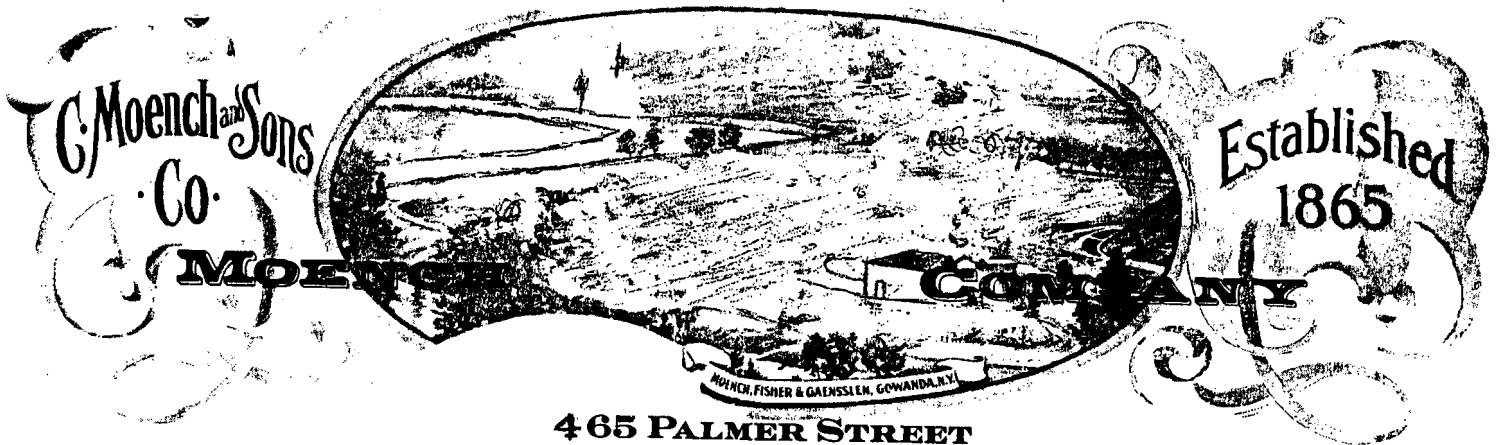




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ANNUAL GROUNDWATER QUALITY MONITORING
REPORT.

FOR CALENDAR YEAR—2008
AT PALMER STREET LANDFILL.

RECEIVED

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MOENCH COMPANY
GOWANDA, NEW YORK 14070

Jeffrey Smith
Site Manager

Dec. '08

JS

MOENCH COMPANY

PALMER STREET LANDFILL

2008 ANNUAL GROUNDWATER MONITORING REPORT.....

TABLE OF CONTENTS

		<u>PAGE</u>
1.0	INTRODUCTION	1
	1.1 BACKGROUND	1
	1.2 PURPOSE AND SCOPE	1
2.0	MONITORING SYSTEM	
	2.1-REVISED DETECTION MONITORING SYSTEM	2
3.0	MONITORING METHODS	3
	3.1 GROUNDWATER DETECTION MONITORING	3
	3.2 INFILTROMETER MONITORING	3
4.0	SUMMARY OF MONITORING RESULTS; 2008 ANNUAL	4
	4.1 EVALATION GROUNDWATER ELEVATIONS	4
	4.2 SUMMARY OF 2008 GROUNDWATER QUALITY	4
	4.3 RATE OF CONTAMINANT MIGRATION	6
5.0	GROUNDWATER FLOW	5
6.0	REFERENCES	7

LIST OF TABLES

<u>TABLE NO.</u>	<u>DESCRIPTION</u>	<u>FOLLOWING PAGE</u>
1	MONITORING PARAMETERS	3
2	SUMMARY OF INFILTROMETER DATA-3/28/08.	3
3	SUMMARY OF INFILTROMETER DATA-8/4/08.	3
4	SUMMARY OF GROUNDWATER ELEVATIONS	3
5	SUMMARY OF ANALYTICAL RESULTS, MARCH 2008 MONITORING EVENT..	4
6	SUMMARY OF ANALYTICAL RESULTS, AUGUST 2008 MONITORING EVENT.....	4
7	SUMMARY OF FIELD MEASUREMENTS: 3/08 & 8/08.	4

LIST OF FIGURES - 2008 ANNUAL REPORT.

<u>FIGURE NO.</u>	<u>DESCRIPTION</u>	<u>FOLLOWING PAGE</u>
1	SITE LOCATION MAP	1
2	MONITORING LOCATIONS	2
3	GROUNDWATER ELEVATION vs TIME; SHALLOW OVERBURDEN MONITORING WELLS.	4
4	GROUNDWATER ELEVATIONS vs TIME; DEEP OVERBURDEN MONITORING WELLS.	4
5	GROUNDWATER ELEVATIONS vs TIME; BEDROCK MONITORING WELLS& PIEZOMETERS.	4
6	"PH" RESULTS vs TIME; MONITORING WELLS AND BANK SEEPS.	5
7	SPECIFIC CONDUCTIVITY RESULTS vs TIME; MONITORING WELLS & BANK SEEPS.	5
8	WATER TABLE ISOPOTENTIAL MAP FOR-3/28/08 MONITORING EVENT.	5
9	WATER TABLE ISOPOTENTIAL MAP FOR - 8/4/08 MONITORING EVENT.	5
10	BEDROCK ISOPOTENTIAL MAP FOR ____3/28/08_ MONITORING EVENT.	5
11	BEDROCK ISOPOTENTIAL MAP FOR ____8/4/08 MONITORING EVENT.	5

TABLE OF CONTENTS (CONTINUED)

LIST OF ATTACHMENTS - 2008 ANNUAL

<u>ATTACHMENT</u>	<u>DESCRIPTION</u>
A	INFILTROMETER DESIGN
B	GROUNDWATER ELEVATION DATA & GRAPHS.
B1	FIELD MEASUREMENT TRENDS; "PH", CONDUCTIVITY, ETC.
C	GRAPH: METALS CONCENTRATION vs TIME; GROUPED BY MONITORING POINT; WHERE DETECTED.
C1	SOLUBLE METALS; NEW MONITORING LOCATIONS.
D	GRAPH: VOLATILES vs TIME; GROUPED BY MONITORING POINT; WHERE DETECTED.
D1	VOLATILE ORGANICS; NEW MONITORING LOCATIONS.
E	FIELD MEASUREMENT DATA SHEETS; SUBMITTED IN PREVIOUS SEMI-ANNUAL REPORTS OF: 3/08 & 8/08.
F	ANALYTICAL DATA FROM "ISLECHEM LLC, OF GRAND ISLAND, NEW YORK", 2008 MONITORING EVENT; SUBMITTED IN PREVIOUS SEMI-ANNUAL REPORTS OF: 3/08 & 8/08.

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:

DOWNGRAIDENT WELLS (screened in waste)		UPGRAIDENT WELLS	BANK SEEPS
<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 MONTORING 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) INFILTROMETERS, ARE ALSO MEASURED. LOCATIONS OF THE MONITORING POINTS ARE SHOWN ON FIGURE #2.

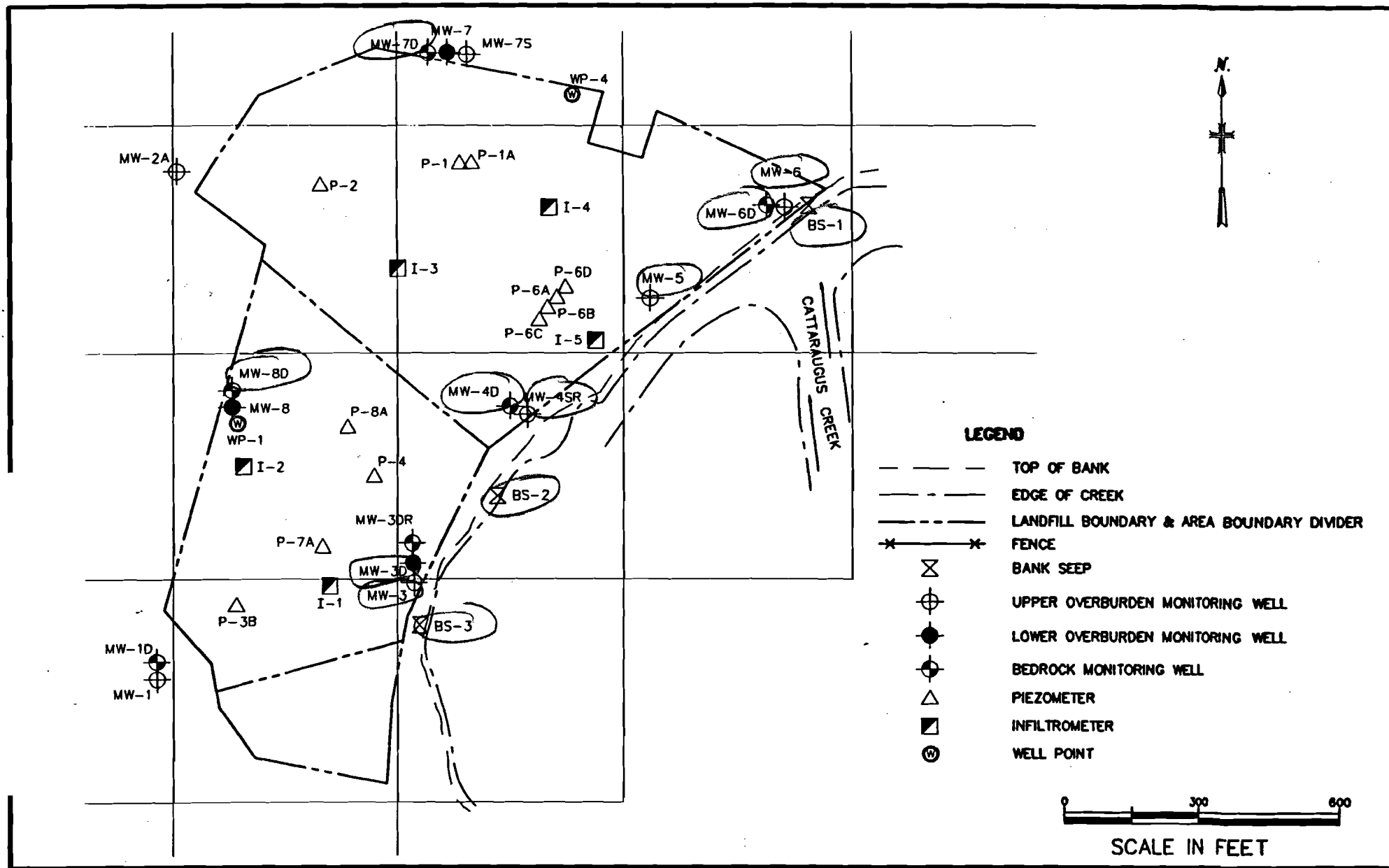


FIGURE #2

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

Infiltrometer	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)		
I-1 (A)	6.45	3.49	2.96	241	.0061	2.0×10^{-7}	3.01	8%
I-2	7.45	7.53	NEG.	"	-	-	-	-
I-3	7.31	6.58	1.27	"	.0026	1.0×10^{-7}	3.01	3.5%
I-4	6.80	6.86	NEG.	"	-	-	-	-
I-5	7.11	7.03	.08	"	.00017	8.0×10^{-9}	3.01	.2%

Note:
** Negative ΔD precludes calculation of meaningful data.

(A) FREQUENTLY FLOODED; GERNATI SPRINGS + PONDS.

TABLE * 3

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

INFILTROMETER MEASUREMENTS

Infiltrometer	Static Water Level (ft) 3-28-08	Static Water Level (ft) 8-4-08	Δ Depth (ft)	# Days Between Readings (#)	Infiltration Rate		Approx. Total Rainfall This Period (ft)	Infiltration (%)
					gal/day.ft ²	(cm/sec)		
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	821.92	821.02
MW-1D	820.92	821.17
MW-2A	806.92	807.39
MW-3	DRY	794.41
MW-3D	801.55	801.53
MW-3DR	804.72	804.72
MW-4SR	794.60	793.93
MW-4D	796.58	796.08
MW-5	DRY	DRY
MW-6	785.83	783.75
MW-6D	783.18	782.08
MW-7S	794.20	794.18
MW-7	795.20	794.12
MW-7D	793.61	795.49
MW-8	810.07	810.34
P-1	795.59	793.95
P-1A	796.73	WASPS
P-2	801.54	800.54
P-3B	818.85	818.07
P-4	798.68	798.00
P-6A	SHUT	791.19
P-6B	791.90	791.43
P-6C	792.73	792.36
P-6D	792.80	793.60
P-7A	797.22	795.52
P-8A	DRY	DRY
WP-1	814.05	RUST
WP-4	794.21	"

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

	Quantitation Limit	** MW-3	MW-3D	** MW-4SR	MW4D	** MW-5	** MW-6	MW-6D	Class "GA" Std.
Metals (mg/l):									
Arsenic - Soluble	0.005	DRY	ND	ND	ND	DRY	.014	ND	.025mg/l
Chromium - Soluble	0.005	"	ND	.007	ND	"	ND	ND	.05
Lead - Soluble	0.005	"	ND	ND	ND	"	ND	ND	.025

Volatiles mg/L		DRY	-	-	<.005	DRY	-	-	
Acetone		"	.021	.027	-	"	.017	.05	.05 GUIDANCE VALUE
		"				"			

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

TABLE 5

MÖENCH COMPANY
PALMER STREET LANDFILL

3/31 - 4/1/08 MONITORING EVENT⁽¹⁾

SUMMARY OF ANALYTICAL RESULTS

MW-4D

	Quantitation Limit	MW-7D	MW-8D	BS-1	BS-2	BS-3	Blind Dupli	EqpmT. BLANK	Class "GA" Std.
Metals (mg/l):									
Arsenic - Soluble	0.005	ND	ND	ND	ND	ND	ND	ND	.025mg/l
Chromium - Soluble	0.005	ND	ND	ND	ND	ND	ND	ND	.05
Lead - Soluble	0.005	ND	ND	ND	ND	ND	ND	ND	.025

Volatiles mg/L		<.005	<.005	<.005	<.005	-	-	<.005	
ACETONE		-	-	-	-	.011	.048		.05 GUIDANCE VALUE

** Screened in the Waste/Overburden.

Blind Duplicate MW-4D

TABLE ~~X~~ 6

MOENCH COMPANY
PALMER STREET LANDFILL

Aug. 11-12, 2008 MONITORING EVENT⁽¹⁾

SUMMARY OF ANALYTICAL RESULTS

	Quantitation Limit	** MW-3	MW-3D	** MW-4SR	MW4D	** MW-5	** MW-6	MW-6D	Glass "GA" Std.
Metals (mg/l):									
Arsenic - Soluble	0.005	.015	<.005	<.005	<.005	DRY	<.056	<.005	.025mg/
Chromium - Soluble	0.005	<.01	<.01	.015	<.01	"	<.01	<.01	.05
Lead - Soluble	0.005	<.01	<.01	<.01	<.01	"	<.01	<.01	.025

Volatiles mg/L		-	-	ND	ND	DRY	-	-	
Acetone		1.26	.019	"	"	"	.078	.04	GUID. VALU .05 mg/
MEK		.014	-	"	"	"	-	-	GUID. VALU .05 mg/L

** Screened in Waste/Overburden.

Blind Duplicate MW-8D

TABLE 6

MOENCH 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 Dupli	Eqmt. BLANK	Class "GA" Std.
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		ND		ND	ND	ND	ND	ND	
CARBON DISULF			.02						

ND - NOT DETECTED

TABLE ~~X~~ 7

MOENCH COMPANY

PALMER STREET LANDFILL

3/31 - 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 TUR	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	930	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.
 (2) Blind Duplicate MW-4D
 (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 - ORGANIC
*** 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

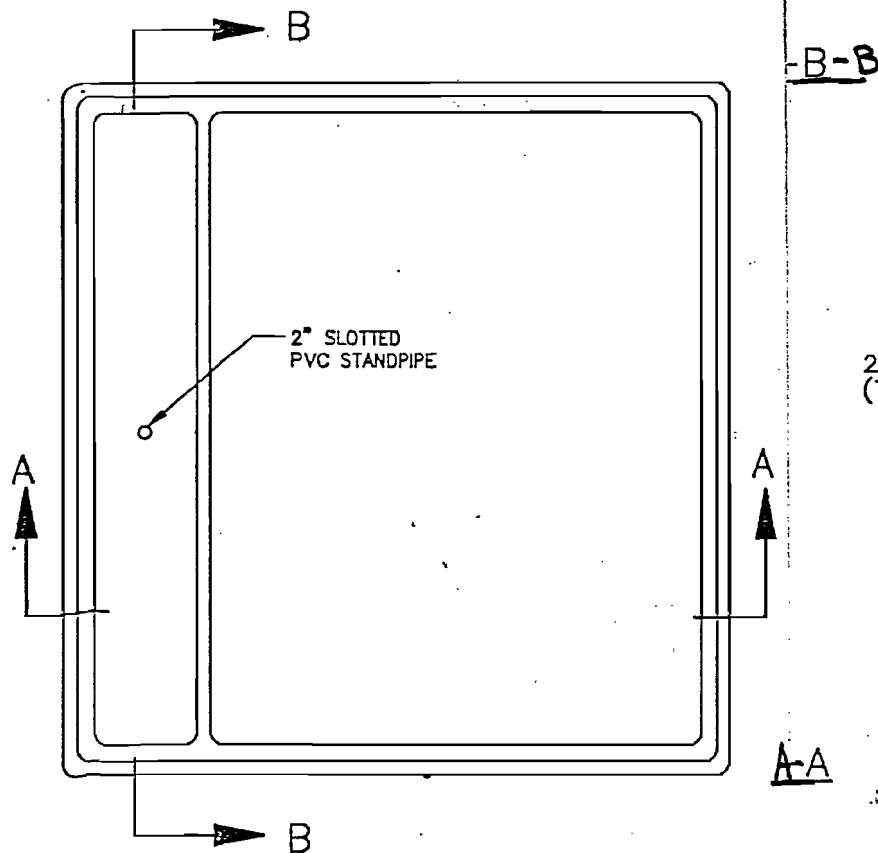
BS-1 - NO SEEP; TOOK CREEK SAMPLE.
 BS-2 " "

ATTACHMENT A

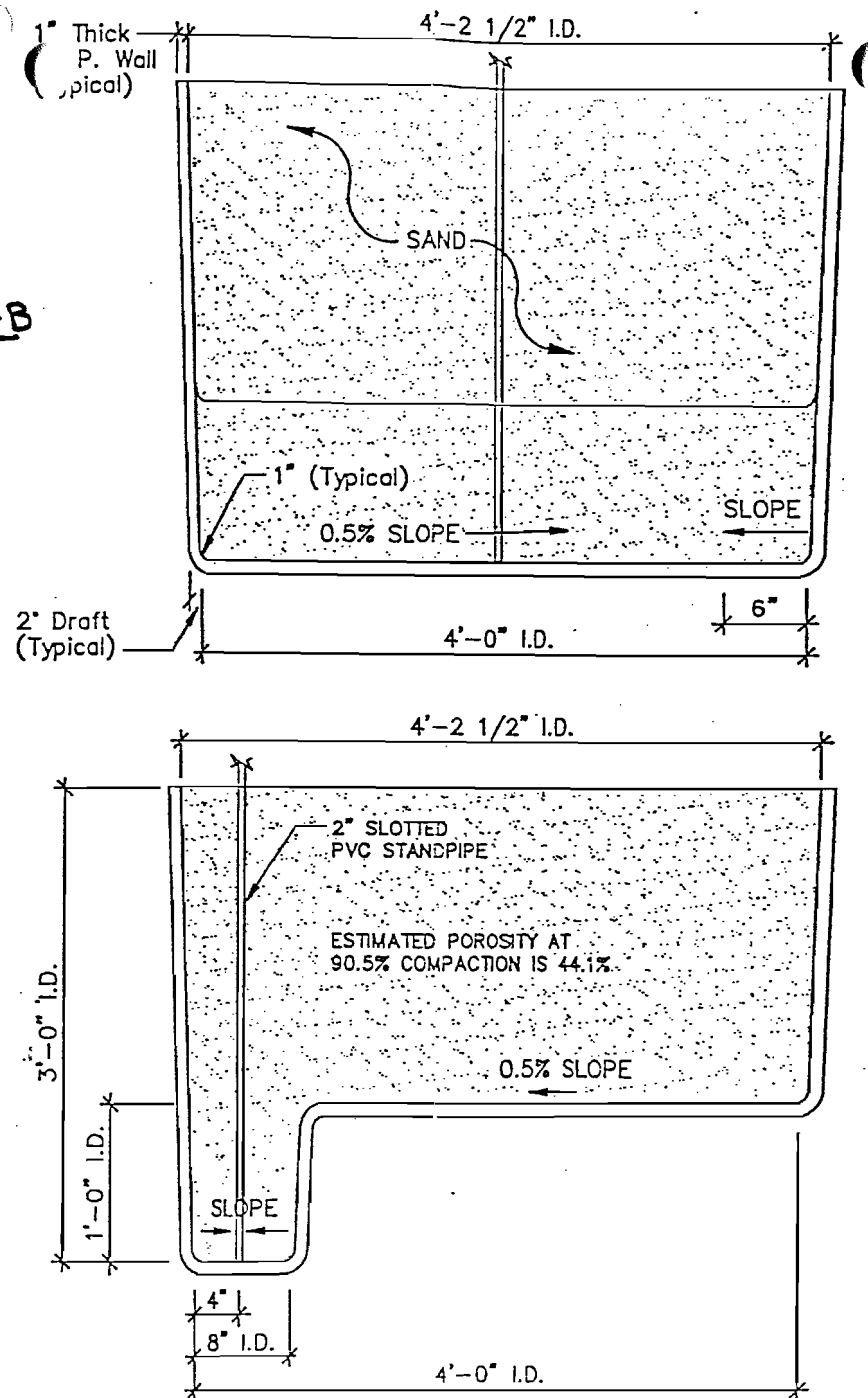
INFILTROMETER DESIGN

PALMER STREET LANDFILL
GROUNDWATER MONITORING REPORT...

March & August '08 SAMPLING EVENT..



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	Feb-93	May-93	Jul-93	Oct-93	Mar-94	Jun-94	Sep-94	
MW-1	818	819	817	817	819	817	818	818	819	820	818	820	820	821	819	820	821	821	822	
MW-3	796	796	794	793	794	793	792	792	793	794	793	793	794	794	793	794	794	794	794	
MW-5	785	785	784	784	786	784	782	782	783	784	784	783	783	784	782	783	786	783	783	
MW-6	784	784	783	784	785	784	784	784	784	784	784	783	784	784	784	784	784	783	783	
MW-7S	795	795	793	795	795	794	792	792	793	793	792	792	793	793	792	793	786	792	791	
MW-4SR																787	792	791	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	Nov-98	Apr-99	Aug-99	Nov-99	Apr-00	Sep-00
MW-1	822	823	822	821	821	821	821	822	822	821	821	821	821	821	821	819	820	822	821
MW-3	794	794	793	793	794	796	799	798	794	794	794	800	794	794	794	794	793	794	794
MW-5	784	784	784	784	782	DRY	DRY	DRY	787	787	787	787	DRY	DRY	DRY	DRY	DRY	dry	dry
MW-6	784	784	783	783	784	784	783	787	785	785	784	784	784	783	784	783	783	785	784
MW-7S	792	794	791	791	793	794	792	794	793	792	793	793	792	792	793	793	791	794	792
MW-4SR	791	791	790	790	790	790	796	791	792	791	793	793	791	790	791	790	790	794	792

																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	July '07	Mar-'08	Aug-'08
MW-1	822	820	821	820	821	821	821	821	822	821	822	821	822	821	822	821
MW-3	796	794	795	796	794	796	795	794	795	794	794	dry	dry	dry	dry	794
MW-5	dry	dry	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	dry	786	784
MW-7S	794	793	794	793	793	794	794	792	794	791	795	794	795	794	794	794
MW-4SR	794	793	795	793	797	799	794	794	793	793	794	793	794	794	795	794

beaver dams

Fig. #3

PIRGWEIV

Palmer St. L/fill; shallow GW Elev.

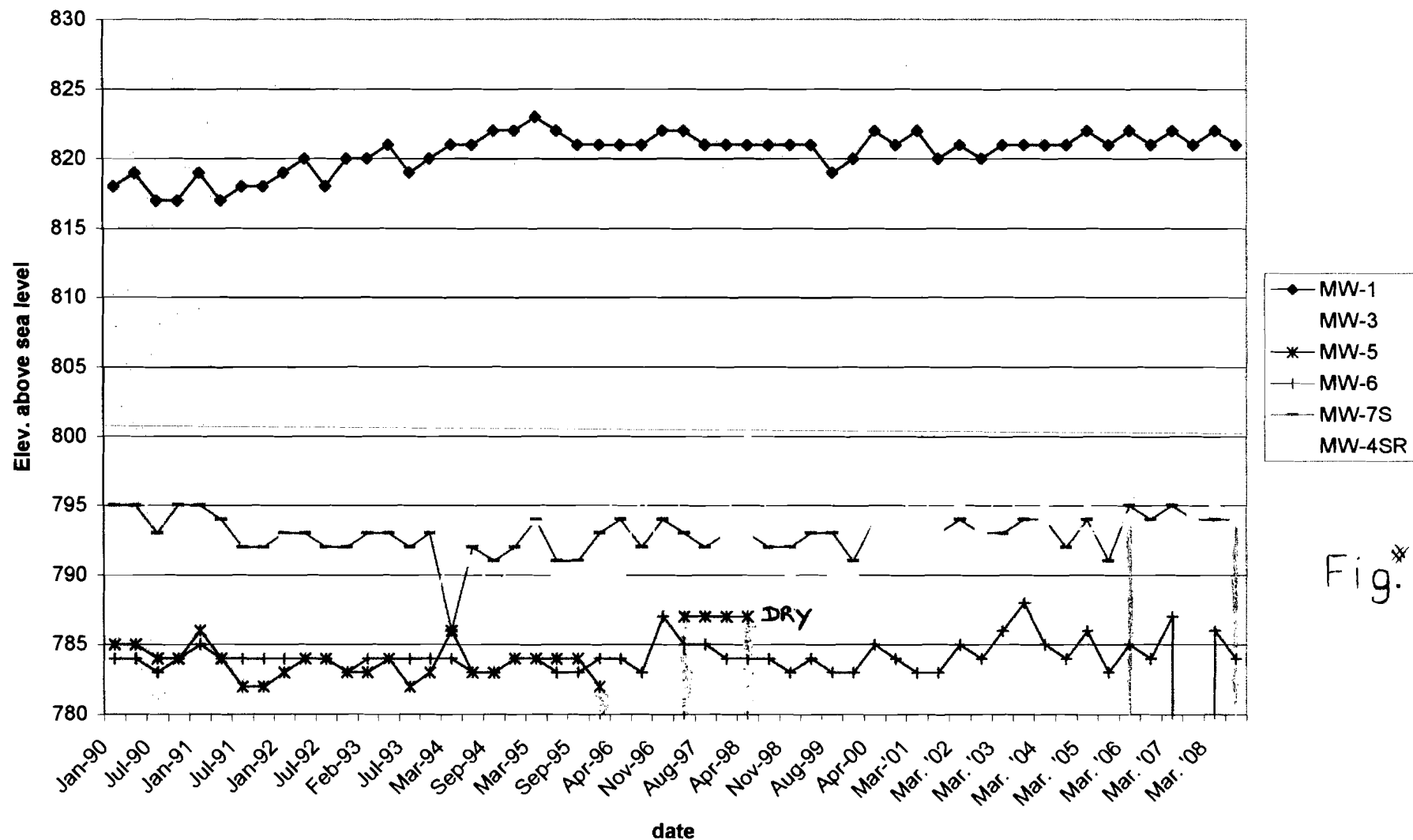


Fig.* 3

PLMRGW2PLMRGW2

Fig. # 4

Palmer St. I/fill; GW deep overburden

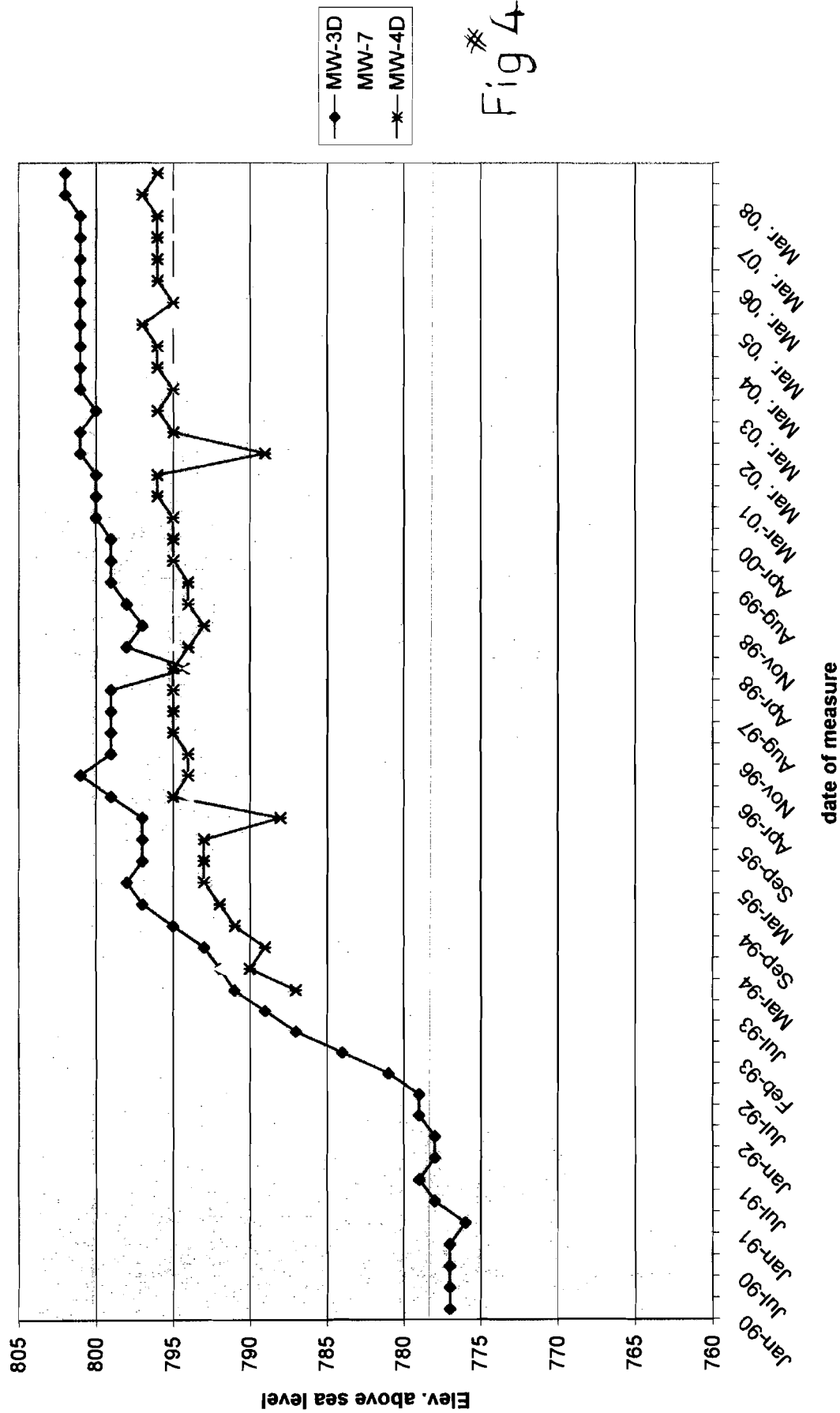


Fig 4

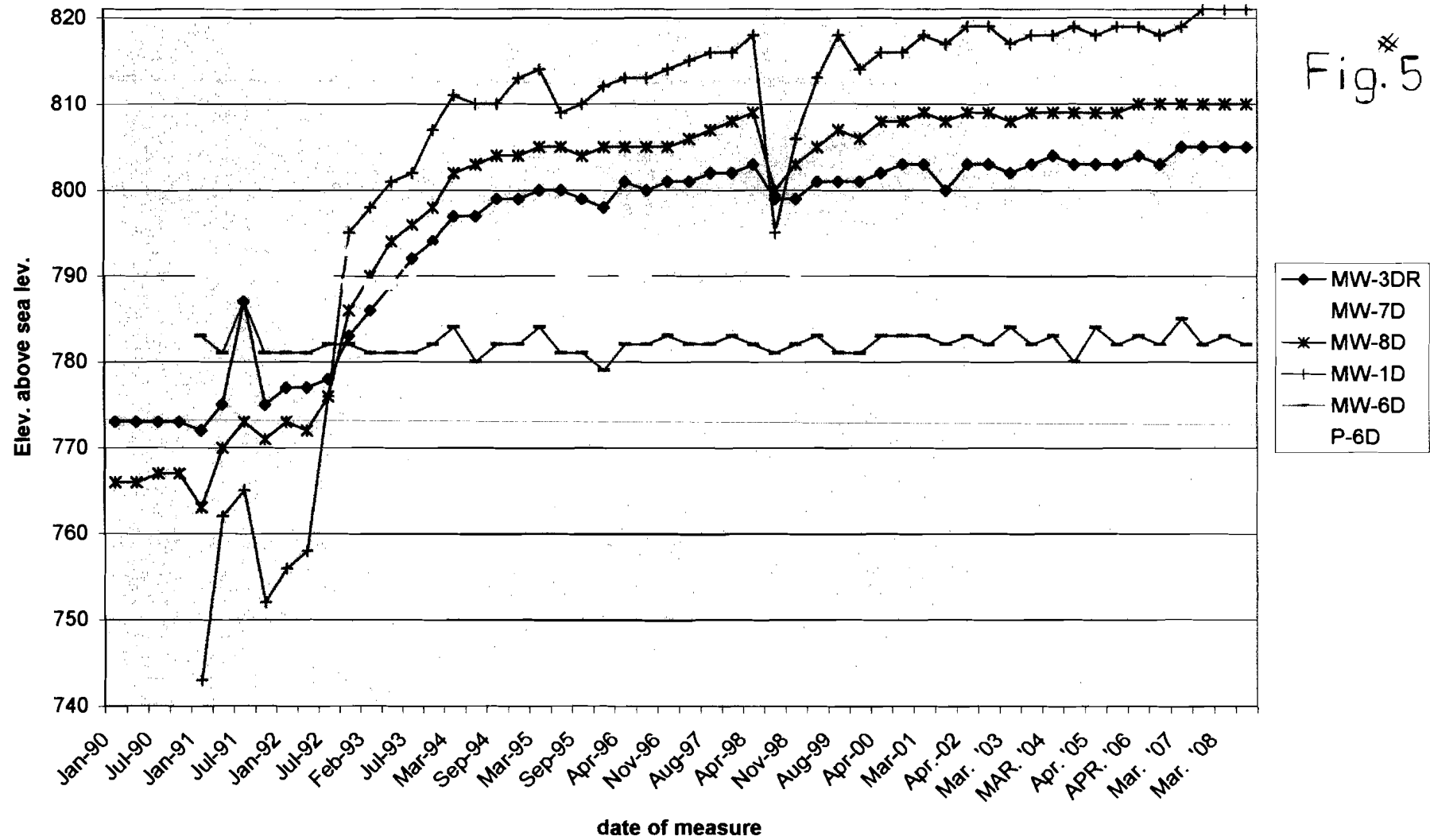
					PALMER STREET LANDFILL MOENCH COMPANY GROUNDWATER ELEVATION vs TIME BEDROCK MONITOR WELLS & PIEZOMETERS														
(FIG.#5)																			
	Jan-90	Apr-90	Jul-90	Oct-90	Jan-91	May-91	Jul-91	Oct-91	Jan-92	May-92	Jul-92	Oct-92	Feb-93	May-93	Jul-93	Oct-93	Mar-94	Jun-94	Sep-94
MW-3DR	773	773	773	773	772	775	787	775	777	777	778	783	786	789	792	794	797	797	799
MW-7D	795	794	794	795	795	794	794	795	793	792	792	793	793	792	790	793	792	791	793
MW-8D	766	766	767	767	763	770	773	771	773	772	776	786	790	794	796	798	802	803	804
MW-1D					743	762	765	752	756	758	776	795	798	801	802	807	811	810	810
MW-6D					783	781	787	781	781	781	782	782	781	781	781	782	784	780	782
P-6D					790	790	790	790	790	790	790	789	789	789	789	789	789	785	789

																(FIG #5)			
	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-3DR	799	800	800	799	798	801	800	801	801	802	802	803	799	799	801	801	801	802	803
MW-7D	794	794	793	794	795	795	794	794	795	795	796	796	795	795	795	795	795	795	795
MW-8D	804	805	805	804	805	805	805	805	806	807	808	809	800	803	805	807	806	808	808
MW-1D	813	814	809	810	812	813	813	814	815	816	816	818	795	806	813	818	814	816	816
MW-6D	782	784	781	781	779	782	782	783	782	782	783	782	781	782	783	781	781	783	783
P-6D	789	789	790	790	788	790	790	791	791	791	791	792	792	790	791	791	791	792	792

	Fig. #5															
	Mar-01	Aug-01	Apr-02	Aug-02	Mar-03	Aug-03	MAR-04	AUG-04	Apr-05	Aug-05	APR-06	Aug-06	Mar-07	Aug-07	Mar-08	Aug-08
MW-3DR	803	800	803	803	802	803	804	803	803	803	804	803	805	805	805	805
MW-7D	797	796	796	796	796	796	797	796	796	796	796	795	796	796	794	795
MW-8D	809	808	809	809	808	809	809	809	809	809	810	810	810	810	810	810
MW-1D	818	817	819	819	817	818	818	819	818	819	819	818	819	821	821	821
MW-6D	783	782	783	782	784	782	783	780	784	782	783	782	785	782	783	782
P-6D	792	792	793	793	793	792	793	792	792	792	792	791	793	793	793	794

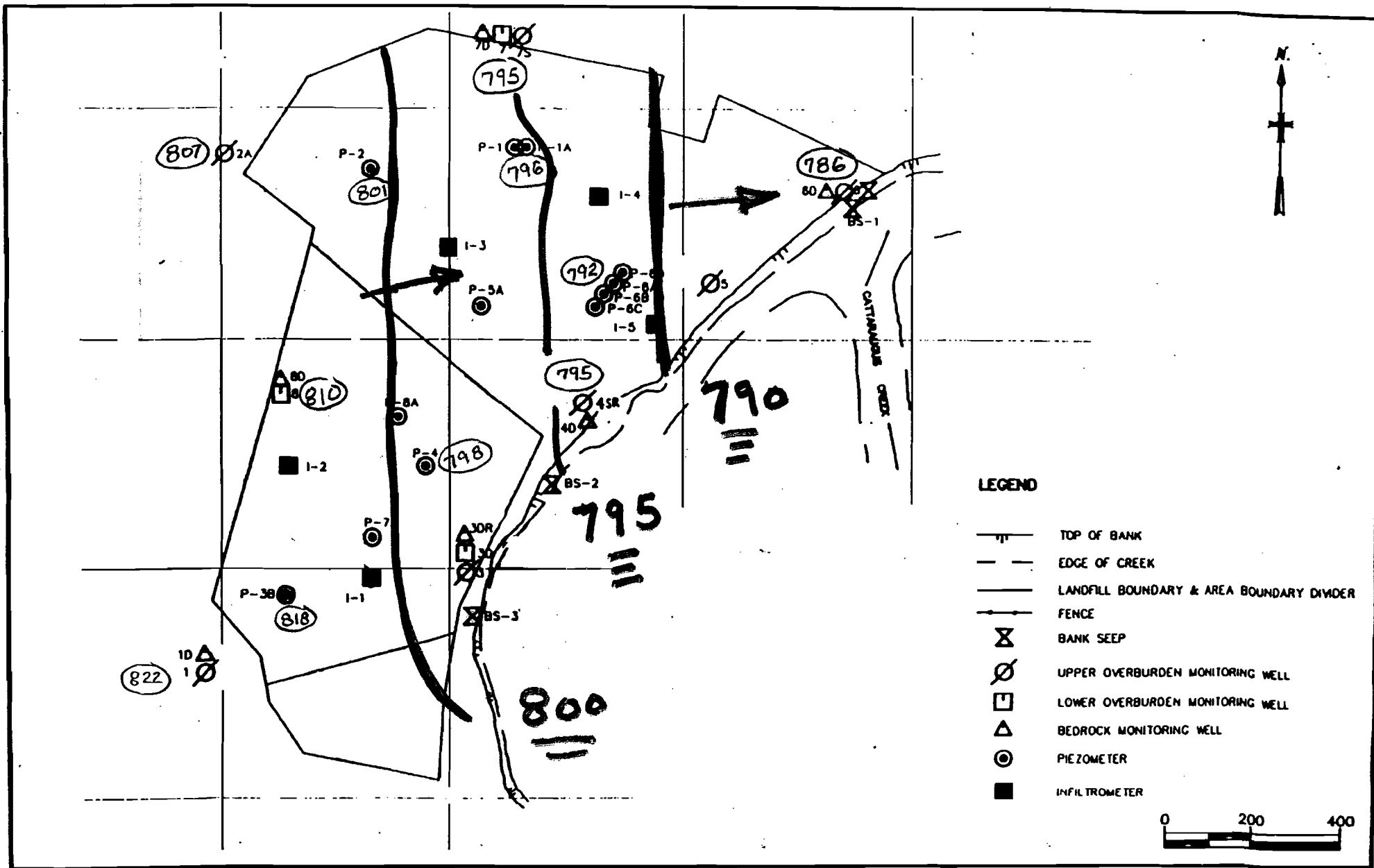
Fig. #5

Palmer st. l/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 ISO-POTENTIAL 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 LAND-FILL.



LEGEND

- TOP OF BANK
- EDGE OF CREEK
- LANDFILL BOUNDARY & AREA BOUNDARY DIVIDER
- FENCE
- BANK SEEP
- UPPER OVERBURDEN MONITORING WELL
- LOWER OVERBURDEN MONITORING WELL
- BEDROCK MONITORING WELL
- PIEZOMETER
- INFILTROMETER



FIG. # 8

PALMER STREET LANDFILL
 WATER TABLE ISOPOTENTIAL MAP
 3/28/08 MONITORING EVENT

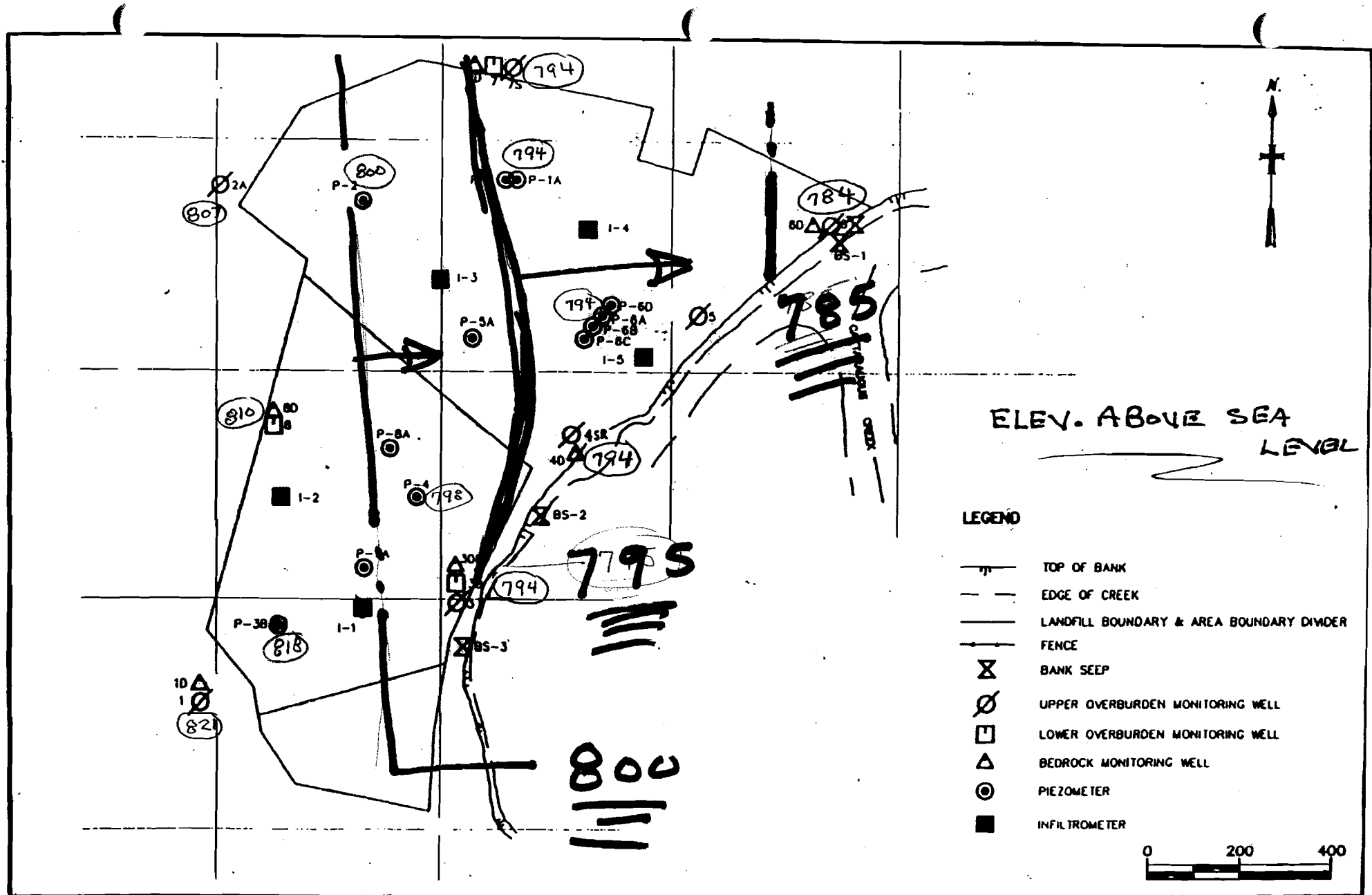


FIG. 9

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

MOENCH T & COMPANY JULY 1992

FIGURE

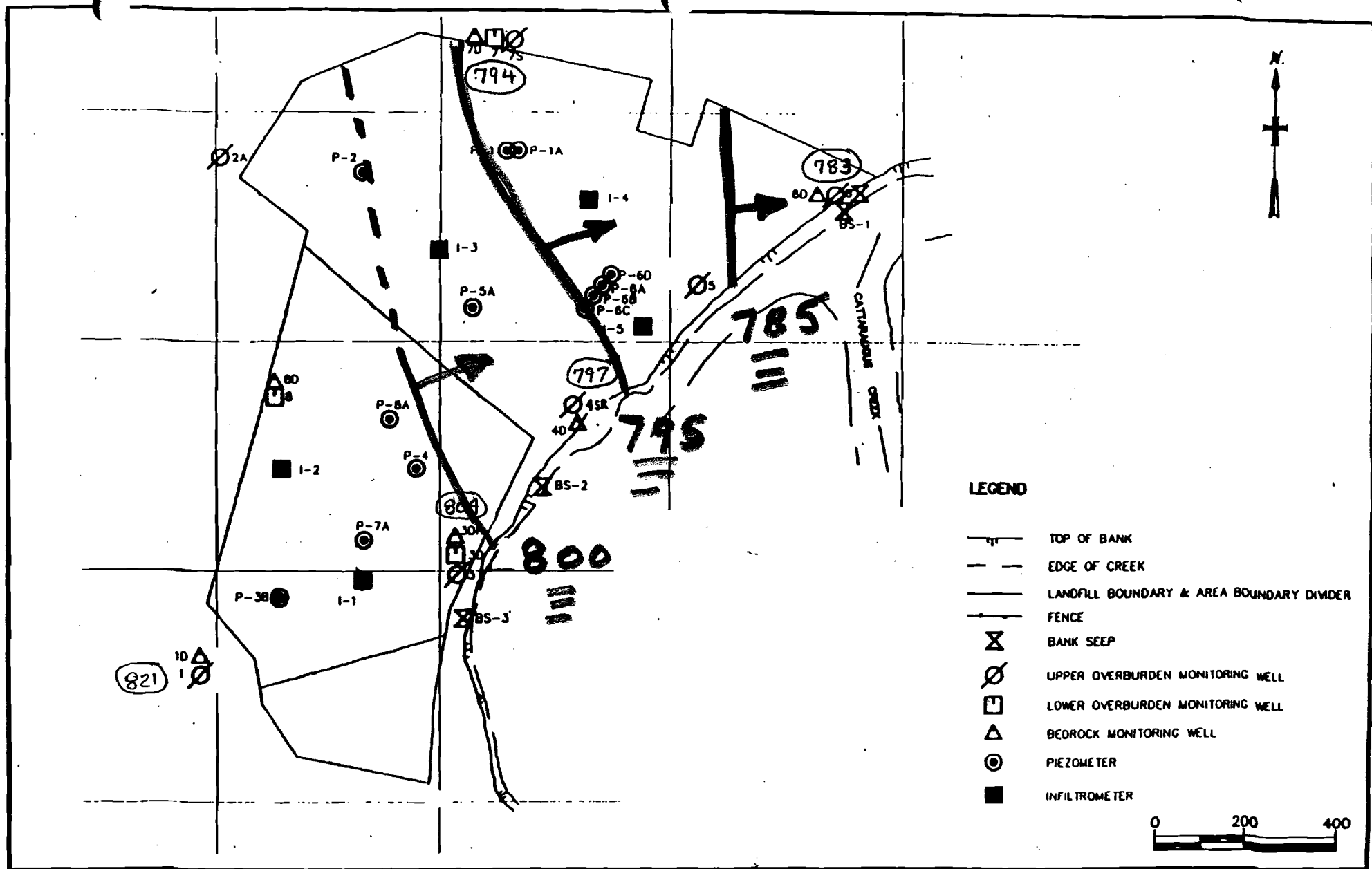


FIG. # 10

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

FIGURE

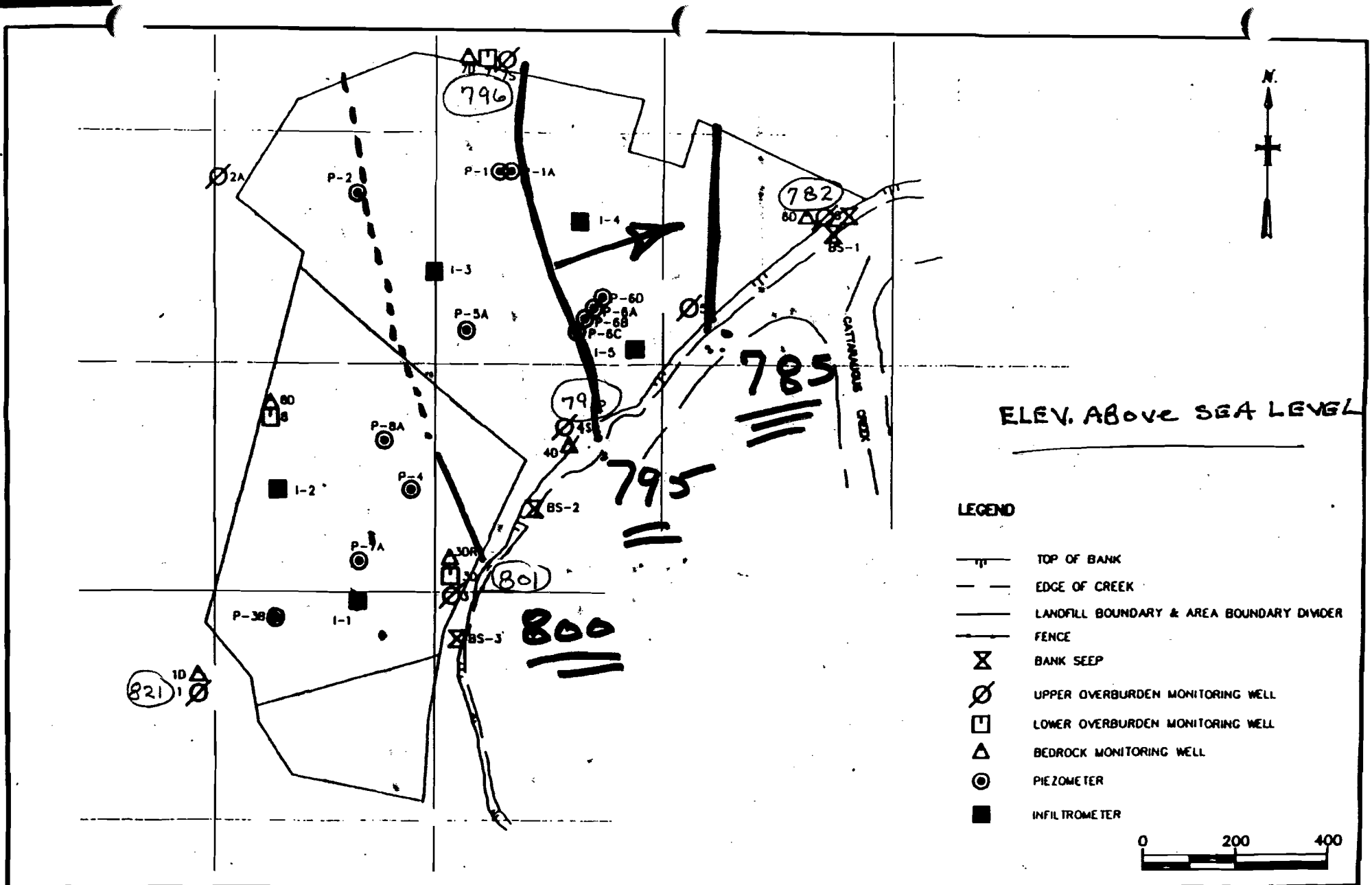


FIG. # 11

PALMER STREET LANDFILL
 BEDROCK ISOPOTENTIAL MAP
 8/4/08 MONITORING EVENT
 MOENCH TANNING COMPANY JULY 1992

FIGURE

ATTACHMENT B1

PALMER ST. LANDFILL -Annual

FIELD MEASUREMENT TRENDS

MONITORING EVENTS March 2008

August 2008

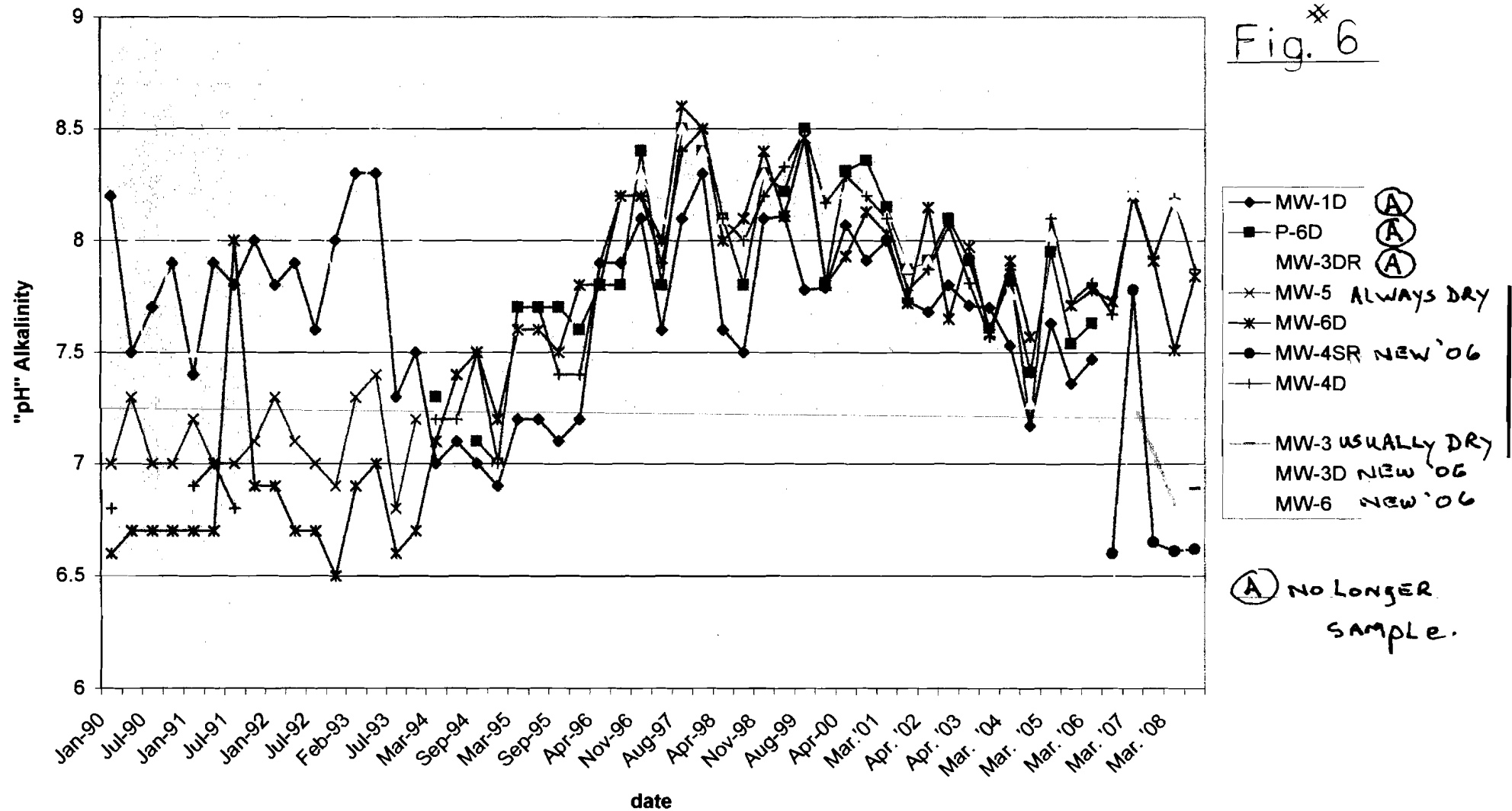
PALMER ST L/F, MOENCH COMPANY																		
"PH" vs TIME																		
MONITOR POINTS & BANK SEEP																		
	Jan-90	Apr-90	Jul-90	Oct-90	Jan-91	May-91	Jul-91	Oct-91	Jan-92	May-92	Jul-92	Oct-92	Feb-93	May-93	Jul-93	Nov-93	Mar-94	Jun-94
MW-1D	8.2	7.5	7.7	7.9	7.4	7.9	7.8	8	7.8	7.9	7.6	8	8.3	8.3	7.3	7.5	7	7.1
P-6D	START 94																7.3	
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		
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-6																		

	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	8.1	7.6	8.1	8.3	7.6	7.5	8.1	8.11	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	7.8	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	8.1	7.91	7.61	7.82	7.41	7.95	7.54	7.63	"	"	"		
MW-3DR	8.11	7.88	7.91	8.17	7.97	7.96	7.76	7.27	8.02	7.73	7.91	"	"	"		
MW-5															dry	dry
MW-6D	8.03	7.72	8.15	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												6.6	7.78	6.65	6.61	6.62
MW-4D	8.1	7.78	7.87	8.07	7.81	7.57	7.87	7.17	8.1	7.73	7.81	7.67	8.21	7.92	8.19	7.87
MW-3											new sample locat.					
MW-3D											dry	dry	dry	dry	dry	6.89
MW-6											8.01	8.21	8.14	8.17	7.98	
											6.43	7.27	dry	6.78	6.44	

Fig. #6

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



			PALMER ST L/F, MOENCH COMPANY																
			"PH" vs TIME						FIG.#6										
			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	Feb-93	May-93	Jul-93	Nov-93	Mar-94	Jun-94	Sep-94
P-6B																	7.1	7.1	7
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	7.8	8.3	7.8	8.3	7.1	7.2	7.1
MW-8D	10	9.2	9	9.5	9	9.3	9.1	8.6	8.8	8.7	8.8	8.6	8.8	8.6	8.1				7.8
BS-1	7.1	7.3	6.7	6.9	7.4	7			8.5	7.7	7.6	7.8	8.1	7.5		8.1	7.7	7.1	7.1
BS-3	7	7.3	7.1	7.3	7.1	7.3		7.9	7.6	7.2	7.1	7.4	7.1	7.8		7.9	7.3	6.6	6.8
BS-2																			

						Fig. #6														
	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	
P-6B	7	7.1	7.1	7.2	7.2	7.6	7.8	8.2	7.6	8.4	8.4	7.9	7.1	8.3	8.1	8.16	7.67	8.41	8.32	
MW-7D	7	7.6	7.6	7.4	7.6	7.9	8.2	8.2	7.8	8.4	8.4	8	8	8.2	8.4	8.48	7.93	8.32	8.12	
MW-8D				7.8				8.2		8.5		8.2	7.9				8.08	8.44		
BS-1	7.1	7.2	7.1	7.1	7.1	7		9	7	8.2	8.3	8.2	7.8	7.9	7.83	8.45	7.9	7.47	7.87	
BS-3	6.9	6.7	7.3	6.9	7.3	8.1		8.3	8.2	8.3	8.1	7.4	7.9	7.5	7.64	8.3	7.66	7.76	7.42	
BS-2																				

Figure #6																
	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-6B	8.36	7.58	8.12	8.21	7.76	7.68	7.9	7.13	7.79	7.61						
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	7.93	7.95	7.96	7.79
MW-8D		7.83	7.94			7.67		7.4		7.71		7.73	8.02	7.96	7.9	7.47
BS-1	7.45	7.38	7.61	7.42	7.16	7.62	7.25	6.9	7.03	7.9	7.76	7.78	7.31	8.16	7.52	7.6
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	7.97	7.78	7.6	7.55
BS-2												7.32	7.73	7.68	7.63	7.55

Fig. #6

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

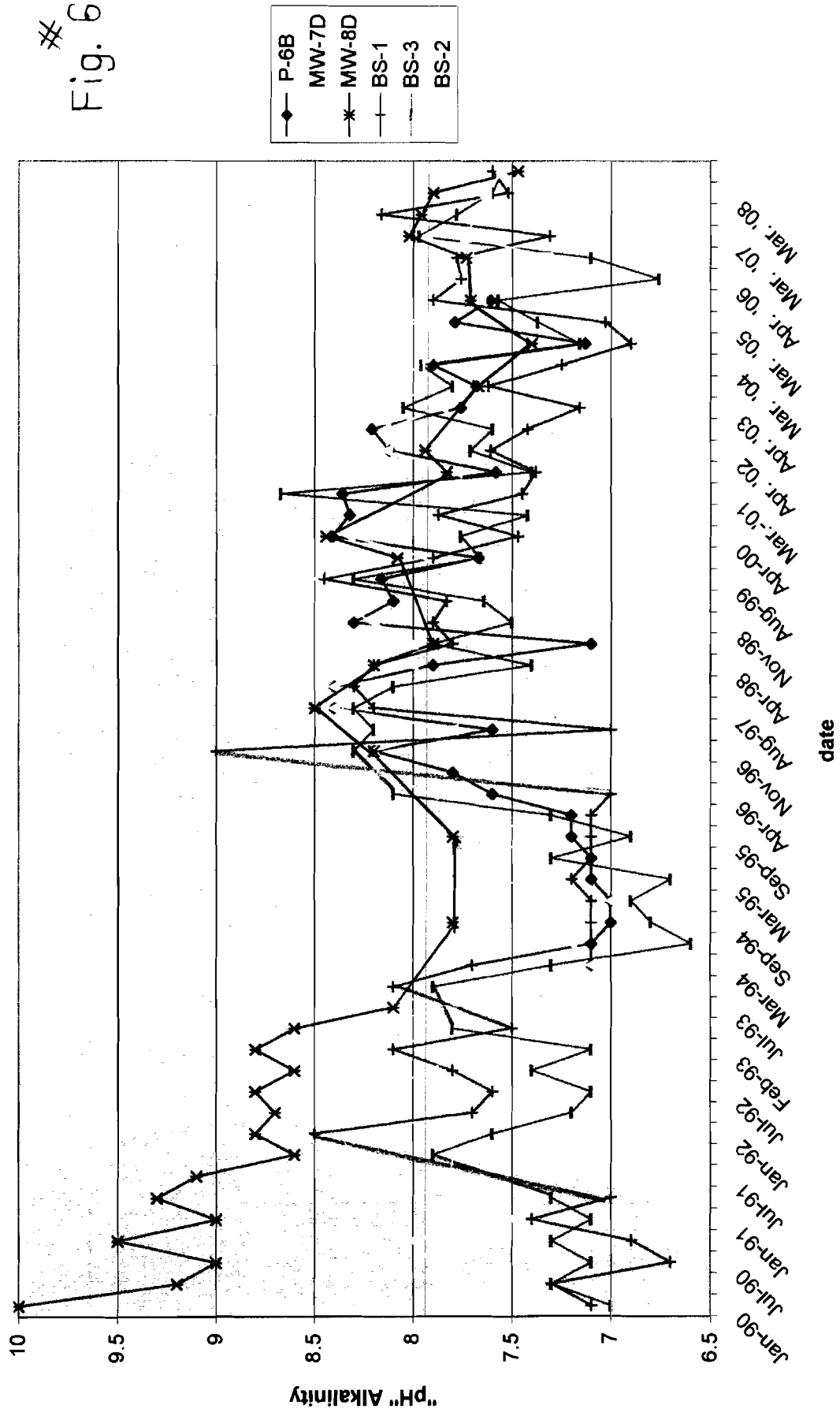


Fig. 6

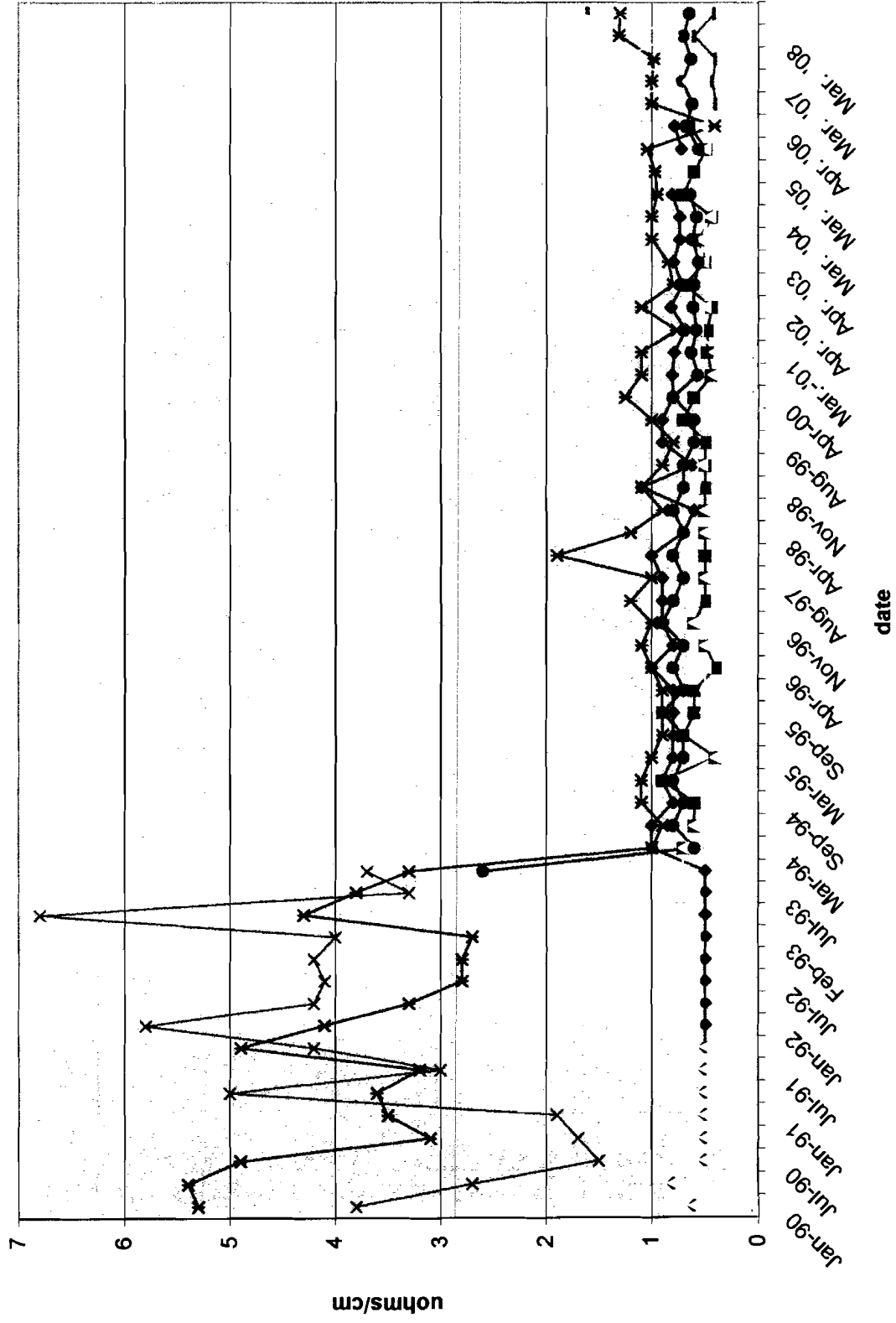
PALMER & ST LUF, MOENCH CO. SPECIFIC CONDUCTIVITY vs TIME MONITOR WELLS & BANK SEEPS																			
FIGURE #7																			
	Jan-90	Apr-90	Jul-90	Oct-90	Jan-91	May-91	Jul-91	Oct-91	Jan-92	May-92	Jul-92	Oct-92	Feb-93	May-93	Jul-93	Nov-93	Mar-94	Jun-94	Sep-94
MW-1D	0.6	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1	1	0.8
P-6B	START 94																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	DRY		
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	1.1
MW-4D																2.6	0.6	0.8	0.7
MW-3	START '06																		
MW-3D	"	"																	
MW-4SR	"	"																	

Fig. #7										Fig. #7									
	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	MTR BRK	0.72	0.79	NO	LONGER	SAMPLE			
P-6B	0.48	0.48	0.44	0.69	0.5	0.56	0.44	0.71	0.6	0.49	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	
										New Sample points							
MW-3												DRY				➔	
MW-3D												0.4	0.43	0.4	0.6	0.41	
MW-4SR												1.4	0.66	1.3	0.8	1.4	

Fig. #7

Palmer St. L/Fill; Specific Conduct.



- MW-1D NO LONGER SUPPLY
- 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 SPECIFIC CONDUCTIVITY vs TIME (umhos/CM)(THOUSANDS) 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	STRT-94																	0.6	0.7	0.9
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	0.6	0.6	0.6	0.7		0.8	0.7	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	0.6	1	0.6
BS-2																				

	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
P-6D	0.9	0.5	0.6	0.6	0.4	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.5	0.7	0.6	0.5	0.57	0.7	0.58
MW-7D	1	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.6	0.7	0.6	0.7	0.7	0.62	0.61	0.59	0.7	0.6
MW-8D				0.3				0.3		0.3			0.5				0.53	0.4	
BS-1	0.8	1.1	0.7	1		1	0.7	0.3	1.5	0.5	0.5	0.5	0.6	0.7	0.9	0.62	0.6	1.05	0.52
BS-3	0.9	1.2	0.5	1.4	0.5	0.2	0.5	0.5	0.5	0.6	0.8	0.8	0.4	1.1	0.8	0.56	0.56	0.8	1.1
BS-2																			

		Figure #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
P-6D		0.85	0.52	0.48	0.72	0.62	0.54	0.3	0.58	0.48	0.56	0.65	NO LONGER SAMPLE				
MW-7D		0.65	0.58	0.79	0.59	0.68	0.76	0.72	0.72	a	0.7	0.66	0.75	0.56	0.43	0.7	0.68
MW-8D			0.4	0.44			0.36		0.54	a	0.46		0.41	0.48	0.74	0.52	0.5
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	1.1	0.44	0.4	0.4
BS-3		0.39	1.6	1.2	0.32	0.44	0.24	0.52	0.52	a	0.58	0.62	0.98	0.54	0.48	0.6	0.5
BS-2													0.46	0.64	0.53	0.6	0.53
		"a" meter broke															

Fig. 7

Palmer St. L/Fill; Specific Conduct.

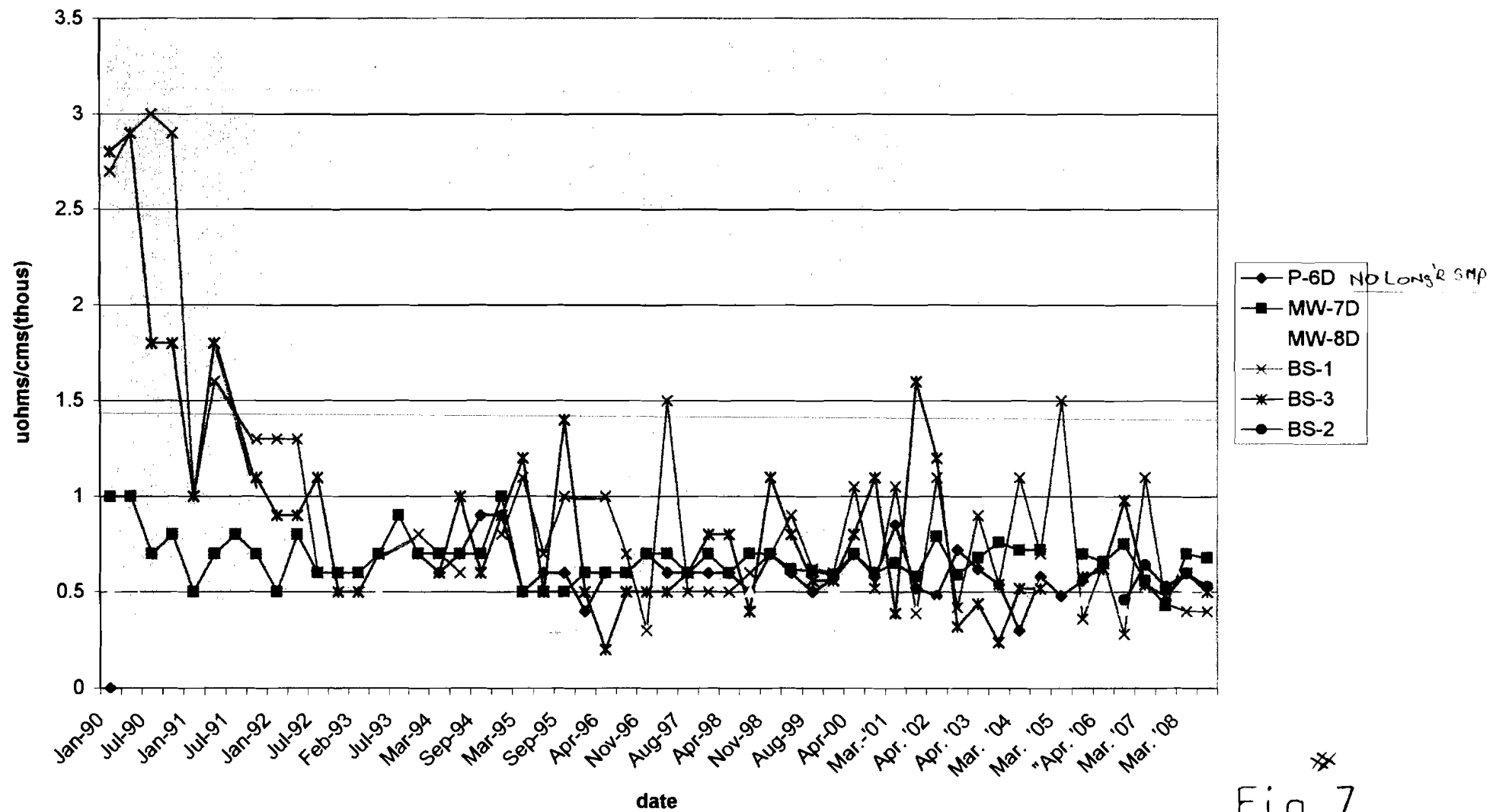


Fig. 7

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:

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

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)

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

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

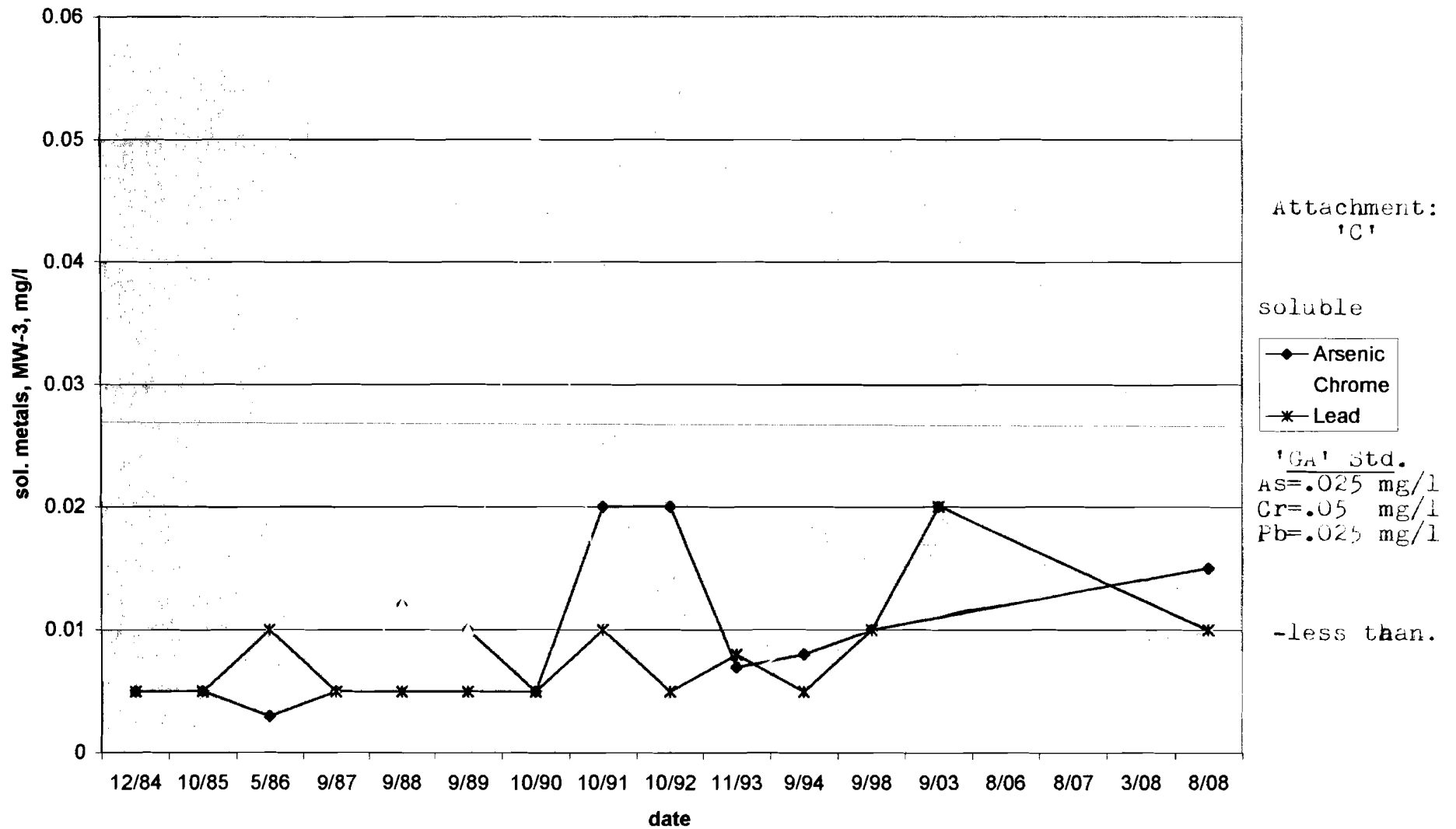
Annual Palmer St. Landfill

			PALMER ST. LANDFILL; MOENCH COMPANY														
			MW-3 SOLUBLE METALS vs. TIN/ME*** SCREENED IN WASTE***														
	12/84	10/85	5/86	9/87	9/88	9/89	10/90	10/91	10/92	11/93	9/94	9/98	9/03	8/06	8/07	3/08	8/08
Arsenic	0.005	0.005	0.003	0.005	0.012	0.01	0.005	0.02	0.02	0.007	0.008	0.01	0.02				0.015
(soluble)												l.t.	l.t.	dry	dry	dry	
Chrome	0.013	0.014	0.01	0.005	0.012	0.01	0.05	0.01	0.008	0.006	0.009	0.01	0.008				0.01
(soluble)												l.t.		dry	dry	dry	l.t.
Lead	0.005	0.005	0.01	0.005	0.005	0.005	0.005	0.01	0.005	0.008	0.005	0.01	0.02				0.01
(soluble)												l.t.	l.t.	dry	dry	dry	l.t.

Att "C"

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

Screened in waste



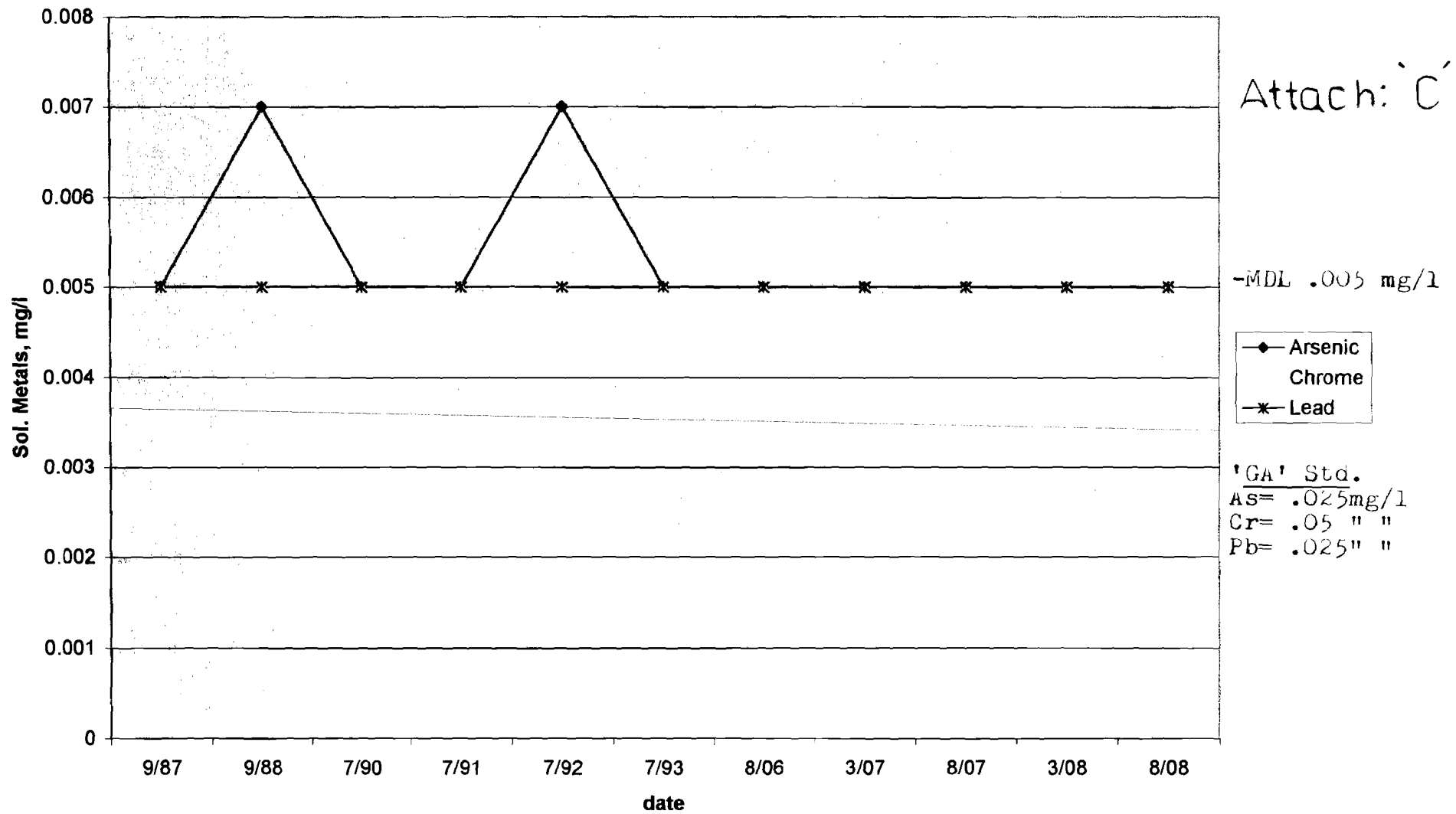
PIMR.MTL.MW3

		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	0.007	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
(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
(soluble)						l.t.	l.t.	l.t.	l.t.	l.t.	l.t.

Plmr.MTL.MW3D

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

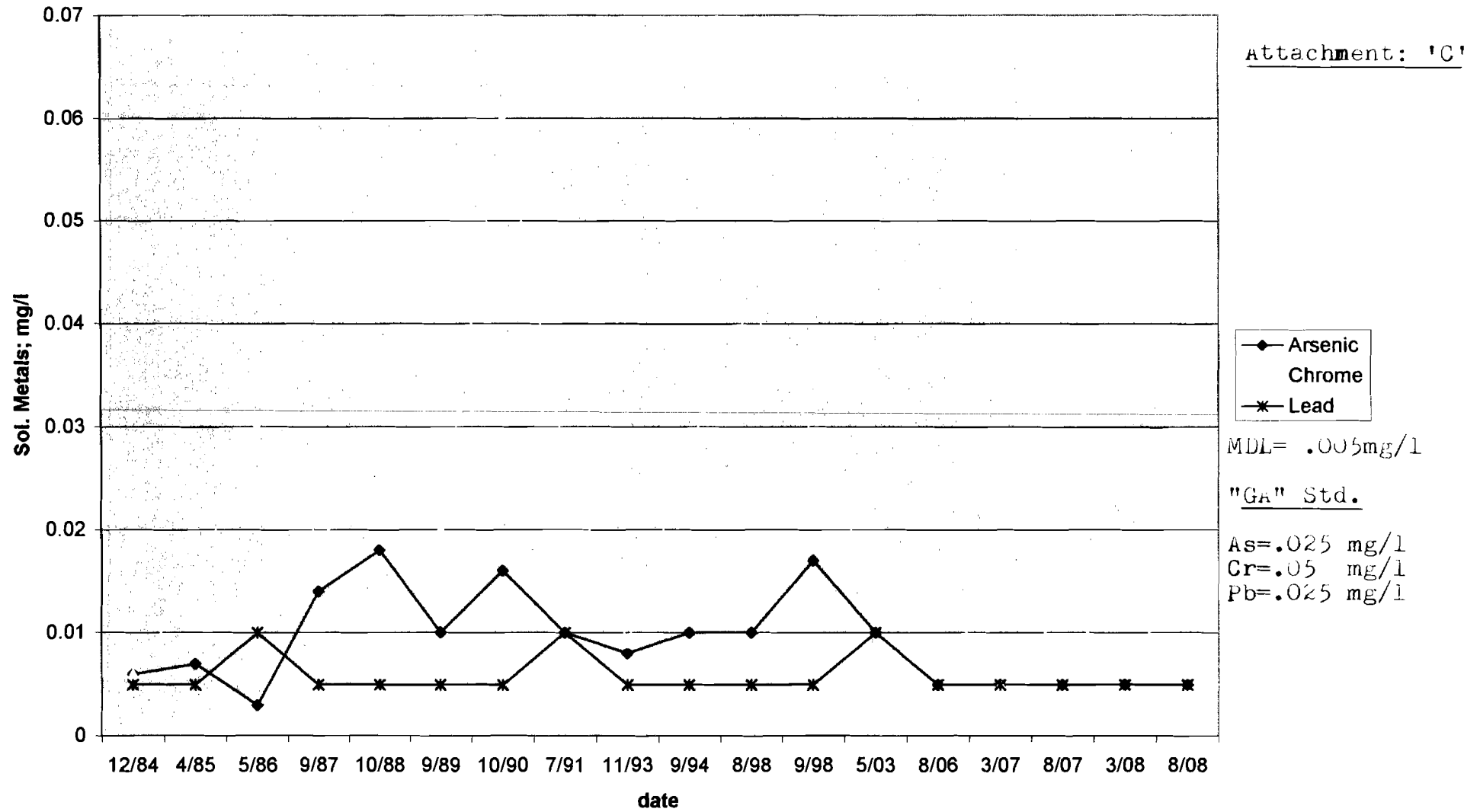
Bedrock, in Waste



	PALMER ST. LANDFILL; MOENCH COMPANY																	
	MW-4SR SOLUBLE METALS; ***SCREENED IN WASTE***										ATTACHMENT C1							
	12/84	4/85	5/86	9/87	10/88	9/89	10/90	7/91	11/93	9/94	8/98	9/98	5/03	8/06	3/07	8/07	3/08	8/08
Arsenic	0.006	0.007	0.003	0.014	0.018	0.01	0.016	0.01	0.008	0.01	0.01	0.017	0.01	0.005	0.005	0.005	0.005	0.005
(soluble)														l.t.	l.t.	l.t.	l.t.	l.t.
Chrome	0.006	0.015	0.03	0.019	0.025	0.02	0.06	0.027	0.009	0.028	0.042	0.029	0.014	0.014	0.005	0.012	0.007	0.015
(soluble)															l.t.			
Lead	0.005	0.005	0.01	0.005	0.005	0.005	0.005	0.01	0.005	0.005	0.005	0.005	0.01	0.005	0.005	0.005	0.005	0.005
(soluble)														l.t.	l.t.	l.t.	l.t.	l.t.

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

Screened in Waste



		PALMER ST L/F, MOENCH COMPANY																		
		MW-4D Soluble Metals; Bedrock																		
							Dec. '08													
		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	Nov. '98	Apr. '99	Aug. '99
Arsenic		0.005	0.005	0.006		0.005	0.005	0.005	0.005	0.005	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
(soluble)		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.	l.t.	l.t.
Chrom		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	0.01	0.01	0.01
(soluble)		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.	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	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.	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.

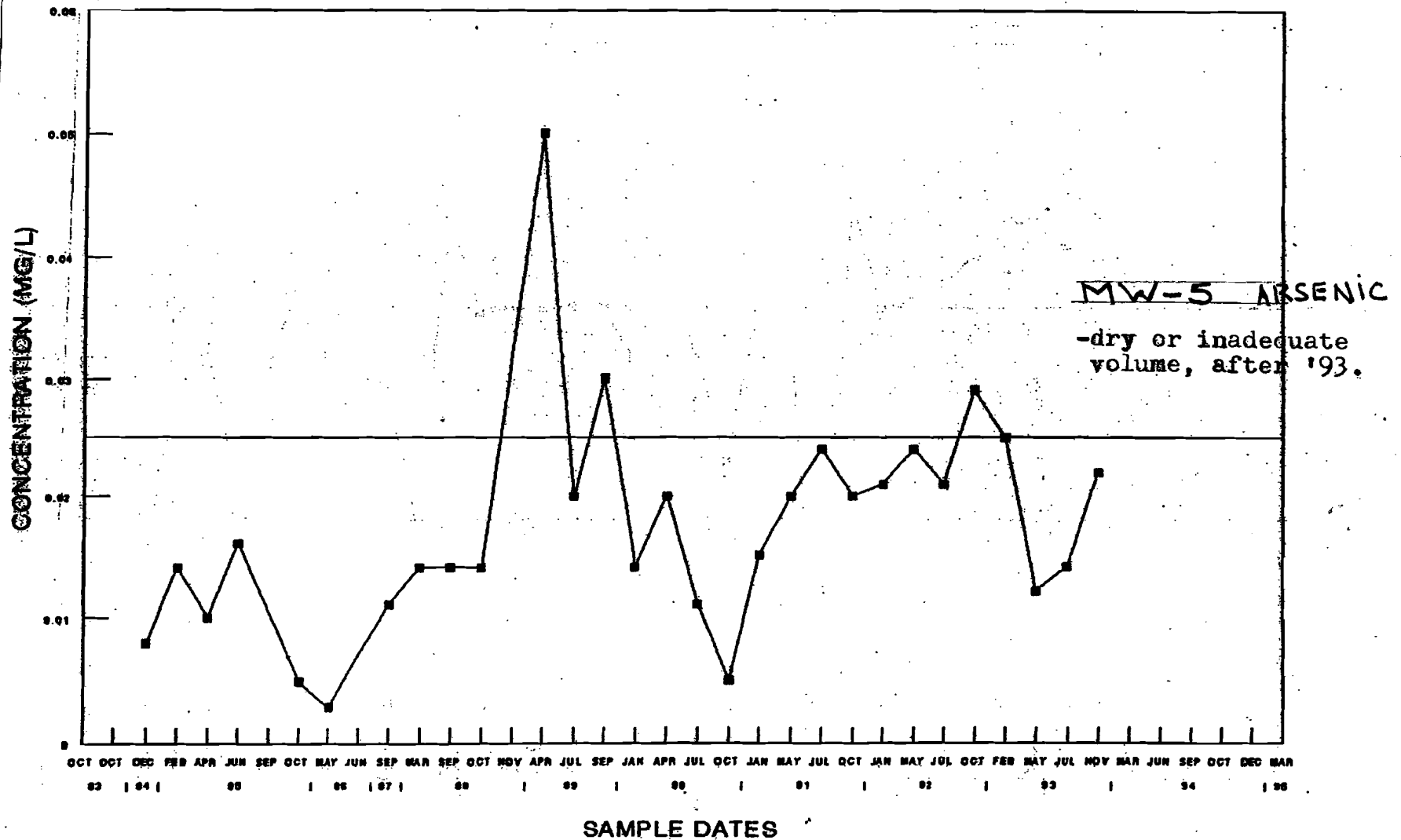
MW-4D																				
	Nov. '99	Apr. '00	Sept. '00	Mar. '01	Aug. '01	Apr. '02	Aug. '02	Apr. '03	Aug. '03	Mar. '04	Aug. '04	Mar. '05	Aug. '05	Apr. '06	Aug. '06	Mar. '07	Aug. '07	Mar. '08	Aug. '08	
Arsenic (soluble)	0.01	0.01	0.01	0.005	0.005	0.002	0.002	0.002	0.02	0.002	0.002	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.005	
Chrom (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	0.005	0.005	0.005	0.005	
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	0.005	0.005	0.005	

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

ATTACHMENT 'C'

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

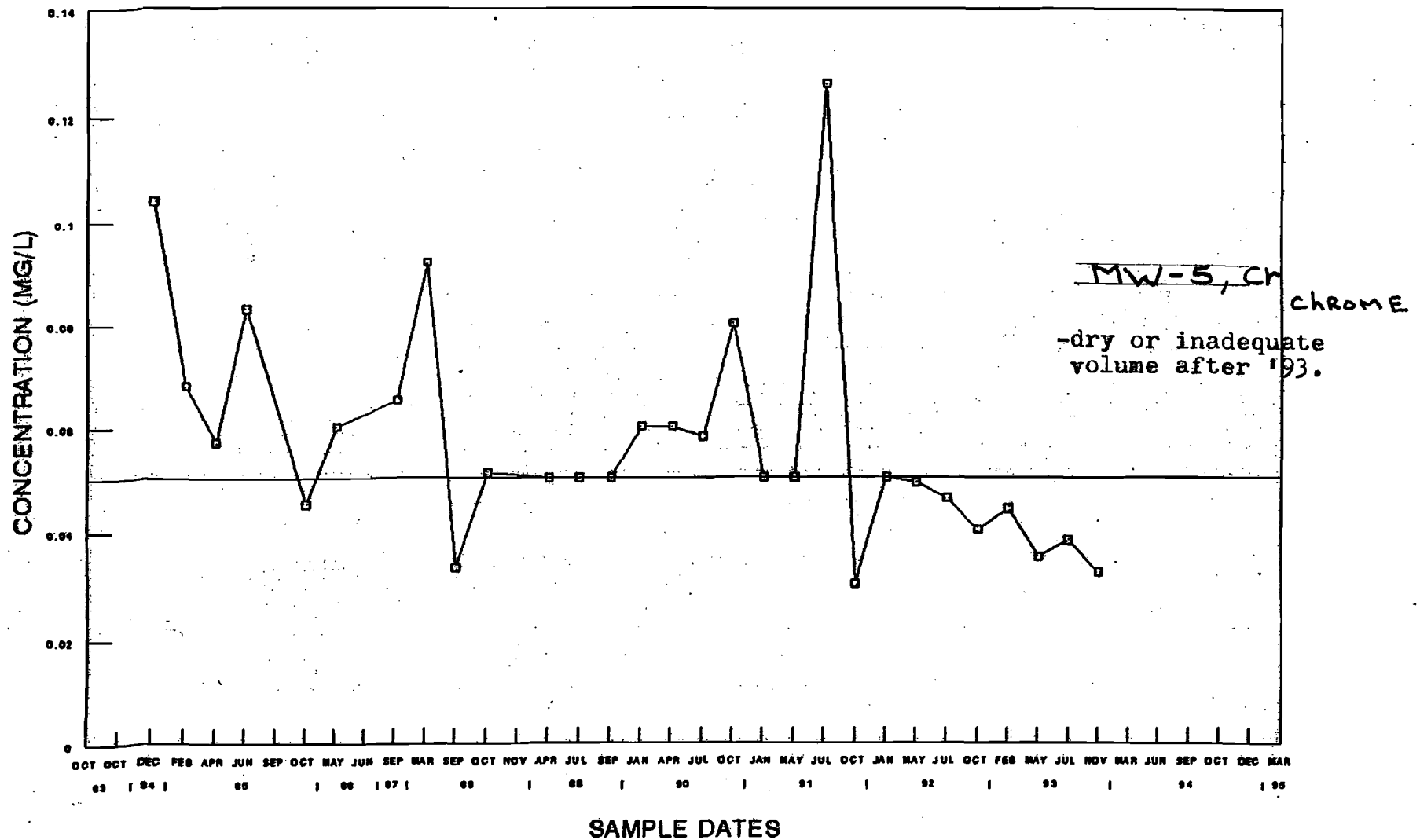
ATTACHMENT C1



■ ARSENIC (SOLUBLE) — NYSDEC STANDARD

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

ATTACH # C1



— NYSDEC STANDARD — CHROMIUM (SOLUBLE)

NOT ON COMPUTER

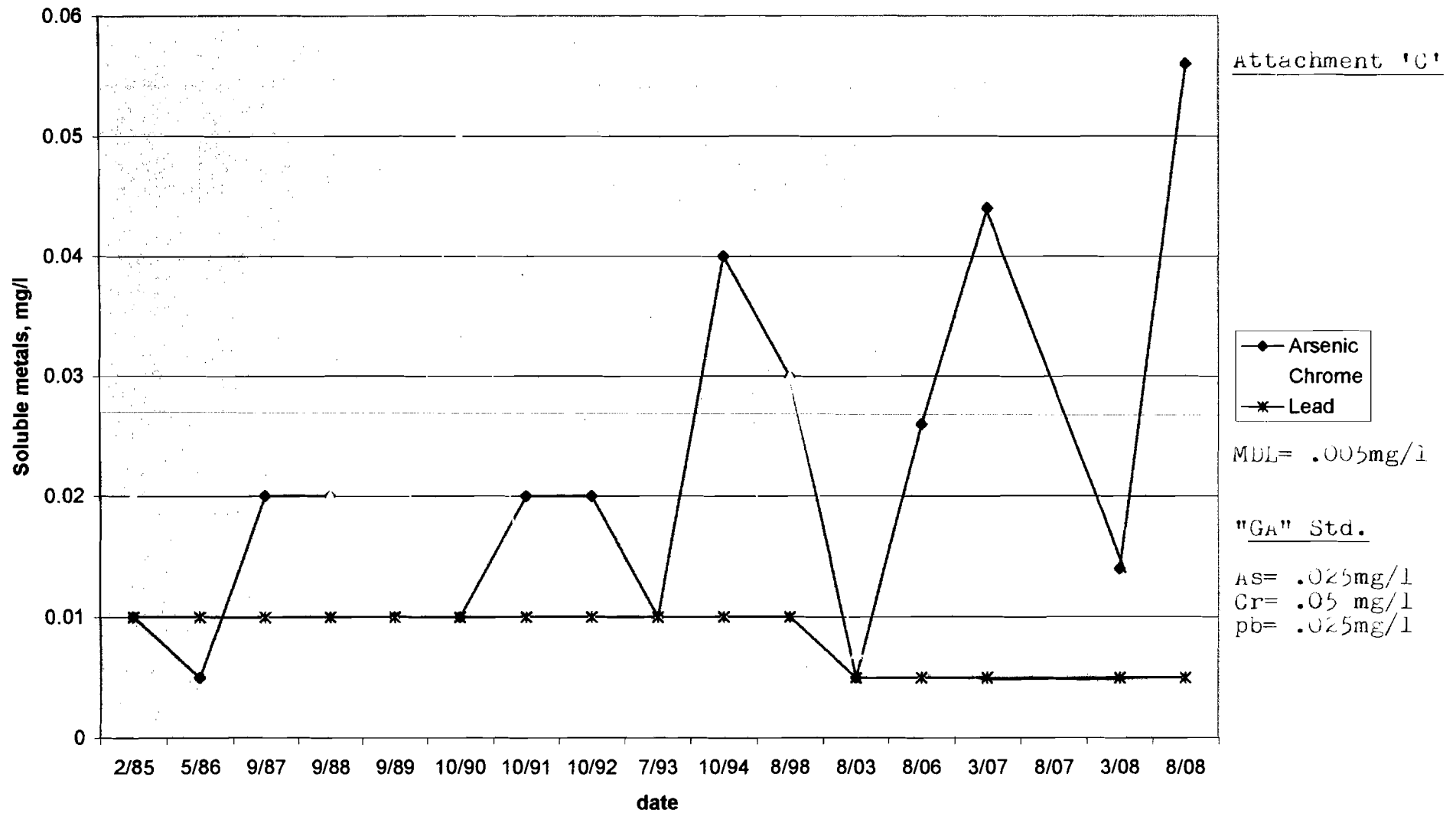
	PALMER ST. LANDFILL; MOENCH COMPANY														
	MW-6 SOLUBLE MET TAL(SCREENED IN WASTE)														
	2/85	5/86	9/87	9/88	9/89	10/90	10/91	10/92	7/93	10/94	8/98	8/03	8/06	3/07	8/07
Arsenic	0.01	0.005	0.02	0.02	0.01	0.01	0.02	0.02	0.01	0.04	0.03	0.005	0.026	0.044	
(soluble)												l.t.			dry
Chrome	0.02	0.01	0.01	0.02	0.01	0.05	0.01	0.01	0.01	0.01	0.03	0.007	0.005	0.005	
(soluble)													l.t.	l.t.	dry
Lead	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.005	0.005	0.005	
(soluble)												l.t.	l.t.	l.t.	dry

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

Attachment 'C'

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

Screened in the Waste



			PALMER ST L/F, MOENCH COMPANY																		
			ARSENIC (SOLUBLE) vs TIME (MG/L)																		
	Dec. '08		MONITOR WELLS & BANK SEEPS																		
			Attachment 'C'																		
	Sep-87	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	May-92	Jul-92	Oct-92	Feb-93
MW-6D	START94																				
MW-7D	0.005	0.005	0.005	0.005	0.005	0.03	0.01	0.01	0.005	0.005	0.005	0.005	0.005	0.01	0.01	0.01	0.005	0.01	0.005	0.005	0.005
MW-8D	0.01	0.005	0.005	0.005	0.007	0.05	0.01	0.01	0.005	0.005	0.005	0.005	0.005	0.01	0.01	0.01	0.005	0.01	0.005	0.005	0.005

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	Apr-98	Aug-98	Nov-98	Apr-99
MW-6D			0.005	0.007	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	0.01	0.01
MW-7D	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
MW-8D	0.005	0.005			0.005				0.005		0.005	0.01	0.01		0.01		0.01	0.01		

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	Apr. '06	Aug. '06	Mar. '07	Aug. '07	Mar. '08	Aug. '08	
MW-6D	0.01	0.01	0.005	0.005	0.002	0.002	0.002	0.002	0.02	0.002	0.002	0.001	0.003	0.001	0.005	0.005	0.005	0.005	0.005	
MW-7D	0.01	0.01	0.005	0.005	0.002	0.002	0.002	0.002	0.02	0.002	0.002	0.001	0.001	0.001	0.005	0.005	0.005	0.005	0.005	
MW-8D		0.01	0.005		0.002	0.002	0.002		0.02		0.002		0.001		0.005	0.005	0.005	0.005	0.005	

Attachment 'C'

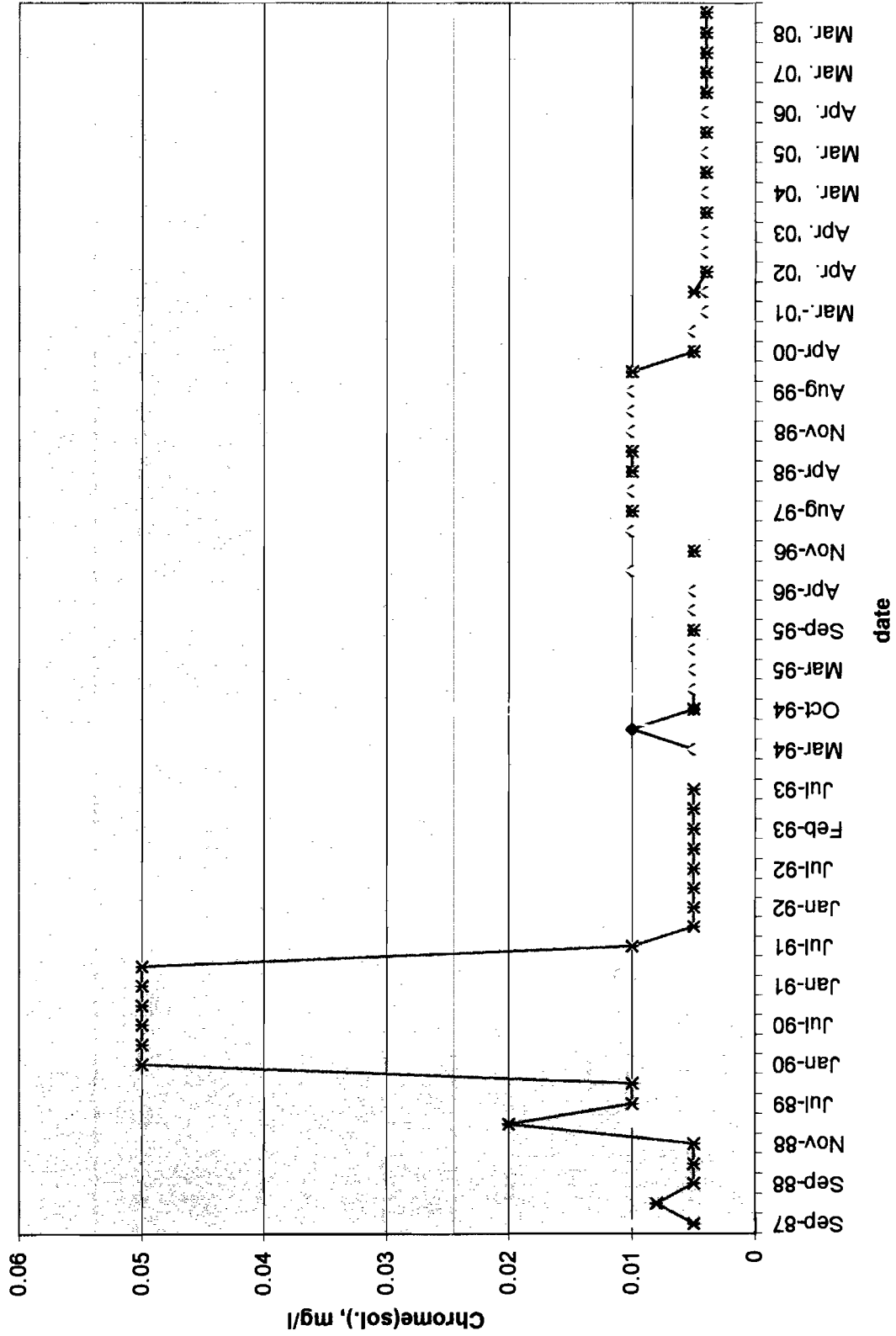


			PALMER ST L/F, MOENCH COMPANY																			
			CHROME(SOLUBLE) ,mg/l vs. time																			
	Dec. '08		MONITOR WELLS &						Attachment "C"													
	Sep-87	Mar-88	Sep-88	Oct-88	Nov-88	Apr-89	Jul-89	Sep-89	Jan-90	Apr-90	Jul-90	Oct-90	Jan-91	May-91	Jul-91	Oct-91	Jan-92	May-92	Jul-92	Oct-92	Feb-93	
MW-6D	START94																					
MW-7D	0.01	0.006	0.005	0.005	0.005	0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.05	0.05	0.01	0.005	0.005	0.005	0.005	0.005	0.005	
MW-8D	0.005	0.008	0.005	0.005	0.005	0.02	0.01	0.01	0.05	0.05	0.05	0.05	0.05	0.05	0.01	0.005	0.005	0.005	0.005	0.005	0.005	

Attachment "C"																						Attavhr
	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	Apr-98	Aug-98	Nov-98	Apr-99	
MW-6D				0.005	0.01	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
MW-7D	0.005	0.005	0.005	0.005	0.005	0.025	0.005	0.005	0.005	0.005	0.005	0.005	0.01	0.005	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
MW-8D	0.005	0.005				0.005				0.005				0.005		0.01		0.01	0.01			

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	Apr-'06	Aug-'06	Mar-'07	Aug-'07	Mar-'08	Aug-'08
MW-6D	0.01	0.01	0.005	0.005	0.004	0.004	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.
MW-7D	0.01	0.01	0.005	0.005	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	0.004	0.004	0.004
MW-8D		0.01	0.005			0.005	0.004			0.004		0.004		0.004		0.004	0.004	0.004	0.004	0.004

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



Attachment 'C'

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

MDL varies:

less than .01mg/L

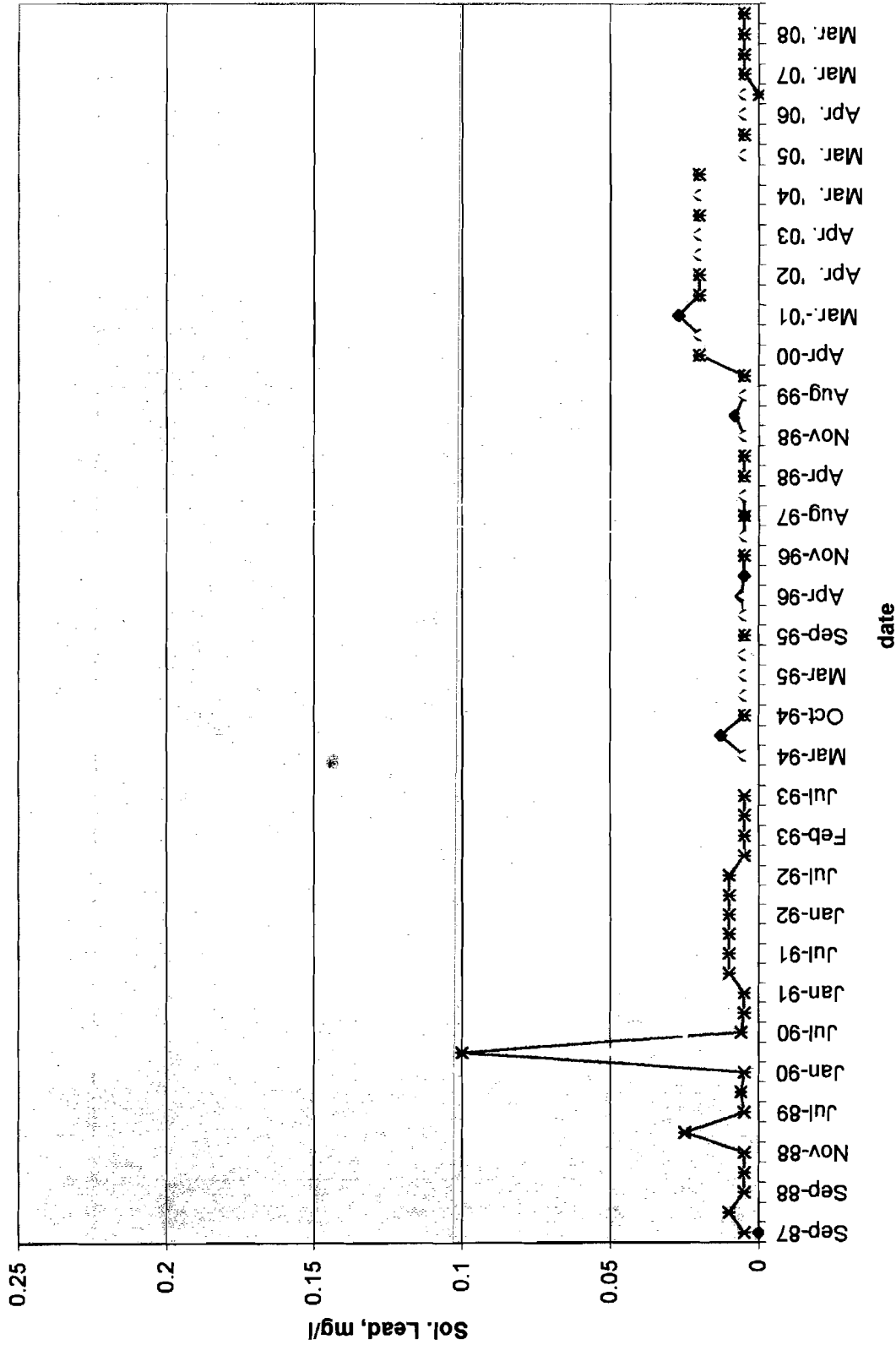
[illegible]

					Attachment 'C'																	Attachment
	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	Apr-98	Aug-98	Nov-98	Apr-99	
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	0.005	0.005	0.005	0.008	
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	0.005	0.005	0.005	0.005	
MW-8D	0.005	0.005				0.005				0.005				0.005		0.005		0.005	0.005			

"C"																Attachment "C"				
MW-6D	Aug-99 0.005	Nov-99 0.005	Apr-00 0.02	Sep-00 0.02	Mar-'01 0.027	Aug-'01 0.02	Apr.'02 0.02	Aug.'02 0.02	Apr.'03 0.02	Aug.'03 0.02	Mar.'04 0.02	Aug.'04 0.02	Mar.'05 0.005	Aug.'05 0.005	Apr.'06 0.005	Aug.'06 0.005	Mar.'07 0.005	Aug.'07 0.005	Mar.'08 0.005	Aug.'08 0.005
MW-7D	0.005	0.005	0.02	0.02	0.02	0.02	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.
MW-8D		0.005	0.02			0.02	0.02	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.	i.t.
							i.t.			i.t.		i.t.		i.t.		na	0.005	0.005	0.005	i.t.

PIRMTL7

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



Attachment: 'C'

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

MDL varies:

less than .02mg/l

'GA' Std

.025 mg/l

PALMER ST L/F, MOENCH COMPANY																				
Dec '08		ARSENIC(SOL), CHROME(SOL), LEAD(SOL) vs TIME (MG/L)																		
		Attachment 'C'																		
		BANK SEEPS BS1, BS2, BS3																		
ARSENIC	Mar-94	Jun-94	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
BS-1	0.005	0.005		0.005	0.005	0.005	0.005		0.005	LT.01	LT.01	0.01	0.01	0.01	0.01	0.011	0.01	0.01	0.01	0.01
BS-2																				
BS-3	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	LT.025	LT.01	0.01	0.012	0.01	0.012	0.01	0.027	0.01	0.01	0.01
CHROME																				
BS-1	0.005	0.005		0.005	0.005	0.006	0.005		0.005	LT.025	0.005	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
BS-2																				
BS-3	0.005	0.008	0.005	0.005	0.005	0.005	0.005	0.005	0.005	LT.025	0.005	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
LEAD																				
BS-1	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	0.008	0.005	0.005
BS-2																				
BS-3	0.005	0.005	0.007	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.2	0.005	0.005	0.005	0.005	0.006	0.005	0.005
**No graphes due to minimal detection & creek samples taken.																				

Attachment 'C'																		
ARSENIC																		
ARSENIC	Apr-00	Sep-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	Aug-'07	Mar-'08	Aug-'08
BS-1	0.005	0.005	0.004	0.002	0.002	0.002	0.003	0.02	0.005	0.002	0.002	0.001	0.005	0.005	0.005	0.005	0.005	0.005
BS-2																		
BS-3	0.005	0.005	0.002	0.002	0.002	0.002	0.002	0.02	0.002	0.002	0.003	0.005	0.005	0.005	0.005	0.005	0.005	0.005
					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.
CHROME																		
BS-1	0.006	0.005	0.01	0.004	0.005	0.004	0.008	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005
BS-2																		
BS-3	0.004	0.009	0.005	0.012	0.006	0.005	0.006	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005
								l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.
LEAD																		
BS-1	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	0.005	0.005	0.005
BS-2																		
BS-3	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	0.005	0.005	0.005
					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.

- NO GRAPH GENERATED DUE TO MINIMAL DETECTION.

ATTACHMENT "D"

TOTAL VOLATILES vs TIME
(grouped by monitoring point)

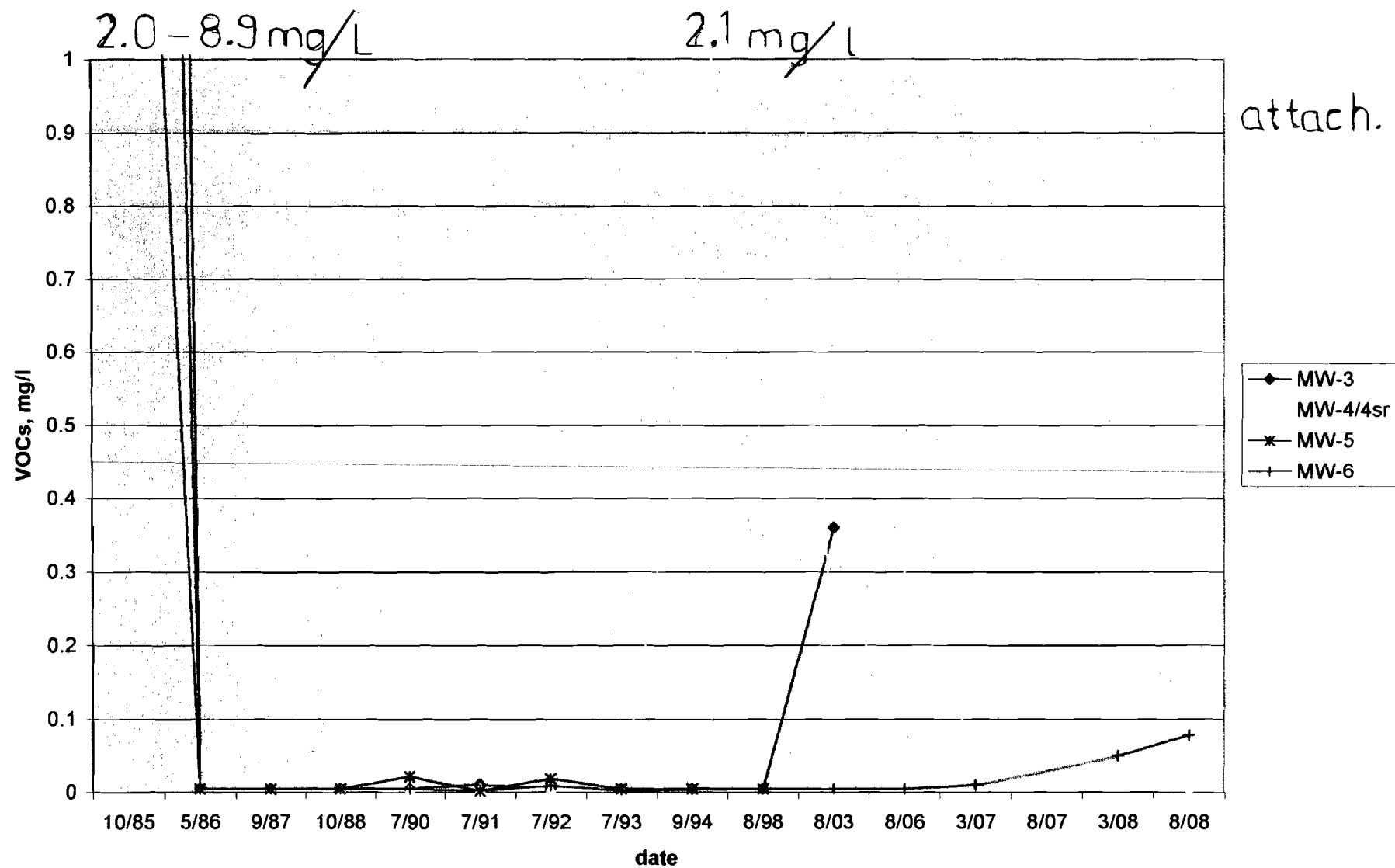
MONITORING EVENTS: March 2008 & prior
August 2008 & prior

		PALMER ST. LANDFILL; MOENCH CO.														
		TOTAL VOLATILE ORGANICS			OF RELEVANT; ACETONE, TOLUENE, XYLENE						Dec. '08		(ATTACHMENT "D")			
		MW3, MW4, MW5, MW6; ALL SCREENED U IN WASTE														
	10/85	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	0.005	0.011	0.005	0.005	0.005	0.005	0.36					1.4
												dry	dry	dry	dry	
MW-4/4sr	2.46	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.586	2.1	0.125	0.293	0.052	0.062	0.021	0.0005
															acetone	l.t.
MW-5	2.02	0.005	0.005	0.005	0.022	0.002	0.019	0.005	0.005	0.005						
											dry	dry	dry	dry	dry	dry
MW-6	4.82	0.005	0.005	0.005	0.005	0.003	0.009	0.003	0.004	0.005	0.005	0.005	0.01		0.05	0.078
		l.t.	l.t.	l.t.										dry	acetone	acetone

Attachment D

WELLS IN WASTE . TOTAL VOC

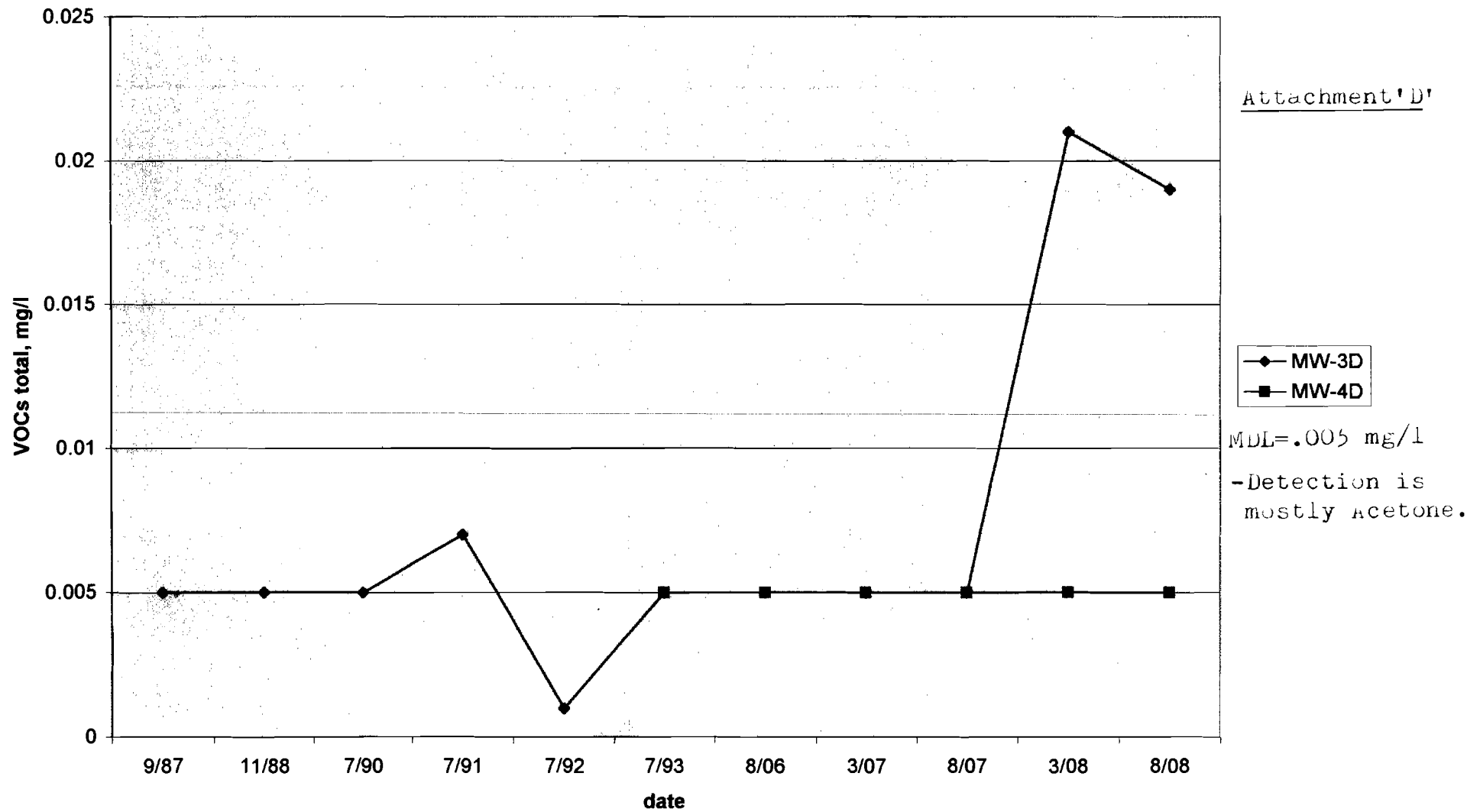
Palmer.St.L/Fill; Total VOC, in Waste



			PALMER ST. LANDFILL; MOENCH CO.								
	Dec. '08		TOTAL RELEVANT VOCs, BEDROCK; Acetone, toluene, Xylene							Attachment 'D'	
	9/87	11/88	7/90	7/91	7/92	7/93	8/06	3/07	8/07	3/08	8/08
MW-3D	0.005	0.005	0.005	0.007	0.001	0.005	0.005	0.005	0.005	0.021	0.019
	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	acetone	acetone
MW-4D						0.005	0.005	0.005	0.005	0.005	0.005
						l.t.	l.t.	l.t.	l.t.	l.t.	l.t.

PIMR.TOTAL.VOC.BEDROCK

Palmer St. L/Fill; Total VOCs, bedrock



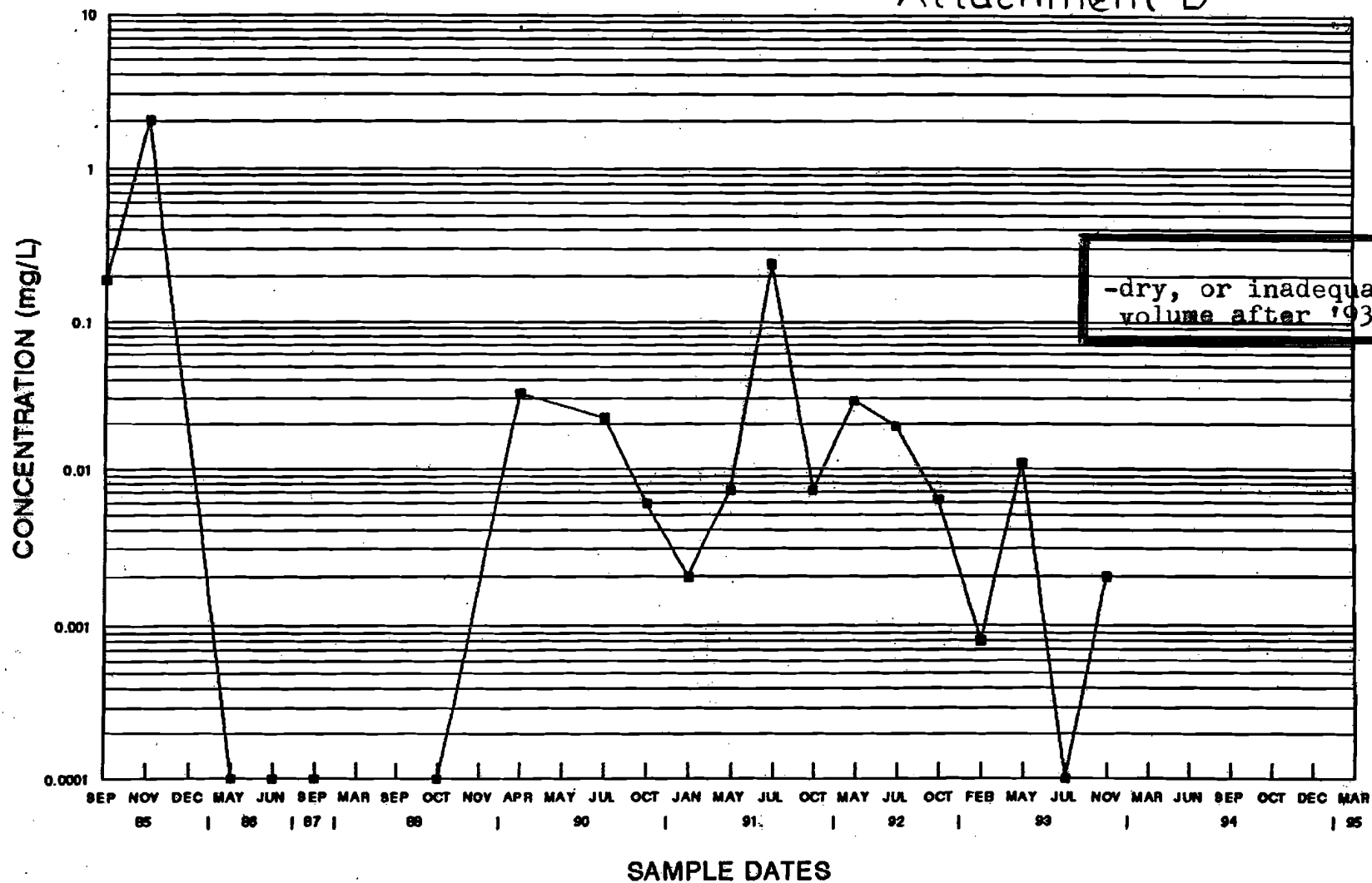
P1MR. Total VOC. Bedrock

PALMER STREET LANDFILL

TOTAL VOLATILE ORGANICS (screened in the waste)

MW-5

Attachment D



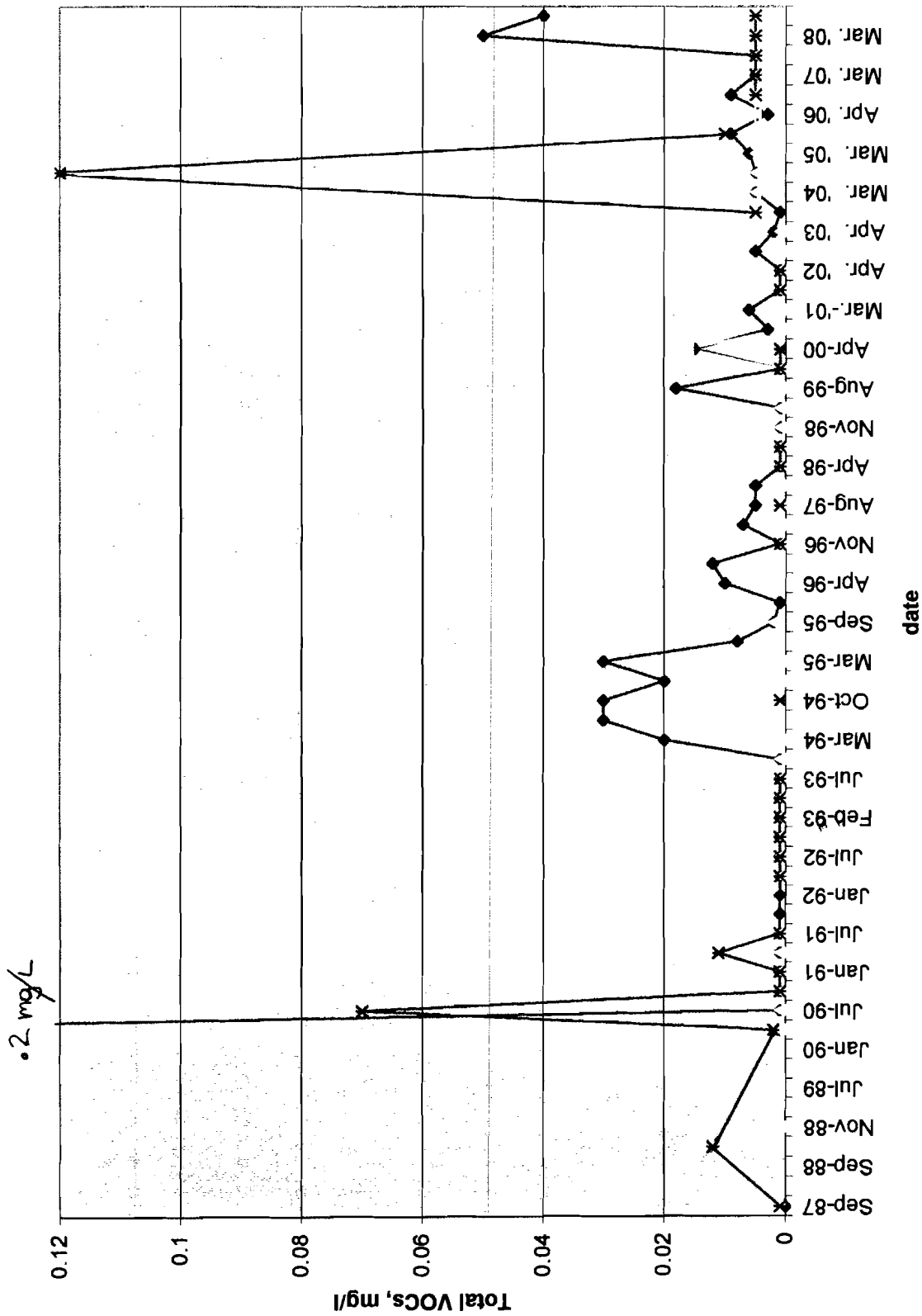
MW - 5

PALMER ST. L/F, MOENCH COMPANY																					
TOTAL VOLATILE ORGANICS vs TIME (MG/L)																					
**relevant VOCs; acetone, toluene, xylene																					
Attachment 'D'																					
Dec-'08	Sep-87	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	May-92	Jul-92	Oct-92	Feb-'93
MW-6D	START90									0.2	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
MW-7D	0.001				0.001					0.001	0.001	0.001	0.001	0.001	0.001	0.011		0.001	0.001	0.001	0.001
MW-8D	0.001			0.012						0.002	0.07	0.001	0.001	0.011	0.001			0.001	0.001	0.001	0.001

Attachment 'D'																					
	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	Apr-98	Aug-98	Nov-98	Apr-99
MW-6D	0.001	0.001	0.001	0.02	0.03	0.03	0.02	0.03	0.008	0.002	0.001	0.01	0.012	0.001	0.007	0.005	0.005	0.001	0.001	0.001	0.001
MW-7D	0.001	0.001	0.001	0.001	0.008	0.012	0.001	0.001	0.002	0.002				0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
MW-8D	0.001	0.001				0.001								0.001		0.001		0.001	0.001		

											Attachment 'D'											
	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	Apr. '06	Aug. '06	Mar. '07	Aug. '07	Mar. '08	Aug. '08		
MW-6D	0.018	0.001	0.015	0.003	0.006	0.001	0.001	0.005	0.002	0.001	0.005	0.005	0.006	0.009	0.003	0.009	0.005	0.005	0.05	0.04		
							l.t.			(J) est.	l.t.	l.t.					l.t.	l.t.	acetone	acetone		
MW-7D	0.001	0.001	0.016	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005		
							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.		
MW-8D		0.001	0.001			0.001	0.001			0.005		0.12		0.01		0.005	0.005	0.005	0.005	0.005		
							l.t.			l.t.		(j) est				l.t.	l.t.	l.t.	l.t.	l.t.		

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



Attachment D

MW-6D
MW-7D
MW-8D upgrad.

-Total VOC includ.
Guidance Values;
Acetone, MEK, etc
-Acetone the most
common.

PALMER ST. L/F, MOENCH COMPANY															
TOTAL VOLATILE ORGANICS vs TIME (MG/L)															
BANK SEEPS															
	Dec. '08														
	Mar-94	Jun-94	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
BS-1	0.13			0.009	0.01	0.01			0.001	0.001	0.001	0.001	0.001	0.001	0.001
BS-2	(started in 2006)														
BS-3						0.001			0.001	0.001	0.001	0.001	0.001	0.001	0.001

	Aug-98	Nov-98	Apr-99	Aug-99	Nov-99	Apr-00	Sep-00	Mar.-01	Aug.-01	Apr. '02	Aug. '02	Apr. '03	Aug. '03	Mar. '04	Aug. '04
BS-1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.005
BS-2									l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.
BS-3	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.005	0.005	0.005
									l.t.	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.

Attachment 'D'

	Mar. '05	Aug. '05	Apr. '06	Aug. '06	Mar. '07	Aug. '07	Mar. '08	Aug. '08
BS-1	0.006	0.005	0.005	0.005	0.005	0.005	0.005	0.005
BS-2		l.t.	l.t.	l.t.(b)	l.t.	l.t.(b)	l.t.(b)	l.t.(b)
				0.005	0.005	0.005	0.005	0.005
BS-3	0.005	0.005	0.005	l.t.(b)	l.t.(b)	l.t.(b)	l.t.(b)	l.t.(b)
				0.005	0.005	0.005	0.011	0.005
	l.t.	l.t.	l.t.	l.t.	l.t.	l.t.(b)	acetone	l.t.
	(b) too dry; took creek smpl.							

-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.

TABLE B-2

PALMER SREET LANDFILL
LANDFILL COVER SYSTEM EVALUATION
TOTAL VOLATILE ORGANIC COMPOUND CONCENTRATIONS

	Sep 85	Oct 85	Dec 85	May 86	Jun 86	Sep 87	Mar 88	Sep 88	Oct 88	Nov 88	Apr 90	May 90	Jul 90	Oct 90	Jan 91	May 91	Jul 91	Oct 91	May 92	Jul 92	Oct 92	Feb 93	May 93	Jul 93	Nov 93	Mar 94	Jun 94	Sep 94	Oct 94	Dec 94	Mar 95	Jun 95	Sep 95	Dec 95	Apr 96	Aug 96		
MW-1		6.130	3.050	0.000		0.005		0.000	0.000		0.000		0.000	0.000	0.000	0.000	0.000	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0.000	0.009		0.005	0.029	0.060	0.000	0.000	0.000	0.000	
MW-1D													0.001													0.000	0.008	0.016			0.005	0.029	0.060	0.000	0.000	0.000	0.000	
MW-2		8.240	0.098	0.000	0.019	0.005			0.000																				0.001	0.001								
MW-3	0.084	8.970	0.000	0.000		0.000			0.000		0.000		0.000	0.000	0.000	0.012	0.011	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000			0.000	0.000									
MW-3B						0.005				0.000			0.000				0.007		0.001						0.000													
MW-3DR										0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.001	0.002		0.001	0.001	0.004	0.000	0.001	0.000	0.000		
MW-4	0.260	2.460		0.000	0.000	0.000		0.031	0.000		0.000		0.000	0.000	0.000	0.002	0.005								0.006			0.586	0.092									
MW-4D																										0.001	0.008	0.003		0.001	0.003	0.002	0.002	0.001	0.000	0.000	0.000	
MW-5	0.190	2.020		0.000	0.000	0.000			0.000		0.033		0.022	0.006	0.002	0.007	0.240	0.007	0.029	0.019	0.006	0.001	0.011	0.000	0.002													
MW-6	1.400	4.820		0.000	0.000	0.000			0.000		0.002		0.000	0.000	0.003	0.000	0.011	0.015	0.000	0.009	0.011	0.003	0.002	0.003	0.013			0.004	0.004									
MW-6D												0.203														0.016	0.028	0.028		0.017	0.025	0.008	0.002	0.001	0.010	0.012		
MW-7						0.000	0.036	0.000					0.000				0.037			0.003				0.000														
MW-7S						0.000			0.000		0.000		0.003	0.000	0.000	0.000	0.011	0.014	0.000	0.000	0.002	0.000	0.000	0.000	0.000			0.001	0.000									
MW-7D						0.000				0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.032		0.001	0.001	0.002	0.001	0.000	0.000	0.000		
MW-8						0.000				0.000			0.000																									
MW-8D						0.000			0.033	0.002		0.067	0.000	0.000	0.014	0.000			0.000	0.000	0.000	0.000	0.000	0.000				0.000					0.000					

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	0.000
3DR						0.000	0.033
4	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	2.100 0.000	0.000
5							
6D	0.000	0.007	0.005	0.005	0.000	0.000	0.000
7							
7S						0.000	0.000
7D	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8							
8D	0.000		0.000		0.000	0.000	0.000

Random

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.