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ANNUAL GROUNDWATER QUALITY MONITORING
REPORT.

FOR CALENDAR YEAR—2008
AT PALMER STREET LANDFILL.

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MOENCH COMPANY
GOWANDA, NEW YORK 14070

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Site Manager

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MOENCH COMPANY
PALMER STREET LANDFILL
2008 ANNUAL GROUNDWATER MONITORING REPORT.....

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1.0 INTRODUCTION

1.1 BACKGROUND

THE MOENCH COMPANY, A DIVISION OF BROWN SHOE COMPANY, HEADQUARTERED IN ST. LOUIS, MO., IS LOCATED NEAR THE SOUTHEAST CORNER OF THE VILLAGE OF GOWANDA, CATTARAUGUS COUNTY, NEW YORK, 14070 (FIGURE 1). THE PALMER STREET LANDFILL, WHICH WAS OPERATED BY MOENCH TANNING FROM 1900 THROUGH JULY 1983, LIES IMMEDIATELY SOUTHWEST OF THE FORMER SITE COMPLEX ON AN APPROXIMATELY 25-ACRE, PARCEL OF LAND. A VARIETY OF WASTE GENERATED BY MOENCH TANNING WERE DISPOSED OF AT THE PALMER STREET LANDFILL SITE. THESE WASTES INCLUDED SOLE LEATHER EXTRACT, RENDERING WASTE, SPRAY BOOTH CLEAN UP WASTE, WASTE FINISH, WASTE HAIR/LEATHER SCRAPS, WASTEWATER TREATMENT PLANT SLUDGE, AND OCCASIONAL CONSTRUCTION DEBRIS.

MOENCH TANNING HAS CLOSED THE PALMER STREET LANDFILL. ACCORDINGLY, THE CLOSURE/POST-CLOSURE PLAN (REFERENCE 1), IS BEING PERFORMED. THE LONG-TERM POST CLOSURE MONITORING PROGRAM HAS BEEN APPROVED & IMPLEMENTED.
(JULY 1993, REVISED MARCH 1994; REVISED DECEMBER 2006.

1.2 PUPOSE AND SCOPE

SAMPLES ASSOCIATED WITH TWO ROUNDS OF WATER QUALITY MONITORING, FOR THE 2008 CALENDAR YEAR, WERE COLLECTED IN MARCH & AUGUST OF 2008, FOR THE LANDFILL. THE PURPOSE OF THIS REPORT IS TO PROVIDE A SUMMARY OF THE DATA GENERATED FOR THE PALMER STREET LANDFILL DURING 2008. IT SHOULD BE NOTED THAT THE SAMPLING LOCATIONS WERE MODIFIED IN 2006, THE RESULTS OF A MEETING WITH NYSDEC9 AND OUR ENVIRONMENTAL CONSULTANTS. THE NEW DETECTION MONITORING SYSTEM BETTER REPRESENTS POTENTIAL PARAMETER MIGRATION. (REF# 7 & 8)

2.0 MONITORING SYSTEM

2.1 REVISED MONITORING SYSTEM(8/06)

IN JULY 2006, A MEETING WITH NEW YORK STATE DEPARTMENTAL CONSERVATION, GEOMATRIX CONSULTANT, AND MOENCH COMPANY, RESULTED IN A RECONFIGURING OF THE DETECTION MONITORING SYSTEM. THIS WAS DONE AFTER CONSIDERING THE THREE PRIOR "COVER SYSTEM PERFORMANCE MONITORING SYSTEM" RESULTS. THE DETECTION MONITORING SYSTEM IS NOW AS FOLLOWS:

<u>DOWNGRADIENT WELLS</u> (screened in waste)		<u>UPGRADIENT WELLS</u>	<u>BANK SEEPS</u>
<u>OVERBURDEN</u>	<u>BEDROCK</u>		
MW-3	MW-3D	MW-7D	BS-1
MW-4SR	MW-4D	MW-8D	BS-2
MW-5	MW-6D		BS-3
MW-6			

NINE(9) GROUNDWATER MONITORING WELLS, AT THE PALMER STREET LANDFILL, WERE EVALUATED IN 2008, IN ACCORDANCE WITH THE LONG TERM POST CLOSURE MONITORING PLAN.(REF. #1) NYSDEC HAS APPROVED THIS PLAN.

IN ADDITION TO THE WELLS, NYSDEC ALSO REQUIRES THE MONITORING OF THREE(3); BS-1, BS-2, BS-3. THE ABILITY TO OBTAIN BANK SEEPS VARIES DUE TO WET/DRY WEATHER. IN THE EVENT THAT BANKSEEPS ARE UNAVAILABLE, CREEK SAMPLES, IMMEDIATELY ADJACENT TO THE LOCATION, ARE TAKEN. BANKSEEPS WERE AVAILABLE FOR THE MARCH SAMPLE, BUT NOT FOR THE AUGUST SAMPLE.

TO AID IN THE EVALUATION OF THE COVER SYSTEM PERFORMANCE, LEVELS FROM FIVE(5) INFILTRMETERS, ARE ALSO MEASURED. LOCATIONS OF THE MONITORING POINTS ARE SHOWN ON FIGURE #2.

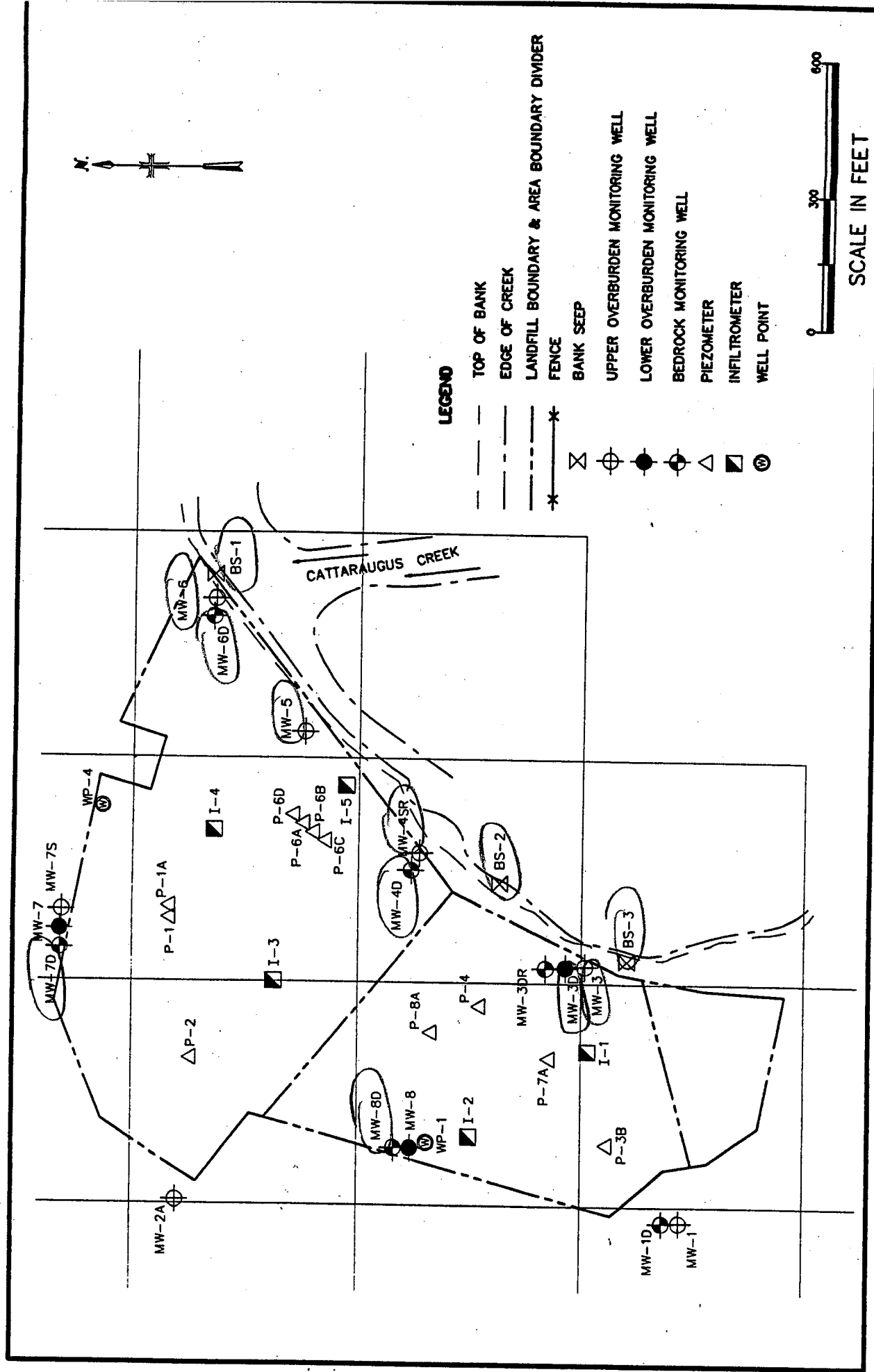


FIGURE #2

3.0 MONITORING METHODS

3.1 GROUNDWATER MONITORING:

SAMPLES COLLECTED DURING THE TWO MONITORING EVENTS, FOR THE LANDFILL, WERE COLLECTED BY MOENCH COMPANY PERSONNEL, IN 2008. THE ANALYTICAL WORK WAS PERFORMED BY ISLECHEM LLC, OF GRAND ISLAND, NEW YORK. THE ANALYSIS WAS PERFORMED IN ACCORDANCE WITH THE SAMPLING PLAN/QUALITY ASSURANCE PLAN FOR THE PALMER ST. LANDFILL. (REFERENCE 3).

LABORATORY ANALYSES WERE PERFORMED IN ACCORDANCE WITH THE USEPA SW-846, 3RD EDITION (REFERENCE 4). THE MONITORING PARAMETERS ARE LISTED IN TABLE 1. SAMPLES WERE COLLECTED FROM EACH OF THE, MONITORING LOCATIONS IDENTIFIED IN SECTION 2.0. PRIOR TO SAMPLING, STATIC WATER LEVEL ELEVATIONS WERE MEASURED IN THE MONITORING WELLS AND THE WELLS WERE PURGED (SEE TABLE 4). GROUNDWATER ELEVATIONS WERE ALSO MEASURED IN THE PIEZOMETERS, INFILTRMETERS, AND WELLS ON-SITE.

FIELD SAMPLES WERE COLLECTED AND MEASURED FOR THE FIELD PARAMETERS IDENTIFIED IN TABLE 1. THE FIELD MEASUREMENTS ARE SUMMARIZED IN TABLE 5.

3.2 INFILTRMETER MONITORING

FIVE INFILTRMETERS HAVE BEEN INSTALLED(1991) BENEATH THE LANDFILL CAP TO AID IN THE ASSESSMENT OF PERFORMANCE OF THE CAP. DURING EACH SEMIANNUAL EVENT, WATER LEVELS IN THE INFILTRMETER ARE MEASURED AND THE AMOUNT OF WATER INFILTRATING IS CALCULATED.

THE CALCULATED INFILTRATION RATES ARE PRESENTED ON TABLE 2 & 3. CALCULATED INFILTRATION RATES ARE USUALLY WITHIN THE DESIGNED INFILTRATION RATE OF 1×10^{-7} CM/SEC, EXCEPT ARE NOTED ON THE TABLE. A SCHEMATIC SHOWING THE DESIGN AND DIMENSIONS OF THE INFILTRMETERS IS PRESENTED IN ATTACHMENT A.

TABLE 1

**MOENCH COMPANY
PALMER STREET LANDFILL**

ROUTINE GROUNDWATER QUALITY MONITORING PARAMETERS

Soluble Arsenic
Soluble Chromium
Soluble Lead
Volatile Organics⁽²⁾⁽³⁾

pH⁽¹⁾

Conductivity⁽¹⁾
Turbidity⁽¹⁾ - visual only
Groundwater Elevation⁽¹⁾
Temperature⁽¹⁾

All samples collected for analysis of soluble metals will be pressure-filtered in the field immediately upon sample collection.

NOTES:

1. All field parameters (i.e., pH, specific conductance, temperature and turbidity) will be measured in the field. No analysis of these parameters will be required by the laboratory.
2. Volatile organic compounds will be those compounds determined by SW-846, Method 8260.

TABLE X 2

MOENCH COMPANY
PALMER STREET LANDFILL
3/28/08 MONITORING EVENT

INFILTROMETER MEASUREMENTS

Infiltrrometer	Static Water Level FM TOP PVC (ft) 7/30/08	CURRENT Static Water Level FM TOP PVC (ft) 3/28/08	Δ Depth (ft)	# Days Between Readings (#)	Infiltration Rate		Approx. Total Rainfall This Period (ft)	Infiltration (%)
					gal/day.ft ²	(cm/sec)		
I1	6.45	3.49	2.96	241	.0061	2.0×10^{-7}	3.01	8%
I2	7.45	7.53	NEG.	"	-	-	-	-
I3	7.31	6.58	1.27	"	.0026	1.0×10^{-7}	3.01	3.5%
I4	6.80	6.86	NEG.	"	-	-	-	-
I5	7.11	7.03	.08	"	.00017	8.0×10^{-9}	3.01	.2%

Note:

** Negative ΔD precludes calculation of meaningful data.

(A) FREQUENTLY FLOODED; GERNAT SPRINGS & PONDS.

TABLE * 3

MOENCH COMPANY
PALMER STREET LANDFILL
8-4-08 MONITORING EVENT

INFILTROMETER MEASUREMENTS

Infiltrometer	Static Water Level (ft)	Static Water Level (ft)	Δ Depth (ft)	# Days Between Readings (#)	Infiltration Rate		Approx. Total Rainfall This Period (ft)	Infiltration (%)
					gal/day.ft ²	(cm/sec)		
	3-28-08	8-4-08						
I-1	3.49	4.39	NEG.	129	—	—	—	—
I-2	7.53	7.45	.08	"	.00035	1.6×10^{-8}	1.21'	.5%
I-3	6.58	6.95	NEG.	"	—	—	—	—
I-4	6.86	6.75	.11	"	.00044	2.1×10^{-8}	1.21'	.8%
I-5	7.03	6.90	.13	"	.00053	2.5×10^{-8}	1.21'	.8%

Note:

** Negative ΔD precludes calculation of meaningful data.

TABLE 4

**PALMER STREET LANDFILL
SUMMARY OF GROUNDWATER ELEVATIONS⁽¹⁾**

Location	Dates of Measurement	
	3-28-08	8-4-08
MW-1	<u>821.92</u>	<u>821.02</u>
MW-1D	<u>820.92</u>	<u>821.17</u>
MW-2A	<u>806.92</u>	<u>807.39</u>
MW-3	<u>DRY</u>	<u>794.41</u>
MW-3D	<u>801.55</u>	<u>801.53</u>
MW-3DR	<u>804.72</u>	<u>804.72</u>
MW-4SR	<u>794.60</u>	<u>793.93</u>
MW-4D	<u>796.58</u>	<u>796.08</u>
MW-5	<u>DRY</u>	<u>DRY</u>
MW-6	<u>785.83</u>	<u>783.75</u>
MW-6D	<u>783.18</u>	<u>782.08</u>
MW-7S	<u>794.20</u>	<u>794.18</u>
MW-7	<u>795.20</u>	<u>794.12</u>
MW-7D	<u>793.61</u>	<u>795.49</u>
MW-8	<u>810.07</u>	<u>810.34</u>
P-1	<u>795.59</u>	<u>793.95</u>
P-1A	<u>796.73</u>	<u>WASPS</u>
P-2	<u>801.54</u>	<u>800.54</u>
P-3B	<u>818.85</u>	<u>818.07</u>
P-4	<u>798.68</u>	<u>798.00</u>
P-6A	<u>SHUT</u>	<u>791.19</u>
P-6B	<u>791.90</u>	<u>791.43</u>
P-6C	<u>792.73</u>	<u>792.36</u>
P-6D	<u>792.80</u>	<u>793.60</u>
P-7A	<u>797.22</u>	<u>795.52</u>
P-8A	<u>DRY</u>	<u>DRY</u>
WP-1	<u>814.05</u>	<u>RUST</u>
WP-4	<u>794.21</u>	<u>"</u>
Notes: (1) Measured in feet; distance above sea level. • Well locked; unable to open. •• Wells added to program prior to November 1993 event. MW = Monitoring Well P = Piezometer WP = Well Point		

4.0 GROUNDWATER QUALITY MONITORING RESULTS

4.1 EVALUATION OF GROUNDWATER ELEVATION DATA:

GROUNDWATER ELEVATION MEASUREMENTS WERE TAKEN AT EACH OF THE ACCESSIBLE ONSITE MONITORING WELLS, PIEZOMETERS AND WELL POINTS DURING THE TWO ANNUAL 2008 MONITORING EVENTS. THE DATA IS SUMMARIZED ON TABLE #4.

PLOTS OF THE GROUNDWATER ELEVATIONS MEASURED IN THE MONITORING WELLS WITH RESPECT TO TIME, ARE PRESENTED IN FIGURE 3, 4, & 5, FOR THE "SHALLOW OVERBURDEN, DEEP OVERBURDEN AND BEDROCK WELLS, RESPECTIVELY. AS SHOWN IN FIGURES 3, AND 4, OVERBURDEN GROUNDWATER ELEVATIONS WERE GENERALLY CONSISTENT THROUGHOUT THE MONITORING PERIOD. WATER LEVELS HAVE STABILIZED, AFTER THREE YEARS OF INCREASE('92-'94). THIS OCCURRED DUE TO CESSATION OF VILLAGE AND TANNERY PUMPING OF THE DEEP AQUIFERS. SOME SLIGHT SEASONAL FLUCTUATION STILL OCCURS.

4.2 THE GROUNDWATER AND SURFACE WATER QUALITY RESULTS FOR THE TWO MONITORINGS EVENTS, AT THE PALMER STREET LANDFILL, ARE PRESENTED IN TABLES #5 THROUGH #7.

IT SHOULD BE NOTED THAT THESE TABLES INCLUDES ONLY THOSE PARAMETERS WHICH WERE DETECTED ABOVE ANALYTICAL DETECTION LIMITS AT A MINIMUM OF ONE LOCATION. COMPARISON OF THE MONITORING DATA TO THE NYSDEC CLASS "GA" GROUNDWATER QUALITY STANDARDS/GUIDANCE VALUES IS ALSO PRESENTED IN THE TABLES.

BOTH THE SOIL AND WASTE AT THE PALMER STREET LANDFILL CONTAIN METALS-OF-INTEREST AS A COMPONENT OF THE SOIL OR WASTE PARTICLES (REFERENCE 5). THEREFORE, THE SEDIMENT (OR TURBIDITY) CONTENT OF ANY GROUNDWATER OR SURFACE WATER QUALITY SAMPLES WILL DIRECTLY IMPACT THE TOTAL METAL CONCENTRATION OF THE SAMPLES. THE TURBIDITY CONTENT OF THE GROUNDWATER SAMPLES COLLECTED AT THE SITE IS EXTREMELY VARIABLE AND RELATIVELY HIGH BECAUSE THE SOIL AND WASTE FILL BOTH CONTAIN HIGH PERCENTAGES OF FINE-GRAINED PARTICLES. AS NYSDEC HAS PREVIOUSLY AGREED, IN ORDER TO AVOID MIS-INTERPRETATION OF WATER QUALITY DATA, "TOTAL" METALS WILL NO LONGER ANALYZED FOR GROUNDWATER QUALITY STANDARDS OR EVALUATION OF GROUNDWATER QUALITY. IMPACTS WILL BE BASED ON SOLUBLE METALS CONCENTRATION.

ALSO TOTAL NOR SOLUABLE BARIUM WILL NO LONGER BE SAMPLED FOR IN THE AGREEMENT WITH NYSDEC, AS THE ELEMENT IS NATURALLY ELEVATED IN CONCENTRATION IN NATIVE SOIL. 2008 ANNUAL SUMMARIES AS FOLLOWS:

- THERE WAS NO DETECTIONS OF SOLUBLE METALS(As, Cr, Pb), ABOVE THE CLASS "GA" STANDARD, EXCEPT AT MW-6 FOR SOLUBLE ARSENIC. THE DETECTION WAS SLIGHTLY ABOVE THE STANDARD, AND IN THE AUGUST EVENT, ONLY. THIS IS CONSISTANT WITH 2007 RESULTS. MW-6 IS SCREENED IN THE WASTE, ABOVE THE BEDROCK.
- ACETONE WAS DETECTED, ABOVE THE GUIDANCE VALUE, ONLY AT MW3 AND MW6. BOTH OF THESE ARE SCREENED WITHIN THE WASTE. ACETONE HAS BEEN REMOVED AS A HAZARDOUS WASTE.

- "Ph" was measured at 6.44, at MW-6.

TABLE 5

MOENCH COMPANY
PALMER STREET LANDFILL

3/31/08 - 4/1/08 MONITORING EVENT⁽¹⁾

SUMMARY OF ANALYTICAL RESULTS

Metals (mg/l):	Quantitation Limit	** MW-3	MW-3 D	** MW-4SR	MW4 D	** MW-5	** MW-6	MW-6 D	Class "GA" Std.
Arsenic - Soluble	0.005	DRY	ND	ND	ND	DRY	.014	ND	.025 mg/l
Chromium - Soluble	0.005	"	ND	.007	ND	"	ND	ND	.05
Lead - Soluble	0.005	"	ND	ND	ND	"	ND	ND	.025

Volatiles mg/L	** MW-3	MW-3 D	** MW-4SR	MW4 D	** MW-5	** MW-6	MW-6 D	Class "GA" Std.
Acetone	DRY	-	-	<.005	DRY	-	-	.05 GWA DANCE VALU
	"	.021	.027	-	"	.017	.05	
	"				"			

** Screened in Waste/Overburden.
Blind Duplicate MW-4D

3/31 - 4/1/08

[illegible][illegible]

***** Screened in the Waste/Overburden.**

Blind Duplicate MW-4D

MOENCH COMPANY
PALMER STREET LANDFILL
Aug. 11-12, 2008 MONITORING EVENT^{CO}

SUMMARY OF ANALYTICAL RESULTS

SUMMARY OF ANALYTICAL RESULTS									
	Quantitation Limit	** MW-3	MW-3 D	** MW-4SR	MW4 D	** MW-5	** MW-6	MW-6 D	Class "GA" Std.
Metals (mg/l):									
Arsenic - Soluble	0.005	0.015	<0.005	<0.005	<0.005	Dry	<0.056	<0.005	0.025mg/
Chromium - Soluble	0.005	<0.01	<0.01	0.015	<0.01	"	<0.01	<0.01	0.05
Lead - Soluble	0.005	<0.01	<0.01	<0.01	<0.01	"	<0.01	<0.01	0.025

[illegible]

*** Screened in Waste/Overburden.

Blind Duplicate MW-8D

TABLE 26

MÖENCH COMPANY
PALMER STREET LANDFILL
Aug. 11-12, 2008 MONITORING EVENT⁽¹⁾

SUMMARY OF ANALYTICAL RESULTS MW-8D

	Quantitation Limit	MW-7D	MW-8D	BS-1	BS-2	BS-3	Blind Duplicate	Eqmt. Blank	Class
Metals (mg/l):									
Arsenic - Soluble	0.005	<.005	<.005	<.005	.007	<.005	<.005	ND	.025mg/l
Chromium - Soluble	0.005	<.01	<.01	<.01	<.01	<.01	<.01	"	.05
Lead - Soluble	0.005	<.01	<.01	<.01	<.01	<.01	<.01	"	.025

Volatiles mg/L
CARBON DISULFIDE

ND

.02

ND

ND

ND

ND

ND

ND - NOT DETECTED

TABLE X 7

MOENCH COMPANY
PALMER STREET LANDFILL
3/31/08 - 4/1/08 MONITORING EVENT

SUMMARY OF FIELD MEASUREMENTS

Location	Sampling Date	Sampling Time	Temp. (°C)	pH (units)	Conductance ⁽¹⁾ (umhos/cm)	Turbidity	Sample Appearance	Sample Odor
MW-3	DRY	-	-	-	-	-	-	-
MW-3D	4/1/08	900	12.6	8.17	600	-	CLEAR	-
MW-4SR	3/31/08	1020	12.1	6.61	800	-	SLIGHT TURB	ORGANIC
MW-4D	4/1/08	802	12.1	8.19	700	-	CLEAR	NO
MW-5	DRY	-	-	-	-	-	-	-
MW-6	3/31/08	900	12.2	6.78	1600	YES-BLACK	BLACK	NO
MW-6D	3/31/08	810	14.0	7.51	1310	-	CLEAR	NO
MW-7D	4/1/08	1115	13.1	7.96	700	-	CLEAR	NO
MW-8D	4/1/08	950	13.6	7.90	520	-	clear	NO
BS-1(A)	3/31/08	1000	8.7	7.52	400	-	CLOUDY	NO
BS-2(A)	3/31/08	1110	10.2	7.60	600	-	SLIGHT	NO
BS-3	3/31/08	1300	11.0	7.63	600	-	V. IRON.	NO
				6.5-8.5(Std)			RED	

NOTES:

(1) Conductivity readings corrected to 25°C. MW-4D

(2) Blind Duplicate

(3) MW-7D is apparent hydraulically upgradient bedrock well.

(A) NO BANK SEEP - TOOK CREEK

SAMPLE.

* Shallow Overburden Well

*** Bedrock Well

** Upgradient
BS Bank Seep

TABLE X 7

MOENCH COMPANY
PALMER STREET LANDFILL
Aug. 11-12, 2008 MONITORING EVENT

SUMMARY OF FIELD MEASUREMENTS

Location	Sampling Date	Sampling Time	Temp. (°C)	pH (units)	Conductance ⁽¹⁾ (umhos/cm)	Turbidity	Sample Appearance	Sample Odor
MW-3	8/11/08	1145	16.4	6.89	1600	NA	VERY TUR	NO
*** MW-3D	8/11/08	1230	14.5	7.98	410	"	CLEAR	NO
* MW-4SR	8/11/08	935	13.0	6.62	1400	"	VERY BROWN	FINISH
*** MW-4D	8/11/08	1015	14.1	7.87	650	"	CLEAR	NO
* MW-5	8/11/08	(DRY)	-	-	-	"	-	-
* MW-6	8/11/08	835	16.2	6.44	2000	"	BLACK	NO
*** MW-6D	8/11/08	801	14.9	7.84	1300	"	CLEAR	NO
*** MW-7D	8/12/08	1030	17.3	7.79	680	"	CLEAR	NO
*** MW-8D	8/12/08	930	14.5	7.47	500	"	CLEAR	NO
BS-1	8/11/08	900	17.1	7.60	400	"	BROWN	NO
BS-2	8/11/08	1040	19.3	7.55	500	"	GRAY	NO
BS-3	8/12/08	850	19.6	7.55	530	"	ALMOST CLR	NO

NOTES:

- (1) Conductivity readings corrected to 25°C.
 (2) Blind Duplicate MW-8D
 (3) MW-7D is apparent hydraulically upgradient bedrock well.

* Shallow Overburden Well
 *** Bedrock Well

** Upgradient
 BS Bank Seep

BS-1 - NO SEEP; TOOK CREEK SAMPLE.
 BS-2 " "

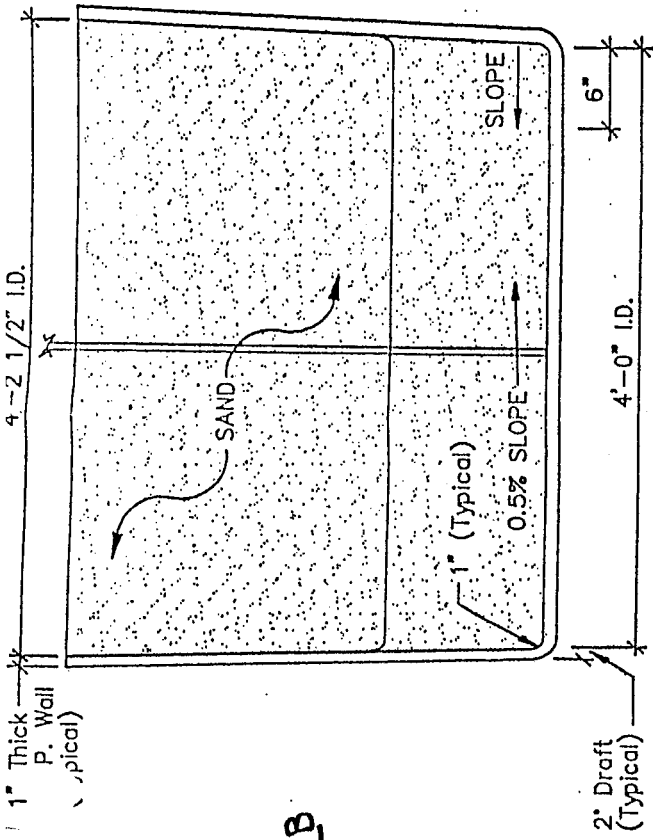
ORGANIC

ATTACHMENT A

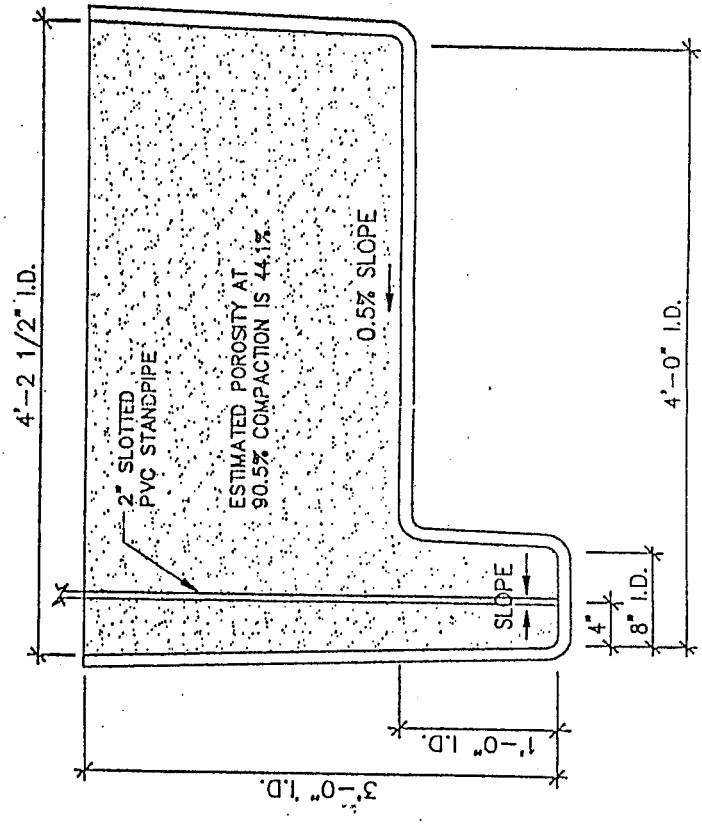
INFILTROMETER DESIGN

PALMER STREET LANDFILL
GROUNDWATER MONITORING REPORT...

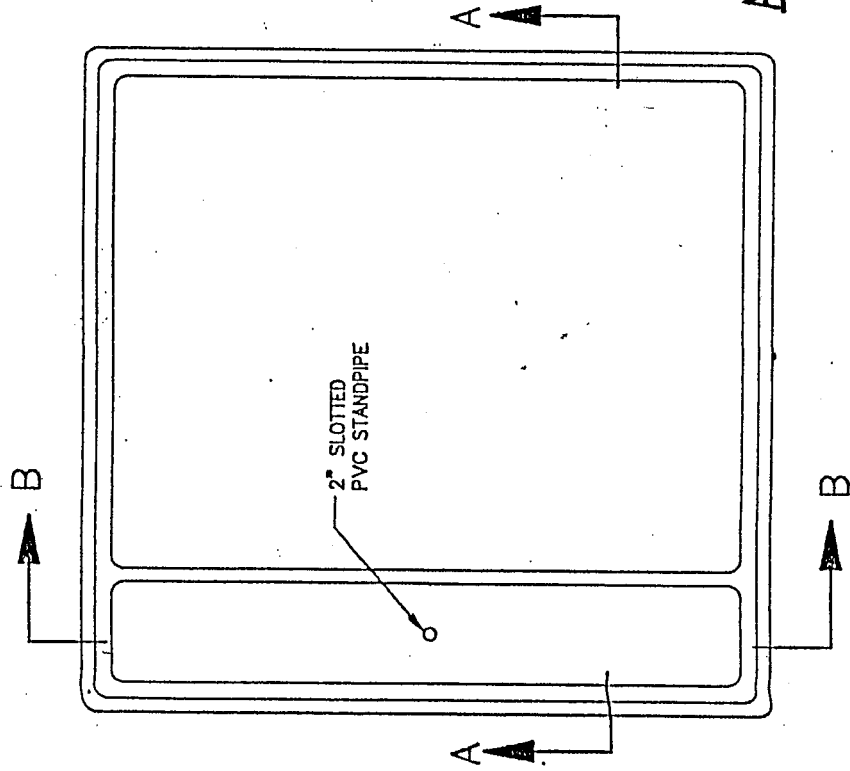
March & August '08 SAMPLING EVENT..



B-B



A-A



PLAN

TYPICAL INFILTRATOR BY HEY'S ENTERPRISES
AS INSTALLED AT PALMER STREET LANDFILL

INFILTRATOR

ATTACHMENT B

GROUNDWATER ELEVATION DATA & GRAPHS

MONITORING EVENTS March & August '08

FIGURE #3	PALMER STREET LANDFILL MOENCH COMPANY GROUNDWATER ELEVATION vs TIME (FEET ABOVE SEA LEVEL) SHALLOW OVERBURDEN MONITOR WELLS											
	Jan-90	Apr-90	Jul-90	Oct-90	Jan-91	May-91	Jul-91	Oct-91	Jan-92	May-92	Jul-92	Oct-92
MW-1	818	819	817	817	819	817	818	818	819	820	818	820
MW-3	796	796	794	793	794	793	792	792	793	794	793	794
MW-5	785	785	784	784	786	784	782	782	783	784	782	783
MW-6	784	784	783	784	785	784	784	784	784	784	784	783
MW-7S	795	795	793	795	795	794	792	792	793	793	792	793
MW-4SR											787	791
											792	789

													Fig. #3
	Dec-94	Mar-95	Jun-95	Sep-95	Dec-95	Apr-96	Aug-96	Nov-96	Apr-97	Aug-97	Nov-97	Apr-98	Aug-98
MW-1	822	823	822	821	821	821	821	822	822	821	821	821	821
MW-3	794	794	793	793	794	796	799	798	794	794	794	794	794
MW-5	784	784	784	784	782	782	784	787	787	787	787	787	787
MW-6	784	784	783	783	784	784	783	787	785	785	784	784	783
MW-7S	792	794	791	791	783	794	792	794	793	792	793	793	791
MW-4SR	791	791	790	790	790	790	796	791	792	791	790	790	794

														Fig. #3
	Mar-01	Aug-01	Mar-02	Aug-02	Mar-03	Aug-03	Mar-04	Aug-04	Mar-05	Aug-05	Mar-06	Aug-06	Mar-07	Aug-07
MW-1	822	820	821	820	821	821	821	821	822	822	822	821	822	821
MW-3	796	794	795	796	794	796	795	794	795	794	794	794	dry	794
MW-5	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
MW-6	783	783	785	784	786	788	785	784	786	783	785	784	787	786
MW-7S	794	793	794	793	793	794	794	792	794	791	795	794	795	794
MW-4SR	794	793	795	793	797	799	794	794	793	793	794	793	794	795

Fig. 3

Palmer St. L/fill; shallow GW Elev.

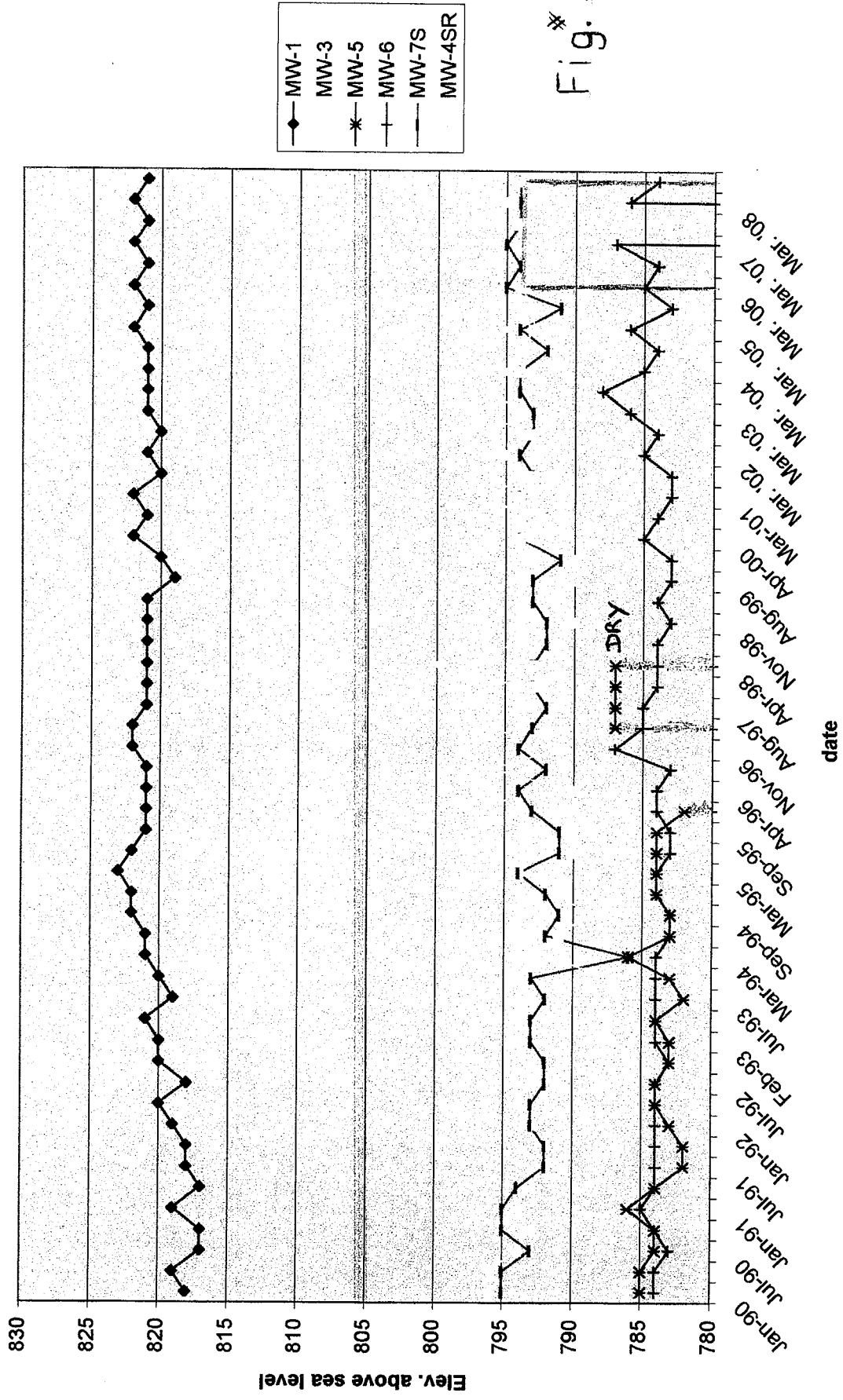


Fig. 3

	Figure #4																			

PLMRGW2

							</													

PLMRGW2

Figure #4	PALMER STREET LANDFILL															
	MOENCH COMPANY															
	GROUNDWATER ELEVATION vs TIME (FEET ABOVE SEA LEVEL)															
	DEEP OVERBURDEN MONITOR WELL SS															
MW-3D	Mar-01	Aug-01	Mar-02	Aug-02	Mar-03	Aug-03	Mar-04	Aug-04	Mar-05	Aug-05	Mar-06	Aug-06	Mar-07	Aug-07	Mar-08	Aug-08
	800	800	801	801	800	801	801	801	801	801	801	801	801	801	802	802
MW-7	Mar-01	Aug-01	Mar-02	Aug-02	Mar-03	Aug-03	Mar-04	Aug-04	Mar-05	Aug-05	Mar-06	Aug-06	Mar-07	Aug-07	Mar-08	Aug-08
	794	792	794	793	794	795	795	795	795	795	795	794	795	794	795	794
MW-4D	Mar-01	Aug-01	Mar-02	Aug-02	Mar-03	Aug-03	Mar-04	Aug-04	Mar-05	Aug-05	Mar-06	Aug-06	Mar-07	Aug-07	Mar-08	Aug-08
	796	796	789	795	796	795	796	796	797	795	796	796	796	796	797	796

Fig. #4

Palmer St. I/fill; GW deep overburden

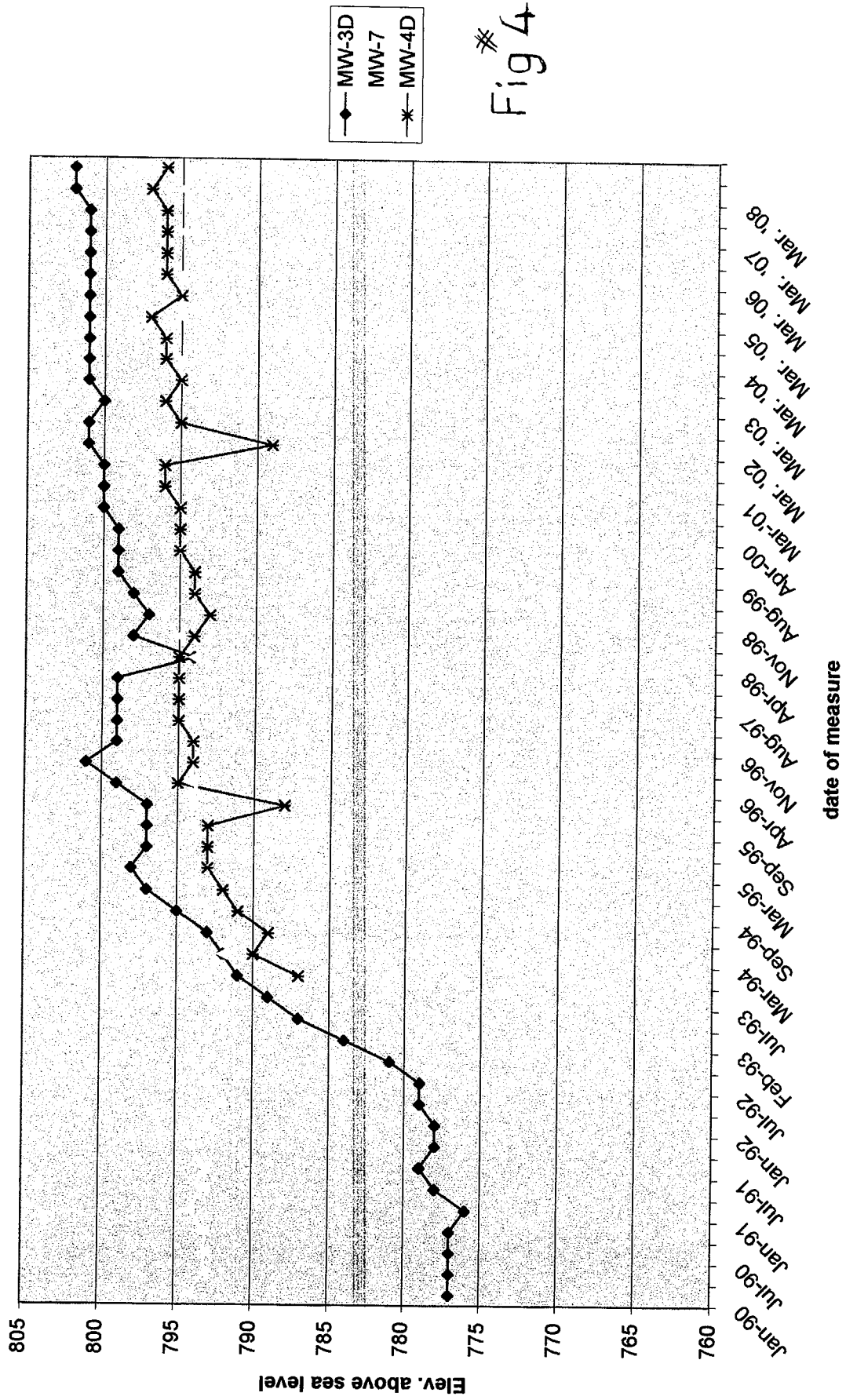
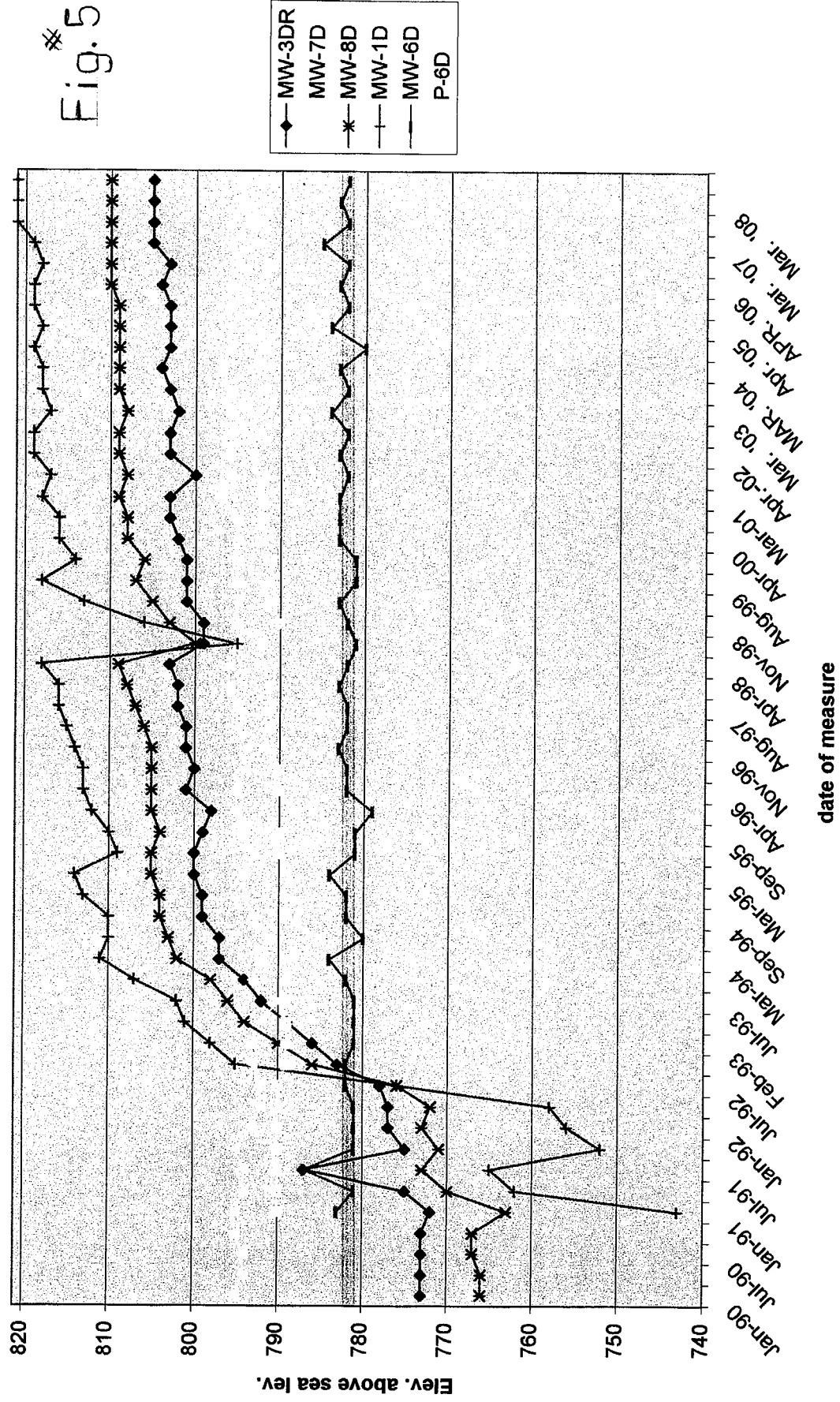


Fig 4

Palmer st. I/fill; Bedrock GE elev.



5.0 GROUNDWATER FLOW

A WATER TABLE ISOPOTENTIAL MAP, BEDROCK ISOPOTENTIAL MAP AND A BEDROCK WATER LEVEL HYDROGRAPH HAVE BEEN PREPARED FOR THE PALMER STREET LANDFILL AND ARE PRESENTED IN FIGURES 3,4 AND 5, RESPECTIVELY. GROUNDWATER ELEVATIONS MEASURED THROUGH 2008 WERE USED IN PREPARING THE WATER TABLE AND BEDROCK ISOPOTENTIAL MAP INDICATED THAT THE SHALLOW GROUNDWATER FLOW IS PRIMARILY TO THE EAST TOWARD CATTARAUGUS CREEK. THE BEDROCK ISOPOTENTIAL MAP AND THE BEDROCK WATER LEVEL HYDROGRAPH ILLUSTRATE A "LEVELING OFF" AFTER THREE YEARS ('92-'94) OF RISING LEVELS AT WELLS MW-1D, MW-3DR AND MW-8D. MW-1D AND MW-8D, WHICH WERE FORMERLY DOWNGRADIENT WELLS ARE NOW UPGRADIENT OF THE LANDFILL.

FIGURE

PALMER STREET LANDFILL

WATER TABLE ISOPOTENTIAL MAP
3/28/08 MONITORING EVENT

MOENCH T. & COMPANY JULY 1992

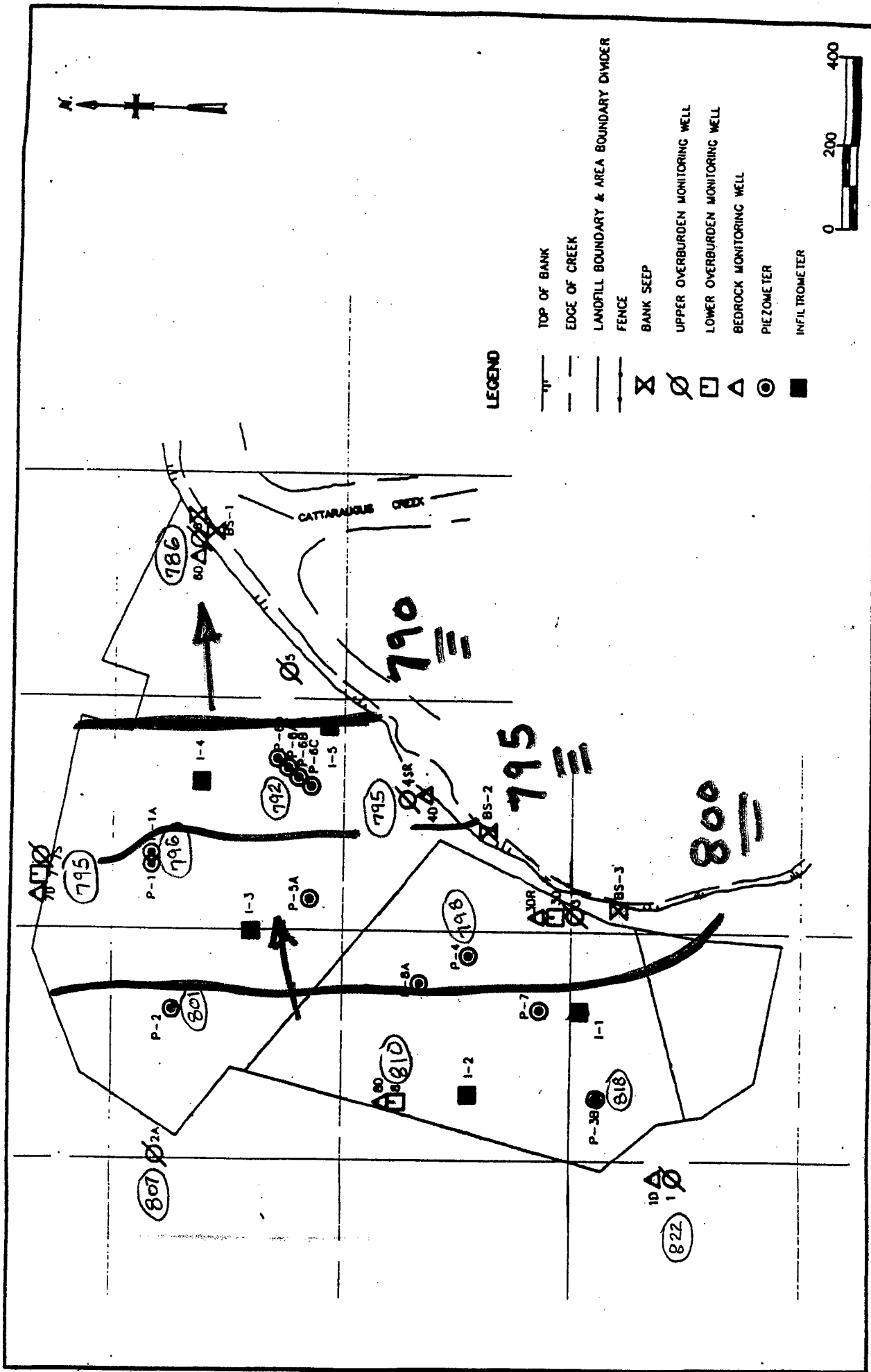


FIG. 8

PALMER STREET LANDFILL
 WATER TABLE ISOPOTENTIAL MAP
 8/4/08 MONITORING EVENT

MOENCH T. COMPANY JULY 1992

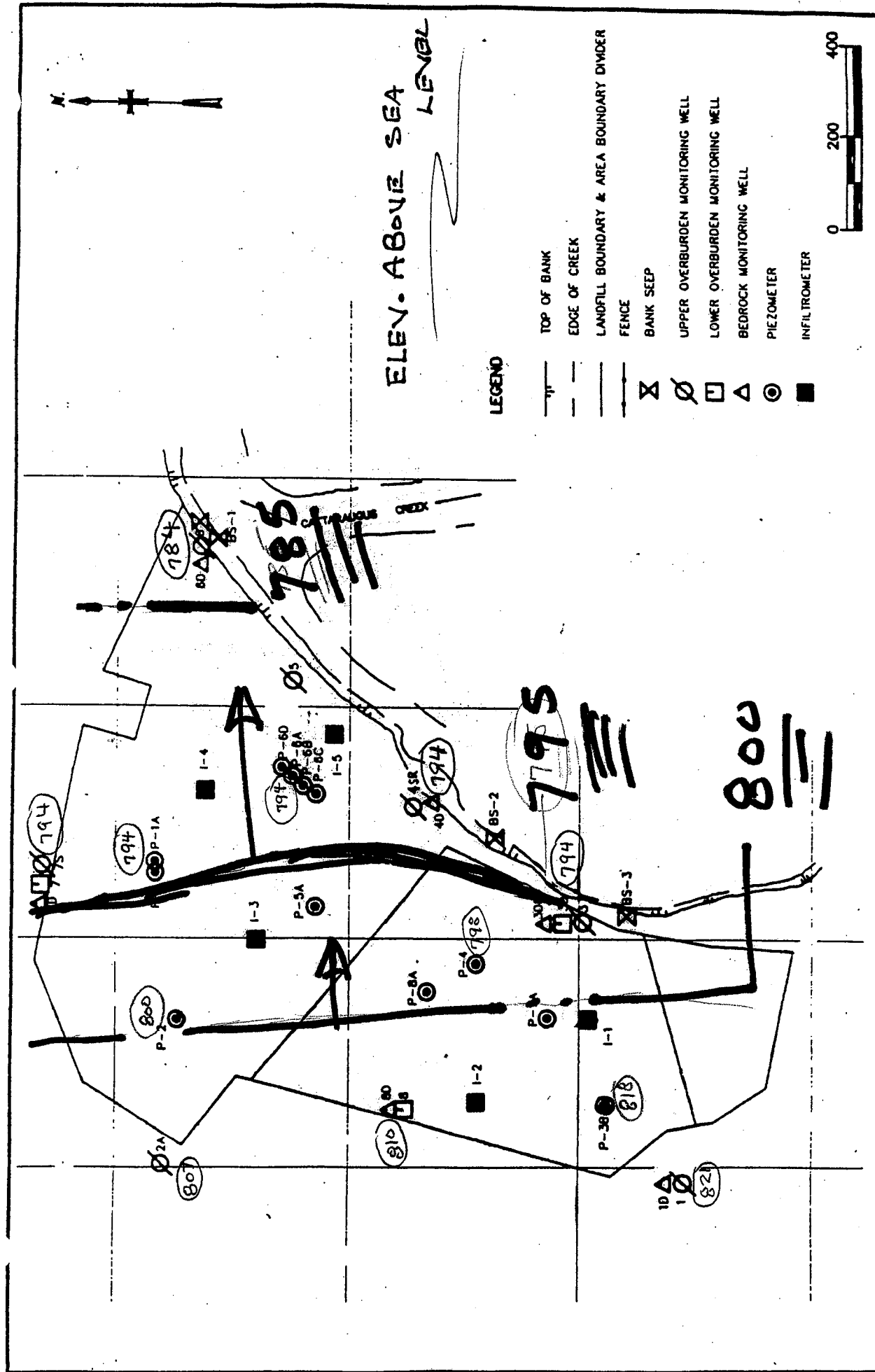


FIG. 9

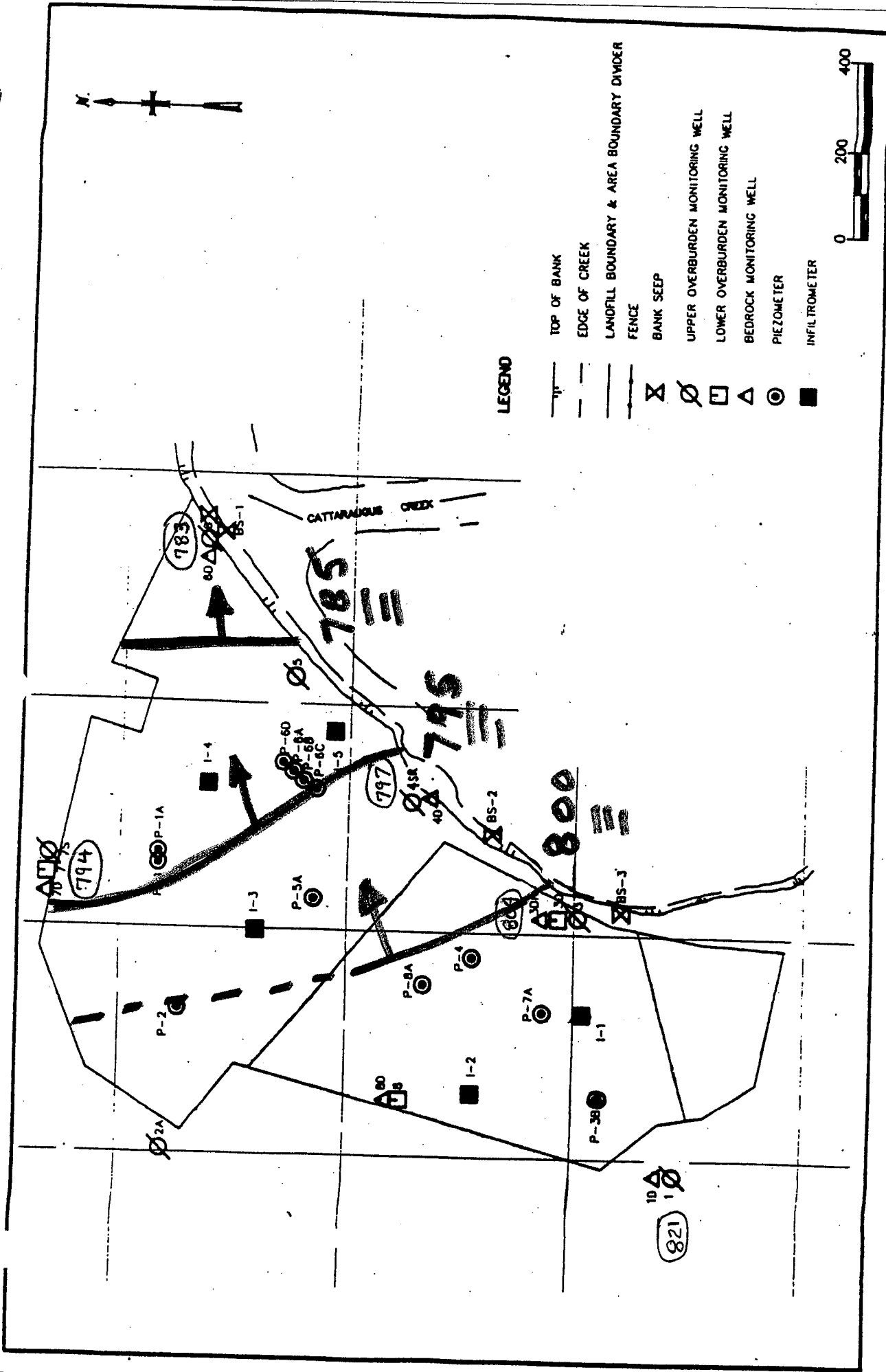


FIGURE
 PALMER STREET LANDFILL
 BEDROCK ISOPOTENTIAL MAP
 3/28/08 MONITORING EVENT
 MOENCH TANNING COMPANY JULY 1992

Fig. 10

ATTACHMENT B1

PALMER ST. LANDFILL -Annual

FIELD MEASUREMENT TRENDS

MONITORING EVENTS March 2008

August 2008

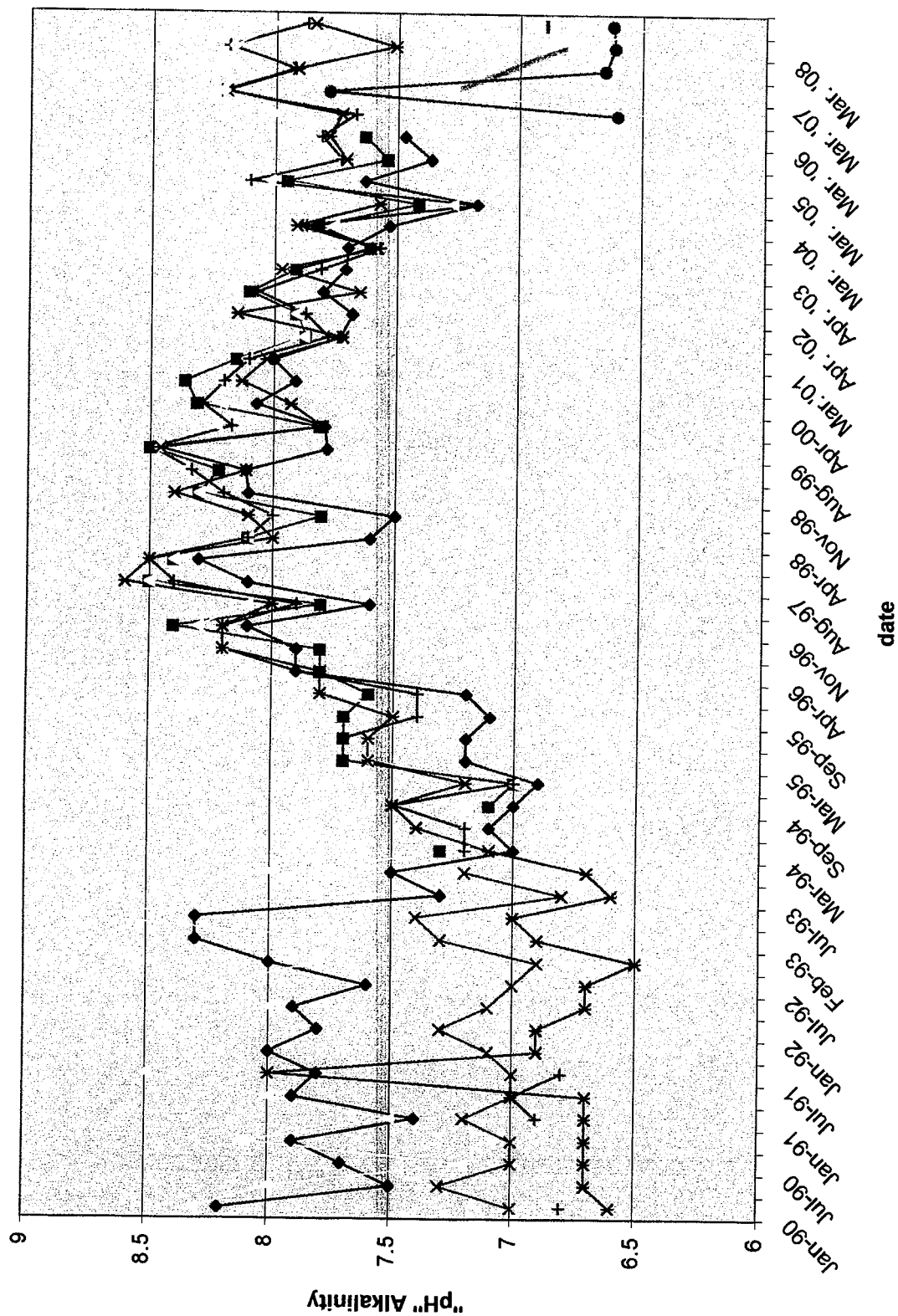
	PALMER ST L/F, MOENCH COMPANY										Fig.#6									
	"PH" vs TIME																			
	MONITOR POINTS & BANK SEEP																			
	Jan-90	Apr-90	Jul-90	Oct-90	Jan-91	May-91	Jul-91	Oct-91	Jan-92	May-92	Jul-92	Oct-92	Feb-93	May-93	Jul-93	Nov-93	Mar-94	Jun-94		
MW-1D	8.2	7.5	7.7	7.9	7.4	7.9	7.8	8	7.8	7.9	7.6	8	8.3	8.3	7.3	7.5	7	7.1		
P-6D	START 94																			
MW-3DR	8.3	8	7.2	8.1	7.5	8	8.5	8.2	8.4	8	8.2	7.8	7.7	8.8	7.6	8	7.2	7.2		
MW-5	7	7.3	7	7	7.2	7	7	7.1	7.3	7.1	7	6.9	7.3	7.4	6.8	7.2	7.1	7.4		
MW-6D	6.6	6.7	6.7	6.7	6.7	6.7	8	6.9	6.9	6.7	6.7	6.5	6.9	7	6.6	6.7	7.1	7.4		
MW-4SR	START93															6.8				
MW-4D	6.8				6.9	7	6.8										7.2	7.2		
MW-3																				
MW-3D																				
MW-5																				

		Sep-94	Dec-94	Mar-95	Jun-95	Sep-95	Dec-95	Apr-96	Aug-96	Nov-96	Apr-97	Aug-97	Nov-97	Apr-98	Aug-98	Nov-98	Apr-99	Aug-99	Nov-99	Apr-00	Sep-00
MW-1D		7	6.9	7.2	7.2	7.1	7.2	7.9	7.9	7.9	8.1	7.6	8.1	8.3	7.6	7.5	8.1	7.78	7.79	8.07	7.91
P-6D		7.1	7	7.7	7.7	7.7	7.6	7.8	7.8	8.4	7.8	8.5	8.4	8.1	7.8	8.3	8.22	8.5	7.81	8.31	8.36
MW-3DR		7.2	7	7.6	7.6	7.5	7.7	8.1	8.2	8.3	8.1	8.5	8.4	8.1	8	8.3	8.36	8.47	8.23	8.21	8.22
MW-5																					
MW-6D		7.5	7.2	7.6	7.6	7.5	7.8	7.8	8.2	8.2	8	8.6	8.5	8	8.1	8.4	8.11	8.46	7.8	7.93	8.13
MW-4SR																					
MW-4D		7.5	7	7.7	7.7	7.4	7.4	7.9	8.2	8.2	7.9	8.4	8.5	8.1	8	8.2	8.33	8.49	8.17	8.29	8.2
MW-3																					
MW-3D																					
MW-6																					

		Mar-01	Aug-01	Apr-02	Aug-02	Apr-03	Aug-03	Mar-04	Aug-04	Mar-05	Aug-05	Mar-06	Aug-06	Mar-07	July-07	Mar-08	Aug-08
MW-1D		8	7.73	7.68	7.68	7.8	7.71	7.7	7.53	7.17	7.63	7.36	7.47 (no longer sample)				
P-6D		8.15	7.87	7.91	7.91	8.1	7.91	7.61	7.82	7.41	7.95	7.54	7.63	"	"	"	"
MW-3DR		8.11	7.88	7.91	7.91	8.17	7.97	7.96	7.76	7.27	8.02	7.73	7.91	"	"	"	"
MW-5																	
MW-6D		8.03	7.72	8.15	7.65	7.65	7.97	7.58	7.91	7.57	7.71	7.78	7.73	8.2	7.91	7.51	7.84
MW-4SR																	
MW-4D		8.1	7.78	7.87	8.07	7.81	7.81	7.57	7.87	7.17	8.1	7.73	7.81	7.78	6.65	6.61	6.62
MW-3																	
MW-3D																	
MW-6																	

Fig. 6

Palmer St. L/Fill;"pH" vs. time



*Fig. 6

- MW-1D
- P-6D
- MW-3DR
- MW-5 ALWAYS DA
- MW-6D
- MW-4SR NEW '01
- MW-4D
- MW-3 USUALLY DA
- MW-3D NEW '06
- MW-6 NEW '06

(A) NO LONGER
sample.

	PALMER ST L/F, MOENCH COMPANY											
	"PH" vs TIME											
	MONITOR POINTS & BANK SEEPS											
	Jan-90	Apr-90	Jul-90	Oct-90	Jan-91	May-91	Jul-91	Oct-91	Jan-92	May-92	Jul-92	Oct-92
P-6B												
MW-7D	7.7	7.8	7.9	8	7.5	7.8	7.8	7.8	7.8	8.2	8.2	7.9
MW-8D	10	9.2	9	9.5	9	9.3	9.1	8.6	8.8	8.7	8.8	8.6
BS-1	7.1	7.3	6.7	6.9	7.4	7			8.5	7.7	7.6	7.8
BS-3	7	7.3	7.1	7.3	7.1	7.3		7.9	7.6	7.2	7.1	7.4
BS-2												

	Fig. #6											
Dec-94	7	7.1	7.1	7.2	7.2	7.6	7.8	8.2	7.6	8.4	8.4	7.9
P-6B												
MW-7D	7	7.6	7.6	7.4	7.6	7.9	8.2	8.2	7.8	8.4	8.4	8
MW-8D				7.8				8.2		8.5		8.2
BS-1	7.1	7.2	7.1	7.1	7.1	7		9	7	8.2	8.3	7.8
BS-3	6.9	6.7	7.3	6.9	7.3	8.1		8.3	8.2	8.3	8.1	7.4
BS-2												

	Figure #6											
Mar-'01	8.36	7.56	7.56	7.76	7.76	7.68	7.9	7.13	7.79	7.61		
P-6B												
MW-7D	8.05	7.78	8.13	8.14	7.85	8.11	7.97	7.62	8.03	7.66	7.79	7.72
MW-8D		7.83	7.94			7.67		7.4		7.71		7.73
BS-1	7.45	7.38	7.61	7.42	7.16	7.62	7.25	6.9	7.03	7.9	7.76	7.31
BS-3	8.67	7.4	7.71	7.6	8.05	7.8	7.96	7.16	7.37	7.57	6.76	7.1
BS-2												

Fig. 6

Palmer St. L/Fill; "pH" vs. time

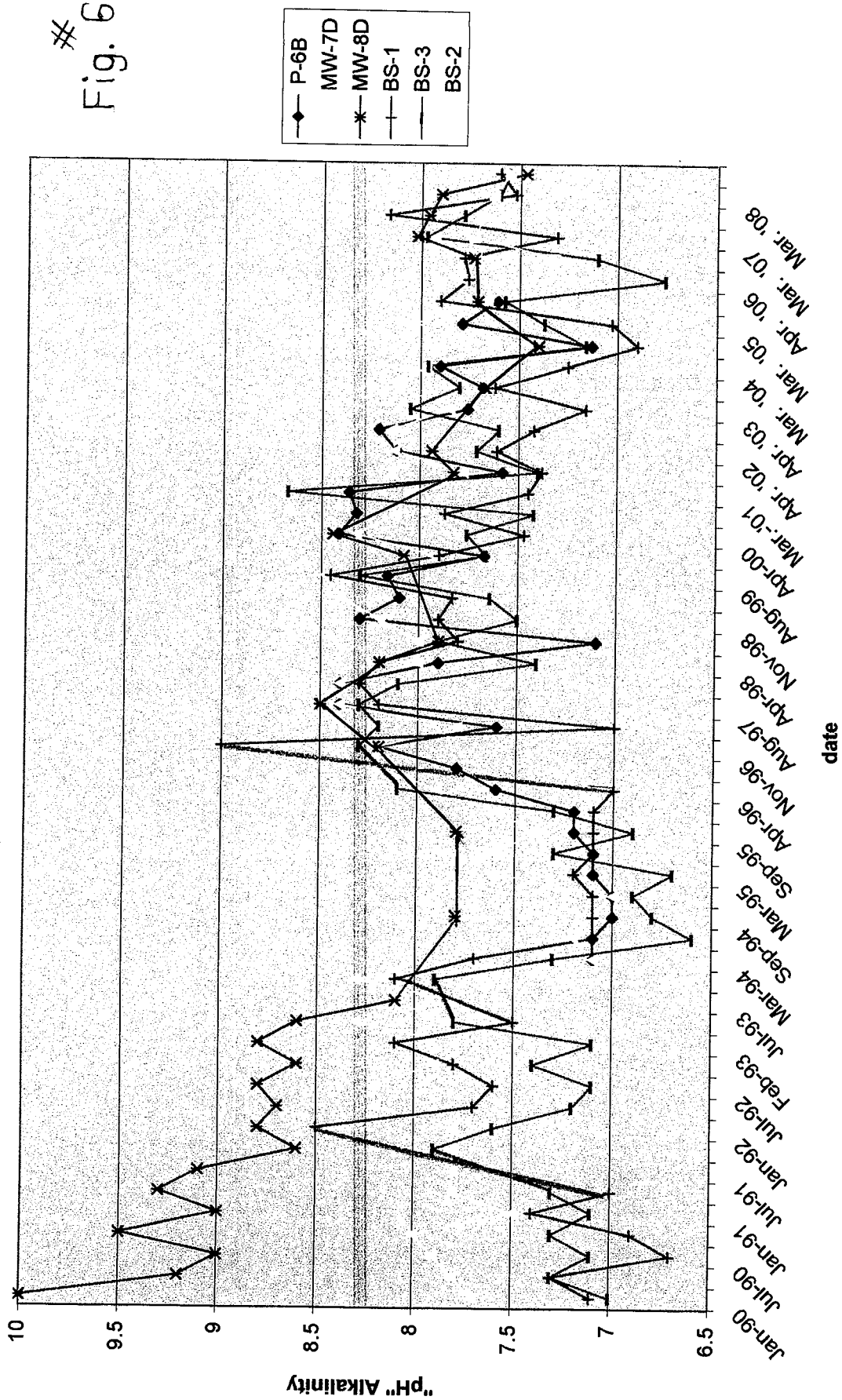


Fig. 6

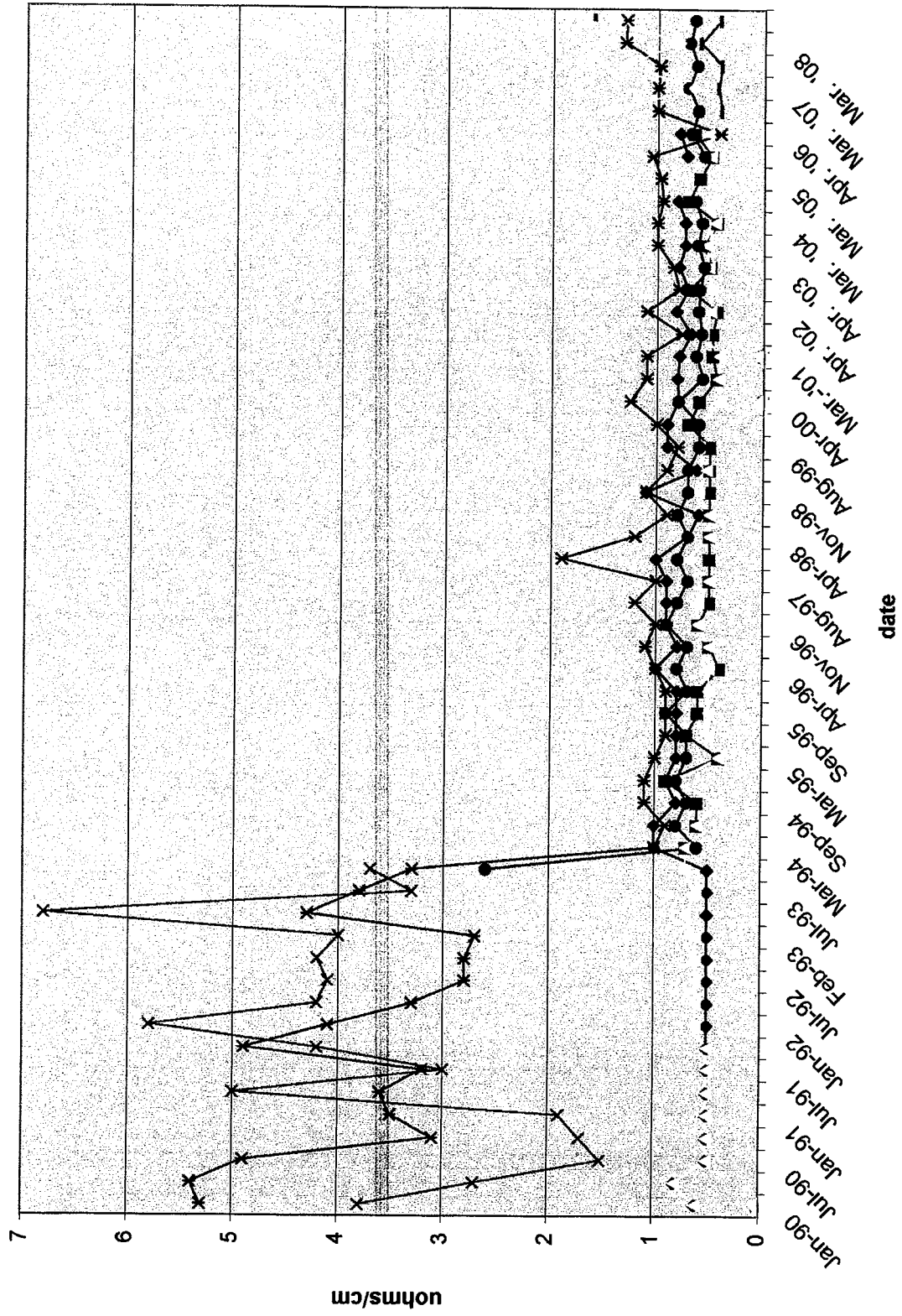
PALMER & ST LUF, MOENCH CO. SPECIFIC CONDUCTIVITY vs TIME MONITOR WELLS & BANK SEEPS																			FIGURE#7	
	Jan-90	Apr-90	Jul-90	Oct-90	Jan-91	May-91	Jul-91	Oct-91	Jan-92	May-92	Jul-92	Oct-92	Feb-93	May-93	Jul-93	Nov-93	Mar-94	Jun-94	Sep-94	
MW-1D	0.6	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	0.8	
P-6B	START94																0.7	0.6	0.6	
MW-3DR	0.6	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.7	0.7	0.6	0.4	
MW-5	3.8	2.7	1.5	1.7	1.9	5	3	4.2	5.8	4.2	4.1	4.2	4	6.8	3.3	3.7	3.7	1	1.1	
MW-6D	5.3	5.4	4.9	3.1	3.5	3.6	3.2	4.9	4.1	3.3	2.8	2.8	2.7	4.3	3.8	3.3	1	0.9	0.7	
MW-4D																2.6	0.6	0.8	0.7	
MW-3	START 06																			
MW-3D	"	"																		
MW-4SR	"	"																		

	Dec-94	Mar-95	Jun-95	Sep-95	Dec-95	Apr-96	Aug-96	Nov-96	Apr-97	Aug-97	Nov-97	Apr-98	Aug-98	Nov-98	Apr-99	Aug-99	Nov-99	Apr-00	Sep-00
MW-1D	0.9	0.8	0.8	0.8	0.8	1	0.8	0.9	0.9	0.9	1	0.7	0.6	1.1	0.62	0.9	0.9	0.8	0.81
P-6B	0.9	0.4	0.7	0.6	0.6	0.4	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.6	0.44
MW-3DR	0.8	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.7	0.5	0.5	0.6	0.53	0.6	0.6	0.4	0.42
MW-5	DRY																		
MW-6D	1.1	1	0.9	0.9	0.9	1	1.1	1	1.2	1	1.9	1.2	0.9	1.1	0.9	0.8	1	1.25	1.1
MW-4D	0.8	0.7	0.7	0.9	0.7	0.8	0.7	0.9	0.8	0.7	0.8	0.7	0.8	0.7	0.7	0.6	0.6	0.8	0.57
MW-3																			
MW-3D																			
MW-4SR																			

Fig. #7

	Mar-'01	Aug-'01	Apr-'02	Aug-'02	Apr-'03	Aug-'03	Mar-'04	Aug-'04	Mar-'05	Aug-'05	Apr-'06	Aug-'06	Mar-'07	Aug-'07	Mar-'08	Aug-'08
MW-1D	0.79	0.68	0.82	0.71	0.8	0.74	0.74	0.81	0.81	0.72	0.79	NO	LONGER	1.31	1.3	
P-6B	0.48	0.48	0.44	0.69	0.5	0.56	0.44	0.71	0.6	0.49	0.65	"	"	0.63	0.7	0.65
MW-3DR	0.41	0.57	0.5	0.49	0.52	0.54	0.46	0.48		0.5	0.52	"	"			
MW-5	DRY															
MW-6D	1.1	0.77	1.1	0.8	0.85	1	1	0.95	0.97	1.05	0.41	1	1	0.98	1.31	1.3
MW-4D	0.63	0.58	0.61	0.6	0.56	0.62	0.58	0.64		0.56	0.68	0.62	0.71	0.63	0.7	0.65
MW-3										New Sample points		DRY	0.43	0.4	0.6	1.6
MW-3D												1.4	0.66	1.3	0.8	1.4
MW-4SR																

Palmer St. L/Fill; Specific Conduct.



- MW-1D NO LONGER SR
- P-6B " " "
- MW-3DR " " "
- MW-5 DRY
- MW-6D
- MW-4D
- MW-3 OFTEN DRY
- MW-3D
- MW-4SR

FIGURE # 7	PALMER ST. LANDFILL, MOENCH COMPANY (umhos/CM)(THOUSANDS)																		
	SPECIFIC CONDUCTIVITY vs TIME																		
	MONITOR WELLS & BANK SEEPS																		
	Jan-90	Apr-90	Jul-90	Oct-90	Jan-91	May-91	Jul-91	Oct-91	Jan-92	May-92	Jul-92	Oct-92	Feb-93	May-93	Jul-93	Nov-93	Mar-94	Jun-94	Sep-94
P-6D																			
MW-7D	1	1	0.7	0.8	0.5	0.7	0.8	0.7	0.5	0.8	0.6	0.6	0.6	0.7	0.9	0.7	0.7	0.7	0.7
MW-8D	0.5	0.6	0.3	0.3	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.4				
BS-1	2.7	2.9	3	2.9	1	1.6	1.3	1.3	1.3	1.3	0.6	0.6	0.6	0.7	0.7	0.8	0.7	0.6	0.6
BS-3	2.8	2.9	1.8	1.8	1	1.8		1.1	0.9	0.9	1.1	0.5	0.5	0.7	0.7	0.7	0.6	1	0.6
BS-2																			

FIGURE #7	PALMER ST. LANDFILL, MOENCH COMPANY (umhos/cm)(THOUSANDS)															
	SPECIFIC CONDUCTIVITY vs TIME															
	MONITOR WELLS & BANK SEEPS															
	Mar-'01	Aug-'01	Apr-'02	Aug-'02	Apr-'03	Aug-'03	Mar-'04	Aug-'04	Mar-'05	Aug-'05	Apr-'06	Aug-'06	Mar-'07	Aug-'07	Mar-'08	Aug-'08
P-6D	0.65	0.52	0.48	0.72	0.62	0.54	0.3	0.72	0.58	0.48	0.56	0.65	0.56	0.43	0.7	0.68
MW-7D	0.65	0.58	0.79	0.59	0.68	0.76	0.72	0.72	0.72	0.7	0.66	0.75	0.48	0.74	0.52	0.5
MW-8D		0.4	0.44		0.36	0.36	0.54	0.54	0.54	0.46	0.46	0.41	0.48	1.1	0.44	0.4
BS-1	1.05	0.39	1.1	0.42	0.9	0.54	1.1	0.7	1.5	0.36	0.65	0.28	0.98	0.54	0.48	0.5
BS-3	0.39	1.6	1.2	0.32	0.44	0.24	0.52	0.52	0.52	0.58	0.62	0.98	0.54	0.64	0.6	0.53
BS-2																

Fig. 7

Palmer St. L/Fill; Specific Conduct.

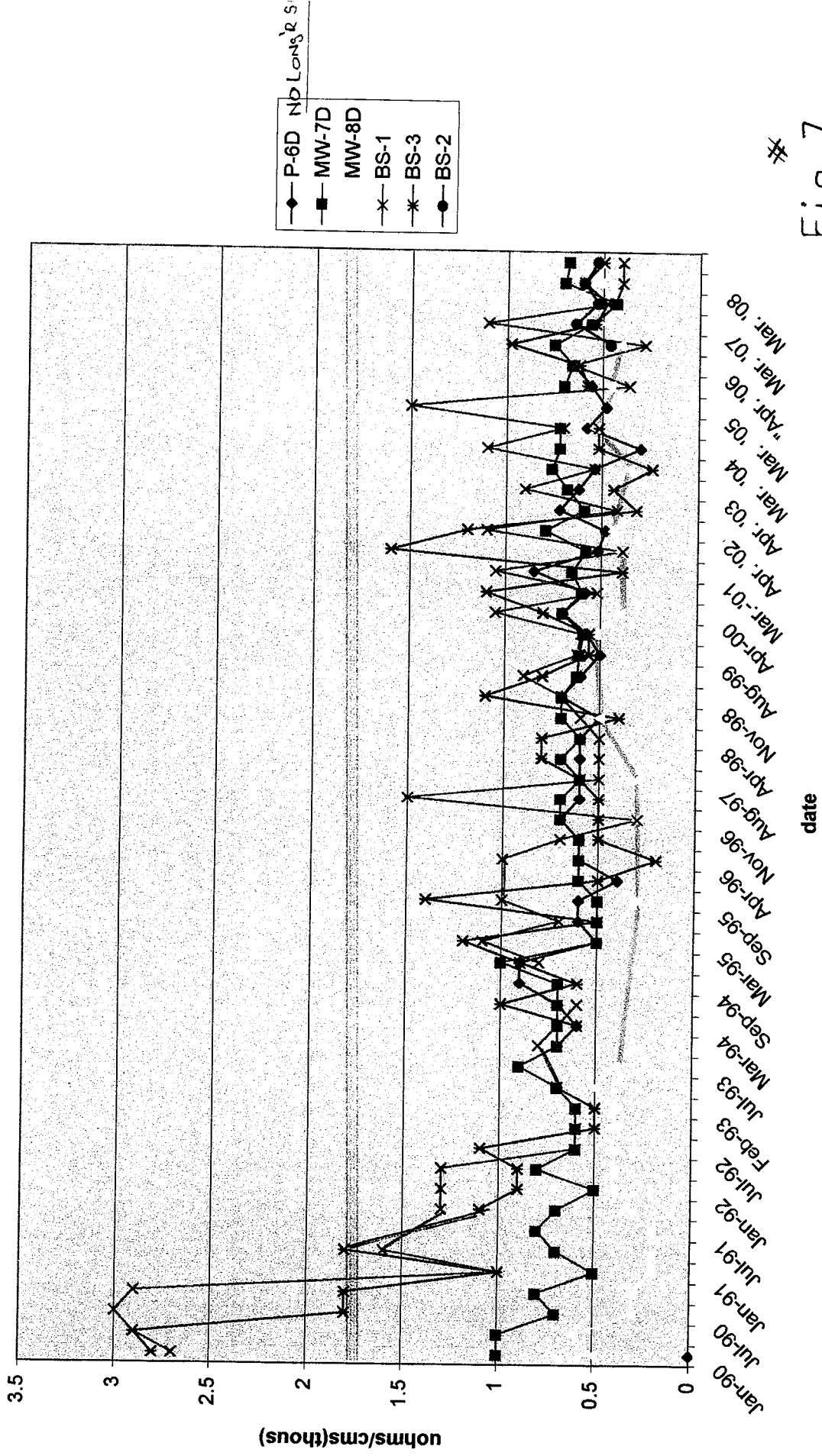


Fig. 7

4.3 RATE OF CONTAMINANT MIGRATION

Contaminant migration and potential environmental impacts for the Palmer Street Landfill are discussed in detail in the report entitled "Palmer Street Landfill - Evaluation of Alternative Cover Systems" prepared by Malcolm Pirnie, Inc., January 1989 (Reference 7). As described in the above-mentioned report, groundwater migrates from the landfill through the shallow water-bearing zone along both the eastern and northern boundaries of the waste/fill area. A reasonable assumption in determining the rate of contaminant migration across the site is the rate of contaminant migration is equivalent to the rate at which groundwater leaves the site. This latter calculation can be performed through the application of Darcy's Law which is expressed as:

$$V = \frac{ki}{\theta}$$

where: V = velocity of shallow groundwater flow (feet/day)
 k = hydraulic conductivity of the shallow water bearing zone (feet/day)
 i = hydraulic gradient (dimensionless)
 θ = average porosity of the shallow water bearing zone (dimensionless)

Values for k and θ were previously determined (see Reference 2) as 4.1 ft/day and 0.35, respectively. The hydraulic gradient (i) is measured perpendicular to the primary direction of groundwater flow (viz., to the east toward Cattaraugus Creek - see Section 5.0) using average water level elevations as measured in MW-1 and MW-3 and elevation as measured in MW-2A and MW-5 during the 1993 monitoring year. The hydraulic gradient for MW-1 and MW-3 is thus:

$$\frac{\Delta H}{\Delta X} = \frac{26.3}{600} = 0.044$$

where

ΔH = difference in average groundwater elevations between MW-1 and MW-3 (feet)
 ΔX = distance between MW-1 and MW-3 (feet)

Upon inserting this value into the Darcy's Law expression for velocity, the following result is obtained:

19.6

$$V = \frac{Ki}{\theta} \frac{(4.1)(0.044)}{0.35} = 0.52 \text{ ft/day}$$

Thus, the rate of contaminant migration across the site is approximately 0.52 feet/day between monitoring wells MW-1 and MW-3.

The hydraulic gradient for MW-2A and MW-5 is as follows:

$$\frac{\Delta H}{\Delta X} = \frac{24.5}{1085} = 0.022$$

ΔH = difference in average groundwater elevations between MW-2A and MW-5 (feet)

ΔX = distance between MW-2A and MW-5 (feet)

$$V = \frac{Ki}{\theta} \frac{(4.1)(0.022)}{0.35} = 0.26 \text{ ft/day}$$

The rate of contaminant migration across the site is approximately 0.26 ft/day between monitoring wells MW-2A and MW-5.

ATTACHMENT C

SOLUBLE METALS CONCENTRATION VS. TIME

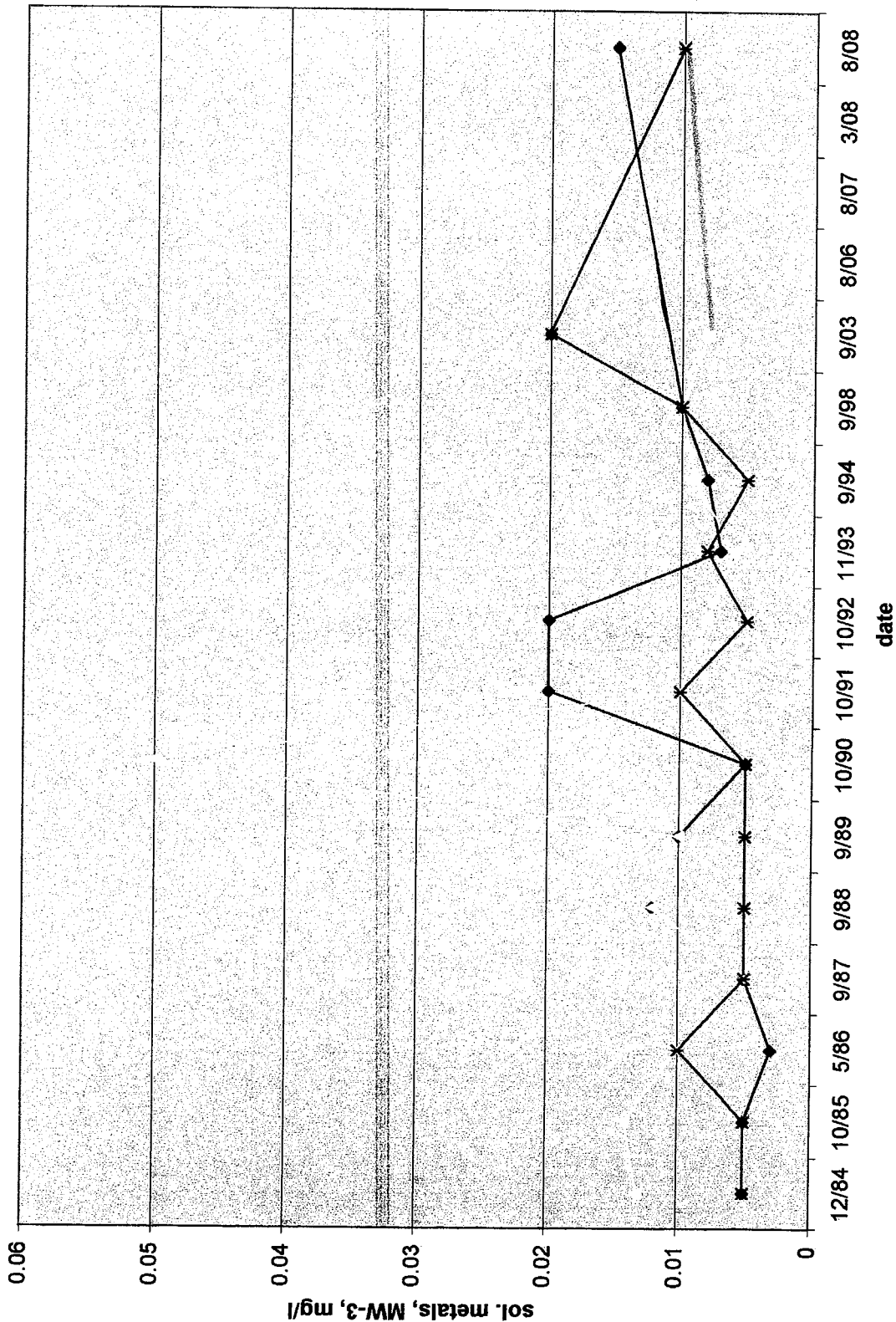
MONITORING EVENTS: March 2008

August 2008

Annual Palmer St. Landfill

Palmer St. L/fill; MW-3 sol. metals

Screened in waste



Attachment:
C1

soluble

◆ Arsenic
— Chrome
* Lead

GA Std.
AS = .025 mg/l
Cr = .05 mg/l
Pb = .025 mg/l

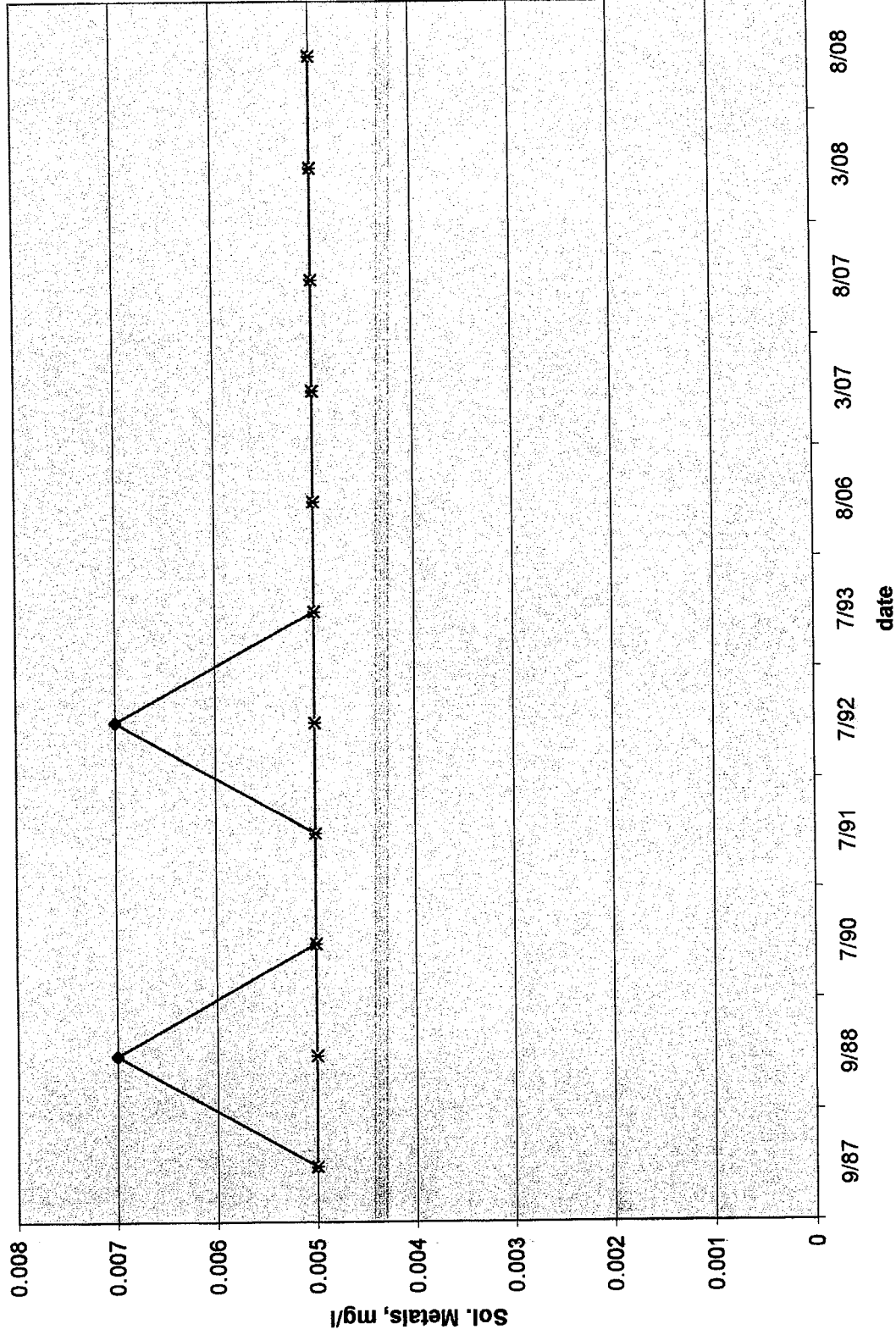
-less than.

		PALMER ST. LANDFILL; MOENCH COMPANY												
		MW-3D, SOLUBLE METALS;(BEDROCK, IN WASTE)										ATTACHMENT-C1		
		9/87	9/88	7/90	7/91	7/92	7/93	8/06	3/07	8/07	3/08	8/08		
Arsenic	0.005	0.007	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005		
(soluble)							l.t.	l.t.	l.t.	l.t.	l.t.	l.t.		
Chrome	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005		
(soluble)							l.t.	l.t.	l.t.	l.t.	l.t.	l.t.		
Lead	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005		
(soluble)							l.t.	l.t.	l.t.	l.t.	l.t.	l.t.		

PLMR-MTL-MW3D

Palmer St./L/Fill;sol. metals; MW3D

Bedrock, in Waste



Attach: 'C'

-MDL .005 mg/l

◆ Arsenic
 □ Chrome
 * Lead

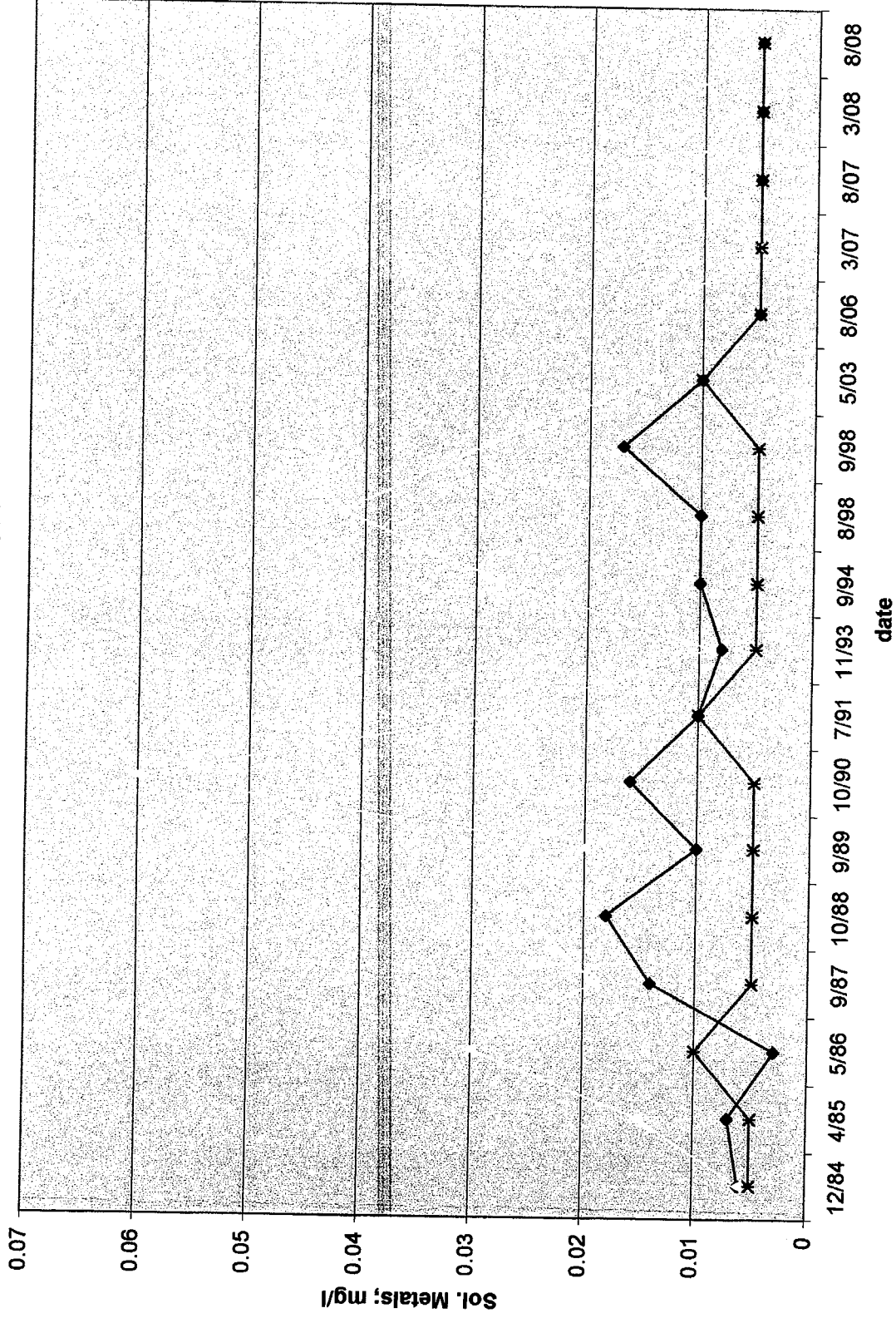
'GA' Std.
 As = .025mg/l
 Cr = .05 " "
 Pb = .025 " "

[illegible]

Plmr.MTL.MW4SR

Palmer St. L/fill; Sol. Metal; MW4SR

Screened in Waste



Attachment: 'C'

	PALMER ST LF. MOENCH COMPANY															
	MW-4D Soluble Metals, Bedrock															
	Mar. '94	Jun. '94	Oct. '94	Dec. '94	Mar. '95	Jun. '95	Sept. '95	Dec. '95	Apr. '96	Jun. '96	Nov. '96	Apr. '97	Aug. '97	Nov. '97	Apr. '98	Aug. '98
Arsenic (soluble)	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Chromium (soluble)	0.005	0.005	0.01	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.01	0.01	0.01	0.01	0.01
Lead (soluble)	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
	it	it	it	it	it	it	it	it	it	it	it	it	it	it	it	it

	MW-4D															
	Nov. '99	Apr. '00	Sept. '00	Mar. '01	Aug. '01	Apr. '02	Aug. '02	Apr. '03	Aug. '03	Mar. '04	Aug. '04	Mar. '05	Aug. '05	Apr. '06	Aug. '06	Mar. '07
Arsenic (soluble)	0.01	0.01	0.01	0.005	0.005	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001
Chromium (soluble)	0.01	0.01	0.01	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
Lead (soluble)	0.005	0.005	0.005	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.005	0.005	0.005	0.005	0.005
	it	it	it	it	it	it	it	it	it	it	it	it	it	it	it	it

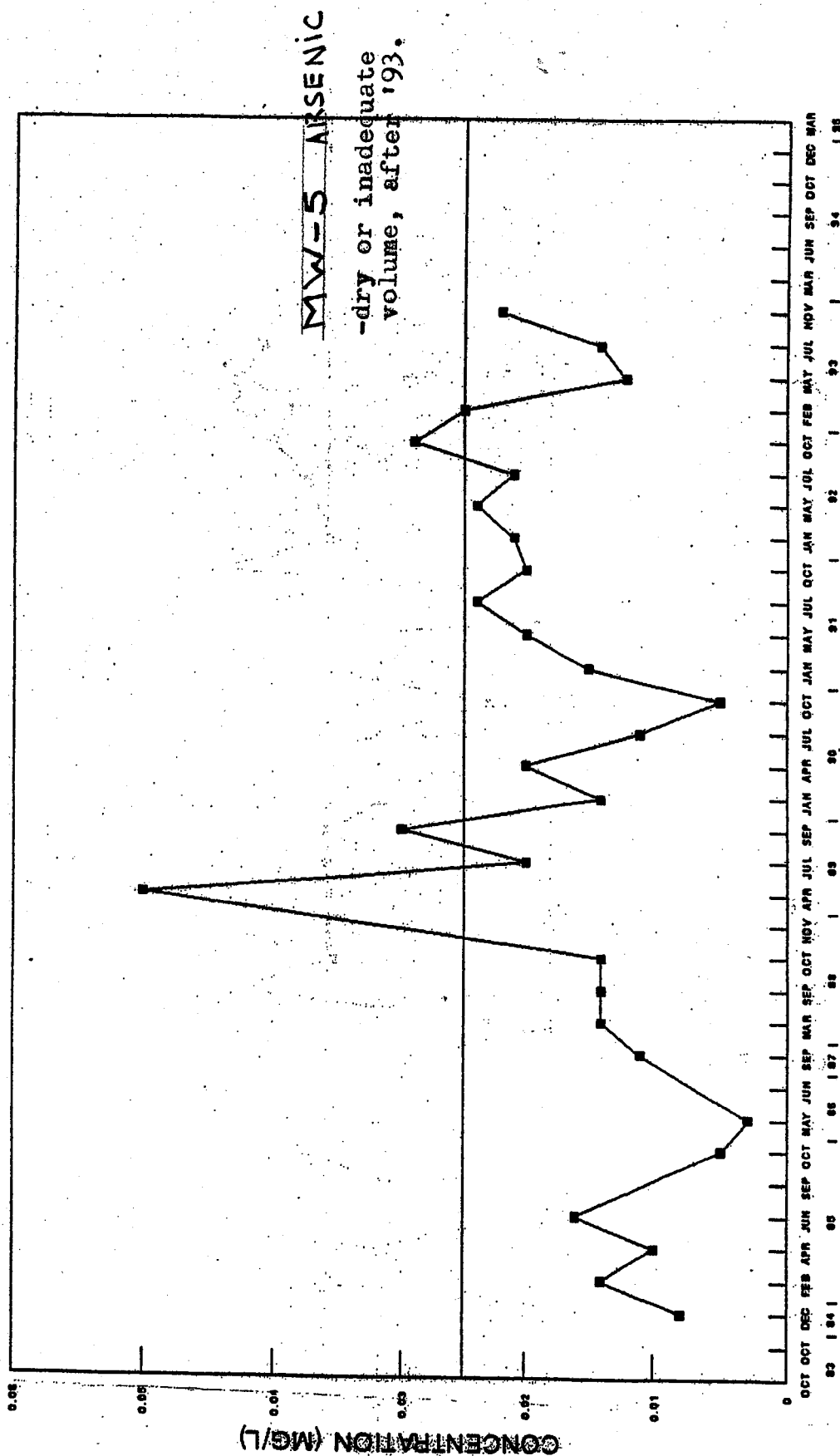
No detection above the MDL, since 1994, therefore no graph is generated.

ATTACHMENT 'C'

PLMTEL

PALMER STREET LANDFILL
MW-5 SOLUBLE ARSENIC (screened in the waste)

ATTACHMENT C1

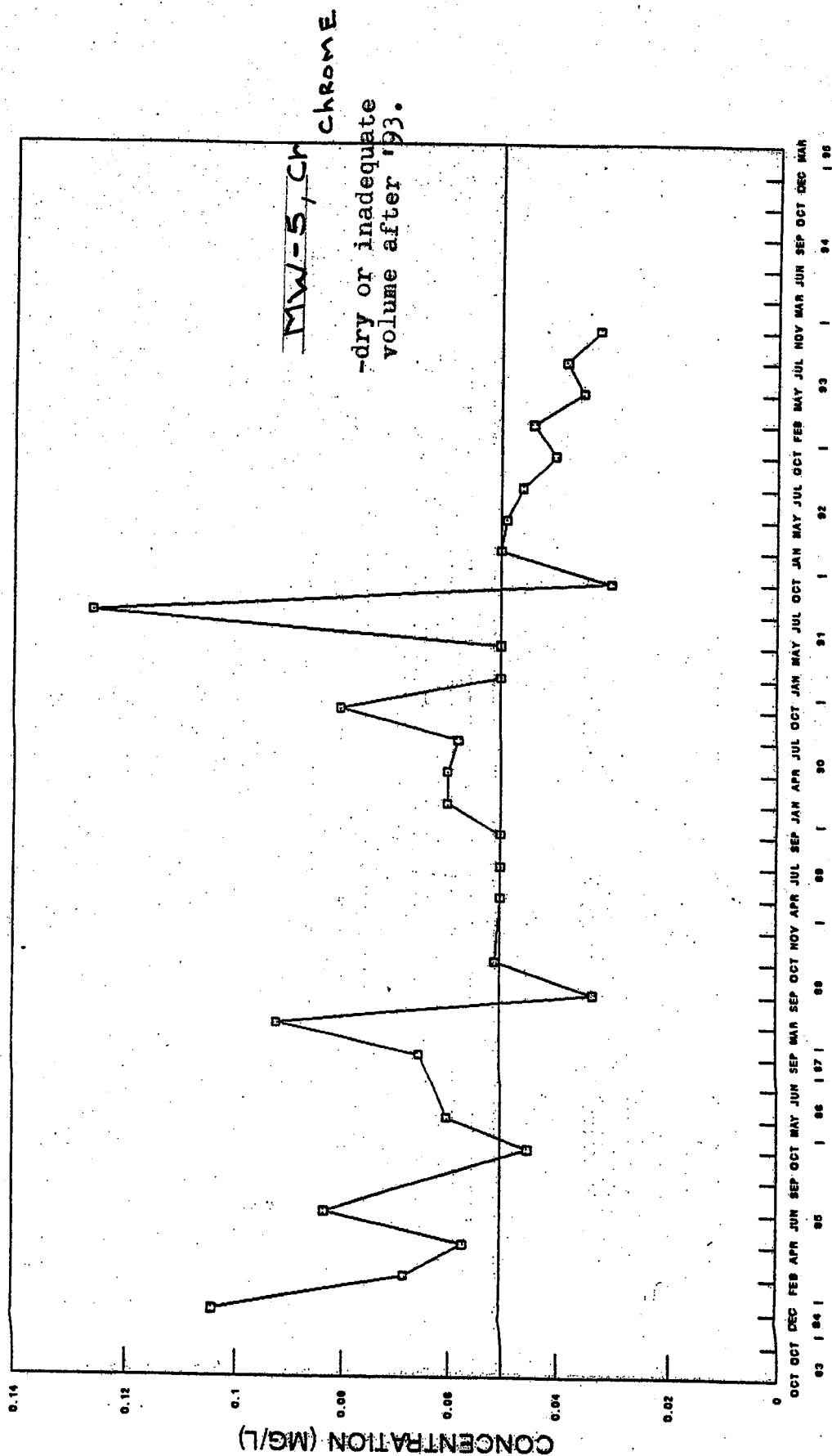


SAMPLE DATES

ARSENIC (SOLUBLE) — NYSDEC STANDARD

PALMER STREET LANDFILL
MW-5 SOLUBLE CHROMIUM
(screened in the waste)

ATTACH #C1



— NYSDEC STANDARD Cr^{6+} CHROMIUM (SOLUBLE)

[illegible]

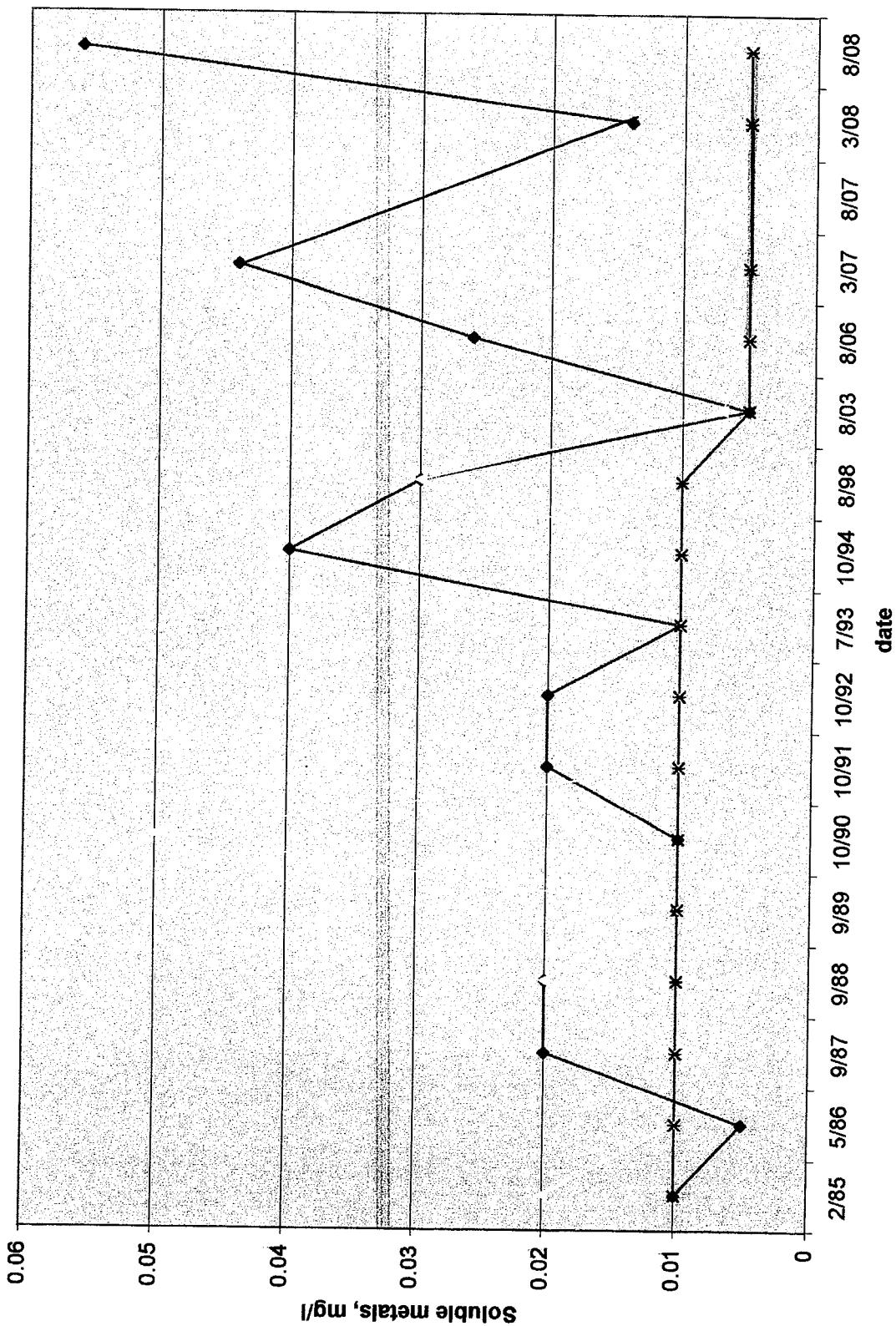
		3/08	8/08
Arsenic		0.014	0.056
(soluble)			
Chromium		0.005	0.005
(soluble)		l.t.	l.t.
Lead		0.005	0.005
(soluble)		l.t.	l.t.

Attachment 'C'

Plum. mtl. m. w/6

Palmer St. L/Fill; Sol. Metals, MW6

Screened in the Waste



Attachment 'C'

—◆— Arsenic
—●— Chrome
—*— Lead

MDL= .005mg/l

"GA" Std.

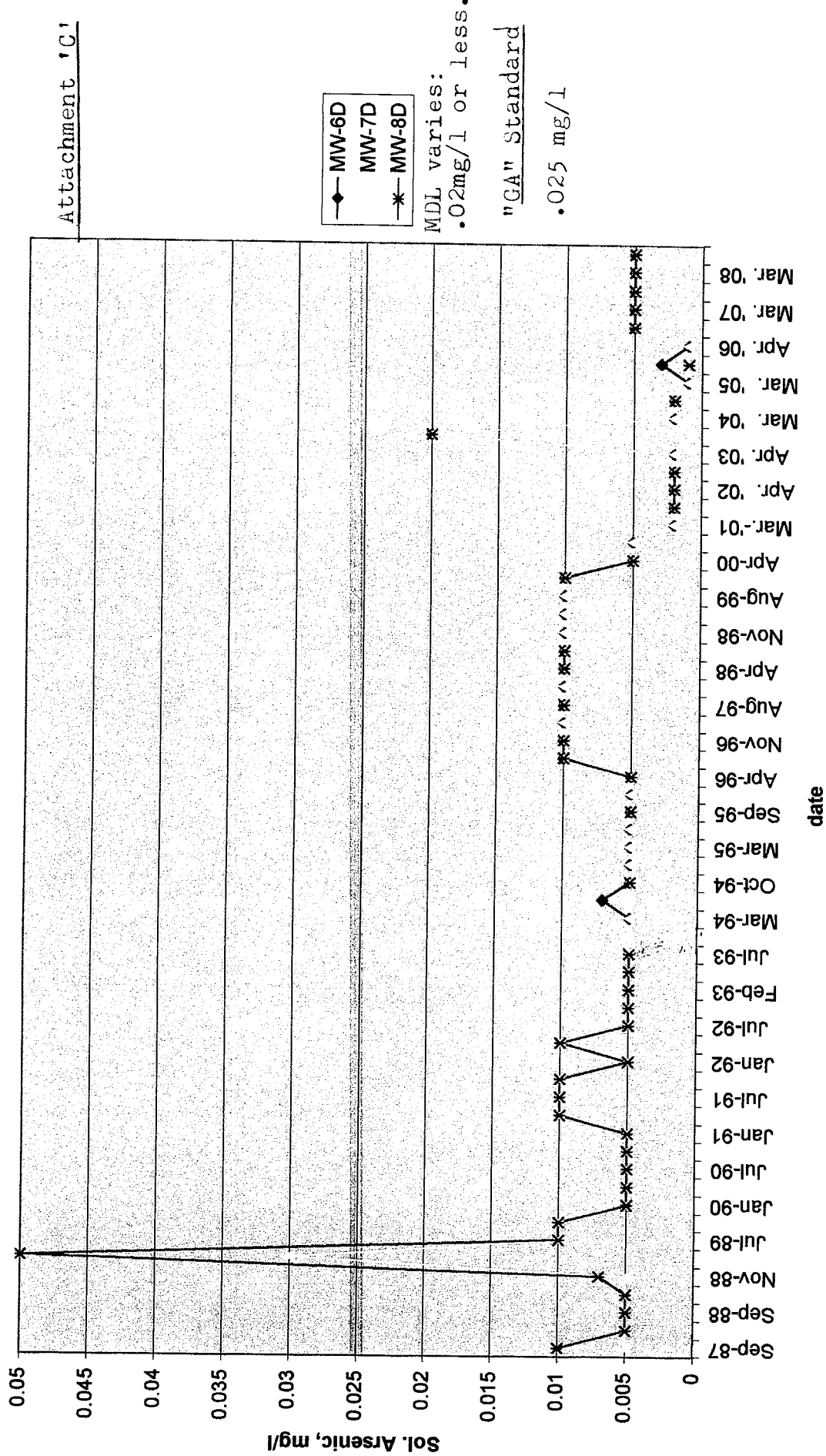
AS= .025mg/l

Cr= .05 mg/l

Pb= .025mg/l

[illegible][illegible][illegible]

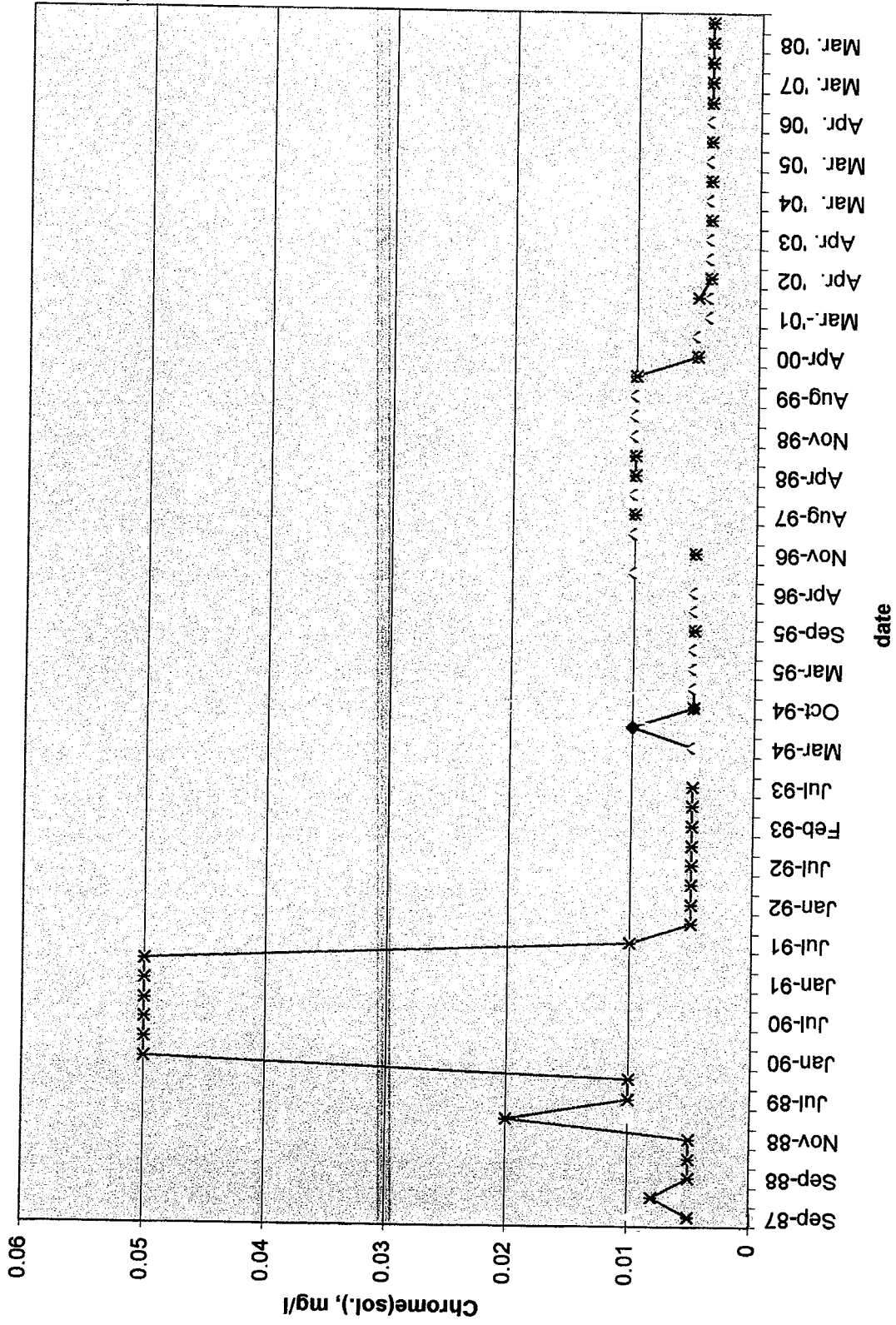
Palmer St. L/Fill; Sol. Arsenic (MW-6D, 7D, 8D)



PLRMTL6

[illegible][illegible][illegible]

Palmer St. L/Fill; Chrome(sol). MW-6D,7D,8D



Attachment 'C'

MW-6D
MW-7D
MW-8D

MDL varies:

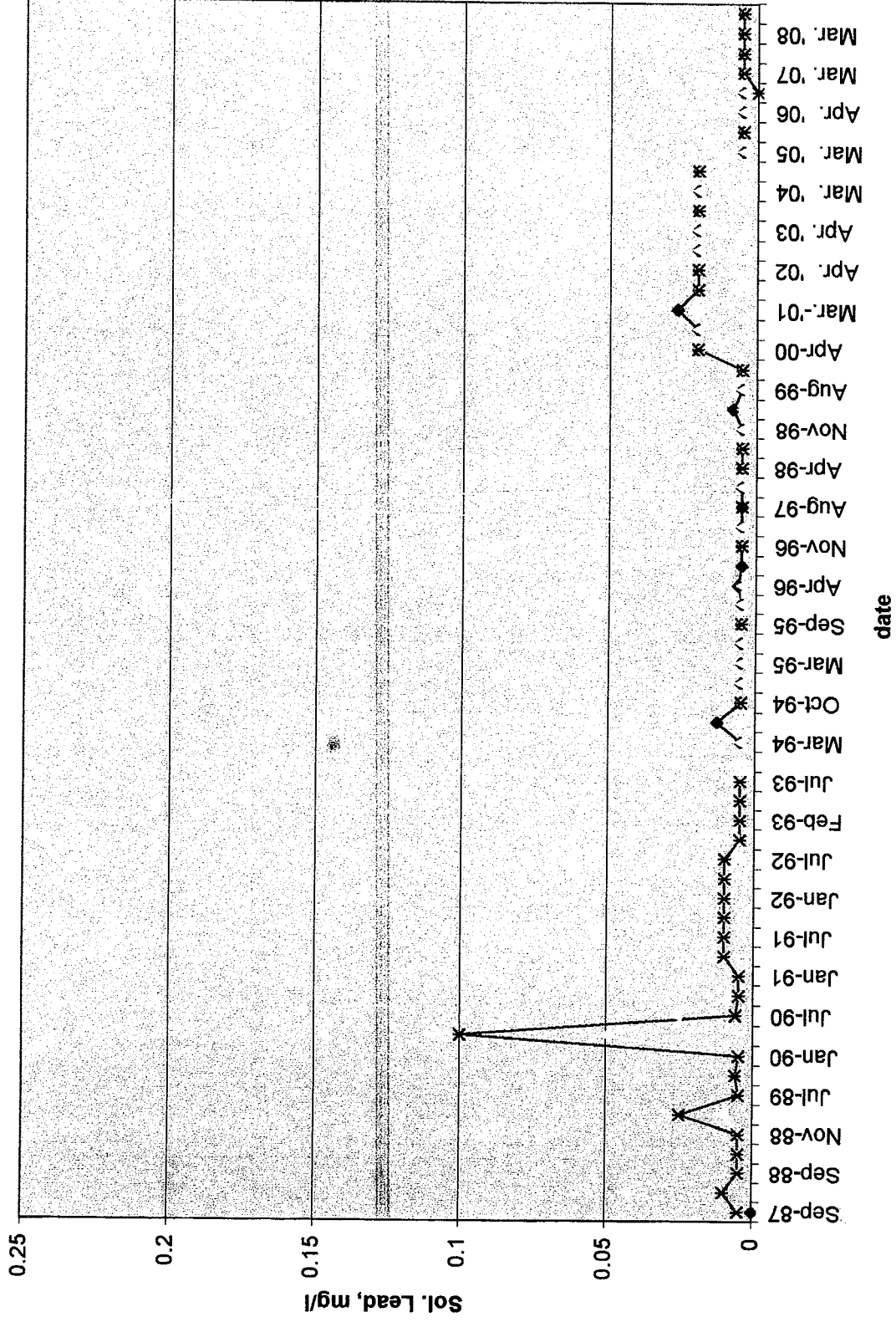
less than .01mg/

		PALMER ST. L.F. MOENCH COMPANY LEAD(SOLUBLE) vs TIME (MG/L) MONITOR WELLS &															
		Attachment 'C'															
	Dec. '08																
MW-6D	Sep-87 START94	Mar-88	Sep-88	Oct-88	Nov-88	Apr-89	Jul-89	Sep-89	Jan-90	Apr-90	Jul-90	Oct-90	Jan-91	May-91	Jul-91	Oct-91	Jan-92
MW-7D	0.005	0.043	0.005	0.005	0.005	0.01	0.005	0.005	0.005	0.05	0.026	0.005	0.005	0.01	0.01	0.01	0.005
MW-8D	0.005	0.01	0.005	0.005	0.005	0.025	0.005	0.006	0.005	0.1	0.006	0.005	0.005	0.01	0.01	0.01	0.005

		Attachment 'C'															
		Attachment 'C'															
	May-93	Jul-93	Nov-93	Mar-94	Jun-94	Oct-94	Dec-94	Mar-95	Jun-95	Sep-95	Dec-95	Apr-96	Aug-96	Nov-96	Apr-97	Aug-97	Nov-97
MW-6D				0.005	0.013	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.005	0.005	0.005	0.005	0.005
MW-7D	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.015	0.005	0.005	0.214	0.005
MW-8D	0.005	0.005				0.005				0.005				0.005		0.005	0.005

		Attachment 'C'															
		Attachment 'C'															
	Aug-99	Nov-99	Apr-00	Sep-00	Mar-01	Aug-01	Apr-02	Aug-02	Apr-03	Aug-03	Mar-04	Aug-04	Mar-05	Aug-05	Nov-05	Apr-06	Aug-06
MW-6D	0.005	0.005	0.02	0.02	0.02	0.027	0.02	0.02	0.02	0.02	0.02	0.02	0.005	0.005	0.005	0.005	0.005
MW-7D	0.005	0.005	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.005	0.005	0.005	0.005	0.005
MW-8D		0.005	0.02				0.02	0.02									

Palmer St. L/Fill;Sol. Lead(MW-6D,7D,8D)



Attachment: 'C'

[illegible][illegible]

- NO GRAPH GENERATED DUE TO MINIMAL DETECTION.

P18MTL13

ATTACHMENT "D"

TOTAL VOLATILES vs TIME
(grouped by monitoring point)

MONITORING EVENTS: March 2008 & prior
August 2008 & prior

	PALMER ST. LANDFILL - MOENCH CO.																			
	TOTAL VOLATILE ORGANICS OF RELEVANT: ACETONE, TOLUENE, XYLENE																			
	MW3, MW4, MW5, MW6; ALL SCREENED U IN WASTE																			
	5/86	9/87	10/88	7/90	7/91	7/92	7/93	9/94	8/98	8/03	8/06	3/07	8/07	3/08	8/08					
MW-3	8.97	0.005	0.005	0.005	0.011	0.005	0.005	0.005	0.005	0.005	0.36	dry	dry	dry	1.4					
MW-4/4sr	2.46	0.005	0.005	0.005	0.005	0.005	0.005	0.586	2.1	0.125	dry	0.293	0.052	0.062	0.021	0.0005				
MW-5	2.02	0.005	0.005	0.022	0.002	0.019	0.005	0.005	0.005	dry	dry	dry	dry	dry	dry	0.05	0.078			
MW-6	4.82	0.005	0.005	0.005	0.003	0.009	0.003	0.004	0.005	0.005	0.005	0.005	0.01	dry	dry	0.05	0.078			
	l.i.	l.i.	l.i.										dry	acetone	acetone					

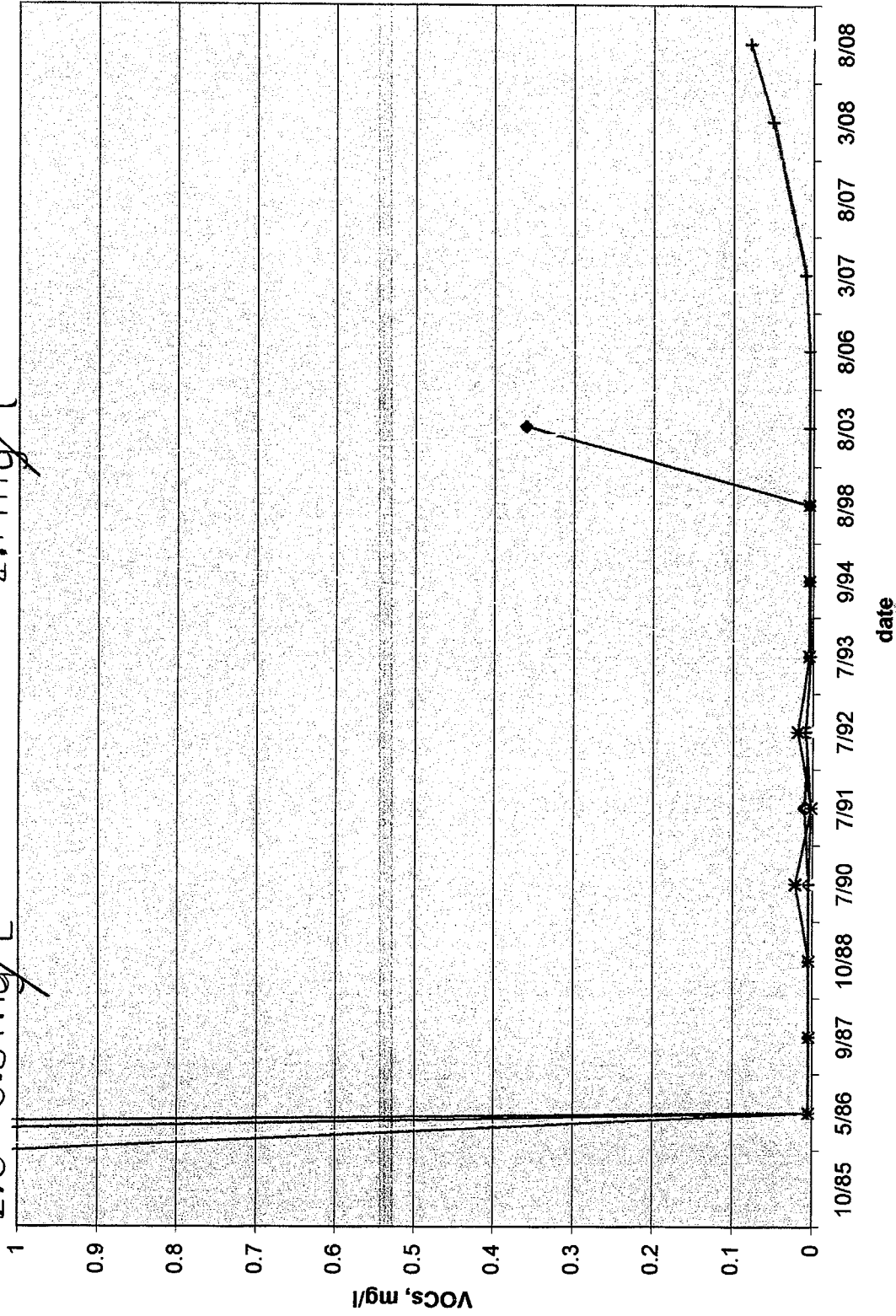
Attachment D

WELLS IN WASTE . TOTAL VOC

Palmer.St.L/Fill; Total VOC, in Waste

2.0 - 8.9 mg/L

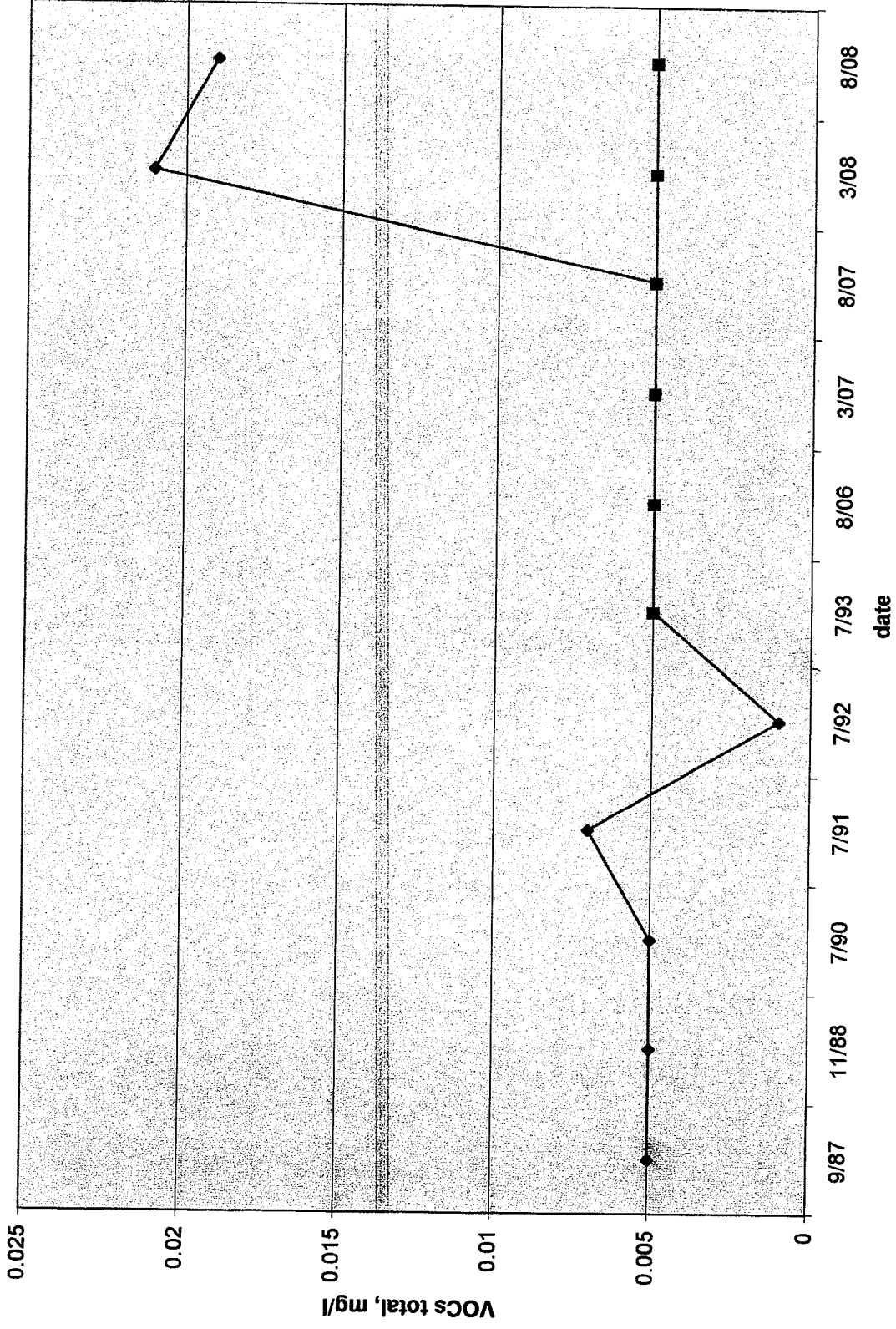
2.1 mg/l



attach. D

Wells in waste. Total Voc

Palmer St. L/Fill; Total VOCs, bedrock



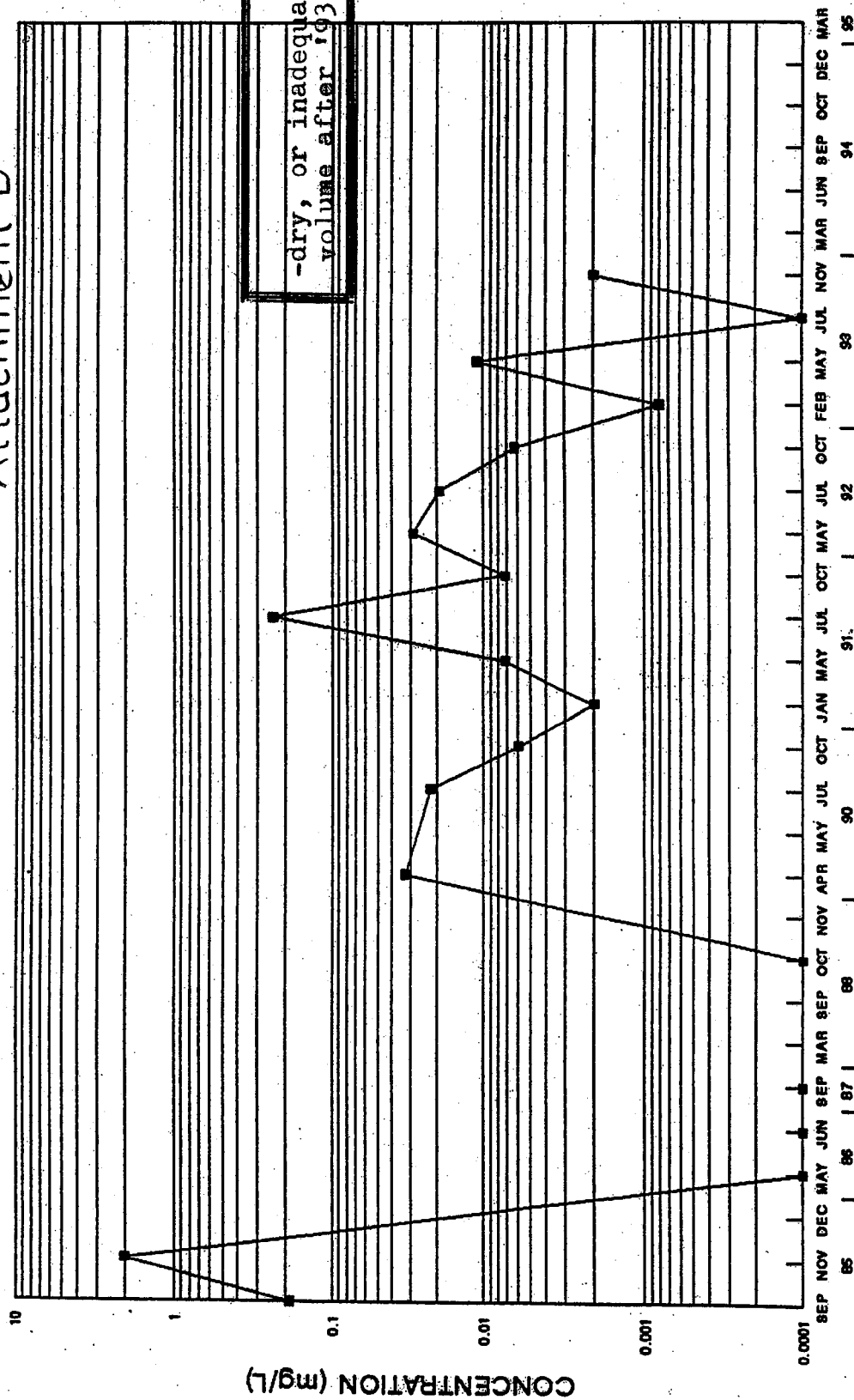
Attachment 'D'

◆ MW-3D
 ■ MW-4D

MDL = 0.005 mg/l
 - Detection is mostly acetone.

PALMER STREET LANDFILL
TOTAL VOLATILE ORGANICS (screened in the waste)
MW-5

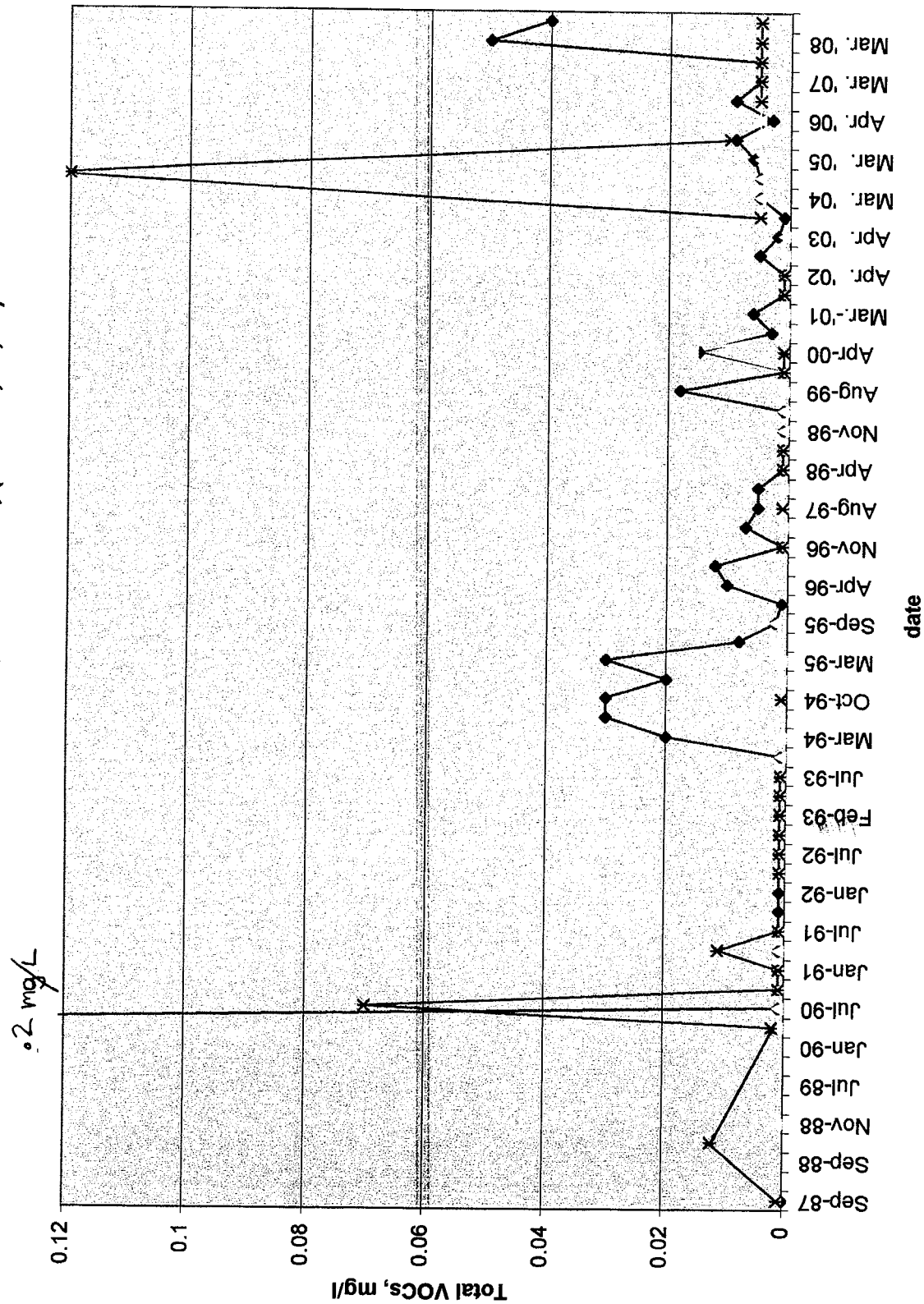
Attachment D



MW - 5

[illegible][illegible][illegible]

Palmer St. L/Fill; Total VOCs; (MW-6D,7D,8D)



Attachment 'D'

-Total VOC inclu Guidance Values Acetone, MEK, et -Acetone the mos common.

		PALMER ST. L/F, MOENCH COMPANY											
		TOTAL VOLATILE ORGANICS vs TIME (MG/L)											
	Dec. '08	BANK SEEPS											

																</	

Attachment 'D'

-No graph generated as there is minimal detection over the past 12 years,
 -Bank Seeps are often non-existent due to dry weather conditions. Creek sample is taken adjacent to the BS location in its' place.

BS-1	Mar-05 0.006	Aug-05 l.t.	Apr-06 0.005	Aug-06 l.t.(b)	Mar-07 l.t.	Aug-07 l.t.(b)	Mar-08 l.t.(b)	Aug-08 l.t.(b)	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005
BS-2																
BS-3	0.005	0.005	0.005	l.t.(b)	l.t.(b)	l.t.(b)	l.t.(b)	l.t.(b)	l.t.(b)	l.t.(b)	l.t.(b)	l.t.(b)	l.t.(b)	l.t.(b)	l.t.(b)	l.t.(b)
	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.

(b) too dry; took creek smpl.

PALMER SREET LANDFILL
LANDFILL COVER SYSTEM EVALUATION

Notes:

Concentrations listed as 0.0001 mg/L indicate VOCs were not detected.

Blank space indicates monitoring well was not sampled during that sampling event.

PALMER L/FIL VOL
TOTAL

	Nov 96	Apr 97	Aug 97	Nov 97	Apr 98	Aug 98	Sep 98
1D	0.000	0.000	0.000	0.053	0.110	0.000	0.000
2D						0.000	0.000
3D						0.000	0.033
3DR	0.000	0.000	0.000	0.000	0.026	0.000	0.000
4D	0.002	0.008	0.000	0.005	0.000	0.000	0.000
5D						0.000	
6D	0.000	0.007	0.005	0.005	0.000	0.000	0.000
7D						0.000	0.000
8D	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PRAND 0.0

ATTACHMENT "E"

* FIELD MEASUREMENT DATA SHEETS;

SAMPLE EVENTS: March & August 2008

*Individual "field data sheets" were submitted with prior actual sample event reports. Contact Moench if you require them.

ATTACHMENT "F"

ANALYTICAL DATA EVENTS: March & August 2008

***Analytical data from Waste Stream Lab, Buffalo New York,
was submitted in the prior individual semi-annual reports.
Please contact Moench Co. if you require them.**

6.0 REFERENCES

1. PALMER STREET LANDFILL CLOSURE/POST CLOSURE PLAN (EPA ID. NYDOO2126910), PREPARED BY MALCOLM PIRNIE, INC. REVISED FEBRUARY 1989, July 1993, Dec. 2006.
2. PALMER STREET LANDFILL, SUPPLEMENTAL HYDROGEOLOGIC INVESTIGATION, PREPARED BY MALCOLM PIRNIE, INC. JANUARY 1989.
3. SAMPLING PLAN/QUALITY ASSURANCE PLAN FOR GROUNDWATER MONITORING - PALMER STREET LANDFILL. PREPARED BY MALCOLM PIRNIE, INC., AUGUST 1989. REVISED-7/93, 8/94, 12/06.
4. TEST METHODS FOR EVALUATING SOLID WASTE, PHYSICAL/CHEMICAL METHODS, THIRD EDITION, USEPA OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, NOVEMBER 1986.
5. PALMER STREET LANDFILL, EVALUATION OF ALTERNATIVE COVER SYSTEMS, PREPARED BY MALCOLM PIRNIE, INC., JANUARY 1989.
6. COVER SYSTEM PERFORMANCE EVALUATION, PALMER STREET LANDFILL; PREPARED BY MALCOLM PIRNIE, INC. OCTOBER 1995 & FEBRUARY 1999. THIRD EVALUATION(8/03) PERFORMED BY GEOMATRIX CONSULTANTS. Report Feb. 2004.
7. FORMER TANNERY PLANT SITE, WELL INSTALLATION REPORT; PREPARED BY BENCHMARK ENVIRONMENTAL ENGINEERING SCIENCE CO., AUGUST 2000.
8. (previously #3) Letter to Mr. Jeffrey Smith, Moench Tanning Co., from New York State Dept. of Environmental Conservation, dated August 31, 1993.
9. JULY 27TH, 2006 LETTER FROM GEOMATRIX TO STAN RADON(NYSDEC9), DOCUMENTING A JULY 19TH MEETING IN WHICH REVISIONS TO THE GROUNDWATER MONITORING SYSTEM WERE AGREED UPON.
10. SEPTEMBER 7TH, 2006 LETTER FROM STAN RADON(NYSDEC9), TO JEFFREY SMITH(MOENCH), CONFIRMING THE AGREEMENT TO REVISED GROUNDWATER MONITORING SYSTEM, AND COVER SYSTEM EVALUATION ELIMINATION.