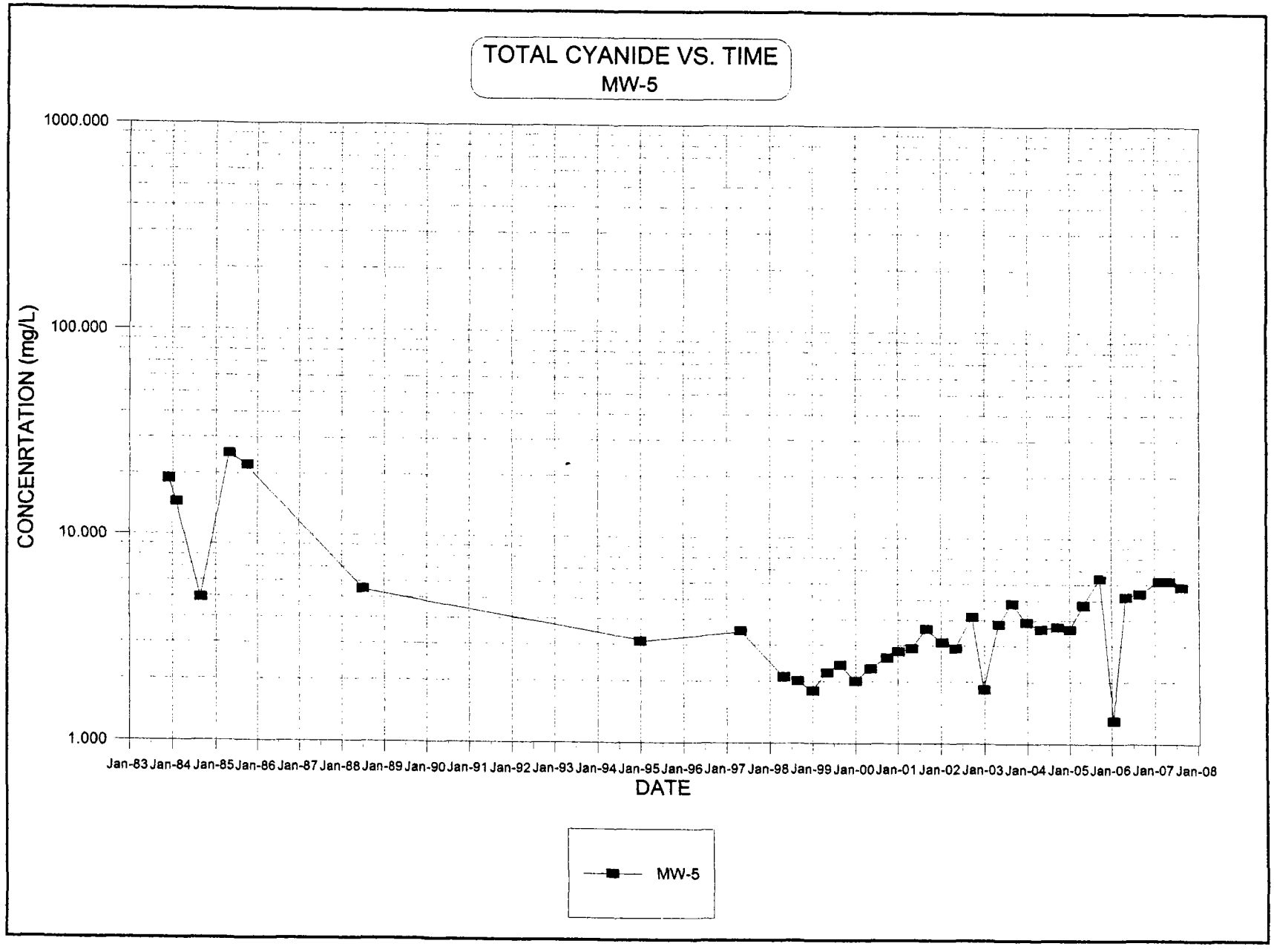
CONCENTRATION VS. TIME GRAPHS FOR REMEDIAL ACTION MONITORING PARAMETERS

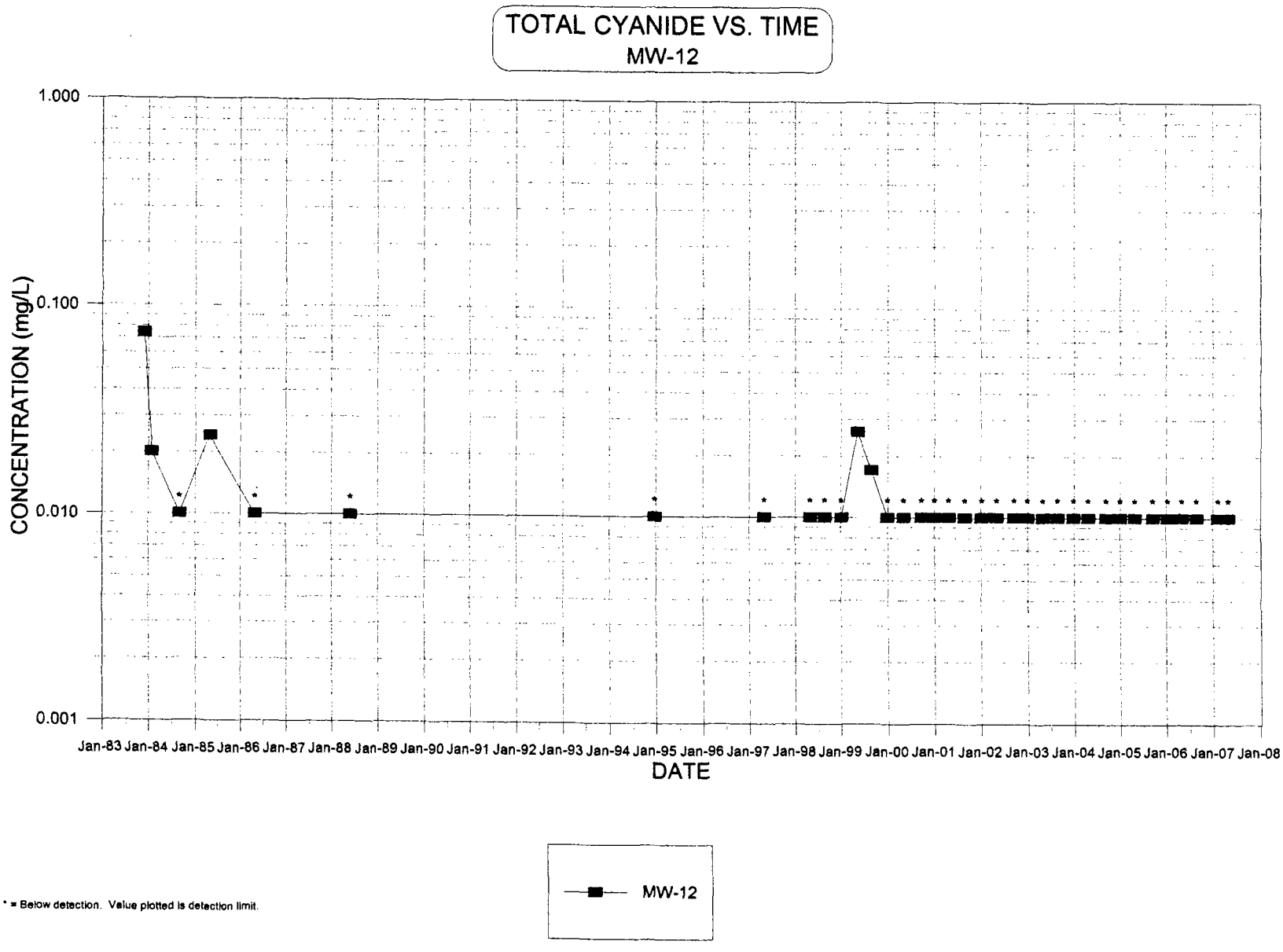
Appendix D-1	Total Cyanide
Appendix D-2	Cyanide Amenable to Chlorination
Appendix D-3	Fluoride
Appendix D-4	Arsenic
Appendix D-5	Beryllium
Appendix D-6	Manganese
Appendix D-7	Vanadium
Appendix D-8	Tetrachloroethene
Appendix D-9	Sodium

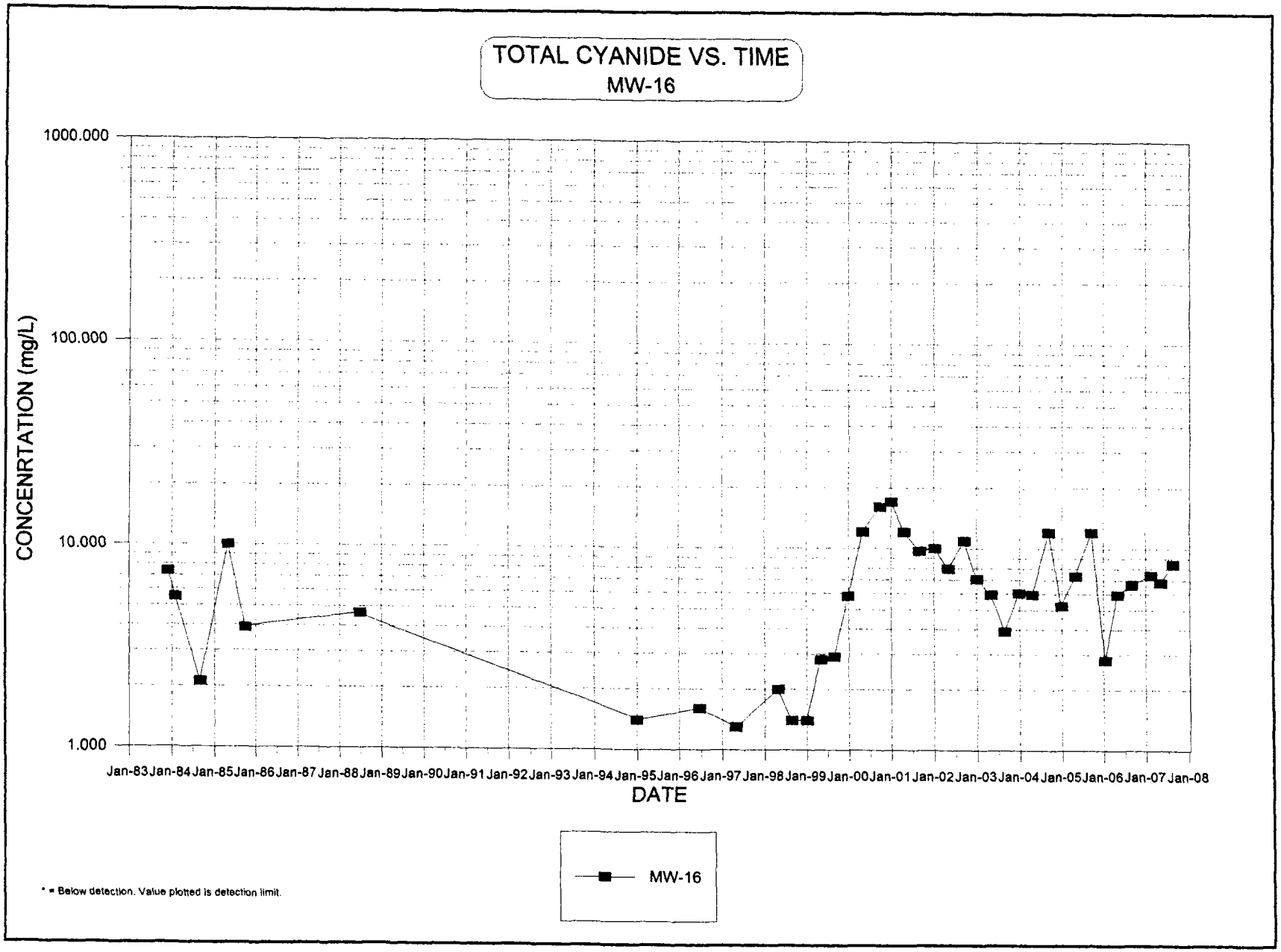
APPENDIX D-1

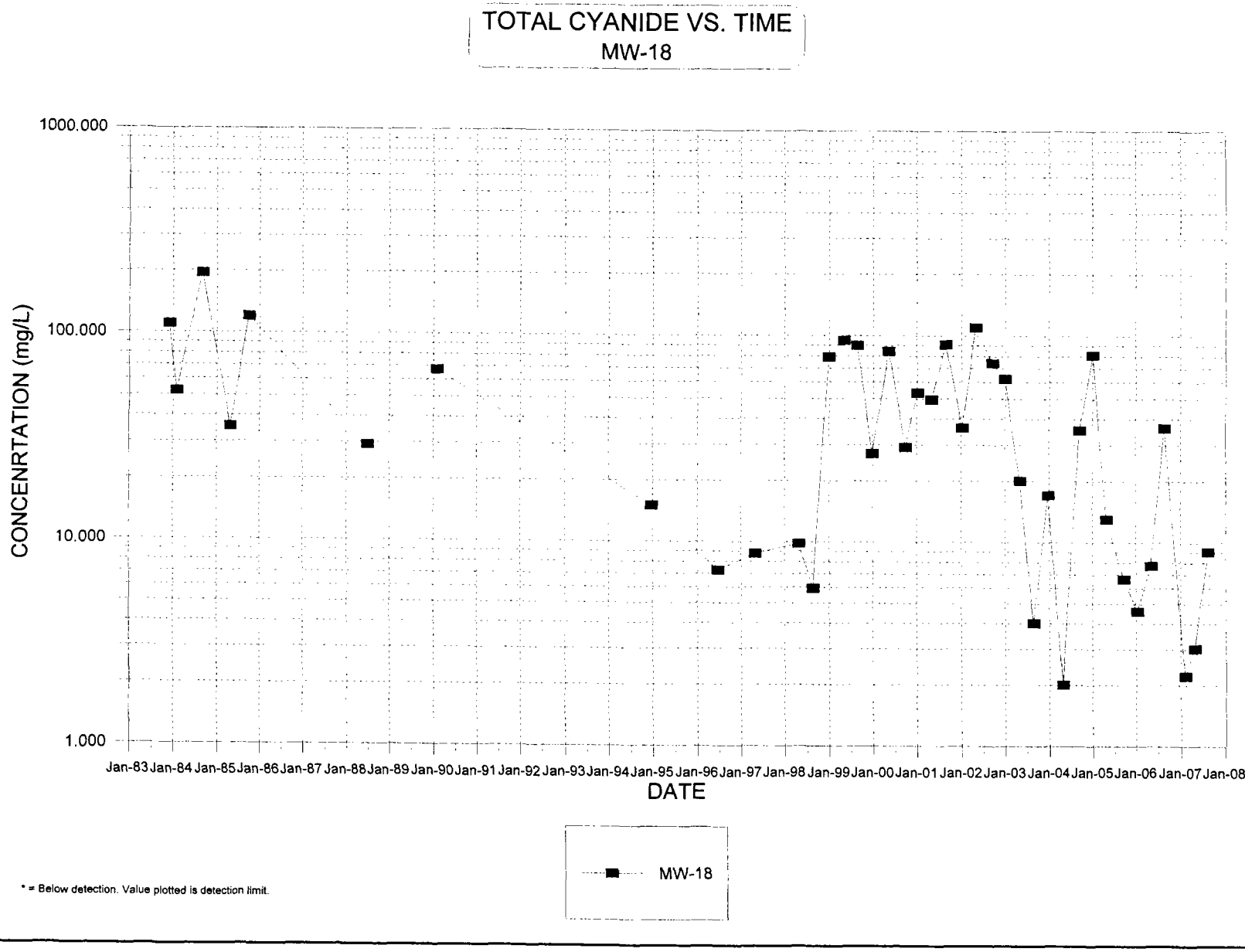
TOTAL CYANIDE


TOTAL CYANIDE VS. TIME
MW-2
1000.000
100.000
10.000
1.000
CONCENRTATION (mg/L)
Jan-83Jan-84Jan-85Jan-86Jan-87Jan-88Jan-89Jan-90Jan-91Jan-92Jan-93Jan-94Jan-95Jan-96Jan-97Jan-98Jan-99Jan-00Jan-01Jan-02Jan-03Jan-04Jan-05Jan-06Jan-07Jan-08
DATE
MW-2

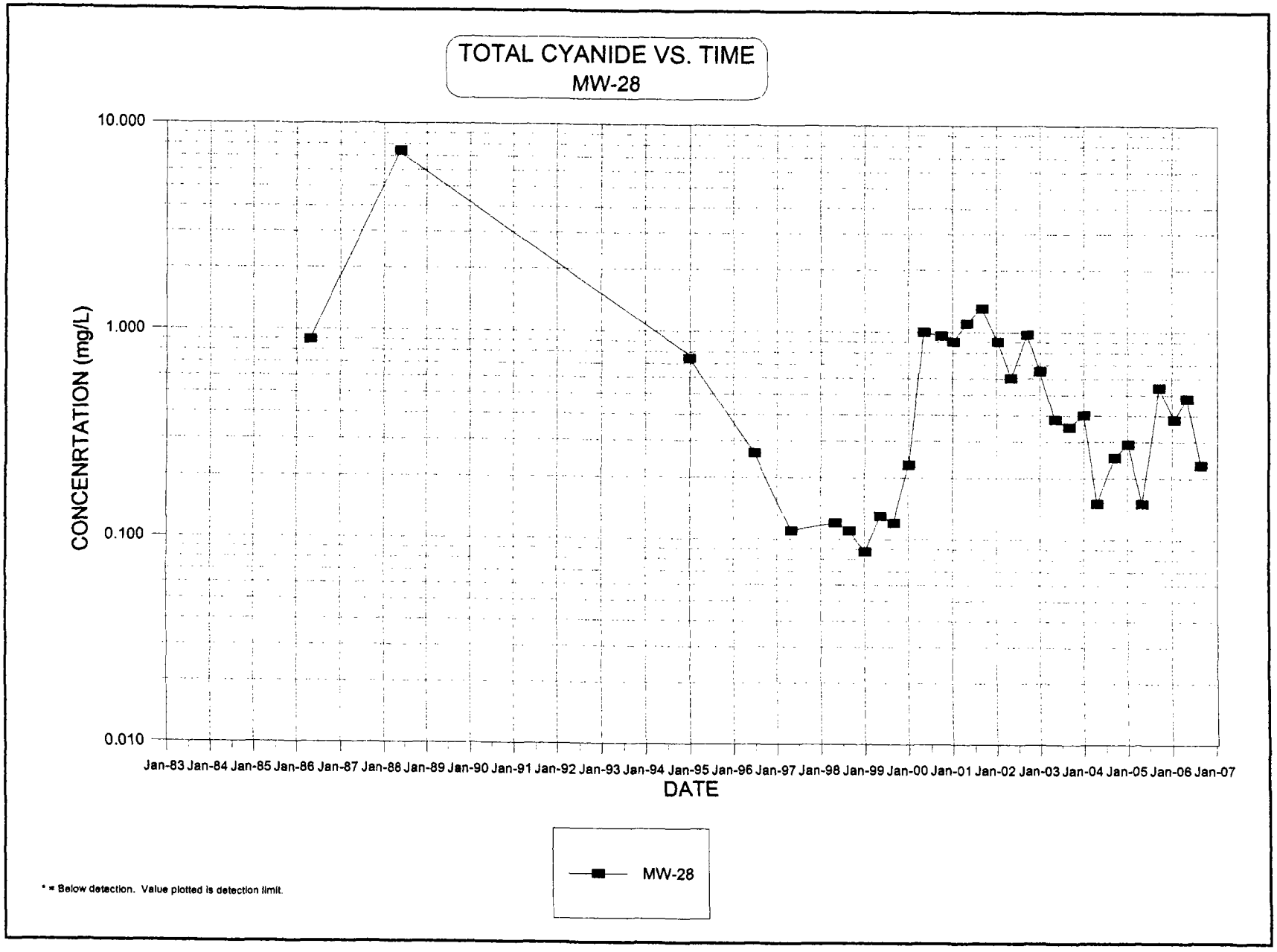

TOTAL CYANIDE VS. TIME
MW-5
CONCENRTATION (mg/L)
1000.000
100.000
10.000
1.000
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-5

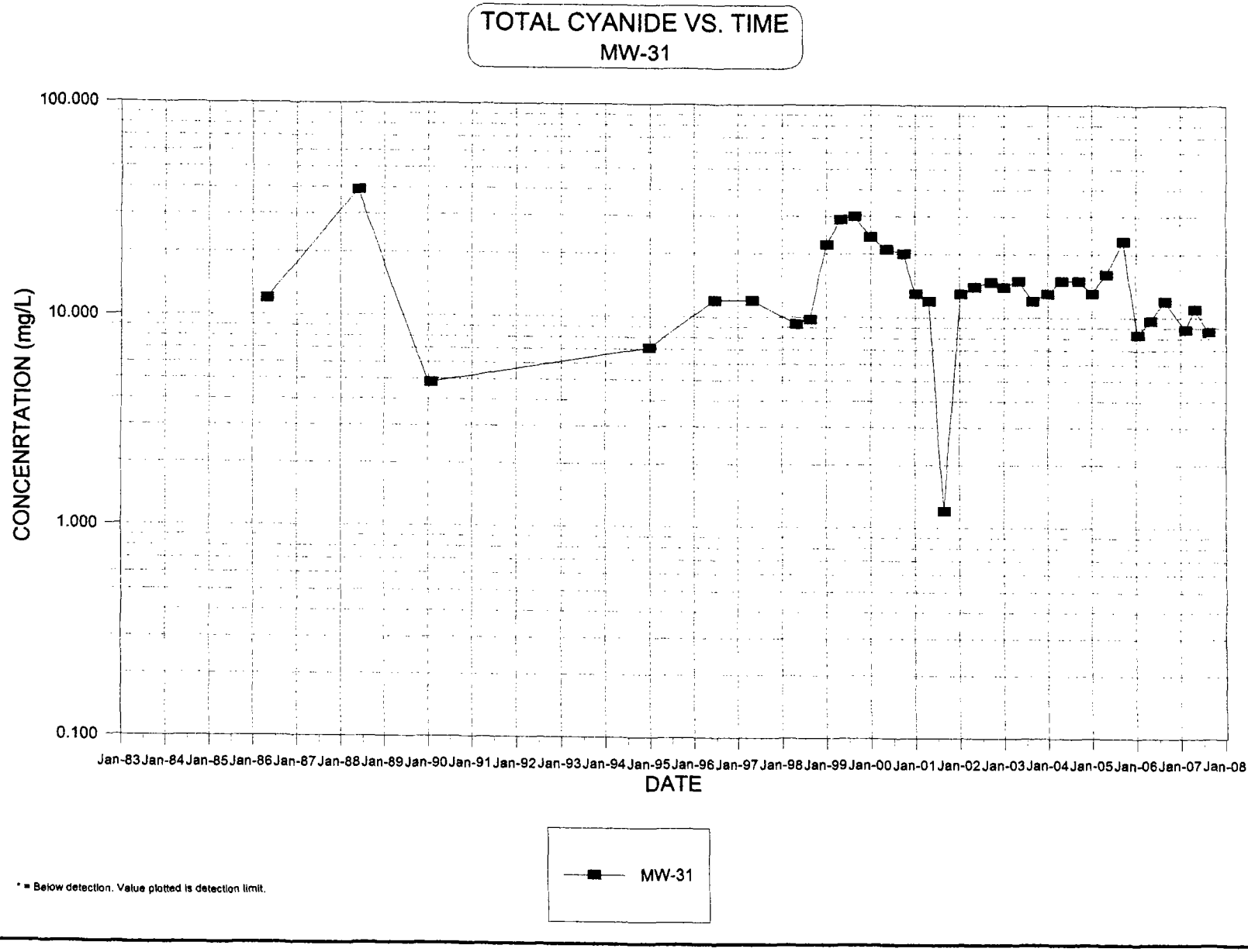

TOTAL CYANIDE VS. TIME
MW-12
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-12
* = Below detection. Value plotted is detection limit.


TOTAL CYANIDE VS. TIME
MW-16
1000.000
100.000
10.000
1.000
CONCENRTATION (mg/L)
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-16
* = Below detection. Value plotted is detection limit.

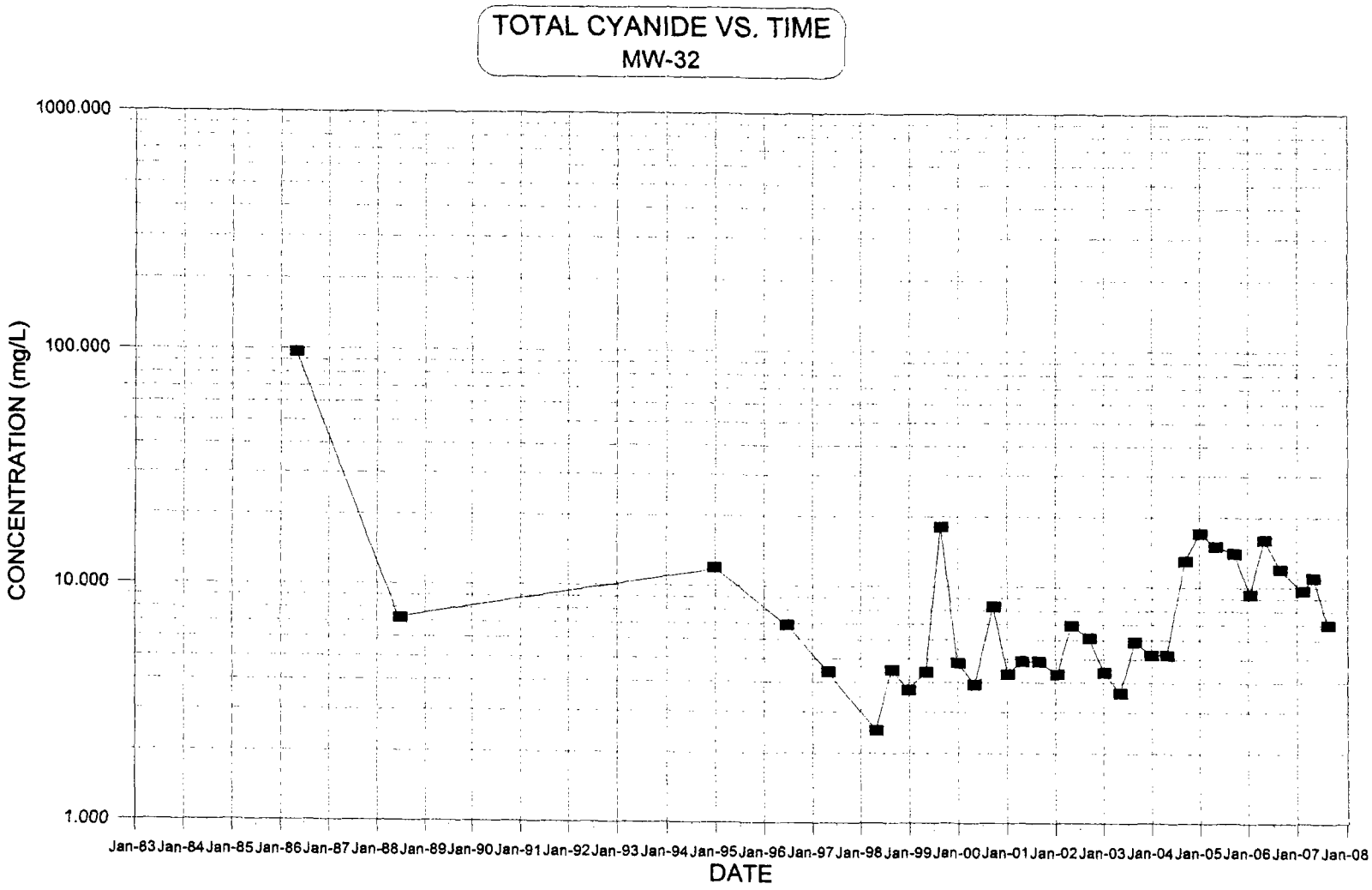


* = Below detection. Value plotted is detection limit.

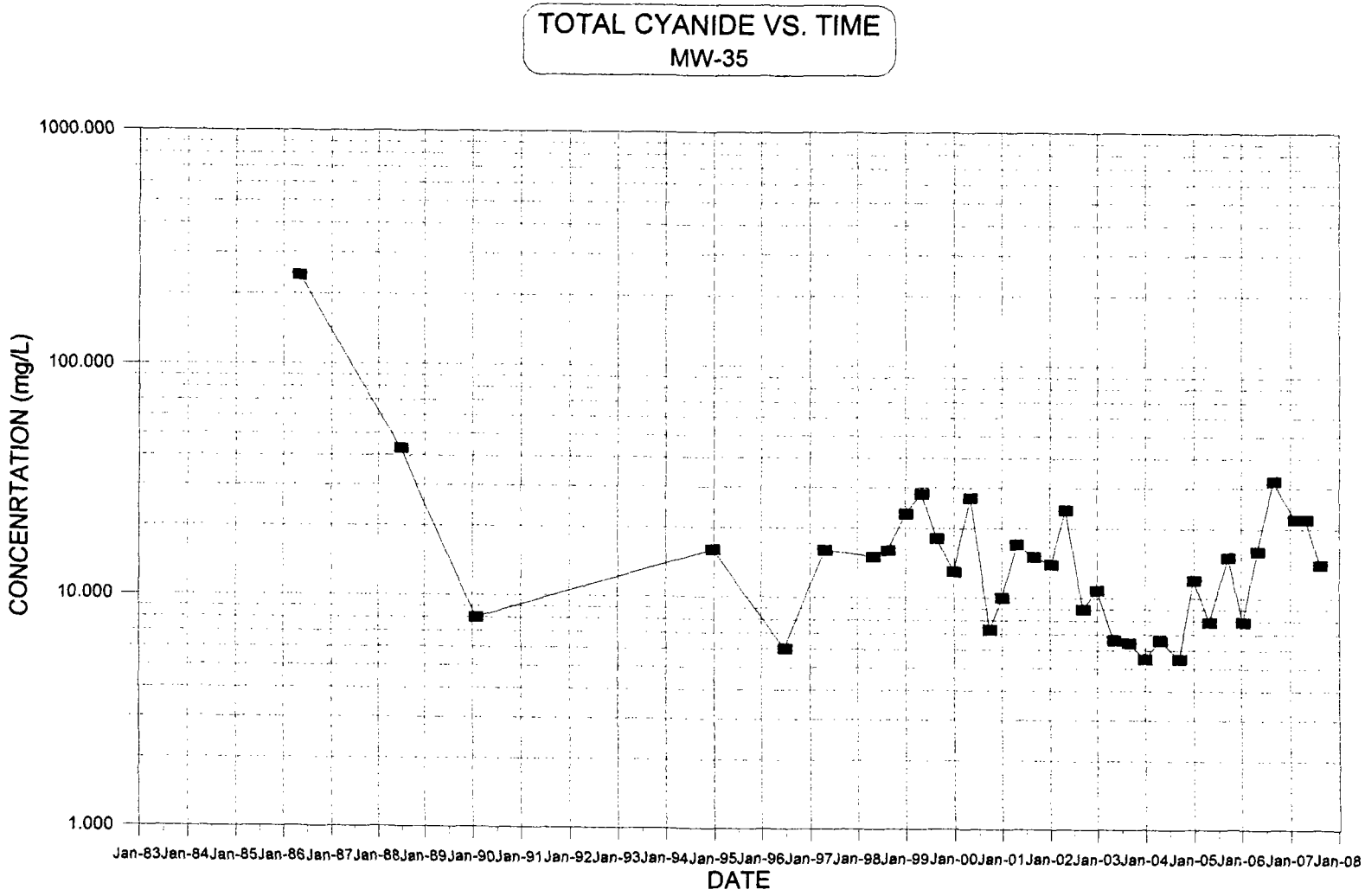

TOTAL CYANIDE VS. TIME
MW-28
10.000
1.000
0.100
0.010
CONCENRTATION (mg/L)
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07
DATE
MW-28
* = Below detection. Value plotted is detection limit.



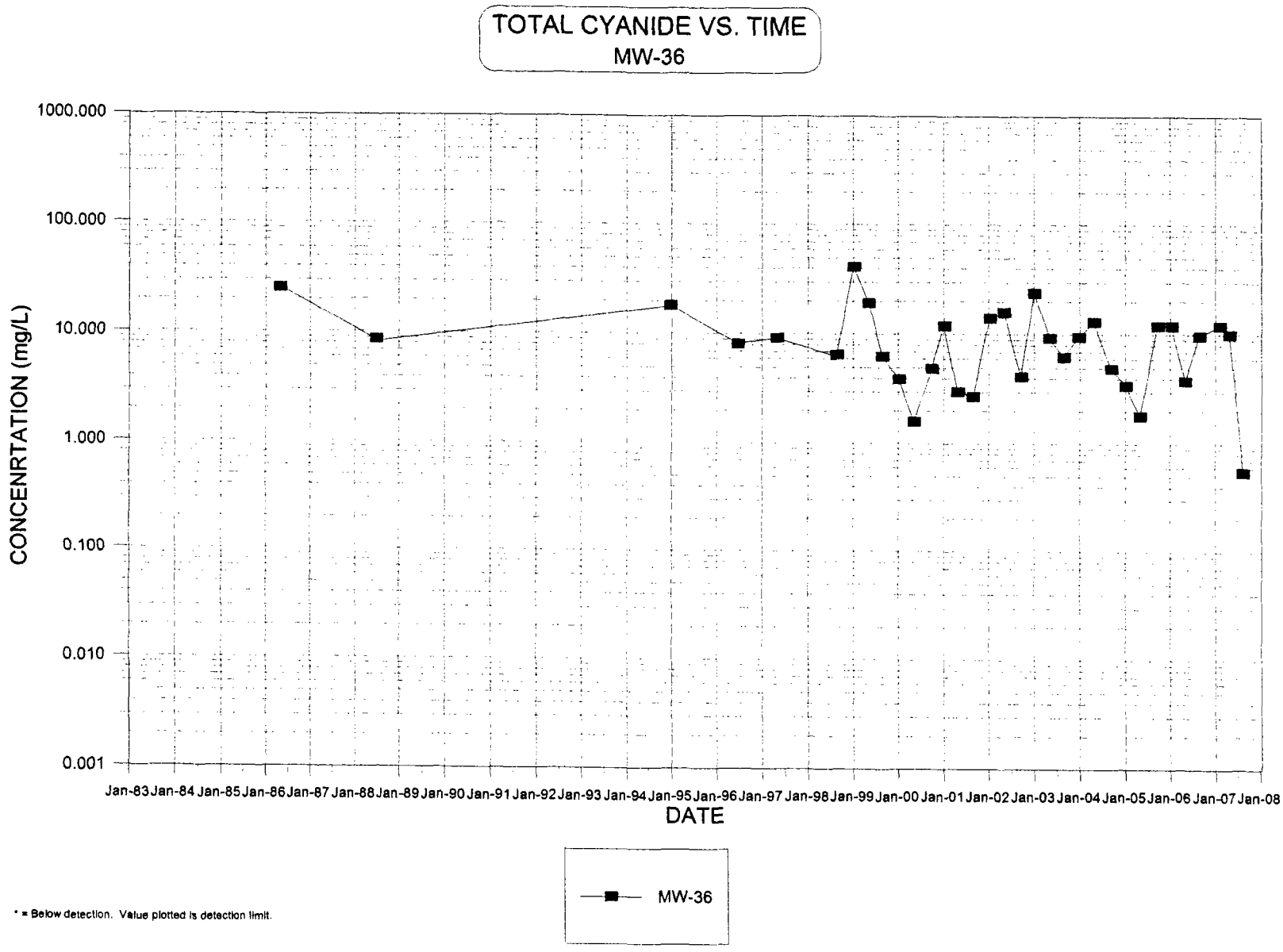
* = Below detection. Value plotted is detection limit.



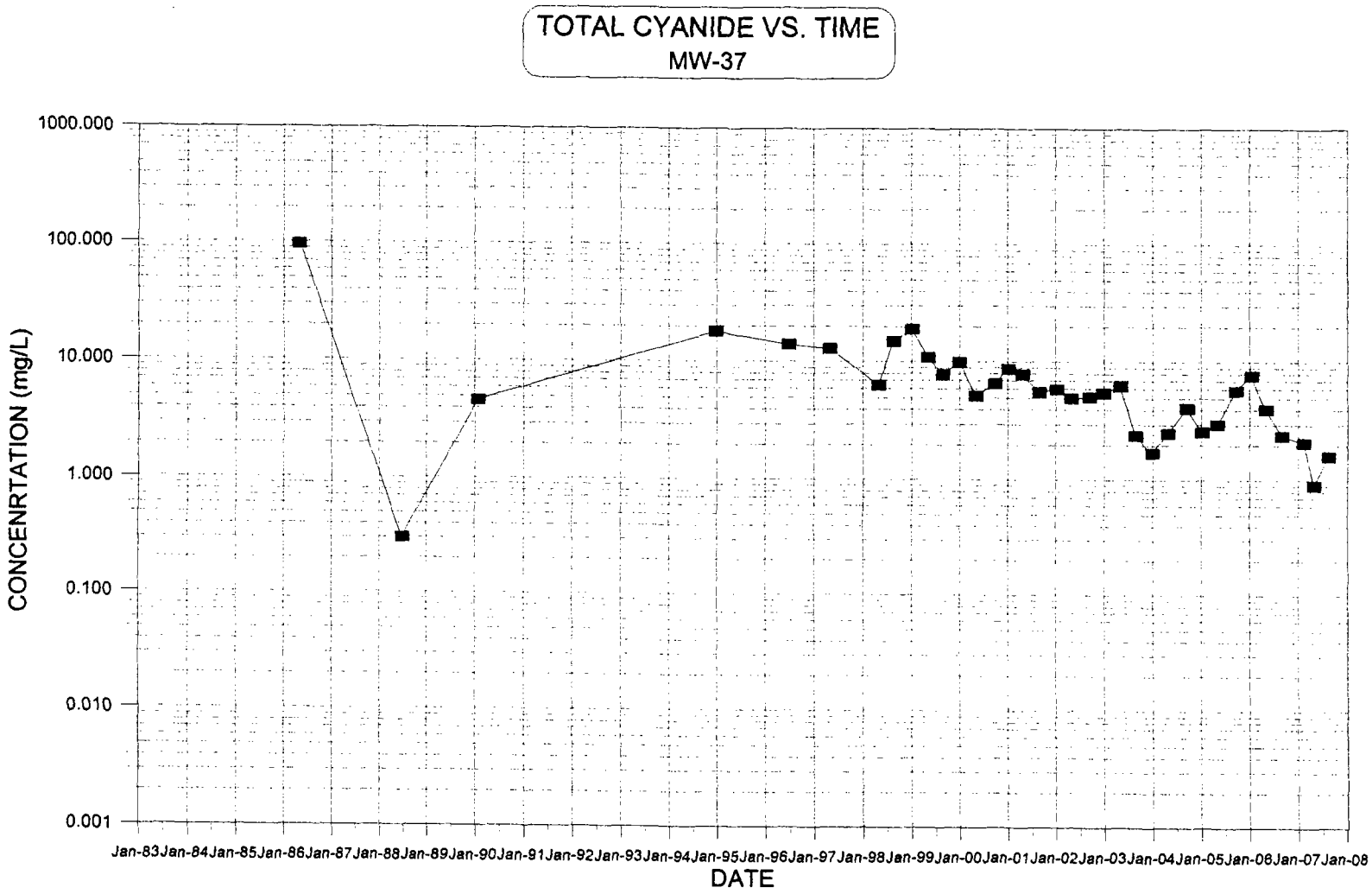
* = Below detection. Value plotted is detection limit.



* = Below detection. Value plotted is detection limit.



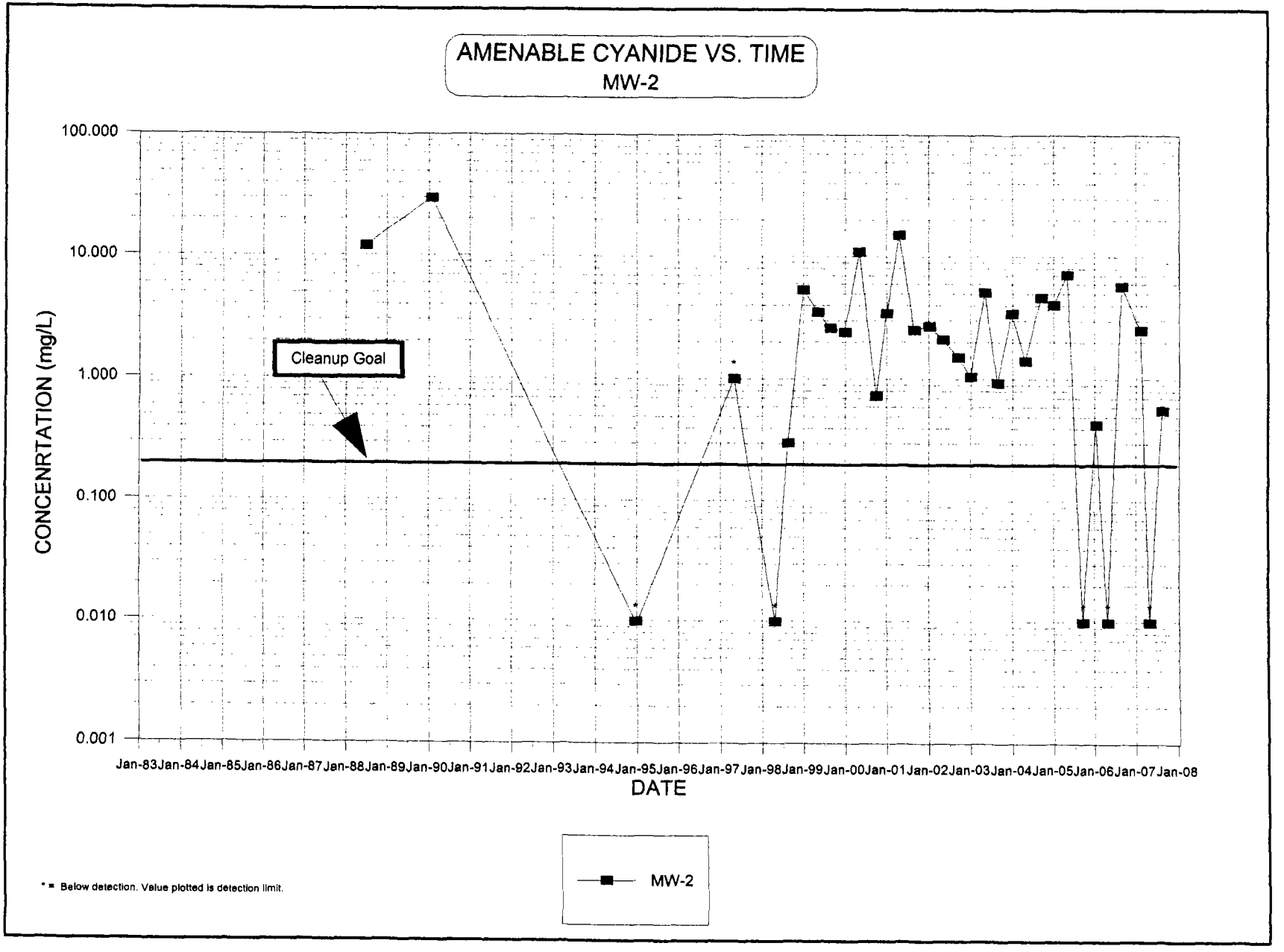
* = Below detection. Value plotted is detection limit.

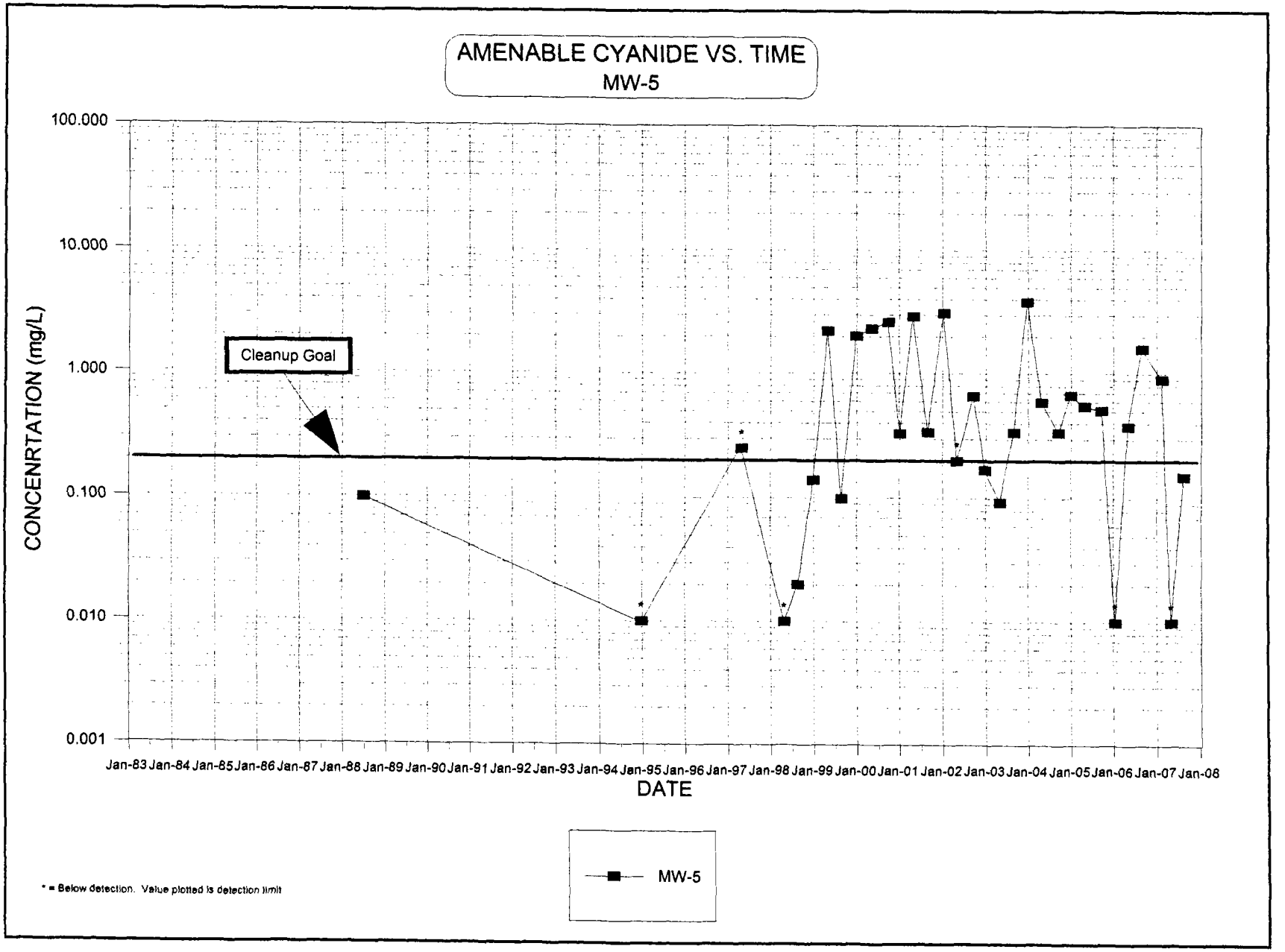


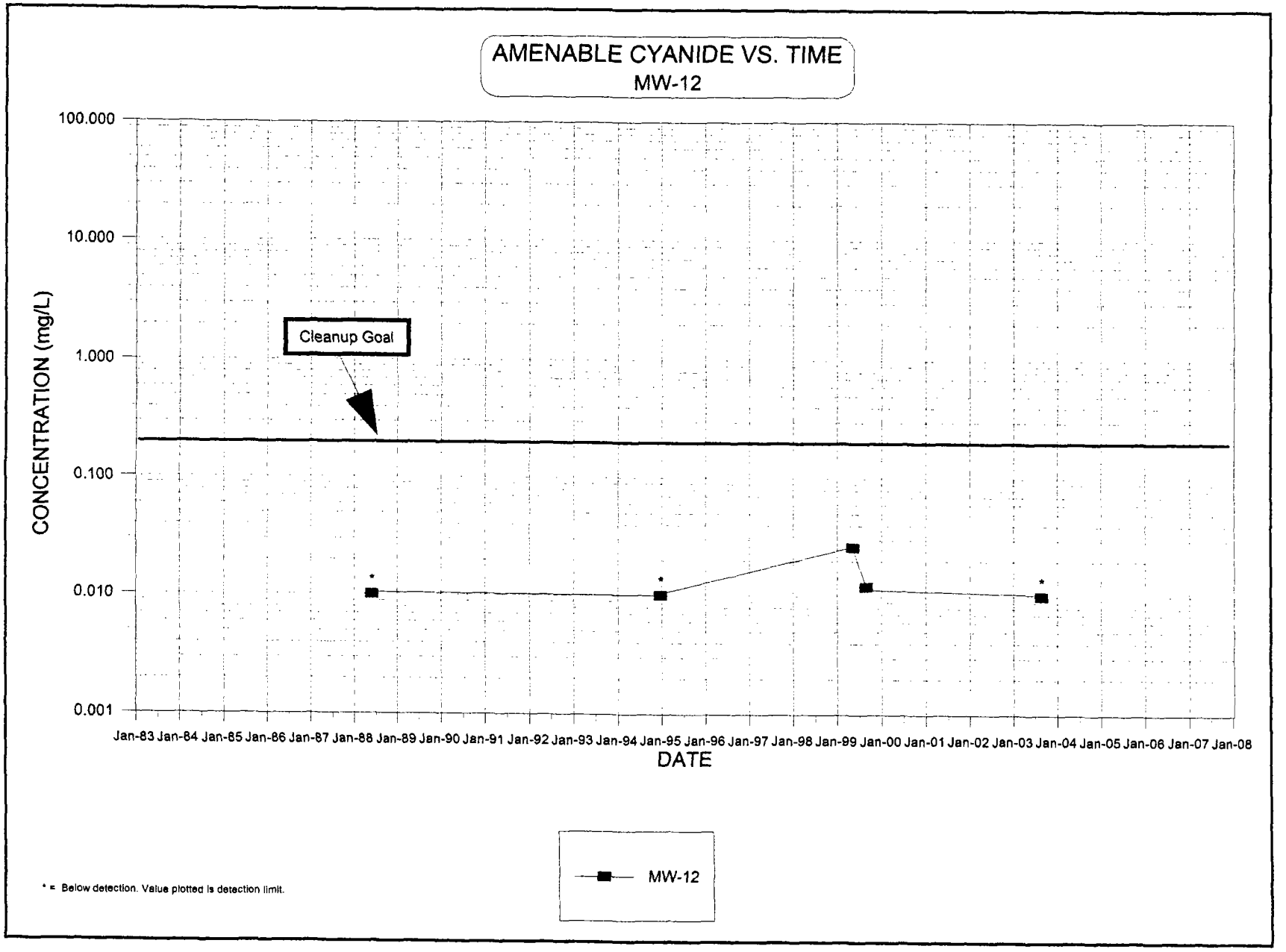
* = Below detection. Value plotted is detection limit.

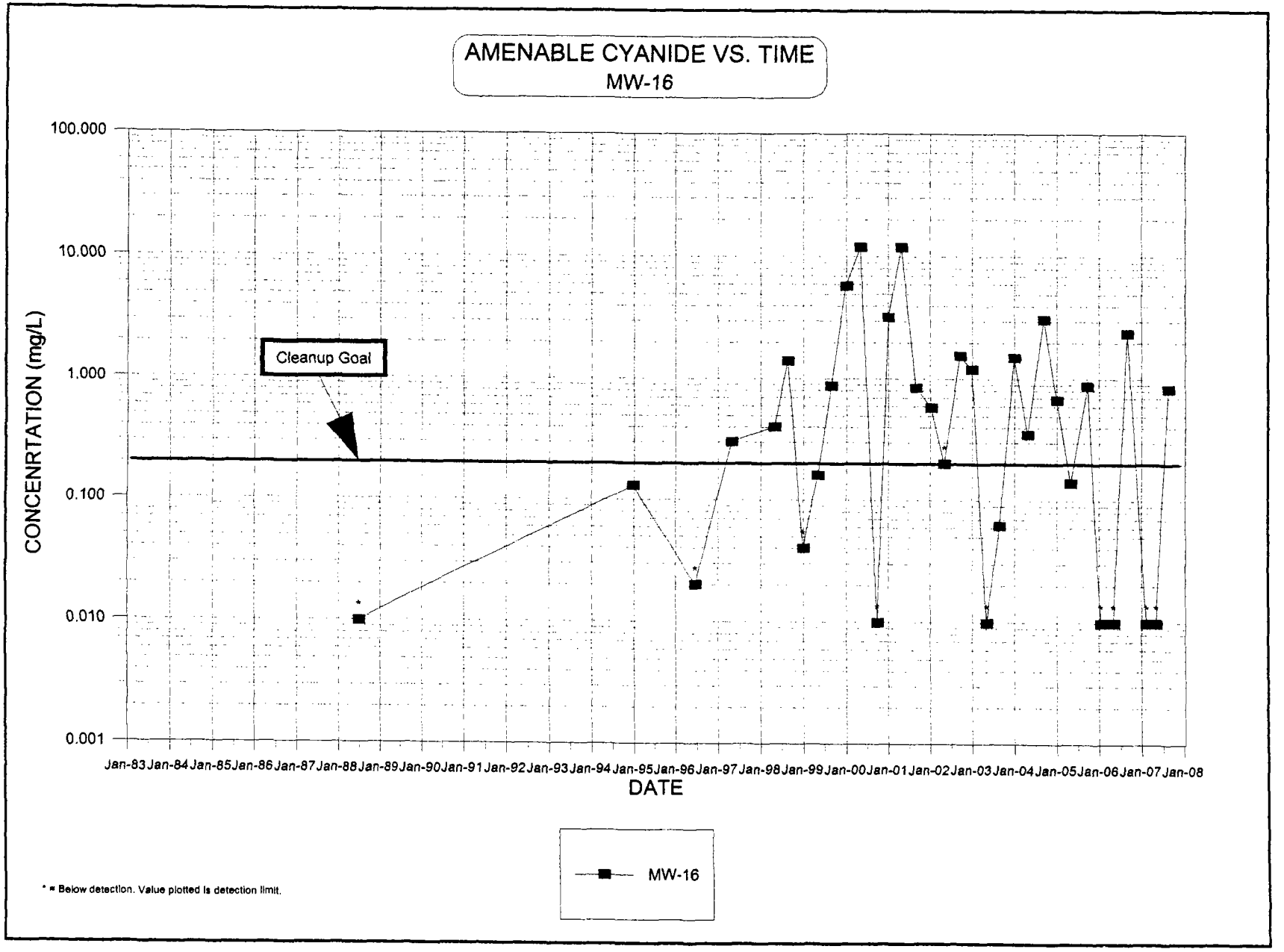
APPENDIX D-2

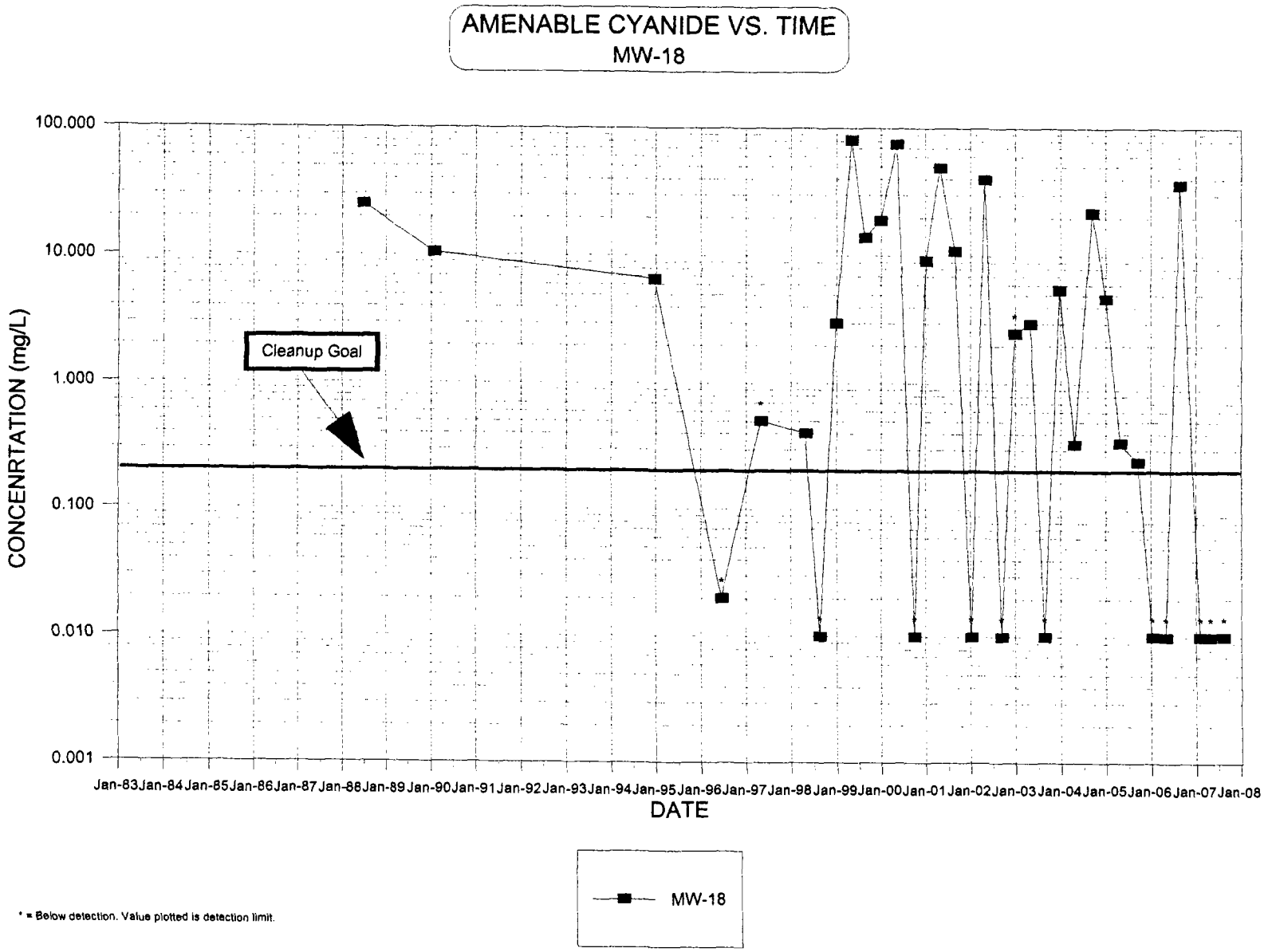
CYANIDE AMENABLE TO CHLORINATION


AMENABLE CYANIDE VS. TIME
MW-2
100.000
10.000
1.000
0.100
0.010
0.001
CONCENRTATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-2
* = Below detection. Value plotted is detection limit.

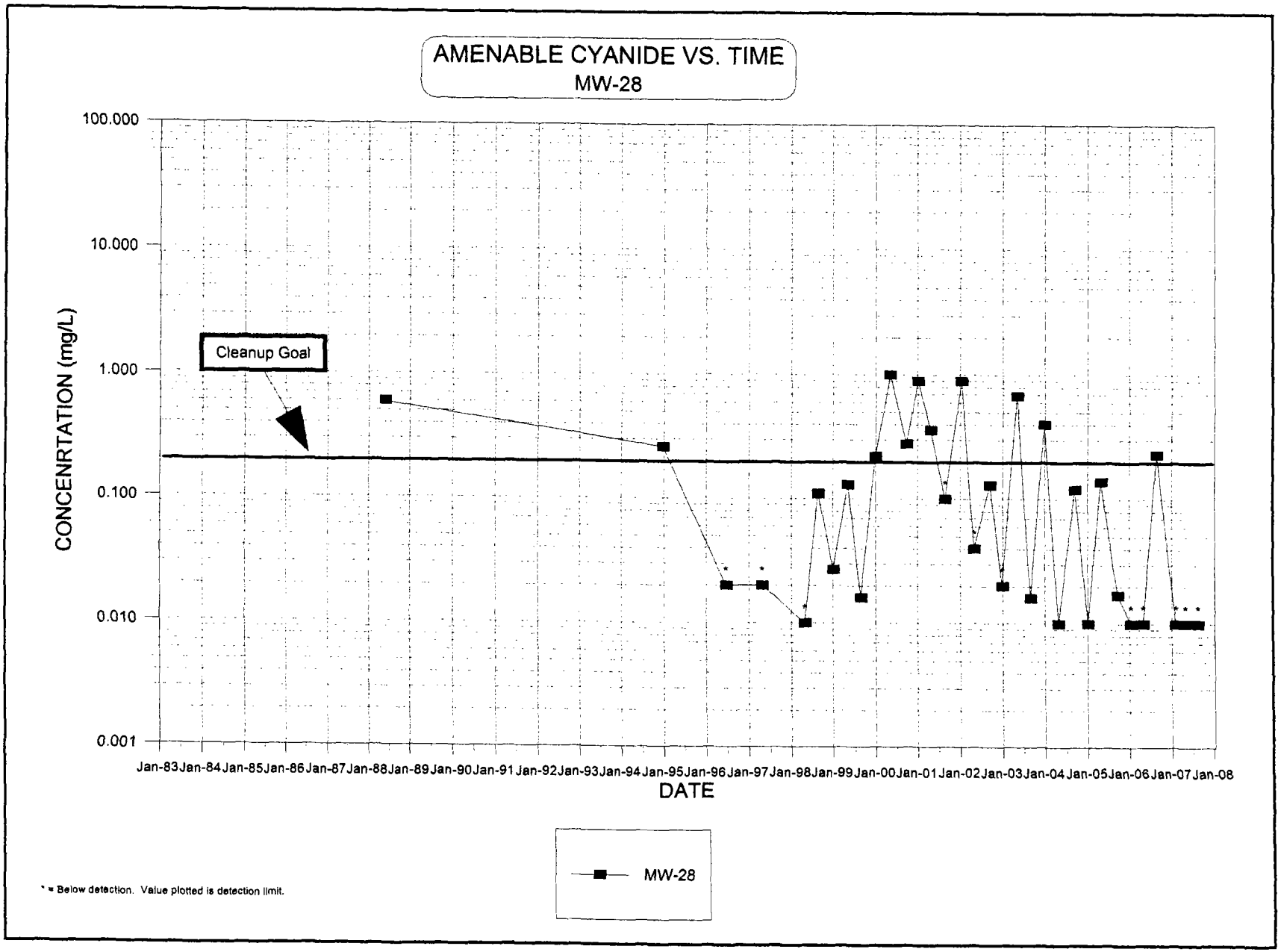

AMENABLE CYANIDE VS. TIME
MW-5
CONCENRTATION (mg/L)
100.000
10.000
1.000
0.100
0.010
0.001
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-5
* = Below detection. Value plotted is detection limit

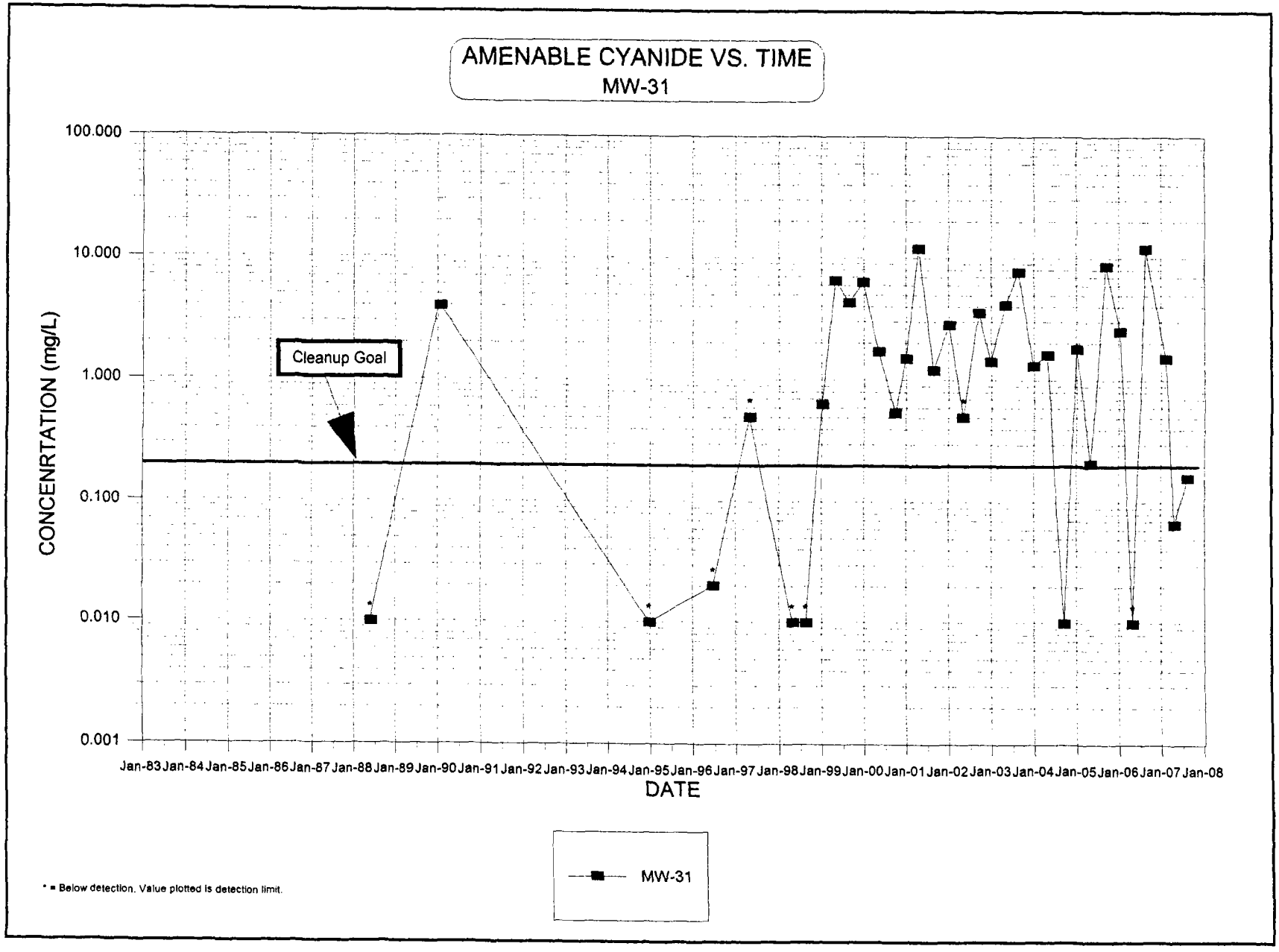

AMENABLE CYANIDE VS. TIME
MW-12
CONCENTRATION (mg/L)
100.000
10.000
1.000
0.100
0.010
0.001
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-12
* = Below detection. Value plotted is detection limit.

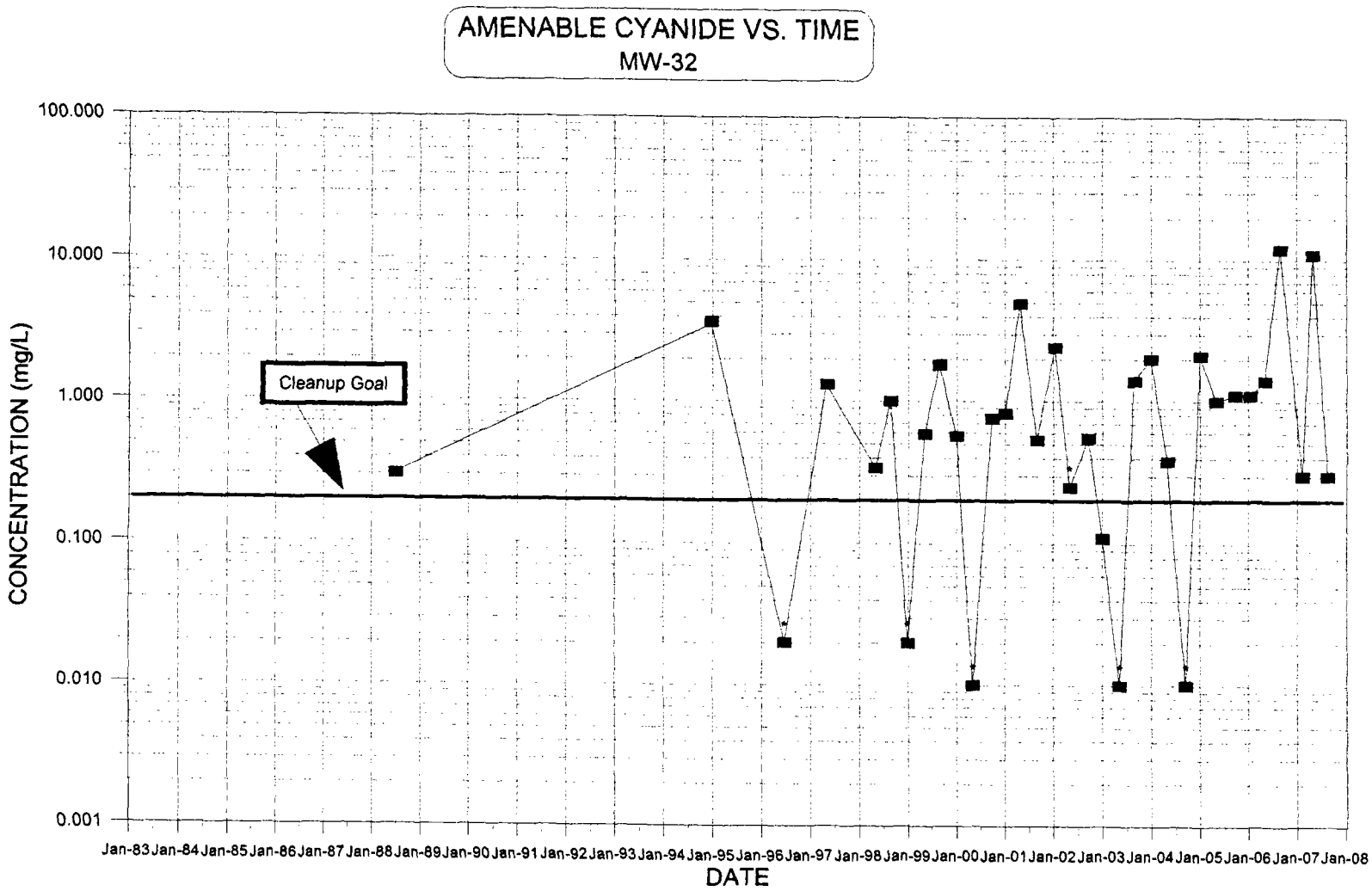

AMENABLE CYANIDE VS. TIME
MW-16
CONCENRTATION (mg/L)
100.000
10.000
1.000
0.100
0.010
0.001
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-16
* = Below detection. Value plotted is detection limit.



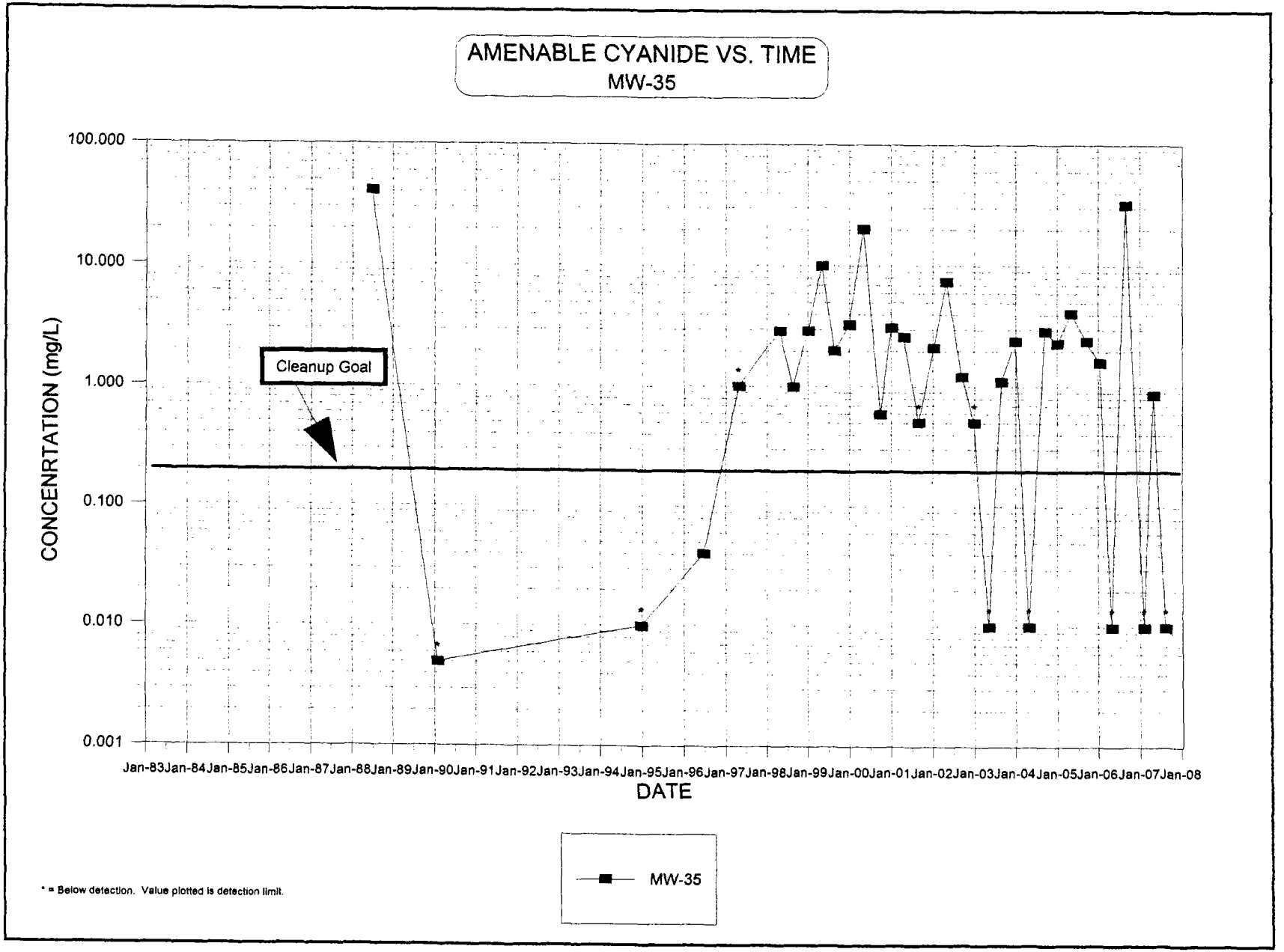
* = Below detection. Value plotted is detection limit.

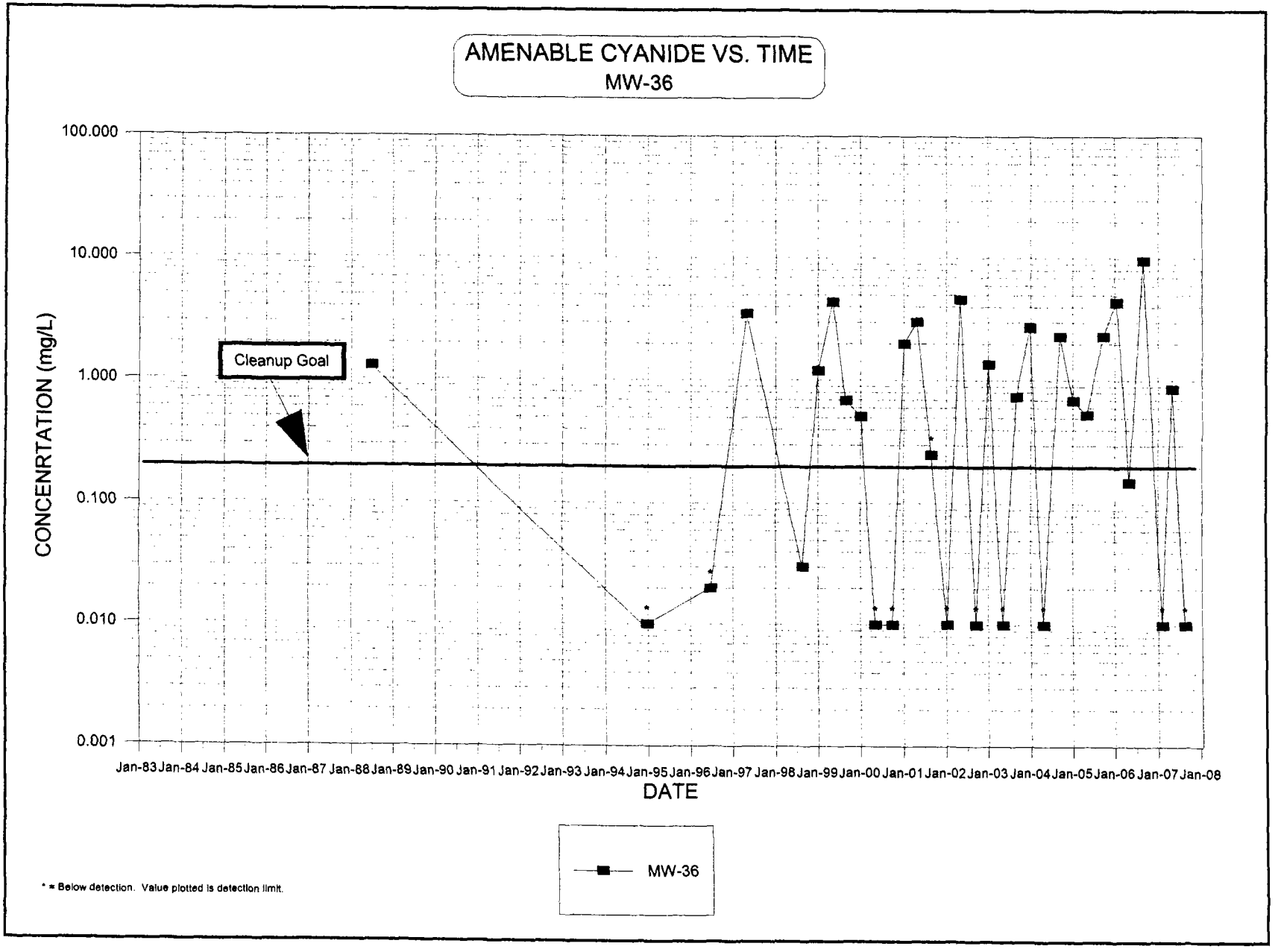

AMENABLE CYANIDE VS. TIME
MW-28
100.000
10.000
1.000
0.100
0.010
0.001
CONCENRTATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-28
* = Below detection. Value plotted is detection limit.

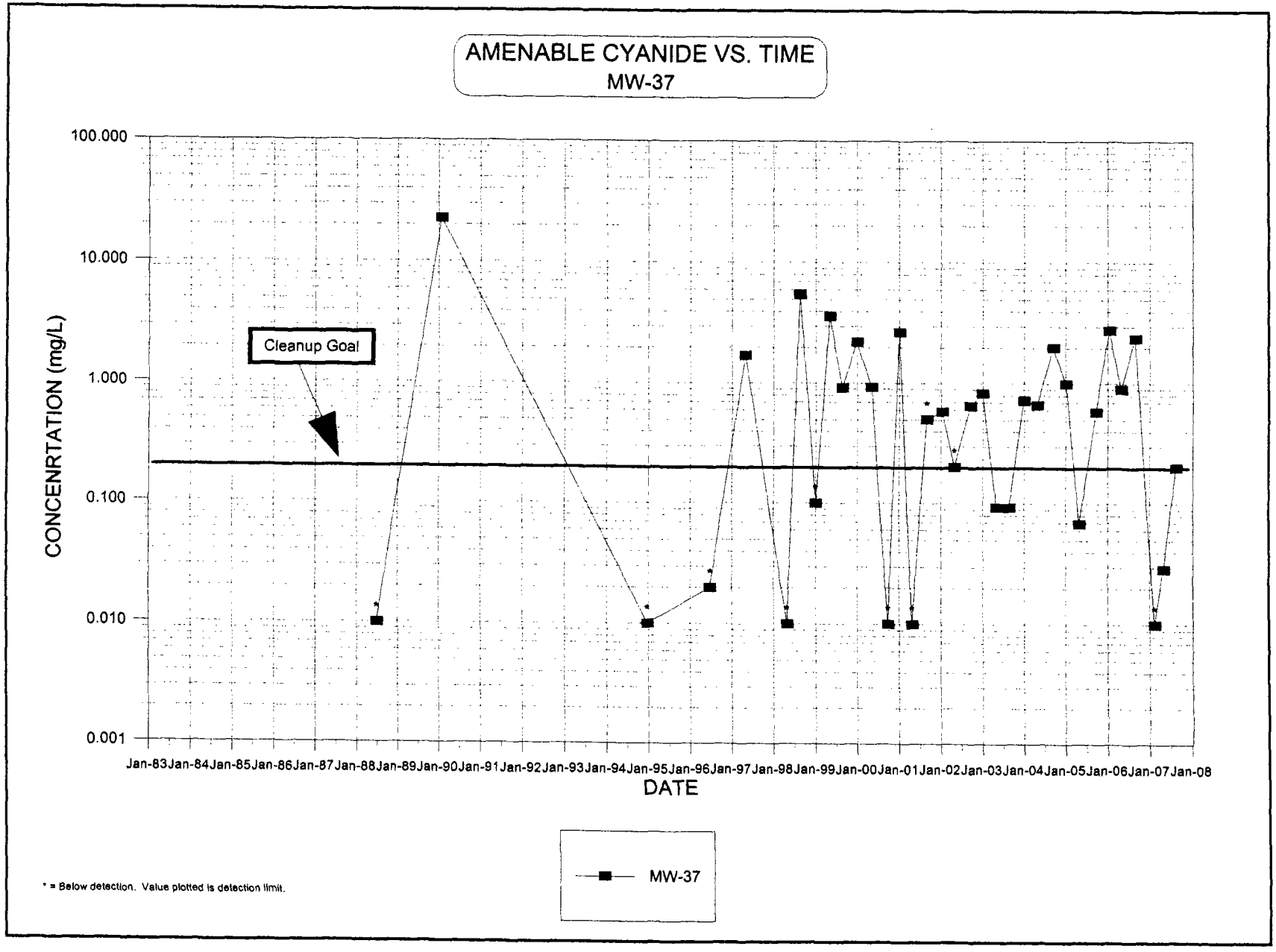

AMENABLE CYANIDE VS. TIME
MW-31
100.000
10.000
1.000
0.100
0.010
0.001
CONCENRTATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-31
* = Below detection. Value plotted is detection limit.



* = Below detection. Value plotted is detection limit.

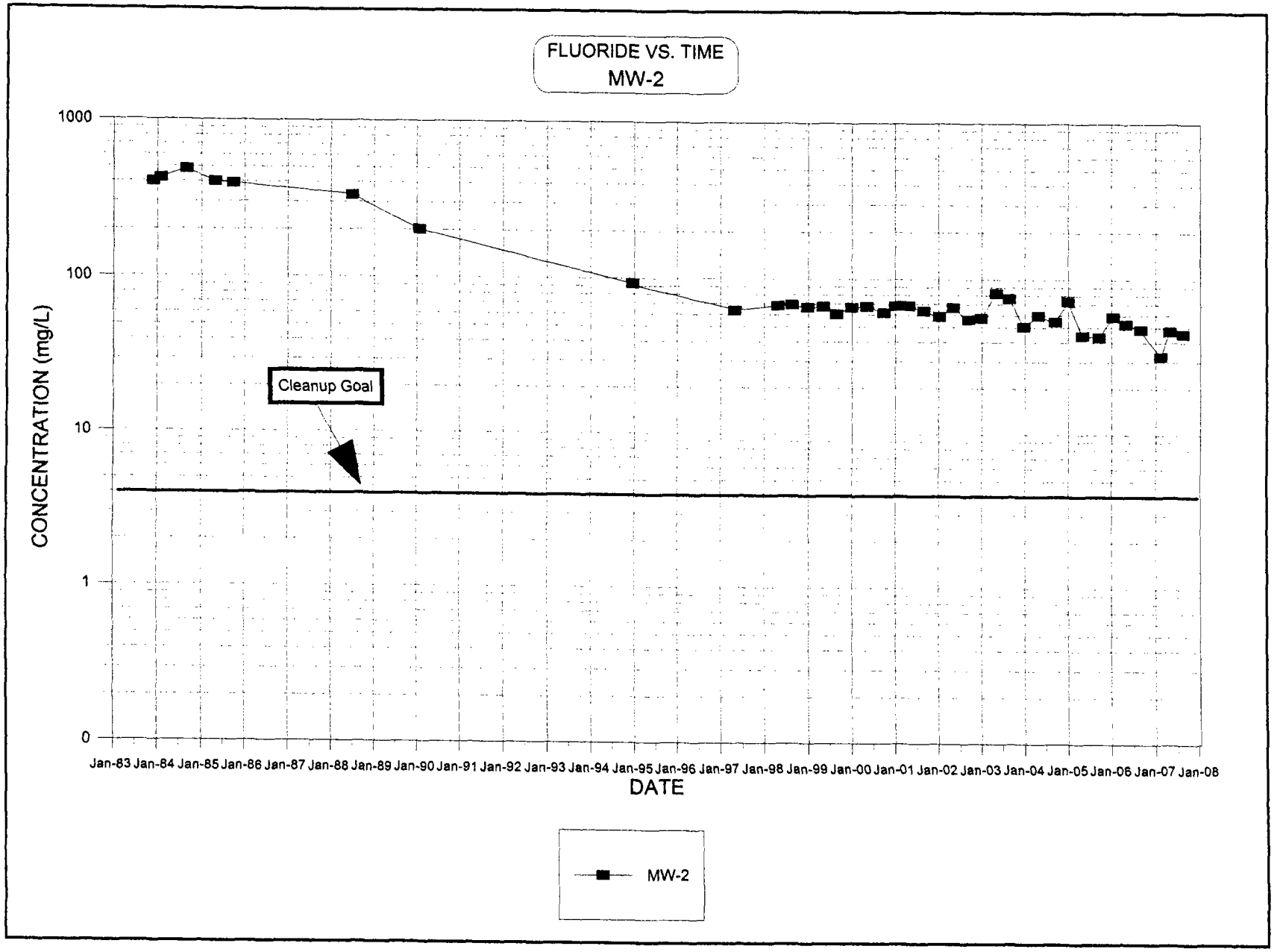

AMENABLE CYANIDE VS. TIME
MW-35
CONCENRTATION (mg/L)
100.000
10.000
1.000
0.100
0.010
0.001
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-35
* = Below detection. Value plotted is detection limit.

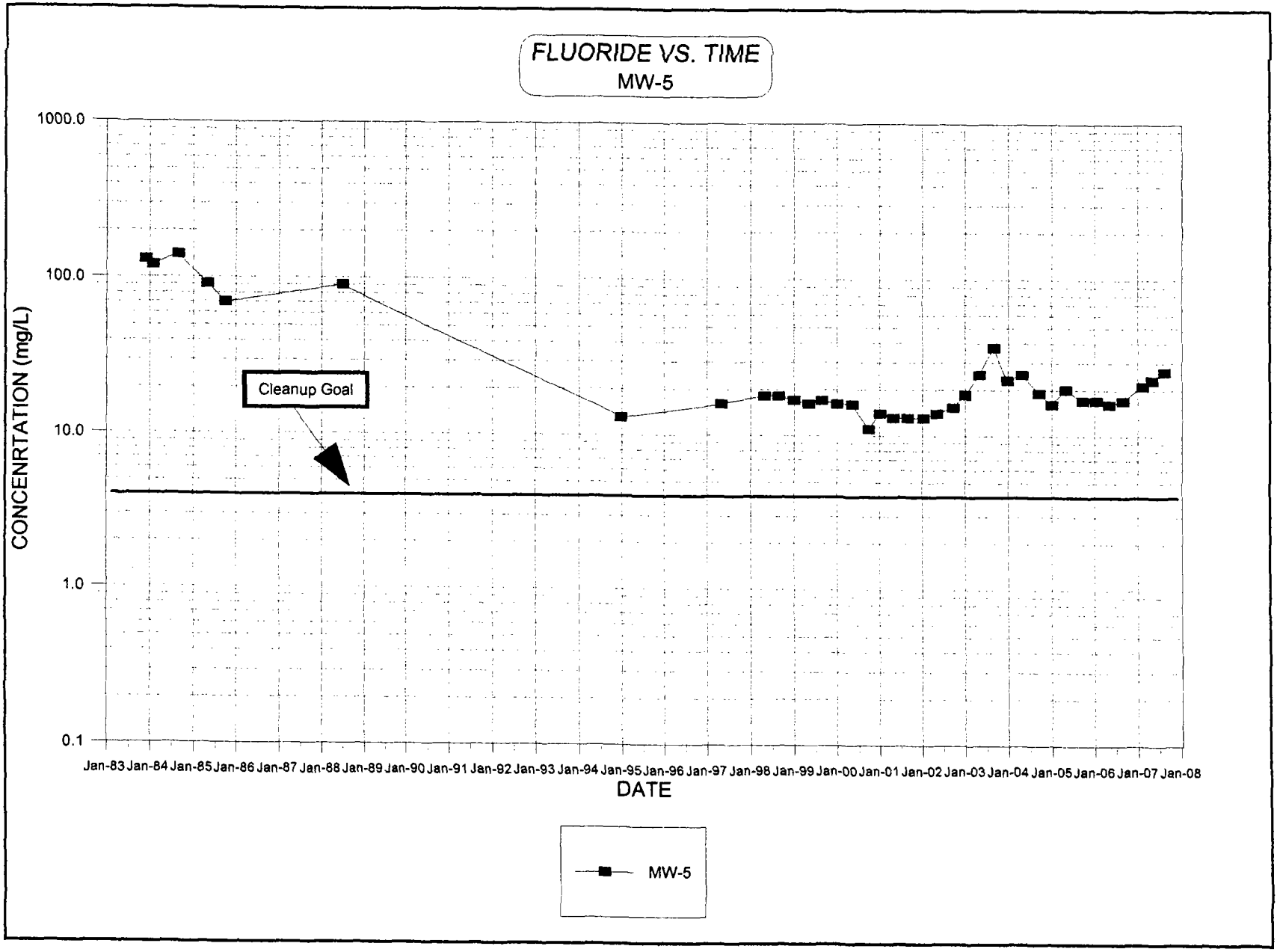

AMENABLE CYANIDE VS. TIME
MW-36
100.000
10.000
1.000
0.100
0.010
0.001
CONCENRTATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-36
* = Below detection. Value plotted is detection limit.

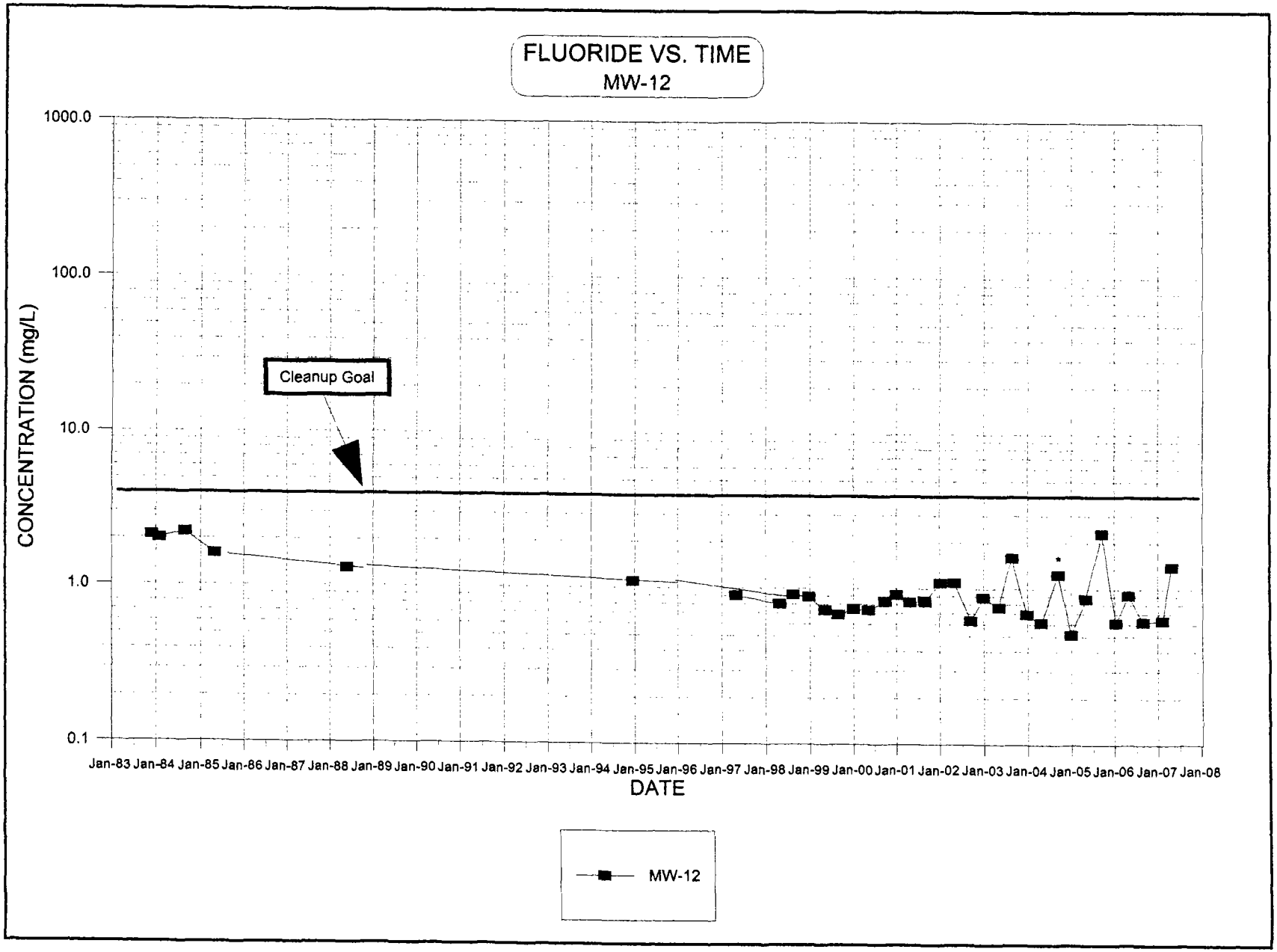

AMENABLE CYANIDE VS. TIME
MW-37
100.000
10.000
1.000
0.100
0.010
0.001
CONCENRTATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-37
* = Below detection. Value plotted is detection limit.

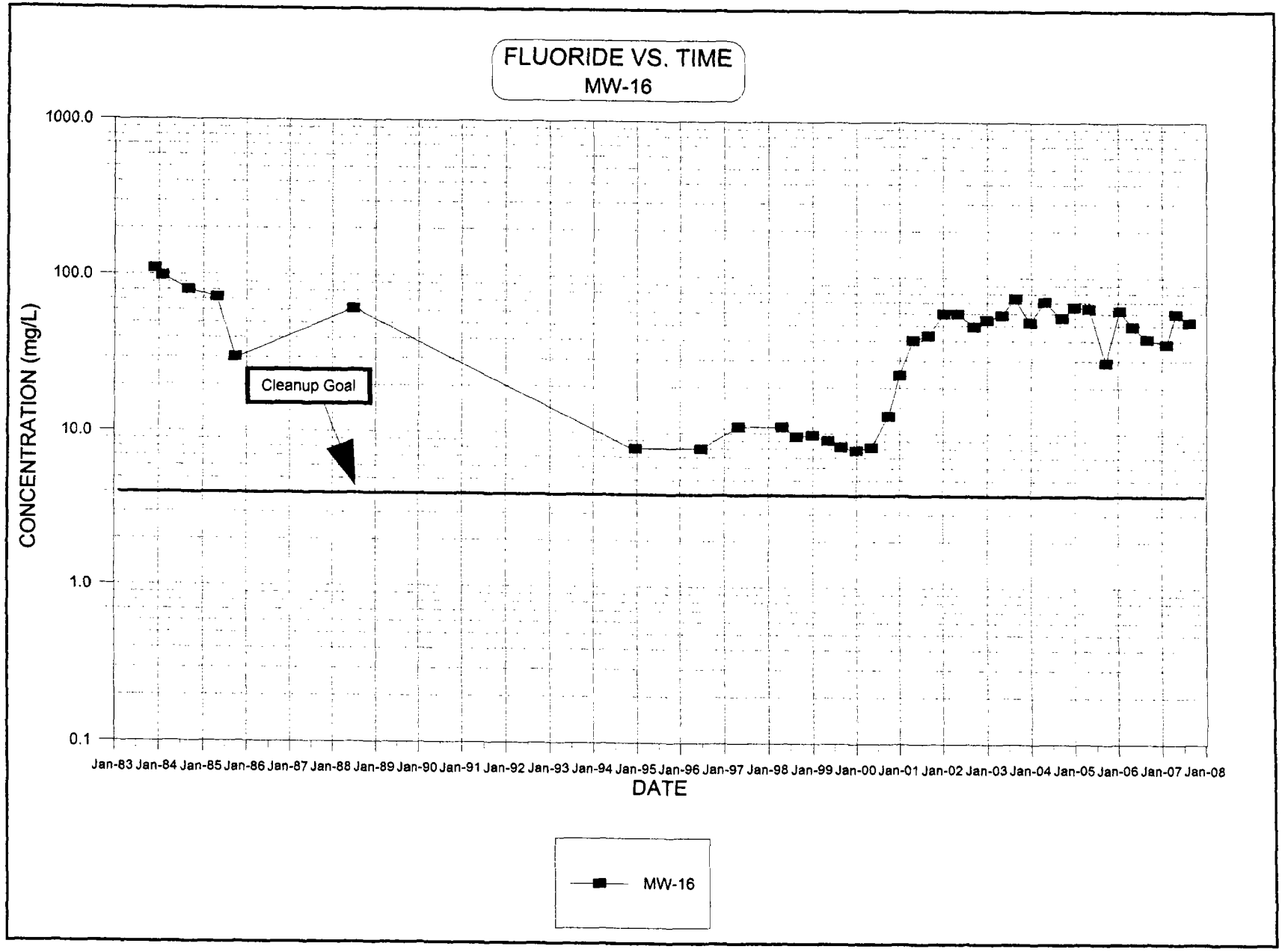
APPENDIX D-3

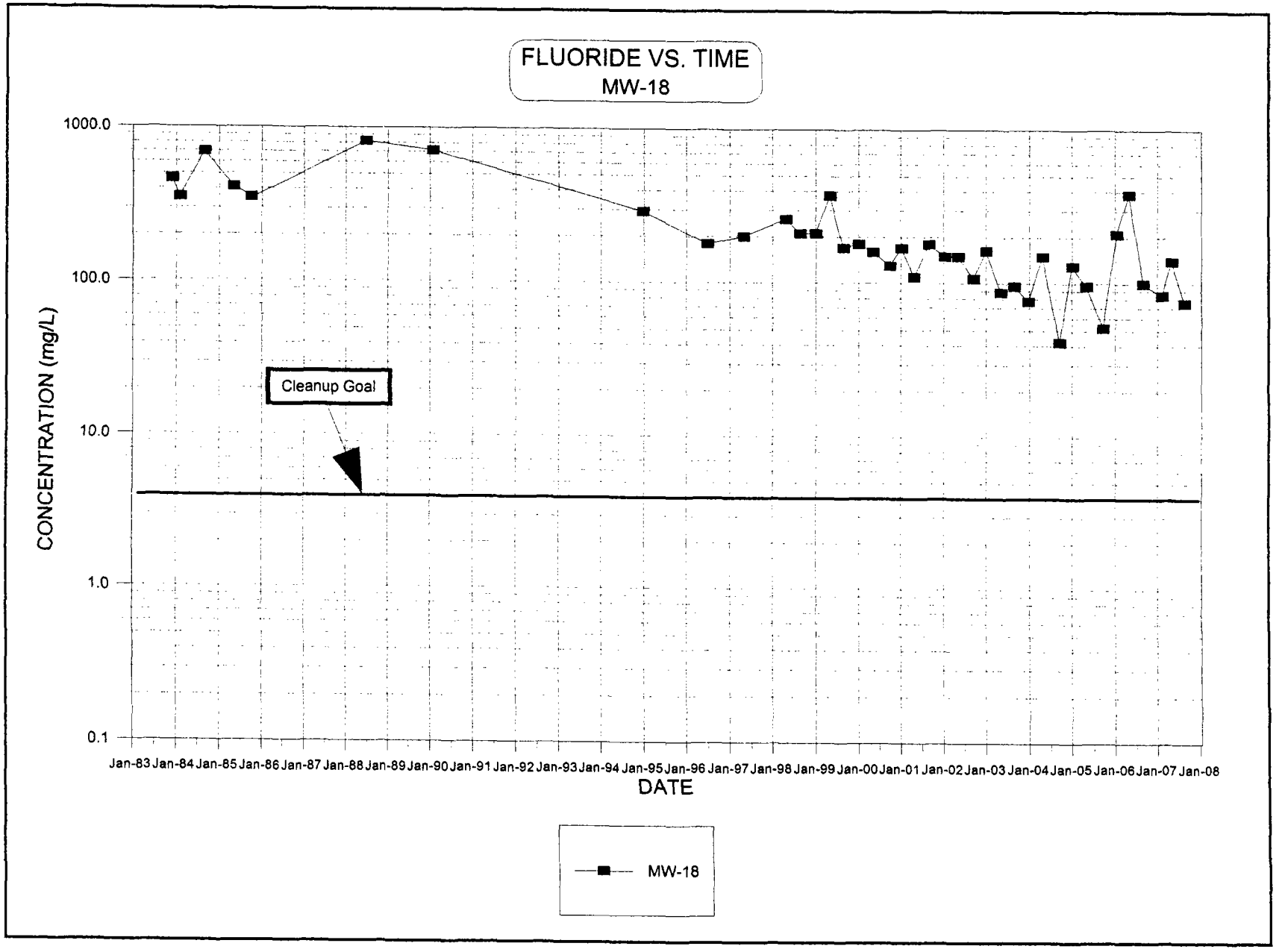
FLUORIDE

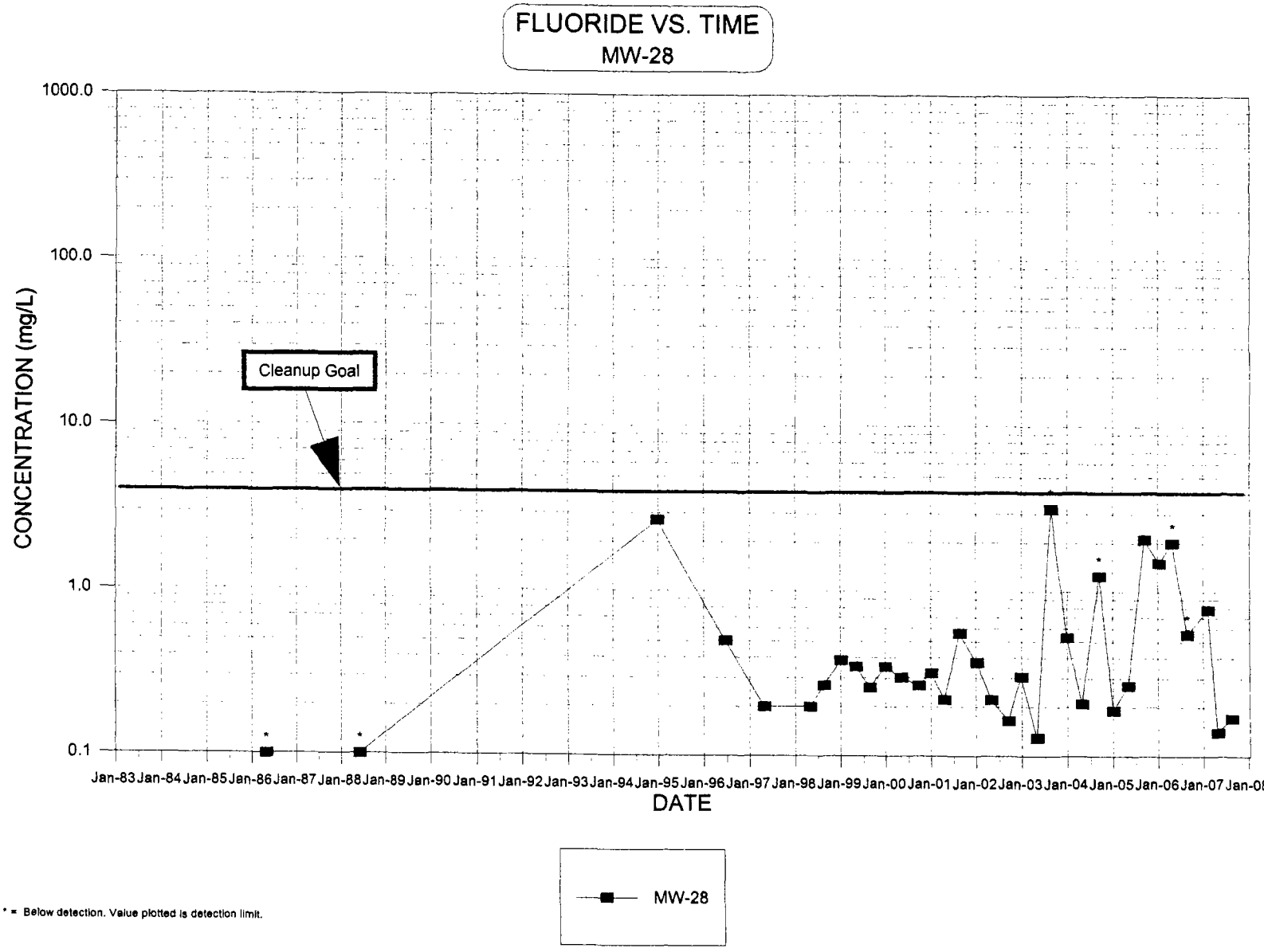

FLUORIDE VS. TIME
MW-2
CONCENTRATION (mg/L)
1000
100
10
1
0
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-2


FLUORIDE VS. TIME
MW-5
1000.0
100.0
10.0
1.0
0.1
CONCENRTATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-5

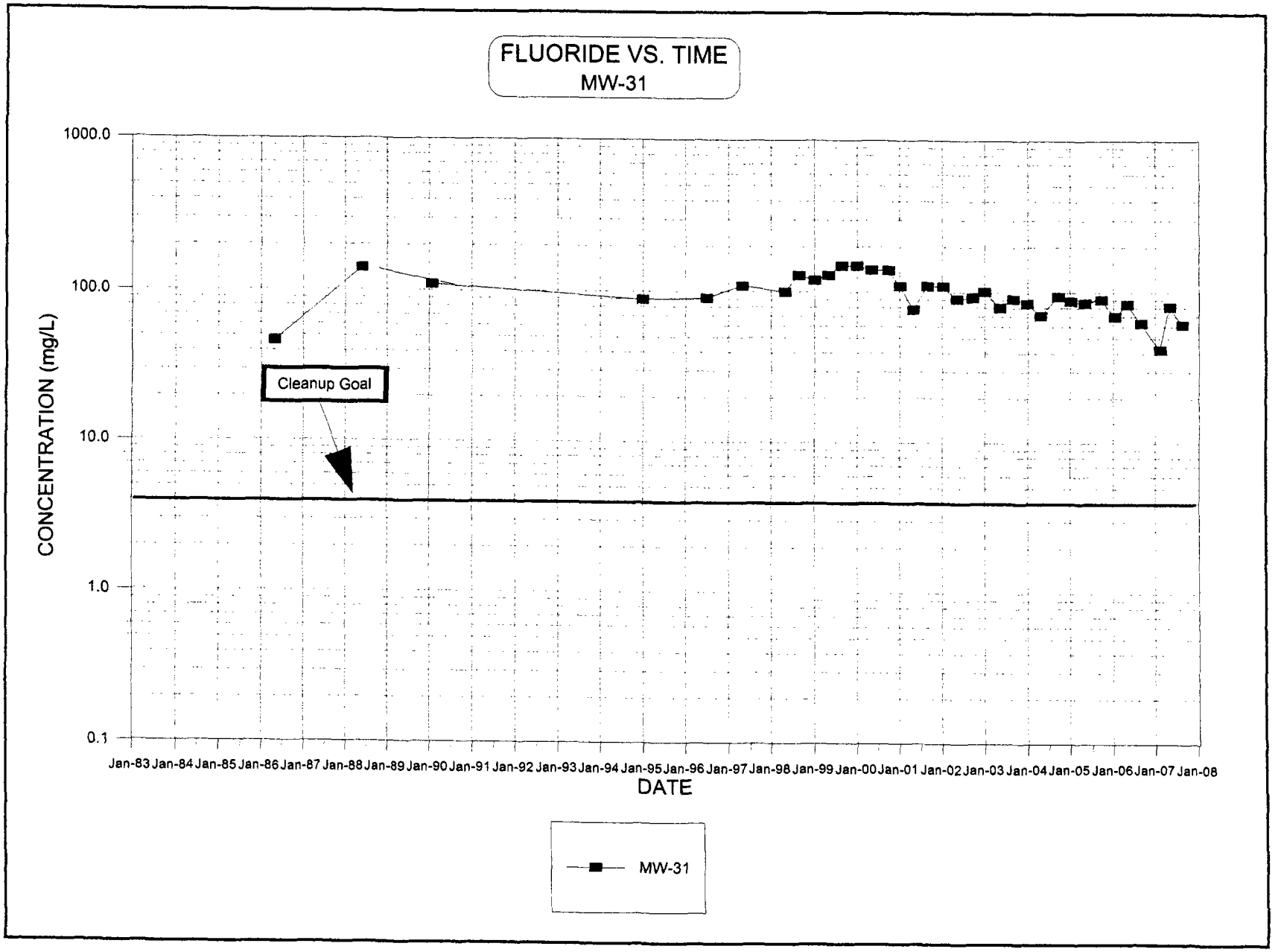

FLUORIDE VS. TIME
MW-12
1000.0
100.0
10.0
1.0
0.1
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-12

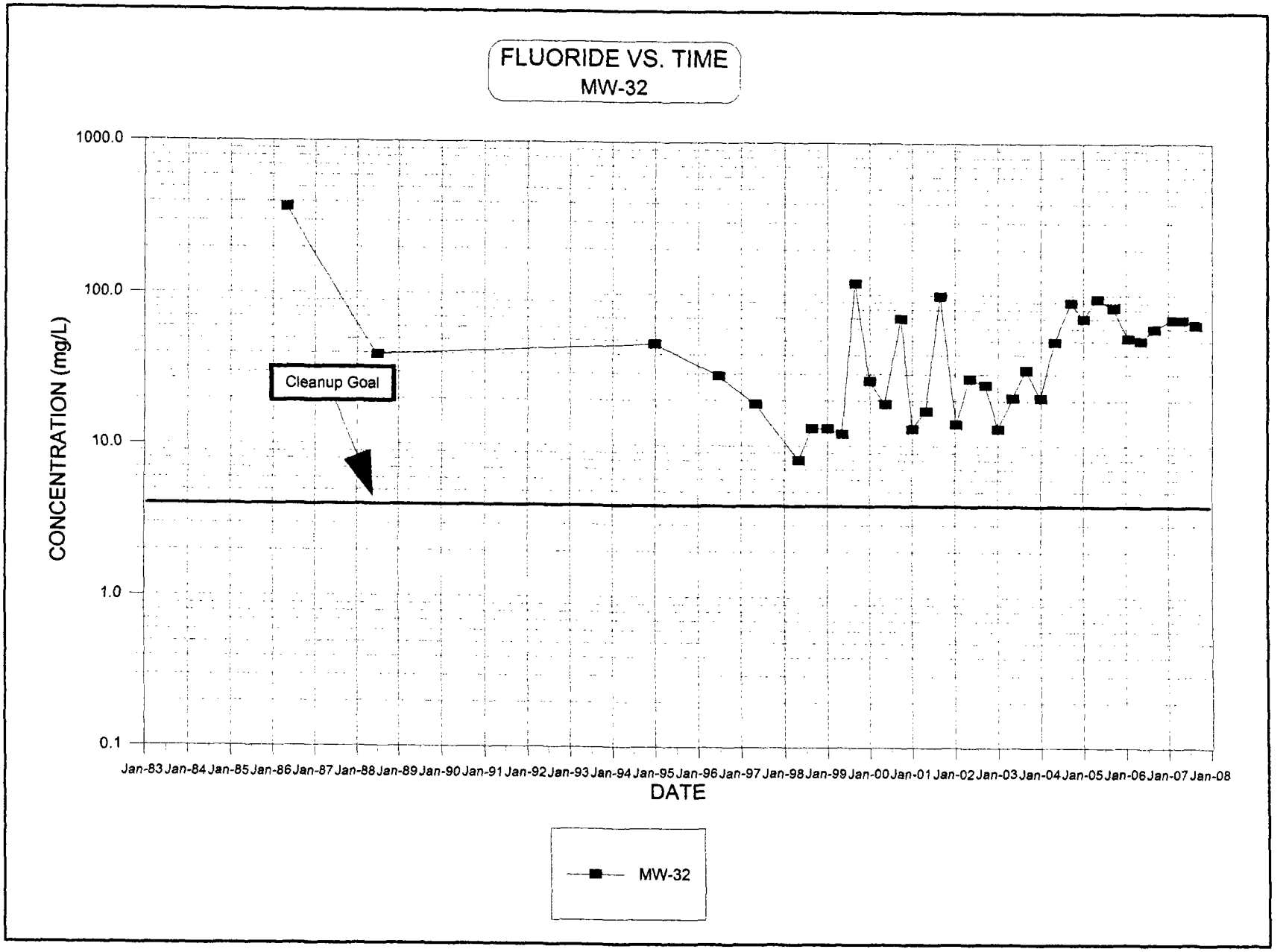

FLUORIDE VS. TIME
MW-16
1000.0
100.0
10.0
1.0
0.1
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-16

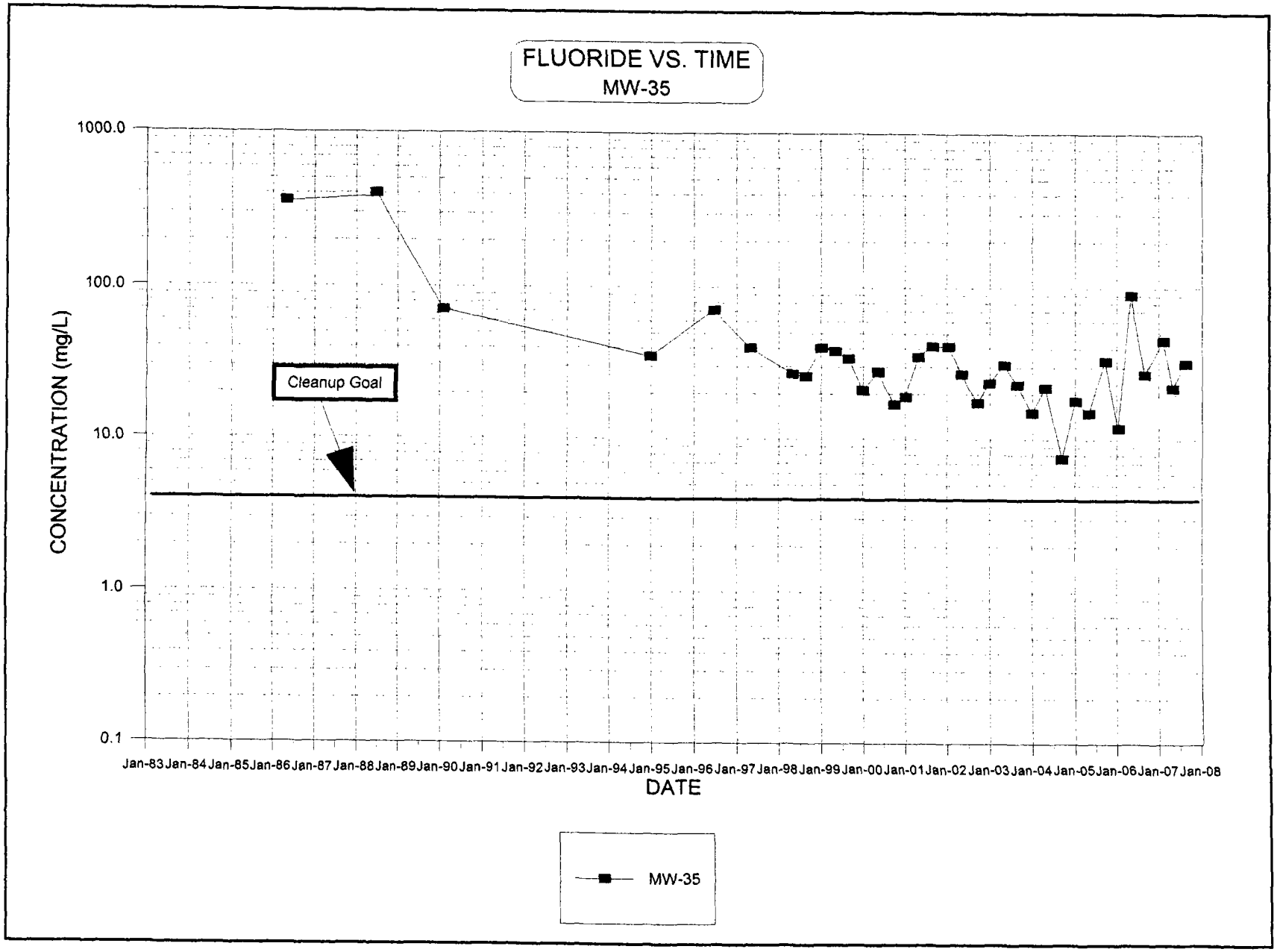

FLUORIDE VS. TIME
MW-18
1000.0
100.0
10.0
1.0
0.1
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-18

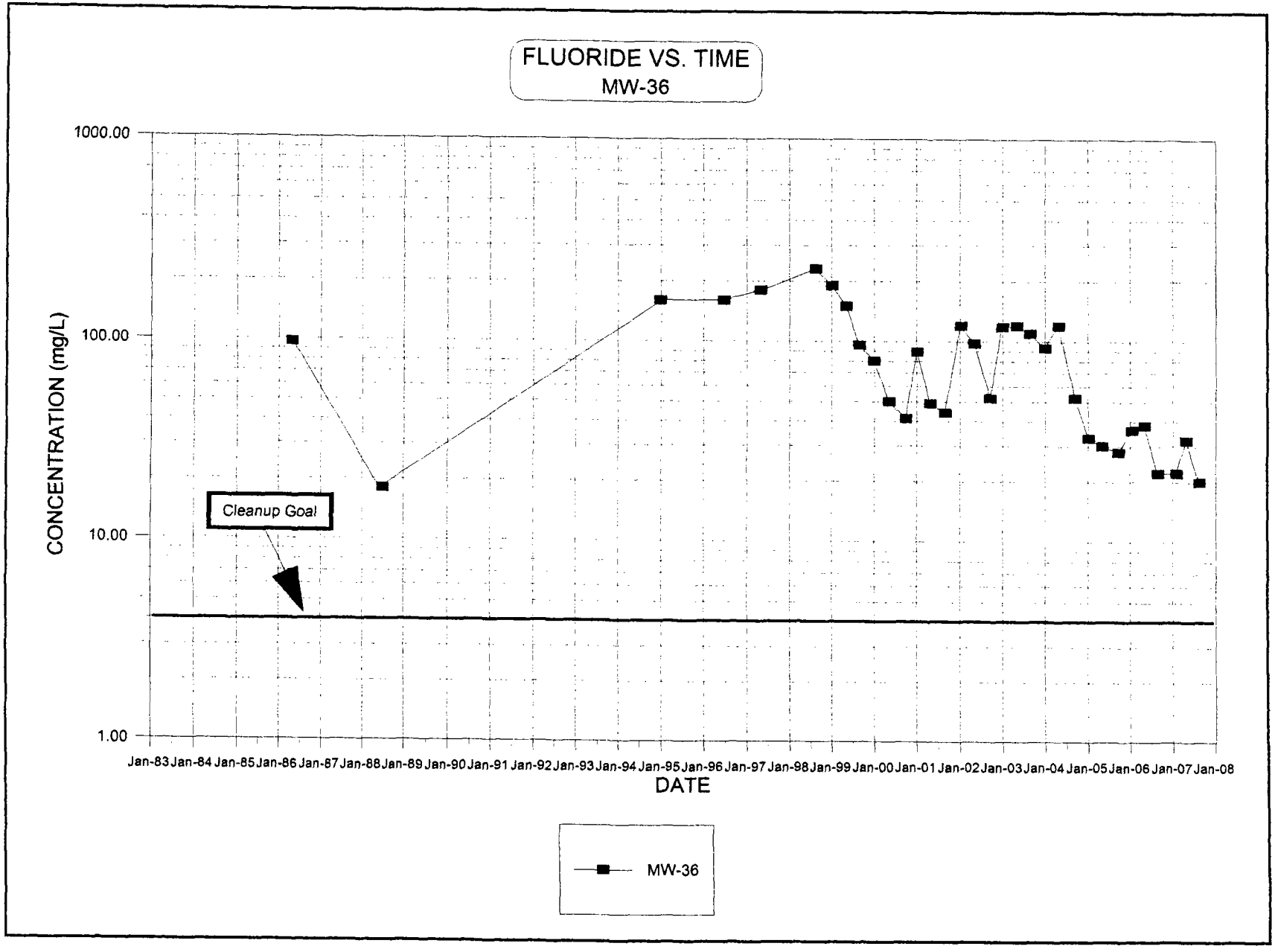


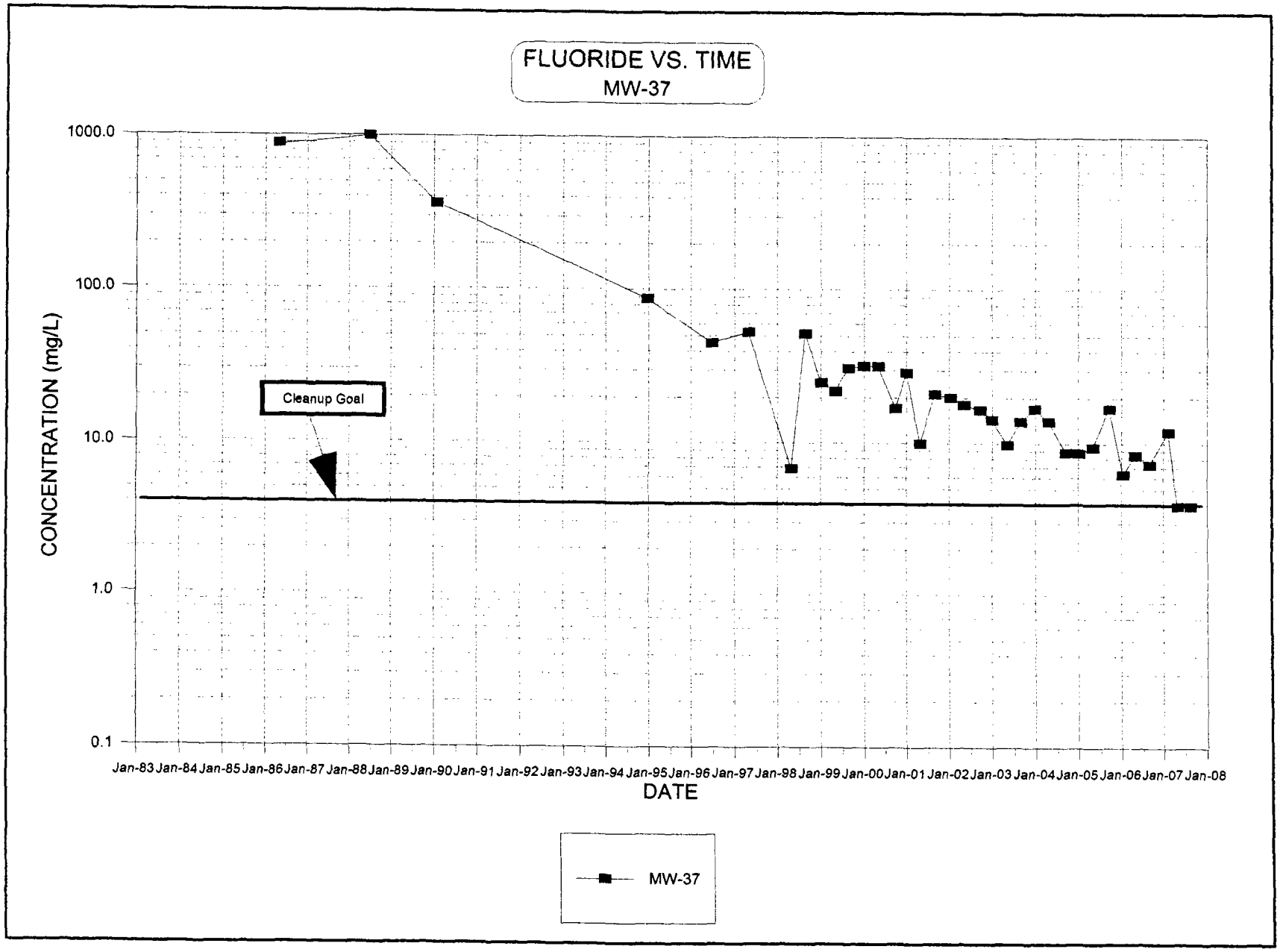
* = Below detection. Value plotted is detection limit.


FLUORIDE VS. TIME
MW-31
1000.0
100.0
10.0
1.0
0.1
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-31


FLUORIDE VS. TIME
MW-32
1000.0
100.0
10.0
1.0
0.1
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-32

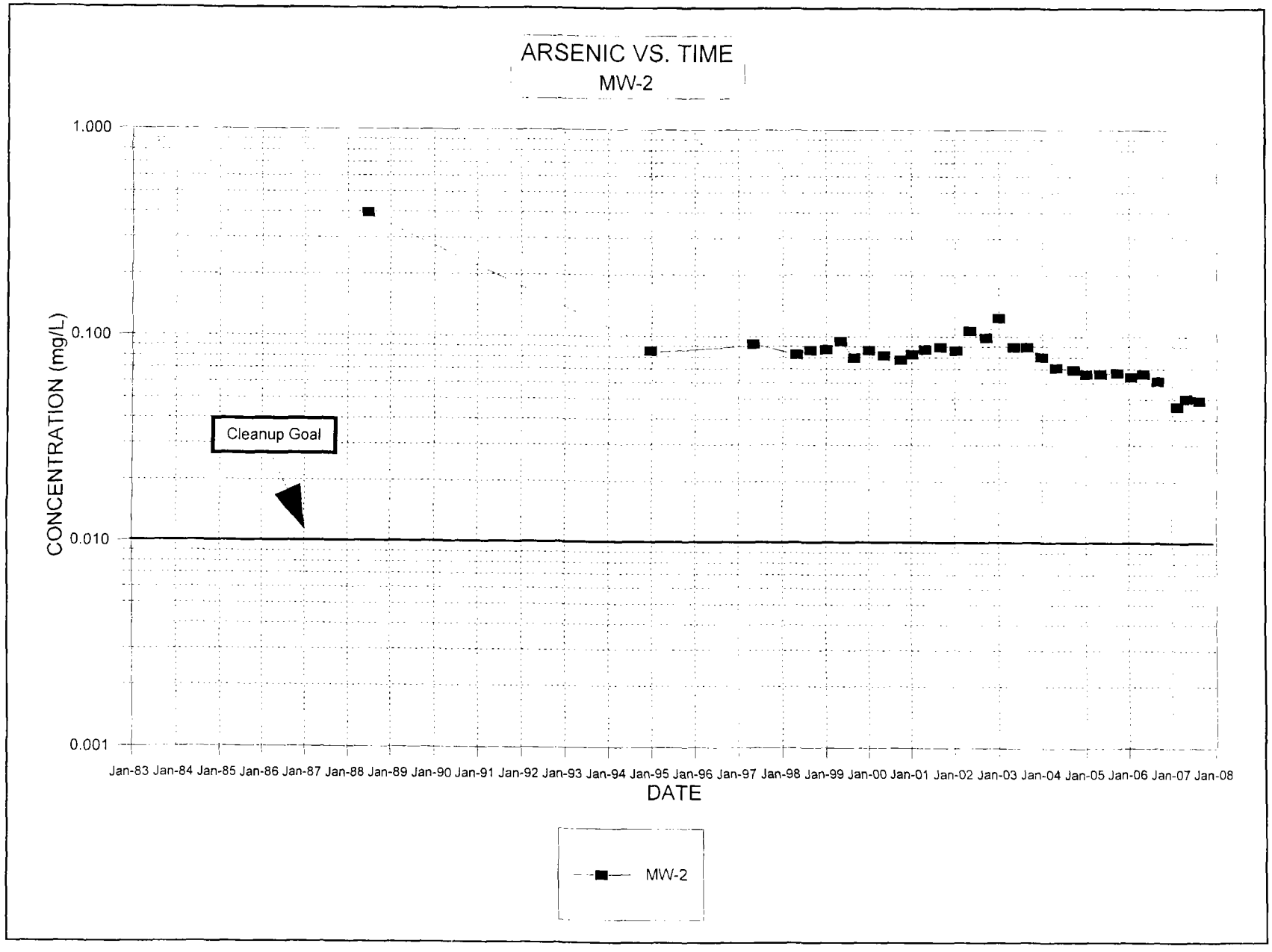

FLUORIDE VS. TIME
MW-35
1000.0
100.0
10.0
1.0
0.1
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-35

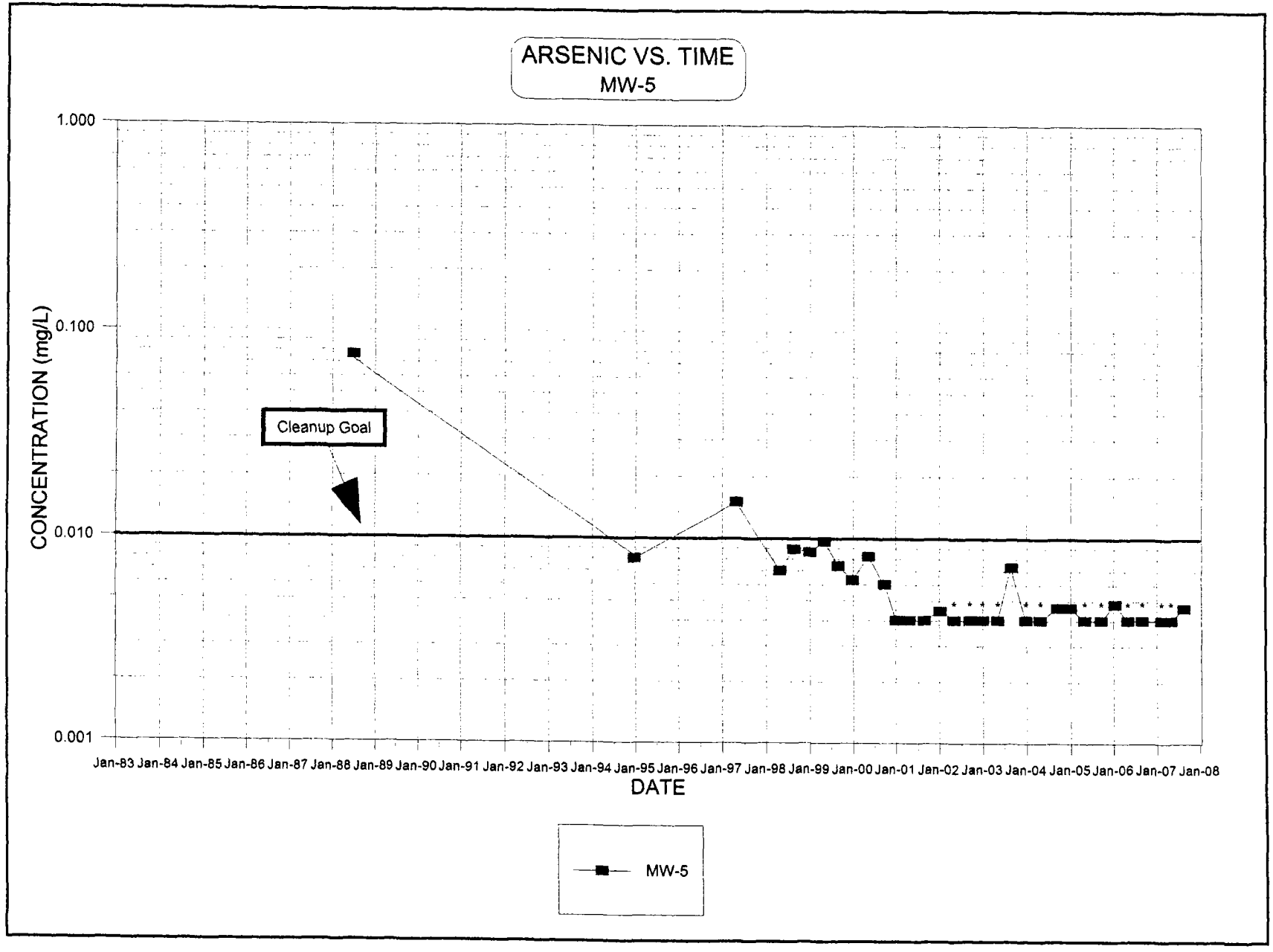

FLUORIDE VS. TIME
MW-36
1000.00
100.00
10.00
1.00
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-36

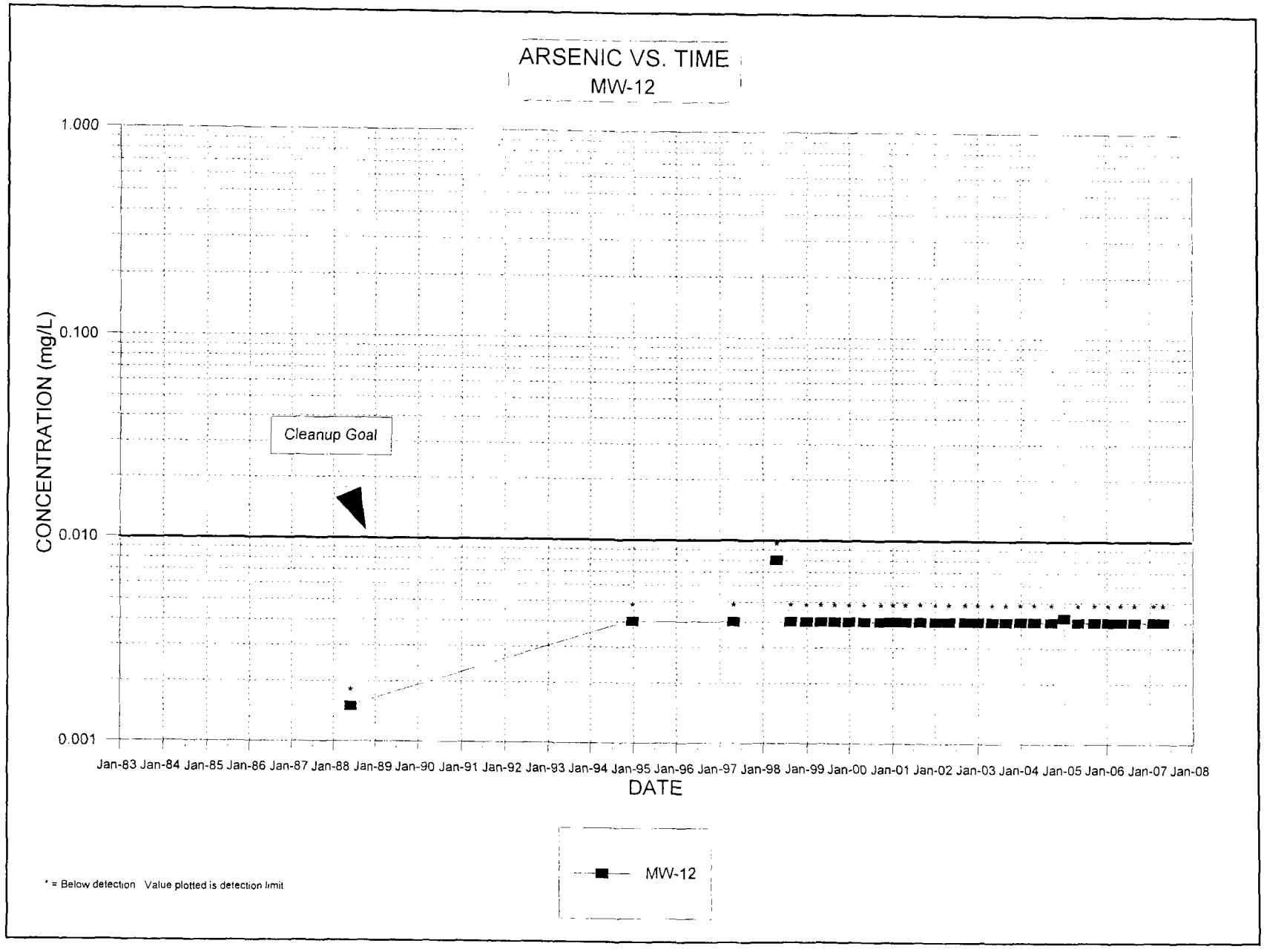

FLUORIDE VS. TIME
MW-37
1000.0
100.0
10.0
1.0
0.1
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-37

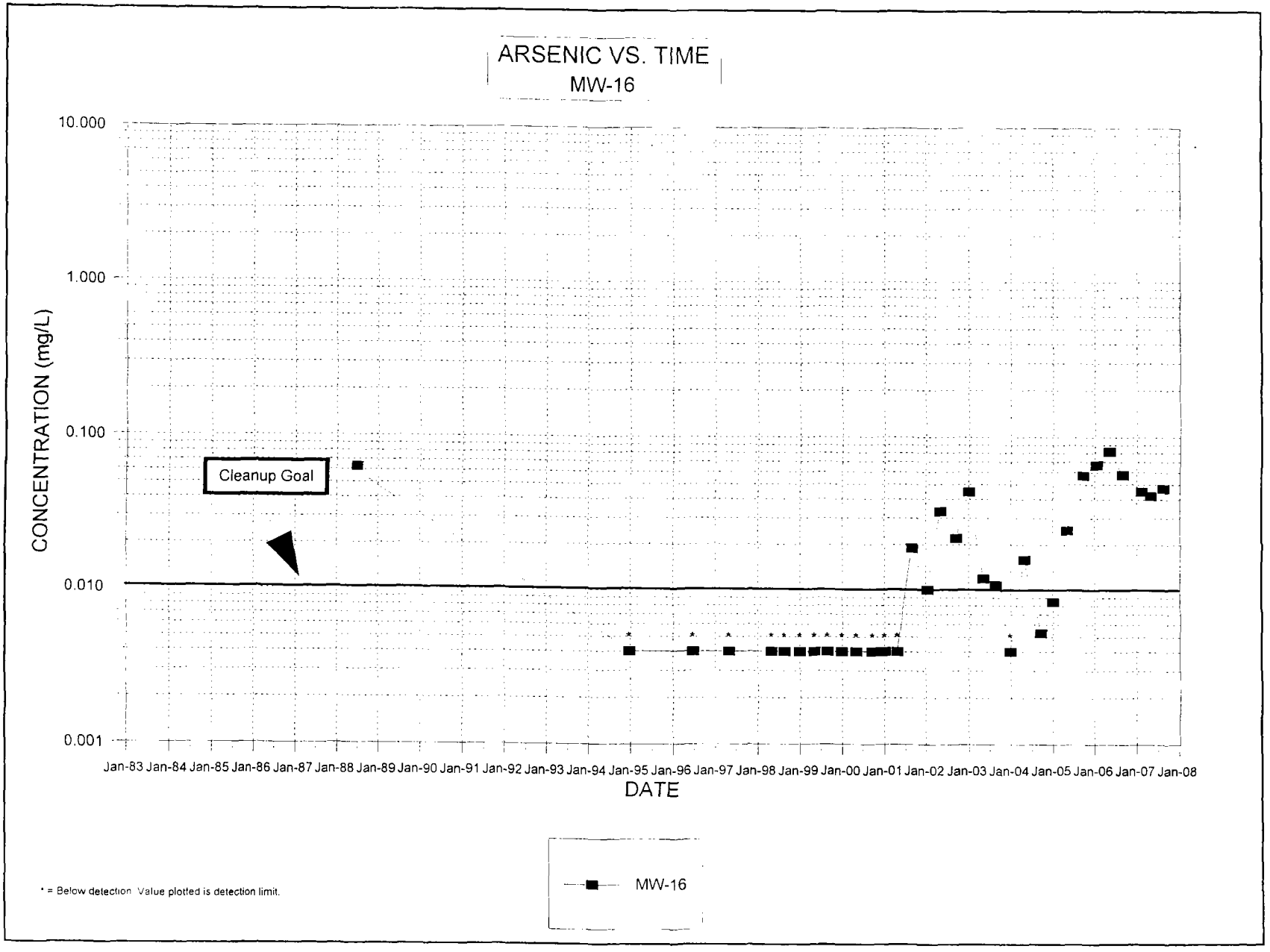
APPENDIX D-4

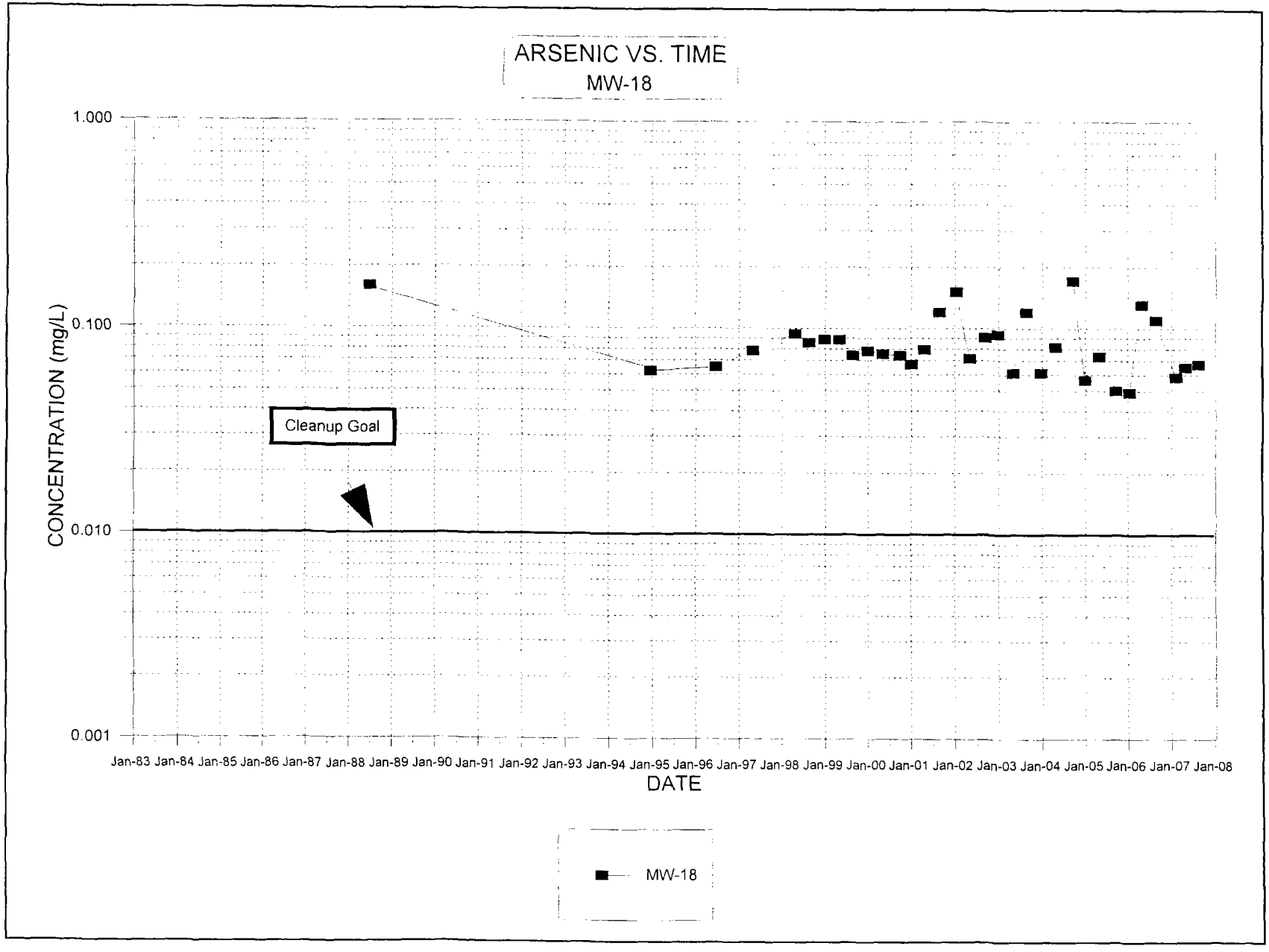
ARSENIC

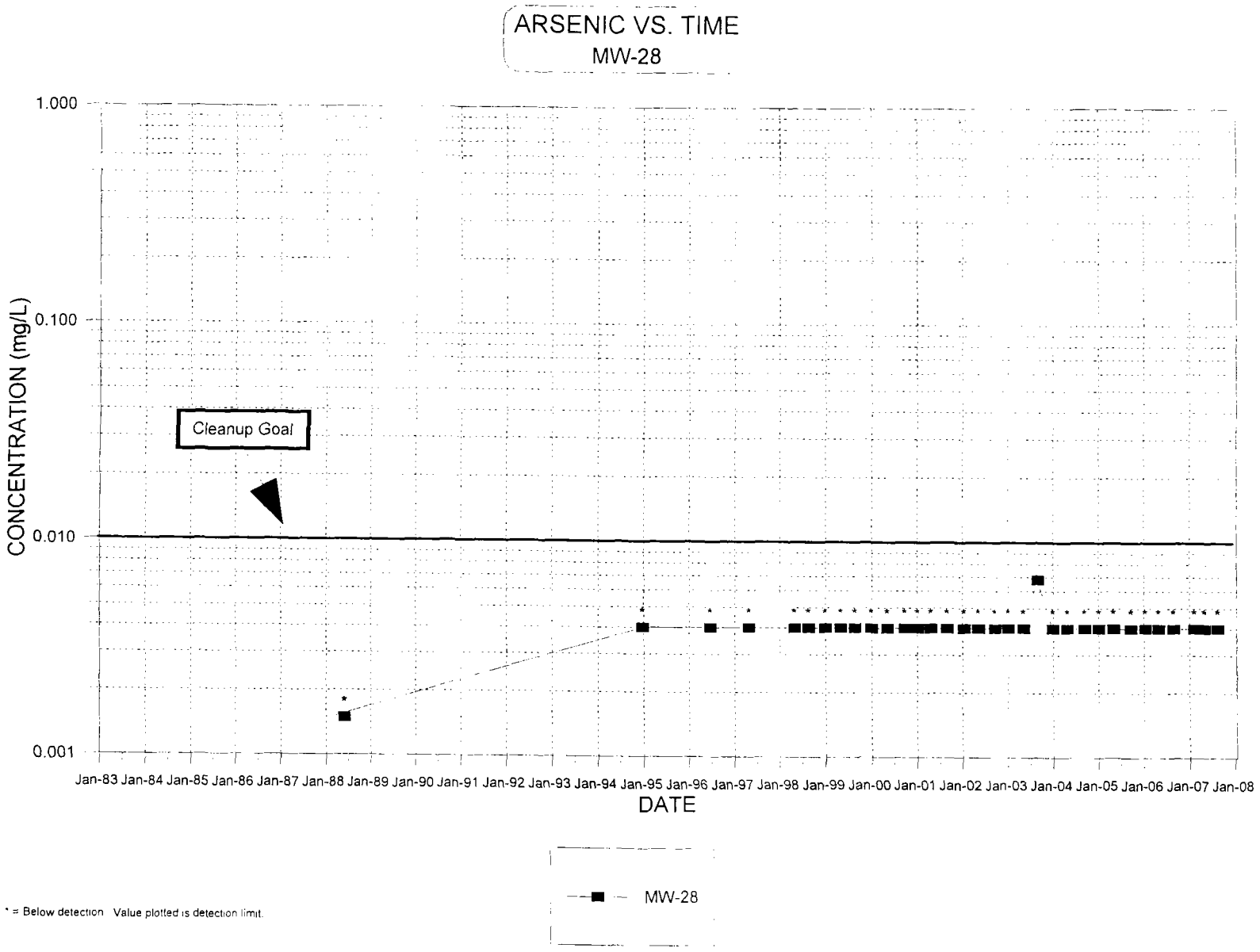

ARSENIC VS. TIME
MW-2
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-2

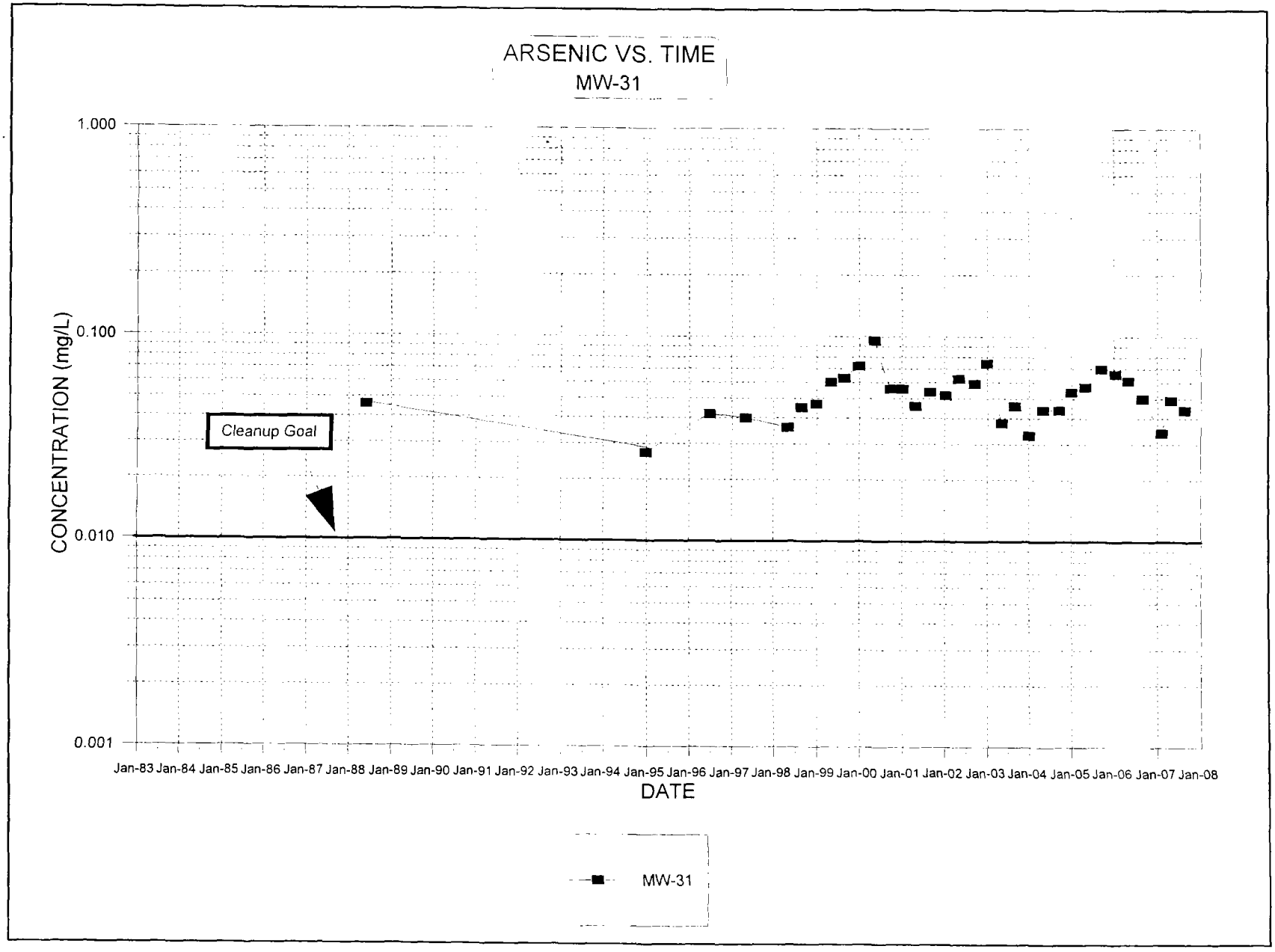

ARSENIC VS. TIME
MW-5
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-5

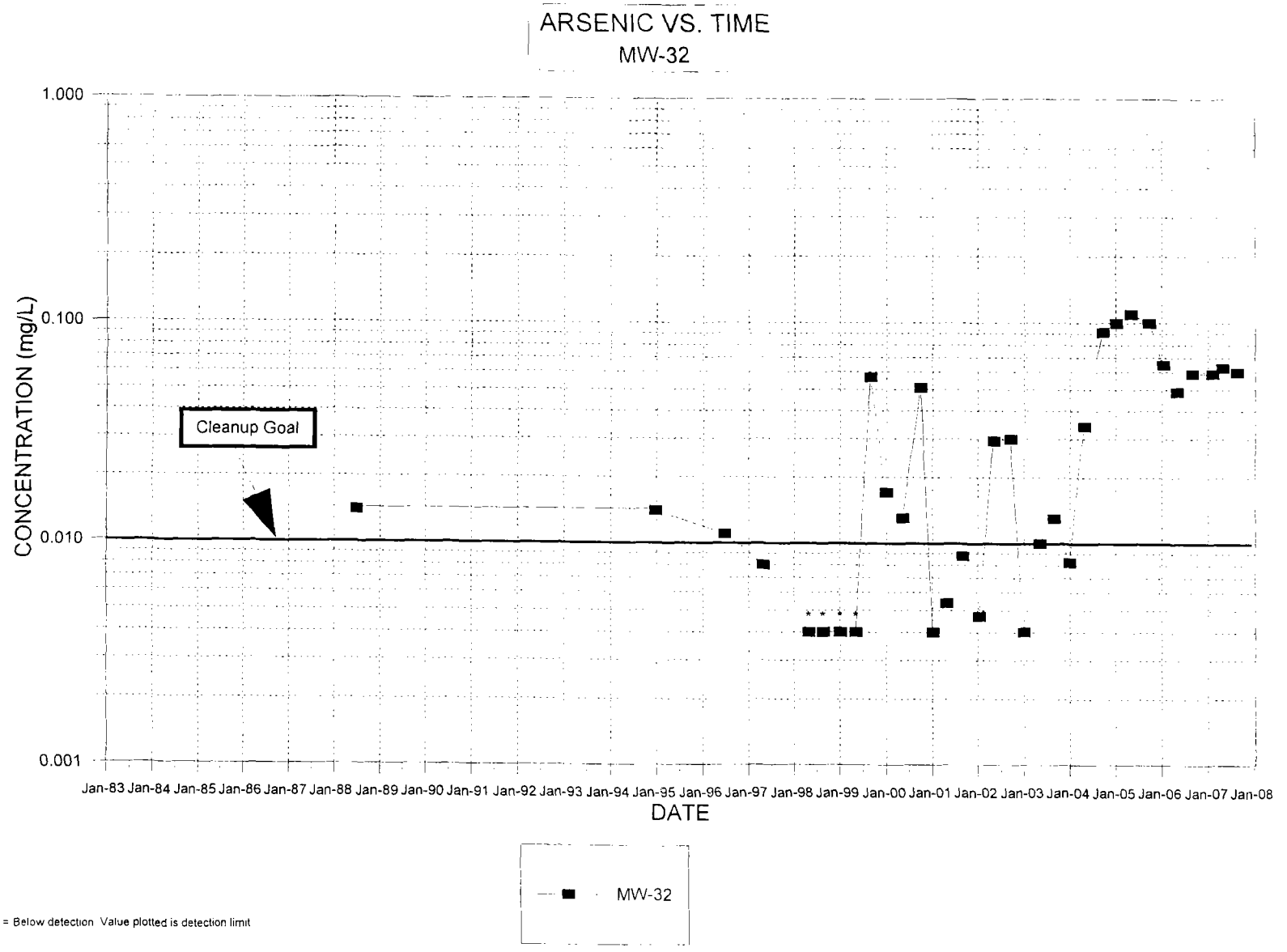

ARSENIC VS. TIME
MW-12
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-12
* = Below detection Value plotted is detection limit

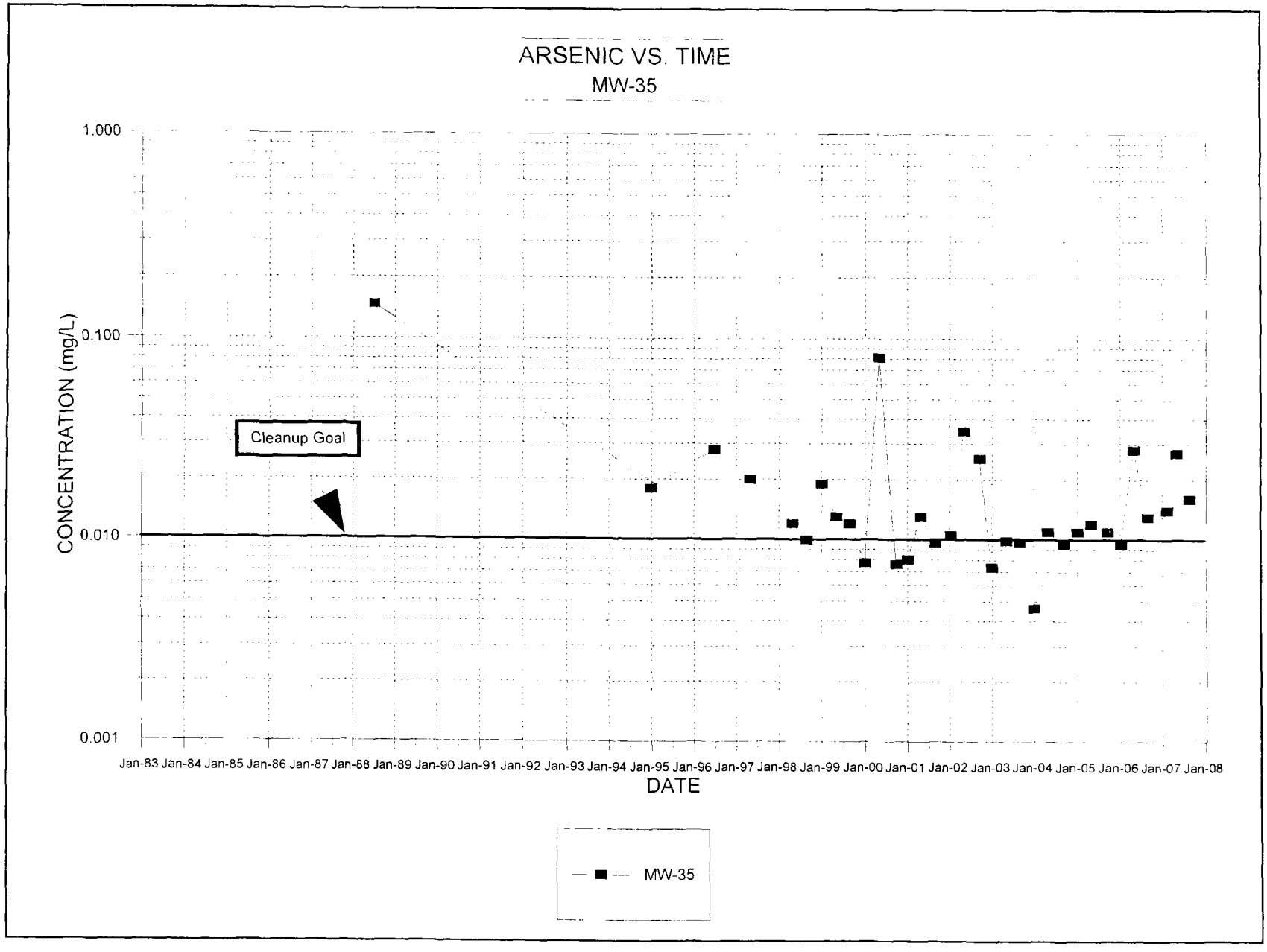

ARSENIC VS. TIME
MW-16
10.000
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-16
* = Below detection Value plotted is detection limit.

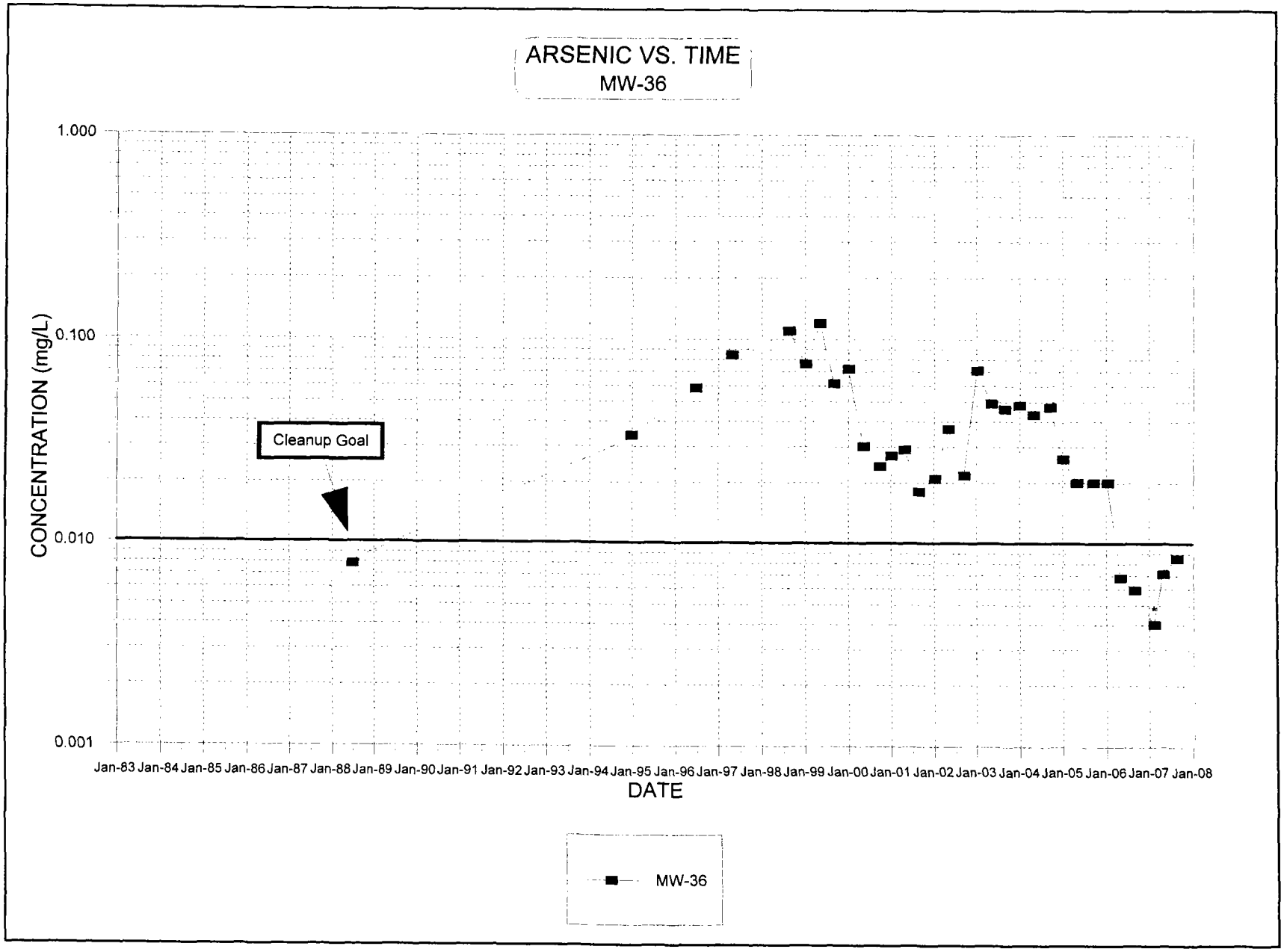

ARSENIC VS. TIME
MW-18
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-18

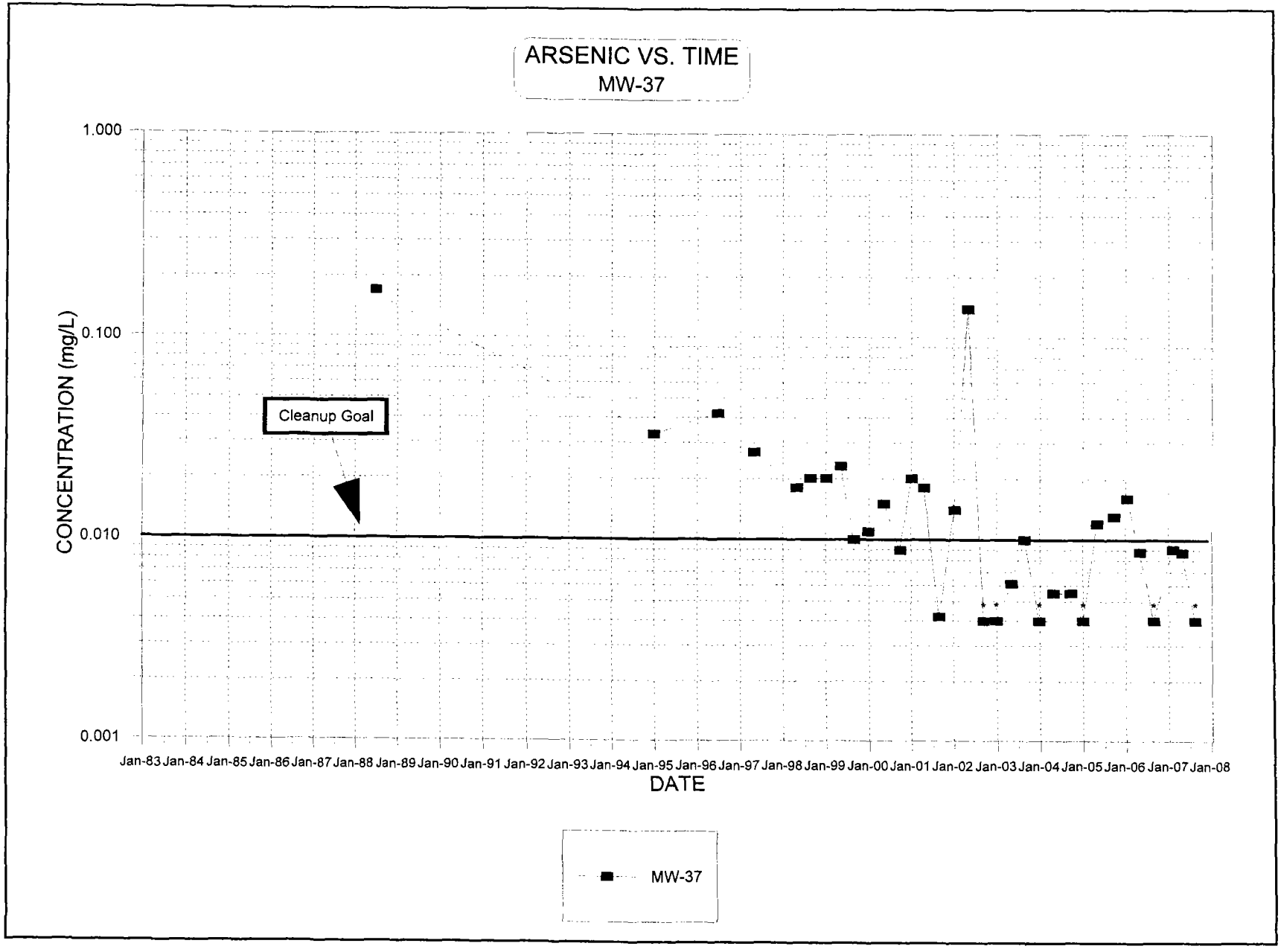

ARSENIC VS. TIME
MW-28
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-28
* = Below detection Value plotted is detection limit.


ARSENIC VS. TIME
MW-31
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-31


ARSENIC VS. TIME
MW-32
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-32
* = Below detection Value plotted is detection limit

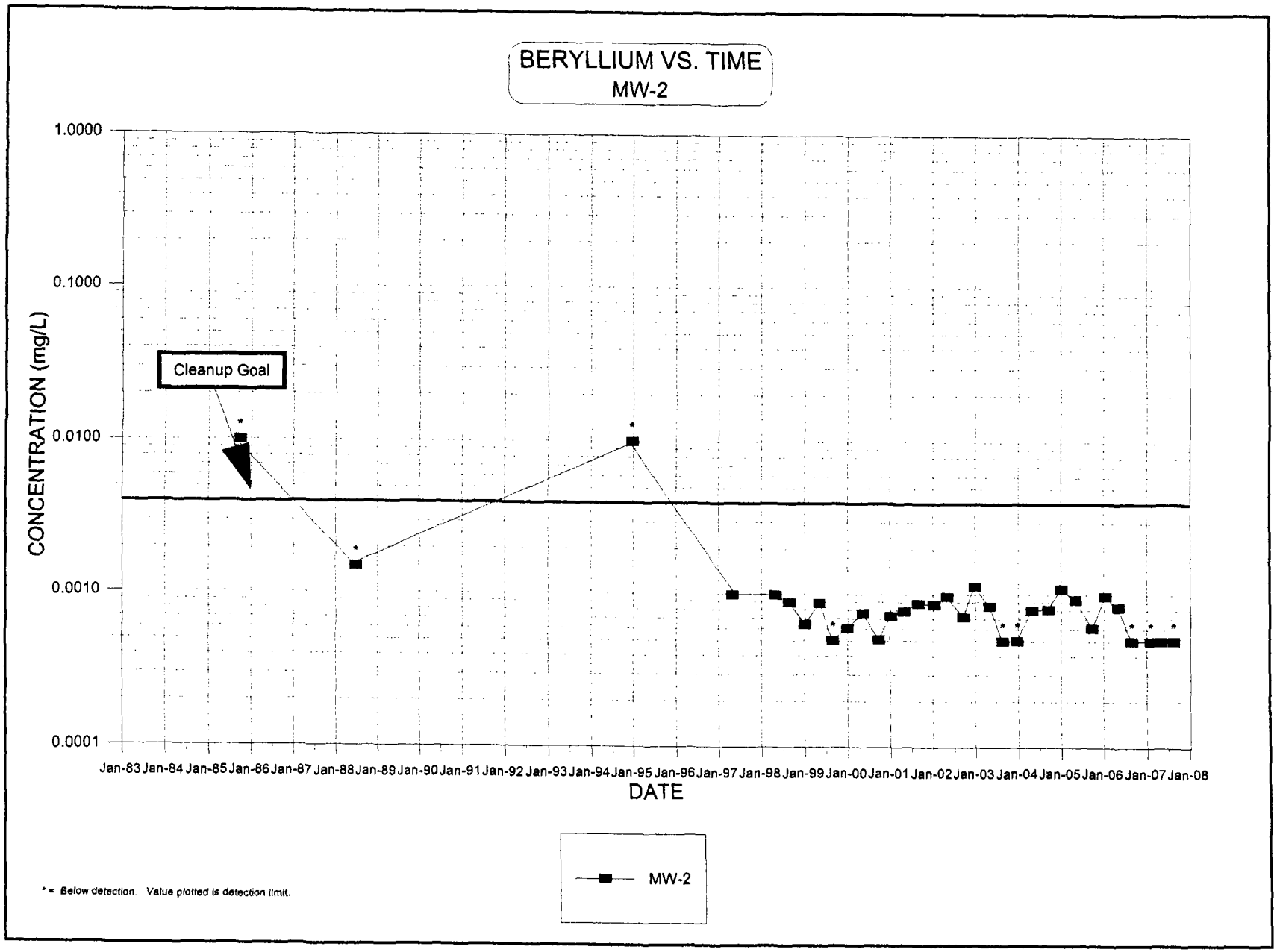

ARSENIC VS. TIME
MW-35
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-35

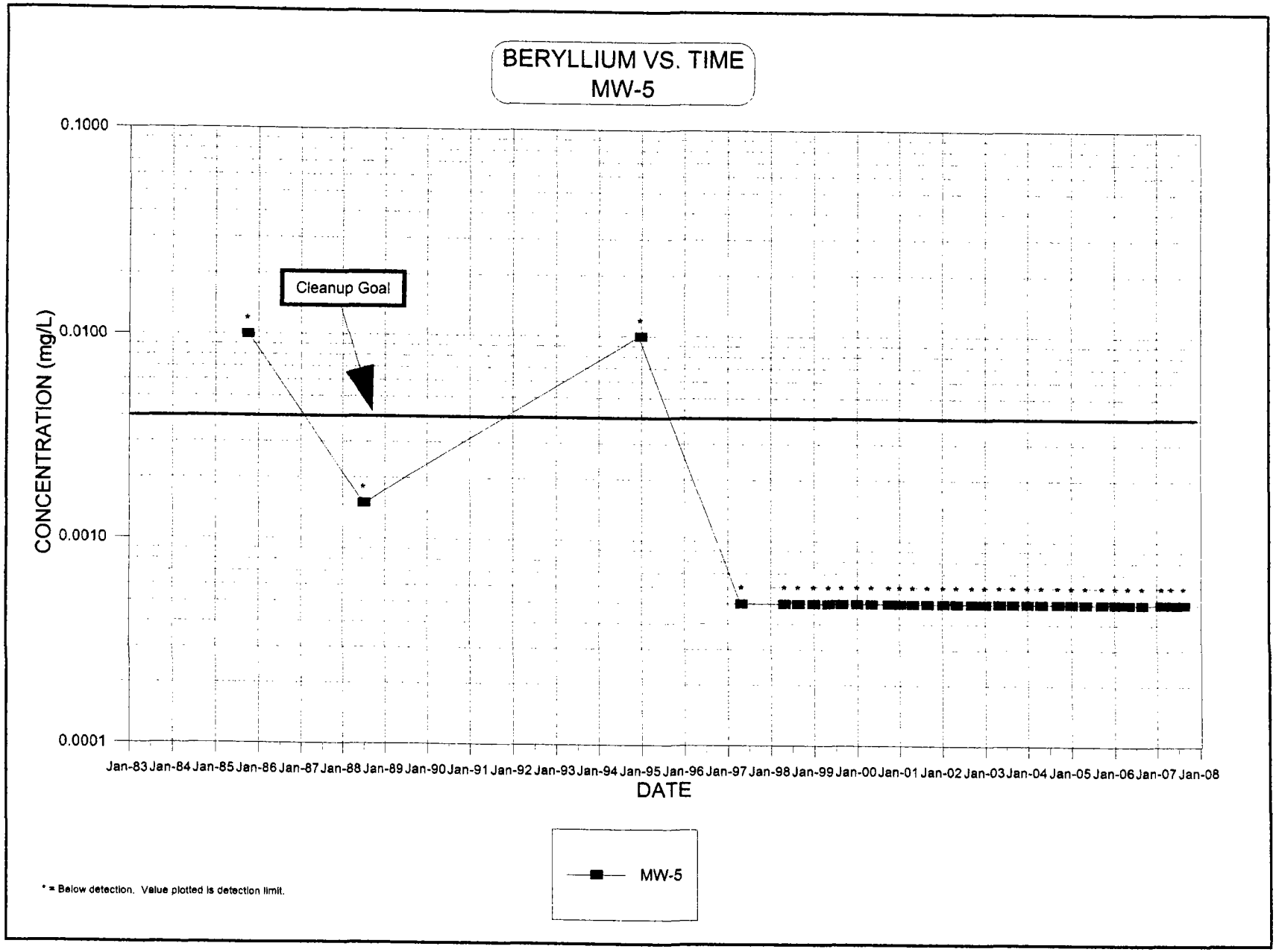

ARSENIC VS. TIME
MW-36
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-36

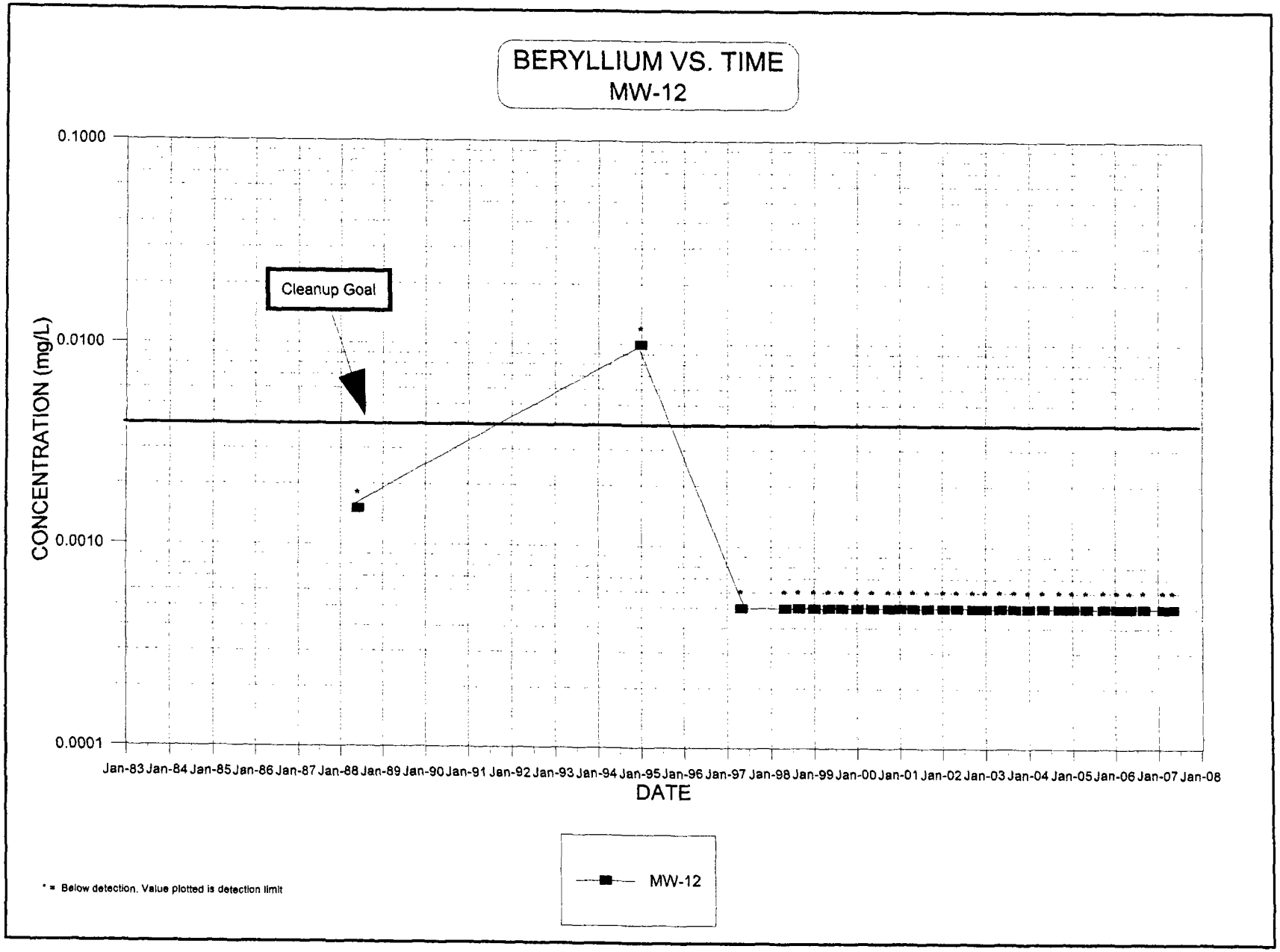

ARSENIC VS. TIME
MW-37
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-37

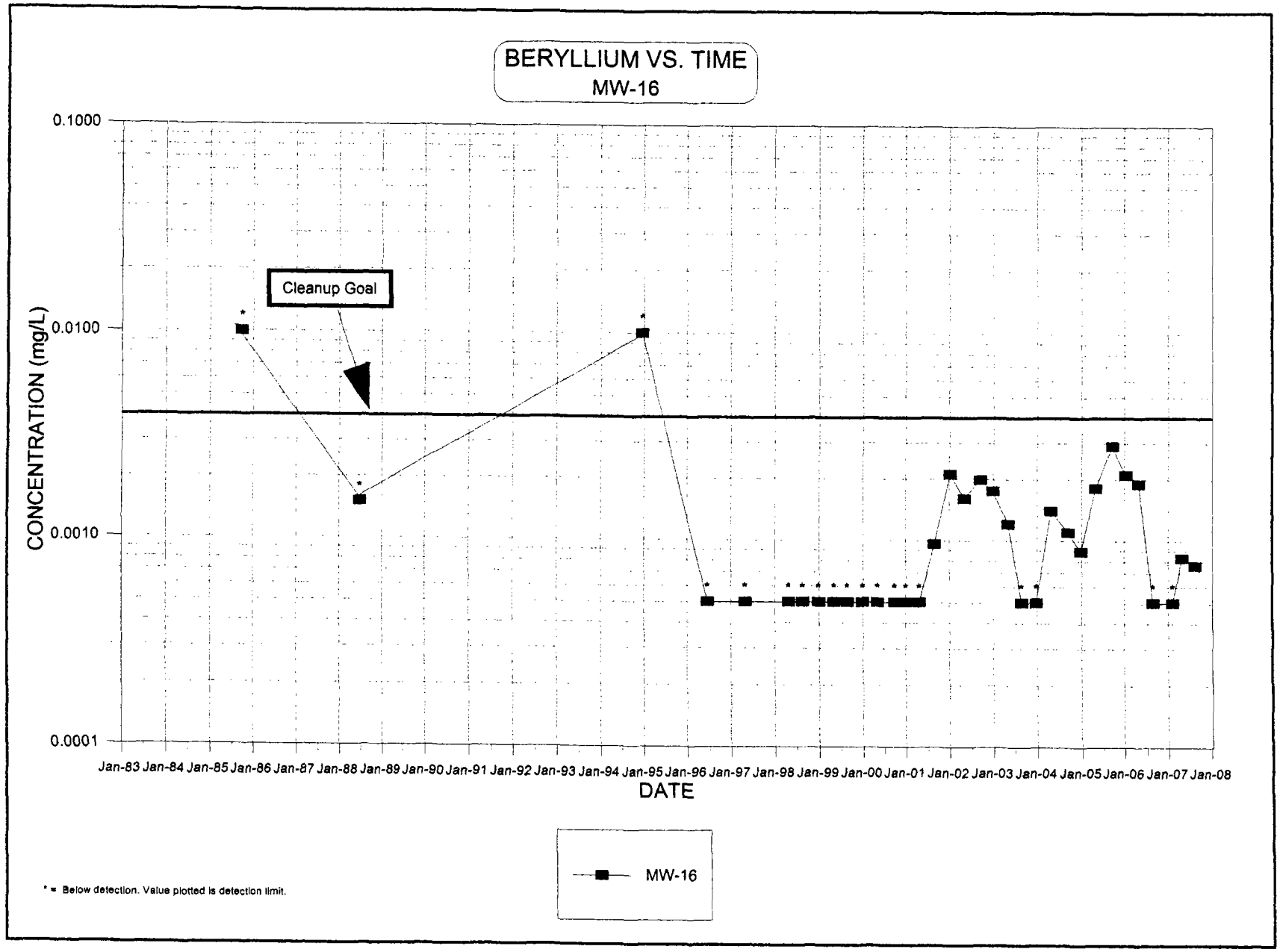
APPENDIX D-5

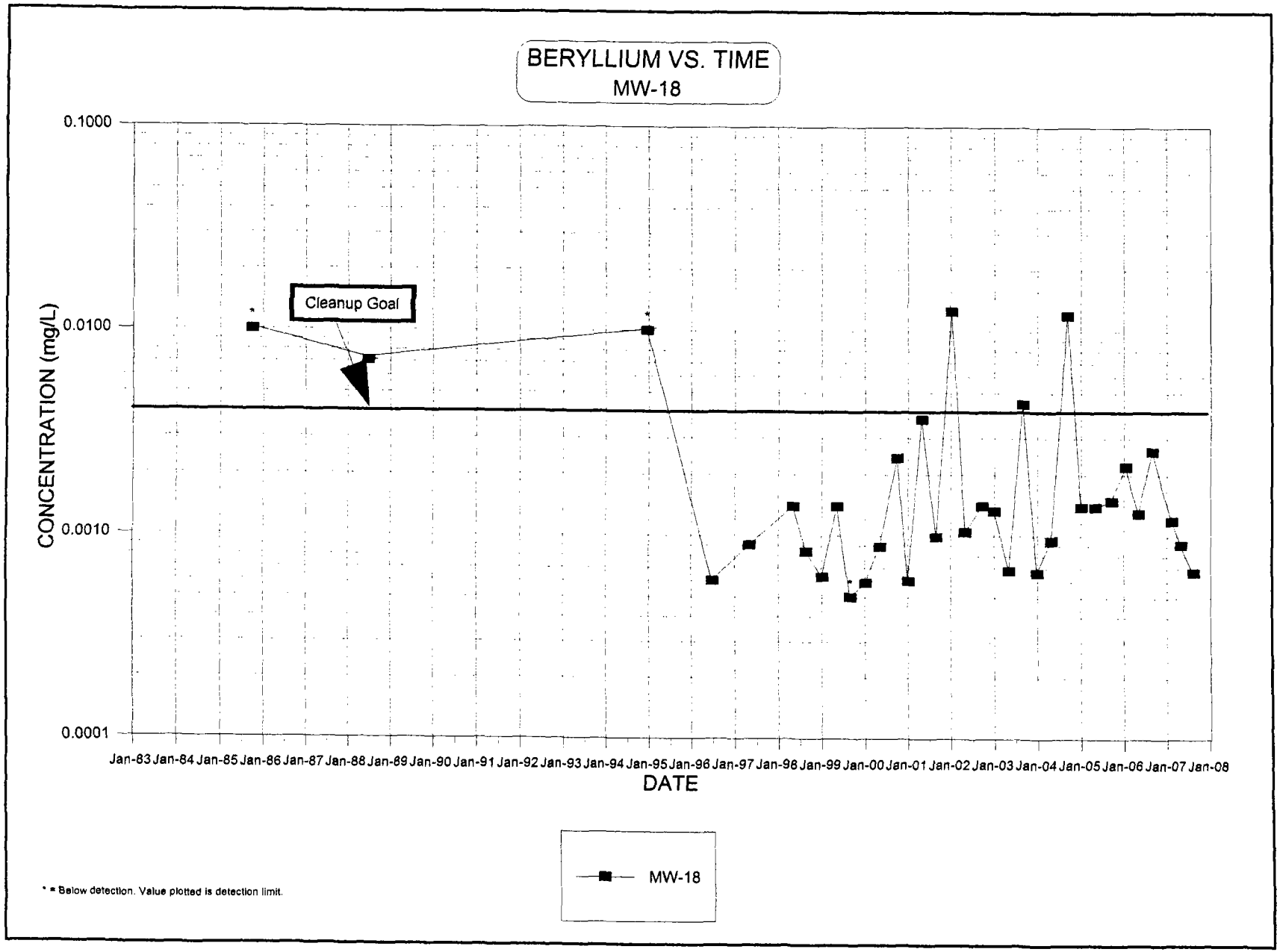
BERYLLIUM

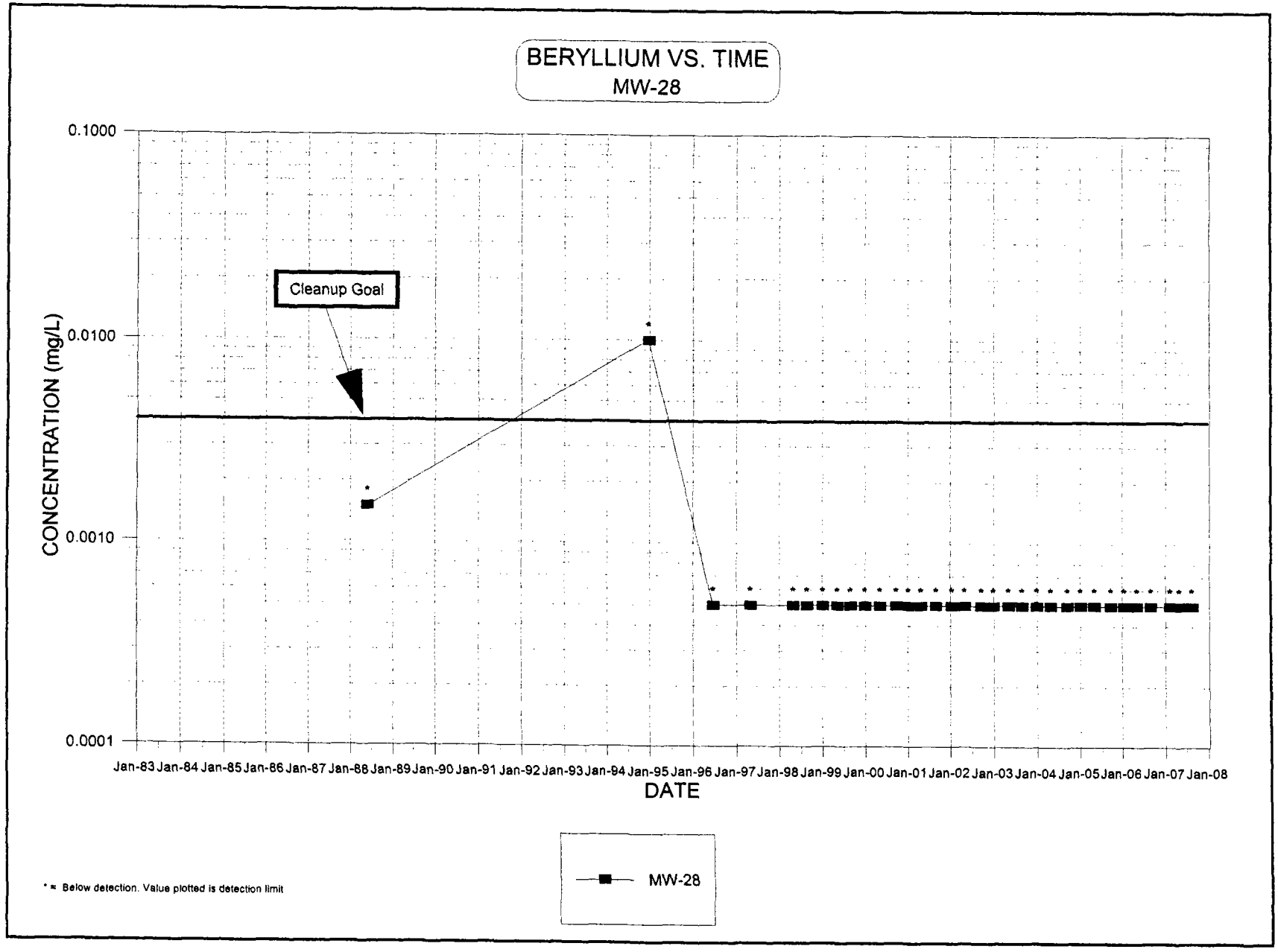

BERYLLIUM VS. TIME
MW-2
1.0000
0.1000
0.0100
0.0010
0.0001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-2
* = Below detection. Value plotted is detection limit.

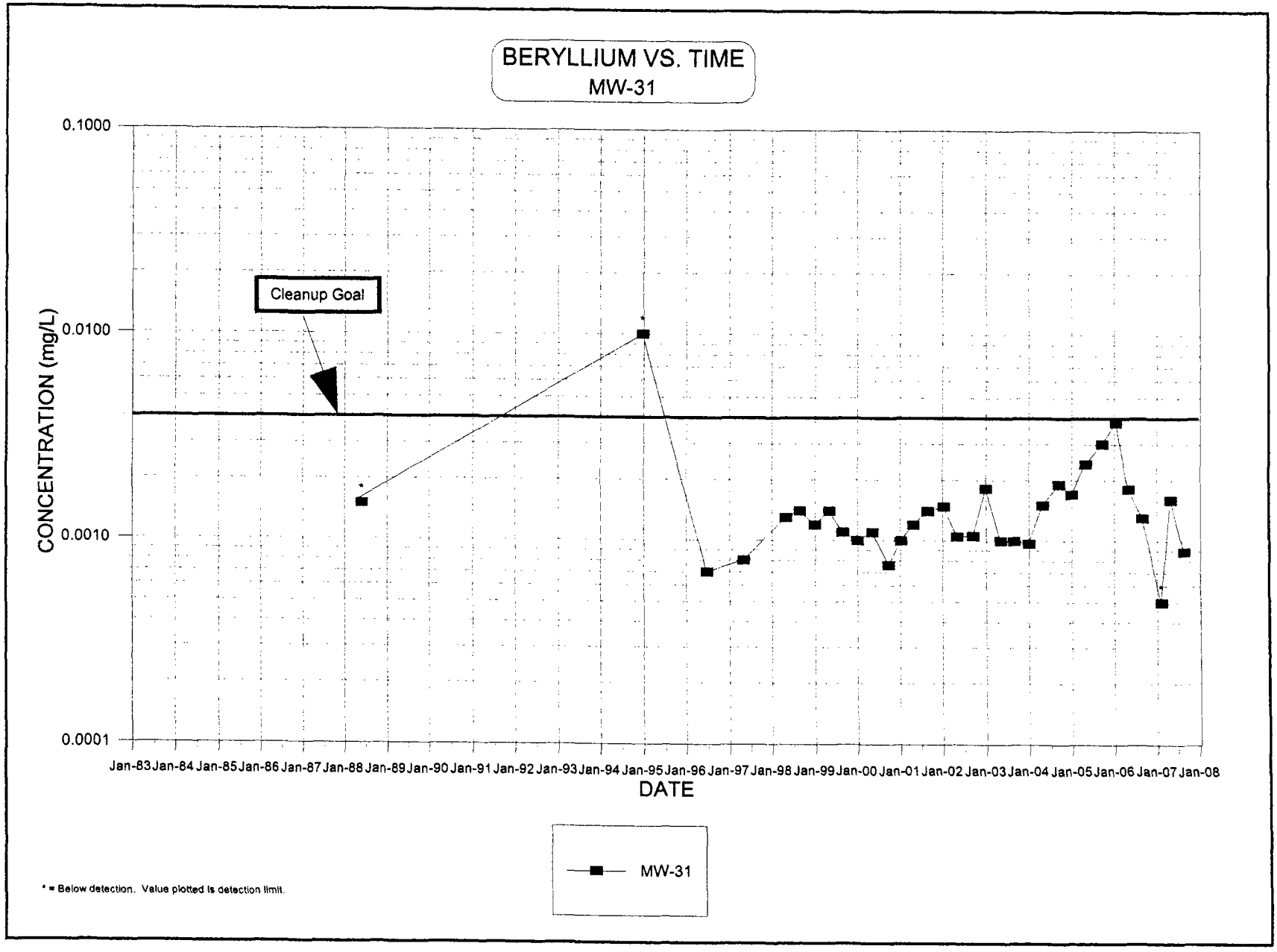

BERYLLIUM VS. TIME
MW-5
Cleanup Goal
CONCENTRATION (mg/L)
0.1000
0.0100
0.0010
0.0001
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-5
* = Below detection. Value plotted is detection limit.

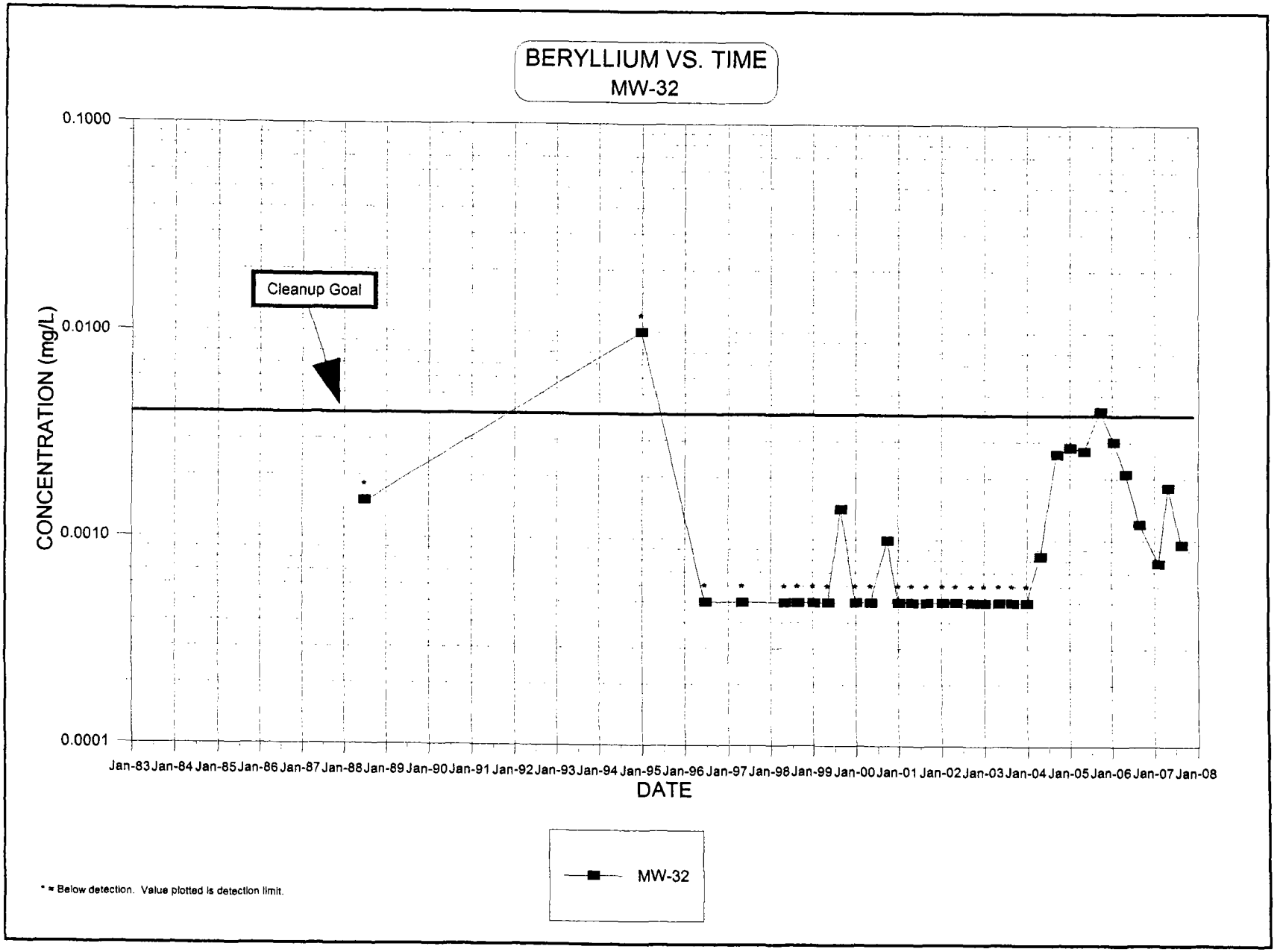

BERYLLIUM VS. TIME
MW-12
Cleanup Goal
CONCENTRATION (mg/L)
0.1000
0.0100
0.0010
0.0001
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-12
* = Below detection. Value plotted is detection limit

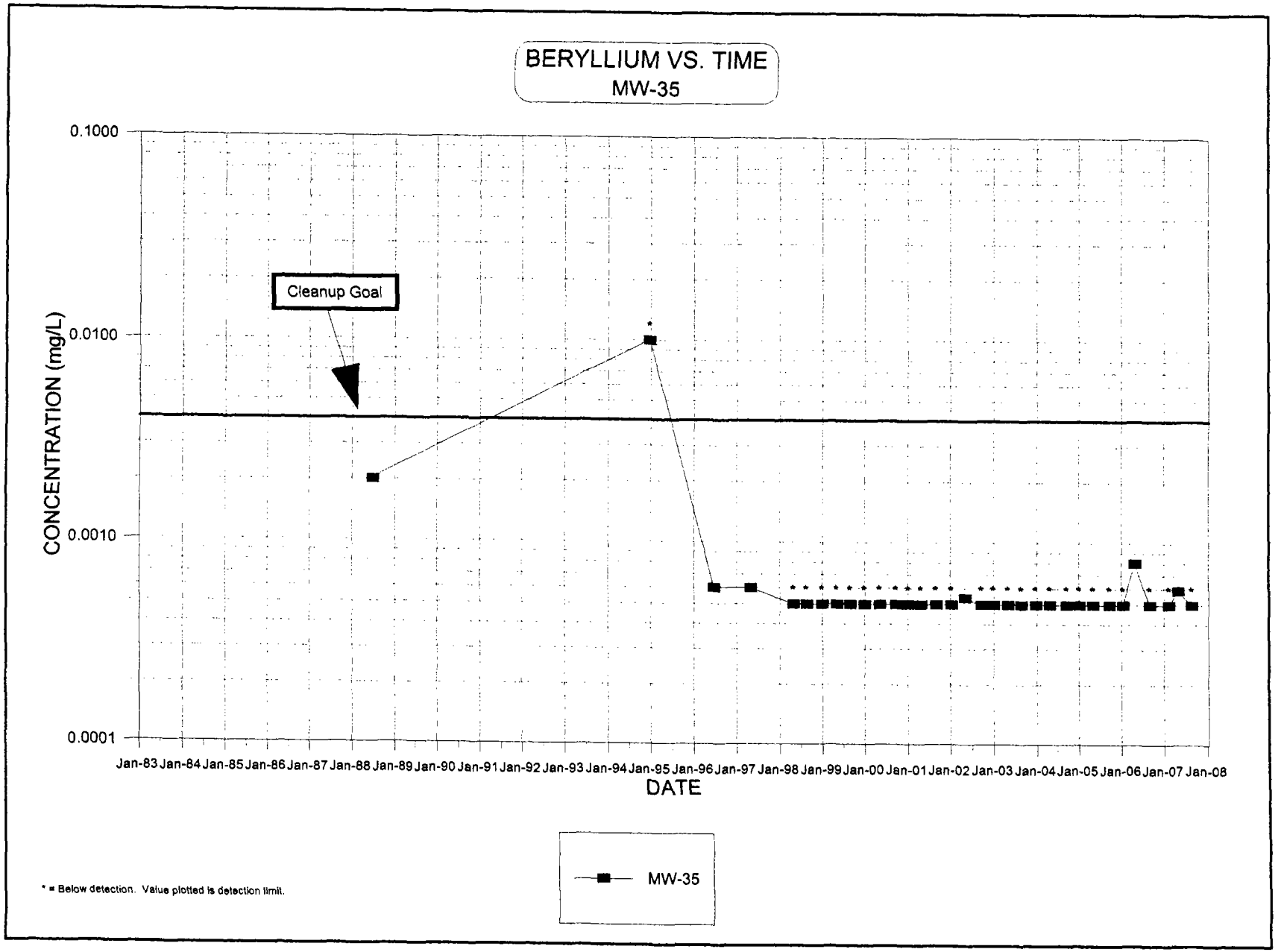

BERYLLIUM VS. TIME
MW-16
0.1000
0.0100
0.0010
0.0001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-16
* = Below detection. Value plotted is detection limit.

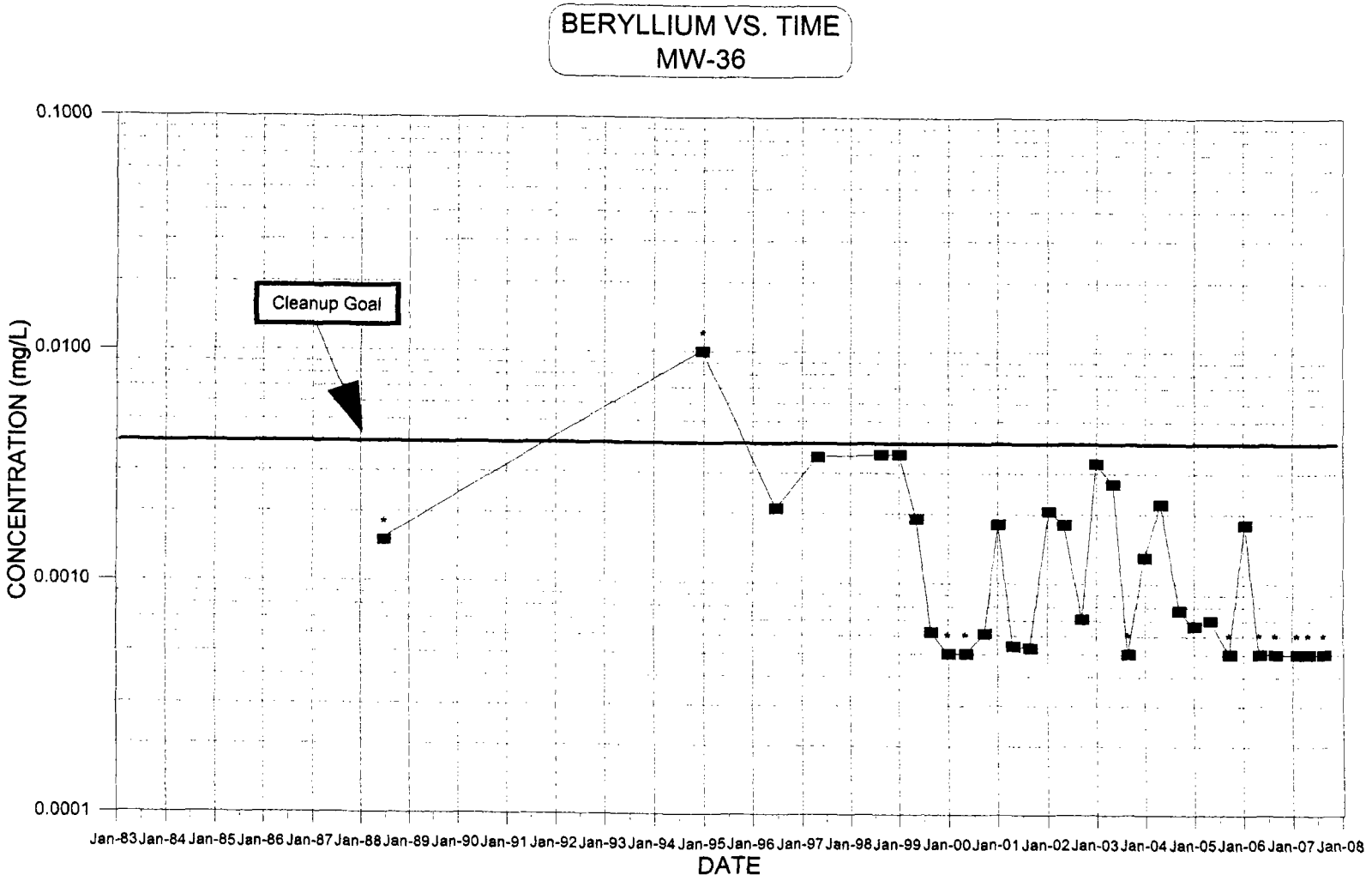

BERYLLIUM VS. TIME
MW-18
0.1000
0.0100
0.0010
0.0001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-18
* = Below detection. Value plotted is detection limit.


BERYLLIUM VS. TIME
MW-28
0.1000
0.0100
0.0010
0.0001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-28
* = Below detection. Value plotted is detection limit

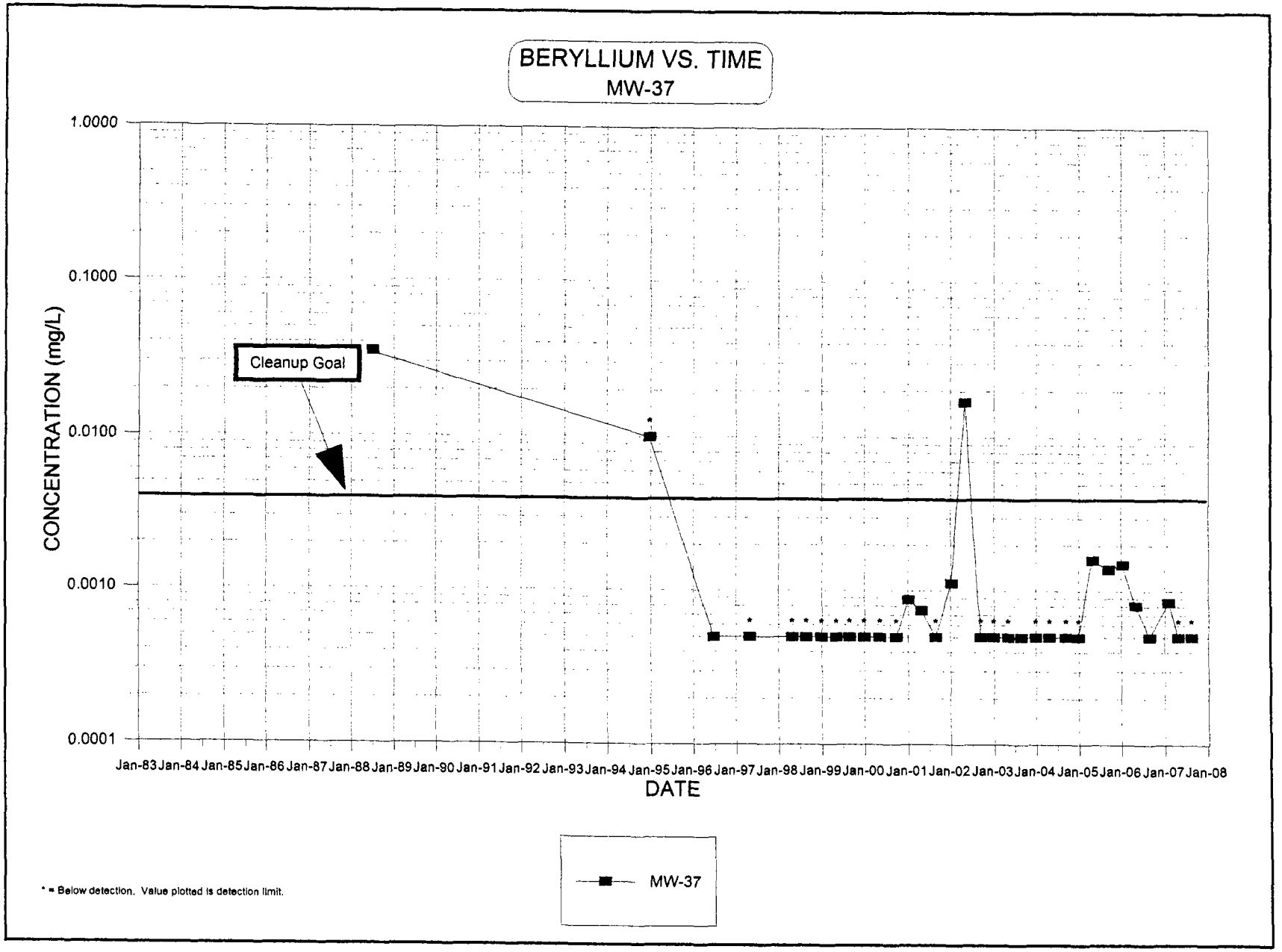

BERYLLIUM VS. TIME
MW-31
0.1000
0.0100
0.0010
0.0001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-31
* = Below detection. Value plotted is detection limit.


BERYLLIUM VS. TIME
MW-32
Cleanup Goal
CONCENTRATION (mg/L)
0.1000
0.0100
0.0010
0.0001
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-32
* = Below detection. Value plotted is detection limit.


BERYLLIUM VS. TIME
MW-35
0.1000
0.0100
0.0010
0.0001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-35
* = Below detection. Value plotted is detection limit.

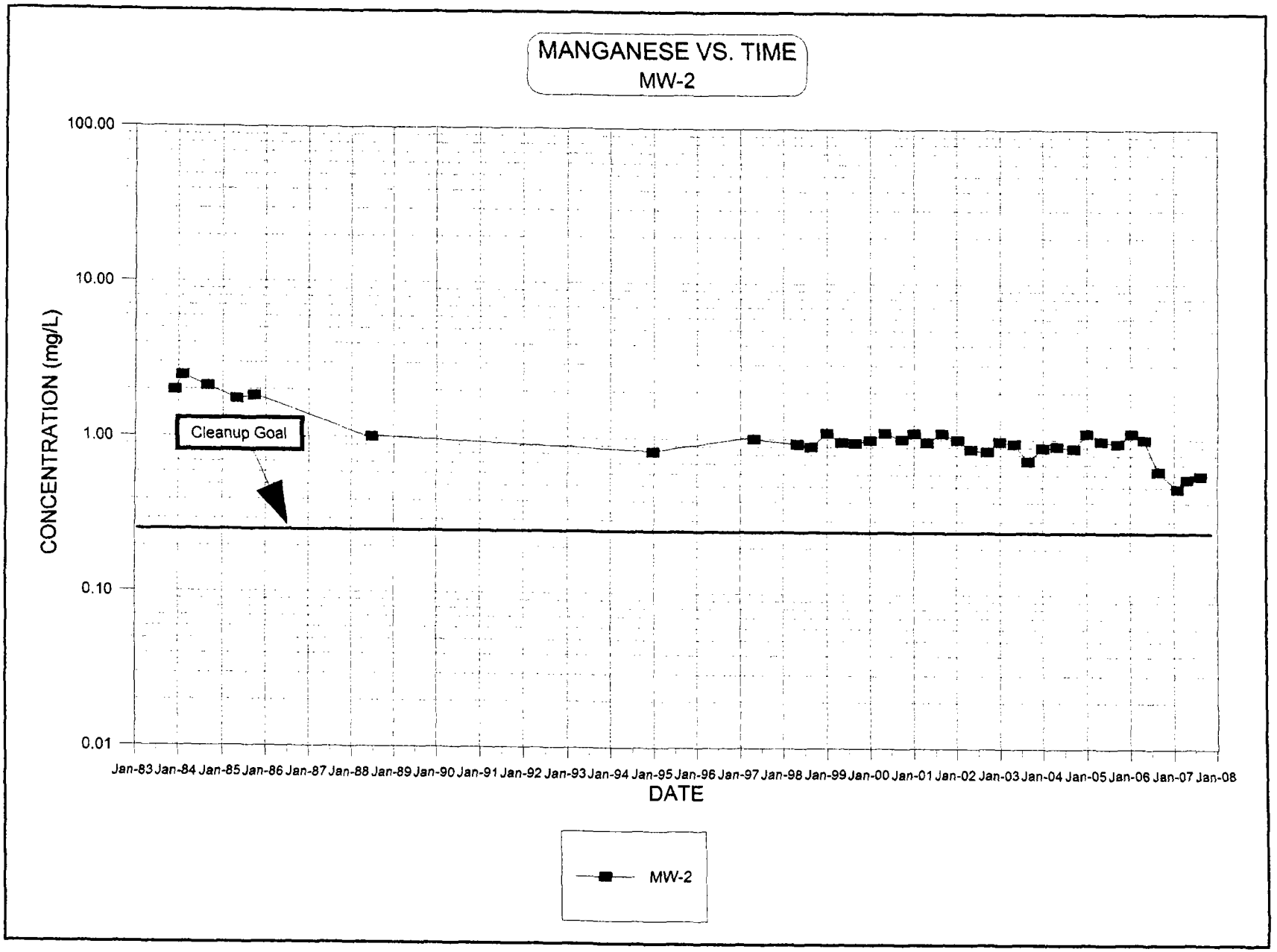


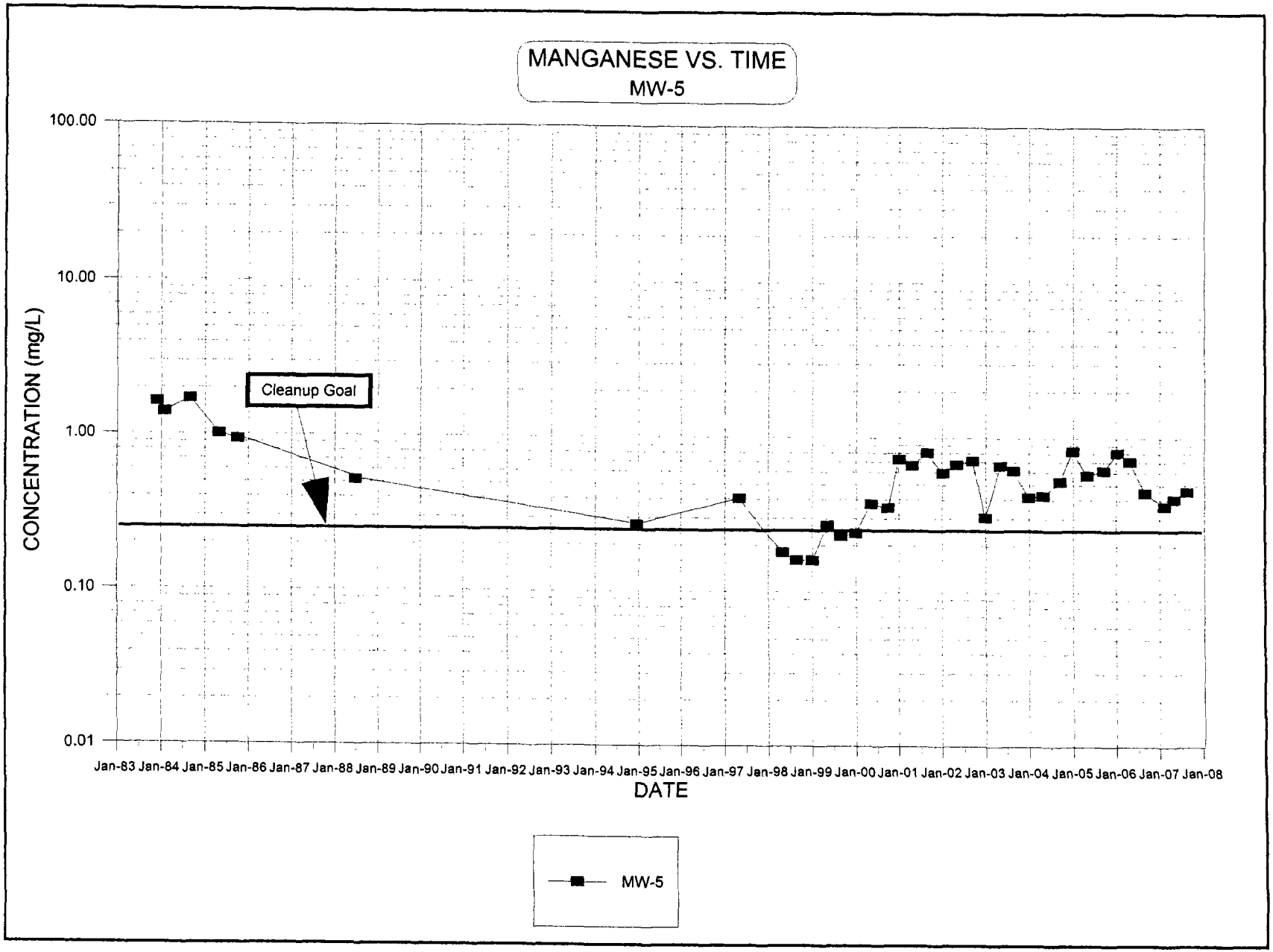
* = Below detection. Value plotted is detection limit.

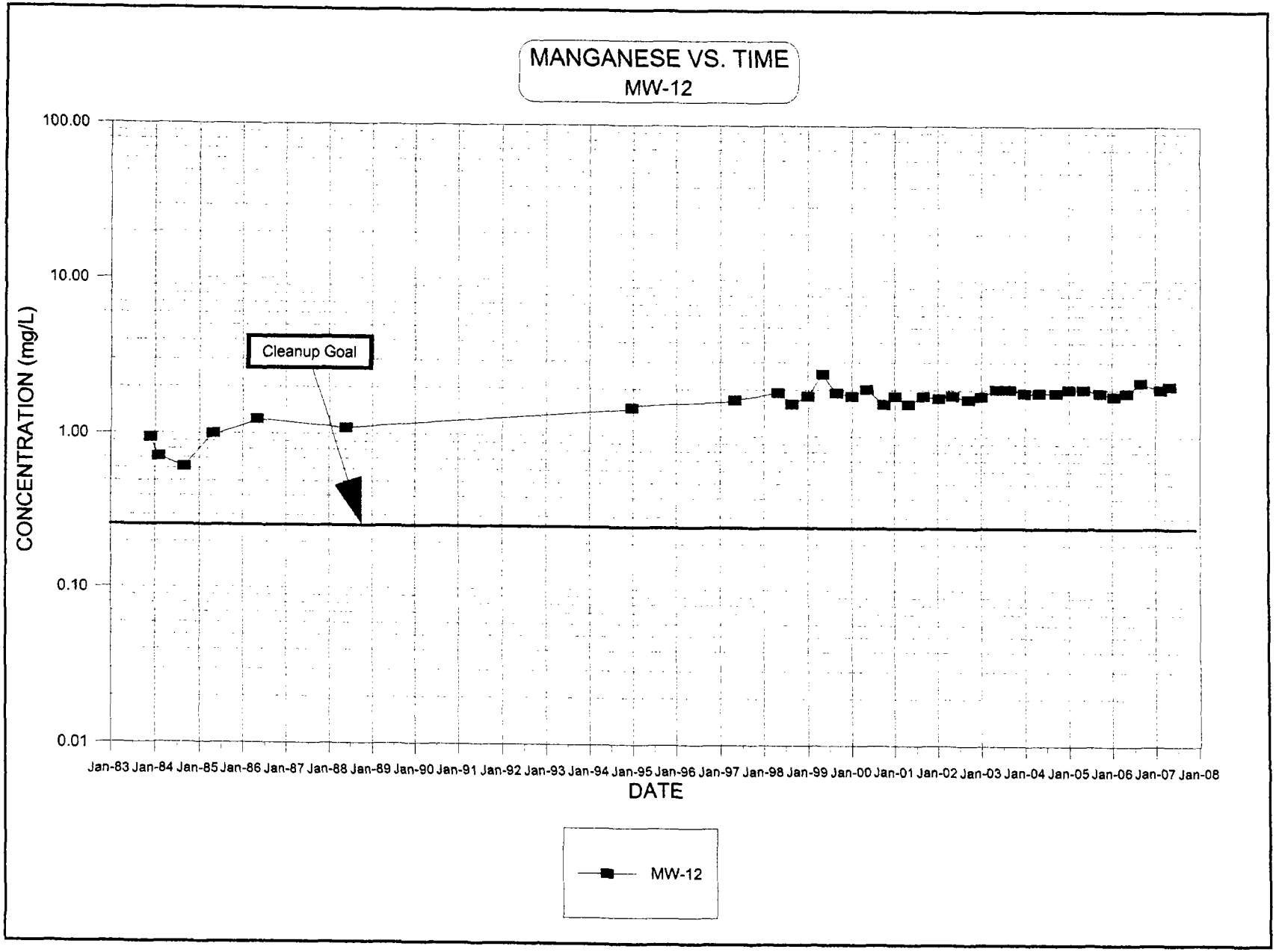

BERYLLIUM VS. TIME
MW-37
1.0000
0.1000
0.0100
0.0010
0.0001
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-37
* = Below detection. Value plotted is detection limit.

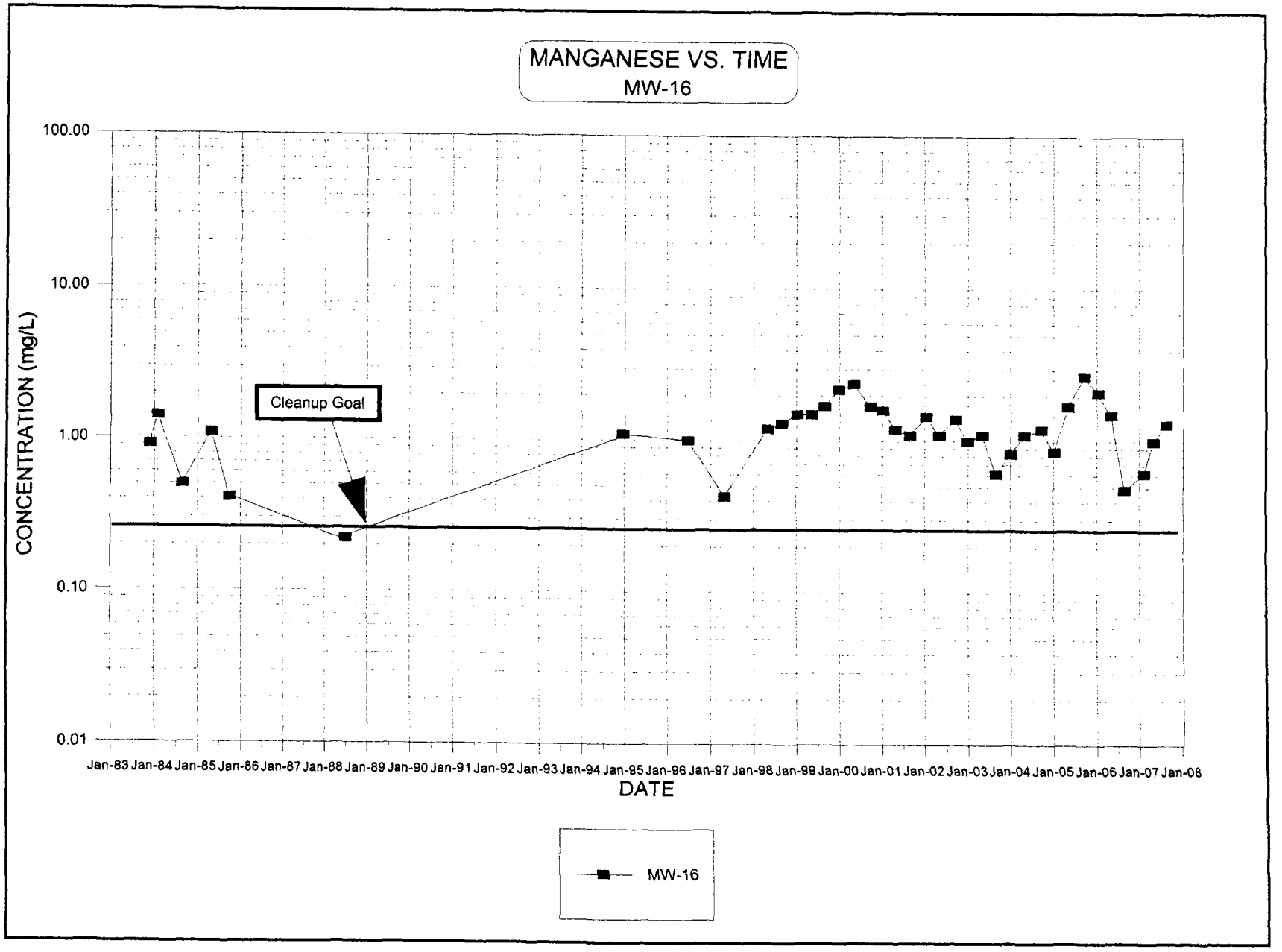
APPENDIX D-6

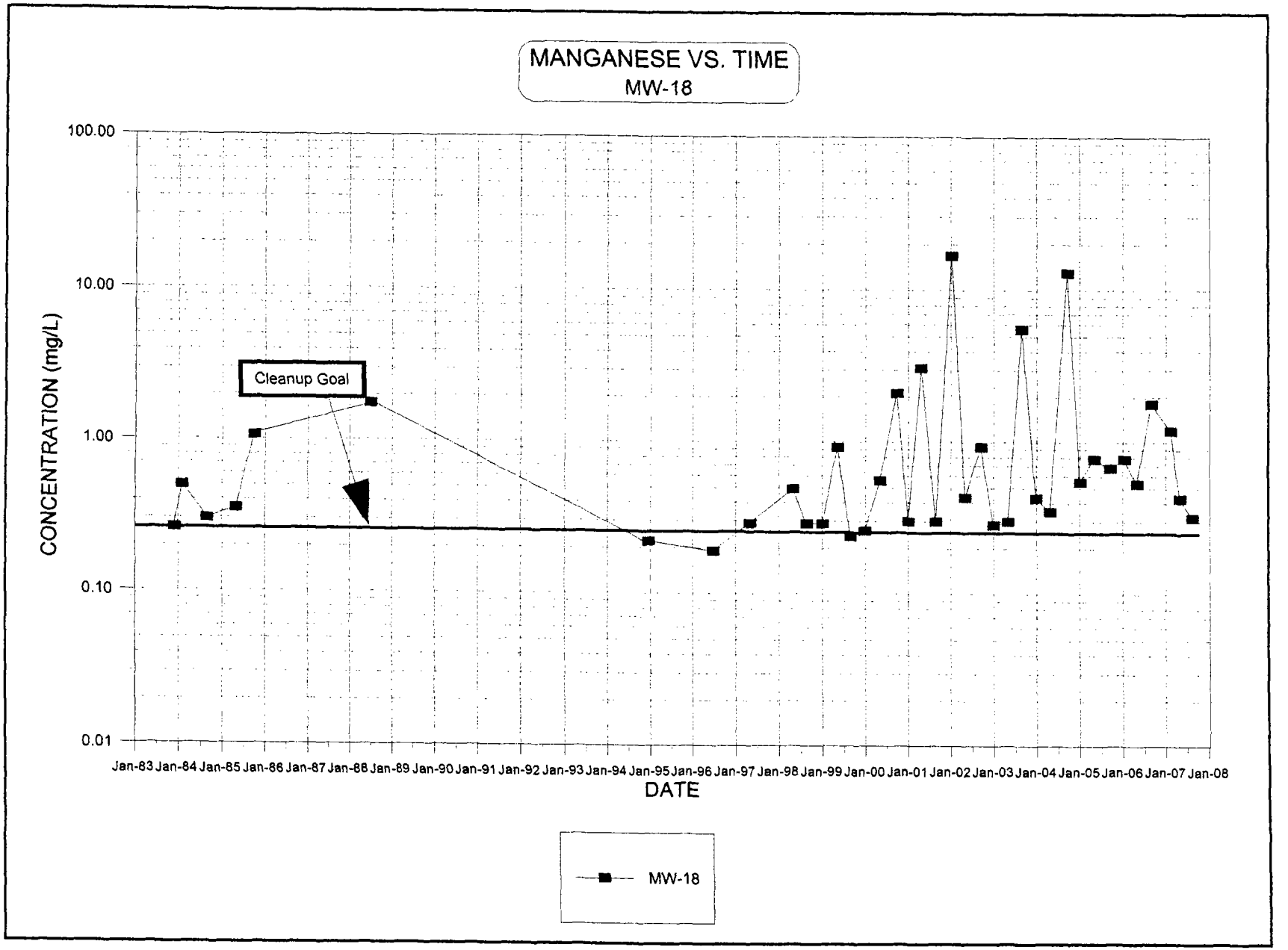
MANGANESE

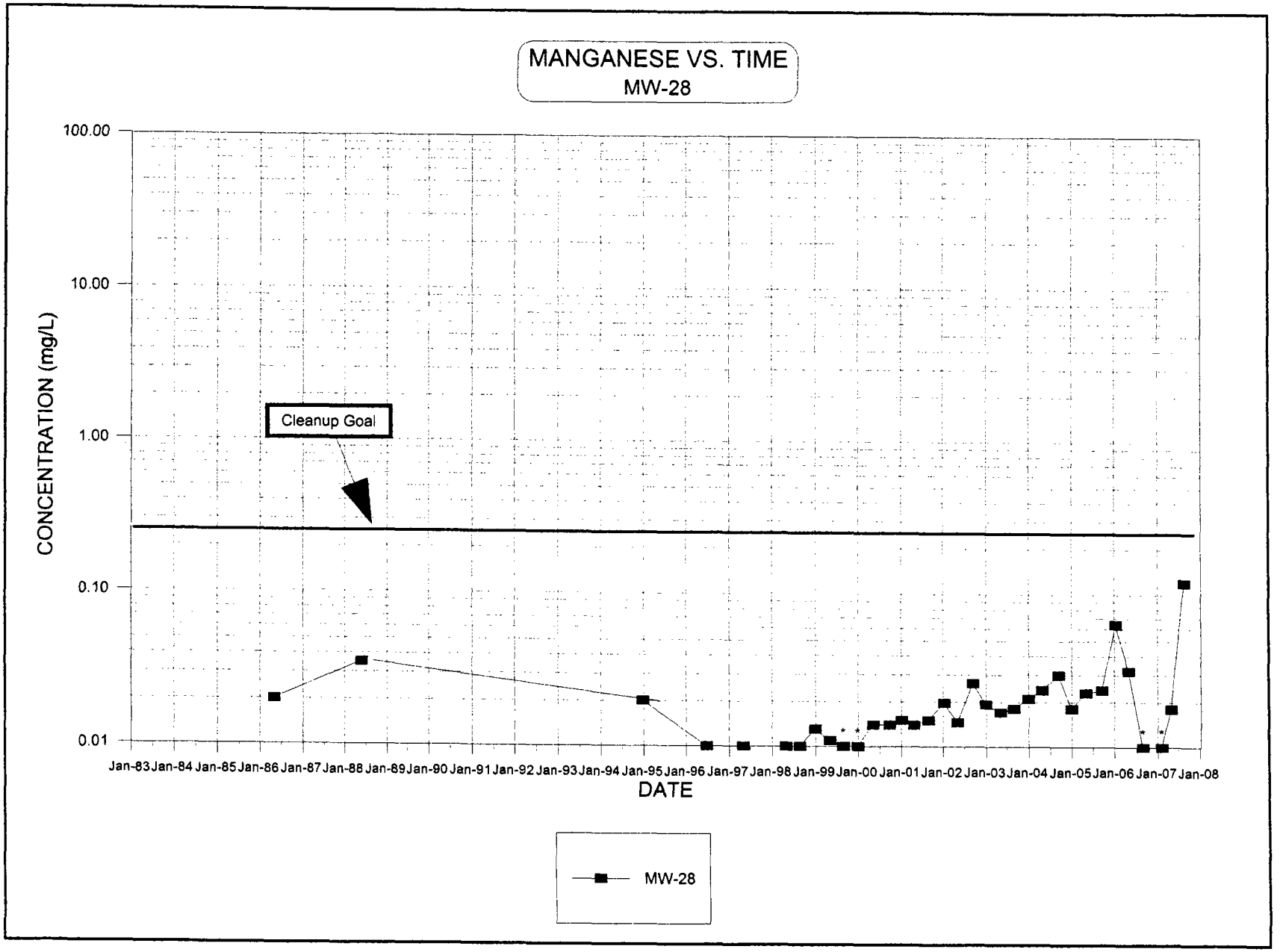

MANGANESE VS. TIME
MW-2
100.00
10.00
1.00
0.10
0.01
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-2

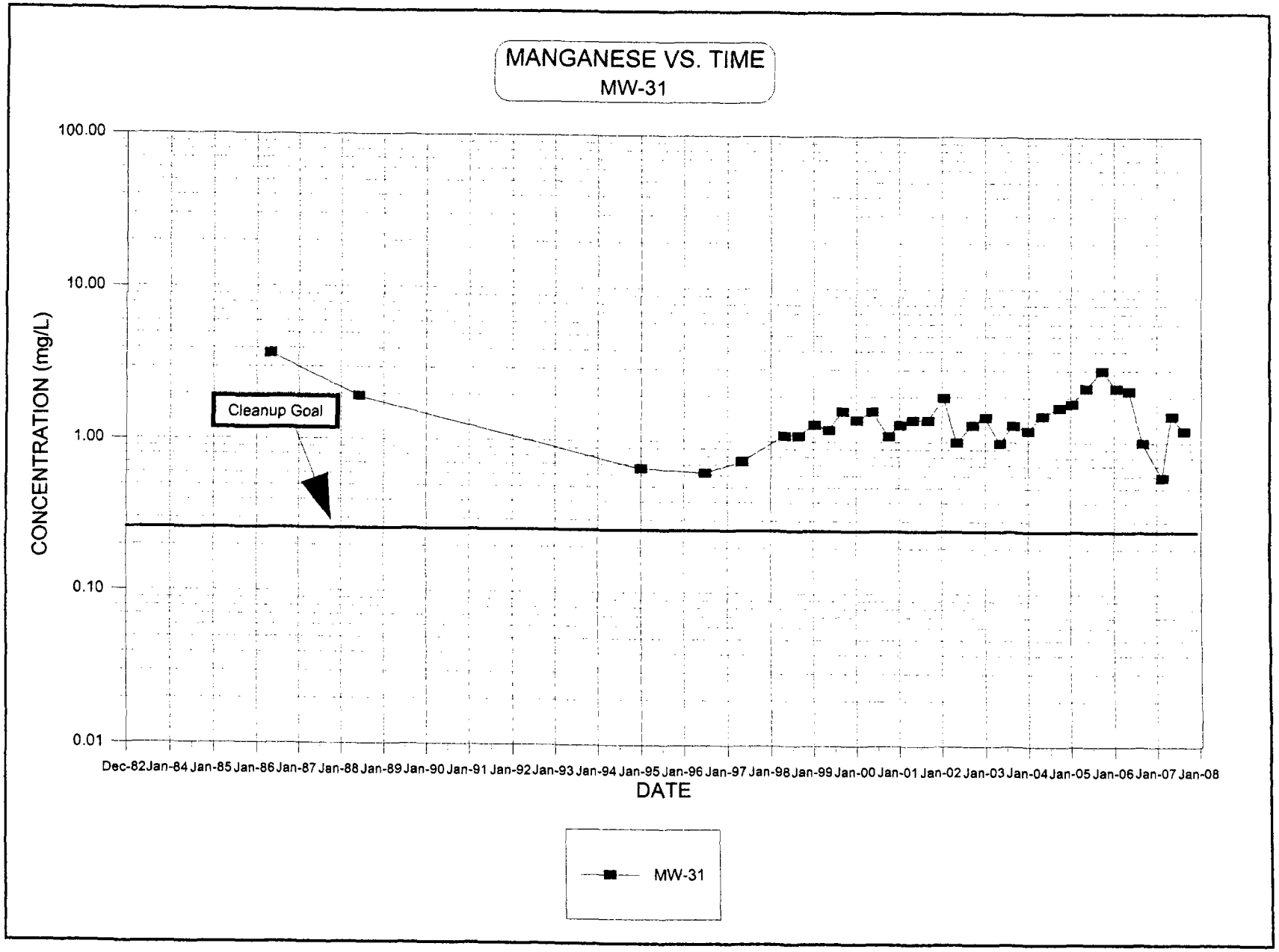

MANGANESE VS. TIME
MW-5
100.00
10.00
1.00
0.10
0.01
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-5

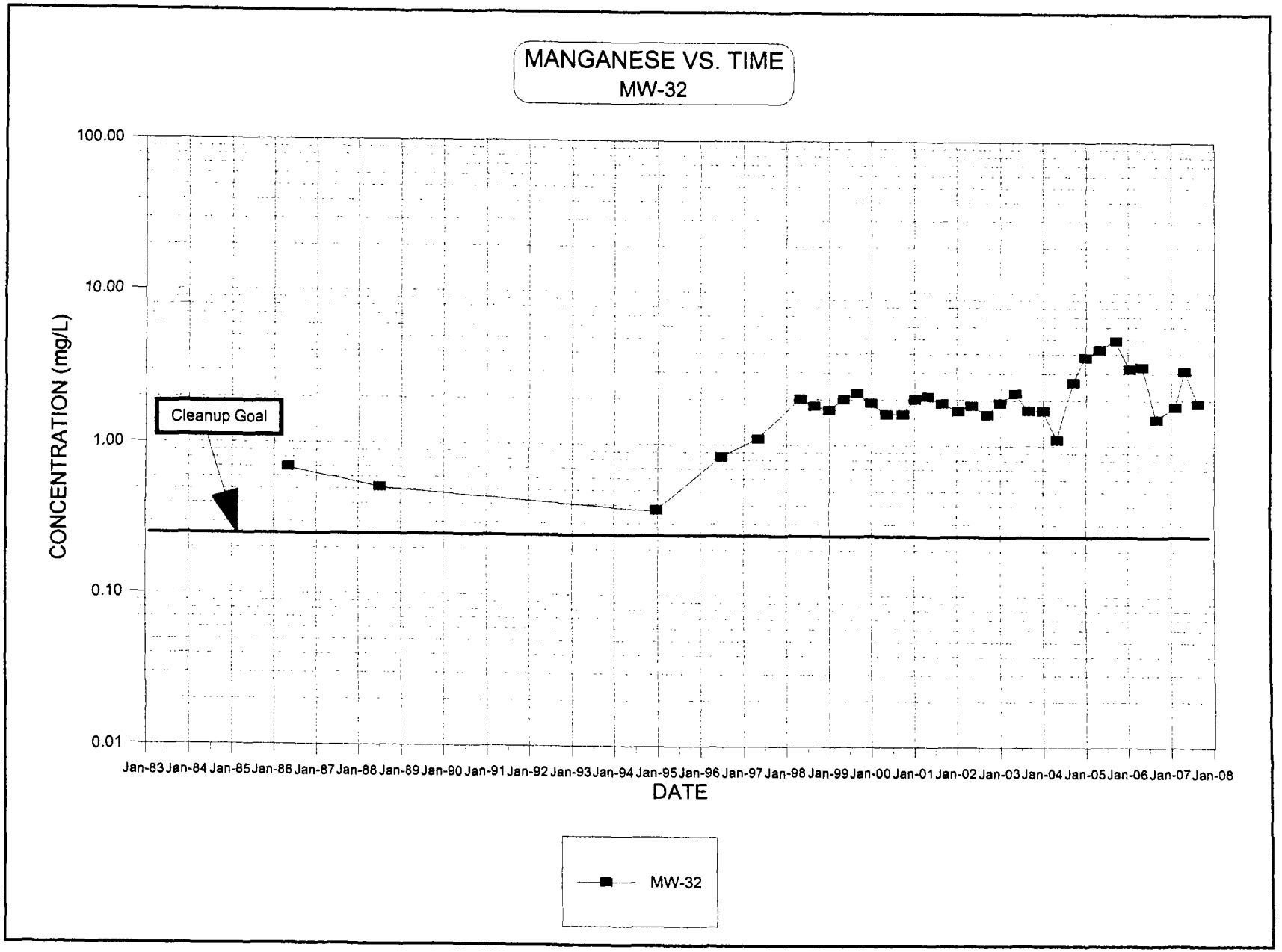

MANGANESE VS. TIME
MW-12
100.00
10.00
1.00
0.10
0.01
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-12

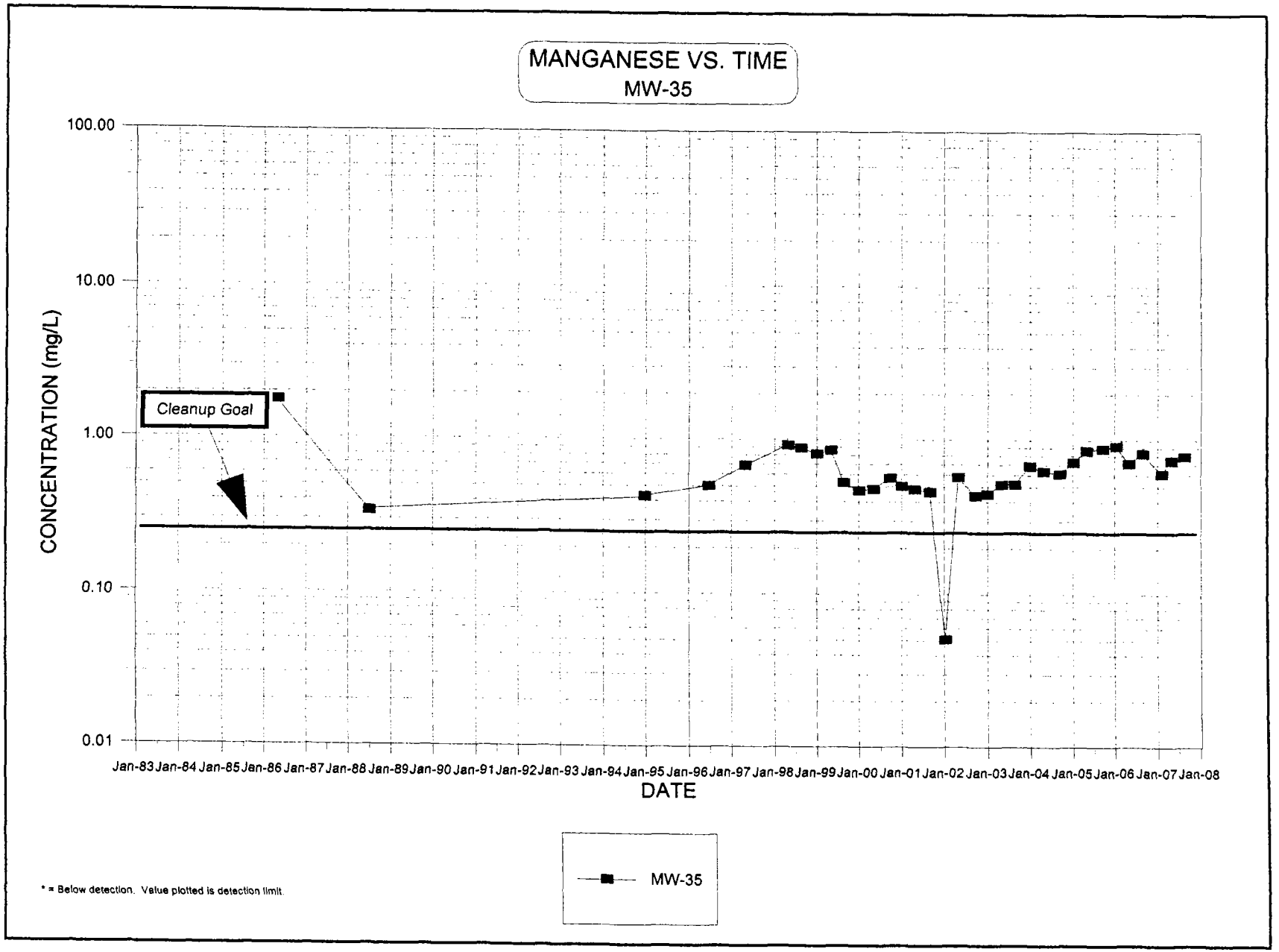

MANGANESE VS. TIME
MW-16
100.00
10.00
1.00
0.10
0.01
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-16

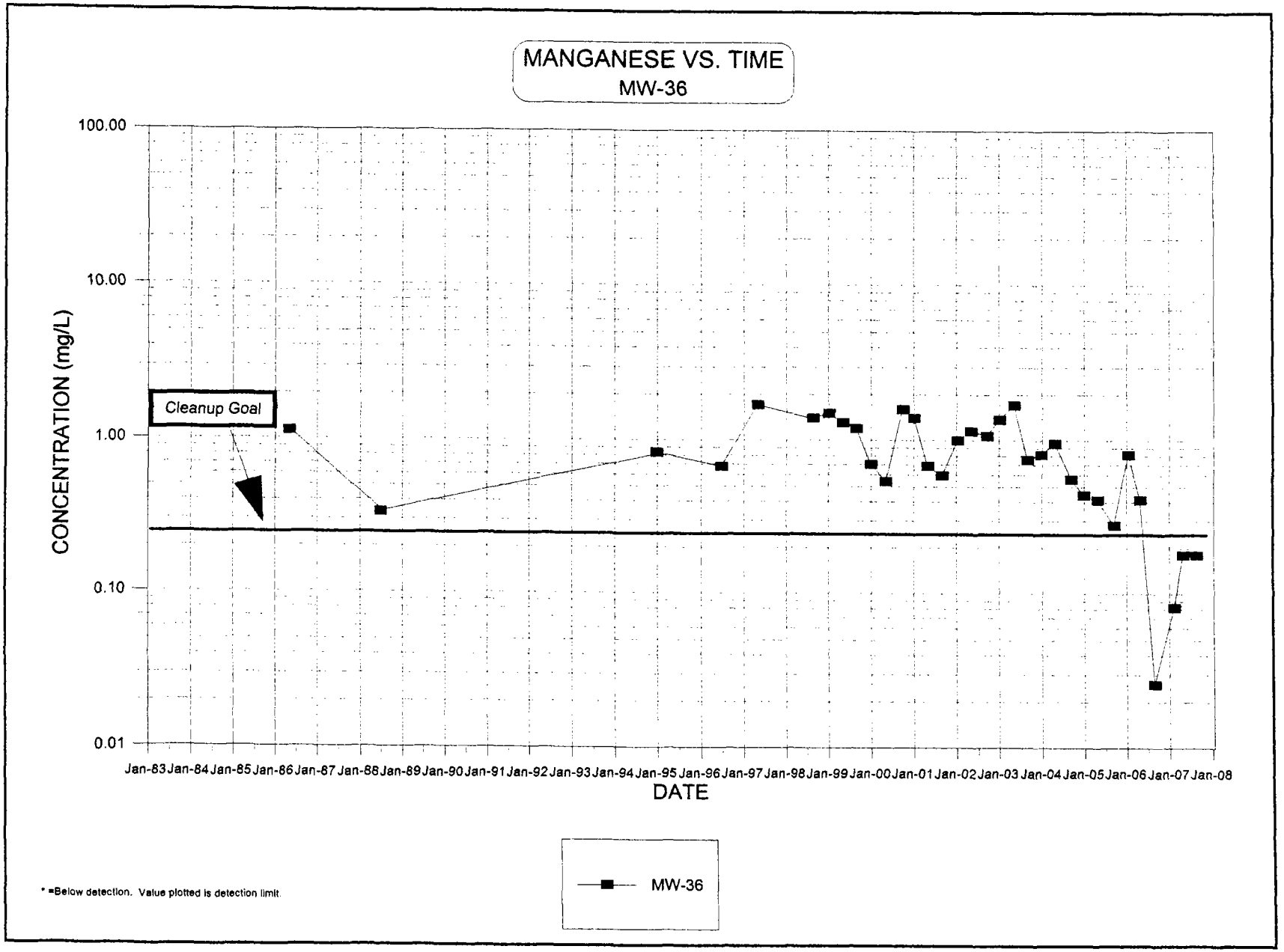

MANGANESE VS. TIME
MW-18
100.00
10.00
1.00
0.10
0.01
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-18


MANGANESE VS. TIME
MW-28
100.00
10.00
1.00
0.10
0.01
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-28

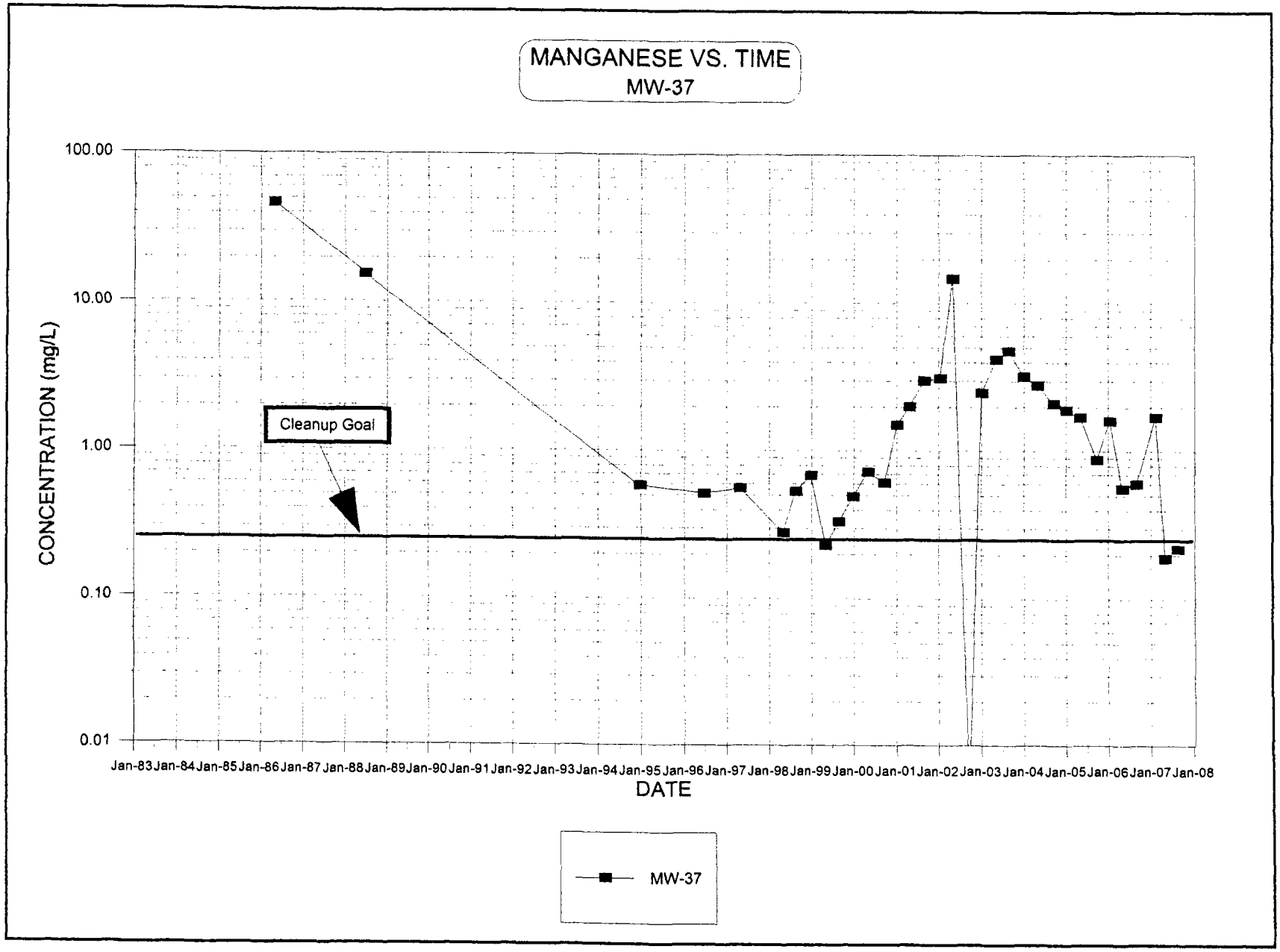

MANGANESE VS. TIME
MW-31
100.00
10.00
1.00
0.10
0.01
CONCENTRATION (mg/L)
Cleanup Goal
Dec-82 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-31


MANGANESE VS. TIME
MW-32
100.00
10.00
1.00
0.10
0.01
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-32


MANGANESE VS. TIME
MW-35
100.00
10.00
1.00
0.10
0.01
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-35
* = Below detection. Value plotted is detection limit.

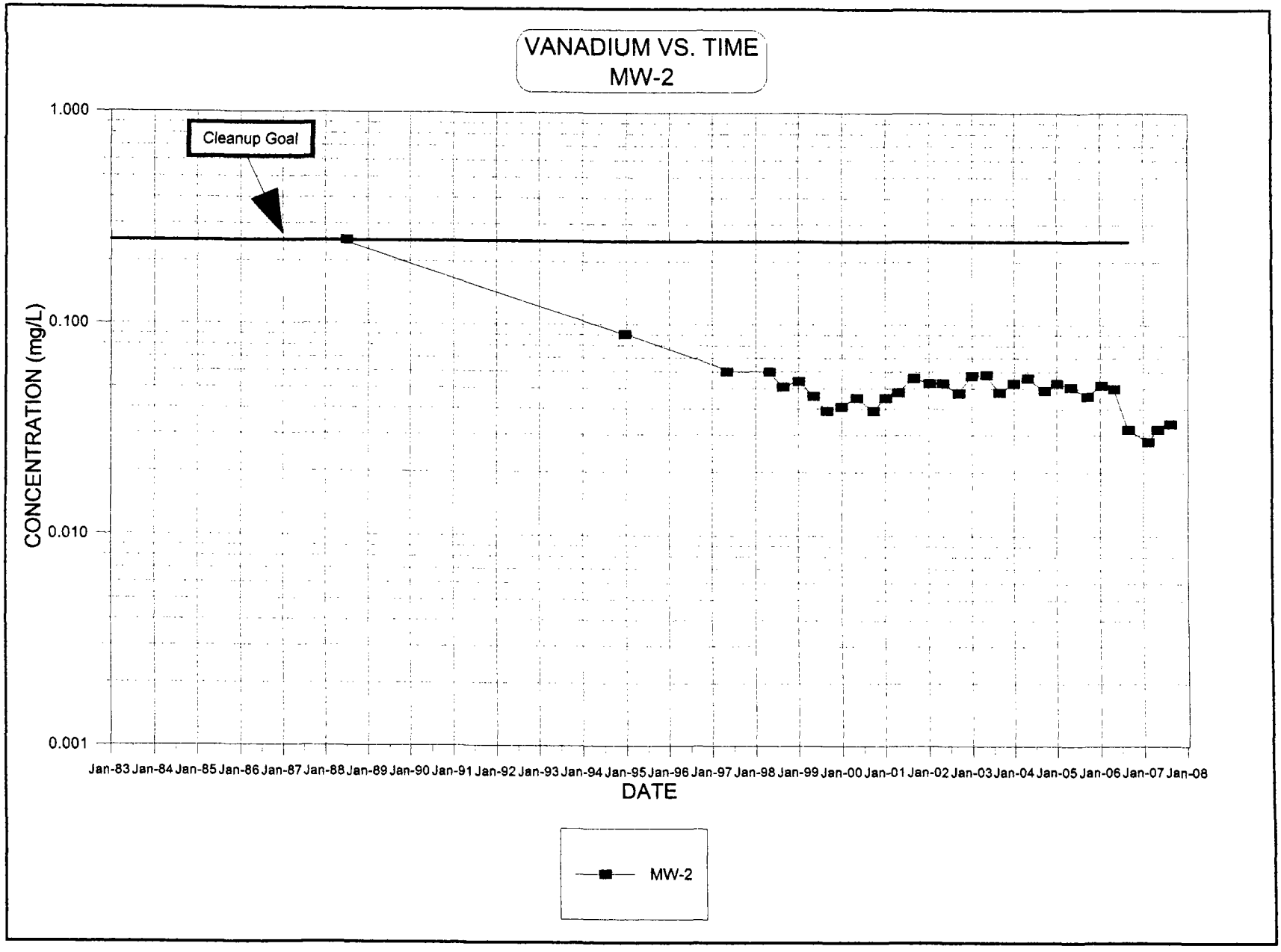


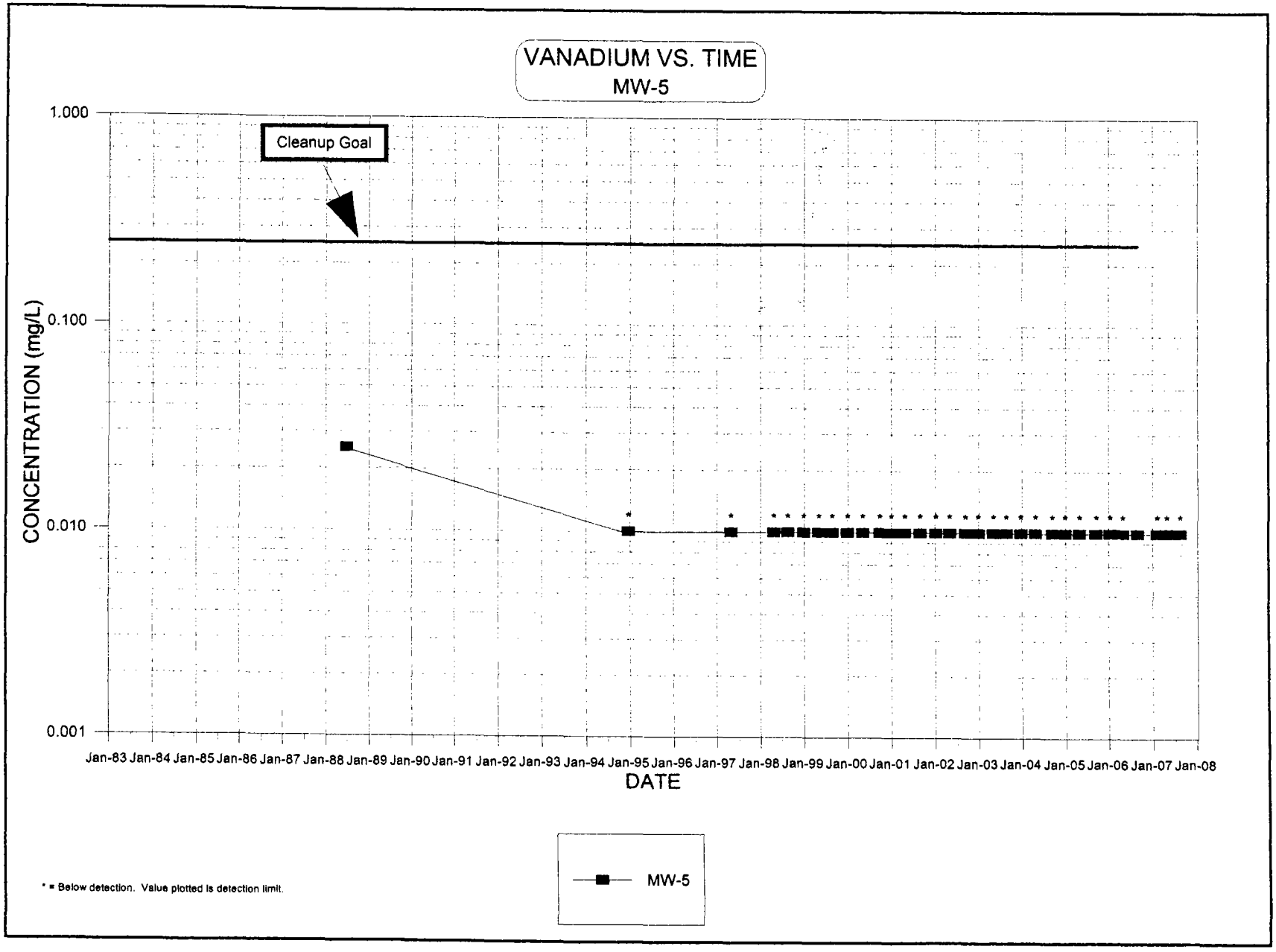
* =Below detection. Value plotted is detection limit.

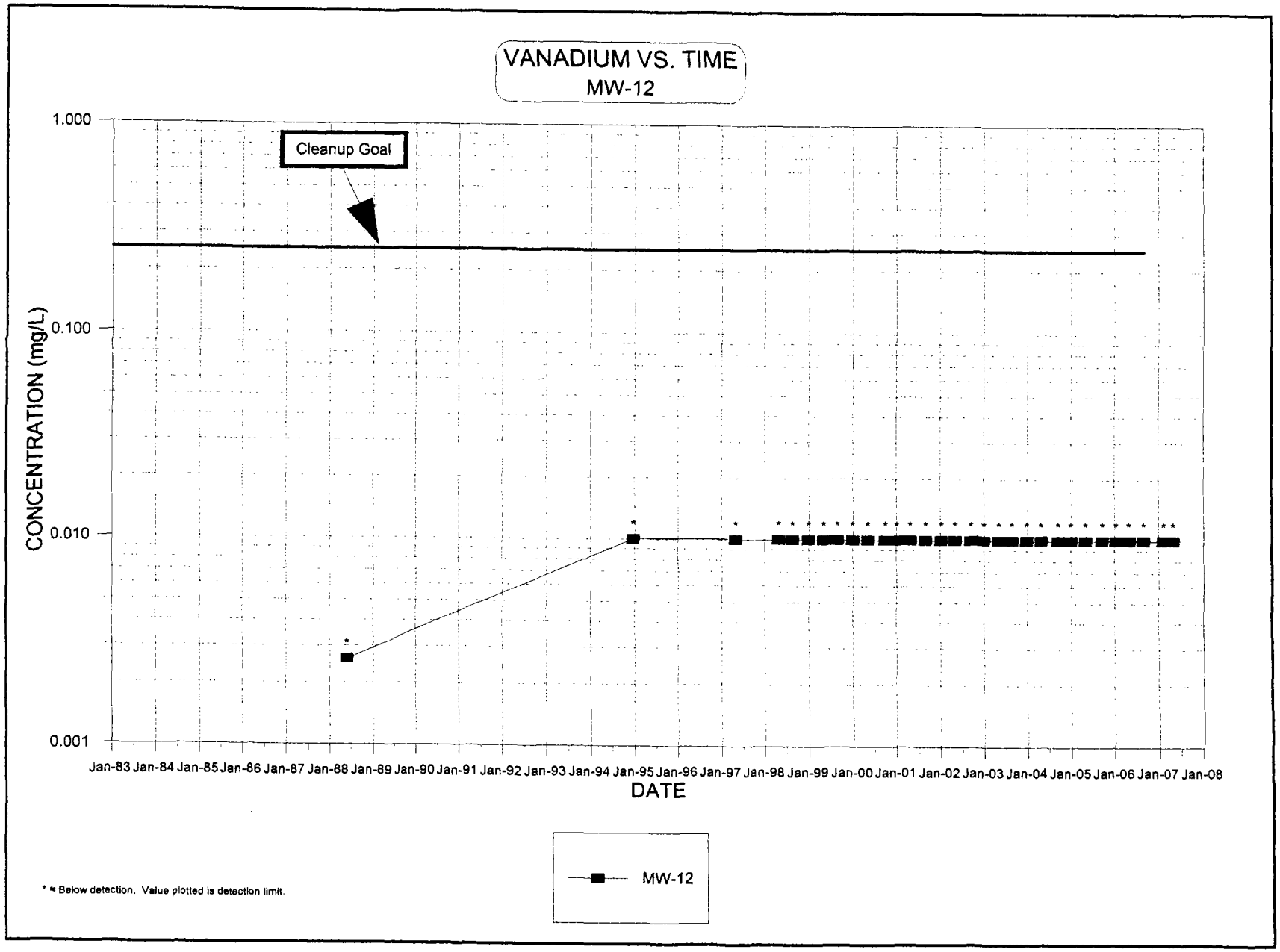

MANGANESE VS. TIME
MW-37
100.00
10.00
1.00
0.10
0.01
CONCENTRATION (mg/L)
Cleanup Goal
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-37

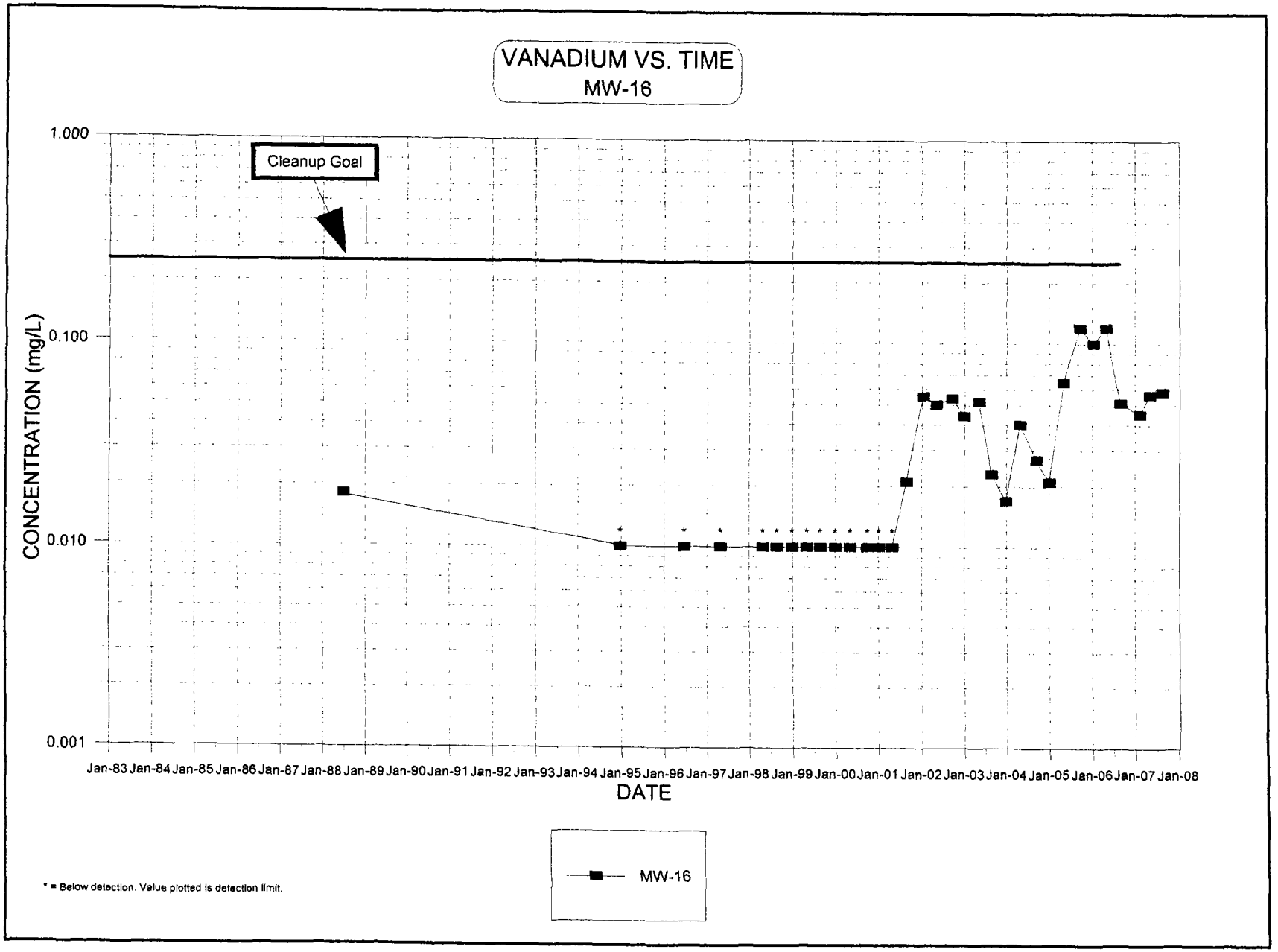
APPENDIX D-7

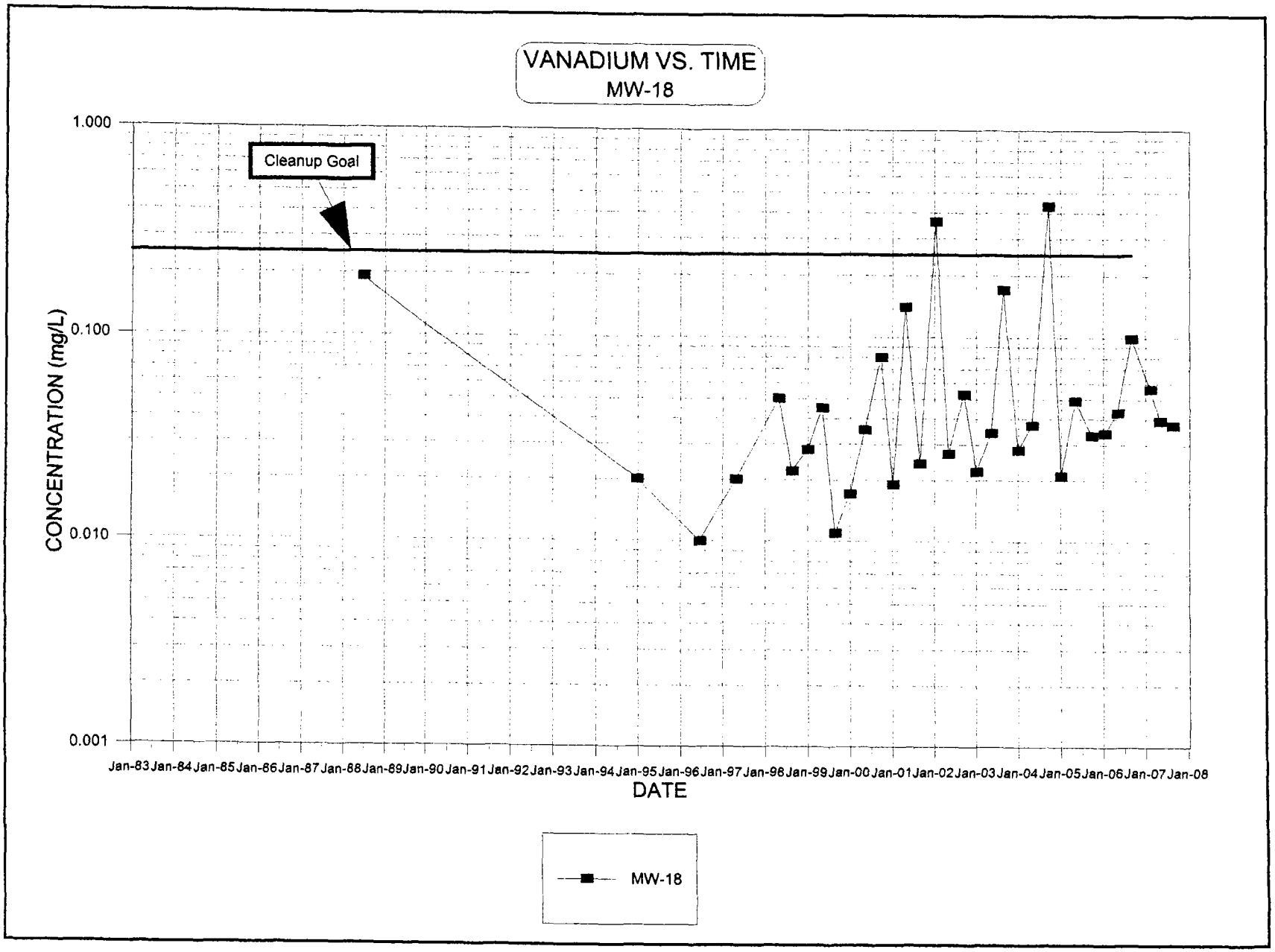
VANADIUM

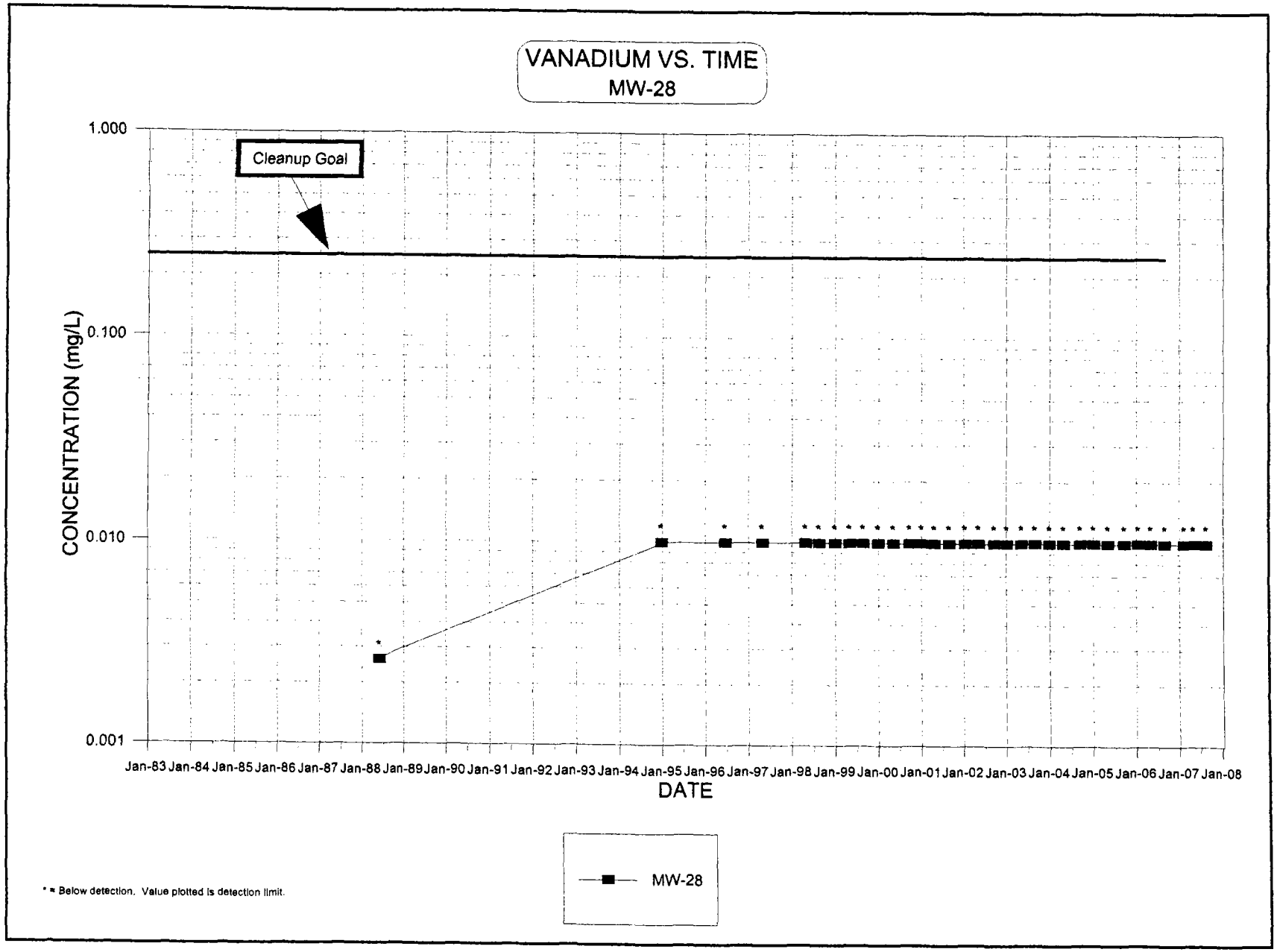

VANADIUM VS. TIME
MW-2
Cleanup Goal
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-2

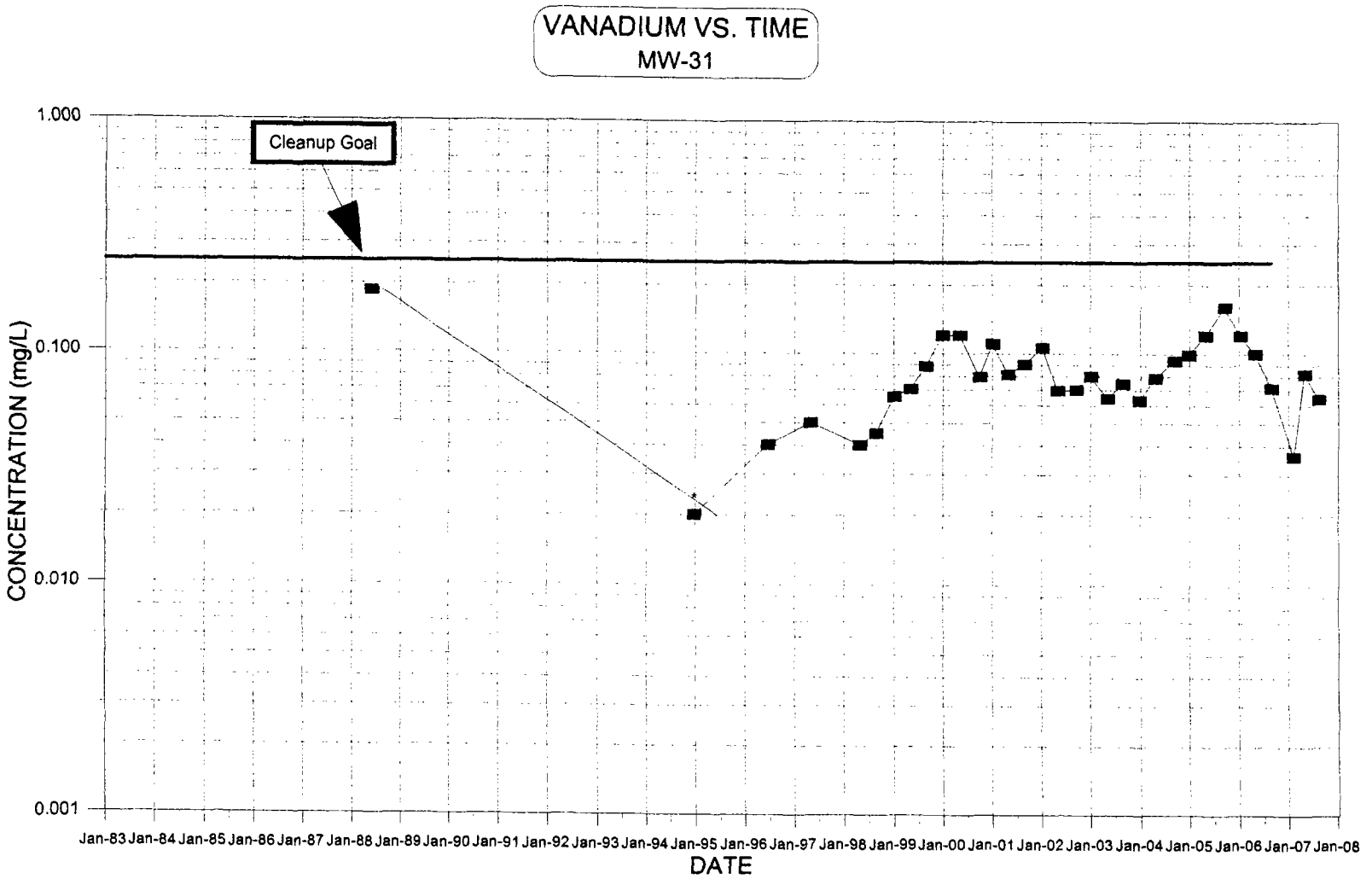

VANADIUM VS. TIME
MW-5
Cleanup Goal
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-5
* = Below detection. Value plotted is detection limit.


VANADIUM VS. TIME
MW-12
Cleanup Goal
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-12
* = Below detection. Value plotted is detection limit.

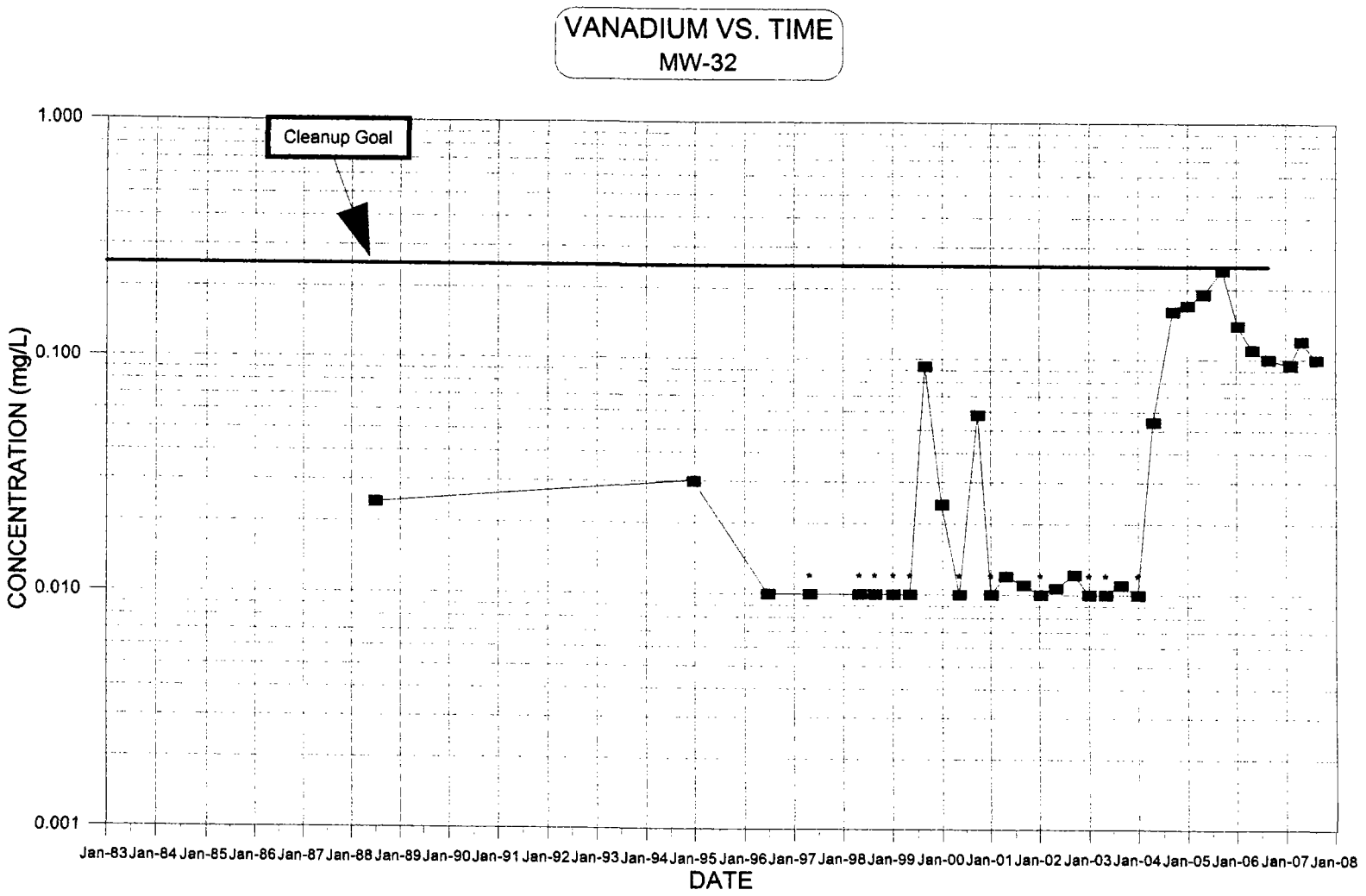

VANADIUM VS. TIME
MW-16
Cleanup Goal
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-16
* = Below detection. Value plotted is detection limit.


VANADIUM VS. TIME
MW-18
Cleanup Goal
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-18

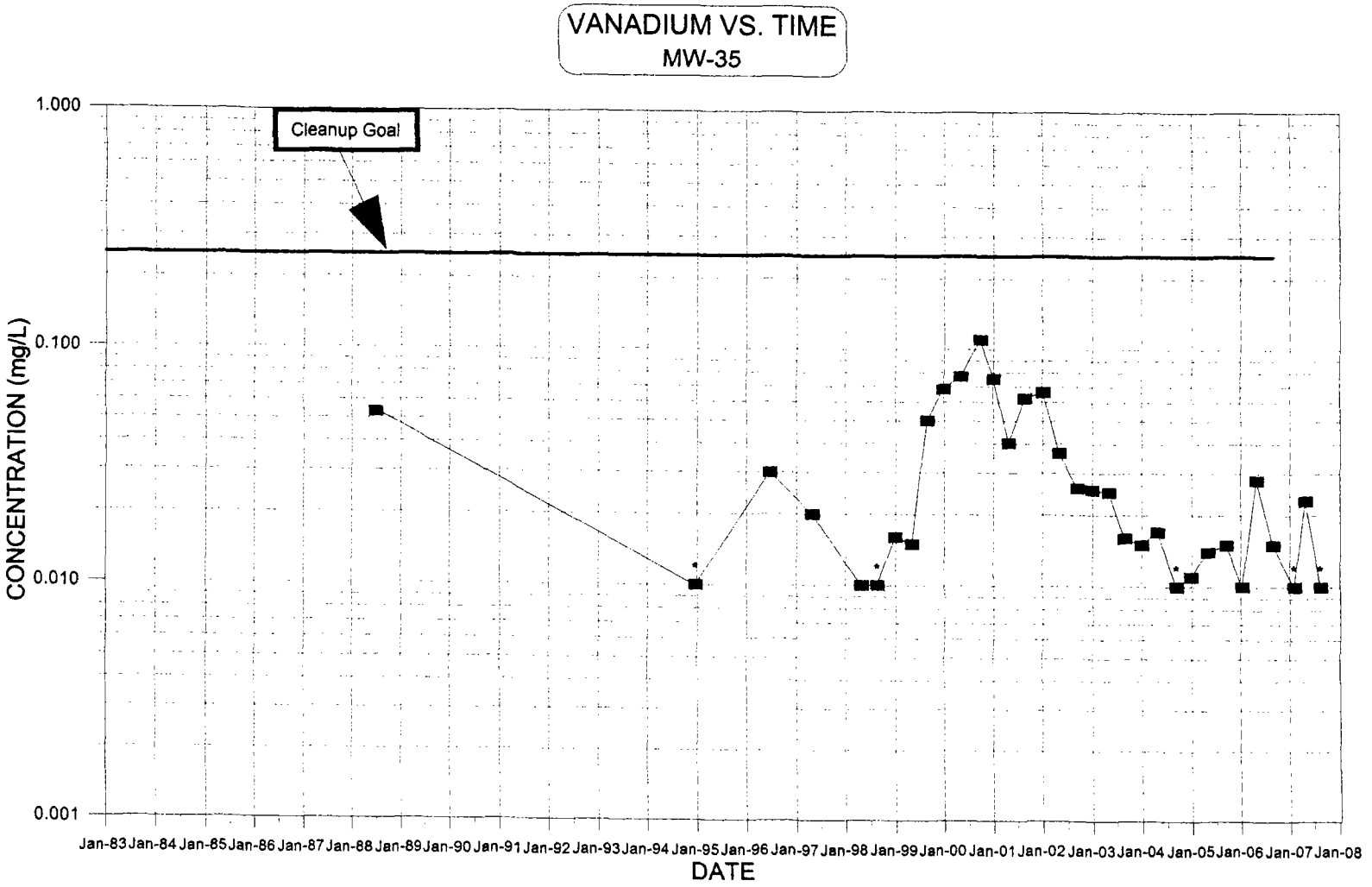

VANADIUM VS. TIME
MW-28
Cleanup Goal
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-28
* = Below detection. Value plotted is detection limit.



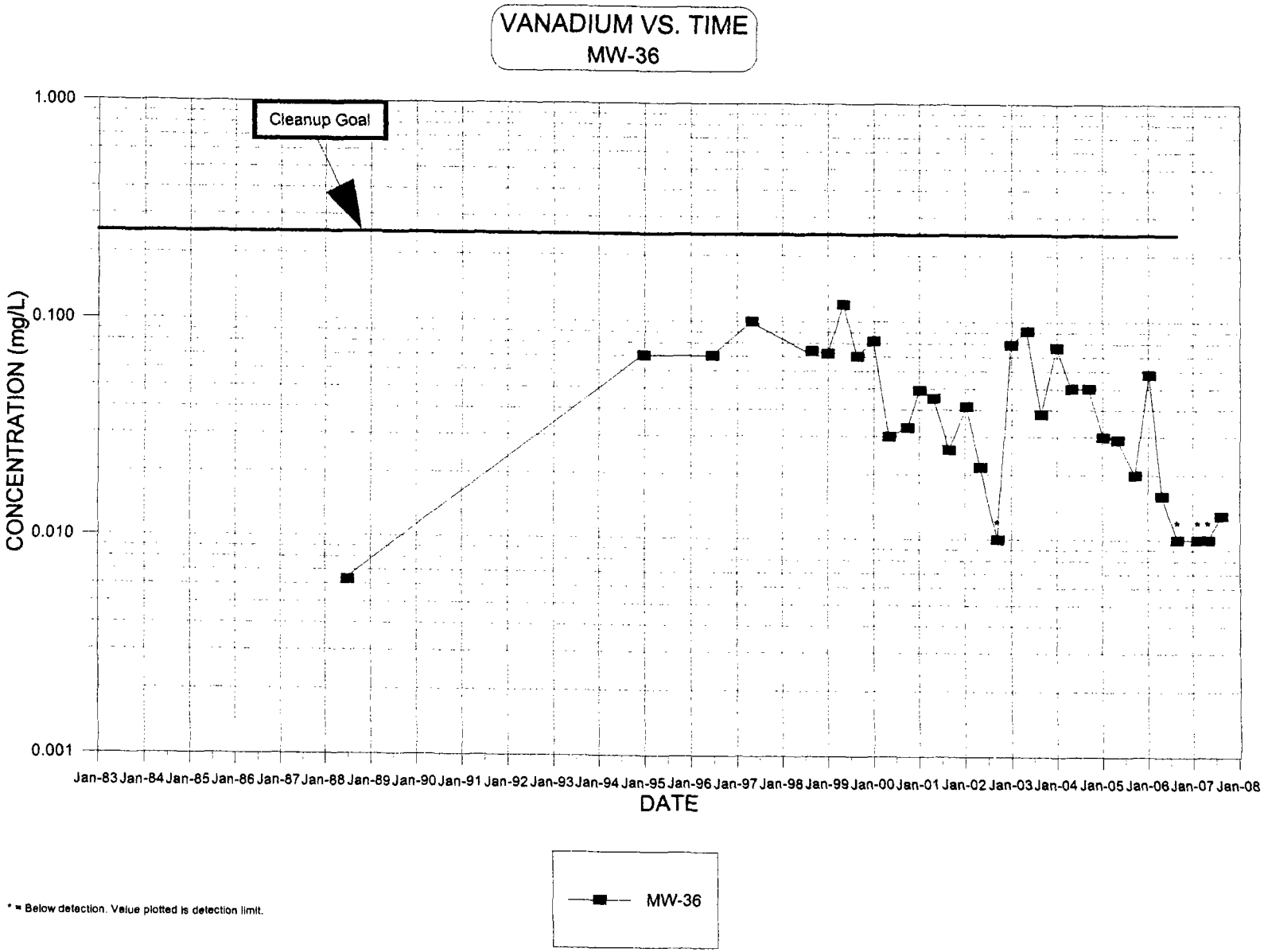
* = Below detection. Value plotted is detection limit.

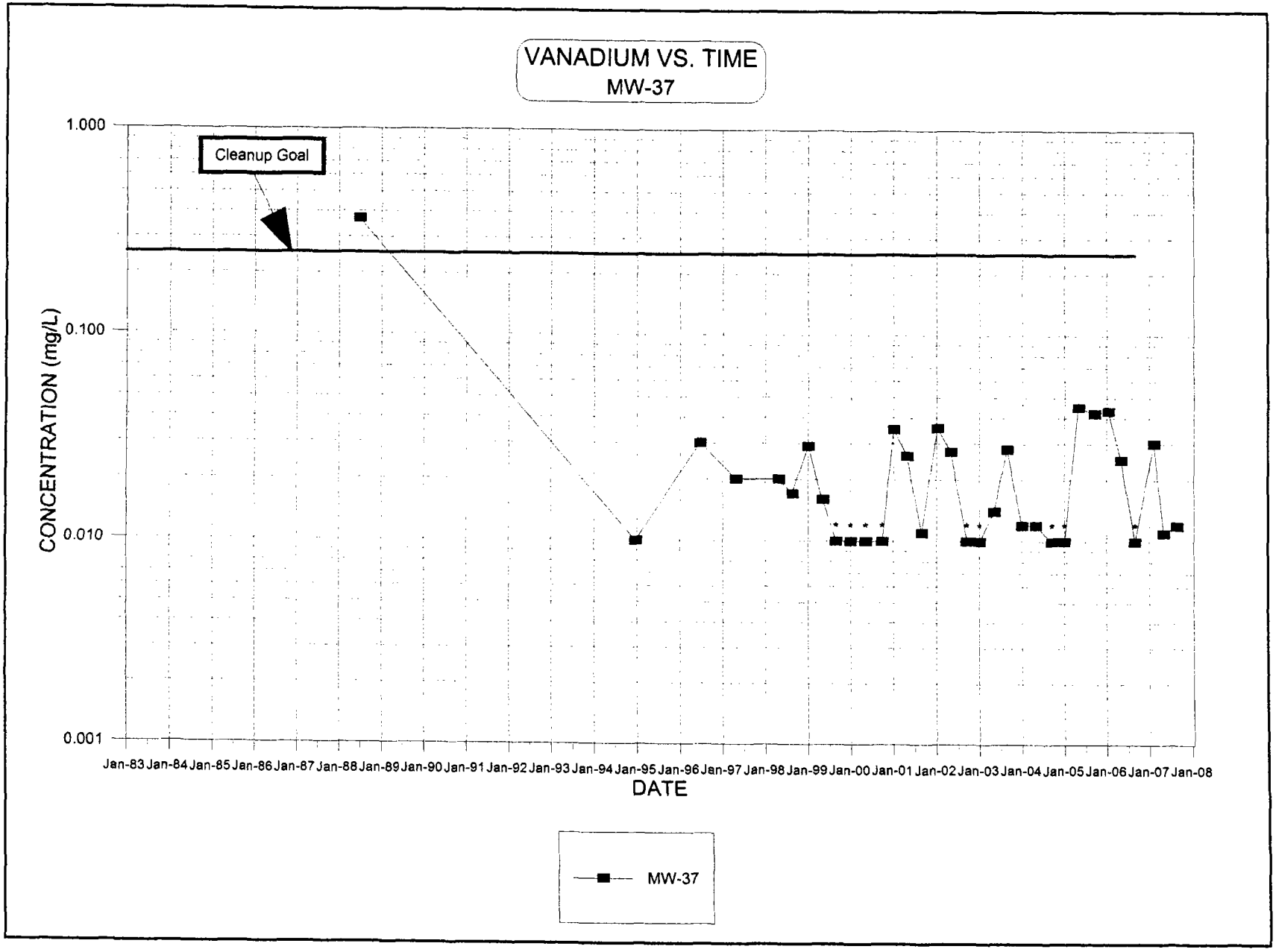


* = Below detection. Value plotted is detection limit.



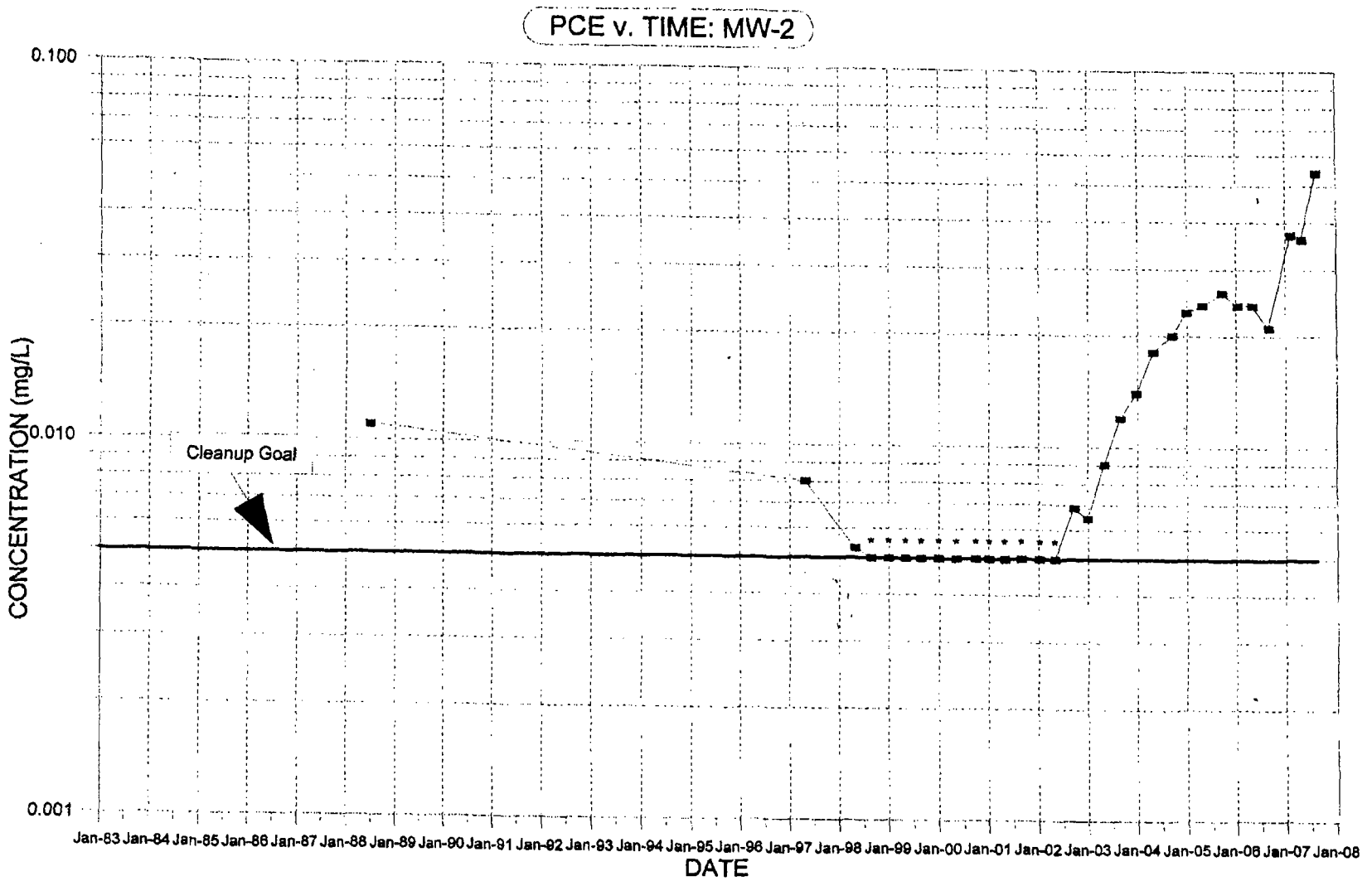
* = Below detection. Value plotted is detection limit.


VANADIUM VS. TIME
MW-36
Cleanup Goal
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-36
* = Below detection. Value plotted is detection limit.

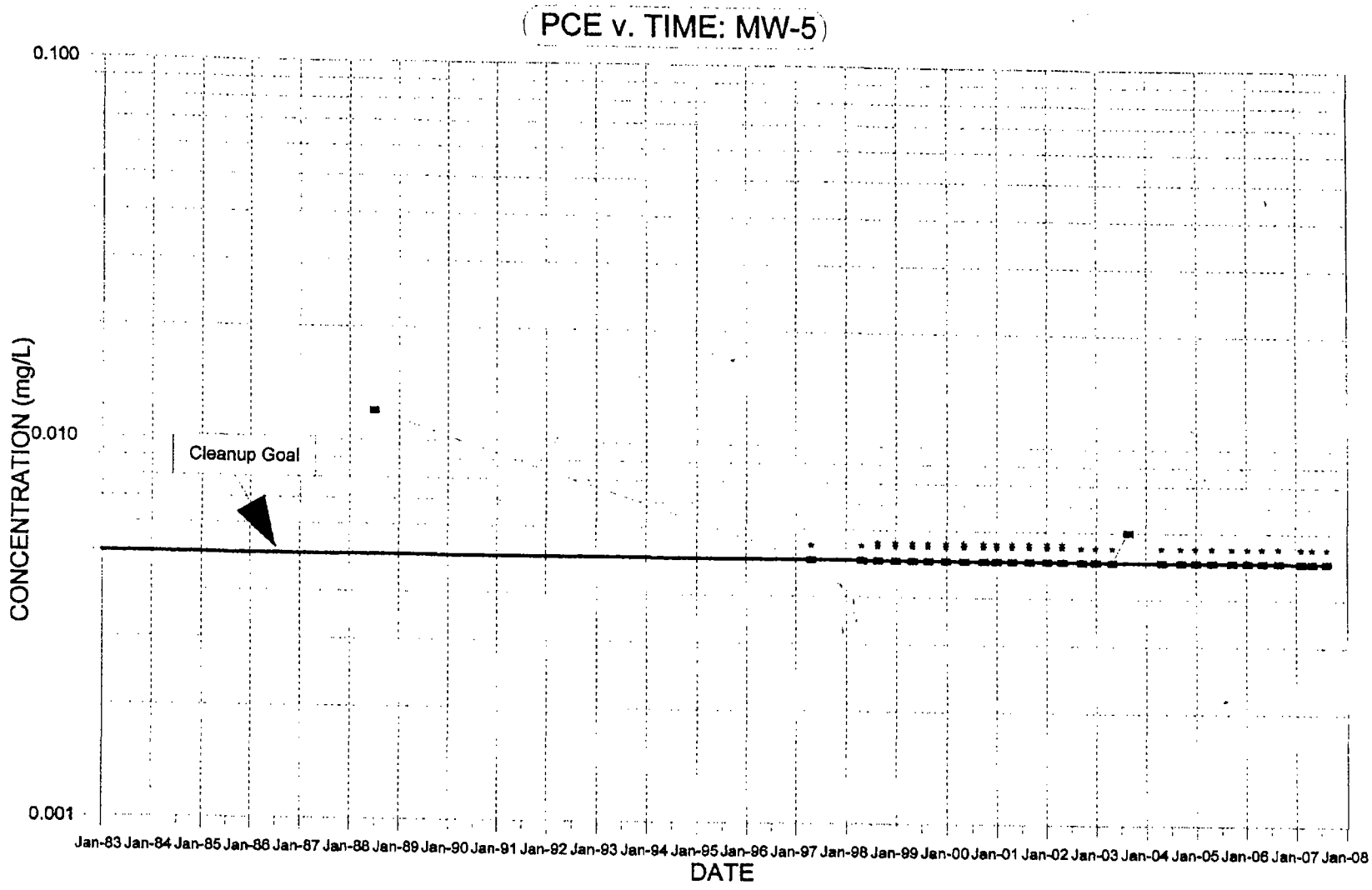

VANADIUM VS. TIME
MW-37
Cleanup Goal
1.000
0.100
0.010
0.001
CONCENTRATION (mg/L)
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-37

APPENDIX D-8

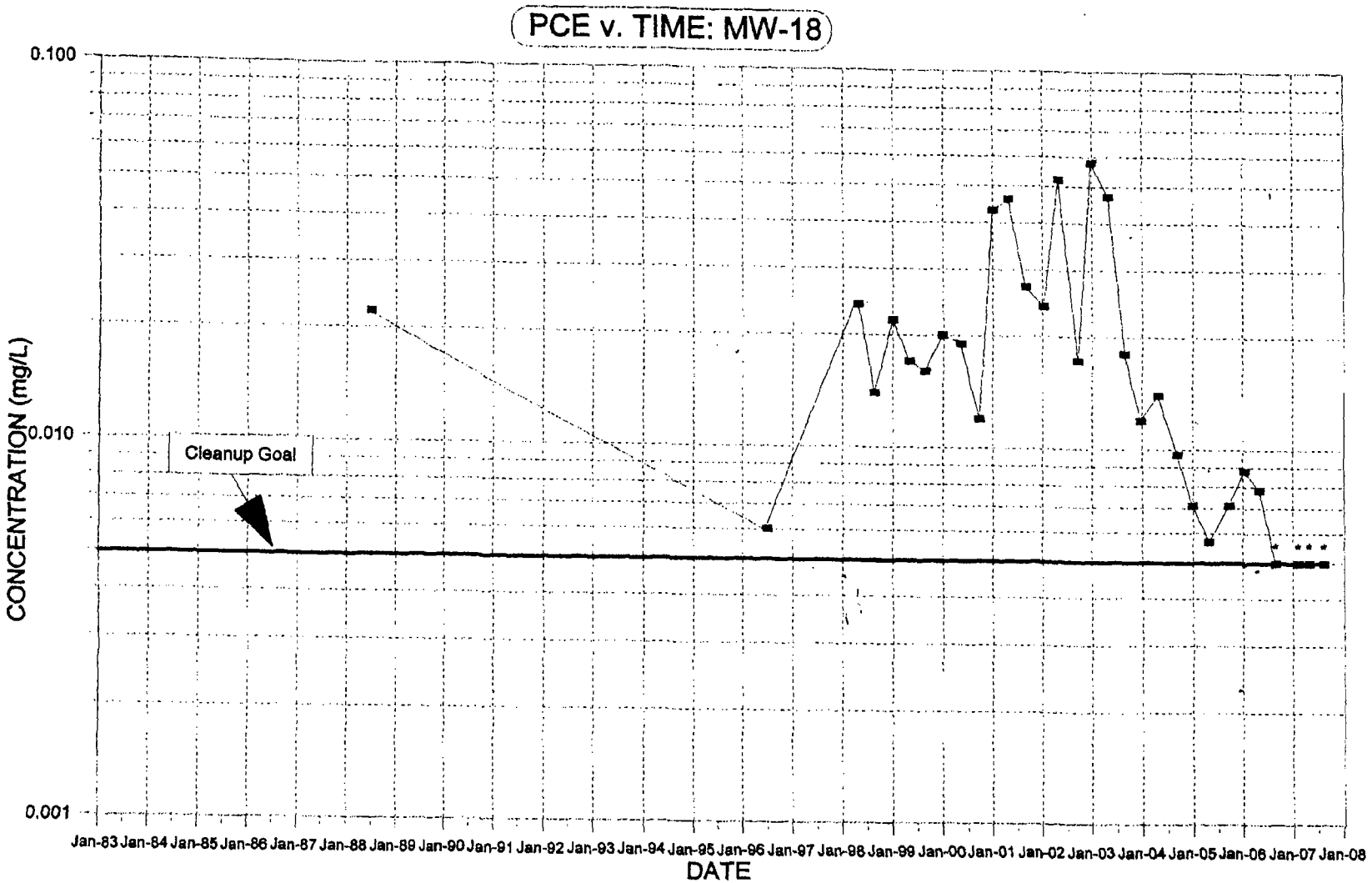
TETRACHLOROETHENE



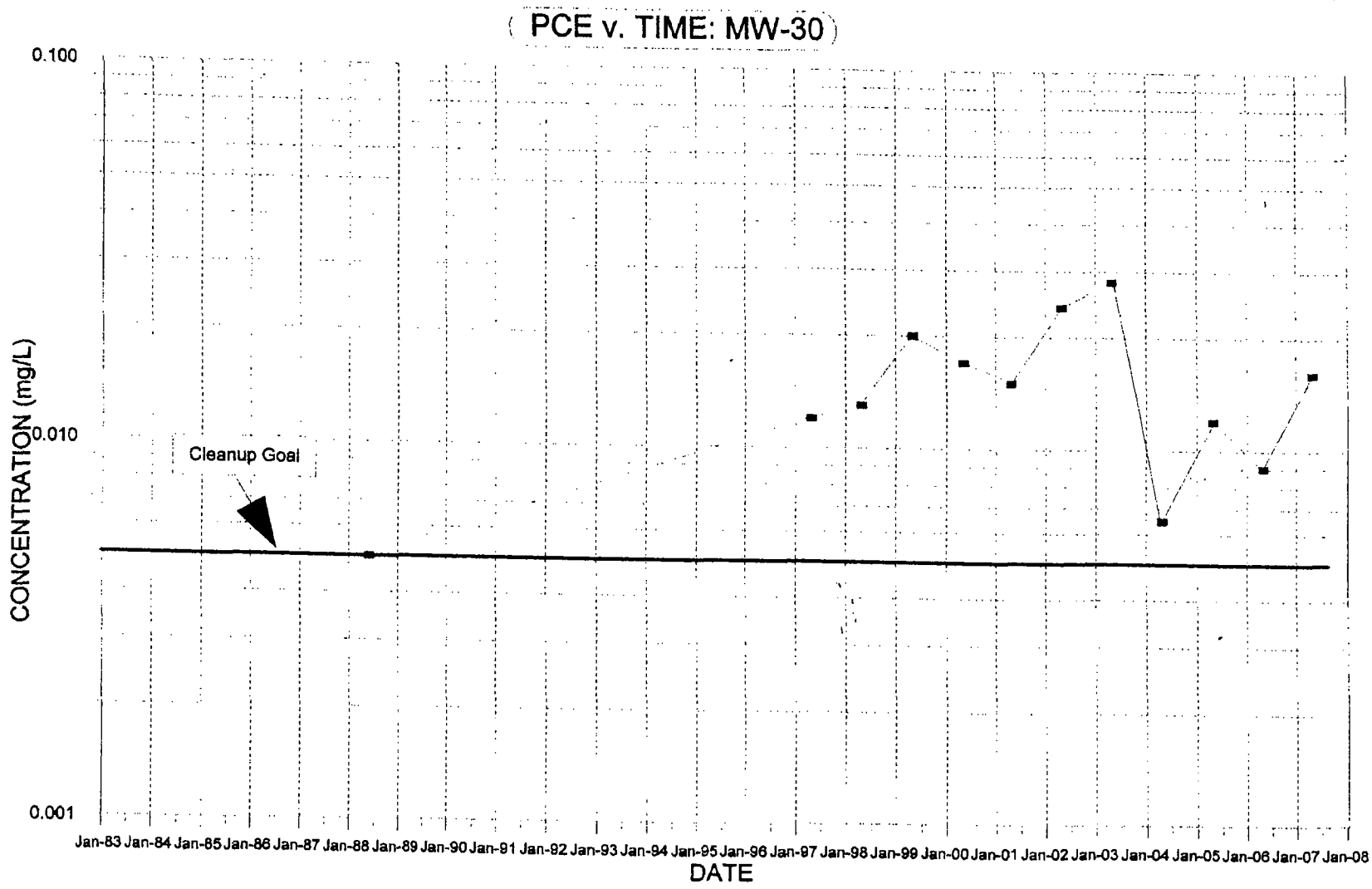
* = Below Detection. Value plotted is detection limit.



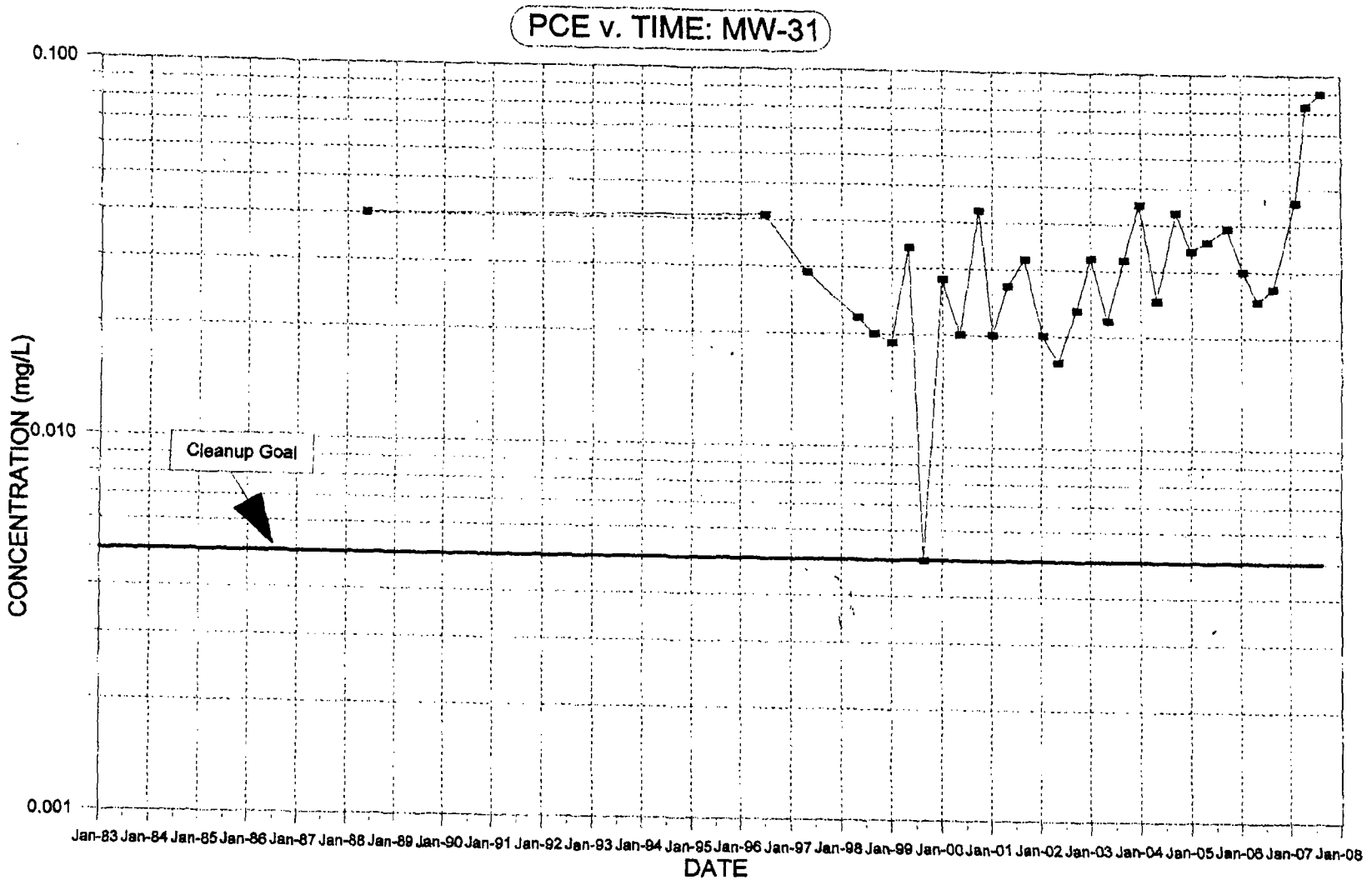
* = Below Detection. Value plotted is detection limit.



* = Below Detection. Value plotted is detection limit.



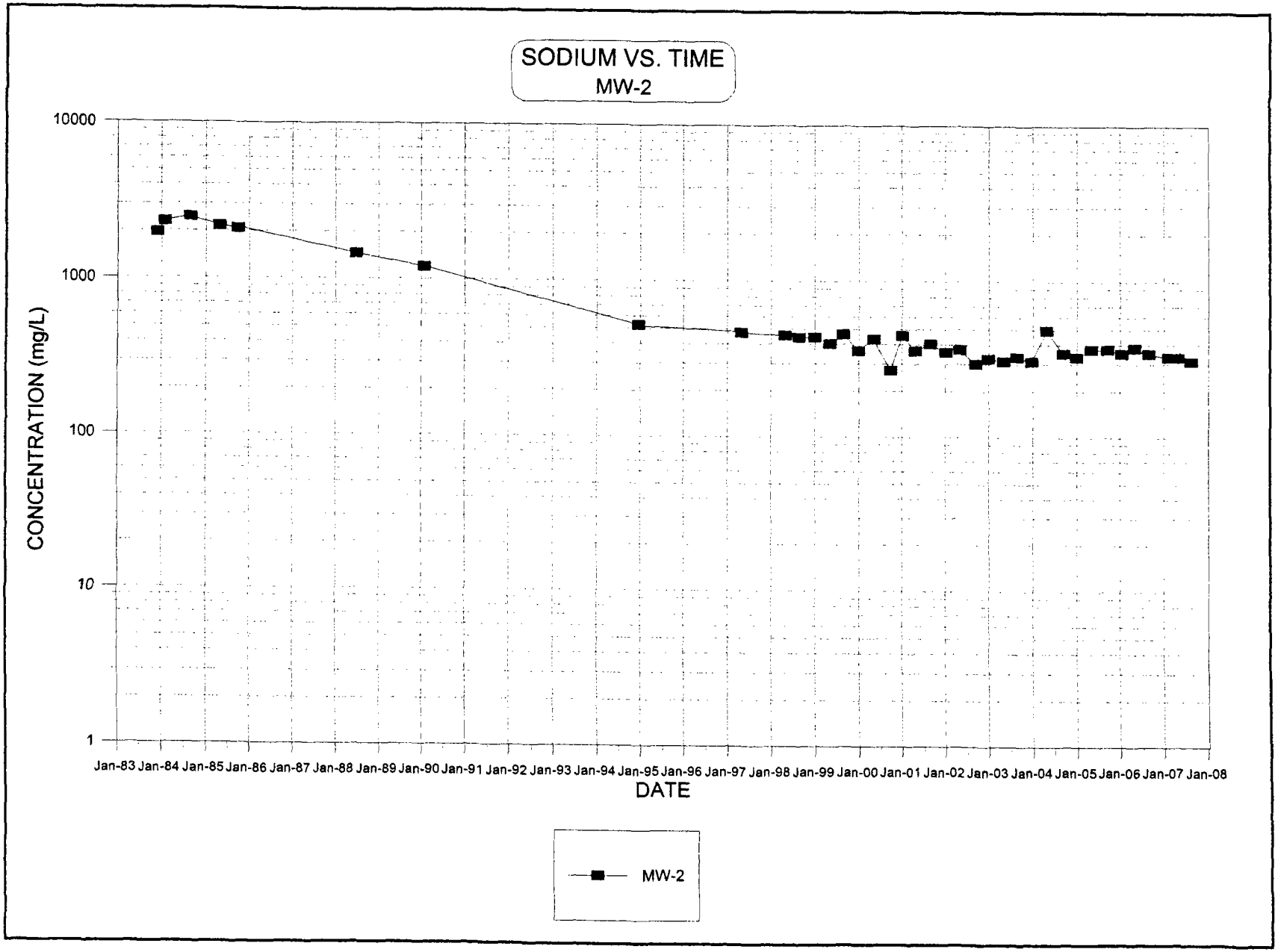
* = Below Detection. Value plotted is detection limit.

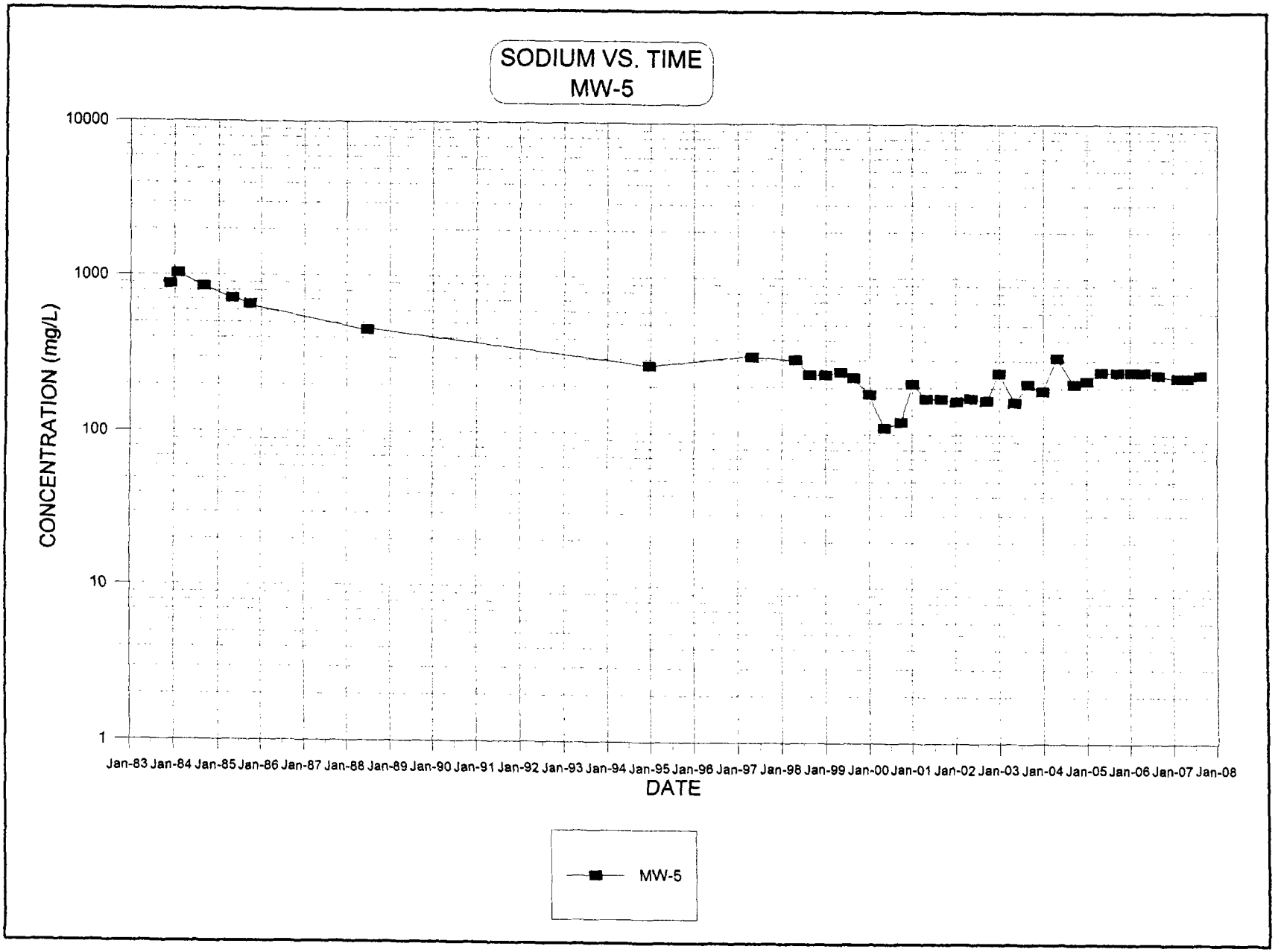


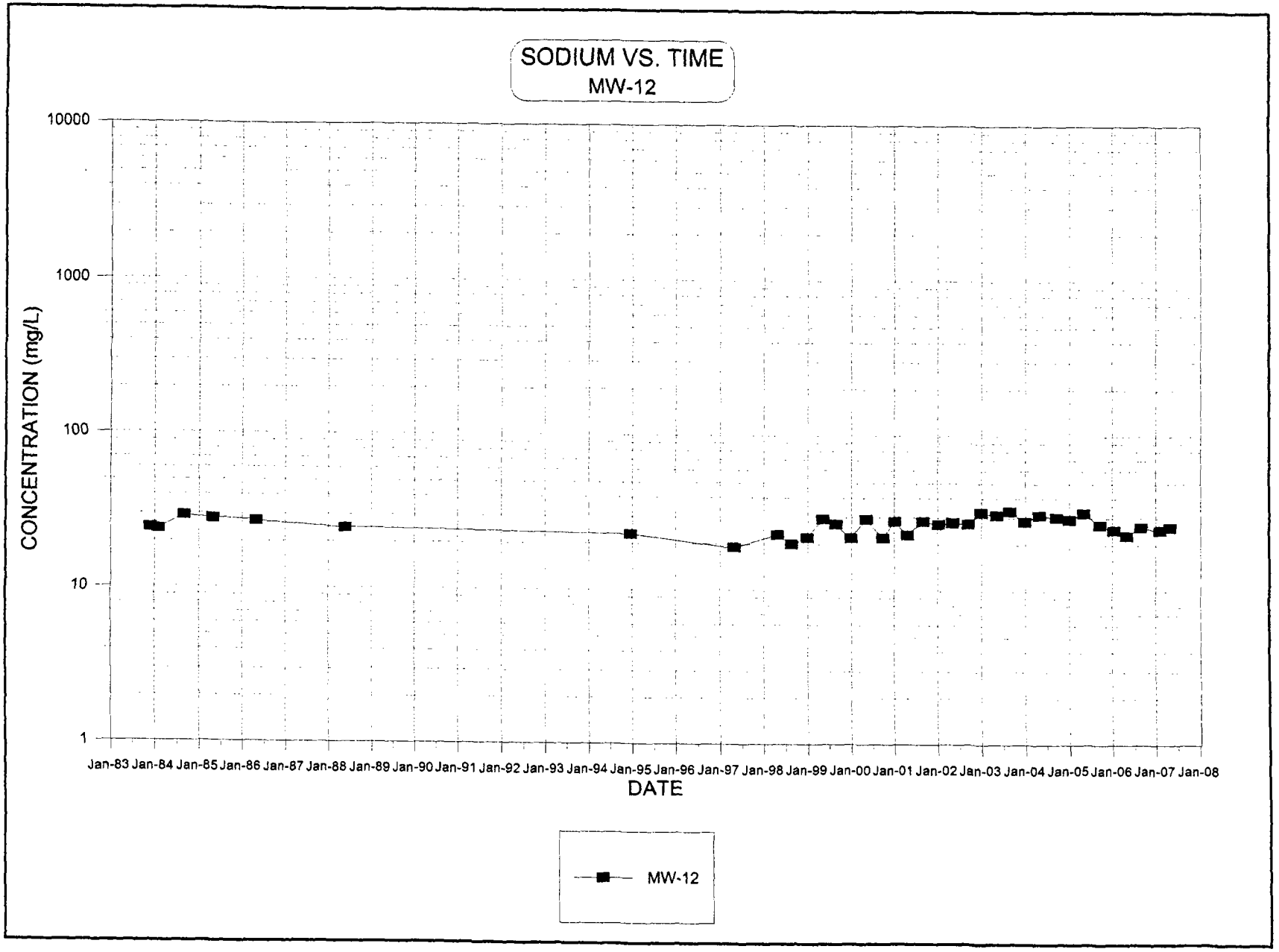
* = Below Detection. Value plotted is detection limit.

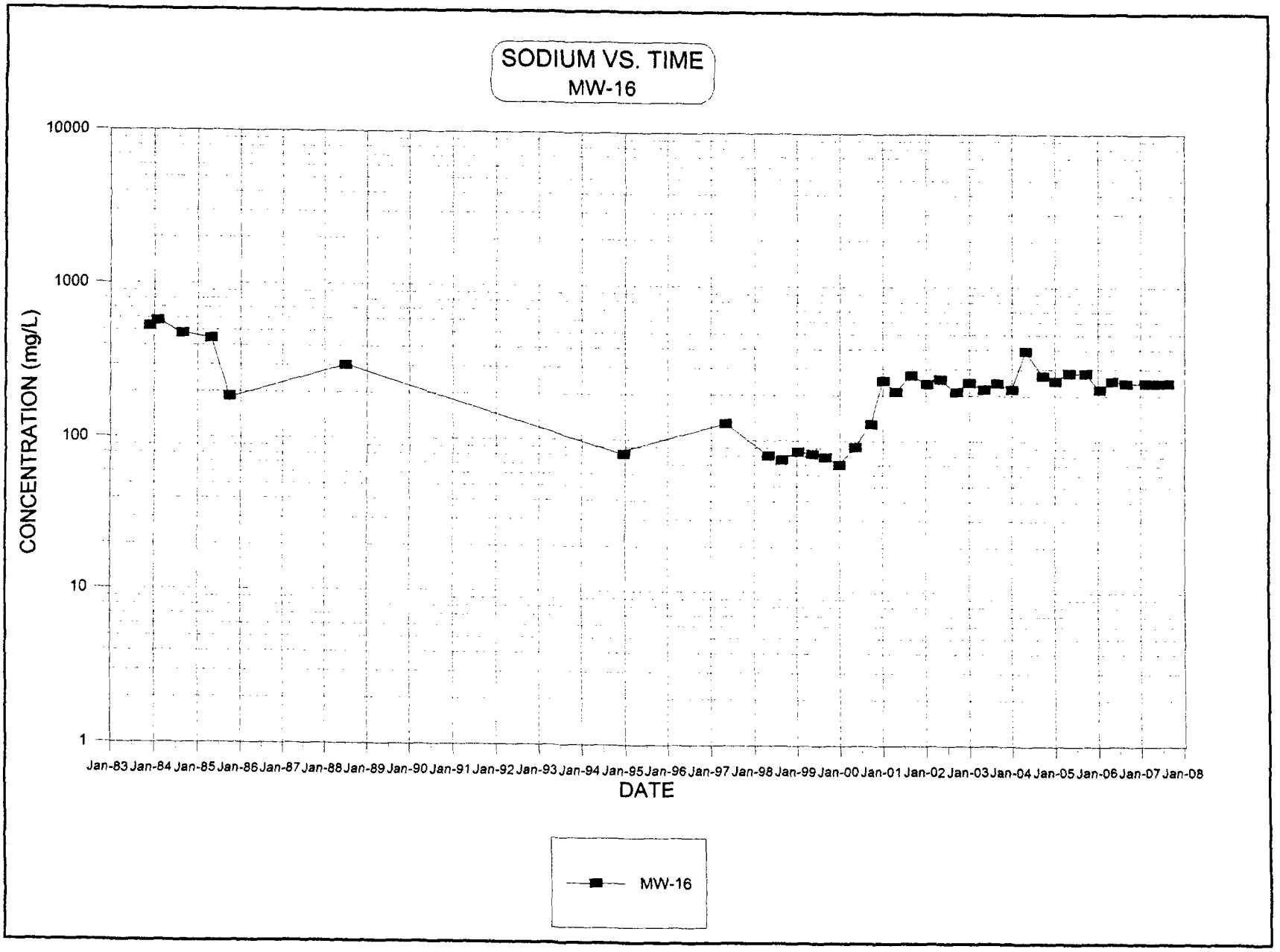
APPENDIX D-9

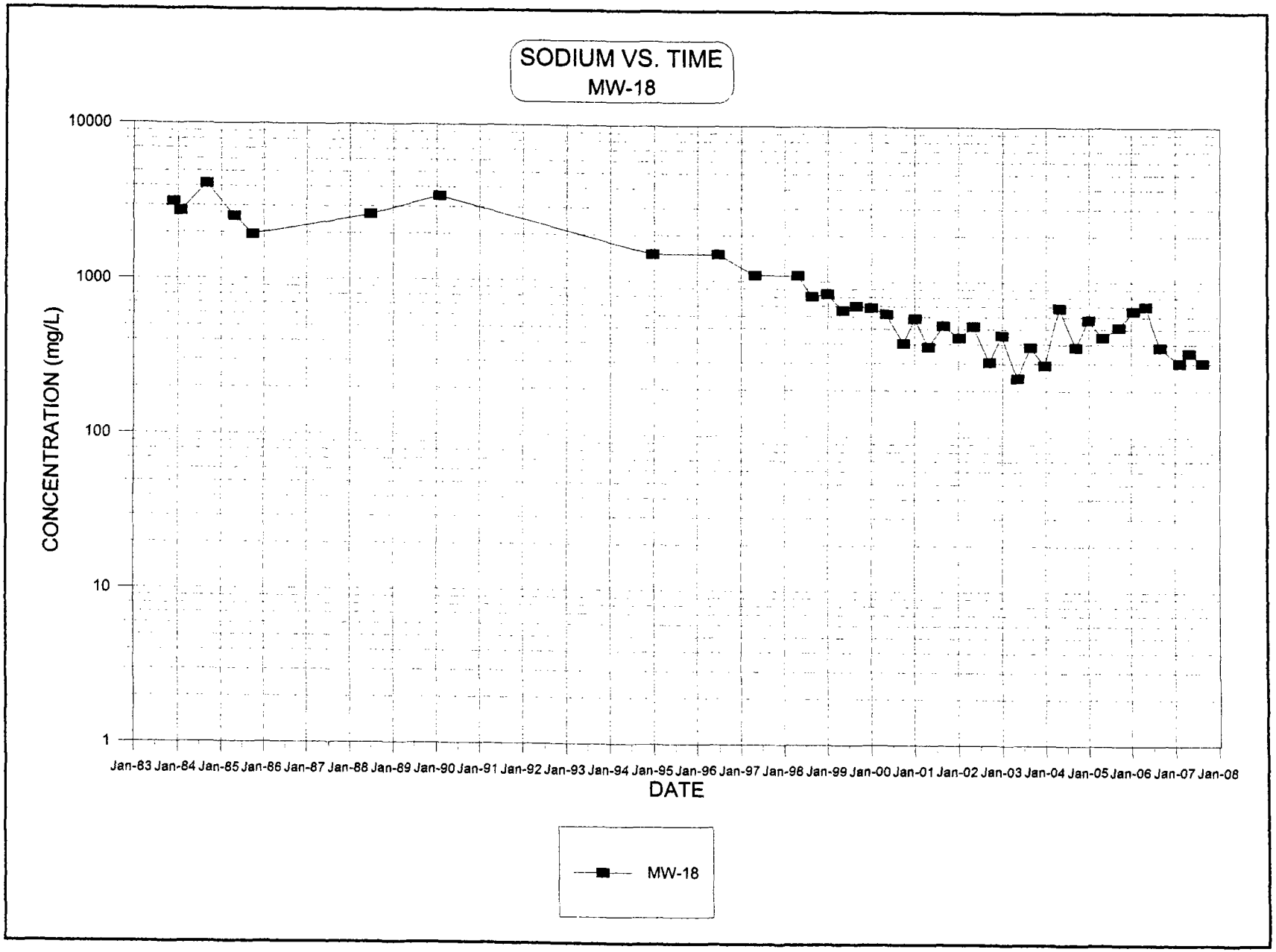
SODIUM

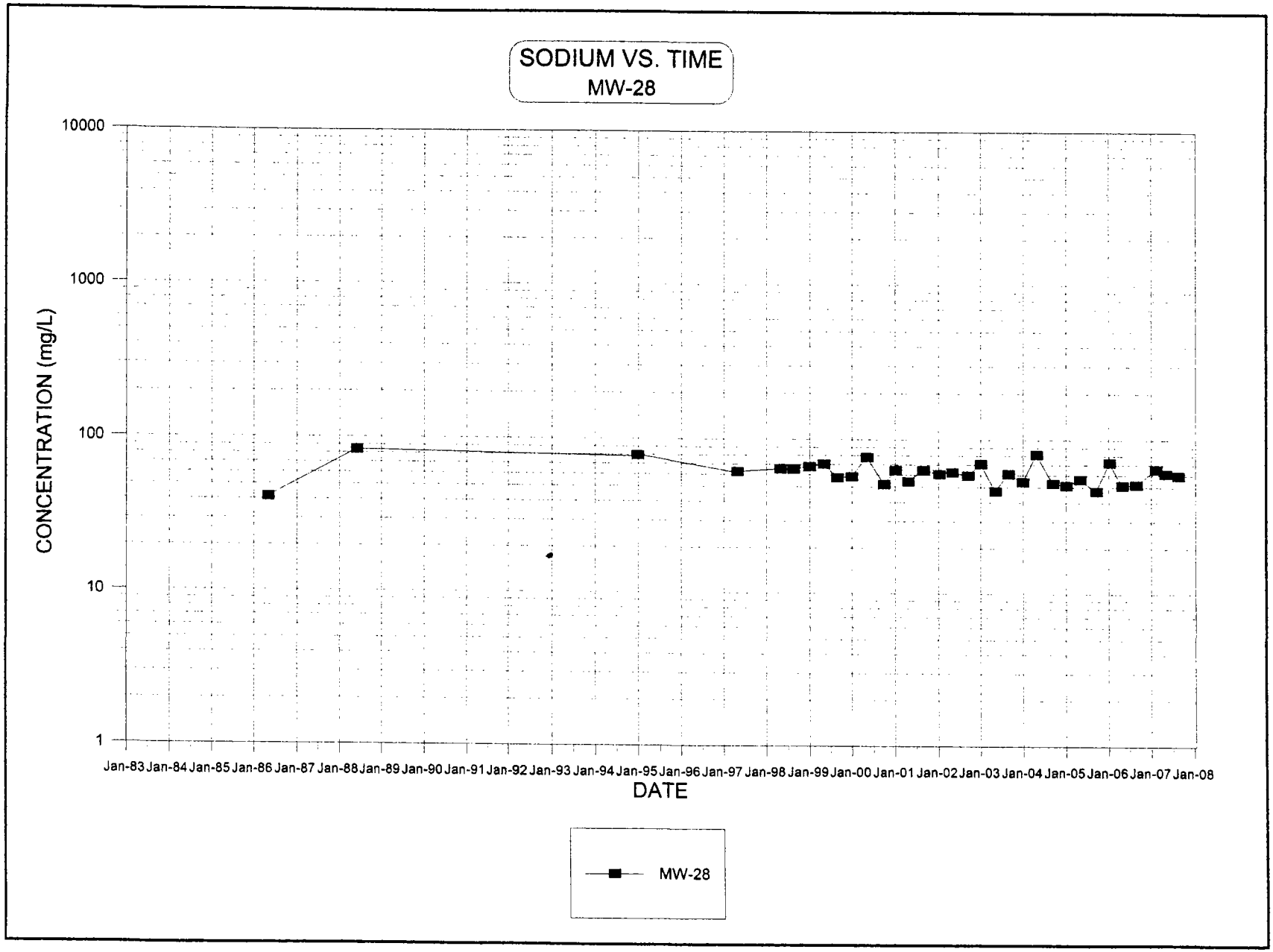

SODIUM VS. TIME
MW-2
CONCENTRATION (mg/L)
10000
1000
100
10
1
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-2

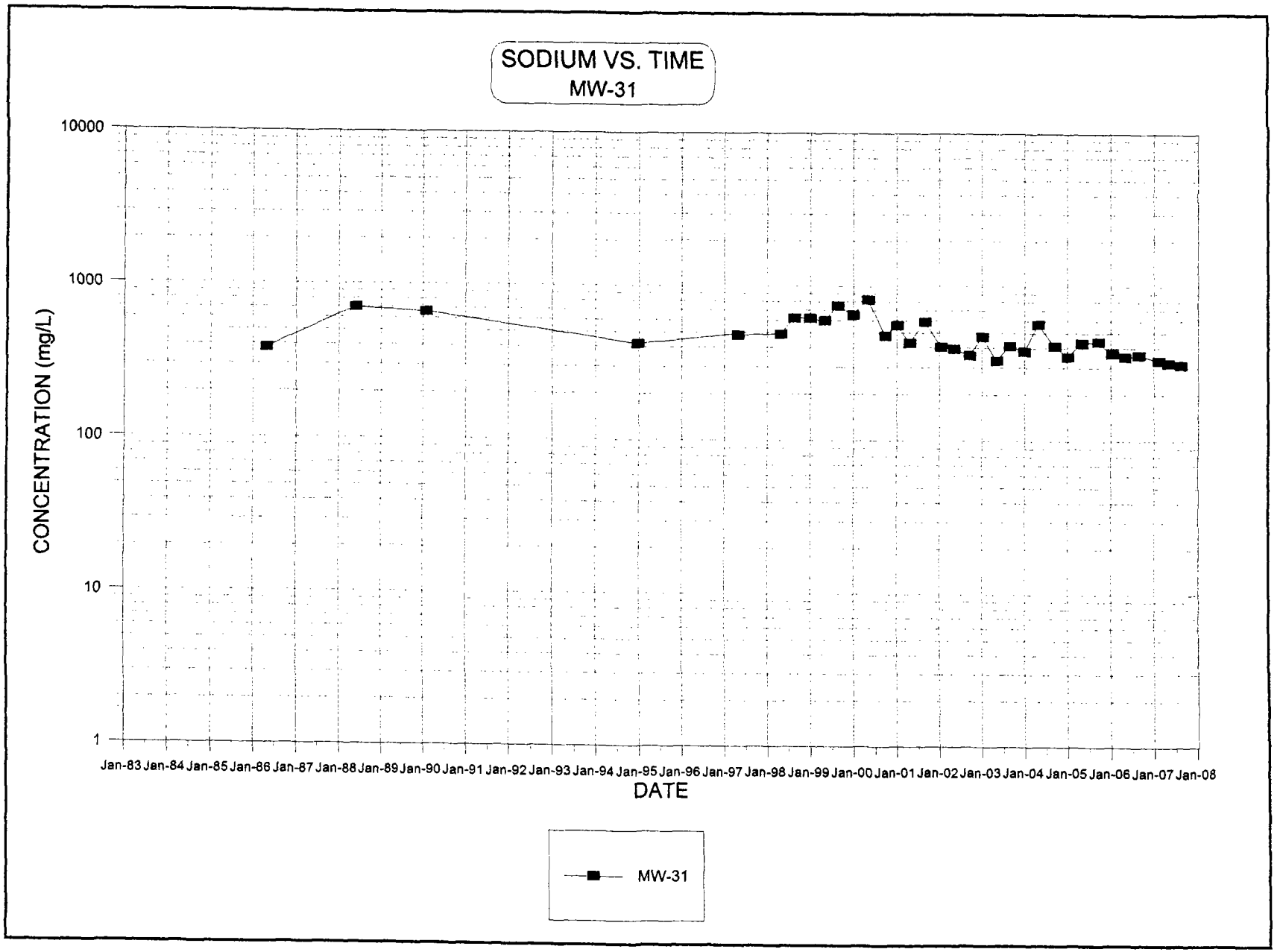

SODIUM VS. TIME
MW-5
CONCENTRATION (mg/L)
10000
1000
100
10
1
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-5

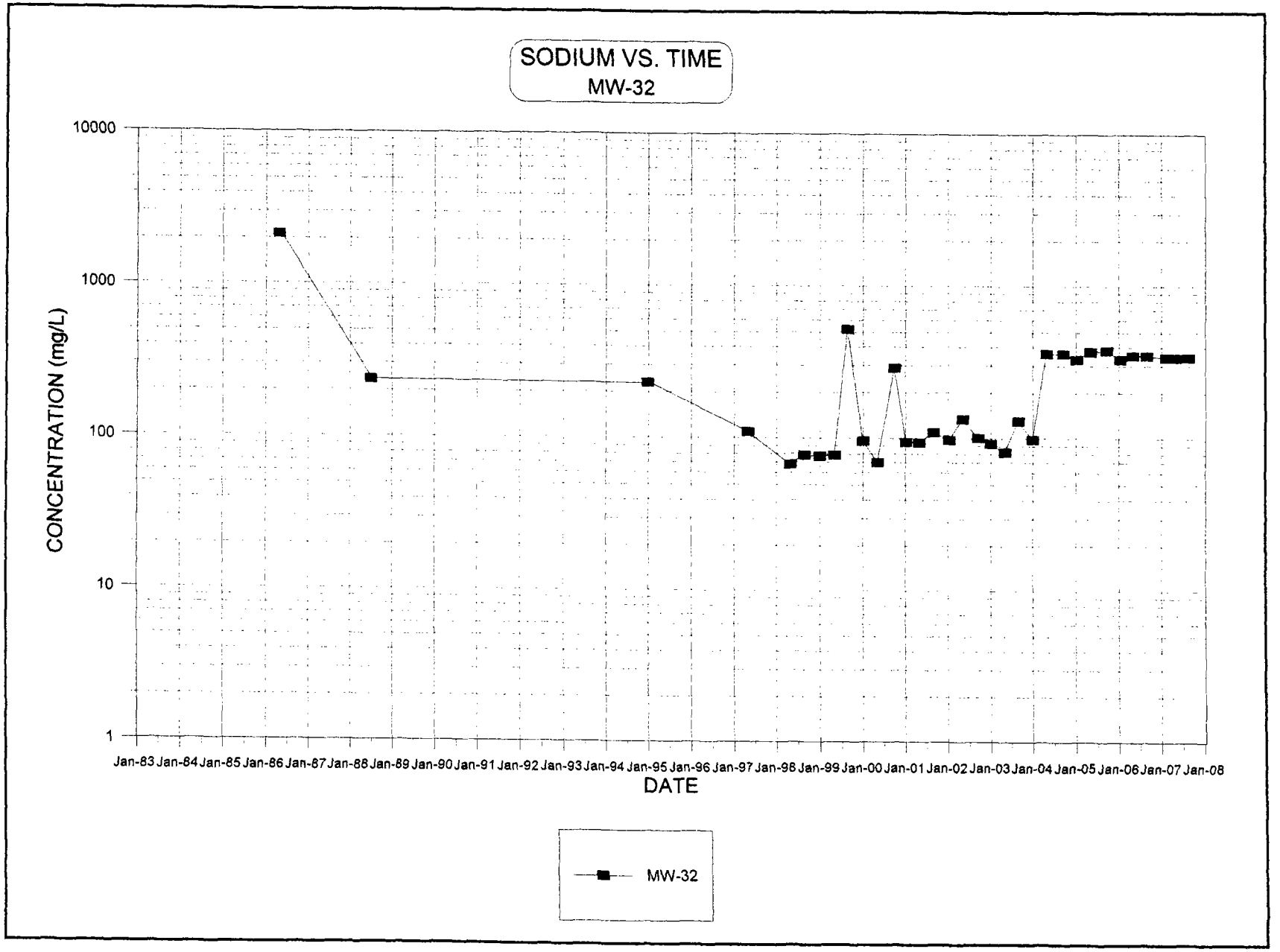

SODIUM VS. TIME
MW-12
CONCENTRATION (mg/L)
10000
1000
100
10
1
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-12

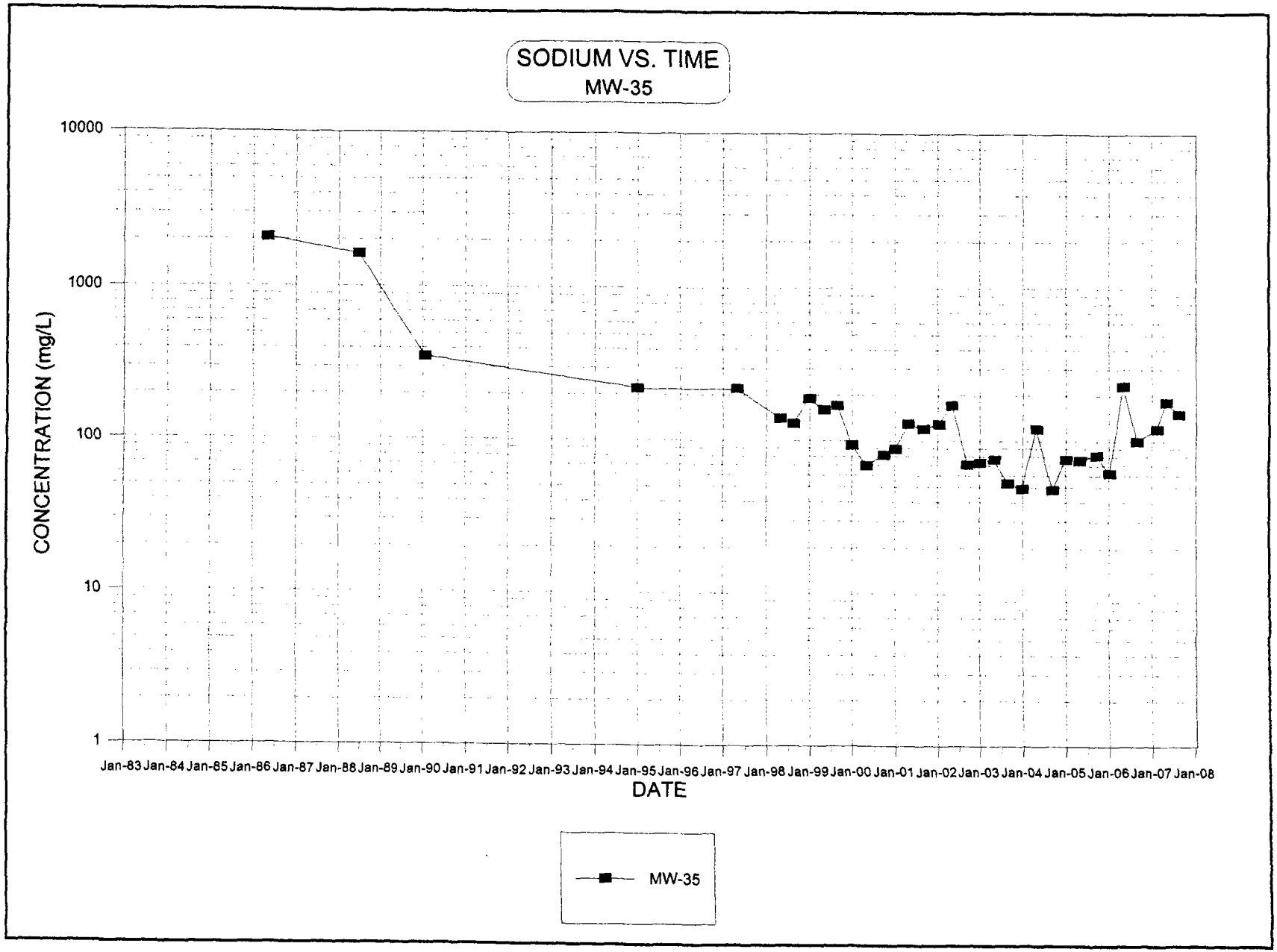

SODIUM VS. TIME
MW-16
CONCENTRATION (mg/L)
10000
1000
100
10
1
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-16

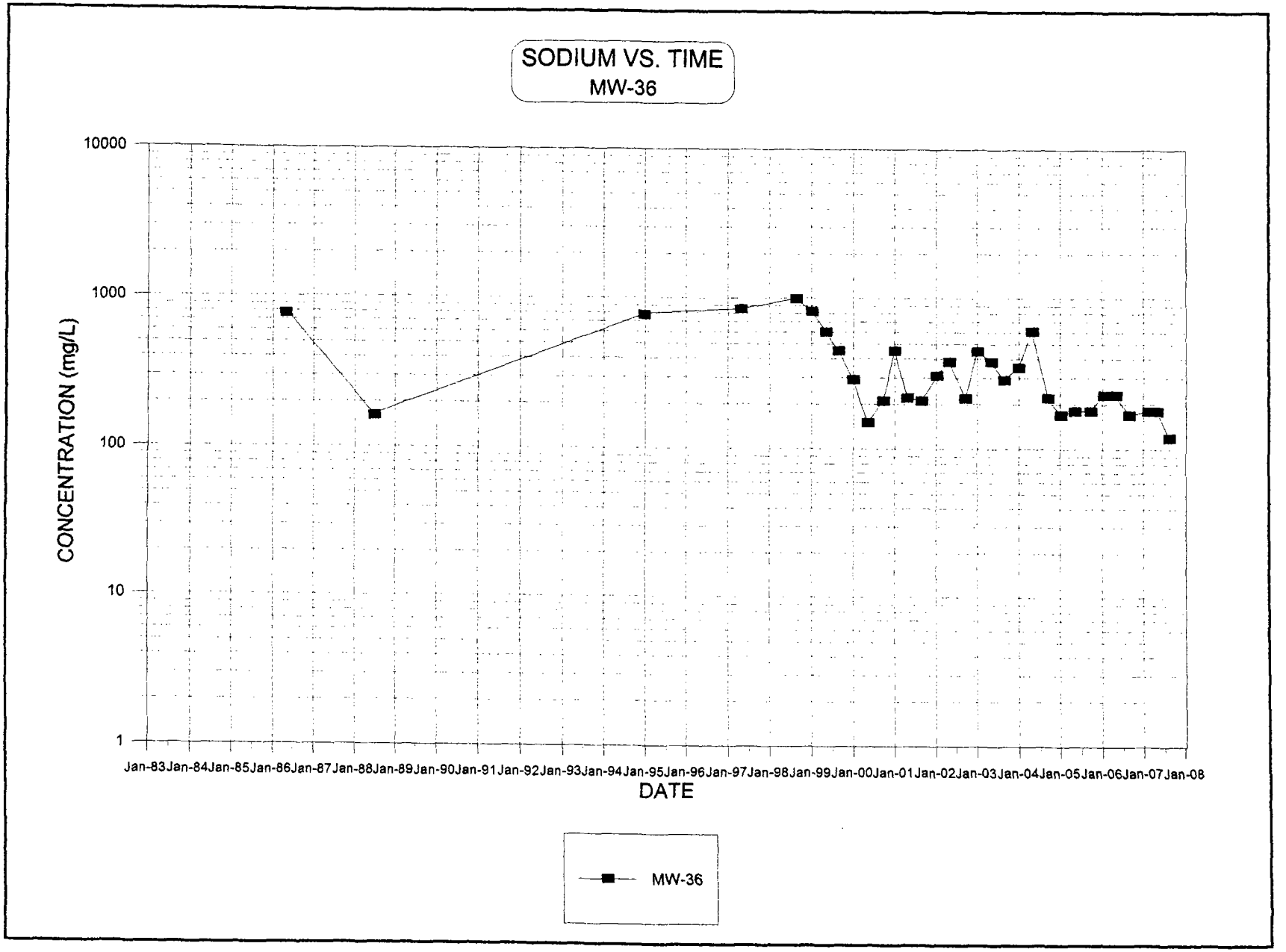

SODIUM VS. TIME
MW-18
CONCENTRATION (mg/L)
10000
1000
100
10
1
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-18

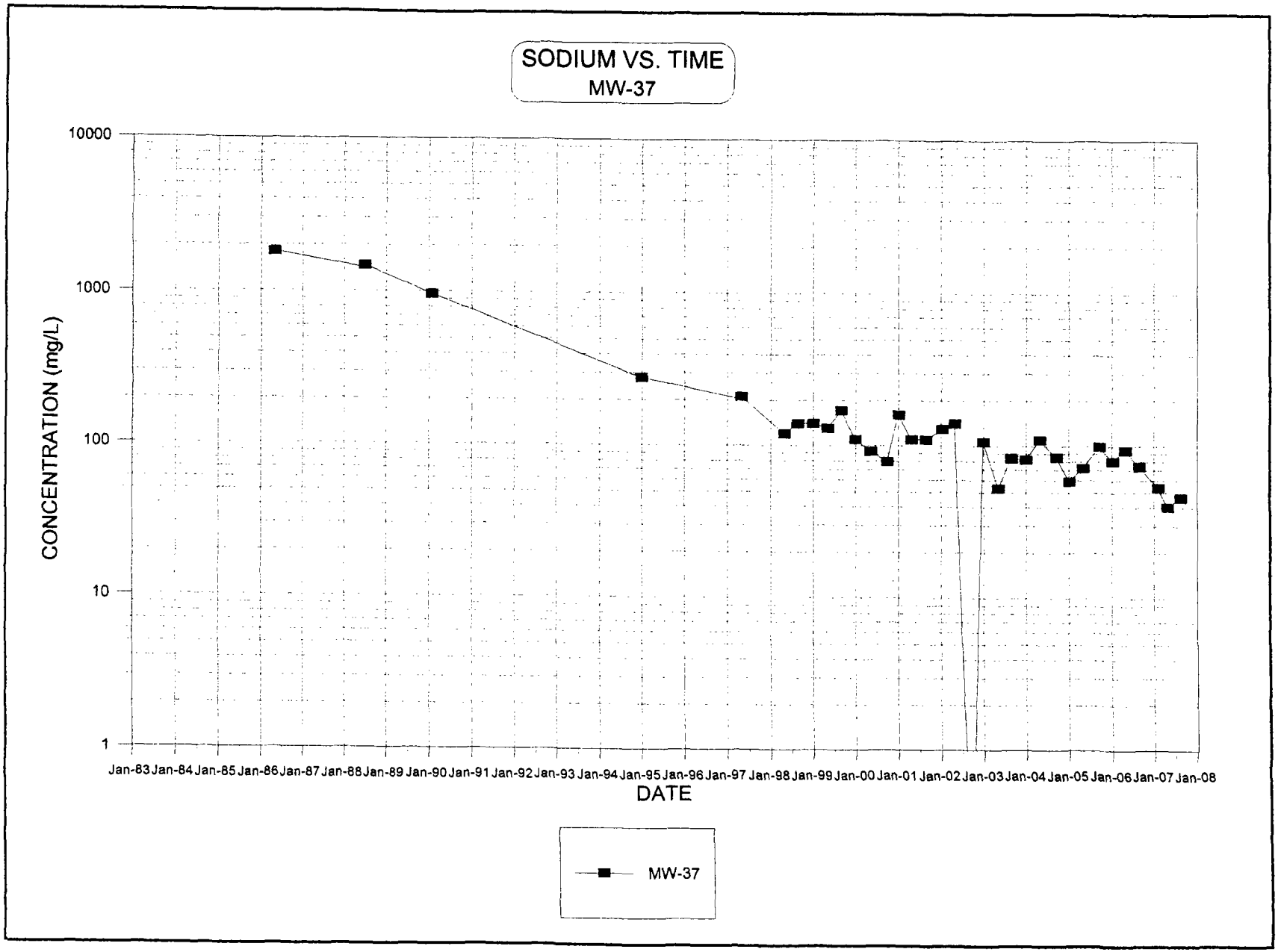

SODIUM VS. TIME
MW-28
CONCENTRATION (mg/L)
10000
1000
100
10
1
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-28


SODIUM VS. TIME
MW-31
CONCENTRATION (mg/L)
10000
1000
100
10
1
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-31


SODIUM VS. TIME
MW-32
CONCENTRATION (mg/L)
10000
1000
100
10
1
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-32


SODIUM VS. TIME
MW-35
CONCENTRATION (mg/L)
10000
1000
100
10
1
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-35


SODIUM VS. TIME
MW-36
CONCENTRATION (mg/L)
10000
1000
100
10
1
Jan-83
Jan-84
Jan-85
Jan-86
Jan-87
Jan-88
Jan-89
Jan-90
Jan-91
Jan-92
Jan-93
Jan-94
Jan-95
Jan-96
Jan-97
Jan-98
Jan-99
Jan-00
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
DATE
MW-36


SODIUM VS. TIME
MW-37
CONCENTRATION (mg/L)
10000
1000
100
10
1
Jan-83 Jan-84 Jan-85 Jan-86 Jan-87 Jan-88 Jan-89 Jan-90 Jan-91 Jan-92 Jan-93 Jan-94 Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08
DATE
MW-37

APPENDIX E

APPENDIX E

CONTAMINANT MASS-IN-PLACE ESTIMATION SUPPORTING DATA

MAY 2007 MONITORING EVENT

APPENDIX E-1
ANALYTICAL RESULTS FOR GROUND-WATER SAMPLES
COLLECTED MAY 2007

ORMET CORPORATION
HANNIBAL, OHIO

SAMPLE I.D.:	MW-1	MW-2	MW-5	MW-7	MW-8	MW-10	MW-11	MW-12	MW-14	MW-15	MW-16	MW-17
Cyanide, Total	<0.01	11	5.9/6.2	<0.01	0.59	<0.01	0.07	<0.01	0.03	6.7/6.5	6.8	2.2
Fluoride	1.1	47	23/23	0.1	3.1	0.20	1	1.4	2.5	23/23	59	11

SAMPLE I.D.:	MW-18	MW-19	MW-28	MW-29S	MW-29D	MW-30	MW-31	MW-32	MW-34S	MW-34D	MW-35	MW-36
Cyanide, Total	3	<0.01	0.26/0.26	6.2	0.23	2.7	11	11	5.8	2.6	22	10
Fluoride	140	1.1	0.14/<0.1	20	3.1	7.6	81	69	32	31	22	32

SAMPLE I.D.:	MW-37	MW-39S	MW-39D	MW-40S	MW-40D	MW-41	MW-42S	MW-42D
Cyanide, Total	0.9	5.7	0.74	7	4.1	<0.01	1.8	0.63
Fluoride	3.8	180	4.3	44	17	0.23	39	9.2

NOTE: All results in mg/L.

5.9/6.2 - Primary sample and duplicate sample.

APPENDIX E-1 (CONT.)
PLUME CONTOUR AREA CALCULATIONS
FOR TOTAL CYANIDE AND FLUORIDE
BASED ON RESULTS OF SAMPLING CONDUCTED MAY 2007

ORMET CORPORATION
HANNIBAL, OHIO

TOTAL CYANIDE	CONTOUR INTERVAL (from Figure 4)	CONTOUR AREA in sqare feet (estimated using CAD* software)
	0.2 - 1 mg/L	415,021
	1 - 5 mg/L	529,330
	5 - 10 mg/L	581,469
	10 - 15 mg/L	369,132
	15 - 20 mg/L	57,284
	20 mg/L	14,282

TOTAL FLUORIDE	CONTOUR INTERVAL (from Figure 3)	CONTOUR AREA in sqare feet (estimated using CAD* software)
	4 - 10 mg/L	299,230
	10 - 15 mg/L	315,640
	15 - 25 mg/L	304,288
	25 - 50 mg/L	488,217
	50 - 100 mg/L	358,972
	100 mg/L	68,224

* CAD - Computer Aided Drafting

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APPENDIX E-1 (CONT.)
AVERAGE AQUIFER THICKNESS CALCULATIONS
WITHIN EACH PLUME CONTOUR INTERVAL
BASED ON RESULTS OF SAMPLING CONDUCTED MAY 2007

ORMET CORPORATION
HANNIBAL, OHIO

TOTAL CYANIDE

CONTOUR INTERVAL (from Figure 4)	MONITORING WELL ID	REPORTED CONCENTRATION (mg/L)	AQUIFER THICKNESS (in feet)	AVERAGE AQUIFER THICKNESS (b, in feet)
0.2 - 1 mg/L	[MW-11]	NA	48.60	29.97
	MW-28	0.26	25.75	
	MW-37	0.9	15.56	
1 - 5 mg/L	MW-17	2.2	46.68	38.88
	MW-18	3.0	20.41	
	MW-29S&D	3.2*	51.20	
	MW-30	2.7	16.41	
	MW-34S&D	4.27*	37.82	
	MW-39S&D	3.2*	46.44	
	MW-42S&D	1.2*	53.19	
5 - 10 mg/L	MW-5	6.2	42.53	40.02
	MW-15	6.7	25.16	
	MW-16	6.8	42.89	
	MW-40S&D	5.6*	49.48	
10 - 15 mg/L	MW-2	11	38.14	27.74
	MW-31	11	28.94	
	MW-32	11	24.23	
	MW-36	10	19.63	
15 - 20 mg/L	[MW-36]	NA	19.63	19.63
20 mg/L	MW-35	22	11.70	11.70

NOTE: In preparing the above-referenced isopleth map (i.e., Figure 4), the higher of the values reported for a primary and a duplicate sample, and the average of values for the shallow well and the deep well of a well cluster were used to draw contour lines.

* - Denotes average of the values for the shallow well and the deep well of a well cluster.

[ ] - Denotes use of a surrogate well for determination of a representative aquifer thickness.

NA - Not applicable.

APPENDIX E-1 (CONT.)
AVERAGE AQUIFER THICKNESS CALCULATIONS
WITHIN EACH PLUME CONTOUR INTERVAL
BASED ON RESULTS OF SAMPLING CONDUCTED MAY 2007

ORMET CORPORATION
HANNIBAL, OHIO

FLUORIDE

CONTOUR INTERVAL (from Figure 3)	MONITORING WELL ID	REPORTED CONCENTRATION (mg/L)	AQUIFER THICKNESS (in feet)	AVERAGE AQUIFER THICKNESS (b, in feet)
4 - 10 mg/L	[MW-29S&D] MW-30	NA 7.6	51.20 16.41	33.81
10 - 15 mg/L	MW-17 MW-29S&D [MW-30]	11 11.6* NA	46.68 51.20 16.41	38.10
15 - 25 mg/L	MW-5 MW-15 MW-35 MW-42S&D	23 23 22 24.1*	42.53 25.16 11.70 53.19	33.15
25 - 50 mg/L	MW-2 MW-34S&D MW-36 MW-40S&D	47 31.5* 32 30.5*	38.14 37.82 19.63 49.48	36.27
50-100 mg/L	MW-16 MW-31 MW-32 MW-39S&D	59 81 69 92.3*	42.89 28.94 24.23 46.44	35.63
100 mg/L	MW-18	140	20.41	20.41

NOTE: In preparing the above-referenced isopleth map (i.e., Figure 3), the higher of the values reported for a primary and a duplicate sample, and the average of values for the shallow well and the deep well of a well cluster were used to draw contour lines.

* - Denotes average of the values for the shallow well and the deep well of a well cluster.

[ ] - Denotes use of a surrogate well for determination of a representative aquifer thickness.

NA - Not applicable.

APPENDIX E-1 (CONT.)
TOTAL CYANIDE AND FLUORIDE MASS-IN-PLACE
CALCULATION WORKSHEET
BASED ON RESULTS OF SAMPLING CONDUCTED MAY 2007

ORMET CORPORATION
HANNIBAL, OHIO

	Contour Interval (from Figure 6)	Contour Interval Area (in square feet) A	Average Aquifer Thickness (in feet) b	1. Aquifer Volume (in cubic feet) VA	Aquifer Porosity n	2. Volume of Ground Water (in cubic feet) Vgw	3. Volume of Ground Water (in Liters) Vgw	Average Concentration (mg/L) Cwi	4. Mass-in-Place for each interval (in mg) Mi	5. Mass-in-Place for each interval (in lbs) Mi
TOTAL CYANIDE	20 mg/L	14,282	11.70	167,099	0.25	41,775	1,183,064	22	26,027,403	57
	15 - 20 mg/L	57,284	19.63	1,124,485	0.25	281,121	7,961,353	18	143,304,358	316
	10 - 15 mg/L	369,132	27.74	10,239,722	0.25	2,559,930	72,497,229	13	942,463,983	2,078
	5 - 10 mg/L	581,469	40.02	23,270,389	0.25	5,817,597	164,754,357	8.0	1,318,034,854	2,906
	1 - 5 mg/L	529,330	38.88	20,580,350	0.25	5,145,088	145,708,881	3.0	437,126,642	964
	0.2 - 1 mg/L	415,021	29.97	12,438,179	0.25	3,109,545	88,062,310	0.6	52,837,386	117
									Total Cyanide Mw:	6,438
FLUORIDE	(From Figure 3)									
	100 mg/L	68,224	20.41	1,392,452	0.25	348,113	9,858,559	140	1,380,198,264	3,043
	50-100 mg/L	358,972	35.63	12,790,172	0.25	3,197,543	90,554,420	75	6,791,581,523	14,975
	25-50 mg/L	488,217	36.27	17,707,631	0.25	4,426,908	125,370,025	38	4,764,060,934	10,505
	15 - 25 mg/L	304,288	33.15	10,087,147	0.25	2,521,787	71,417,002	20	1,428,340,044	3,149
	10 - 15 mg/L	315,640	38.10	12,025,884	0.25	3,006,471	85,143,259	13	1,106,862,363	2,441
	4 - 10 mg/L	299,230	33.81	10,116,966	0.25	2,529,242	71,628,121	7	501,396,850	1,106
									Total Fluoride Mw:	35,219

1. VA = A x b
2. Vgw = VA x n
3. Vgw in ft3 multiplied by 28.32 L/ft3 = Vgw in Liters
4. Mi = Vgw x Cwi
5. Mi in mg divided by 1000 mg/g multiplied by 2.205x10-3 lb/g = Mi in pounds