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MOENCH COMPANY
DIVISION OF CALERES*5*
465 PALMER ST.
GOWANDA, NEW YORK 14070
PHONE: 716-532-2201

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PALMER STREET LANDFILL.

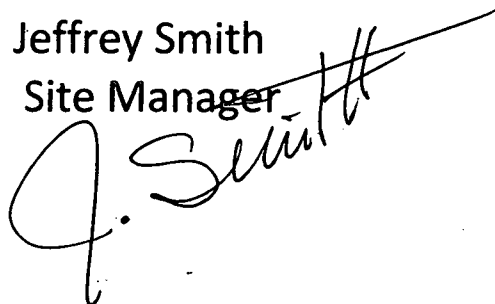
JUNE 2017

GROUNDWATER QUALITY MONITORING REPORT.

APRIL 26TH, 2017 MONITORING EVENT.

FIRST OF TWO SAMPLINGS EVENTS FOR 2017.

Jeffrey Smith
Site Manager

A handwritten signature in black ink, appearing to read "J. Smith", is written over the printed name and title of the Site Manager.

PALMER STREET LANDFILL - MOENCH COMPANY. (DIV. OF CALERES*5*.)
GROUNDWATER MONITORING REPORT FOR April 24, 2017 SAMPLING EVENT.

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MONITORING EVENT Alpha Analytical

1.0 INTRODUCTION

1.1 BACKGROUND-LANDFILL.

THE MOENCH COMPANY, A DIVISION CALERES *5*, AND IS LOCATED NEAR THE SOUTHEAST CORNER OF THE VILLAGE OF GOWANDA, CATTARAUGUS COUNTY, NEW YORK. (FIGURE 1). THE PALMER STREET LANDFILL, WHICH WAS OPERATED BY MOENCH TANNING FROM 1900 (APPROX), THROUGH JULY 1983, LIES IMMEDIATELY SOUTHWEST OF THE (FORMER) TANNERY 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 & IMPLIMENTED. (JULY 1993, REVISED MARCH 1994, MARCH 2001 & DECEMBER 2006).

IN JULY OF 2006, A PROPOSAL WAS MADE TO THE NEW YORK STATE DEPT. OF ENVIRONMENTAL (NYSDEC), TO RECONFIGURE THE GROUNDWATER MONITORING SYSTEM (REF#7). THIS WAS AGREED UPON IN EXCHANGE FOR THE ELIMINATION OF THE FIVE YEAR "COVER SYSTEM EVALUATION". THE NEW MONITORING SYSTEM IS DESCRIBED IN SECTION 2.0

1.2 PURPOSE AND SCOPE

SAMPLES ASSOCIATED WITH THE FIRST EVENT OF TWO, WATER QUALITY MONITORS, FOR 2017 YEAR, WERE COLLECTED ON April 24, 2017

SAMPLES WERE OBTAINED ONLY AT BANK SEEP #3, OF THE THREE BANK SEEPS. NO SEEPS EXISTED AT BS-1 & BS-2.

SITES MW-5 and MW-8 WERE DRY, AND NO SAMPLE OBTAINED. THERE WAS TOO LITTLE WATER AVAILABLE TO SAMPLE MW-3.

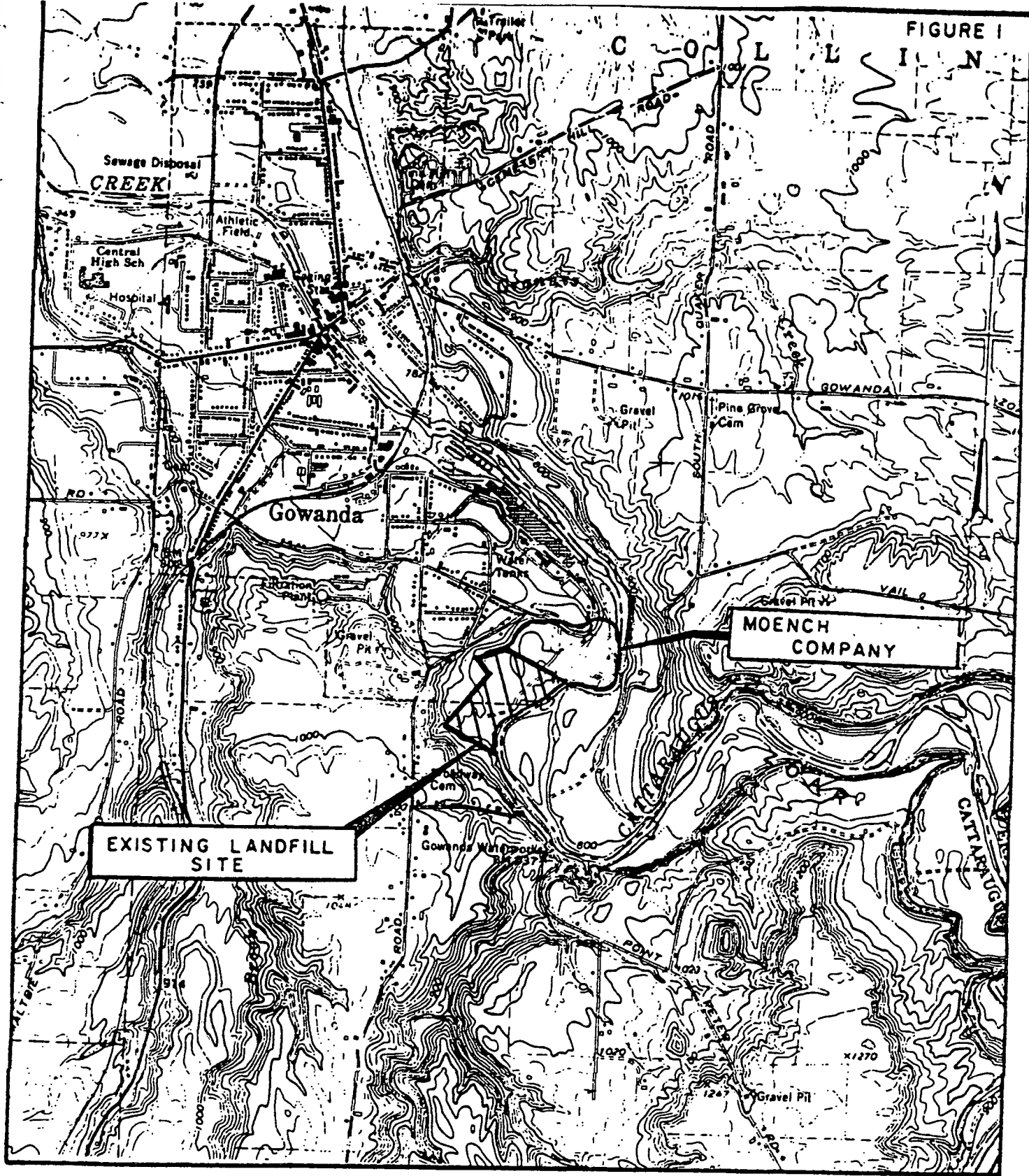


FIGURE 1

{ FIGURE 1 }

Lat. 42° 27' 0"
Long. 78° 55' 30"

NOTE:
TOPOGRAPHY TAKEN FROM 1963 GOWANDA, N.Y.
U.S.G.S. QUADRANGLE 7.5 MIN. SERIES
SCALE: 1" = 2000'

SITE LOCATION MAP
PALMER STREET LANDFILL
GOWANDA, N.Y. 6-94

MOENCH Co.



2.0 MONITORING SYSTEM(RECONFIGURED 7/06)

THE RECONFIGURED GROUNDWATER MONITORING SYSTEM FOR THE PALMER STREET LANDFILL(FIG. 2), CONTAINS NINE(9) MONITORING WELLS AND THREE(3) BANK SEEPS. A REVISED POST CLOSURE PLAN, DESCRIBING THE DETAILS, WAS SUBMITTED TO THE NYSDEC 9, IN JANUARY 2007, AND ACCEPTED BY THEM.

<u>UPGRADIANT WELLS</u>	<u>OVERBURDEN/WASTE WELLS</u>	<u>BEDROCK WELLS</u>
MW-7D	MW-3	MW-3D
MW-8D	MW-4SR	MW-4D
	MW-5	MW-6D
	MW-6	

IN ADDITION TO THE WELLS, NYSDEC ALSO REQUIRES THE MONITORING OF THREE (3) BANK SEEPS DESIGNATED AS BS-1, BS-2 AND BS-3, RESPECTIVELY. THE ABILITY TO OBTAIN SAMPLES FROM THESE BANKSEEPS IS SPORADIC DUE TO VARYING WEATHER/MOISTURE CONDITIONS. A BANK SEEP SAMPLE WAS OBTAINED ONLY FROM BS-3.

MW-8D IS DOWNGRAIENT FROM GERNATT'S GRAVEL WASHING OPERATION, SETTLING PONDS. THE SILT ADJACENT TO THERE PONDS CONTAINS SEVERAL NATURAL METALS OF INTEREST.(arsenic).

TO AID IN THE EVALUATION OF COVER PERFORMACE, WATER LEVELS FROM FIVE (5) INFILTROMETERS ARE ALSO MONITORED. LOCATIONS OF MONITORING POINTS ARE SHOWN ON FIGURE 2. THE RESULTS CONTINUE TO INDICATE THAT THE COVER SYSTEM IS PERFORMING AS PLANNED. THESE SHOWED MINIMAL INFILTRATION FOR THIS SAMPLING EVENT; TABLE #4.

THE SPRING WEATHER WAS WETTER THAN NORMAL.

THE VILLAGE OF GOWANDA HAS BEEN OBTAINING ITS' WATER FROM THE DEEP AQUIFER, FOR THE PAST SEVERAL YEARS. THIS IS DUE TO THE CLOSURE OF THEIR RESRVIOR. THIS HAS RESULTED IS A DRASTIC REDUCTION IN THE WATER LEVEL IN THE MW-1D WELL, IN THE SOUTHWEST CORNER OF THE LANDFILL. RECENTLY THEY HAVE BEGUB TO USE THE RESERVOIR AGAIN RESULTING IN RECOVERING WATER LEVELS IN MW-1D.

TABLE 1

MOENCH TANNING COMPANY
PALMER STREET LANDFILL

MONITORING PARAMETERS *Twice/year

Soluble Arsenic⁽¹⁾

Soluble Chromium⁽¹⁾

Soluble Lead⁽¹⁾

Volatile Organics⁽²⁾⁽³⁾

pH⁽⁴⁾

Specific Conductance⁽⁴⁾

Turbidity⁽⁴⁾ - VISUAL

Groundwater Elevation⁽⁴⁾

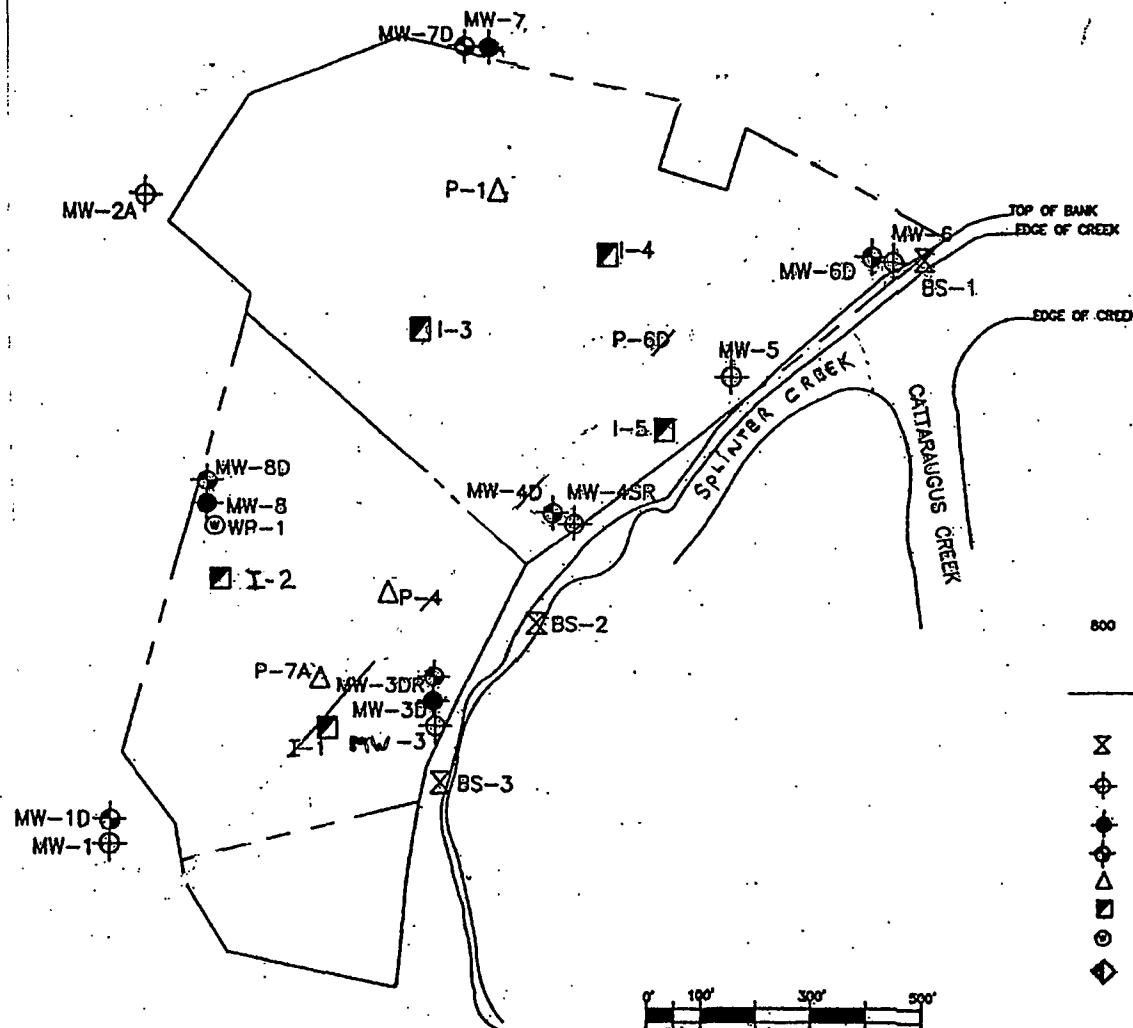
Temperature⁽⁴⁾

Odor⁽⁴⁾

Sample Appearance⁽⁴⁾

Notes:

1. All samples collected for analysis of soluble metals are pressure-filtered in the field immediately upon sample collection.
2. The list of VOC analytes are those compounds included in SW-846, Method 8260.
3. Analysis for VOCs are not performed on pore water samples during performance monitoring events.
4. Field parameters (i.e., pH, specific conductance, temperature and turbidity) are measured in the field by sampling personnel. Laboratory analysis of these parameters will not be required.



LAT. 42° 27' 0"
Long. 78° 55' 30"

LEGEND

- 800 ISOPOTENTIAL, DOTTED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION
- LANDFILL BOUNDARY AND AREA BOUNDARY DIVIDER
- ⊗ BANK SEEP
- ⊕ UPPER OVERBURDEN MONITORING WELL
- ⊙ LOWER OVERBURDEN MONITORING WELL
- ⊕ BEDROCK MONITORING WELL
- △ PIEZOMETER
- ⊠ INFILTROMETER
- ⊙ WELL POINT
- ◇ LYSIMETER

Fig. #2

APP. 17 SAMPLE EVENT:



GEI Consultants, Inc.
Williamsville, NY

PALMER STREET LANDFILL

SITE PLAN

DATE DEC 11	PROJ. NO. 8104
FILE NO. N/A	DWG. NO. FIGURE 1.2

3.0 MONITORING METHODS

3.1 GROUNDWATER MONITORING -LANDFILL

SAMPLES COLLECTED DURING THE APRIL 24, 2017 MONITORING EVENT PERIOD, WERE COLLECTED BY MOENCH COMPANY PERSONNEL, AND ANALYZED BY ALPHA ANALYTICAL, TONAWANDA NY.

THE ANALYSIS IS PERFORMED IN ACCORDANCE WITH THE SAMPLING PLAN/QUALITY ASSURANCE PLAN FOR THE PALMER STREET LANDFILL (REFERENCE 3).

LABORATORY ANALYSIS IS PERFORMED IN ACCORDANCE WITH THE USEPA 200.7 FOR METALS, AND VOC 8260. THE MONITORING PARAMETERS ARE LISTED IN TABLE 1. SAMPLES WERE NOT AVAILABLE FROM THREE WELLS AND TWO BANK SEEPS, 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 2). 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 #3.

3.2 INFILTRMETER MONITORING

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

NOTE: IT IS BELIEVED THAT INFILTRMETER #1, IS OFTEN FLOODED DUE TO NEIGHBORING SPRINGS AND GRAVEL SETTLING PONDS. THIS CREATES A HIGH WATER TABLE, IN THE SOUTH END OF AREA #2.

A SCHEMATIC SHOWING THE DESIGN AND DIMENSIONS OF THE INFILTRMETERS IS PRESENTED IN APPENDIX "B".

MOENCH COMPANY
465 PALMER ST.
GOWANDA, NY 14070

SAMPLERS Mike Best

PALMER STREET LANDFILL :

DATE 4/24/17

GROUNDWATER ELEVATIONS: (TABLE #2)

WP - WHALE PUMP - DEDICATED

WELL #	ELEVATION TOP OF PVC(FT)	TOTAL DEPTH FROM TOP OF PVC(FT)	WATER DEPTH(FT) FROM TOP OF PVC	WATER(FT) ELEVATION
MW-1	826.05 ASL	31.90 (8-12)	3.10	822.95
MW-1D	827.82	188.20 "	28.50	799.32
MW-2A	810.62	16.15 "	3.20	807.42
MW-3	810.81	17.10 "	15.75	795.06 LTL WATER
MW-3D	810.73	67.70 "	16.65	794.08
MW-3DR	810.47	102.30 "	14.85	795.62
MW-4 SR	806.75 WP	24.92 "	11.95	794.80
MW-4D	805.93	74.94 "	14.60	791.33
MW-5	805.35	18.15 "	Dry	—
MW-6	800.48 WP	18.78 "	14.60	785.88
MW-6D	800.63	37.03 "	17.55	783.08
				—
MW-7	800.50	30.60 (8-12)	7.60	792.90
MW-7D	800.39	41.90 "	6.25	794.14
MW-8	821.82	15.96 "	Dry	—
MW-8D	821.89 WP	126.80 (7/15)	27.80	794.09

INFILTROMETERS:

#1	9.00	4.10	—
#2	8.80	7.25	—
#3	9.00	7.00	—
#4	8.92	6.86	—
#5	9.00	7.25	—

Palmer st. Landfill

(TABLE #2) continued

4/24/17

smpl date _____

GROUNDWATER ELEVATIONS:

WELL #	ELEVATION TOP OF PVC(FT)	TOTAL DEPTH FROM TOP OF PVC(FT)	WATER DEPTH(FT) FROM TOP OF PVC	WATER (FT) ELEVATION
P-1	811.85 ASL	18.30 (8/12)	17.10	794.75
P-4	813.54 "	19.70 "	15.30	798.24
P-6D	810.30 "	61.25 "	20.60	789.70
P-7A	816.92 "	23.90 "	19.15	797.77
WP-1	822.16 "	11.71 h ₂ O	8.35	813.81

NOTE:

Aug 2012 ALL WELLS "DEVELOPED"

REV'd 9/12

REV'd 2/12

4.0 GROUNDWATER QUALITY MONITORING RESULTS:

4.1 EVALUATION OF GROUNDWATER ELEVATION DATA:

GROUNDWATER ELEVATION MEASUREMENTS WERE TAKEN AT EACH OF THE ACCESSIBLE ON-SITE MONITORING WELLS, PIEZOMETERS, AND WELL POINTS, DURING THE APRIL 24, 2017 MONITORING EVENT. THE DATA ARE SUMMARIZED IN TABLE 2/3.

PLOTS OF THE GROUNDWATER ELEVATIONS MEASURED IN THE MONITORING WELLS WITH RESPECT TO TIME ARE PRESENTED IN FIGURE 3, 4, AND 5, FOR THE SHALLOW OVERBURDEN, DEEP OVERBURDEN AND BEDROCK WELLS, ON THE LANDFILL, 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 INCREASES. ('92-'94). THIS OCCURRED DUE TO CESSATION OF VILLAGE AND TANNERY PUMPING OF THE DEEP AQUIFERS. SOME SLIGHT SEASONAL FLUCTUATION DOES OCCUR. IN AUGUST, 2009, A DRAMATIC FLOOD OCCURRED IN THE GOWANDA AREA, 2009, THAT DISABLED THE VILLAGE RESERVIOR FOR AN EXTENDED TIME. THAT FORCED THE VILLAGE TO USE THE DEEP AQUIFER FOR ITS WATER SUPPLY. THE VILLAGE NOW AFTER 7 YEARS HAVE BEEN CONSISTANTLY USING SURFACE RUNOFF FOR ITS WATER SUPPLY, NOW BRINGING WATER LEVEL IN MW-1D BACK TO NORMAL.

4.2 THE GROUNDWATER AND SURFACE WATER QUALITY RESULTS FOR THE APRIL 2017, MONITORING EVENT, ARE PRESENTED IN TABLES #3 THROUGH #5.

. IT SHOULD BE NOTED THAT THESE TABLES INCLUDE ONLY THOSE PARAMETERS, WHICH WERE DETECTED ABOVE ANALYTICAL DETECTION LIMITS, AT A MINIMUM OF ONE LOCATION. COMPARISON OF THE MONITORING EVENT DATA TO THE NYSDEC CLASS "GA" GROUNDWATER QUALITY STANDARDS/GUIDANCE VALUES IS ALSO PRESENTED THESE 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 SAMPLING 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 SAMPLED FOR GROUNDWATER QUALITY STANDARDS OR EVALUATIONS, OF GROUNDWATER QUALITY IMPACTS WILL BE BASED ON SOLUBLE METAL CONCENTRATIONS.

IT SHOULD BE NOTED THAT SEVERAL ON THE "ADDED" MONITORING WELLS ARE SCREENED IN THE WASTE. SUMMARY OF THE SAMPLING RESULTS ARE AS FOLLOWS.

THE ONLY DETECTION OF METALS ABOVE STANDARD WAS ARSENIC IN MW-6. ARSENIC IS NATURAL IN THE NATIVE SOIL, AND DETECTED FREQUENTLY IN UPGRADIENT WELLS.

ACETONE EXCEEDED GUIDANCE VALUES IN MW-3D, AND BLIND DUPLICATE (MW-6D). IT IS A COMMON LAB CONTAMIENT, AND GENERATED IN THE DECOMPOSITION OF PROTIENS.

CARBON DISULFIDE DETECTED IN MW-7D. THOUGHT MAYBE CAUSED BY LIDS ON VOC SAMPLE VIALS. IT IS AN ANOMOLY.

PH BELOW NEUTRAL AT MW-4SR AND MW-6.

TABLE 3

MOENCH COMPANY
PALMER STREET LANDFILL
4-26-17 MONITORING EVENT

SUMMARY OF FIELD MEASUREMENTS

INITIAL

Location	Sampling Date	Sampling Time	Temp. (°C)	pH (units)	Conductance ⁽¹⁾ (umhos/cm)	Turbidity	Sample Appearance	Sample Odor
* MW-3	7/26/17	NO sample	—	—	—	NA	—	—
*** MW-3D	"	10:45	13.5	7.77	395	"	Clear	NO
* MW-4SR	"	9:20	11.5	6.57	560	"	Turbid	Finish
*** MW-4D	"	10:05	13.5	7.79	580	"	Clear	NO
* MW-5	"	—	—	—	—	"	—	—
* MW-6	"	8:50	13.3	6.55	1600	"	Iron-Black	NO
*** MW-6D	"	8:00	14.0	7.84	900	"	Clear	None
*** MW-7D	"	12:10	12.1	7.77	560	"	Clear	NO
*** MW-8D	"	11:40	13.0	7.70	445	"	Clear	NO
BS-1	"	NO sample	—	—	—	"	—	—
BS-2	"	NO sample	—	—	—	"	—	—
(A) BS-3	"	11:24	20.3	7.09	860	"	Red/Iron	NO

NOTES:

- (1) Conductivity readings corrected to 25°C.
 (2) Blind Duplicate MW-6D
 (3) MW-7D is apparent hydraulically upgradient bedrock well.

* Shallow Overburden Well
 *** Bedrock Well

** Upgradient
 BS Bank Seep

(A) NO Bank seep - sampled pool by creek

NO sample available - MW-3, MW-5, BS1, BS2

TABLE 4

MOENCH COMPANY
PALMER STREET LANDFILL
4-24-17 MONITORING EVENT

INFILTROMETER MEASUREMENTS

Infiltrometer	Static Water Level (ft)	Static Water Level (ft)	Δ Depth - gal. (ft)	# Days Between Readings (#)	Infiltration Rate		Approx. Total Rainfall This Period (ft)	$\frac{\text{GAL}}{155} \times 100$ Infiltration (%)
					gal/day.ft ²	(cm/sec)		
I-1 (A)	6.50	4.10	2.40 gal = 17.0	291	.0033	1.6×10^{-7}	4.31	10.9%
I-2	7.20	7.25	-NEGATIVE	-	-	-	-	-
I-3	7.25	7.00	.25 gal = 2.2	291	.00043	2.0×10^{-8}	4.31	1.4%
I-4	6.40	6.80	-NEGATIVE	-	-	-	-	-
I-5	7.13	7.25	-NEGATIVE	-	-	-	-	-

Note:

** Negative ΔD precludes calculation of meaningful data. (A) I-1 OFTEN FLOODED BY NATURAL SPRINGS
* WASH PONDS, UPGRADIENT.

TABLE 5

MOENCH COMPANY
PALMER STREET LANDFILL
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	D	ND	ND	ND	D	.037	ND	.025mg/l
Chromium - Soluble	0.005	r	ND	ND	ND	7	ND	ND	.05
Lead - Soluble	0.005	7	ND	ND	ND		ND	ND	.025
		N				N			
		O				O			

Volatiles mg/L		S							
ACETONE		a	1.40	.034	ND	S	.037	.032	Guid. Value = .05mg/L
		7				a			
		7				m			
		1				P			
		e				e			
						C			

** Screened in Waste/Overburden.

Blind Duplicate MW-6D

4/26/17

MWLD

TABLE 5 MOENCH COMPANY 4/26/17 PALMER STREET LANDFILL MONITORING EVENT⁽¹⁾ SUMMARY OF ANALYTICAL RESULTS									
	Quantitation Limit	MW-7D	MW-8D	BS-1	BS-2	BS-3	Blind Duplic	Eq. A. Blank	Class "GA" Std.
Metals (mg/l):									
Arsenic - Soluble	0.005	ND	ND	NO	NO	ND	ND	ND	.025mg/l
Chromium - Soluble	0.005	ND	ND	S	S	ND	ND	ND	.05
Lead - Soluble	0.005	ND	NP	A	3	ND	ND	ND	.025
				P	h				
				1	e				

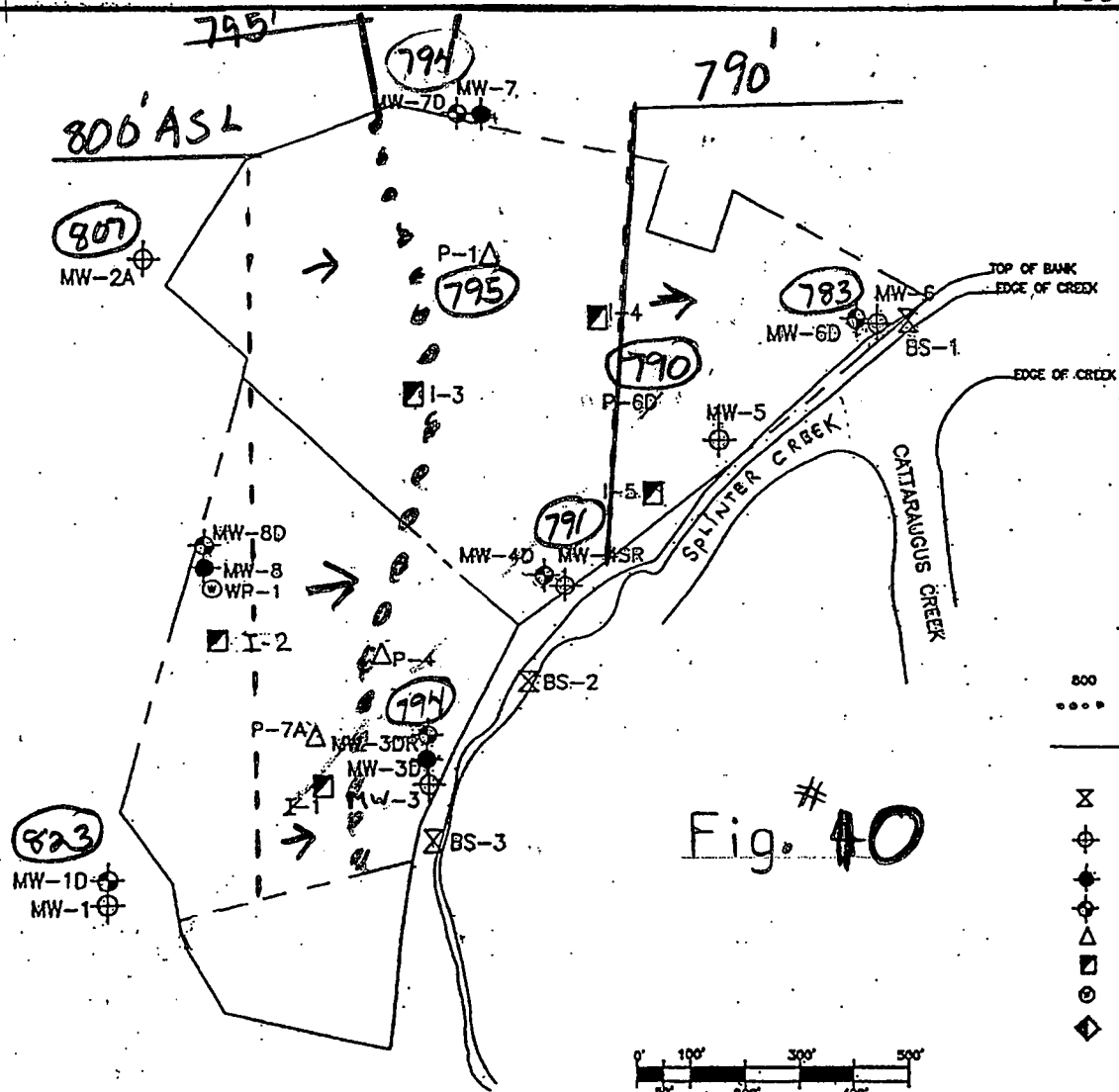
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5.0 GROUNDWATER FLOW

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 ON APRIL 24 ,2017 WERE USED IN PREPARING THE WATER TABLE AND BEDROCK ISO-POTENTIAL MAP. THEY INDICATE THAT THE SHALLOW GROUNDWATER AND BEDROCK FLOW IS PRIMARILY TO THE EAST.

THE VILLAGE IS STILL USING THE SURFACE RUNOFF FOR A WATER SOURCE INSTEAD OF DEEP AQUIFER KEEPING, MW-1D WATER LEVEL NORMAL.

Palmer L/F

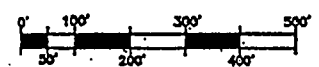


LAT. 42° 27' 0"
Long. 78° 55' 30"

LEGEND

- 800
- ISOPOTENTIAL, DOTTED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION
- LANDFILL BOUNDARY AND AREA BOUNDARY DIVIDER
- BANK SEEP
- UPPER OVERBURDEN MONITORING WELL
- LOWER OVERBURDEN MONITORING WELL
- BEDROCK MONITORING WELL
- PIEZOMETER
- INFILTRATOR
- WELL POINT
- LYSIMETER

Fig. # 40



SCALE IN FEET

April 17 SAMPLE EVENT:



GEI Consultants, Inc.
Williamsville, NY

PALMER STREET LANDFILL

SITE PLAN

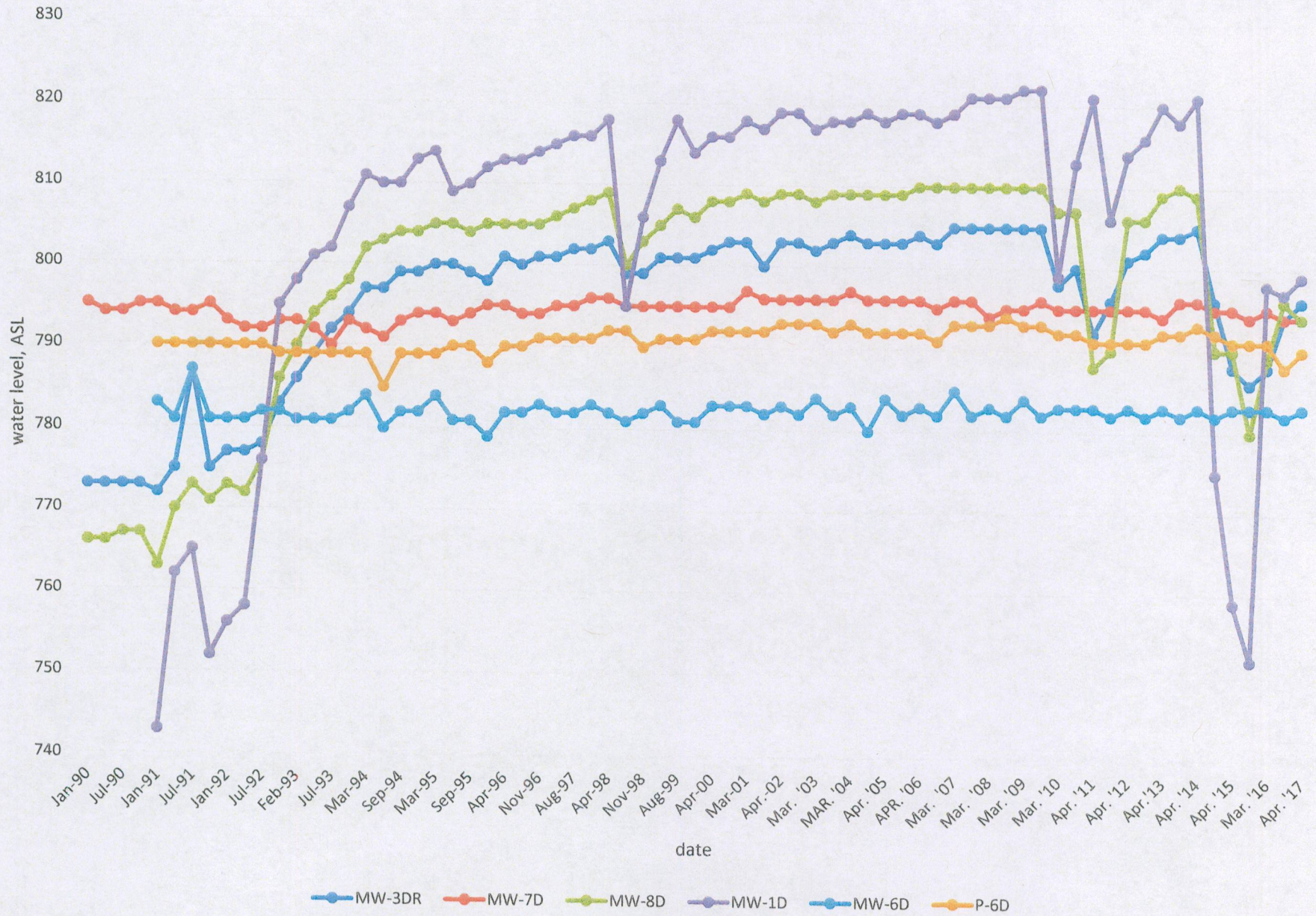
BEDROCK ISOPOTENTIAL MAP.

PALMER STREET LANDFILL																								
MOENCH COMPANY										June 17														
GROUNDWATER ELEVATION vs TIME																								
(FIG.#8)										FIG.#5														
BEDROCK MONITOR WELLS & PIEZOMETERS																								
	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	Dec-94	Mar-95	Jun-95	Sep-95	Dec-95
MW-3DR	773	773	773	773	772	775	787	775	777	777	778	783	786	789	792	794	797	797	799	799	800	800	799	798
MW-7D	795	794	794	795	795	794	794	795	793	792	792	793	793	792	790	793	792	791	793	794	794	793	794	795
MW-8D	766	766	767	767	763	770	773	771	773	772	776	786	790	794	796	798	802	803	804	804	805	805	804	805
MW-1D					743	762	765	752	756	758	776	795	798	801	802	807	811	810	810	813	814	809	810	812
MW-6D					783	781	787	781	781	781	782	782	781	781	781	782	784	780	782	782	784	781	781	779
P-6D					790	790	790	790	790	790	790	789	789	789	789	789	789	785	789	789	789	790	790	788

									June 17																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													</
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FIG. #5																							
APR-08												June 17											
	APR-08	Aug-08	Mar-07	Aug-07	Mar-08	Aug-08	Mar-09	Aug-09	Mar-10	Aug-10	Apr-11	Aug-11	Apr-12	Aug-12	Apr-13	July-13	Apr-14	Aug-14	Apr-15	Aug-15	Mar-16	July-16	Apr-17
MW-3DR	804	803	805	805	805	805	805	805	798	800	792	796	801	802	804	804	805	798	788	788	788	794	798
MW-7D	796	795	796	796	794	795	795	796	795	795	795	795	795	795	794	796	796	795	795	794	795	794	794
MW-8D	810	810	810	810	810	810	810	810	807	807	788	790	806	806	809	810	809	790	790	780	789	796	794
MW-1D	819	818	819	821	821	821	822	822	799	813	821	808	814	816	820	818	821	775	759	752	798	797	799
MW-6D	783	782	785	782	783	782	784	782	783	783	783	782	783	782	783	782	783	782	783	783	783	782	783
P-8D	792	791	793	793	793	794	793	793	792	792	791	791	791	791	792	792	793	792	791	791	791	788	790
MW-8D depth measured at MW8, after April 2011												*Village using deep aquifer for water supply since 2009. Hydrant on often.										A: village back to using surface wtr.	

Palmer St L/fill; Bedrock elev. Water



**FAX 716-532-5518**

TABLE #8

APR '17

calibrated by: *MB*

RECORD OF CALIBRATION:

Instrument: date reading
b/4 - after

Test

Slope-Water Level Indicator

Probe response to
water.

Grace-Conductivity meter	4/21/17	1300

```
Read standardize
liquid & calibrate.
zero calibrate.
```

Cole-Parmer (multi meter)

Ph---

4/24/17	7.01
	4.01

Calibrate to buffer(s)
solutions. ph-4 ph-7

Temperature

7/21	21.7/5
	90.1

Calibrate to standard thermometer.

C. Moench & Sons
Co.

MOENCH



Established
1865

465 PALMER STREET
GOWANDA, NEW YORK 14070

TEL. 716-532-2201

FAX 716-532-5518
revised 8/06

PALMER STREET LANDFILL
GROUNDWATER MONITORING

TABLE #. 7

Apr. '17

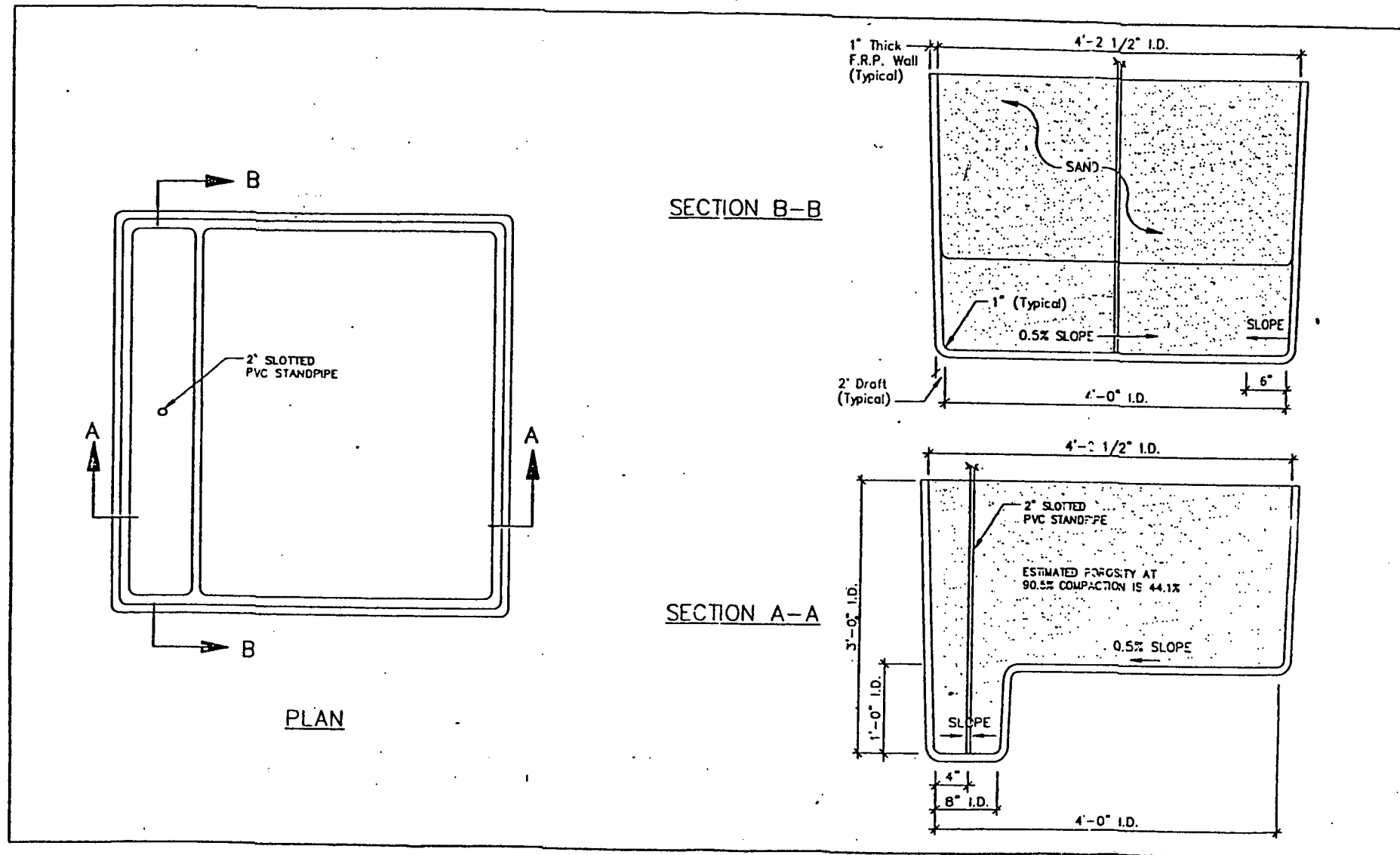
EQUIPMENT INVENTORY:

- ✓ (A) Slope Indicator Co. - Model 51453, water level indicator
- ✓ (B) W.R. Grace (Dearborn) - Model EP-10, Micromhos meter
(conductivity)
- ✓ (C) Cole-Parmer Instrumentation Co. - Model 5985-80, Ph, temperature °C,
with probes.
- ~~(D) Grundfos Purging System.~~
~~-Hose, VFD, Generator.~~
- ✓ (E) Norton Company - Part #865-3170, Posi-Filter for filtering
dissolved metals with filters. And vacuum pump/flask.
- ✓ (F) Wash bucket (5 gallon) with Alconox soap.
- ✓ (G) Rinse bucket with D.I. water. -buy 10 gal. distilled at store.
-get 2 gal. lab certified, eqpt. blank.
- ✓ (H) Rinse bottle with 10% Nitric Acid and water.
- ✓ (I) five gallon bucket to measure volume purged.
- ✓ (J) Latex gloves
- (K) Required bottles and coolers and ice.
- (L) Required field data forms.
- (M) Cell Phone
- (N) Watch
- ✓ (O) Head Radio
- ✓ (P) Board to hold Meters & equipment
- ✓ (Q) Liquid soap/water spray-bees.
- ✓ (R) Benedryl-bee sting.

6.0 REFERENCES

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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 12/2006.
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. Second "Evaluation"; 3/99. THIRD EVALUATION; 8/03.(LAST)
7. JULY 27TH, 2006 LETTER FROM GEOMATRIX TO STAN RADON (NYSDEC) DOCUMENTING A JULY 19TH MEETING IN WHICH REVISIONS TO THE GROUNDWATER MONITORING SYSTEM, WERE AGREED UPON.
8. SEPTEMBER 7, 2006 LETTER FROM STAN RADON(NYSDEC) TO JEFFREY SMITH(MOENCH) CONFIRMING AGREEMENT OF REVISED GROUNDWATER MONITORING SYSTEM, AND COVER SYSTEM EVALUATION ELIMINATION.
9. JUNE 19, 2012 LETTER FROM JEFFREY SMITH(BROWN SHOE) TO STAN RADON (NYSDEC) REGARDING ARSENIC AT MW-6.

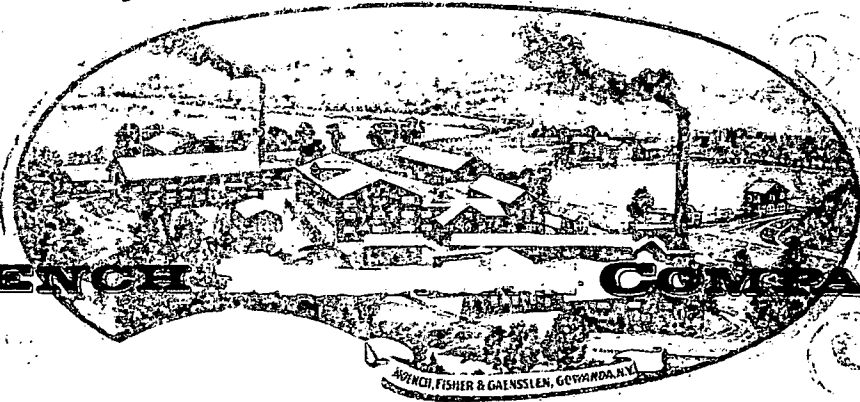
APPENDIX B
INFILTROMETER DESIGN



MTC-23-INF

TYPICAL INFILTROMETER BY HEY'S ENTERPRISES
AS INSTALLED AT PALMER STREET LANDFILL
INFILTROMETER
MOENCH TANNING COMPANY 3/20 53

C. Moench and Sons
Co.



Established
1865

MOENCH and SONS COMPANY

**465 PALMER STREET
GOWANDA, NEW YORK 14070**

TEL. 716-532-2201

FAX 716-532-5518

APPENDIX "C"

ANALYTICAL REPORT FROM LABORATORY:

FOR April 26, 2017

MONITORING EVENT....

PALMER STREET LANDFILL

WELL DEVELOPMENT/PURGING LOG

MOENCH CO.

PROJECT TITLE: PALMER ST. LANDFILL - GWM

PROJECT NO.: 1ST OF 2 ANNUAL EVENTS, 2017

STAFF: J. Smith & M. BEST

DATE: 4/26/17, 1045 (STAN HERE)

WELL NO.: MW-3D⑥

WELL I.D.

VOL.
GAL./FT.

- 1 TOTAL CASING AND SCREEN LENGTH (ft.) 67.70
- 2 CASING INTERNAL DIAMETER (in.) 2"
- 3 WATER LEVEL BELOW TOP OF CASING (ft.) 16.65
- 4 VOLUME OF WATER IN CASING (gal.)

1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$$V = 0.0408 \left(\frac{2}{12} \right)^2 \times (1 - 3) = 8.7 \text{ gal.}$$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	I N. IT.									
pH	7.81	7.77								
VISUAL-INITIAL TURBIDITY		clear								
CONDUCTIVITY	380	395	400							
TEMP °C	13.5									

COMMENTS:

WATER SAMPLING FIELD DATA SHEET

PROJECT: PALMER ST. L/FILL-GW TYPE OF SAMPLE: GROUNDWATER - GRAB
 CLIENT: MOENCH CO. LOCATION NO.: MW-3D
 JOB NO.: 1st of 2, 2017 LAB SAMPLE NO.: _____

WELL DATA: DATE: 4/26/17
 Casing Diameter (inches): 2"
 Screened Interval (ft BGS): _____
 Static Water Level Below TOR (ft): _____
 Elevation Top of Well Riser: 810.73

TIME: 1045
 Casing Material: PVC
 Screen Material: PVC
 Bottom Depth (ft): 67.70
 Datum Ground Surface: _____

PURGING DATA: DATE: 4/26/17
 Method: SUPER NOVA - Pump 12V.
 Well Volumes Purged ($V = \pi R^2 H / 231$): _____
 Standing Volume (gal): 8.7
 Volume Purged (gal): 13.0

TIME: Start: 1045 Finish: 1059
 Pumping Rate (gal/min): 0.5 gpm
 Was well purged dry? _____ Yes X No
 Was well purged below sand pack? _____ Yes X No

Is purging equipment dedicated to sample location?
 Yes _____ No X
 Field Personnel: J. Smith / M. BEST

Well I.D. (inches)	Volume (gal/ft)
<u>(2)</u>	<u>0.17</u>
4	0.66
6	1.50

SAMPLING DATA: DATE: 4/26/17
 Method: TEFLON BAILER
 Present Water Level (ft): _____
 Depth of Sample (ft): _____
 Is sampling equipment dedicated to sample location?

TIME: Start: 1059 Finish: 1118
 Sampler: JS & MB
 Air Temperature (°F): 70
 Weather Conditions: SUNNY
 Yes * No _____

PRESERVATION DATA: DATE: 4/14/17 ALPHA
 Filtered: * Yes _____ No _____
 Preservative: _____ H_2SO_4 * HNO_3 _____ $NaOH$ HCl Other _____

TIME: Start: _____ Finish: _____
 Cool to 4°C: *

PHYSICAL AND CHEMICAL DATA:

Appearance: Clear: * Turbid: _____ Color: _____
 Contains Sediment: _____ Odor: NO Other: _____
 Temperature (°C): _____ pH: _____ Specific Conductivity (umhos/cm): _____
 Turbidity (NTU): _____ Other: _____

REMARKS: SAMPLE/FILTER EQUIPMENT: WASH'd w/ SOAP + WATER (3X).
RINSED IN DISTILL'D WATER. RINSE WITH 10% NITRIC
ACID WASH. FINAL RINSE w/ DISTILL'D WATER.

WELL DEVELOPMENT/PURGING LOG

MOENCH CO.

PROJECT TITLE: PALMER ST. LANDFILL - GWM

PROJECT NO.: 1ST OF 2 ANNUAL EVENTS, 2017

STAFF: J. Smith + M. BEST

DATE: 4/26/17, 920

WELL NO.: MW-4 SR ④

WELL I.D.

VOL.
GAL./FT.

- 1 TOTAL CASING AND SCREEN LENGTH (ft.) 24.92
- 2 CASING INTERNAL DIAMETER (in.) 2"
- 3 WATER LEVEL BELOW TOP OF CASING (ft.) 11.95
- 4 VOLUME OF WATER IN CASING (gal.)

1"	0.04
② 2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$$V = 0.0408 (2^2 \times (1 - 3)) = 2.2 \text{ gal.}$$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	I N. I T.									
'PH'	6.6	6.57								
TUR.-INITIAL APPEARANCE										
CONDUCTIVITY	540	560								
Temp. °C	11.5									

COMMENTS:

OPANSE

DRAG PASTILLES

WATER SAMPLING FIELD DATA SHEET

PROJECT: PALMER ST. LANDFILL - GWM

CLIENT: MOENCH CO.

DATE: 1st of 2, 2017

TYPE OF SAMPLE: GROUNOWATER - GRAB

LOCATION NO.: MW-4SR

LABORATORY NO.: _____

WELL DATA:

DATE: 4/26/17

Casing Diameter (Inches): 2"

Screened Interval (ft BGS): _____

Static Water Level Below TOR (ft): _____

Elevation Top of Well Riser: 806.75 AGL

TIME: 920

Casing Material: PVC

Screen Material: PVC

Bottom Depth (ft): 24.92

Datum Ground Surface: _____

PURGING DATA:

DATE: 4/26/17

Method: DEDICATED BAILER

Well Volumes Purged ($V = \pi R^2 H / 231$): _____

Standing Volume (gal): 2.2

Volume Purged (gal): 4.0

Is purging equipment dedicated to sample location?

Yes * No _____

Field Personnel: J. SMITH & M. BEET

TIME: Start: 920 Finish: 935

Pumping Rate (gal/min): 1.0

Was well purged dry? Yes X No _____

Was well purged below sand pack? Yes X No _____

Well I.D. (inches)	Volume (gal/ft)
2	0.17
4	0.66
6	1.50

SAMPLING DATA:

DATE: 4/26/17

Method: DEDICATED BAILER

Present Water Level (ft): _____

Depth of Sample (ft): _____

Is sampling equipment dedicated to sample location?

TIME: Start: 935 Finish: 950

Sampler: JS & MB

Air Temperature (°F): 65

Weather Conditions: PART SUNNY

Yes * No _____

PRESERVATION DATA:

DATE: 4/14/17 ALPIA

Filtered: * Yes _____ No _____

TIME: Start: _____ Finish: _____

Cool to 4°C: *

Preservative: _____ H_2SO_4 * HNO_3 _____ $NaOH$ HCl Other _____

PHYSICAL AND CHEMICAL DATA:

Appearance: Clear: _____ Turbid: *

Color: Yellow/Orange

Contains Sediment: _____

Odor: FINISH Other: _____

Temperature (°C): _____ pH: _____ Specific Conductivity (µmhos/cm): _____

Turbidity (NTU): _____ Other: _____

REMARKS: SAMPLE/FILTER EQUIPMENT: WASH w/ SOAP + WATER (3X).
RINSED WITH DISTILL'D WATER. RINSED WITH 10% NITRIC ACID WASH. FINAL RINSE w/ DISTILL'D WATER.

WELL DEVELOPMENT/PURGING LOG

MOENCH CO.

PROJECT TITLE: PALMER ST. LANDFILL - G.W.M.

PROJECT NO.: STOF 2 ANNUAL EVENTS 2017

STAFF: JEFF SMITH & MIKE BEST

DATE: 4/26/17, 1005

WELL NO.: MW-4D (5)

WELL 'I.D.

VOL.
GAL./FT.

1 TOTAL CASING AND SCREEN LENGTH (ft.) 74.94

1" 0.04

2 CASING INTERNAL DIAMETER (in.) 2"

2" 0.17

3 WATER LEVEL BELOW TOP OF CASING (ft.) 14.60

3" 0.38

4 VOLUME OF WATER IN CASING (gal.)

4" 0.66

5" 1.04

6"	1.50
----	------

$$V = 0.0408 \text{ (}^2 \times (1 - 3) \text{)} = \underline{10.3} \text{ gal.}$$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
PH	7.81	7.79								
VISUAL-INITIAL TURBIDITY		clear								
CONDUCTIVITY	510	520								
TEMP. °C	13.5									
COMMENTS:										

WATER SAMPLING FIELD DATA SHEETS

PROJECT: PALMER ST. L/F - G.W.M.
MOENCH CO.
1ST OF 2 ANNUAL EVENTS
2017

TYPE OF SAMPLE: GROUND WATER
 LOCATION NO.: MW-4D

WELL DATA: DATE: 4/26/17
 Casing Diameter (Inches): 2"
 Screened Interval (ft BGS): _____
 Static Water Level Below TOR (ft.): _____
 Elevation Top of Well Riser: 805.93
 Elevation Top of Screen: 72.9

TIME: 1005
 Casing Material: PVC
 Screen Material: PVC
 Bottom Depth (ft.): 74.94
 Datum Ground Surface: _____

PURGING DATA: DATE: 4/26/17
 Method: ELECTRIC PUMP - NOT DEDICATED
 Well Volumes Purged (xR/W/ST): (SUPERNOVA)
 Standing Volume (GAL.) 10.3
 Volume Purged (GAL.) 17.0
 Is purging equipment dedicated to sample location? Yes _____ No *
 Field Personnel: J. Smith & M. BEST

TIME: Start: 1005 Finish: 1018
 Pumping Rate (gal/min): 1-2 gpm
 Was well purged dry? Yes _____ No X
 Was well purged below sand pack? Yes _____ No X

Well I.D. (Inches)	Volume (gal/ft)
<u>2</u>	<u>0.17</u>
<u>4</u>	<u>0.66</u>
<u>6</u>	<u>1.50</u>

SAMPLING DATA: DATE: 4/26/17
 Method: DEDICATED BAILER
 Present Water Level (ft.): _____
 Depth of Sample (ft.): _____
 Is sampling equipment dedicated to sample location? Yes *
 Source and type of water used in field for QC purposes: _____

TIME: Start: 1018 Finish: 1038
 Sampler: JS + M.E.
 Air Temperature (F°): 65
 Weather Conditions: SLIM'Y
 No ALPHA LAB

PRESERVATION DATA: DATE: 4/14/17 ALPHA
 Filtered: Yes * No _____
 Preservative: H₂SO₄ NO₃ * NaOH Other HCl

TIME: Start: _____ Finish: _____
 Cool to 4°C: *

PHYSICAL AND CHEMICAL
 Appearance: Cleare * Turbids: _____
 Contains Sediment: _____
 Temperature (°C): _____ pH: _____
 Turbidity (NTU): _____

Color: _____
 Odors: NO Others: _____
 Specific Conductivity (µmhos/cm): _____
 Others: _____

REMARKS: E. FLASK +/OR
NA - NOT APPLICABLE. TEFLON BAILER USED FOR SAMPLE
WAS WASHED WITH SOAP, RINSED WITH LABORATORY WATER,
RINSED WITH 10% NITRIC ACID WASH, THEN FINAL RINSE
WITH LAB. GRADE WATER PRIOR TO USE.

WELL DEVELOPMENT/PURGING LOG

MOENCH CO.

PROJECT TITLE: PALMER ST. LANDFILL - GWM

PROJECT NO.: 1ST OF 2 ANNUAL EVENTS.

STAFF: J. Smith & M. BEST

DATE: 4/26/17, 850

WELL NO.: MW-6(3)

WELL I.D.

VOL.
GAL./FT.

- 1 TOTAL CASING AND SCREEN LENGTH (ft.) 18.78
- 2 CASING INTERNAL DIAMETER (in.) 2"
- 3 WATER LEVEL BELOW TOP OF CASING (ft.) 14.60
- 4 VOLUME OF WATER IN CASING (gal.)

1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$$V = 0.0408 (2^2 \times (1 - 3)) = 0.7 \text{ gal.}$$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	1"	2"	3"	4"	5"	6"	8"	10"	12"	14"
PH	6.59	6.55								
TURBIDITY APPEAR=INITIAL	TURBID - FROU + BLACK									
CONDUCTIVITY	1600	1600								
Temp. °C	13.3									

COMMENTS:

WATER SAMPLING FIELD DATA SHEET

PROJECT: PALMER ST. LANDFILL
 CLIENT: MOENCH CO.
 JOB NO.: 1ST OF 2 ANNUAL EV.
2017

TYPE OF SAMPLE: GROUNDWATER
 LOCATION NO.: MW-6
 LAB SAMPLE NO.: 2017

WELL DATA: DATE: 4/26/17
 Casing Diameter (Inches): 2"
 Screened Interval (ft BGS): _____
 Static Water Level Below TOR (ft): _____
 Elevation Top of Well Riser: 800.48 ASL

TIME: 850
 Casing Material: PVC
 Screen Material: PVC
 Bottom Depth (ft): 18.78
 Datum Ground Surface: _____

PURGING DATA: DATE: 4/26/17
 Method: DEDICATED BAILER
 Well Volumes Purged ($V = \pi R^2 H / 2.31$): _____
 Standing Volume (gal): 0.7
 Volume Purged (gal): 1.2
 Is purging equipment dedicated to sample location?
 Yes X No _____
 Field Personnel: JS & MB

TIME: Start: 850 Finish: 900
 Pumping Rate (gal/min): 1.0
 Was well purged dry? _____ Yes X No _____
 Was well purged below sand pack? X Yes _____ No _____

Well I.D. (inches)	Volume (gal/ft)
2	0.17
4	0.66
6	1.50

SAMPLING DATA: DATE: 4/26/17
 Method: DEDICATED BAILER
 Present Water Level (ft): _____
 Depth of Sample (ft): _____
 Is sampling equipment dedicated to sample location?

TIME: Start: 900 Finish: 915
 Sampler: JS & MB
 Air Temperature (°F): 60
 Weather Conditions: CLOUDY
 Yes X No _____

PRESERVATION DATA: DATE: 4/14/17 ALPHA
 Filtered: * Yes _____ No _____
 Preservative: _____ H_2SO_4 * HNO_3 _____ $NaOH$ HCl Other _____

TIME: Start: _____ Finish: _____
 Cool to 4°C: *

PHYSICAL AND CHEMICAL DATA:

Appearance: Clear: _____ Turbid: * Color: IRON & BLACK
 Contains Sediment: _____ Odor: NO Other: _____
 Temperature (°C): _____ pH: _____ Specific Conductivity ($\mu mhos/cm$): _____
 Turbidity (NTU): _____ Other: _____

REMARKS: DEDICATED BAILER FOR SAMPLE, & FILTER EQUIPMENT.
WASHED (3X), RINSED WITH LAB GRADE WATER. RINSED w/ 10% NITRIC ACID WASH. FINAL RINSE D.I. WATER.

WELL DEVELOPMENT/PURGING LOG

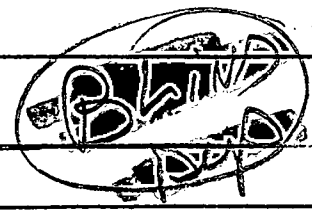
MOENCH CO.

PROJECT TITLE: PALMER ST. LANDFILL - G.W.M.

PROJECT NO.: 1st OF 2 ANNUAL EVENTS

STAFF: JEFF SMITH & MIKE BEST

DATE: 4/26/17, 800



WELL NO.: MW - GD ① #② BL. Dup

- 1 TOTAL CASING AND SCREEN LENGTH (ft.) 37.03
- 2 CASING INTERNAL DIAMETER (in.) 2"
- 3 WATER LEVEL BELOW TOP OF CASING (ft.) 17.55
- 4 VOLUME OF WATER IN CASING (gal.)

WELL I.D.

VOL.
GAL./FT.

1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$$V = 0.0408 \left(\frac{2^2}{4} \times (1 - 3) \right) = \underline{3.3} \text{ gal.}$$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	I _N - I _T									
PH	7.81	7.79	7.84							
VISUAL-INITIAL TURBIDITY		CLEAR								
CONDUCTIVITY	920	900								
TEMP. °C	14.1	14.0								

COMMENTS:

WATER SAMPLING FIELD DATA SHEETS

PROJECT: PALMER ST. LANDFILL
MOENCH CO.
1st OF 2 ANNUAL EVENTS.

TYPE OF SAMPLE: GROUNDWATER
 LOCATION NO.: MW-6D

WELL DATA:

DATE: 2017 4/26/17

TIME: 800

Casing Diameter (Inches): 2
 Screened Interval (ft BGS): NA
 Static Water Level Below TOR (ft.): 800.63
 Elevation Top of Well Risers: 800.63
 Elevation Top of Screen: NA

Casing Material: PVC
 Screen Material: PVC
 Bottom Depth (ft.): 37.03
 Datum Ground Surface:

PURGING DATA: DEDICATED

DATE: 4/26/17

TIME: Start: 800 Finish: 813

Method: TEFLON BAILER-HAND

Pumping Rate (gal/min): 5 gpm

Well Volumes Purged (in "N/231"):

Was well purged dry? Yes No X

Standing Volume (GAL.) 3.3

Was Well purged below sand pack? Yes No X

Volume Purged (GAL.) 5.0

Is purging equipment dedicated to sample location? Yes X No

Well I.D. (Inches)	Volume (gal/ft)
2	0.17
4	0.66
6	1.50

Field Personnel: JS + MB

SAMPLING DATA:

DATE: 4/26/17

TIME: Start: 813 Finish: 837

Method: DEDIC. TEFLON BAILER-HAND

Samplers: JS + MB

Present Water Level (ft.):

Air Temperature (F°): 60

Depth of Sample (ft.):

Weather Conditions: CLOUDY

Is sampling equipment dedicated to sample locations? Yes X No

LAB: ALPHA LAB

Source and type of water used in field for QC purposes:

PRESERVATION DATA:

DATE: 4/14/17 ALPHA

TIME: Start: Finish:

Filtered: Yes X No

Cool to 4°C: X

Preservatives: H_2SO_4 HNO_3 X $NaOH$ Other HCl

PHYSICAL AND CHEMICAL

Appearance: Clear X Turbid:
 Contains Sediment:

Color:

Temperature (°C): pH:

Odor: NO Others:

Turbidity (NTU):

Specific Conductivity (µmhos/cm):

Other:

REMARKS: E. FLASK +/or
TEFLON BAILER USED FOR SAMPLING WAS WASHED WITH
SOAP, RINSED WITH LABORATORY WATER / RINSED WITH 10%
NITRIC WASH THEN FINAL RINSE WITH LAB. GRADE WATER
Prior TO USE.

WELL DEVELOPMENT/PURGING LOG

MOENCH CO.

PROJECT TITLE: PALMER ST. LANDFILL - G.W.M.

PROJECT NO.: 1ST OF 2 ANNUAL EVENTS, 2017

STAFF: JEFF SMITH & MIKE BEST

DATE: 4/26/17, 1210

WELL NO.: MW-1D (9)

WELL I.D.	VOL. GAL./FT.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

- TOTAL CASING AND SCREEN LENGTH (ft.) 41.90
- CASING INTERNAL DIAMETER (in.) 2"
- WATER LEVEL BELOW TOP OF CASING (ft.) 6.25
- VOLUME OF WATER IN CASING (gal.)

$$V = 0.0408 \text{ (in}^2 \times (1 - 3) = 6.1 \text{ gal.}$$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	INIT.									
"PH"	7.84	7.77								
VISUAL-INITIAL TURBIDITY	Clear									
CONDUCTIVITY	540	560								
TEMP. °C	12.1									

COMMENTS:

WATER SAMPLING FIELD DATA SHEETS

PROJECT: PALMER ST. LANDFILL
 : MOENCH CO.
 JOB NO.: 1ST OF 2 ANNUAL EVENTS
2017

TYPE OF SAMPLE: GROUND WATER
 LOCATION NO.: MW-7D
 LABORATORY NO.: -

WELL DATA: DATE: 4/26/17
 Casing Diameter (Inches): 2
 Screened Interval (ft BGS): 34 - 39
 Static Water Level Below TOR (ft.):
 Elevation Top of Well Riser: 800.39
 Elevation Top of Screen: 763.50

TIME: 1210
 Casing Material: PVC
 Screen Material: PVC
 Bottom Depth (ft.): 41.90
 Datum Ground Surface: -

PURGING DATA: DATE: 4/26/17
 Methods: TEFLON BAILER - MANUAL
 Well Volumes Purged (RTN/231):
 Standing Volume (GAL.) 6.1
 Volume Purged (GAL.) 10.0
 Is purging equipment dedicated to sample location?
 Yes X No -
 Field Personnel: J. SMITH + BEST

TIME: Start: 1210 Finish: 1224
 Pumping Rate (gal/min): 0.5 gpm
 Was well purged dry? Yes - No X
 Was well purged below sand pack? Yes - No X

Well I.D. (Inches)	Volume (gal/ft)
2	0.17
4	0.66
6	1.50

SAMPLING DATA: DATE: 4/26/17
 Methods: TEFLON BAILER
 Present Water Level (ft.):
 Depth of Sample (ft.):
 Is sampling equipment dedicated to sample location? Yes * No -
 Source and type of water used in field for QC purposes: ALPHA LAB

TIME: Start: 1224 Finish: 1240
 Samplers: JS + MB
 Air Temperature (F°): 75
 Weather Conditions: SUN
 No ALPHA LAB

PRESERVATION DATA: DATE: 4/14/17 ALPHA
 Filtered: Yes * No -
 Preservatives: H₂SO₄ HNO₃ * NaOH - Other HCl

TIME: Start: - Finish: -
 Cool to 4°C: *

PHYSICAL AND CHEMICAL
 Appearance: Clear X Turbid: -
 Contains Sediment: -
 Temperature (°C): - pH: -
 Turbidity (NTU): -

Color: -
 Odor: N.O Others: -
 Specific Conductivity (umhos/cm): -
 Other: -

E. FLASK +/OR
 REMARKS: TEFLON BAILER USED FOR SAMPLING WAS WASHED WITH
SOAP, RINSED WITH LAB. WATER / RINSED WITH 10% NITRIC
WASH THEN FINAL RINSE WITH LAB. GRADE PRIOR
TO USE.

WELL DEVELOPMENT/PURGING LOG

MOENCH CO.

YEAR - '17

PROJECT TITLE: PALMER ST. LANDFILL - G.W.M.

PROJECT NO.: 1ST OF 2 ANNUAL EVENTS, 2017

STAFF: JEFF SMITH & MIKE BEST

DATE: 4/26/17 1140

WELL NO.: MW-8D (8)

WELL I.D.

VOL.
GAL./FT.

- 1 TOTAL CASING AND SCREEN LENGTH (ft.) 127.70
- 2 CASING INTERNAL DIAMETER (in.) 2"
- 3 WATER LEVEL BELOW TOP OF CASING (ft.) 27.80
- 4 VOLUME OF WATER IN CASING (gal.)

1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$$V = 0.0408 (2^2 \times (1 - 3)) = 16.8 \text{ gal.}$$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	I _{N.} I _{T.}	2nd								
"PH"	7.0	7.1								
VISUAL-INITIAL TURBIDITY	clear	clear								
CONDUCTIV.	440	445								
TEMP. °C	13.0									

COMMENTS:

STAN
HOLE
1030
1145

WATER SAMPLING FIELD DATA SHEETS

PROJECT: PALMER ST. LANDFILL TYPE OF SAMPLE: GROUND WATER - GRAB
MOENCH COMPANY LOCATION NO.: MW-8D
1ST OF 2 ANNUAL EVENTS
2017

WELL DATA: DATE: 4/26/17 TIME: 1140
 Casing Diameter (Inches): 2" Casing Material: PVC
 Screened Interval (ft BGS): NA Screen Material: PVC
 Static Water Level Below TOR (ft.): NA Bottom Depth (ft.): 127.70
 Elevation Top of Well Riser: 821.89 Datum Ground Surface: -
 Elevation Top of Screen: NA

PURGING DATA: DEDICATED DATE: 4/26/17 TIME: Start: 1140 Finish: 1205
 Method: ELECTRIC Pump - SUPER NOVA Pumping Rate (gal/min): 1-2 gpm
 Well Volumes Purged (sr 1/231): NA Was well purged dry? Yes NA No X
 Standing Volume (GAL.): 16.8 Was well purged below sand pack? Yes NA No X
 Volume Purged (GAL.): 17.0
 Is purging equipment dedicated to sample location? Yes * No NA
 Field Personnel: JS + MB

Well I.D. (Inches)	Volume (gal/ft)
2	0.17
4	0.66
6	1.50

SAMPLING DATA: DATE: 4/26/17 TIME: Start: 1205 Finish: 1218
 Method: DEDICATE Pump Sampler: JS + MB
 Piezometric Water Level (ft.): NA Air Temperature (F°): 75
 Length of Sample (ft.): NA Weather Conditions: SUNNY
 Is sampling equipment dedicated to sample location? Yes * No NA
 Source and type of water used in field for QC purposes: ALPHA LAB

PRESERVATION DATA: DATE: 4/14/17 TIME: Start: NA Finish: NA
 Filtered: Yes * No NA Cool to 4°C: *
 Preservatives: H₂SO₄ NaOH Other HCl

APPEARANCE AND CHEMISTRY: Appearance: Clear Turbidity: NA Colors: NO
 Contains Sediment: NA Odors: NO Others: NA
 Temperature (°C): NA pH: NA Specific Conductivity (µmhos/cm): NA
 Turbidity (NTU): NA Other: NA

REMARKS: E. FLASK +/OR
TEFLON BAILER USED FOR SAMPLING WAS WASHED WITH
SOAP, RINSED WITH LAB. WATER, RINSED WITH 10%
NITRIC WASH THEN FINAL RINSE WITH LAB. GRADE
WATER PRIOR TO USE.

WATER SAMPLING FIELD DATA SHEETS

BS-3 (7)

PROJECT: PALMER ST. LANDFILL
MOENCH CO.
1ST OF 2 ANNUAL EVENTS
2017

TYPE OF SAMPLE: SURFACE/GROUND WATER
 LOCATION NO.: BS-3 (BANK SEEP
SOUTH OF MW-3)

WELL DATA: DATE: 4/26/17
 Casing Diameter (Inches): NA
 Screened Interval (ft BGS): NA
 Static Water Level Below TOR (ft.): NA
 Elevation Top of Well Riser: NA
 Elevation Top of Screens: NA

TIME: 1124
 Casing Material: N/A
 Screen Material: N/A
 Bottom Depth (ft.): NA
 Datum Ground Surface: NA

PURGING DATA: DATE: NA
 Method: NA
 Well Volumes Purged (rt/MZSI): NA
 Standing Volume (GAL.): NA
 Volume Purged (GAL.): NA

TIME: Start: NA Finish: NA
 Pumping Rate (gal/min): NA
 Was well purged dry? Yes NA No NA
 Was Well purged below sand pack? Yes NA No NA

Is purging equipment dedicated to sample location?
 Yes X No NA

Well I.D. (Inches)	Volume (gal/ft)
2	0.17
4	0.66
6	1.50

Field Personnel: J. Smith & M. BEST

SAMPLING DATA: DATE: 4/26/17
 Method: SURFACE WATER GRAB
 Present Water Level (ft.): NA
 Depth of Sample (ft.): NA
 Is sampling equipment dedicated to sample location? Yes * No NA
 Source and type of water used in field for QC purposes: ALPHA LAB

TIME: Start: 1124 Finish: 1134
 Sampler: J. Smith & M. BEST
 Air Temperature (F°): 70
 Weather Conditions: SUNNY
 No ALPHA LAB

PRESERVATION DATA: DATE: 4/14/17 ALPHA
 Filtered: Yes * No NA
 Preservatives: H₂SO₄ NaOH * NaOH Other * HCl

TIME: Start: NA Finish: NA
 Cool to 4°C: *

PHYSICAL AND CHEMICAL
 Appearance: Clear Turbidity: *
 Contains Sediment: NA
 Temperature (°C): 20.3 pH: 7.04
 Turbidity (NTU): YES

Colors: IRON
 Odors: NO Others: 860
 Specific Conductivity (umhos/cm): 860
 Other: IRON

REMARKS: N/A - NOT APPLICABLE. FLASK +/OR TEFALON BAILER USED
FOR SAMPLING/FILTERING, WAS WASHED WITH ALCONOX SOAP,
RINSED W/ LAB GRADE WATER, RINSED W/ 10% NITRIC WASH,
FINAL RINSE WITH LAB GRADE WATER PRIOR TO USE.

WELL DEVELOPMENT/PURGING LOG

MOENCH COMPANY

PROJECT TITLE: PALMER ST. LANDFILL - G.W.M.

PROJECT NO.: 1ST OF 2 ANNUAL EVENTS, 2017

STAFF: JEFF SMITH / MIKE BEST

DATE: 4/26/17, 1310

WELL NO.: Equipment BLANK

WELL I.D.

VOL.
GAL./FT.

1 TOTAL CASING AND SCREEN LENGTH (ft.)

NA

1st

0.04

2 CASING INTERNAL DIAMETER (in.)

2nd

0.17

3 WATER LEVEL BELOW TOP OF CASING (ft.)

3"

0.38

4 VOLUME OF WATER IN CASING (gal.)

4"

0.66

5"

1.04

6"

1.50
2.50

$$V = 0.0408 \text{ (}^2 \times (1 - 3) \text{)} = \underline{\underline{NA}} \text{ gal.}$$

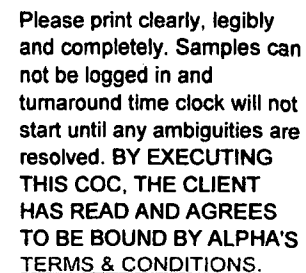
PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)							
	ONLY							
"PH"	8.90							
VISUAL TURBIDITY	ALWAYS CLEAR							
CONDUCTIVITY	20							
TEMP. °C	5.2							

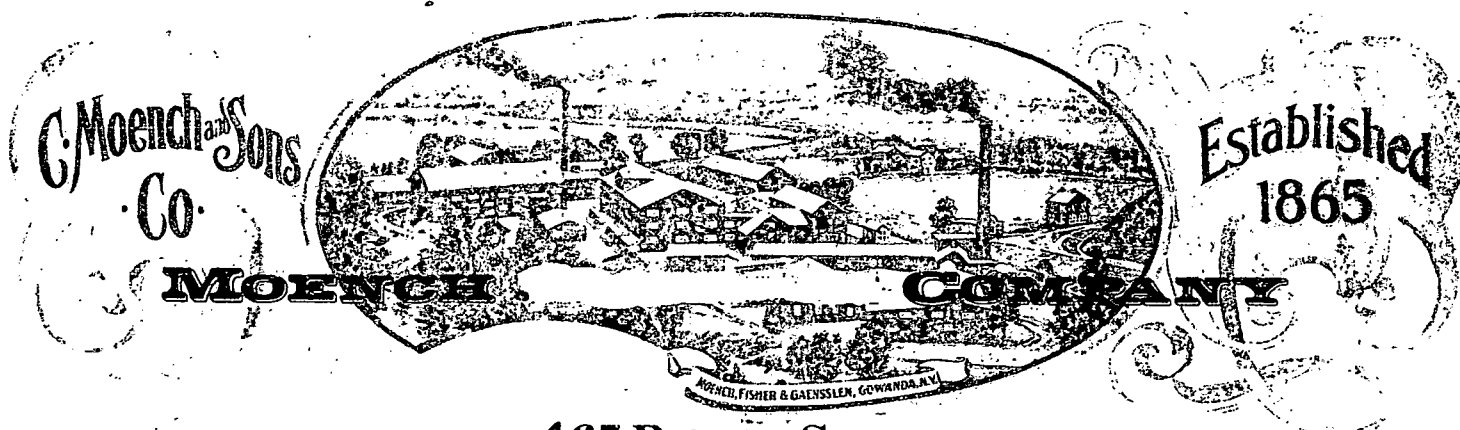
COMMENTS:

REMARKS: D.I. WATER (Q.C) FROM: ALPHA LAB IN

FR 18

7





465 PALMER STREET
GOWANDA, NEW YORK 14070

TEL. 716-532-2201

FAX 716-532-5518

APPENDIX "A"

FIELD DATA SHEETS FOR:

APRIL 26, 2017

MONITORING EVENT:
PALMER STREET LANDFILL



ANALYTICAL REPORT

Lab Number:	L1713247
Client:	Moench Company 465 Palmer Street Gowanda, NY 14070
ATTN:	Jeff Smith
Phone:	(716) 532-2201
Project Name:	PALMER ST. LF ROUTINE LIST
Project Number:	Not Specified
Report Date:	05/08/17

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-01
 Client ID: SITE 1 MW-6D
 Sample Location: GOWANDA, NY

Date Collected: 04/26/17 08:00
 Date Received: 04/26/17
 Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 05/06/17 13:22
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	—	1
1,1-Dichloroethane	ND		ug/l	2.5	—	1
Chloroform	ND		ug/l	2.5	—	1
2-Chloroethylvinyl ether	ND		ug/l	10	—	1
Carbon tetrachloride	ND		ug/l	0.50	—	1
1,2-Dichloropropane	ND		ug/l	1.0	—	1
Dibromochloromethane	ND		ug/l	0.50	—	1
1,1,2-Trichloroethane	ND		ug/l	1.5	—	1
Tetrachloroethene	ND		ug/l	0.50	—	1
Chlorobenzene	ND		ug/l	2.5	—	1
1,2-Dichloroethane	ND		ug/l	0.50	—	1
1,1,1-Trichloroethane	ND		ug/l	2.5	—	1
Bromodichloromethane	ND		ug/l	0.50	—	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	—	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	—	1
Bromoform	ND		ug/l	2.0	—	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	—	1
Benzene	ND		ug/l	0.50	—	1
Toluene	ND		ug/l	2.5	—	1
Ethylbenzene	ND		ug/l	2.5	—	1
Chloromethane	ND		ug/l	2.5	—	1
Bromomethane	ND		ug/l	2.5	—	1
Vinyl chloride	ND		ug/l	1.0	—	1
Chloroethane	ND		ug/l	2.5	—	1
1,1-Dichloroethene	ND		ug/l	0.50	—	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Trichloroethene	ND		ug/l	0.50	—	1
p/m-Xylene	ND		ug/l	2.5	—	1
o-Xylene	ND		ug/l	2.5	—	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-01
 Client ID: SITE 1 MW-6D
 Sample Location: GOWANDA, NY

Date Collected: 04/26/17 08:00
 Date Received: 04/26/17
 Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	32		ug/l	5.0	—	1
Carbon disulfide	ND		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	98		70-130



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-02
 Client ID: SITE 2 BLIND DUP
 Sample Location: GOWANDA, NY

Date Collected: 04/26/17 08:50
 Date Received: 04/26/17
 Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 05/06/17 13:50
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	--	1
1,1-Dichloroethane	ND		ug/l	2.5	--	1
Chloroform	ND		ug/l	2.5	--	1
2-Chloroethylvinyl ether	ND		ug/l	10	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	2.5	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	2.5	--	1
Ethylbenzene	ND		ug/l	2.5	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	2.5	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.5	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	--	1
Trichloroethene	ND		ug/l	0.50	--	1
p/m-Xylene	ND		ug/l	2.5	--	1
o-Xylene	ND		ug/l	2.5	--	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-02

Date Collected: 04/26/17 08:50

Client ID: SITE 2 BLIND DUP

Date Received: 04/26/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	79		ug/l	5.0	—	1
Carbon disulfide	ND		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	100		70-130

Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-03
 Client ID: SITE 3 MW-6
 Sample Location: GOWANDA, NY

Date Collected: 04/26/17 08:50
 Date Received: 04/26/17
 Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 05/06/17 14:18
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	—	1
1,1-Dichloroethane	ND		ug/l	2.5	—	1
Chloroform	ND		ug/l	2.5	—	1
2-Chloroethylvinyl ether	ND		ug/l	10	—	1
Carbon tetrachloride	ND		ug/l	0.50	—	1
1,2-Dichloropropane	ND		ug/l	1.0	—	1
Dibromochloromethane	ND		ug/l	0.50	—	1
1,1,2-Trichloroethane	ND		ug/l	1.5	—	1
Tetrachloroethene	ND		ug/l	0.50	—	1
Chlorobenzene	ND		ug/l	2.5	—	1
1,2-Dichloroethane	ND		ug/l	0.50	—	1
1,1,1-Trichloroethane	ND		ug/l	2.5	—	1
Bromodichloromethane	ND		ug/l	0.50	—	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	—	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	—	1
Bromoform	ND		ug/l	2.0	—	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	—	1
Benzene	ND		ug/l	0.50	—	1
Toluene	ND		ug/l	2.5	—	1
Ethylbenzene	ND		ug/l	2.5	—	1
Chloromethane	ND		ug/l	2.5	—	1
Bromomethane	ND		ug/l	2.5	—	1
Vinyl chloride	ND		ug/l	1.0	—	1
Chloroethane	ND		ug/l	2.5	—	1
1,1-Dichloroethene	ND		ug/l	0.50	—	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Trichloroethene	ND		ug/l	0.50	—	1
p/m-Xylene	ND		ug/l	2.5	—	1
o-Xylene	ND		ug/l	2.5	—	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-03

Date Collected: 04/26/17 08:50

Client ID: SITE 3 MW-6

Date Received: 04/26/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	37		ug/l	5.0	—	1
Carbon disulfide	ND		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	100		70-130



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-04
 Client ID: SITE 4 MW-4SR
 Sample Location: GOWANDA, NY

Date Collected: 04/26/17 09:20
 Date Received: 04/26/17
 Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 05/06/17 14:46
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	—	1
1,1-Dichloroethane	ND		ug/l	2.5	—	1
Chloroform	ND		ug/l	2.5	—	1
2-Chloroethylvinyl ether	ND		ug/l	10	—	1
Carbon tetrachloride	ND		ug/l	0.50	—	1
1,2-Dichloropropane	ND		ug/l	1.0	—	1
Dibromochloromethane	ND		ug/l	0.50	—	1
1,1,2-Trichloroethane	ND		ug/l	1.5	—	1
Tetrachloroethene	ND		ug/l	0.50	—	1
Chlorobenzene	ND		ug/l	2.5	—	1
1,2-Dichloroethane	ND		ug/l	0.50	—	1
1,1,1-Trichloroethane	ND		ug/l	2.5	—	1
Bromodichloromethane	ND		ug/l	0.50	—	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	—	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	—	1
Bromoform	ND		ug/l	2.0	—	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	—	1
Benzene	ND		ug/l	0.50	—	1
Toluene	ND		ug/l	2.5	—	1
Ethylbenzene	ND		ug/l	2.5	—	1
Chloromethane	ND		ug/l	2.5	—	1
Bromomethane	ND		ug/l	2.5	—	1
Vinyl chloride	ND		ug/l	1.0	—	1
Chloroethane	ND		ug/l	2.5	—	1
1,1-Dichloroethene	ND		ug/l	0.50	—	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Trichloroethene	ND		ug/l	0.50	—	1
p/m-Xylene	ND		ug/l	2.5	—	1
o-Xylene	ND		ug/l	2.5	—	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-04

Date Collected: 04/26/17 09:20

Client ID: SITE 4 MW-4SR

Date Received: 04/26/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	34		ug/l	5.0	—	1
Carbon disulfide	ND		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	99		70-130

Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-05
 Client ID: SITE 5 MW-4D
 Sample Location: GOWANDA, NY

Date Collected: 04/26/17 10:05
 Date Received: 04/26/17
 Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 05/06/17 15:14
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab

Methylene chloride	ND		ug/l	2.5	—	1
1,1-Dichloroethane	ND		ug/l	2.5	—	1
Chloroform	ND		ug/l	2.5	—	1
2-Chloroethylvinyl ether	ND		ug/l	10	—	1
Carbon tetrachloride	ND		ug/l	0.50	—	1
1,2-Dichloropropane	ND		ug/l	1.0	—	1
Dibromochloromethane	ND		ug/l	0.50	—	1
1,1,2-Trichloroethane	ND		ug/l	1.5	—	1
Tetrachloroethene	ND		ug/l	0.50	—	1
Chlorobenzene	ND		ug/l	2.5	—	1
1,2-Dichloroethane	ND		ug/l	0.50	—	1
1,1,1-Trichloroethane	ND		ug/l	2.5	—	1
Bromodichloromethane	ND		ug/l	0.50	—	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	—	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	—	1
Bromoform	ND		ug/l	2.0	—	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	—	1
Benzene	ND		ug/l	0.50	—	1
Toluene	ND		ug/l	2.5	—	1
Ethylbenzene	ND		ug/l	2.5	—	1
Chloromethane	ND		ug/l	2.5	—	1
Bromomethane	ND		ug/l	2.5	—	1
Vinyl chloride	ND		ug/l	1.0	—	1
Chloroethane	ND		ug/l	2.5	—	1
1,1-Dichloroethene	ND		ug/l	0.50	—	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Trichloroethene	ND		ug/l	0.50	—	1
p/m-Xylene	ND		ug/l	2.5	—	1
o-Xylene	ND		ug/l	2.5	—	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-05

Date Collected: 04/26/17 10:05

Client ID: SITE 5 MW-4D

Date Received: 04/26/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	ND		ug/l	5.0	—	1
Carbon disulfide	ND		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	99		70-130



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-06
 Client ID: SITE 6 MW-3D
 Sample Location: GOWANDA, NY

Date Collected: 04/26/17 10:25
 Date Received: 04/26/17
 Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 05/06/17 15:42
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	--	1
1,1-Dichloroethane	ND		ug/l	2.5	--	1
Chloroform	ND		ug/l	2.5	--	1
2-Chloroethylvinyl ether	ND		ug/l	10	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	2.5	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	2.5	--	1
Ethylbenzene	ND		ug/l	2.5	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	2.5	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.5	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	--	1
Trichloroethene	ND		ug/l	0.50	--	1
p/m-Xylene	ND		ug/l	2.5	--	1
o-Xylene	ND		ug/l	2.5	--	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-06
 Client ID: SITE 6 MW-3D
 Sample Location: GOWANDA, NY

Date Collected: 04/26/17 10:25
 Date Received: 04/26/17
 Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	140		ug/l	5.0	—	1
Carbon disulfide	ND		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	101		70-130



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-07
 Client ID: SITE 7 BS-3
 Sample Location: GOWANDA, NY

Date Collected: 04/26/17 11:00
 Date Received: 04/26/17
 Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 05/06/17 16:10
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	—	1
1,1-Dichloroethane	ND		ug/l	2.5	—	1
Chloroform	ND		ug/l	2.5	—	1
2-Chloroethylvinyl ether	ND		ug/l	10	—	1
Carbon tetrachloride	ND		ug/l	0.50	—	1
1,2-Dichloropropane	ND		ug/l	1.0	—	1
Dibromochloromethane	ND		ug/l	0.50	—	1
1,1,2-Trichloroethane	ND		ug/l	1.5	—	1
Tetrachloroethene	ND		ug/l	0.50	—	1
Chlorobenzene	ND		ug/l	2.5	—	1
1,2-Dichloroethane	ND		ug/l	0.50	—	1
1,1,1-Trichloroethane	ND		ug/l	2.5	—	1
Bromodichloromethane	ND		ug/l	0.50	—	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	—	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	—	1
Bromoform	ND		ug/l	2.0	—	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	—	1
Benzene	ND		ug/l	0.50	—	1
Toluene	ND		ug/l	2.5	—	1
Ethylbenzene	ND		ug/l	2.5	—	1
Chloromethane	ND		ug/l	2.5	—	1
Bromomethane	ND		ug/l	2.5	—	1
Vinyl chloride	ND		ug/l	1.0	—	1
Chloroethane	ND		ug/l	2.5	—	1
1,1-Dichloroethene	ND		ug/l	0.50	—	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Trichloroethene	ND		ug/l	0.50	—	1
p/m-Xylene	ND		ug/l	2.5	—	1
o-Xylene	ND		ug/l	2.5	—	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-07

Date Collected: 04/26/17 11:00

Client ID: SITE 7 BS-3

Date Received: 04/26/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	ND		ug/l	5.0	—	1
Carbon disulfide	ND		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	101		70-130



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-08
 Client ID: SITE 8 MW-8D
 Sample Location: GOWANDA, NY

Date Collected: 04/26/17 11:20
 Date Received: 04/26/17
 Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 05/06/17 16:38
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	--	1
1,1-Dichloroethane	ND		ug/l	2.5	--	1
Chloroform	ND		ug/l	2.5	--	1
2-Chloroethylvinyl ether	ND		ug/l	10	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	2.5	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	2.5	--	1
Ethylbenzene	ND		ug/l	2.5	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	2.5	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.5	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	--	1
Trichloroethene	ND		ug/l	0.50	--	1
p/m-Xylene	ND		ug/l	2.5	--	1
o-Xylene	ND		ug/l	2.5	--	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-08
 Client ID: SITE 8 MW-8D
 Sample Location: GOWANDA, NY

Date Collected: 04/26/17 11:20
 Date Received: 04/26/17
 Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	ND		ug/l	5.0	—	1
Carbon disulfide	ND		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	101		70-130



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-09
 Client ID: SITE 9 MW-7D
 Sample Location: GOWANDA, NY

Date Collected: 04/26/17 11:55
 Date Received: 04/26/17
 Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 05/06/17 17:06
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	—	1
1,1-Dichloroethane	ND		ug/l	2.5	—	1
Chloroform	ND		ug/l	2.5	—	1
2-Chloroethylvinyl ether	ND		ug/l	10	—	1
Carbon tetrachloride	ND		ug/l	0.50	—	1
1,2-Dichloropropane	ND		ug/l	1.0	—	1
Dibromochloromethane	ND		ug/l	0.50	—	1
1,1,2-Trichloroethane	ND		ug/l	1.5	—	1
Tetrachloroethene	ND		ug/l	0.50	—	1
Chlorobenzene	ND		ug/l	2.5	—	1
1,2-Dichloroethane	ND		ug/l	0.50	—	1
1,1,1-Trichloroethane	ND		ug/l	2.5	—	1
Bromodichloromethane	ND		ug/l	0.50	—	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	—	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	—	1
Bromoform	ND		ug/l	2.0	—	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	—	1
Benzene	ND		ug/l	0.50	—	1
Toluene	ND		ug/l	2.5	—	1
Ethylbenzene	ND		ug/l	2.5	—	1
Chloromethane	ND		ug/l	2.5	—	1
Bromomethane	ND		ug/l	2.5	—	1
Vinyl chloride	ND		ug/l	1.0	—	1
Chloroethane	ND		ug/l	2.5	—	1
1,1-Dichloroethene	ND		ug/l	0.50	—	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Trichloroethene	ND		ug/l	0.50	—	1
p/m-Xylene	ND		ug/l	2.5	—	1
o-Xylene	ND		ug/l	2.5	—	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-09
Client ID: SITE 9 MW-7D
Sample Location: GOWANDA, NY

Date Collected: 04/26/17 11:55
Date Received: 04/26/17
Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	ND		ug/l	5.0	—	1
Carbon disulfide	6.3		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	100		70-130

Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-10
 Client ID: SITE 10 EQPMT. BLANK
 Sample Location: GOWANDA, NY

Date Collected: 04/26/17 12:30
 Date Received: 04/26/17
 Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 05/06/17 17:34
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS - Westborough Lab

Methylene chloride	ND		ug/l	2.5	--	1
1,1-Dichloroethane	ND		ug/l	2.5	--	1
Chloroform	ND		ug/l	2.5	--	1
2-Chloroethylvinyl ether	ND		ug/l	10	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	2.5	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	2.5	--	1
Ethylbenzene	ND		ug/l	2.5	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	2.5	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.5	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	--	1
Trichloroethene	ND		ug/l	0.50	--	1
p/m-Xylene	ND		ug/l	2.5	--	1
o-Xylene	ND		ug/l	2.5	--	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-10

Date Collected: 04/26/17 12:30

Client ID: SITE 10 EQPMT. BLANK

Date Received: 04/26/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	ND		ug/l	5.0	—	1
Carbon disulfide	ND		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	101		70-130

Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-01
 Client ID: SITE 1 MW-6D
 Sample Location: GOWANDA, NY
 Matrix: Water

Date Collected: 04/26/17 08:00
 Date Received: 04/26/17
 Field Prep: Field Filtered
 (Dissolved
 Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.005	-	1	05/01/17 18:10	05/01/17 22:38	EPA 3005A	19,200.7	MC
Chromium, Dissolved	ND		mg/l	0.01	-	1	05/01/17 18:10	05/01/17 22:38	EPA 3005A	19,200.7	MC
Lead, Dissolved	ND		mg/l	0.010	-	1	05/01/17 18:10	05/01/17 22:38	EPA 3005A	19,200.7	MC



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-02
 Client ID: SITE 2 BLIND DUP
 Sample Location: GOWANDA, NY
 Matrix: Water

Date Collected: 04/26/17 08:50
 Date Received: 04/26/17
 Field Prep: Field Filtered
 (Dissolved
 Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.005	—	1	05/01/17 18:10	05/01/17 23:09	EPA 3005A	19,200.7	MC
Chromium, Dissolved	ND		mg/l	0.01	—	1	05/01/17 18:10	05/01/17 23:09	EPA 3005A	19,200.7	MC
Lead, Dissolved	ND		mg/l	0.010	—	1	05/01/17 18:10	05/01/17 23:09	EPA 3005A	19,200.7	MC



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-03

Date Collected: 04/26/17 08:50

Client ID: SITE 3 MW-6

Date Received: 04/26/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered

Matrix: Water

(Dissolved
Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	0.037		mg/l	0.005	-	1	05/01/17 18:10	05/01/17 23:13	EPA 3005A	19,200.7	MC
Chromium, Dissolved	ND		mg/l	0.010	-	1	05/01/17 18:10	05/01/17 23:13	EPA 3005A	19,200.7	MC
Lead, Dissolved	ND		mg/l	0.010	-	1	05/01/17 18:10	05/01/17 23:13	EPA 3005A	19,200.7	MC



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-04
 Client ID: SITE 4 MW-4SR
 Sample Location: GOWANDA, NY
 Matrix: Water

Date Collected: 04/26/17 09:20
 Date Received: 04/26/17
 Field Prep: Field Filtered
 (Dissolved
 Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.005	—	1	05/01/17 18:10	05/01/17 23:18	EPA 3005A	19,200.7	MC
Chromium, Dissolved	ND		mg/l	0.010	—	1	05/01/17 18:10	05/01/17 23:18	EPA 3005A	19,200.7	MC
Lead, Dissolved	ND		mg/l	0.010	—	1	05/01/17 18:10	05/01/17 23:18	EPA 3005A	19,200.7	MC



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-05
 Client ID: SITE 5 MW-4D
 Sample Location: GOWANDA, NY
 Matrix: Water

Date Collected: 04/26/17 10:05
 Date Received: 04/26/17
 Field Prep: Field Filtered
 (Dissolved
 Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.005	—	1	05/01/17 18:10	05/01/17 23:22	EPA 3005A	19,200.7	MC
Chromium, Dissolved	ND		mg/l	0.010	—	1	05/01/17 18:10	05/01/17 23:22	EPA 3005A	19,200.7	MC
Lead, Dissolved	ND		mg/l	0.010	—	1	05/01/17 18:10	05/01/17 23:22	EPA 3005A	19,200.7	MC



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-06
 Client ID: SITE 6 MW-3D
 Sample Location: GOWANDA, NY
 Matrix: Water

Date Collected: 04/26/17 10:25
 Date Received: 04/26/17
 Field Prep: Field Filtered
 (Dissolved
 Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.005	—	1	05/01/17 18:10	05/01/17 23:27	EPA 3005A	19,200.7	MC
Chromium, Dissolved	ND		mg/l	0.01	—	1	05/01/17 18:10	05/01/17 23:27	EPA 3005A	19,200.7	MC
Lead, Dissolved	ND		mg/l	0.010	—	1	05/01/17 18:10	05/01/17 23:27	EPA 3005A	19,200.7	MC



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-07

Date Collected: 04/26/17 11:00

Client ID: SITE 7 BS-3

Date Received: 04/26/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered

Matrix: Water

(Dissolved
Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.005	-	1	05/01/17 18:10	05/01/17 23:31	EPA 3005A	19,200.7	MC
Chromium, Dissolved	ND		mg/l	0.010	-	1	05/01/17 18:10	05/01/17 23:31	EPA 3005A	19,200.7	MC
Lead, Dissolved	ND		mg/l	0.010	-	1	05/01/17 18:10	05/01/17 23:31	EPA 3005A	19,200.7	MC



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-08
 Client ID: SITE 8 MW-8D
 Sample Location: GOWANDA, NY
 Matrix: Water

Date Collected: 04/26/17 11:20
 Date Received: 04/26/17
 Field Prep: Field Filtered
 (Dissolved
 Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.005	—	1	05/01/17 18:10	05/01/17 23:36	EPA 3005A	19,200.7	MC
Chromium, Dissolved	ND		mg/l	0.01	—	1	05/01/17 18:10	05/01/17 23:36	EPA 3005A	19,200.7	MC
Lead, Dissolved	ND		mg/l	0.010	—	1	05/01/17 18:10	05/01/17 23:36	EPA 3005A	19,200.7	MC



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-09
 Client ID: SITE 9 MW-7D
 Sample Location: GOWANDA, NY
 Matrix: Water

Date Collected: 04/26/17 11:55
 Date Received: 04/26/17
 Field Prep: Field Filtered
 (Dissolved
 Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.005	-	1	05/01/17 18:10	05/01/17 23:40	EPA 3005A	19,200.7	MC
Chromium, Dissolved	ND		mg/l	0.01	-	1	05/01/17 18:10	05/01/17 23:40	EPA 3005A	19,200.7	MC
Lead, Dissolved	ND		mg/l	0.010	-	1	05/01/17 18:10	05/01/17 23:40	EPA 3005A	19,200.7	MC



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1713247

Project Number: Not Specified

Report Date: 05/08/17

SAMPLE RESULTS

Lab ID: L1713247-10

Date Collected: 04/26/17 12:30

Client ID: SITE 10 EQPMT. BLANK

Date Received: 04/26/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered

Matrix: Water

(Dissolved
Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.005	—	1	05/01/17 18:10	05/01/17 23:45	EPA 3005A	19,200.7	MC
Chromium, Dissolved	ND		mg/l	0.010	—	1	05/01/17 18:10	05/01/17 23:45	EPA 3005A	19,200.7	MC
Lead, Dissolved	ND		mg/l	0.010	—	1	05/01/17 18:10	05/01/17 23:45	EPA 3005A	19,200.7	MC



MOENCH COMPANY
DIVISION OF CALERES*5*
465 PALMER ST.
GOWANDA, NEW YORK 14070
PHONE: 716-532-2201

RECEIVED

AUG 07 2017

NYS DEC
REGION 9

✓ Mr. Stanley F. Radon; CHMM, CPG
NY State Dept. of Environmental Conservation
Div. of Solid & Hazardous Waste
270 Michigan Ave.
Buffalo, New York 14203-2999

August 3, 2017

Re: Palmer St. Landfill, Groundwater Quality report; July 2017 sample.

Mr. Radon:

Enclosed is the Groundwater Quality Report for our Palmer St. Landfill, July 2017 sample. A PDF file of the report, was forwarded to you on August 2, 2017. GEI Consultants will submit the electronic(EDD) requirements in the near future.

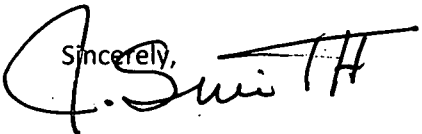
The results continue to show that there is very little of concern for what is in the actual waste of the landfill. Only one metal was detected, above the standard, at one location.(Arsenic). It is in the native soil.

Acetone is usually detected; a common lab contaminant, and generated in decomposition, of the dead bugs in the wells.

The weather was much wetter than usual the past 6 months, but there were no Bank Seeps available at any of the locations. We sprayed our legs with bug spray, to avoid bites/disease.

Moench has long felt that the Palmer St. Landfill should be "delisted", as it is no threat to the environment, or Cattaraugus Creek.

Please call if you have any questions, or stop if you are in the area.

Sincerely,


Jeffrey Smith
Site Manager

(summaries only)
CC: Alecia Jaruzel-CALeres; St. Louis, Mo
Emily Schultz-Caleres; St. Louis, Mo
Richard Frappa-GEI Consultants, Amherst, NY

MOENCH COMPANY
DIVISION OF CALERES*5*
465 PALMER ST.
GOWANDA, NEW YORK 14070
PHONE: 716-532-2201

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AUG 07 2017

NYS DEC
REGION 9

PALMER STREET LANDFILL

AUGUST 2017

GROUNDWATER QUALITY MONITORING REPORT

JULY 12TH, 2017 MONITORING EVENT

SECOND OF TWO SAMPLE EVENTS FOR 2017

Jeffrey Smith/Mike Best
Site Manager

PALMER STREET LANDFILL - MOENCH COMPANY. (DIV. OF CALERES*5*.)
GROUNDWATER MONITORING REPORT FOR JULY 12, 2017, SAMPLING EVENT.

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MONITORING EVENT Alpha Analytical.

1.0 INTRODUCTION

1.1 BACKGROUND-LANDFILL.

THE MOENCH COMPANY, A DIVISION CALERES *5*, AND IS LOCATED NEAR THE SOUTHEAST CORNER OF THE VILLAGE OF GOWANDA, CATTARAUGUS COUNTY, NEW YORK.(FIGURE 1). THE PALMER STREET LANDFILL, WHICH WAS OPERATED BY MOENCH TANNING FROM 1900 (APPROX), THROUGH JULY 1983, LIES IMMEDIATELY SOUTHWEST OF THE (FORMER) TANNERY COMPLEX ON AN APPROXIMATELY 25-ACRE, PARCEL OF LAND. A VARIETY OF WASTES GENERATED BY MOENCH TANNING WAS 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 & IMPLIMENTED.(JULY 1993, REVISED MARCH 1994, MARCH 2001 & DECEMBER 2006).

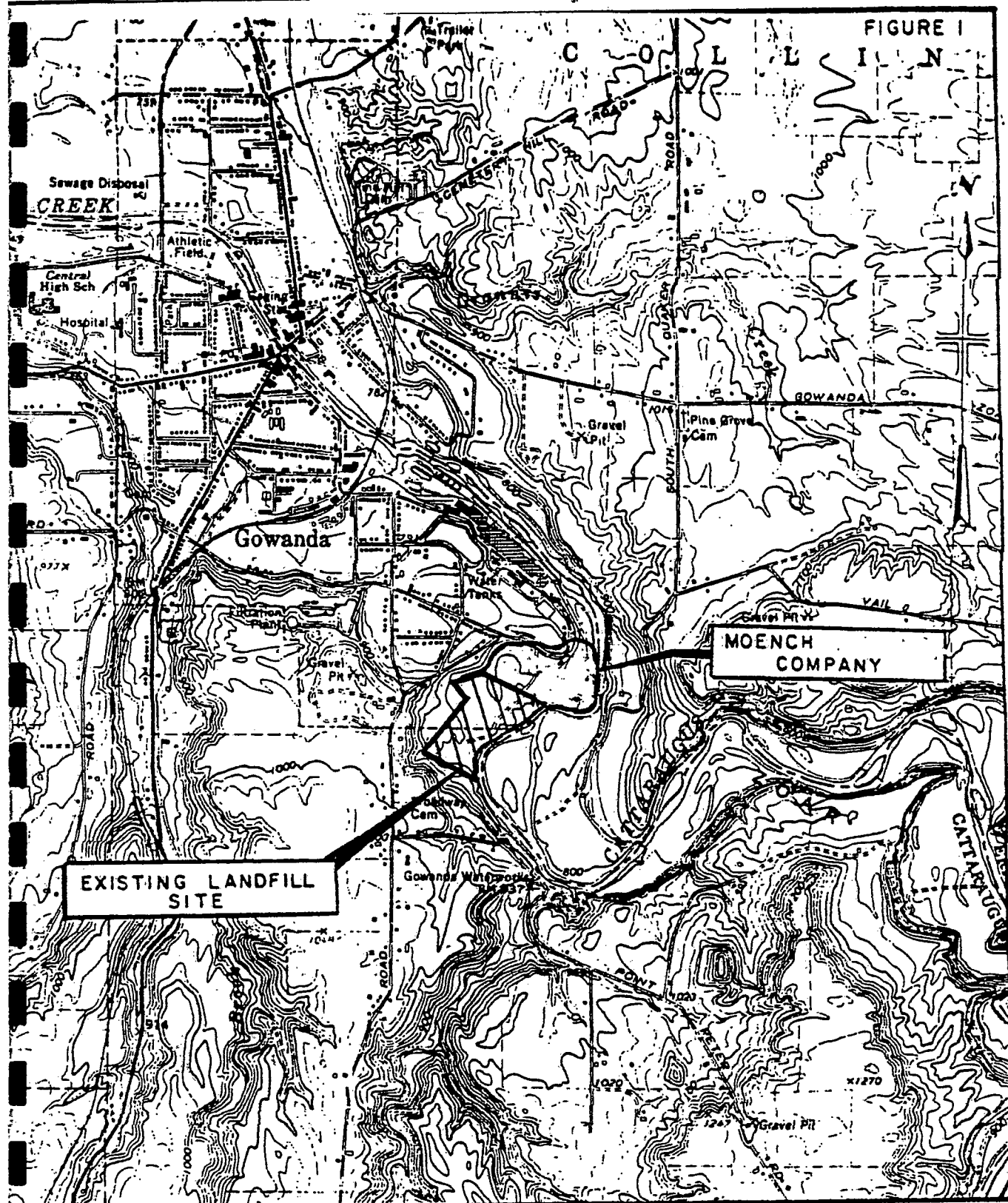
IN JULY OF 2006, A PROPOSAL WAS MADE TO THE NEW YORK STATE DEPT. OF ENVIRONMENTAL(NYSDEC), TO RECONFIGURE THE GROUNDWATER MONITORING SYSTEM(REF#7). THIS WAS AGREED UPON IN EXCHANGE FOR THE ELIMINATION OF THE FIVE YEAR "COVER SYSTEM EVALUATION". THE NEW MONITORING SYSTEM IS DESCRIBED IN SECTION 2.0

1.2 PURPOSE AND SCOPE

SAMPLES ASSOCIATED WITH THE SECOND EVENT OF TWO, WATER QUALITY MONITORS, FOR 2017 YEAR, WERE COLLECTED ON JULY 12, 2017

NO BANK SEEPS EXISTED, TO SAMPLE. A SAMPLE WAS TAKEN ADJACENT TO BS-3, OF THE SPLINTER CREEK, TO CATTARAUGUS CREEK.

SITES MW-5 and MW-3 WERE DRY, AND NO SAMPLE OBTAINED.



NOTE:
TOPOGRAPHY TAKEN FROM 1963 GOWANDA, N.Y.
U.S.G.S. QUADRANGLE 7.5 MIN. SERIES
SCALE: 1" = 2000'

July '17

FIGURE 1 }

Lat. 42° 27' 0"
Long. 78° 55' 30"

SITE LOCATION MAP
PALMER STREET LANDFILL
GOWANDA, N.Y.

6-94

MOENCH CO.



QUADRANGLE LOCATION

2.0 MONITORING SYSTEM(RECONFIGURED 7/06)

THE RECONFIGURED GROUNDWATER MONITORING SYSTEM FOR THE PALMER STREET LANDFILL(FIG. 2), CONTAINS NINE(9) MONITORING WELLS AND THREE(3) BANK SEEPS. A REVISED POST CLOSURE PLAN, DESCRIBING THE DETAILS, WAS SUBMITTED TO THE NYSDEC 9, IN JANUARY 2007, AND ACCEPTED BY THEM.

<u>UPGRADIANT WELLS</u>	<u>OVERBURDEN/WASTE WELLS</u>	<u>BEDROCK WELLS</u>
MW-7D	MW-3	MW-3D
MW-8D	MW-4SR	MW-4D
	MW-5	MW-6D
	MW-6	

IN ADDITION TO THE WELLS, NYSDEC ALSO REQUIRES THE MONITORING OF THREE (3) BANK SEEPS DESIGNATED AS BS-1, BS-2 AND BS-3, RESPECTIVELY. THE ABILITY TO OBTAIN SAMPLES FROM THESE BANKSEEPS IS SPORADIC DUE TO VARYING WEATHER/MOISTURE CONDITIONS. A BANK SEEP SAMPLE WAS NOT OBTAINED FROM BS-3. NONE EXISTED.

MW-8D IS DOWNGRAIENT FROM GERNATT'S GRAVEL WASHING OPERATION, SETTLING PONDS. THE SILT ADJACENT TO THERE PONDS CONTAINS SEVERAL NATURAL METALS OF INTEREST.(arsenic).

TO AID IN THE EVALUATION OF COVER PERFORMACE, WATER LEVELS FROM FIVE (5) INFILTROMETERS ARE ALSO MONITORED. LOCATIONS OF MONITORING POINTS ARE SHOWN ON FIGURE 2. THE RESULTS CONTINUE TO INDICATE THAT THE COVER SYSTEM IS PERFORMING AS PLANNED. THESE SHOWED MINIMAL INFILTRATION FOR THIS SAMPLING EVENT; TABLE #4.

THE SPRING & SUMMER WEATHER WAS WETTER THAN NORMAL.

THE VILLAGE OF GOWANDA HAS BEEN OBTAINING ITS' WATER FROM THE DEEP AQUIFER, FOR THE PAST SEVERAL YEARS. THIS IS DUE TO THE CLOSURE OF THEIR RESRVIOR. THIS HAS RESULTED IS A DRASTIC REDUCTION IN THE WATER LEVEL IN THE MW-1D WELL, IN THE SOUTHWEST CORNER OF THE LANDFILL. RECENTLY THEY HAVE BEGUN TO USE THE RESERVOIR AGAIN RESULTING IN RECOVERING WATER LEVELS IN MW-1D.

TABLE 1

MOENCH TANNING COMPANY
PALMER STREET LANDFILL

MONITORING PARAMETERS *Twice/year

Soluble Arsenic⁽¹⁾
Soluble Chromium⁽¹⁾
Soluble Lead⁽¹⁾

Volatile Organics⁽²⁾⁽³⁾

pH⁽⁴⁾
Specific Conductance⁽⁴⁾
Turbidity⁽⁴⁾ - VISUAL
Groundwater Elevation⁽⁴⁾
Temperature⁽⁴⁾
Odor⁽⁴⁾
Sample Appearance⁽⁴⁾

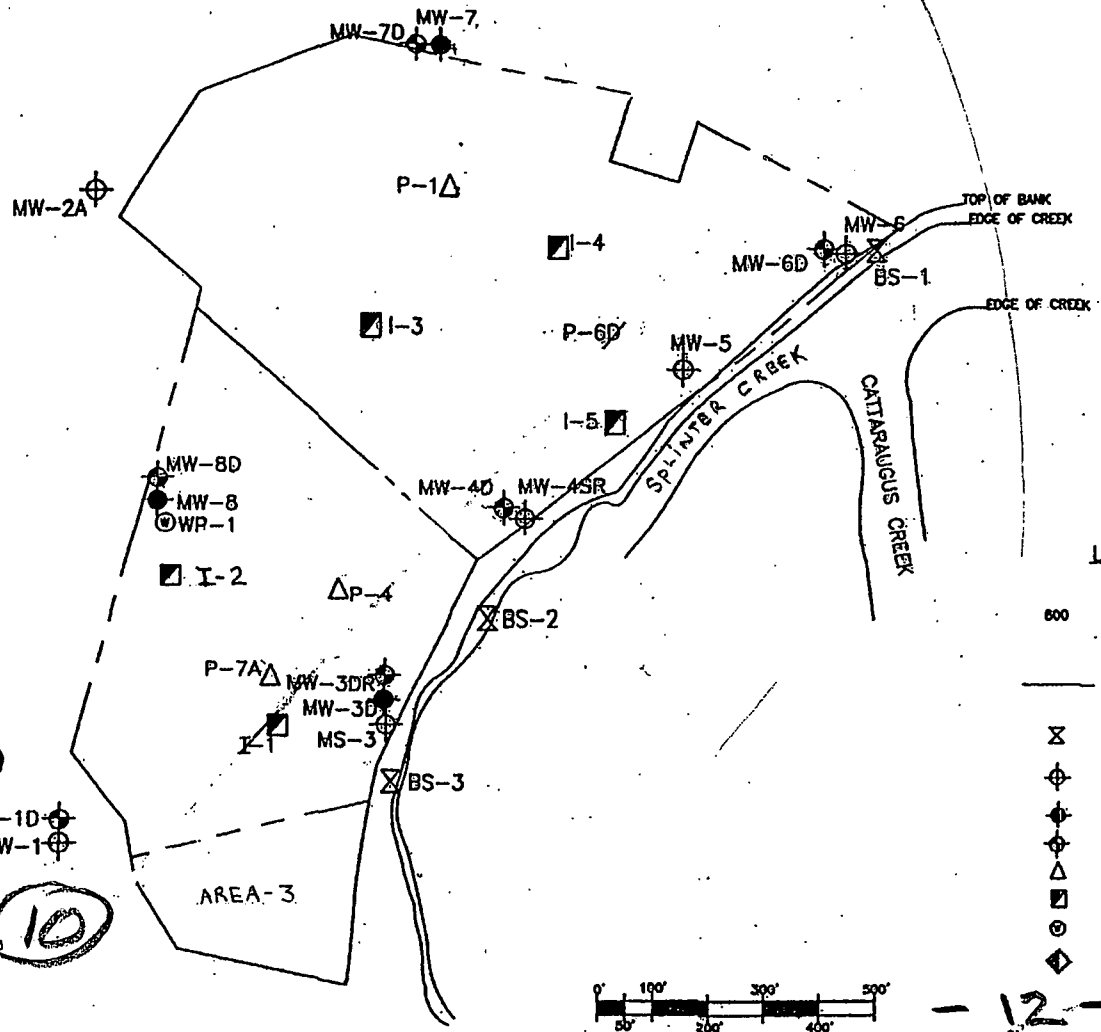
Notes:

1. All samples collected for analysis of soluble metals are pressure-filtered in the field immediately upon sample collection.
2. The list of VOC analytes are those compounds included in SW-846, Method 8260.
3. Analysis for VOCs are not performed on pore water samples during performance monitoring events.
4. Field parameters (i.e., pH, specific conductance, temperature and turbidity) are measured in the field by sampling personnel. Laboratory analysis of these parameters will not be required.

DATE:

- MW-6D ①
- MW-G ②
- ~~BS-1~~
- ~~MW-5~~
- MW-4SR ③
- MW-4D ④
- ~~BS-2~~
- ~~MW-3~~
- MW-3D ⑥
- BS-3 ⑦
- MW-8D ⑧
- MW-7D ⑨
- BLIND DupL. ⑤
- Equipment BLK ⑩

⑭ SETS



LAT. 42° 27' 0"
Long. 78° 55' 30"

LEGEND

- 600 ISOPOTENTIAL, DOTTED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION
- LANDFILL BOUNDARY AND AREA BOUNDARY DIVIDER
- ⊗ BANK SEEP
- ⊕ UPPER OVERBURDEN MONITORING WELL
- ⊖ LOWER OVERBURDEN MONITORING WELL
- ⊙ BEDROCK MONITORING WELL
- Δ PIEZOMETER
- INFILTRATOR
- ⊙ WELL POINT
- ◇ LYSIMETER

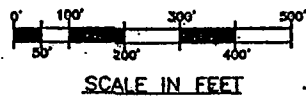


Fig. # 2

- 12 -
JUL 17 SAMPLE EVENT:



Geomatrix Consultants, Inc.
Williamsville, NY

PALMER STREET LANDFILL

SITE PLAN

DATE DEC '11	PROJ. NO. 8104
PROJ. MGR. J. SMITH	DWG. NO. FIGURE 1.2

REVISED DEC '11

3.0 MONITORING METHODS

3.1 GROUNDWATER MONITORING -LANDFILL

SAMPLES COLLECTED DURING THE JULY 12, 2017 MONITORING EVENT PERIOD, WERE COLLECTED BY MOENCH COMPANY PERSONNEL, AND ANALYZED BY ALPHA ANALYTICAL, TONAWANDA NY.

THE ANALYSIS IS PERFORMED IN ACCORDANCE WITH THE SAMPLING PLAN/QUALITY ASSURANCE PLAN FOR THE PALMER STREET LANDFILL 9REFERENCE3).

LABORATORY ANALYSIS IS PERFORMED IN ACCORDANCE WITH THE USEPA 200.7 FOR METALS, AND VOC 8260. THE MONITORING PARAMETERS ARE LISTED IN TABLE 1. SAMPLES WERE NOT AVAILABLE FROM ~~THREE~~ ^{TWO} WELLS AND ~~TWO~~ ^{TWO} BANK SEEPS, 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 2. GROUNDWATER ELEVATIONS WERE ALSO MEASURED IN THE PIEZOMETERS, INFILTROMETERS, 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 #3.

3.2 INFILTROMETER MONITORING

FIVE INFILTROMETERS HAVE BEEN INSTALLED BENEATH THE LAND-FILL CAP TO AID IN THE ASSESSMENT OF PERFORMANCE OF THE CAP. DURING EACH SAMPLING EVENT, WATER LEVELS IN THE INFILTROMETER ARE MEASURED AND THE AMOUNT OF WATER INFILTRATING CALCULATED.

NOTE: IT IS BELIEVED THAT INFILTROMETER #1, IS OFTEN FLOODED DUE TO NEIGHBORING SPRINGS AND GRAVEL SETTLING PONDS. THIS CREATES A HIGH WATER TABLE, IN THE SOUTH END OF AREA #2.

A SCHEMATIC SHOWING THE DESIGN AND DIMENSIONS OF THE INFILTROMETERS IS PRESENTED IN APPENDIX "B".

MOENCH COMPANY
465 PALMER ST.
GOWANDA, NY 14070

SAMPLERS Mike Best / Jeff Smith
DATE 7/6/17

PALMER STREET LANDFILL :

GROUNDWATER ELEVATIONS (TABLE #2)

WP - WHALE pump - DEDICATE

WELL #	ELEVATION TOP OF PVC(FT)	TOTAL DEPTH FROM TOP OF PVC(FT)	WATER DEPTH(FT) FROM TOP OF PVC	WATER(FT) ELEVATION
MW-1	826.05 ASL	31.90 (8-12)	4.70	821.35
MW-1D	827.82	188.20 "	27.40	800.42
MW-2A	810.62	16.15 "	3.40	807.22
MW-3	810.81	17.10 "	16.10	Too Little Water
MW-3D	810.73	67.70 "	16.30	794.43
MW-3DR	810.47	102.30 "	14.30	796.17
MW-4 SR	806.75 WP	24.92 "	12.70	794.05
MW-4D	805.93	74.94 "	14.85	791.08
MW-5	805.35	18.15 "	Dry	—
MW-6	800.48 WP	18.78 "	15.95	784.53
MW-6D	800.63	37.03 "	18.30	782.33
MW-7	800.50	30.60 (8-12)	7.10	794.40
MW-7D	800.39	41.90 "	6.15	794.14
MW-8	821.82	15.96 "	Dry	—
MW-8D	821.89 WP	126.80 (7/15)	24.30	795.59

INFILTRMETERS:

#1	9.00	4.95	—
#2	8.80	7.20	—
#3	9.00	7.20	—
#4	8.92	6.70	—
#5	9.00	7.20	—

Palmer st. Landfill

(TABLE #2) continued

7/6/11
smpl date

GROUNDWATER ELEVATIONS:

WELL #	ELEVATION TOP OF PVC (FT)	TOTAL DEPTH FROM TOP OF PVC (FT)	WATER DEPTH (FT) FROM TOP OF PVC	WATER (FT) ELEVATION
P-1	811.85 ASL	18.30 (8/12)	17.45	794.40
P-4	813.54 "	19.70 "	15.30	798.24
P-6D	810.30 "	61.25 "	20.15	790.15
P-7A	816.92 "	23.90 "	19.35	797.57
WP-1	822.16 "	11.71 ^M W 8	8.95	813.21

NOTE:

Aug 2012 ALL WELLS "DEVELOPED"

REV'd 9/12

~~REV'd 2/12~~

4.0 GROUNDWATER QUALITY MONITORING RESULTS:

4.1 EVALUATION OF GROUNDWATER ELEVATION DATA:

GROUNDWATER ELEVATION MEASUREMENTS WERE TAKEN AT EACH OF THE ACCESSIBLE ON-SITE MONITORING WELLS, PIEZOMETERS, AND WELL POINTS, DURING THE JULY 12, 2017 MONITORING EVENT. THE DATA ARE SUMMARIZED IN TABLE 2/3.

PLOTS OF THE GROUNDWATER ELEVATIONS MEASURED IN THE MONITORING WELLS WITH RESPECT TO TIME ARE PRESENTED IN FIGURE 3, 4, AND 5, FOR THE SHALLOW OVERBURDEN, DEEP OVERBURDEN AND BEDROCK WELLS, ON THE LANDFILL, 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 INCREASES. ('92-'94). THIS OCCURRED DUE TO CESSATION OF VILLAGE AND TANNERY PUMPING OF THE DEEP AQUIFERS. SOME SLIGHT SEASONAL FLUCTUATION DOES OCCUR. IN AUGUST, 2009, A DRAMATIC FLOOD OCCURRED IN THE GOWANDA AREA, 2009, THAT DISABLED THE VILLAGE RESERVIOR FOR AN EXTENDED TIME. THAT FORCED THE VILLAGE TO USE THE DEEP AQUIFER FOR ITS WATER SUPPLY. THE VILLAGE NOW AFTER 7 YEARS, HAVE BEEN CONSISTANTLY USING SURFACE RUNOFF FOR ITS WATER SUPPLY, NOW BRINGING WATER LEVEL IN MW-1D BACK TO NORMAL.

4.2 THE GROUNDWATER AND SURFACE WATER QUALITY RESULTS FOR THE JULY 2017, MONITORING EVENT, ARE PRESENTED IN TABLES #3 THROUGH #5.

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 SAMPLING 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 SAMPLED FOR GROUNDWATER QUALITY STANDARDS OR EVALUATIONS, OF GROUNDWATER QUALITY IMPACTS, WILL BE BASED ON SOLUBLE METAL CONCENTRATIONS.

IT SHOULD BE NOTED THAT SEVERAL ON THE "ADDED" MONITERING WELLS ARE SCREENED IN THE WASTE. SUMMARY OF THE SAMPLING RESULTS ARE AS FOLLOWS.

THE ONLY DETECTION OF METALS ABOVE STANDARD WAS ARSENIC IN MW-6. ARSENIC IS NATURAL IN THE NATIVE SOIL, AND DETECTED FREQUENTLY IN UPGRADIENT WELLS.

ACETONE EXCEEDED GUIDANCE VALUES IN MW-3D, MW-4SR AND MW-6D. IT IS A COMMON LAB CONTAMIENT, AND GENERATED IN THE DECOMPOSITION OF PROTIENS.

PH CONTINUES BELOW NEUTRAL AT MW-4SR AND MW-6.

TABLE 4

MOENCH COMPANY
PALMER STREET LANDFILL
MONITORING EVENT

7-6-17 INFILTROMETER MEASUREMENTS

Infiltrometer	Static Water Level (ft) 4-24-17	Static Water Level (ft) 7-6-17	Δ Depth-gal (ft)	# Days Between Readings (#)	Infiltration Rate		Approx. Total Rainfall This Period (ft)	Infiltration (%)
					gal/day.ft ²	(cm/sec)		
I-1 (A)	4.10	4.95	NEGATIVE	68	—	—	.97 ft.	—
I-2	7.25	7.20	.05	"	.0004	1.8×10^{-8}	"	.0003%
I-3	7.00	7.20	NEGATIVE	"	—	—	"	—
I-4	6.80	6.70	.10	"	.0008	3.8×10^{-8}	"	.0006%
I-5	7.25	7.20	.05	"	.0004	1.8×10^{-8}	"	.0003%

Note:

** Negative ΔD precludes calculation of meaningful data.

(A) I-1 OFTEN FLOODED BY NATURAL SPRINGS
& WASH PONDS, UPGRADIENT.

TABLE 3

MOENCH COMPANY
PALMER STREET LANDFILL
July 12, 2017 MONITORING EVENT

SUMMARY OF FIELD MEASUREMENTS

INITIAL

Location	Sampling Date	Sampling Time	Temp. (°C)	pH (units)	Conductance ⁽¹⁾ (umhos/cm)	Turbidity	Sample Appearance	Sample Odor
MW-3	DRY	—	—	—	—	NA	—	—
*** MW-3D	7-12-17	1055	14.3	7.91	380	"	clear	NO
* MW-4SR	7-12-17	1000	14.1	6.70	1050	"	SLIGHT TUR	FINISH
*** MW-4D	7-12-17	1025	14.5	7.91	590	"	clear	NO
* MW-5	DRY	—	—	—	—	"	—	—
* MW-6	7-12-17	835	16.8	6.80	1450	"	TURBID	NO
*** MW-6D	7-12-17	800	15.5	8.00	1050	"	clear	NO
*** MW-7D	7-12-17	1237	13.9	7.91	610	"	clear	NO
MW-8D	7-12-17	1200	13.6	7.91	400	"	clear	NO
BS-1	NO SEEP	—	—	—	—	"	—	—
BS-2	" "	—	—	—	—	"	—	—
BS-3	7-12-17	1130	23.0	7.40	580	"	TURBID	NO

NOTES:

6.5-8.5 (std)

- (1) Conductivity readings corrected to 25°C.
 (2) Blind Duplicate MW-4D
 (3) MW-7D is apparent hydraulically upgradient bedrock well.

- * Shallow Overburden Well
 *** Bedrock Well

** Upgradient
 BS Bank Seep

NO
 seep
 took
 AOS
 creek

TABLE 5

MOENCH COMPANY
PALMER STREET LANDFILL

July 12, 2017 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	D R	.002	ND	ND	D	.039	ND	.025mg/
Chromium - Soluble	0.005	Y	ND	.013	ND	R	.004	ND	.05
Lead - Soluble	0.005	↓	ND	ND	ND	Y	ND	ND	.025

Volatiles mg/L		↓		-	-	↓	-	-	
ACETONE		↓	.085	.160	ND	↓	.016	.054	Guid. Value = .05mg/L

** Screened in Waste/Overburden.

Blind Duplicate _____

TABLE 5

MOENCH COMPANY
PALMER STREET LANDFILL

July 12, 2017 MONITORING EVENT⁽¹⁾

SUMMARY OF ANALYTICAL RESULTS

MW
4-D

	Quantitation Limit	MW-7D	MW-8D	BS-1	BS-2	BS-3 (A)	Blind Duplic	Class "GA" Std.
Metals (mg/l):								
Arsenic - Soluble	0.005	ND	ND	N	N	.002	ND	.025mg/l
Chromium - Soluble	0.005	ND	ND	O	O	.001	ND	.05
Lead - Soluble	0.005	ND	ND	S	S	ND	ND	.025
				E	E			
				E	E			

Volatiles mg/L				P	P			
ACETONE		ND	ND	↓	↓	ND	ND	GUID. VALUE = .05 mg/L

(A) CREEK
SAMPLE

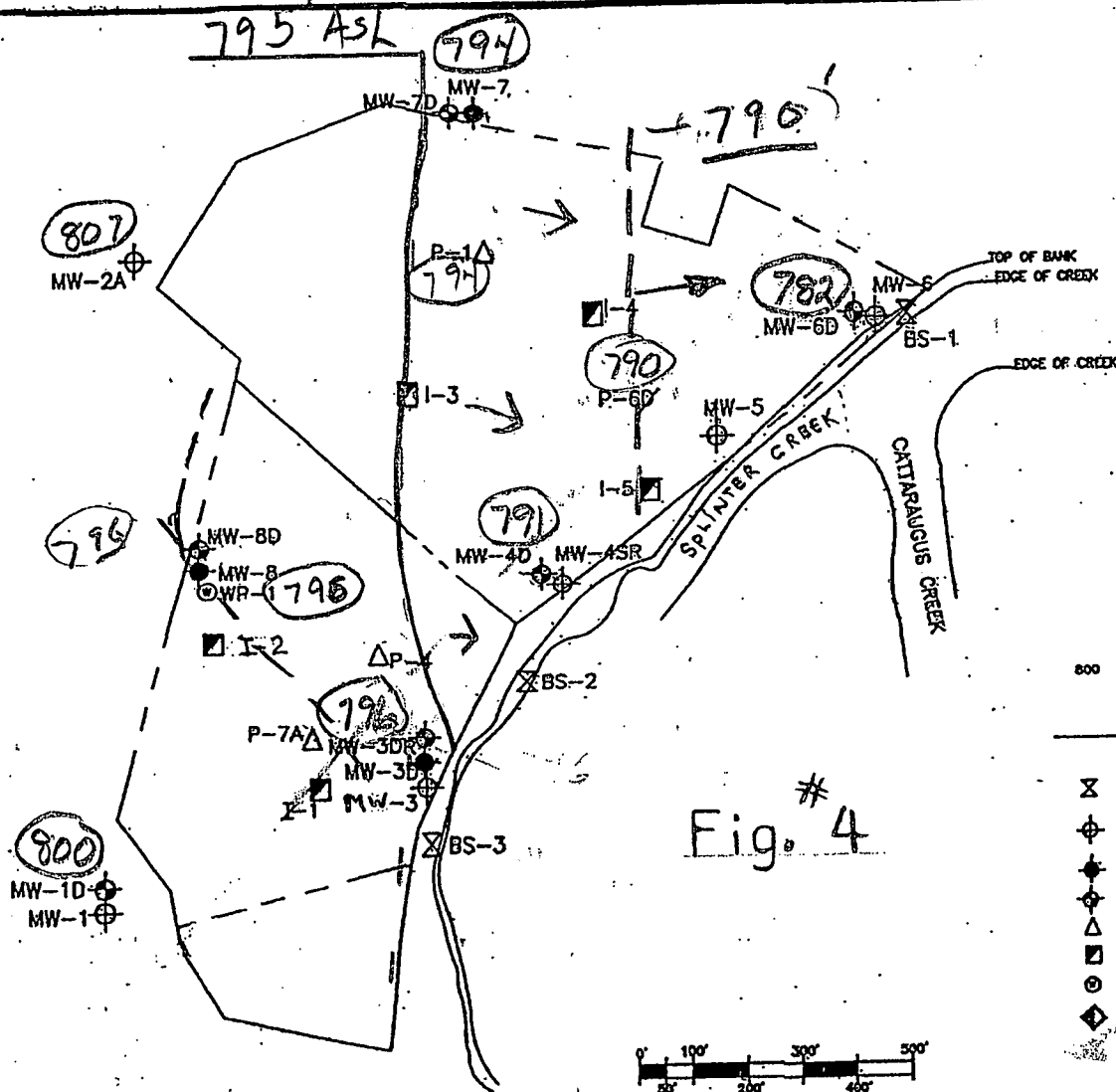
5.0 GROUNDWATER FLOW

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 ON JULY 12TH ,2017 WERE USED IN PREPARING THE WATER TABLE AND BEDROCK ISO-POTENTIAL MAP. THEY INDICATE THAT THE SHALLOW GROUNDWATER AND BEDROCK FLOW IS PRIMARILY TO THE EAST.

THE VILLAGE IS STILL USING THE SURFACE RUNOFF FOR A WATER SOURCE INSTEAD OF DEEP AQUIFER KEEPING; MW-1D WATER LEVEL NORMAL.

6.0 REFERENCES

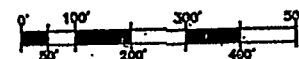
1. PALMER STREET LANDFILL CLOSURE/POST CLOSURE PLAN (EPA ID. NYDOO2126910), PREPARED BY MALCOLM PIRNIE, INC. REVISED FEBRUARY 1989. REVISED DECEMBER 2006.
2. PALMER STREET LANDFILL, SUPPLEMENTAL HYDROGEOLOGIC INVESTIGATION, PREPARED BY MALCOLM PIRNIE, INC. JANUARY 1989.
3. SAMPLING PLAN/QUALITY ASSURANCE PLAN FOR GROUNDWATER MONITORING - PALMER STREET LANDFILL. PREPARED BY MALCOLM PIRNIE, INC., AUGUST 1989. REVISED 12/2006.
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. Second "Evaluation"; 3/99. THIRD EVALUATION; 8/03. (LAST)
7. JULY 27TH, 2006 LETTER FROM GEOMATRIX TO STAN RADON (NYSDEC) DOCUMENTING A JULY 19TH MEETING IN WHICH REVISIONS TO THE GROUNDWATER MONITORING SYSTEM, WERE AGREED UPON.
8. SEPTEMBER 7, 2006 LETTER FROM STAN RADON (NYSDEC) TO JEFFREY SMITH (MOENCH) CONFIRMING AGREEMENT OF REVISED GROUNDWATER MONITORING SYSTEM, AND COVER SYSTEM EVALUATION ELIMINATION.
9. JUNE 19, 2012 LETTER FROM JEFFREY SMITH (BROWN SHOE) TO STAN RADON (NYSDEC) REGARDING ARSENIC AT MW-6.



LAT. 42° 27' 0"
Long. 78° 55' 30"

LEGEND

- 800 ISOPOTENTIAL, DOTTED WHERE REFERRED
- GROUNDWATER FLOW DIRECTION
- LANDFILL BOUNDARY AND AREA BOUNDARY DIVIDER
- BANK SEEP
- UPPER OVERBURDEN MONITORING WELL
- LOWER OVERBURDEN MONITORING WELL
- BEDROCK MONITORING WELL
- PIEZOMETER
- INFILTROMETER
- WELL POINT
- LYSIMETER



SCALE IN FEET

July 12 SAMPLE EVENT:



GEI Consultants, Inc.
Williamsville, NY

PALMER STREET LANDFILL

SITE PLAN

BEDROCK
ISOPOTENTIAL
MAP.

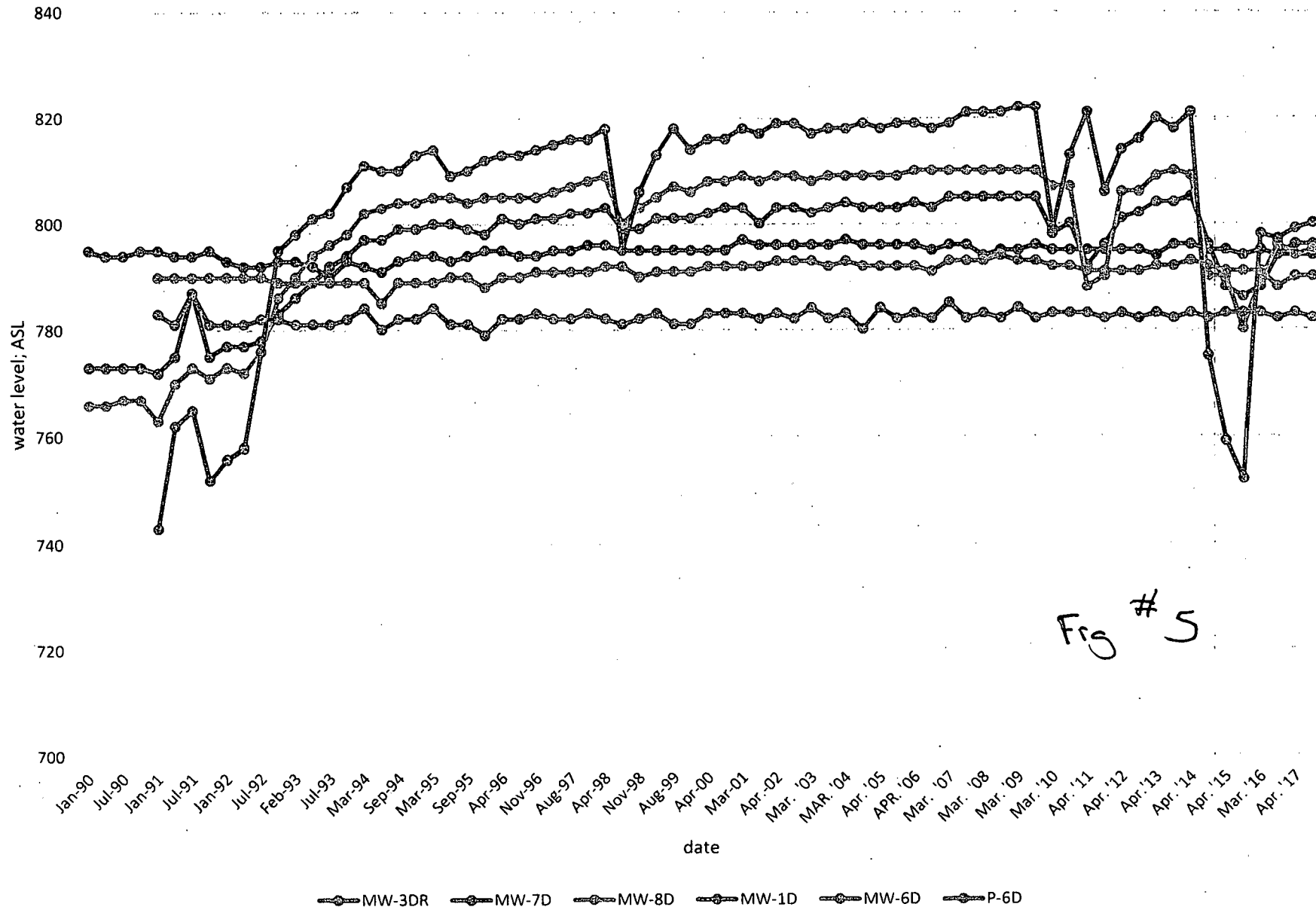
		PALMER STREET LANDFILL																aug. 17																	
		MOENCH COMPANY																																	
		GROUNDWATER ELEVATION vs TIME																																	
(FIG.#5)		BEDROCK MONITOR WELLS & PIEZOMETERS																FIG. #5																	
		Jan-90	Apr-90	Jul-90	Oct-90	Jan-91	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	Dec-94	Mar-95	Jun-95	Sep-95	Dec-95	Apr-96									
MW-3DR		773		773	773	773	772	775	787	775	777	778	783	788	789	792	794	797	797	799	799	800	800	799	798	801									
MW-7D		795	784	794	795	795	794	784	795	793	792	792	793	793	792	790	793	792	791	793	794	794	793	794	795										
MW-8D		766	766	767	767	763	770	773	771	773	772	776	786	790	794	796	798	802	803	804	804	805	805	804	805	805									
MW-1D						743	762	765	752	756	758	776	795	798	801	802	807	811	810	810	813	814	809	810	812	813									
MW-6D						783	781	787	781	781	781	782	782	781	781	781	782	784	780	782	782	784	781	779	782	782									
P-6D						790	790	790	790	790	790	790	789	789	789	789	789	789	785	789	789	789	790	790	788	790									

Fig # 5

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Palmer I/fill; bedrock elev. Water



465 PALMER STREET
GOWANDA, NEW YORK 14070

TEL. 716-532-2201

FAX 716-532-5518

PALMER STREET LANDFILL
GROUNDWATER MONITORING

TABLE #8

7/11/7

calibrated by:

MB

RECORD OF CALIBRATION:

Instrument:

date reading
b/4 - after

Test

Slope-Water Level Indicator

7/11	

Probe response to
water.

Grace-Conductivity meter

7/11	1359
	1350

Read standardize .
liquid & calibrate.
zero calibrate.

Cole-Parmer (multi meter)

Ph---

7/11	7 = 7.01
10/11	10 = 10.1

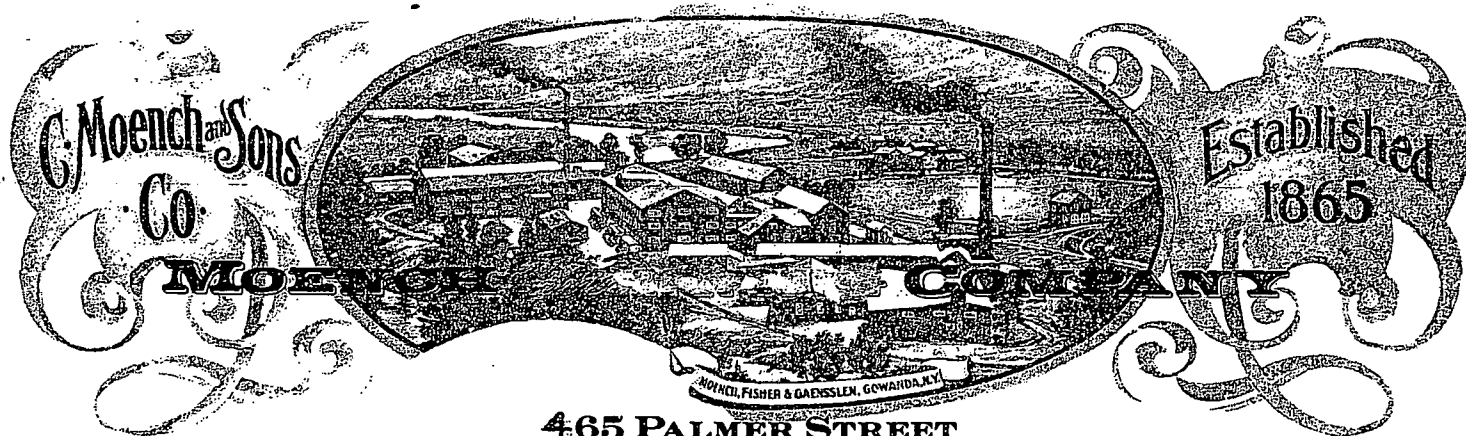
Calibrate to buffer(s)
solutions: 7.0 10.0

5. 7 ph- 10 ph-

Temperature

7/11	24.1C
	23.5C

Calibrate to standard thermometer.



465 PALMER STREET
GOWANDA, NEW YORK 14070

TEL. 716-532-2201

FAX 716-532-5518
revised 8/06

PALMER STREET LANDFILL
GROUNDWATER MONITORING

EQUIPMENT INVENTORY:

TABLE # 7 12th

July '17

event

- ✓ (A) Slope Indicator Co. - Model 51453, water level indicator
- ✓ (B) W.R. Grace (Dearborn) - Model EP-10, Micromhos meter
(conductivity)
- ✓ (C) Cole-Parmer Instrumentation Co. - Model 5985-80, Ph, temp-
erature °C, with probes.
- ✓ (D) ~~Grundfos Purging System.~~
~~-Hose, VFD, Generator.~~
- ✓ (E) Norton Company - Part #865-3170, Posi-Filter for filtering
dissolved metals with filters. And vacuum pump/flask.
- ✓ (F) Wash bucket (5 gallon) with Alconox soap.
- ✓ (G) Rinse bucket with D.I. water. -buy 10 gal. distilled at store.
-get 2 gal. lab certified, eqpt. blank.
- ✓ (H) Rinse bottle with 10% Nitric Acid and water.
- ✓ (I) five gallon bucket to measure volume purged.
- ✓ (J) Latex gloves
- ✓ (K) Required bottles and coolers and ice.
- ✓ (L) Required field data forms.
- (M) Cell Phone
- (N) Watch
- ✓ (O) Head Radio
- ✓ (P) Board to hold Meters & equipment
- ✓ (Q) Liquid soap/water spray-bees.
- (R) Benedryl-bee sting.



465 PALMER STREET
GOWANDA, NEW YORK 14070

TEL. 716-532-2201

FAX 716-532-5518

APPENDIX "A"

FIELD DATA SHEETS FOR:

July 12, 2017

MONITORING EVENT:
PALMER STREET LANDFILL

WELL DEVELOPMENT/PURGING LOG

MOENCH CO.

PROJECT TITLE: PALMER ST. LANDFILL - GWM

PROJECT NO.: 2 OF 2 ANNUAL EVENTS.

STAFF: J. Smith & M. BEST

DATE: 7/12/17 1055

WELL NO.: MW-3D (6)

- 1 TOTAL CASING AND SCREEN LENGTH (ft.) 67.70
- 2 CASING INTERNAL DIAMETER (in.) 2"
- 3 WATER LEVEL BELOW TOP OF CASING (ft.) 16.30
- 4 VOLUME OF WATER IN CASING (gal.)

WELL I.D.	VOL. GAL./FT.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$$V = 0.0408 (2^2 \times (1 - 3)) = 8.7 \text{ gal.}$$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	I N I T.									
'PH'	7.93	7.91								
VISUAL-INITIAL TURBIDITY	clear									
CONDUCTIVITY	360	320								
TEMP °C	14.3									

COMMENTS:

STAN HERE - BUG SPRAY 0.4609 + 1.411 P2007

WATER SAMPLING FIELD DATA SHEET

PROJECT: PALMER ST. 4/FILL-GW/4

CLIENT: MOENCH CO.

JOB NO.: 2 of 2 Annual Events 2017

TYPE OF SAMPLE: GROUNDWATER - GFAF

LOCATION NO.: MW-3D

LAB SAMPLE NO.: _____

WELL DATA:

DATE: 7/12/17

Casing Diameter (inches): 2"

Screened Interval (ft BGS): _____

Static Water Level Below TOR (ft): _____

Elevation Top of Well Riser: 810.73

TIME: 1055

Casing Material: PVC

Screen Material: PVC

Bottom Depth (ft): 67.70

Datum Ground Surface: _____

PURGING DATA:

DATE: 7/12/17

Method: SUPER NOVA - Pump 12V.

Well Volumes Purged (V=PIR²H/231): _____

Standing Volume (gal): 8.7

Volume Purged (gal): _____

Is purging equipment dedicated to sample location? Yes _____ No X

Field Personnel: J. Smith/M. BEST

TIME: Start: 1055 Finish: 1115

Pumping Rate (gal/min): 0.5 gpm

Was well purged dry? Yes _____ No X

Was well purged below sand pack? Yes X No _____

Well I.D. (inches)	Volume (gal/ft)
<u>(2)</u>	<u>0.17</u>
4	0.66
6	1.50

SAMPLING DATA:

DATE: 7/12/17

Method: TEFLON BAILER

Present Water Level (ft): _____

Depth of Sample (ft): _____

Is sampling equipment dedicated to sample location? Yes _____ No _____

TIME: Start: 1115 Finish: 1130

Sampler: JS & MB

Air Temperature (°F): 70

Weather Conditions: CLOUDY/CLDY

Yes X No _____

PRESERVATION DATA:

DATE: 7/3/17 ALPHA

Filtered: * Yes _____ No _____

Preservative: _____ H₂SO₄ * HNO₃ _____ NaOH HCl Other _____

TIME: Start: _____ Finish: _____

Cool to 4°C: *

PHYSICAL AND CHEMICAL DATA:

Appearance: Clear: X Turbid: _____

Color: _____

Contains Sediment: _____

Odor: NO Other: _____

Temperature (°C): _____ pH: _____

Specific Conductivity (umhos/cm): _____

Turbidity (NTU): _____

Other: _____

REMARKS: SAMPLE/FILTER EQUIPMENT: WASHED W/ SOAP + WATER (3X). RINSED IN DISTILLED WATER. RINSE WITH 10% NITRIC ACID WASH. FINAL RINSE W/ DISTILLED WATER.

WELL DEVELOPMENT/PURGING LOG

MOENCH CO.

PROJECT TITLE: PALMER ST. LANDFILL - GWM

PROJECT NO.: 2 OF 2 ANNUAL EVENTS.

STAFF: J. Smith & M. BEST

DATE: 7/12/17 1000

WELL NO.: MW-4 SR (3)

WELL I.D.

VOL.
GAL./FT.

- | | | |
|---|---------------------------------------|--------------|
| 1 | TOTAL CASING AND SCREEN LENGTH (ft.) | <u>24.92</u> |
| 2 | CASING INTERNAL DIAMETER (in.) | <u>2"</u> |
| 3 | WATER LEVEL BELOW TOP OF CASING (ft.) | <u>12.70</u> |
| 4 | VOLUME OF WATER IN CASING (gal.) | |

1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$$V = 0.0408 \text{ (}^2 \times (1 - 3) = \underline{2.1} \text{ gal.}$$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	I N. i. T.	2nd								
'PH'	6.7	6.7								
TUR.-INITIAL APPEARANCE	slight Turbid									
CONDUCTIVITY	1100	1050								
Temp. °C	13.9	14.1								

COMMENTS:

WATER SAMPLING FIELD DATA SHEET

PROJECT: PALMER ST. LANDFILL - GWM TYPE OF SAMPLE: GROUNWATER - GRAB
 CLIENT: MOENCH CO. LOCATION NO.: MW-4SR
~~ISSUED:~~ 2017 2017 Annual Events LAB SAMPLE NO.: _____

WELL DATA: DATE: 7/12/17 TIME: 1000
 Casing Diameter (Inches): 2" Casing Material: PVC
 Screened Interval (ft BGS): _____ Screen Material: PVC
 Static Water Level Below TOR (ft): _____ Bottom Depth (ft): 24.92
 Elevation Top of Well Riser: 806.75 ASL Datum Ground Surface: _____

PURGING DATA: DATE: 7/12/17 TIME: Start: 1000 Finish: 1017
 Method: DEDICATED BAILER Pumping Rate (gal/min): 1.0
 Well Volumes Purged ($V = \pi R^2 H / 231$): _____ Was well purged dry? _____ Yes ☒ No
 Standing Volume (gal): 2.1 Was well purged below sand pack? ☒ Yes _____ No
 Volume Purged (gal): _____

Well I.D. (Inches)	Volume (gal/ft)
2	0.17
4	0.66
6	1.50

 Is purging equipment dedicated to sample location? Yes ☒ No _____
 Field Personnel: J. SMITH & M. BEST

SAMPLING DATA: DATE: 7/12/17 TIME: Start: 1017 Finish: 1020
 Method: DEDICATED BAILER Sampler: JS & MB
 Present Water Level (ft): _____ Air Temperature (°F): 75
 Depth of Sample (ft): _____ Weather Conditions: RAIN
 Is sampling equipment dedicated to sample location? Yes ☒ No _____

PRESERVATION DATA: DATE: 7/13/17 ALPHA TIME: Start: _____ Finish: _____
 Filtered: ☒ Yes _____ No _____ Cool to 4°C: ☒
 Preservative: _____ H_2SO_4 ☒ HNO_3 _____ NaOH HCl Other _____

PHYSICAL AND CHEMICAL DATA:
 Appearance: Clear: _____ Turbid: slight Color: slight tint
 Contains Sediment: _____ Odor: fishy odor Other: _____
 Temperature (°C): _____ pH: _____ Specific Conductivity (µmhos/cm): _____
 Turbidity (NTU): _____ Other: _____

REMARKS: SAMPLE/FILTER EQUIPMENT: WASH w/ SOAP + WATER (3X).
RINSED WITH DISTILL'D WATER. RINSED WITH 10% NITRIC ACID WASH. FINAL RINSE w/ DISTILL'D WATER.

WELL DEVELOPMENT/PURGING LOG

MOENCH CD.

PROJECT TITLE: PALMER ST. LANDFILL - G.W.M.

PROJECT NO.: 1ST OF 2 ANNUAL EVENTS

STAFF: JEFF SMITH & MIKE BEST

DATE: 7/12/2017, 1025

Blind Dug

WELL NO.: MW-4D(4) Blind Dnf (5)

WELL I.D.

VOL.
GAL./FT.

- | | | |
|---|---------------------------------------|--------------|
| 1 | TOTAL CASING AND SCREEN LENGTH (ft.) | <u>74.94</u> |
| 2 | CASING INTERNAL DIAMETER (in.) | <u>2"</u> |
| 3 | WATER LEVEL BELOW TOP OF CASING (ft.) | <u>14.85</u> |
| 4 | VOLUME OF WATER IN CASING (gal.) | |

- | | |
|----|------|
| 1" | 0.04 |
| 2" | 0.17 |
| 3" | 0.38 |
| 4" | 0.66 |
| 5" | 1.04 |
| 6" | 1.50 |
| 8" | 2.60 |

$$V = 0.0408 \text{ (}^2 \times (1 - 3) \text{)} = \underline{10.2} \text{ gal.}$$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
PH	7.98	7.91								
VISUAL-INITIAL TURBIDITY	clear									
CONDUCTIVITY	590	590								
TEMP. °C	14.5									
COMMENTS: STAY HERE BUT SPRAY ON LOGS + WATER PROOF										

WATER SAMPLING FIELD DATA SHEETS

PROJECT: PALMER ST. L/F - G.W.M.
MOENCH CO.
2 OF 2 ANNUAL EVENTS
2017

TYPE OF SAMPLE: GROUND WATER
 LOCATION NO.: MW-4D

WELL DATA: DATE: 7/12/17
 Casing Diameter (Inches): 2"
 Screened Interval (ft BGS): _____
 Static Water Level Below TOR (ft.): _____
 Elevation Top of Well Riser: 805.93
 Elevation Top of Screen: 72.9

TIME: 1025
 Casing Material: PVC
 Screen Material: PVC
 Bottom Depth (ft.): 74.94
 Datum Ground Surface: _____

PURGING DATA: DATE: 7/12/17
 Method: ELECTRIC PUMP - NOT DEDICATED
 Well Volumes Purged (REV/VZSI): (SUPERNOVA)
 Standing Volume (GAL.): _____
 Volume Purged (GAL.): _____
 Is purging equipment dedicated to sample location?
 Yes _____ No *
 Field Personnel: J. Smith & M. BEST

TIME: Start: 1025 Finish: 1040
 Pumping Rate (gal/min): 1-2 gpm
 Was well purged dry? Yes _____ No X
 Was well purged below sand pack? Yes _____ No X

Well I.D. (Inches)	Volume (gal/ft)
<u>2</u>	<u>0.17</u>
<u>4</u>	<u>0.66</u>
<u>6</u>	<u>1.50</u>

SAMPLING DATA: DATE: 7/12/17
 Method: DEDICATED BAILER
 Present Water Level (ft.): _____
 Depth of Sample (ft.): _____
 Is sampling equipment dedicated to sample location? Yes *
 Source and type of water used in field for QC purposes: _____

TIME: Start: 1040 Finish: 1045
 Sampler: JS + M.B.
 Air Temperature (F°): 75
 Weather Conditions: CLOUDY - WINDY
 No ALPHA LAB

PRESERVATION DATA: DATE: 7/13/17 ALPHA
 Filtered: Yes * No _____
 Preservative: H₂SO₄ HNO₃ * NaOH Other HCl

TIME: Starts _____ Finish: _____
 Cool to 4°C: *

PHYSICAL AND CHEMICAL:
 Appearance: CLEAR * Turbidity: _____
 Contains Sediment: _____
 Temperature (°C): _____ pH: _____
 Turbidity (NTU): _____

Color: _____
 Odor: ND Others: _____
 Specific Conductivity (µmhos/cm): _____
 Other: _____

REMARKS: E. FLASK +/OR
NA - NOT APPLICABLE. TEFLON BAILER USED FOR SAMPLE
WAS WASHED WITH SOAP RINSED WITH LABORATORY WATER/
RINSED WITH 10% NITRIC ACID WASH, THEN FINAL RINSE
WITH LAB. GRADE WATER PRIOR TO USE.

WELL DEVELOPMENT/PURGING LOG

MOENCH CO.

PROJECT TITLE: PALMER ST. LANDFILL - GWM

PROJECT NO.: OF 2 ANNUAL EVENTS.

STAFF: J. Smith & M. BEST

DATE: 7/12/17, 835

WELL NO.: MW-6 (2)

WELL I.D.

VOL.
GAL./FT.

- 1 TOTAL CASING AND SCREEN LENGTH (ft.) 18.78
- 2 CASING INTERNAL DIAMETER (in.) 2"
- 3 WATER LEVEL BELOW TOP OF CASING (ft.) 15.95
- 4 VOLUME OF WATER IN CASING (gal.)

1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$$V = 0.0408 (2^2 \times (1 - 3)) = .5 \text{ gal.}$$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	I.N. I.T.	2nd								
PH	6.8	6.8								
TURBIDITY APPEAR=INITIAL	very turbid Grey	very turbid								
CONDUCTIVITY	1450	1450								
TEMP °C	16.6	16.8								

COMMENTS:

very grey bag parts

WATER SAMPLING FIELD DATA SHEET

PROJECT: PALMER ST. LANDFILL
 CLIENT: MOENCH CO.
 JOB NO.: 2 OF 2 ANNUAL EV.
2017

TYPE OF SAMPLE: GROUNDWATER
 LOCATION NO.: MW-6
 LAB SAMPLE NO.: _____

WELL DATA: DATE: 7/12/17
 Casing Diameter (inches): 2"
 Screened Interval (ft BGS): _____
 Static Water Level Below TOR (ft): _____
 Elevation Top of Well Riser: 800.48 ASL

TIME: 18:30
 Casing Material: PVC
 Screen Material: PVC
 Bottom Depth (ft): 18.78
 Datum Ground Surface: _____

PURGING DATA: DATE: 7/12/17
 Method: DEDICATED BAILER
 Well Volumes Purged ($V = \pi R^2 H / 2.31$): _____
 Standing Volume (gal): 15
 Volume Purged (gal): _____
 Is purging equipment dedicated to sample location?
 Yes X No _____
 Field Personnel: JS & MB

TIME: Start: 18:30 Finish: 845
 Pumping Rate (gal/min): 1.0
 Was well purged dry? X Yes _____ No _____
 Was well purged below sand pack? X Yes _____ No _____

Well I.D. (inches)	Volume (gal/ft)
2	0.17
4	0.66
6	1.50

SAMPLING DATA: DATE: 7/12/17
 Method: DEDICATED BAILER
 Present Water Level (ft): _____
 Depth of Sample (ft): _____
 Is sampling equipment dedicated to sample location?

TIME: Start: 845 Finish: 850
 Sampler: JS & MB
 Air Temperature (°F): 75°
 Weather Conditions: 14 Rain
 Yes X No _____

PRESERVATION DATA: DATE: 7/3/17 ALPHA
 Filtered: * Yes _____ No _____
 Preservative: _____ H_2SO_4 * HNO_3 _____ $NaOH$ HCl Other _____

TIME: Start: _____ Finish: _____
 Cool to 4°C: *

PHYSICAL AND CHEMICAL DATA:

Appearance: Clear: NO Turbid: YES Color: Grey
 Contains Sediment: _____ Odor: NO Other: _____
 Temperature (°C): _____ pH: _____ Specific Conductivity (µmhos/cm): _____
 Turbidity (NTU): _____ Other: _____

REMARKS: DEDICATED BAILER FOR SAMPLE, & FILTER EQUIPMENT.
WASHED (3X), RINSED WITH LAB GRADE WATER. RINSED w/ 10% NITRIC ACID WASH. FINAL RINSE D.I. WATER.

WELL DEVELOPMENT/PURGING LOG

MOENCH CO.

PROJECT TITLE: PALMER ST. LANDFILL - G.W.M.

PROJECT NO.: 2 OF 2 ANNUAL EVENTS

STAFF: JEFF SMITH & MIKE BEST

DATE: 7/12/17, 800 A

WELL NO.: MW - 6D ①

WELL I.D.

VOL.
GAL./FT.

- 1 TOTAL CASING AND SCREEN LENGTH (ft.) 37.03
- 2 CASING INTERNAL DIAMETER (in.) 2"
- 3 WATER LEVEL BELOW TOP OF CASING (ft.) 18.30
- 4 VOLUME OF WATER IN CASING (gal.)

1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

$$V = 0.0408 (2^2 \times (1 - 3)) = 3.2 \text{ gal.}$$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	I.N. I.T.									
PH	7.9	8.0								
VISUAL-INITIAL TURBIDITY	clear	little Turbid								
CONDUCTIVITY	1100	1050								
TEMP. °C	15.7	15.5								

COMMENTS:

WATER SAMPLING FIELD DATA SHEETS

PROJECT: PALMER ST. LANDFILL
MOENCH CO.
2 OF 2 ANNUAL EVENTS.

TYPE OF SAMPLE: GROUNDWATER
 LOCATION NO.: MW-6D

WELL DATA: DATE: 7/12/17
 Casing Diameter (Inches): 2
 Screened Interval (ft BGS): NA
 Static Water Level Below TOR (ft.):
 Elevation Top of Well Riser: 800.63
 Elevation Top of Screen: NA

TIME: 800
 Casing Material: PVC
 Screen Material: PVC
 Bottom Depth (ft.): 37.03
 Datum Ground Surface:

PURGING DATA: DEDICATED DATE: 7/12/17
 Method: TEFLON BAILER-HAND
 Well Volumes Purged (rt N/231):
 Standing Volume (GAL.) 3.2
 Volume Purged (GAL.)
 Is purging equipment dedicated to sample location?
 Yes * No
 Field Personnel: JS + MB

TIME: Start: 8000 Finish: 815
 Pumping Rate (gal/min): 5 gpm
 Was well purged dry? Yes X No
 Was well purged below sand pack? Yes X No

Well I.D. (Inches)	Volume (gal/ft)
2	0.17
4	0.66
6	1.50

SAMPLING DATA: DATE: 7/12/17
 Method: DEDIC. TEFLON BAILER-HAND
 Present Water Level (ft.):
 Depth of Sample (ft.):
 Is sampling equipment dedicated to sample location? Yes * No
 Source and type of water used in field for QC purposes: ALPHA LAB

TIME: Start: 815 Finish: 830
 Sampler: JS + MB
 Air Temperature (F°): 75°
 Weather Conditions: Cloudy

PRESERVATION DATA: DATE: 7/13/17 ALPHA
 Filtered: Yes * No
 Preservatives: H₂SO₄ HNO₃ * NaOH Other HCl

TIME: Starts: Finish:
 Cool to 4°C: *

PHYSICAL AND CHEMICAL
 Appearance: Clear X Turbid:
 Contains Sediment
 Temperature (°C): pH:
 Turbidity (NTU):

Color:
 Odor: NO Others:
 Specific Conductivity (µmhos/cm):
 Other:

REMARKS: E. FLASK +/or
TEFLON BAILER USED FOR SAMPLING WAS WASHED WITH
SOAP, RINSED WITH LABORATORY WATER / RINSED WITH 10%
NITRIC WASH THEN FINAL RINSE WITH LAB. GRADE WATER
PRIOR TO USE.

WELL DEVELOPMENT/PURGING LOG

MOENCH CO.

PROJECT TITLE: PALMER ST. LANDFILL - G.W.M.

PROJECT NO.: 2 OF 2 ANNUAL EVENTS

STAFF: JEFF SMITH & MIKE BEST

DATE: 7/12/17 ~~7/12/17~~ 1237

WELL NO.: MW-7D (9)

WELL I.D.	VOL. GAL./FT.
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

- TOTAL CASING AND SCREEN LENGTH (ft.) 41.90
- CASING INTERNAL DIAMETER (in.) 2"
- WATER LEVEL BELOW TOP OF CASING (ft.) 6.15
- VOLUME OF WATER IN CASING (gal.)

$$V = 0.0408 (2^2 \times (1 - 3)) = 6.1 \text{ gal.}$$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	I N. I. T.									
"PH"	7.94	7.91								
VISUAL-INITIAL TURBIDITY	Clear									
CONDUCTIVITY	600	610								
TEMP. °C	13.9									

COMMENTS:

WATER SAMPLING FIELD DATA SHEETS

PROJECT: PALMER ST. LANDFILL
: MOENCH CO.
ISS NO.: 2 OF 2 ANNUAL EVENTS
7/12/17

TYPE OF SAMPLE: GROUND WATER
LOCATION NO.: MW-7D
LAB SAMPLE NO.: —

WELL DATA: DATE: 7/12/17

Casing Diameter (Inches): 2

Screened Interval (ft BGS): 34 - 39

Static Water Level Below TDR (ft.):

Elevation Top of Well Riser: 800.39

Elevation Top of Screens: 763.50

TIME: 1240
Casing Material: PVC
Screen Material: PVC
Bottom Depth (ft.) 41.90
Datum Ground Surface:

PURGING DATA: _____ DATE: 7/12/17
 Method: TEFLON BAILER - MANUAL
 Well Volumes Purged (STAINLESS): _____
 Standing Volume (GAL.) 6.1
 Volume Purged (GAL.) 12
 Is purging equipment dedicated to sample location?
 Yes No No

TIME: Start: 1240 Finish: 1300
Pumping Rate (gal/min): 0.5 gpm
Was well purged dry? Yes No X
Was Well purged below sand pack? Yes No X

<u>Well I.D.</u> <u>(Inches)</u>	<u>Volume</u> <u>(gal/(ft))</u>
2	0.17
4	0.66
6	1.50

Field Personnel: J. SMITH + BEST

SAMPLING DATA: DATE: 7/12/17
 Method: TEFLON BAILER
 Present Water Level (ft.):
 Depth of Sample (ft.):
 Is sampling equipment dedicated to sample location? Yes *
 Source and type of water used in field for QC purposes:

TIME: Start: 1300 Finish: 1317
 Sampler: JS + MB
 Air Temperature (F°): 75
 Weather Conditions: V. HLL MID
 No ALPHA LAB

PRESERVATION DATA: DATE: 7/3/17 ALPHA
Filtered: Yes * No _____
Preservative: H₂O _____ MHO * No _____

TIME: Starts: _____ Finish: _____
Cool to 4°C: * _____
_____ ~~other~~ HCl

PHYSICAL AND CHEMICAL

Appearance: Clear ~~Turbid~~ Turbidity: _____
 Contains Endotoxin: _____
 Temperature (°C): _____ pH: _____
 Turbidity (NTU): _____

Colors: _____
 Orders: ND Others: _____
 Specific Conductivity ($\mu\text{mhos/cm}$): _____
 Other: _____

F. FLASK 4/0R

REMARKS: TEFLON BAILER USED FOR SAMPLING WAS WASHED WITH SOAP, RINSED WITH LAB. WATER / RINSED WITH 10% NITRIC WASH THEN FINAL RINSE WITH LAB. GRADE PRIOR TO USE.

WELL DEVELOPMENT/PURGING LOG

MOENCH CO.

YEAR -

PROJECT TITLE: PALMER ST. LANDFILL - G.W.M.

PROJECT NO.: 2 OF 2 ANNUAL EVENTS

STAFF: JEFF SMITH & MIKE BEST

DATE: 7/12/17 1200

WELL NO.: MW-8D

WELL I.D.

VOL.
GAL./FT.

1 TOTAL CASING AND SCREEN LENGTH (ft.) 127.70

10

0.04

2 CASING INTERNAL DIAMETER (in.) 2"

2"

0.17

3 WATER LEVEL BELOW TOP OF CASING (ft.) 24.30

3"

0.38

4 VOLUME OF WATER IN CASING (gal.)

4"

0.66

5"

1.04

6"

1 50

811

2 60

$$V = 0.0408 \text{ (}^2 \times (1 - 3) = \underline{17.6} \text{ gal.}$$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)								
	I N. T.								
"PH"	7.91								
VISUAL-INITIAL TURBIDITY	clear								
CONDUCTIV.	400								
TEMP. °C	13.6								

COMMENTS:

WATER SAMPLING FIELD DATA SHEETS

PROJECT: PALMER ST. LANDFILL
MOENCH COMPANY
2 OF 2 ANNUAL EVENTS
2017

TYPE OF SAMPLE: GROUND WATER - GRAB
 LOCATION NO.: MW-8D

WELL DATA: DATE: 7/12/17
 Casing Diameter (Inches): 2"
 Screened Interval (ft BGS): NA
 Static Water Level Below TOR (ft.):
 Elevation Top of Well Riser: 821.89
 Elevation Top of Screen: NA

TIME: 1200
 Casing Material: PVC
 Screen Material: PVC
 Bottom Depth (ft.): 127.70
 Datum Ground Surface: -

PURGING DATA: DEDICATED DATE: 7/12/17
 Method: ELECTRIC Pump - SUPER NOVA
 Well Volumes Purged (RTU/231):
 Standing Volume (GAL.): 12.6
 Volume Purged (GAL.): 12.0

TIME: Start: 1200 Finish: 1220
 Pumping Rate (gal/min): 1-2 gpm
 Was well purged dry? Yes No X
 Was Well purged below sand pack? Yes No X

Well I.D. (Inches)	Volume (gal/ft)
2	0.17
4	0.66
6	1.50

Very Deep

Is purging equipment dedicated to sample location?
 Yes X No

Field Personnel: JS + MB

SAMPLING DATA: DATE: 7/12/17
 Method: DEDICATE PUMP
 Piezometric Water Level (ft.):
 Depth of Sample (ft.):
 Is sampling equipment dedicated to sample location? Yes X No
 Source and type of water used in field for QC purposes:

TIME: Start: 1220 Finish: 1227
 Samplers: JS + MB
 Air Temperature (F°): 75
 Weather Conditions: V. HUMID
 No ALPHA LAB

PRESERVATION DATA: DATE: 7/13/17 ALPHA
 Filtered: Yes X No
 Preservatives: H_2SO_4 HNO_3 X $NaOH$ Other: HCl

TIME: Starts Finish:
 Cool to 4°C: X

APPEARANCE AND CHEMISTRY:
 Appearance: Clear: X Turbids:
 Contains Sediment:
 Temperature (°C): pH:
 Turbidity (NTU):

Color:
 Odor: ND Others:
 Specific Conductivity (umhos/cm):
 Other:

REMARKS: E. FLASK +/-
TEFLON BAILER USED FOR SAMPLING WAS WASHED WITH
SOAP, RINSED WITH LAB. WATER, RINSED WITH 10%O
NITRIC WASH THEN FINAL RINSE WITH LAB. GRADE
WATER PRIOR TO USE.

NO SOAP - TOOL SPILLING CRIL -

7

WATER SAMPLING FIELD DATA SHEETS

BS-3 NO FLOW

NO SOAP - CRIL SMPL

PROJECT: PALMER ST. LANDFILL
MOENCH CO.
2 OF 2 ANNUAL EVENTS
2017

TYPE OF SAMPLE: SURFACE/GROUND WATER
LOCATION NO.: BS-3 (BANK SEEP
SOUTH OF MW-3)

WELL DATA: DATE: 7/12/17
Casing Diameter (Inches): NA
Screened Interval (ft BGS):
Static Water Level Below TDR (ft.):
Elevation Top of Well Riser:
Elevation Top of Screen:

TIME: 1130
Casing Material: N/A
Screen Material:
Bottom Depth (ft.):
Datum Ground Surface:

PURGING DATA: DATE: 7/12/17
Method: NA
Well Volumes Purged (x4 W/231): NA
Standing Volume (GAL.): NA
Volume Purged (GAL.): NA

TIME: Start: Finish:
Pumping Rate (gal/min): N/A
Was well purged dry? Yes No
Was Well purged below sand pack? Yes No

Is purging equipment dedicated to sample location?
Yes X No

Well I.D. (Inches)	Volume (gal/ft)
2	0.17
4	0.66
6	1.50

Field Personnel: J. Smith & M. BEST

SAMPLING DATA: DATE: 7/12/17
Method: SURFACE WATER GRAB
Present Water Level (ft.): NA
Depth of Sample (ft.): NA
Is sampling equipment dedicated to sample location? Yes *
Source and type of water used in field for QC purposes:

TIME: Start: 1130 Finish: 1150
Sampler: J. Smith & M. BEST
Air Temperature (F°): 75
Weather Conditions: V. HUMID
No
ALPHA LAB

PRESERVATION DATA: DATE: 7/13/17 ALPHA
Filtered: Yes * No
Preservative: H₂SO₄ HNO₃ * NaOH Other * HCl

TIME: Starts Finish:
Cool to 4°C: * Other * HCl

PHYSICAL AND CHEMICAL
Appearance: Clear Turbidity: VERY
Concolor Sediment
Temperature (°C): 23 pH: 7.40
Turbidity (NTU):

Color: BLACK
Odor: NO Others:
Specific Conductivity (umhos/cm): SBO
Other:

REMARKS: N/A - NOT APPLICABLE. FLASK +/OR TEFLON BAILER USED
FOR SAMPLING/FILTERING, WAS WASHED WITH ALCONOX SOAP,
RINSED W/ LAB GRADE WATER, RINSED W/ 10% NITRIC WASH,
FINAL RINSE WITH LAB GRADE WATER PRIOR TO USE.

WELL DEVELOPMENT/PURGING LOG

MOENCH COMPANY

PROJECT TITLE: PALMER ST. LANDFILL - G.W.M.

PROJECT NO.: OF 2 ANNUAL EVENTS

STAFF: JEFF SMITH / MIKE BEST

DATE: 7/12/17 1330

WELL NO.: Equipment BLANK

10

WELL I.D.

VOL.
GAL./FT.

- 1 TOTAL CASING AND SCREEN LENGTH (ft.) NA
- 2 CASING INTERNAL DIAMETER (in.)
- 3 WATER LEVEL BELOW TOP OF CASING (ft.)
- 4 VOLUME OF WATER IN CASING (gal.)

1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

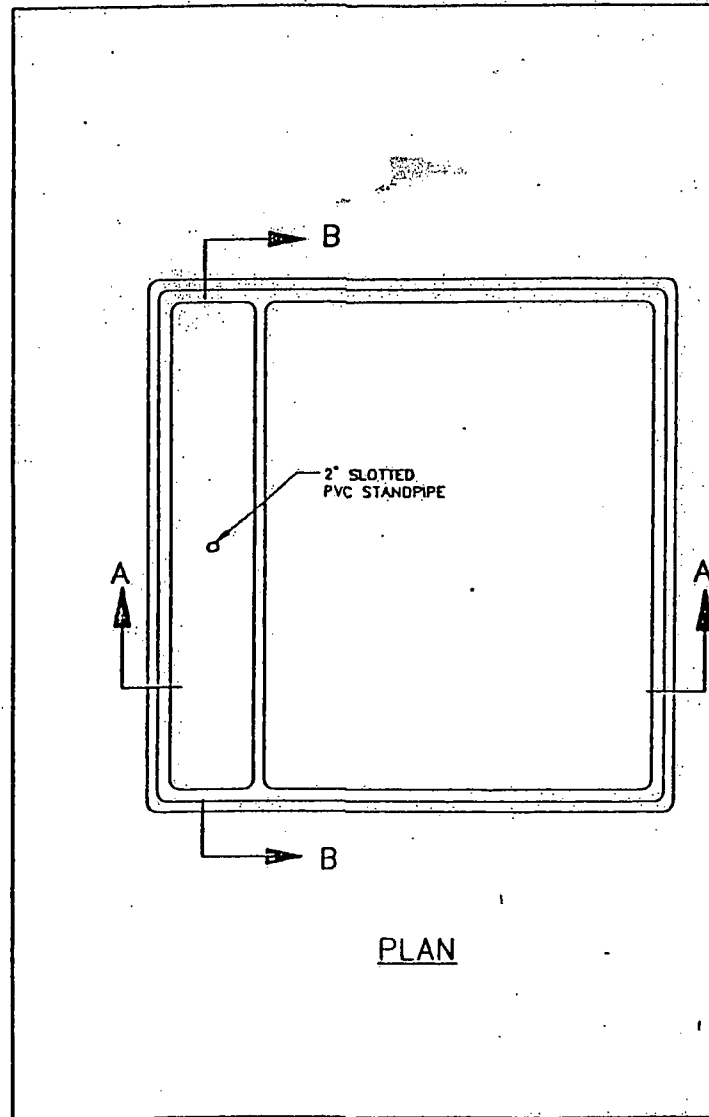
$$V = 0.0408 (2 \times (1 - 3)) = \text{NA} \text{ gal.}$$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)									
	ONLY									
"PH"	4.7	??								
VISUAL TURBIDITY	ALWAYS	CLEAR								
CONDUCTIVITY	65									
TEMP. °C	11.9									

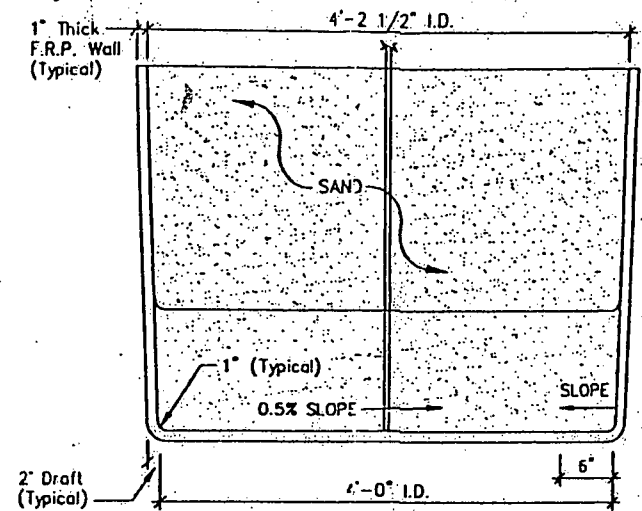
COMMENTS:

D.I. WATER (Q.C) FROM: ALPHA LAB

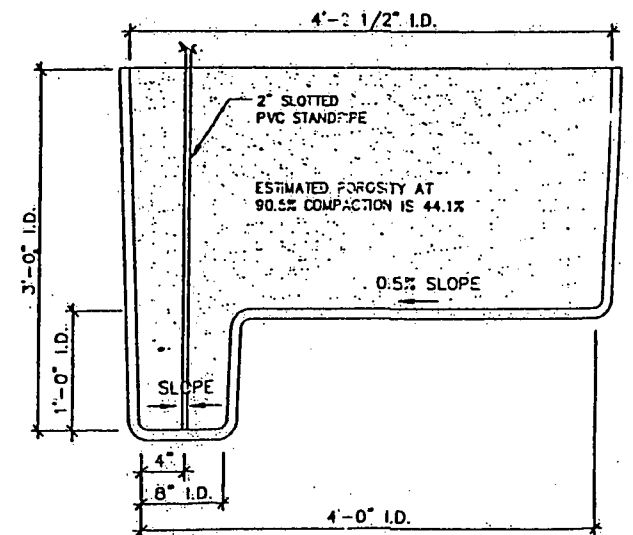
APPENDIX B
INFILTROMETER DESIGN



SECTION B-B



SECTION A-A

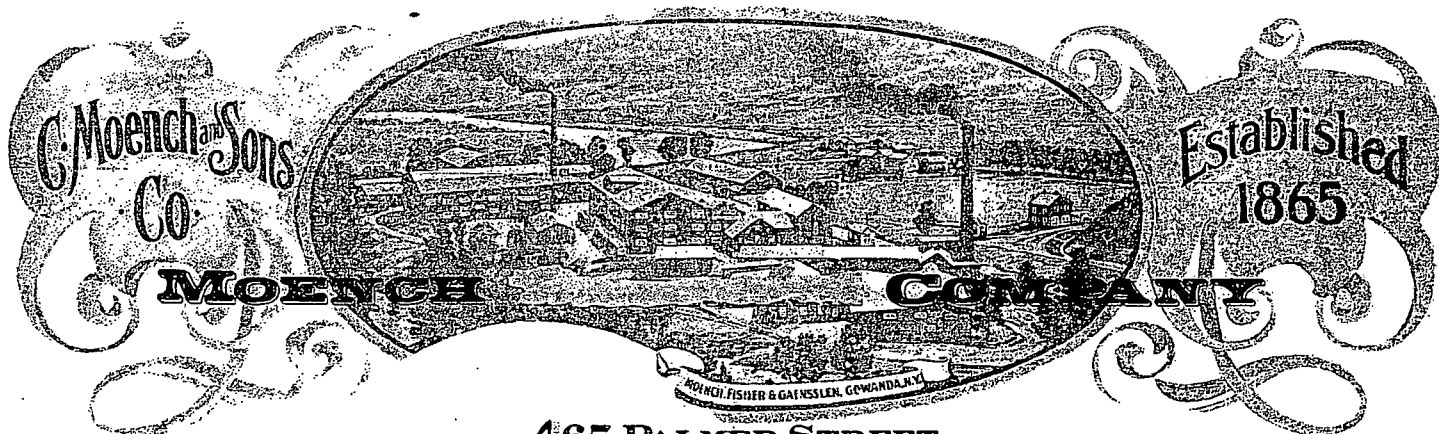


TYPICAL INFILTRATOR BY HEY'S ENTERPRISES
AS INSTALLED AT PALMER STREET LANDFILL

INFILTRATOR

MOENCH TANNING COMPANY

3/20



465 PALMER STREET
GOWANDA, NEW YORK 14070

TEL. 716-532-2201

FAX 716-532-5518

APPENDIX "C"

ANALYTICAL REPORT FROM LABORATORY:

FOR July 12, 2017.

MONITORING EVENT....

PALMER STREET LANDFILL



ANALYTICAL REPORT

PALMER 4/F
July 17

Lab Number: L1723748

Client: Moench Company
465 Palmer Street
Gowanda, NY 14070

ATTN: Jeff Smith

Phone: (716) 532-2201

Project Name: PALMER ST. LF ROUTINE LIST

Project Number: Not Specified

Report Date: 07/21/17

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: PALMER ST. LF ROUTINE LIST
Project Number: Not Specified

Lab Number: L1723748
Report Date: 07/21/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1723748-01	SITE 1 MW-6D	WATER	GOWANDA, NY	07/12/17 08:00	07/12/17
L1723748-02	SITE 2 MW-6	WATER	GOWANDA, NY	07/12/17 08:35	07/12/17
L1723748-03	SITE 3 MW-4SR	WATER	GOWANDA, NY	07/12/17 10:00	07/12/17
L1723748-04	SITE 4 MW-4D	WATER	GOWANDA, NY	07/12/17 10:25	07/12/17
L1723748-05	SITE 5 BLIND DUPLIC	WATER	GOWANDA, NY	07/12/17 00:00	07/12/17
L1723748-06	SITE 6 MW-3D	WATER	GOWANDA, NY	07/12/17 10:55	07/12/17
L1723748-07	SITE 7 BS-3	WATER	GOWANDA, NY	07/12/17 11:30	07/12/17
L1723748-08	SITE 8 MW-8D	WATER	GOWANDA, NY	07/12/17 12:00	07/12/17
L1723748-09	SITE 9 MW-7D	WATER	GOWANDA, NY	07/12/17 12:37	07/12/17
L1723748-10	SITE 10 EQPMT BLANK	WATER	GOWANDA, NY	07/12/17 13:00	07/12/17
L1723748-11	TRIP BLANK	WATER	GOWANDA, NY	07/12/17 00:00	07/12/17

Project Name: PALMER ST. LF ROUTINE LIST
Project Number: Not Specified

Lab Number: L1723748
Report Date: 07/21/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

Case Narrative (continued)

Report Submission

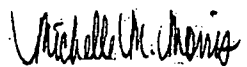
Please note that this report format does not contain typical QC parameters that were performed with these samples. As such, any QC outliers or non-conformances can only be reviewed by accessing your Alpha Customer Center account at www.alphalab.com and building a Data Usability table (format 11) in our Data Merger tool.

Volatile Organics

L1723748-01 through 11: The pH of the sample was less than two. It should be noted that 2-Chloroethylvinyl ether breaks down under acidic conditions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:

 Michelle M. Morris

Title: Technical Director/Representative

Date: 07/21/17



VOLATILES



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-01

Date Collected: 07/12/17 08:00

Client ID: SITE 1 MW-6D

Date Received: 07/12/17

Sample Location: GOWANDA, NY

Field Prep: Field-Filtered (Dissolved Metals)

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 07/19/17 20:20

Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS Westborough Lab						
Methylene chloride	ND		ug/l	2.5	—	1
1,1-Dichloroethane	ND		ug/l	2.5	—	1
Chloroform	ND		ug/l	2.5	—	1
2-Chloroethylvinyl ether	ND		ug/l	10	—	1
Carbon tetrachloride	ND		ug/l	0.50	—	1
1,2-Dichloropropane	ND		ug/l	1.0	—	1
Dibromochloromethane	ND		ug/l	0.50	—	1
1,1,2-Trichloroethane	ND		ug/l	1.5	—	1
Tetrachloroethene	ND		ug/l	0.50	—	1
Chlorobenzene	ND		ug/l	2.5	—	1
1,2-Dichloroethane	ND		ug/l	0.50	—	1
1,1,1-Trichloroethane	ND		ug/l	2.5	—	1
Bromodichloromethane	ND		ug/l	0.50	—	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	—	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	—	1
Bromoform	ND		ug/l	2.0	—	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	—	1
Benzene	ND		ug/l	0.50	—	1
Toluene	ND		ug/l	2.5	—	1
Ethylbenzene	ND		ug/l	2.5	—	1
Chloromethane	ND		ug/l	2.5	—	1
Bromomethane	ND		ug/l	2.5	—	1
Vinyl chloride	ND		ug/l	1.0	—	1
Chloroethane	ND		ug/l	2.5	—	1
1,1-Dichloroethene	ND		ug/l	0.50	—	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Trichloroethene	ND		ug/l	0.50	—	1
p/m-Xylene	ND		ug/l	2.5	—	1
o-Xylene	ND		ug/l	2.5	—	1

Project Name: PALMER ST. LF ROUTINE LIST

Project Number: Not Specified

Serial_No:07211715:56

Lab Number: L1723748

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-01

Client ID: SITE 1 MW-6D

Sample Location: GOWANDA, NY

Date Collected: 07/12/17 08:00

Date Received: 07/12/17

Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	54		ug/l	5.0	—	1
Carbon disulfide	ND		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	104		70-130

Project Name: PALMER ST. LF ROUTINE LIST

Project Number: Not Specified

Serial_No:07211715:56

Lab Number: L1723748

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-02

Client ID: SITE 2 MW-6

Sample Location: GOWANDA, NY

Date Collected: 07/12/17 08:35

Date Received: 07/12/17

Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 07/19/17 20:48

Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatiles Organics by GC/MS Westborough Lab

Methylene chloride	ND		ug/l	2.5	—	1
1,1-Dichloroethane	ND		ug/l	2.5	—	1
Chloroform	ND		ug/l	2.5	—	1
2-Chloroethylvinyl ether	ND		ug/l	10	—	1
Carbon tetrachloride	ND		ug/l	0.50	—	1
1,2-Dichloropropane	ND		ug/l	1.0	—	1
Dibromochloromethane	ND		ug/l	0.50	—	1
1,1,2-Trichloroethane	ND		ug/l	1.5	—	1
Tetrachloroethene	ND		ug/l	0.50	—	1
Chlorobenzene	ND		ug/l	2.5	—	1
1,2-Dichloroethane	ND		ug/l	0.50	—	1
1,1,1-Trichloroethane	ND		ug/l	2.5	—	1
Bromodichloromethane	ND		ug/l	0.50	—	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	—	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	—	1
Bromoform	ND		ug/l	2.0	—	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	—	1
Benzene	ND		ug/l	0.50	—	1
Toluene	ND		ug/l	2.5	—	1
Ethylbenzene	ND		ug/l	2.5	—	1
Chloromethane	ND		ug/l	2.5	—	1
Bromomethane	ND		ug/l	2.5	—	1
Vinyl chloride	ND		ug/l	1.0	—	1
Chloroethane	ND		ug/l	2.5	—	1
1,1-Dichloroethene	ND		ug/l	0.50	—	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Trichloroethene	ND		ug/l	0.50	—	1
p/m-Xylene	ND		ug/l	2.5	—	1
o-Xylene	ND		ug/l	2.5	—	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-02

Date Collected: 07/12/17 08:35

Client ID: SITE 2 MW-6

Date Received: 07/12/17

Sample Location: GOWANDA, NY

Field Prep: Field-Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	16		ug/l	5.0	—	1
Carbon disulfide	ND		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	105		70-130

Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-03
 Client ID: SITE 3 MW-4SR
 Sample Location: GOWANDA, NY

Date Collected: 07/12/17 10:00
 Date Received: 07/12/17
 Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/19/17 21:17
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	--	1
1,1-Dichloroethane	ND		ug/l	2.5	--	1
Chloroform	ND		ug/l	2.5	--	1
2-Chloroethylvinyl ether	ND		ug/l	10	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	2.5	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	2.5	--	1
Ethylbenzene	ND		ug/l	2.5	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	2.5	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.5	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	--	1
Trichloroethene	ND		ug/l	0.50	--	1
p/m-Xylene	ND		ug/l	2.5	--	1
o-Xylene	ND		ug/l	2.5	--	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-03

Date Collected: 07/12/17 10:00

Client ID: SITE 3 MW-4SR

Date Received: 07/12/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	--	1
Styrene	ND		ug/l	2.5	--	1
Acetone	160		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	104		70-130

Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-04
 Client ID: SITE 4 MW-4D
 Sample Location: GOWANDA, NY

Date Collected: 07/12/17 10:25
 Date Received: 07/12/17
 Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/19/17 21:45
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	--	1
1,1-Dichloroethane	ND		ug/l	2.5	--	1
Chloroform	ND		ug/l	2.5	--	1
2-Chloroethylvinyl ether	ND		ug/l	10	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	2.5	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	2.5	--	1
Ethylbenzene	ND		ug/l	2.5	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	2.5	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.5	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	--	1
Trichloroethene	ND		ug/l	0.50	--	1
p/m-Xylene	ND		ug/l	2.5	--	1
o-Xylene	ND		ug/l	2.5	--	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-04

Date Collected: 07/12/17 10:25

Client ID: SITE 4 MW-4D

Date Received: 07/12/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	ND		ug/l	5.0	—	1
Carbon disulfide	ND		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	105		70-130



Project Name: PALMER ST. LF ROUTINE LIST

Project Number: Not Specified

Serial_No:07211715:56

Lab Number: L1723748

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-05
Client ID: SITE 5 BLIND DUPLIC
Sample Location: GOWANDA, NY

Date Collected: 07/12/17 00:00
Date Received: 07/12/17
Field Prep: Field-Filtered (Dissolved Metals)

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/19/17 22:13
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS Westborough Lab						
Methylene chloride	ND		ug/l	2.5	—	1
1,1-Dichloroethane	ND		ug/l	2.5	—	1
Chloroform	ND		ug/l	2.5	—	1
2-Chloroethylvinyl ether	ND		ug/l	10	—	1
Carbon tetrachloride	ND		ug/l	0.50	—	1
1,2-Dichloropropane	ND		ug/l	1.0	—	1
Dibromochloromethane	ND		ug/l	0.50	—	1
1,1,2-Trichloroethane	ND		ug/l	1.5	—	1
Tetrachloroethene	ND		ug/l	0.50	—	1
Chlorobenzene	ND		ug/l	2.5	—	1
1,2-Dichloroethane	ND		ug/l	0.50	—	1
1,1,1-Trichloroethane	ND		ug/l	2.5	—	1
Bromodichloromethane	ND		ug/l	0.50	—	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	—	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	—	1
Bromoform	ND		ug/l	2.0	—	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	—	1
Benzene	ND		ug/l	0.50	—	1
Toluene	ND		ug/l	2.5	—	1
Ethylbenzene	ND		ug/l	2.5	—	1
Chloromethane	ND		ug/l	2.5	—	1
Bromomethane	ND		ug/l	2.5	—	1
Vinyl chloride	ND		ug/l	1.0	—	1
Chloroethane	ND		ug/l	2.5	—	1
1,1-Dichloroethene	ND		ug/l	0.50	—	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Trichloroethene	ND		ug/l	0.50	—	1
p/m-Xylene	ND		ug/l	2.5	—	1
o-Xylene	ND		ug/l	2.5	—	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-05

Date Collected: 07/12/17 00:00

Client ID: SITE 5 BLIND DUPLIC

Date Received: 07/12/17

Sample Location: GOWANDA, NY

Field Prep: Field-Filtered (Dissolved Metals)

4D

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	ND		ug/l	5.0	—	1
Carbon disulfide	ND		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	105		70-130



Project Name: PALMER ST. LF ROUTINE LIST

Project Number: Not Specified

Serial_No:07211715:56

Lab Number: L1723748

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-06
Client ID: SITE 6 MW-3D
Sample Location: GOWANDA, NYDate Collected: 07/12/17 10:55
Date Received: 07/12/17
Field Prep: Field Filtered (Dissolved Metals)Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/19/17 22:42
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS Westborough Lab						
Methylene chloride	ND		ug/l	2.5	—	1
1,1-Dichloroethane	ND		ug/l	2.5	—	1
Chloroform	ND		ug/l	2.5	—	1
2-Chloroethylvinyl ether	ND		ug/l	10	—	1
Carbon tetrachloride	ND		ug/l	0.50	—	1
1,2-Dichloropropane	ND		ug/l	1.0	—	1
Dibromochloromethane	ND		ug/l	0.50	—	1
1,1,2-Trichloroethane	ND		ug/l	1.5	—	1
Tetrachloroethene	ND		ug/l	0.50	—	1
Chlorobenzene	ND		ug/l	2.5	—	1
1,2-Dichloroethane	ND		ug/l	0.50	—	1
1,1,1-Trichloroethane	ND		ug/l	2.5	—	1
Bromodichloromethane	ND		ug/l	0.50	—	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	—	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	—	1
Bromoform	ND		ug/l	2.0	—	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	—	1
Benzene	ND		ug/l	0.50	—	1
Toluene	ND		ug/l	2.5	—	1
Ethylbenzene	ND		ug/l	2.5	—	1
Chloromethane	ND		ug/l	2.5	—	1
Bromomethane	ND		ug/l	2.5	—	1
Vinyl chloride	ND		ug/l	1.0	—	1
Chloroethane	ND		ug/l	2.5	—	1
1,1-Dichloroethene	ND		ug/l	0.50	—	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Trichloroethene	ND		ug/l	0.50	—	1
p/m-Xylene	ND		ug/l	2.5	—	1
o-Xylene	ND		ug/l	2.5	—	1



Project Name: PALMER ST: LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-06
 Client ID: SITE 6 MW-3D
 Sample Location: GOWANDA, NY

Date Collected: 07/12/17 10:55
 Date Received: 07/12/17
 Field-Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	--	1
Styrene	ND		ug/l	2.5	--	1
Acetone	85		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

Project Name: PALMER ST. LF ROUTINE LIST

Project Number: Not Specified

Serial_No:07211715:56

Lab Number: L1723748

Report Date: 07/21/17

Lab ID: L1723748-07
Client ID: SITE 7 BS-3
Sample Location: GOWANDA, NYDate Collected: 07/12/17 11:30
Date Received: 07/12/17
Field Prep: Field Filtered (Dissolved Metals)Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 07/19/17 23:10
Analyst: PD

SAMPLE RESULTS

NO
SEEP
CREEK
SAMPLE
AD TACANT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	--	1
1,1-Dichloroethane	ND		ug/l	2.5	--	1
Chloroform	ND		ug/l	2.5	--	1
2-Chloroethylvinyl ether	ND		ug/l	10	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	2.5	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	2.5	--	1
Ethylbenzene	ND		ug/l	2.5	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	2.5	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.5	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	--	1
Trichloroethene	ND		ug/l	0.50	--	1
p/m-Xylene	ND		ug/l	2.5	--	1
o-Xylene	ND		ug/l	2.5	--	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-07

Date Collected: 07/12/17 11:30

Client ID: SITE 7 BS-3

Date Received: 07/12/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	ND		ug/l	5.0	—	1
Carbon disulfide	ND		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	106		70-130

Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-08
 Client ID: SITE 8 MW-8D
 Sample Location: GOWANDA, NY

Date Collected: 07/12/17 12:00
 Date Received: 07/12/17
 Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/19/17 23:38
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough, MA						
Methylene chloride	ND		ug/l	2.5	—	1
1,1-Dichloroethane	ND		ug/l	2.5	—	1
Chloroform	ND		ug/l	2.5	—	1
2-Chloroethylvinyl ether	ND		ug/l	10	—	1
Carbon tetrachloride	ND		ug/l	0.50	—	1
1,2-Dichloropropane	ND		ug/l	1.0	—	1
Dibromochloromethane	ND		ug/l	0.50	—	1
1,1,2-Trichloroethane	ND		ug/l	1.5	—	1
Tetrachloroethene	ND		ug/l	0.50	—	1
Chlorobenzene	ND		ug/l	2.5	—	1
1,2-Dichloroethane	ND		ug/l	0.50	—	1
1,1,1-Trichloroethane	ND		ug/l	2.5	—	1
Bromodichloromethane	ND		ug/l	0.50	—	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	—	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	—	1
Bromoform	ND		ug/l	2.0	—	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	—	1
Benzene	ND		ug/l	0.50	—	1
Toluene	ND		ug/l	2.5	—	1
Ethylbenzene	ND		ug/l	2.5	—	1
Chloromethane	ND		ug/l	2.5	—	1
Bromomethane	ND		ug/l	2.5	—	1
Vinyl chloride	ND		ug/l	1.0	—	1
Chloroethane	ND		ug/l	2.5	—	1
1,1-Dichloroethene	ND		ug/l	0.50	—	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Trichloroethene	ND		ug/l	0.50	—	1
p/m-Xylene	ND		ug/l	2.5	—	1
o-Xylene	ND		ug/l	2.5	—	1



Project Name: PALMER ST. LF ROUTINE LIST

Project Number: Not Specified

Serial_No:07211715:56

Lab Number: L1723748

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-08

Client ID: SITE 8 MW-8D

Sample Location: GOWANDA, NY

Date Collected: 07/12/17 12:00

Date Received: 07/12/17

Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	--	1
Styrene	ND		ug/l	2.5	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	5.0	--	1
2-Butanone	ND		ug/l	5.0	--	1
Vinyl acetate	ND		ug/l	5.0	--	1
4-Methyl-2-pentanone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	104		70-130



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-09
 Client ID: SITE 9 MW-7D
 Sample Location: GOWANDA, NY

Date Collected: 07/12/17 12:37
 Date Received: 07/12/17
 Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/20/17 00:07
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	--	1
1,1-Dichloroethane	ND		ug/l	2.5	--	1
Chloroform	ND		ug/l	2.5	--	1
2-Chloroethylvinyl ether	ND		ug/l	10	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	2.5	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	2.5	--	1
Ethylbenzene	ND		ug/l	2.5	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	2.5	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.5	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	--	1
Trichloroethene	ND		ug/l	0.50	--	1
p/m-Xylene	ND		ug/l	2.5	--	1
o-Xylene	ND		ug/l	2.5	--	1

Project Name: PALMER ST. LF ROUTINE LIST

Project Number: Not Specified

Serial_No:07211715:56

Lab Number: L1723748

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-09
Client ID: SITE 9 MW-7D
Sample Location: GOWANDA, NY

Date Collected: 07/12/17 12:37
Date Received: 07/12/17
Field Prep: Field-Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	-	1
Styrene	ND		ug/l	2.5	-	1
Acetone	ND		ug/l	5.0	-	1
Carbon disulfide	ND		ug/l	5.0	-	1
2-Butanone	ND		ug/l	5.0	-	1
Vinyl acetate	ND		ug/l	5.0	-	1
4-Methyl-2-pentanone	ND		ug/l	5.0	-	1
2-Hexanone	ND		ug/l	5.0	-	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-10

Date Collected: 07/12/17 13:00

Client ID: SITE 10 EQPMT BLANK

Date Received: 07/12/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered (Dissolved Metals)

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 07/19/17 19:51

Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS Westborough Lab						
Methylene chloride	ND		ug/l	2.5	—	1
1,1-Dichloroethane	ND		ug/l	2.5	—	1
Chloroform	ND		ug/l	2.5	—	1
2-Chloroethylvinyl ether	ND		ug/l	10	—	1
Carbon tetrachloride	ND		ug/l	0.50	—	1
1,2-Dichloropropane	ND		ug/l	1.0	—	1
Dibromochloromethane	ND		ug/l	0.50	—	1
1,1,2-Trichloroethane	ND		ug/l	1.5	—	1
Tetrachloroethene	ND		ug/l	0.50	—	1
Chlorobenzene	ND		ug/l	2.5	—	1
1,2-Dichloroethane	ND		ug/l	0.50	—	1
1,1,1-Trichloroethane	ND		ug/l	2.5	—	1
Bromodichloromethane	ND		ug/l	0.50	—	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	—	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	—	1
Bromoform	ND		ug/l	2.0	—	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	—	1
Benzene	ND		ug/l	0.50	—	1
Toluene	ND		ug/l	2.5	—	1
Ethylbenzene	ND		ug/l	2.5	—	1
Chloromethane	ND		ug/l	2.5	—	1
Bromomethane	ND		ug/l	2.5	—	1
Vinyl chloride	ND		ug/l	1.0	—	1
Chloroethane	ND		ug/l	2.5	—	1
1,1-Dichloroethene	ND		ug/l	0.50	—	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Trichloroethene	ND		ug/l	0.50	—	1
p/m-Xylene	ND		ug/l	2.5	—	1
o-Xylene	ND		ug/l	2.5	—	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-10

Date Collected: 07/12/17 13:00

Client ID: SITE 10 EQPMT BLANK

Date Received: 07/12/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered (Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
cis-1,2-Dichloroethene	ND		ug/l	2.5	—	1
Styrene	ND		ug/l	2.5	—	1
Acetone	ND		ug/l	5.0	—	1
Carbon disulfide	ND		ug/l	5.0	—	1
2-Butanone	ND		ug/l	5.0	—	1
Vinyl acetate	ND		ug/l	5.0	—	1
4-Methyl-2-pentanone	ND		ug/l	5.0	—	1
2-Hexanone	ND		ug/l	5.0	—	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	106		70-130

Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-11
 Client ID: TRIP BLANK
 Sample Location: GOWANDA, NY

Date Collected: 07/12/17 00:00
 Date Received: 07/12/17
 Field Prep: None

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 07/19/17 21:27
 Analyst: NL

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS Westborough Lab						
Methylene chloride	ND		ug/l	2.5	--	1
1,1-Dichloroethane	ND		ug/l	2.5	--	1
Chloroform	ND		ug/l	2.5	--	1
2-Chloroethylvinyl ether	ND		ug/l	10	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	1.5	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	2.5	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	2.5	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	2.5	--	1
Ethylbenzene	ND		ug/l	2.5	--	1
Chloromethane	ND		ug/l	2.5	--	1
Bromomethane	ND		ug/l	2.5	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.5	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	--	1
Trichloroethene	ND		ug/l	0.50	--	1
p/m-Xylene	ND		ug/l	2.5	--	1
o-Xylene	ND		ug/l	2.5	--	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	--	1



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-11

Date Collected: 07/12/17 00:00

Client ID: TRIP BLANK

Date Received: 07/12/17

Sample Location: GOWANDA, NY

Field Prep: None

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS: Westborough Lab						
Styrene	ND		ug/l	2.5	-	1
Acetone	ND		ug/l	5.0	-	1
Carbon disulfide	ND		ug/l	5.0	-	1
2-Butanone	ND		ug/l	5.0	-	1
Vinyl acetate	ND		ug/l	5.0	-	1
4-Methyl-2-pentanone	ND		ug/l	5.0	-	1
2-Hexanone	ND		ug/l	5.0	-	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	84		70-130
Dibromofluoromethane	116		70-130



METALS



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-01

Date Collected: 07/12/17 08:00

Client ID: SITE 1 MW-6D

Date Received: 07/12/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered

Matrix: Water

(Dissolved
Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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Dissolved Metals - Mansfield Lab

Arsenic, Dissolved	ND		mg/l	0.00050	-	1	07/17/17 11:35	07/18/17 10:58	EPA 3005A	1,6020A	AM
Chromium, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 10:58	EPA 3005A	1,6020A	AM
Lead, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 10:58	EPA 3005A	1,6020A	AM



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-02
Client ID: SITE 2 MW-6
Sample Location: GOWANDA, NY
Matrix: Water

Date Collected: 07/12/17 08:35
Date Received: 07/12/17
Field Prep: Field Filtered
(Dissolved
Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	0.03807		mg/l	0.00050	-	1	07/17/17 11:35	07/18/17 11:23	EPA 3005A	1,6020A	AM
Chromium, Dissolved	0.00409		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:23	EPA 3005A	1,6020A	AM
Lead, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:23	EPA 3005A	1,6020A	AM



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-03
 Client ID: SITE 3 MW-4SR
 Sample Location: GOWANDA, NY
 Matrix: Water

Date Collected: 07/12/17 10:00
 Date Received: 07/12/17
 Field Prep: Field Filtered
 (Dissolved
 Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.00050	-	1	07/17/17 11:35	07/18/17 11:26	EPA 3005A	1,6020A	AM
Chromium, Dissolved	0.01341		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:26	EPA 3005A	1,6020A	AM
Lead, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:26	EPA 3005A	1,6020A	AM



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-04
Client ID: SITE 4 MW-4D
Sample Location: GOWANDA, NY
Matrix: Water

Date Collected: 07/12/17 10:25
Date Received: 07/12/17
Field Prep: Field Filtered
(Dissolved Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals, Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.00050	-	1	07/17/17 11:35	07/18/17 11:29	EPA 3005A	1,6020A	AM
Chromium, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:29	EPA 3005A	1,6020A	AM
Lead, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:29	EPA 3005A	1,6020A	AM



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-05
Client ID: SITE 5 BLIND DUPLIC
Sample Location: GOWANDA, NY
Matrix: Water

Date Collected: 07/12/17 00:00
Date Received: 07/12/17
Field Prep: Field Filtered
(Dissolved
Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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Dissolved Metals - Mansfield Lab

Arsenic, Dissolved	ND		mg/l	0.00050	-	1	07/17/17 11:35	07/18/17 11:33	EPA 3005A	1,6020A	AM
Chromium, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:33	EPA 3005A	1,6020A	AM
Lead, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:33	EPA 3005A	1,6020A	AM



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-06
Client ID: SITE 6 MW-3D
Sample Location: GOWANDA, NY
Matrix: Water

Date Collected: 07/12/17 10:55
Date Received: 07/12/17
Field Prep: Field Filtered
(Dissolved
Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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Dissolved Metals: Mansfield Lab

Arsenic, Dissolved	0.00215		mg/l	0.00050	-	1	07/17/17 11:35	07/18/17 11:36	EPA 3005A	1,6020A	AM
Chromium, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:36	EPA 3005A	1,6020A	AM
Lead, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:36	EPA 3005A	1,6020A	AM



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-07

Date Collected: 07/12/17 11:30

Client ID: SITE 7 BS-3

Date Received: 07/12/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered

Matrix: Water

(Dissolved
Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
~~Dissolved Metals - Mansfield Lab~~											
Arsenic, Dissolved	0.00228		mg/l	0.00050	-	1	07/17/17 11:35	07/18/17 11:40	EPA 3005A	1,6020A	AM
Chromium, Dissolved	0.00110		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:40	EPA 3005A	1,6020A	AM
Lead, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:40	EPA 3005A	1,6020A	AM



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-08
Client ID: SITE 8 MW-8D
Sample Location: GOWANDA, NY
Matrix: Water

Date Collected: 07/12/17 12:00
Date Received: 07/12/17
Field Prep: Field Filtered
(Dissolved
Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
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Dissolved Metals - Mansfield Lab

Arsenic, Dissolved	ND		mg/l	0.00050	-	1	07/17/17 11:35	07/18/17 11:43	EPA 3005A	1,6020A	AM
Chromium, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:43	EPA 3005A	1,6020A	AM
Lead, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:43	EPA 3005A	1,6020A	AM



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-09

Date Collected: 07/12/17 12:37

Client ID: SITE 9 MW-7D

Date Received: 07/12/17

Sample Location: GOWANDA, NY

Field Prep: Field Filtered

Matrix: Water

(Dissolved
Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield, Pa											
Arsenic, Dissolved	ND		mg/l	0.00050	-	1	07/17/17 11:35	07/18/17 11:46	EPA 3005A	1,6020A	AM
Chromium, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:46	EPA 3005A	1,6020A	AM
Lead, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 11:46	EPA 3005A	1,6020A	AM



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

SAMPLE RESULTS

Lab ID: L1723748-10
 Client ID: SITE 10 EQPMT BLANK
 Sample Location: GOWANDA, NY
 Matrix: Water

Date Collected: 07/12/17 13:00
 Date Received: 07/12/17
 Field Prep: Field Filtered
 (Dissolved
 Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Dissolved Metals - Mansfield Lab											
Arsenic, Dissolved	ND		mg/l	0.00050	-	1	07/17/17 11:35	07/18/17 10:38	EPA 3005A	1,6020A	AM
Chromium, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 10:38	EPA 3005A	1,6020A	AM
Lead, Dissolved	ND		mg/l	0.00100	-	1	07/17/17 11:35	07/18/17 10:38	EPA 3005A	1,6020A	AM



Project Name: PALMER ST. LF ROUTINE LIST

Project Number: Not Specified

Serial_No:07211715:56

Lab Number: L1723748

Report Date: 07/21/17

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler

Custody Seal

A

Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1723748-01A	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-01B	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-01C	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-01D	Plastic 250ml HNO3 preserved	A	<2	<2	4.1	Y	Absent		CR-6020S(180),PB-6020S(180),AS-6020S(180)
L1723748-02A	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-02B	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-02C	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-02D	Plastic 250ml HNO3 preserved	A	<2	<2	4.1	Y	Absent		CR-6020S(180),PB-6020S(180),AS-6020S(180)
L1723748-03A	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-03B	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-03C	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-03D	Plastic 250ml HNO3 preserved	A	<2	<2	4.1	Y	Absent		CR-6020S(180),PB-6020S(180),AS-6020S(180)
L1723748-04A	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-04B	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-04C	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-04D	Plastic 250ml HNO3 preserved	A	<2	<2	4.1	Y	Absent		CR-6020S(180),PB-6020S(180),AS-6020S(180)
L1723748-05A	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-05B	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-05C	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-05D	Plastic 250ml HNO3 preserved	A	<2	<2	4.1	Y	Absent		CR-6020S(180),PB-6020S(180),AS-6020S(180)
L1723748-06A	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-06B	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-06C	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)

Project Name: PALMER ST. LF ROUTINE LIST
Project Number: Not Specified

Serial_No: 07211715:56
Lab Number: L1723748
Report Date: 07/21/17

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1723748-06D	Plastic 250ml HNO3 preserved	A	<2	<2	4.1	Y	Absent		CR-6020S(180),PB-6020S(180),AS-6020S(180)
L1723748-07A	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-07B	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-07C	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-07D	Plastic 250ml HNO3 preserved	A	<2	<2	4.1	Y	Absent		CR-6020S(180),PB-6020S(180),AS-6020S(180)
L1723748-08A	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-08B	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-08C	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-08D	Plastic 250ml HNO3 preserved	A	<2	<2	4.1	Y	Absent		CR-6020S(180),PB-6020S(180),AS-6020S(180)
L1723748-09A	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-09B	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-09C	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-09D	Plastic 250ml HNO3 preserved	A	<2	<2	4.1	Y	Absent		CR-6020S(180),PB-6020S(180),AS-6020S(180)
L1723748-10A	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-10B	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-10C	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-10D	Plastic 250ml HNO3 preserved	A	<2	<2	4.1	Y	Absent		CR-6020S(180),PB-6020S(180),AS-6020S(180)
L1723748-11A	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)
L1723748-11B	Vial HCl preserved	A	NA		4.1	Y	Absent		NYTCL-8260(14)

Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A - Spectra identified as "Aldol Condensation Product".
- B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: DU Report - No QC



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I - The lower value for the two columns has been reported due to obvious interference.
- M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R - Analytical results are from sample re-analysis.
- RE - Analytical results are from sample re-extraction.
- S - Analytical results are from modified screening analysis.
- J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND - Not detected at the reporting limit (RL) for the sample.

Report Format: DU Report - No QC



Project Name: PALMER ST. LF ROUTINE LIST

Lab Number: L1723748

Project Number: Not Specified

Report Date: 07/21/17

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624: *m/p*-xylene, *o*-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO₂, NO₃.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO₃-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B
EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.
Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH₃-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO₃-F, EPA 353.2: Nitrate-N, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO₄-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.
Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

 NEW YORK CHAIN OF CUSTODY Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193		Service Centers Mahwah, NJ 07430: 35 Whitney Rd, Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105		Page 1 of 2		Date Rec'd In Lab 7/13/17		ALPHA Job # C-1723748									
		Project Information Project Name: Palmer Street Landfill Routine Parameter List Project Location: Gowanda, NY Project # _____ (Use Project name as Project #) ☐ Project Manager: Jeff Smith ALPHAQuote #: _____ Turn-Around Time: Standard ☒ Due Date: _____ Rush (only if pre approved) ☐ # of Days: _____				Deliverables ☐ ASP-A ☐ ASP-B ☐ EQUIS (1 File) ☐ EQUIS (4 File) ☐ Other		Billing Information ☒ Same as Client Info PO # _____									
Client Information Client: Moench Company Address: 465 Palmer St Gowanda, NY 14070 Phone: 716-532-2201 Fax: 716-532-5518 Email: jsmith@caleres.com		Regulatory Requirement ☐ NY TOGS ☐ NY Part 375 ☐ AWQ Standards ☐ NY CP-51 ☐ NY Restricted Use ☐ Other ☐ NY Unrestricted Use ☐ NYC Sewer Discharge		Disposal Site Information Please identify below location of applicable disposal facilities. Disposal Facility: ☐ NJ ☐ NY ☐ Other: _____		These samples have been previously analyzed by Alpha ☒ Other project specific requirements/comments: Metals samples are filtered by the client in the field. ALL 7-12-17 Please specify Metals or TAL.											
ALPHA Lab ID (Lab Use Only)		Sample ID		Collection Date Time		Sample Matrix		Sampler's Initials		ANALYSIS TCL 8260 D-Metals (As, Cr, Pb)		Sample Filtration ☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below)		Sample Specific Comments			
23748-01		Site 1 MW-6D		7/12/17 800		GW		MB		X X		Grab		4			
-02		Site 2 MW-6		11 835		GW		11		X X		Grab		4			
-03		Site 3 MW-4SR		11 1000		GW		11		X X		Grab		4			
-04		Site 4 MW-4D		11 1025		GW		11		X X		Grab		4			
-05		Site 5 BLIND DUPLIC		11		GW		11		X X		Grab		4			
-06		Site 6 MW-3D		11 1055		GW		11		X X		Grab		4			
-07		Site 7 BS-3		11 1130		GW		11		X X		Grab		4			
-08		Site 8 MW-8D		11 1200		GW		11		X X		Grab		4			
-09		Site 9 MW-7D		11 1237		GW		11		X X		Grab		4			
-10		Site 10 EQPMT BLANK		11 1300		GW		11		X X		Grab		4			
Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other		Container Code: P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle		Westboro: Certification No: MA935 Mansfield: Certification No: MA015		Container Type V P		Preservative B C		Relinquished By: J. Smith Jm AL AAL		Date/Time 7/12/17 15:00 7/12/17 15:30		Received By: Jm AL AAL Jm AL AAL		Date/Time 7/12/17 15:30 7/13/17 03:30	
Form No: 01-25 (rev. 30-Sept-2013)		Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS.															



465 PALMER STREET
GOWANDA, NEW YORK 14070

TEL. 716-532-2201

FAX 716-532-5518

ANNUAL GROUNDWATER QUALITY MONITORING
REPORT.
FOR CALENDAR YEAR 2017
AT PALMER STREET LANDFILL.

MOENCH COMPANY
GOWANDA, NEW YORK 14070

Michael Best

Jeffrey Smith
Site Manager

MB

Jan '18

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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.
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F	ANALYTICAL DATA FROM "ALPHA LABORATORIES" TONAWANDA 2017 MONITORING EVENT; SUBMITTED IN PREVIOUS SEMI-ANNUAL REPORTS OF: JUNE & AUGUST OF 2017.

1.0 INTRODUCTION

1.1 BACKGROUND

THE MOENCH COMPANY, A DIVISION OF CALERES *5*, HEADQUARTERED IN ST. LOUIS, MO., THE LANDFILL 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 (1983). 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. THE ENTIRE MOENCH OPERATION WAS TERMINATED IN 1992. All BUILDINGS WERE DEMOLISHED, EXCEPT FOR A SMALL OFFICE AND MAINTAINANCE SHOP.

1.2 PURPOSE AND SCOPE

SAMPLES ASSOCIATED WITH TWO ROUNDS OF WATER QUALITY MONITORING, FOR THE 2017 CALENDAR YEAR, WERE COLLECTED IN JUNE & AUGUST OF 2017, FOR THE LANDFILL.

THE PURPOSE OF THIS REPORT IS TO PROVIDE A SUMMARY OF THE DATA GENERATED AND GENERAL TRENDS FOR THE PALMER STREET LANDFILL DURING 2017. 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)

C

2.0 MONITORING SYSTEM

2.1 REVISED MONITORING SYSTEM(8/06)

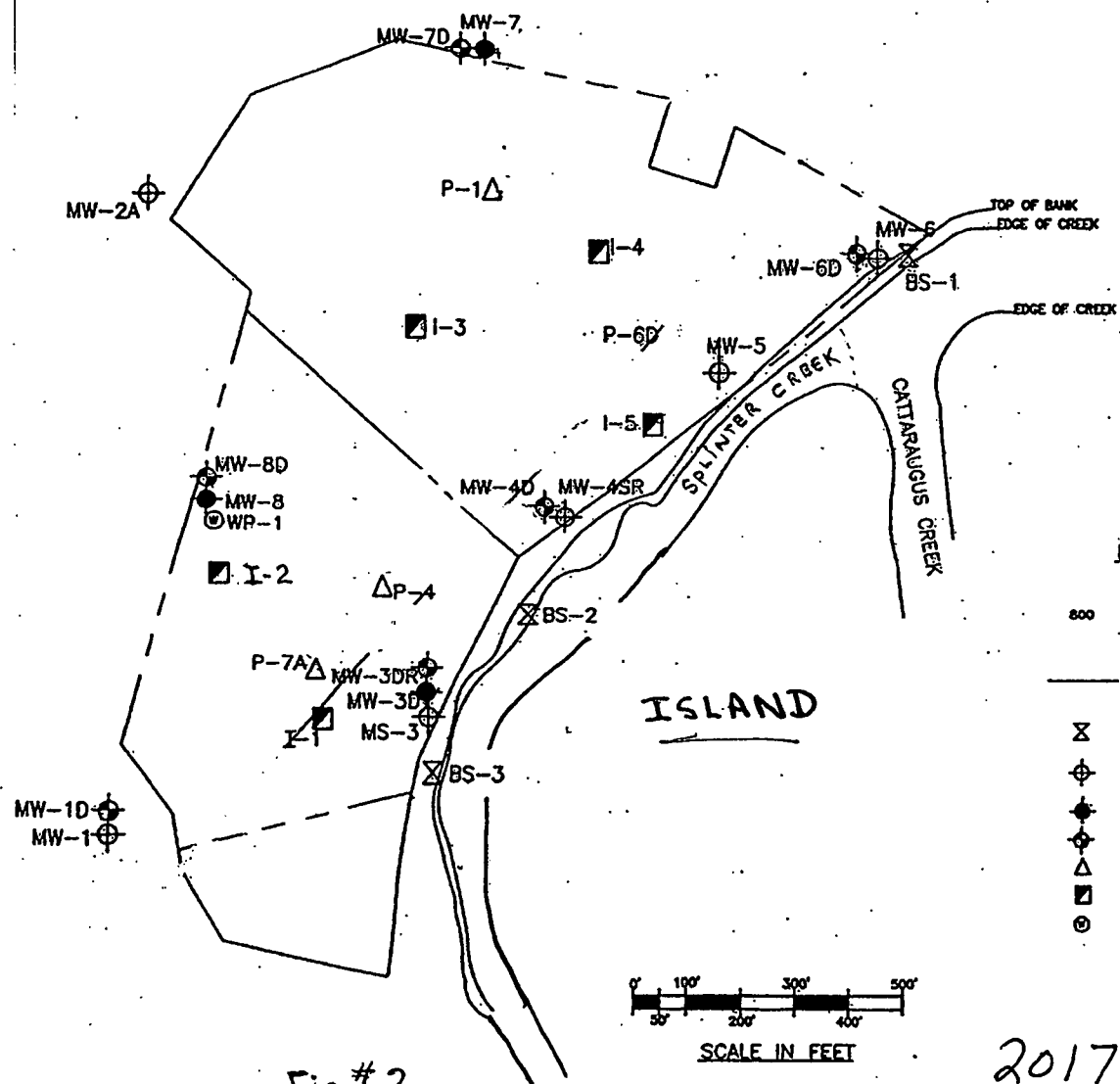
IN JULY 2006, A MEETING WITH REPRESENTATIVES OF NEW YORK STATE DEPARTMENTAL CONSERVATION, GEOMATRIX CONSULTANT, AND MOENCH COMPANY, RESULTED IN A RECONFIGURING OF THE DETECTION MONITORING SYSTEM. THIS WAS DONE AFTER CONSIDERING THE THREE PRIOR "COVER SYSTEM PERFORMANCE MONITORING SYSTEM" RESULTS. THE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

THE NINE (9) DOWNGRAIDENT GROUNDWATER MONITORING WELLS WERE EVALUATED IN 2016, IN ACCORDANCE WITH THE NYDEC-APPROVED LONG TERM POST CLOSURE MONITORING PLAN (REF. #1) NYSDEC HAS APPROVED THIS PLAN.

IN ADDITION TO THE DOWN GRADIENT WELLS, NYSDEC ALSO REQUIRES THE MONITORING OF THREE(3)BANK SEEPS; BS-1, BS-2, BS-3. THE ABILITY TO OBTAIN WATER FROM THESE THREE BANK SEEPS VARIES DUE TO WET/DRY WEATHER. DURING BOTH 2017 SAMPLING EVENTS A BANKSEEP SAMPLE WAS AVAILABLE ONLY AT BS-3.

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. THESE CONTINUE TO SHOW THE EXTREME EFFECTIVENESS OF THE COVER SYSTEM.



LAT. 42° 27' 0"
Long. 78° 55' 30"

LEGEND

- 800 ISOPOTENTIAL, DOTTED WHERE REFERRED GROUNDWATER FLOW DIRECTION
- LANDFILL BOUNDARY AND AREA BOUNDARY DIVIDER
- X BANK SEEP
- ⊕ UPPER OVERBURDEN MONITORING WELL
- ⊙ LOWER OVERBURDEN MONITORING WELL
- ⊕ BEDROCK MONITORING WELL
- △ PIEZOMETER
- INFILTRATOR
- ⊙ WELL POINT

REVISED
12/12

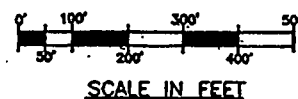


Fig. # 2

2017 ANNUAL
SAMPLE EVENT:



AMEX
Consultants, Inc.
Williamsville, NY

PALMER STREET LANDFILL

SITE PLAN

DATE	PROJ. NO.
	8104
FILE NO.	DWG. NO.
N/A	FIGURE 1.2

3.0 MONITORING METHODS

3.1 GROUNDWATER MONITORING:

SAMPLES COLLECTED DURING THE TWO 2017 MONITORING EVENTS WERE COLLECTED BY MOENCH COMPANY PERSONNEL. THE ANALYTICAL WORK WAS PERFORMED BY ALPHA LABORATORIES, OF TONAWANDA, NEW YORK 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 METHODS 200.7 AND 8260 FOR METALS AND VOC RESPECTIVLY (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 PIZOMETERS, INFILTROMETERS, AND WELLS ON-SITE.

IN JULY OF 2011, MANY UNNECESSARY AND OBSELETE WELLS, PIEZOMETERS, LYSIMETERS AND A WELL POINT WERE REMOVED FROM THE LANDFILL. THIS WAS DONE WITHIN AN AGREEMENT WITH NYSDEC-9. NEW YORK STATE PROCEDURES WERE FOLLOWED.

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

3.2 INFILTROMETER MONITORING

FIVE INFILTROMETERS HAD BEEN INSTALLED IN (1991) BENEATH THE LAND-FILL CAP TO AID IN THE ASSESSMENT OF PERFORMANCE OF THE CAP. DURING EACH SEMIANNUAL EVENT, WATER LEVELS IN THE INFILTROMETER 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, EXCEPTIONS ARE NOTED ON THE TABLE. A SCHEMATIC SHOWING THE DESIGN AND DIMENSIONS OF THE INFILTROMETERS 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 # 2

MOENCH COMPANY
PALMER STREET LANDFILL
4-24-17 MONITORING EVENT

INFILTROMETER MEASUREMENTS

Infiltrometer	Static Water Level (ft)	Static Water Level (ft)	Δ Depth - gal (ft)	# Days Between Readings (#)	Infiltration Rate		Approx. Total Rainfall This Period (ft)	$\frac{\text{GAL}}{155} \times 100$ Infiltration (%)
					gal/day.ft ²	(cm/sec)		
I-1 (A)	6.50	4.10	2.40g = 17.0	291	.0033	1.6×10^{-7}	4.31	10.9%
I-2	7.20	7.25	-NEGATIVE	—	—	—	—	—
I-3	7.25	7.00	.25g = 2.2	291	.00043	2.0×10^{-8}	4.31	1.4%
I-4	6.40	6.80	-NEGATIVE	—	—	—	—	—
I-5	7.13	7.25	-NEGATIVE	—	—	—	—	—

Note:

** Negative ΔD precludes calculation of meaningful data. (A) I-1 OFTEN FLOODED BY NATURAL SPRINGS
* WASH PONDS, UPGRADIENT.

TABLE #3

MOENCH COMPANY
PALMER STREET LANDFILL
MONITORING EVENT

7-6-17 INFILTROMETER MEASUREMENTS

Infiltrometer	Static Water Level (ft) 4-24-17	Static Water Level (ft) 7-6-17	Δ Depth - gal (ft)	# Days Between Readings (#)	Infiltration Rate		Approx. Total Rainfall This Period (ft)	Infiltration (%)
					gal/day.ft ²	(cm/sec)		
I-1 (A)	4.10	4.95	NEGATIVE	68	—	—	.97 ft.	—
I-2	7.25	7.20	.05	"	.0004	1.8×10^{-8}	"	.0003 %
I-3	7.03	7.20	NEGATIVE	"	—	—	"	—
I-4	6.80	6.70	.10	"	.0008	3.8×10^{-8}	"	.0006 %
I-5	7.25	7.20	.05	"	.0004	1.8×10^{-8}	"	.0003 %

Note:

** Negative ΔD precludes calculation of meaningful data.

(A) I-1 OFTEN FLOODED BY NATURAL SPRINGS
& WASH PONDS, UPGRADIENT.

TABLE #4
PALMER STREET LANDFILL 2017
SUMMARY OF GROUNDWATER ELEVATIONS(1)

	<u>EVENT</u>	
	<u>APR. 24, '17</u>	<u>JULY 6, '17</u>
MW-1	<u>822.95</u>	<u>821.35</u>
MW-1D	<u>799.32</u>	<u>800.42</u>
MW-2A	<u>807.42</u>	<u>807.22</u>
MW-3	<u>NO WATER</u>	<u>LTB WATER</u>
MW-3D	<u>794.08</u>	<u>794.43</u>
MW-3DR	<u>795.62</u>	<u>796.17</u>
MW-4SR	<u>794.80</u>	<u>794.05</u>
MW-4D	<u>791.33</u>	<u>791.08</u>
MW-5	<u>DRY</u>	<u>Dry</u>
MW-6	<u>785.88</u>	<u>784.53</u>
MW-6D	<u>783.08</u>	<u>782.33</u>
MW-7	<u>792.90</u>	<u>794.40</u>
MW-7D	<u>794.14</u>	<u>794.14</u>
MW-8	<u>DRY</u>	<u>Dry</u>
P-1	<u>794.75</u>	<u>794.40</u>
P-4	<u>798.24</u>	<u>798.24</u>
P-6D	<u>789.70</u>	<u>790.15</u>
P-7A	<u>797.77</u>	<u>797.57</u>
WP-1	<u>813.81</u>	<u>813.21</u>

Notes:

(1) Measured in feet above sea level.

MW= Monitoring Wells P=Piezometers.

WP=Well Piont.

2017
Annual

4.0 GROUNDWATER QUALITY MONITORING RESULTS

4.1 EVALUATION OF GROUNDWATER ELEVATION DATA:

GROUNDWATER ELEVATION MEASUREMENTS WERE TAKEN AT ALL ACCESSIBLE ONSITE MONITORING POINTS DURING THE TWO ANNUAL 2017 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. IN AUGUST 2009, A SEVERE FLOOD CONTAMINATED THE VILLAGE'S WATER RESERVIOR. THROUGHOUT THE PAST 7 YEARS THE VILLAGE HAS USED ITS' DEEP WELL AQUIFER FOR WATER. THIS GREATLY REDUCED THE BEDROCK WATER LEVELS. RECENTLY, THEY BEGAN USING THE RESERVIOR AGAIN, RESULTING IN INCREASED WATER LEVEL.

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.

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. TO AVOID MIS-INTERPRETATION OF WATER QUALITY DATA, "TOTAL" METALS WILL NO LONGER BE ANALYZED FOR GROUNDWATER QUALITY STANDARDS OR EVALUATION OF GROUNDWATER QUALITY. IMPACTS WILL BE BASED ON SOLUBLE METALS CONCENTRATION. BARIUM IS NO LONGER REVELANT AS IT IS IN NATIVE SOIL.

2017 ANNUAL SUMMARIES AS FOLLOWS:

THE ONLY DETECTION OF METALS ABOVE STANDARD WAS ARSENIC IN MW-6 ON BOTH SAMPLES TAKEN IN 2017. ARSENIC IS NATURAL IN NATIVE SOIL AND DETECTED FREQUENTLY IN UPGRADIENT WELLS.

ACETONE EXCEEDED GUIDANCE VALUES IN MW-3D AND BLIND DUPLICATE (MW-6D) IN THE APRIL SAMPLE AND MW-3D, MW-4SR AND MW-6D IN JULY SAMPLE. ACETONE IS A COMMON LAB CONTAMINANT AND GENERATED BY THE DECOMPOSITION OF PROTEINS.

CARBON ¹⁴DISULFIDE WAS DETECTED IN MW-7D IN THE APRIL SAMPLE. THOUGHT MAYBE CAUSED BY LIDS ON VOC SAMPLE VIALS. IT IS AN ANOMOLY.

'Ph' CONTINUES TO TREND BELOW NEUTRAL (7.0) AT MW-4SR AND MW-6.

NO ONE HAS SUGGESTED A LOGICAL EXPLAINATION. ALL OTHER SAMPLING LOCATIONS ARE HISTORICALLY ABOUT RANGE OF NATURAL GROUNDWATER (7.50 - 8.10).

TABLE 5

MOENCH COMPANY
PALMER STREET LANDFILL
4-26-17 MONITORING EVENT

SUMMARY OF FIELD MEASUREMENTS

Location	Sampling Date	Sampling Time	Temp. (°C)	pH (units)	Conductance ⁽¹⁾ (umhos/cm)	Turbidity	INITIAL Sample Appearance	Sample Odor
MW-3	4/26/17	NO sample	—	—	—	NA	—	—
*** MW-3D	"	10:45	13.5	7.77	395	"	Clear	NO
* MW-4SR	"	9:20	11.5	6.57	560	"	Turbid	Finish
*** MW-4D	"	10:05	13.5	7.79	580	"	Clear	NO
* MW-5	"	—	—	—	—	"	—	—
* MW-6	"	8:50	13.3	6.55	1600	"	Iron-Black	NO
*** MW-6D	"	8:00	14.0	7.84	900	"	Clear	None
*** MW-7D	"	12:10	12.1	7.77	560	"	Clear	NO
*** MW-8D	"	11:40	13.0	7.70	445	"	Clear	NO
BS-1	"	NO sample	—	—	—	"	—	—
BS-2	"	NO sample	—	—	—	"	—	—
(A) BS-3	"	11:24	20.3	7.09	860	"	Red Iron	NO

NOTES:

- (1) Conductivity readings corrected to 25°C.
(2) Blind Duplicate MW-6D
(3) MW-7D is apparent hydraulically upgradient bedrock well.

6.5-8.5 (std)

(A) No Bank seep - sampled pool
by creek

* Shallow Overburden Well
*** Bedrock Well

** Upgradient
BS Bank Seep

NO sample available - MW-3, MW-5, BS1, BS2

TABLE 5

MOENCH COMPANY
PALMER STREET LANDFILL
July 12, 2017 MONITORING EVENT

SUMMARY OF FIELD MEASUREMENTS

INITIAL

Location	Sampling Date	Sampling Time	Temp. (°C)	pH (units)	Conductance ⁽¹⁾ (umhos/cm)	Turbidity	Sample Appearance	Sample Odor
* MW-3	DRY	—	—	—	—	NA	—	—
*** MW-3D	7-12-17	1055	14.3	7.91	380	"	clear	NO
* MW-4SR	7-12-17	1000	14.1	6.70	1050	"	SLIGHT TUR	FINISH
*** MW-4D	7-12-17	1025	14.5	7.91	590	"	clear	NO
* MW-5	DRY	—	—	—	—	"	—	—
* MW-6	7-12-17	835	16.8	6.80	1450	"	TURBID	NO
* MW-6D	7-12-17	800	15.5	8.00	1050	"	clear	NO
*** MW-7D	7-12-17	1237	13.9	7.91	610	"	clear	NO
* MW-8D	7-12-17	1200	13.6	7.91	400	"	clear	NO
BS-1	NO SEEP	—	—	—	—	"	—	—
BS-2	"	—	—	—	—	"	—	—
BS-3	7-12-17	1130	23.0	7.40	580	"	TURBID	NO

NOTES:

- (1) Conductivity readings corrected to 25°C.
(2) Blind Duplicate MW-4D
(3) MW-7D is apparent hydraulically upgradient bedrock well.

* (Shallow Overburden Well)
*** Bedrock Well

WATER

** Upgradient
BS Bank Seep

6.5-8.5 (SE)

NO
SEEP
TOOK
APR
CREEK

TABLE 5

MOENCH COMPANY
PALMER STREET LANDFILL
MONITORING EVENT"

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	0.035	D	ND	ND	ND	D	.037	ND	.025mg/l
Chromium - Soluble	0.005	r	ND	ND	ND	7	ND	ND	.05
Lead - Soluble	0.005	7	ND	ND	ND		ND	ND	.025
		N				N			
		O				O			

Volatiles mg/L		S							
ACETONE		a	1.40	.034	ND	S	.037	.032	Guid. Value = .05mg/L
		m				a			
		7				m			
		i				p			
		e				e			

** Screened in Waste/Overburden.

Blind Duplicate MW-6D

MOENCH COMPANY
PALMER STREET LANDFILL
MONITORING EVENT⁽¹⁾

4/26/17

MWLD

	Quantitation Limit	MW-7D	MW-8D	BS-1	BS-2	BS-3	Blind Dupl	EQUIP. 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	S	S	ND	ND	ND	.05
Lead - Soluble	0.005	ND	ND	A	A	ND	ND	ND	.025
				P	P				
				I	I				

[illegible]

TABLE 6

MOENCH COMPANY
PALMER STREET LANDFILLJuly 12, 2017 MONITORING EVENT⁽¹⁾

SUMMARY OF ANALYTICAL RESULTS

	Quantitation Limit	** MW-3	MW-3D	** MW-4SR	MW4D	** MW-5	** MW-6	MW-6D	Class "QA" Std.
Metals (mg/l):									
Arsenic - Soluble	0.005	D R	.002	ND	ND	D	.039	ND	.025mg/l
Chromium - Soluble	0.005	Y	ND	.013	ND	R	.004	ND	.05
Lead - Soluble	0.005		ND	ND	ND	Y	ND	ND	.025

Volatiles mg/L									
ACETONE		↓	.085	.160	ND	↓	.016	.054	GUID. VALUE = .05 mg/L

(**) Screened in Waste/Overburden.

Blind Duplicate 4D

TABLE 6

MOENCH COMPANY
PALMER STREET LANDFILL

July 12, 2017 MONITORING EVENT⁽¹⁾

SUMMARY OF ANALYTICAL RESULTS

MW
4-D

	Quantitation Limit	MW-7D	MW-8D	BS-1	BS-2	BS-3	Blind Duplic	Class "GA" Std.
Metals (mg/l):								
Arsenic - Soluble	0.005	ND	ND	N	N	.002	ND	.025mg/l
Chromium - Soluble	0.005	ND	ND	O	O	.001	ND	.05
Lead - Soluble	0.005	ND	ND	S	S	ND	ND	.025
				E	E			
				E	E			
				P	P			

Volatiles mg/L								
ACETONE		ND	ND	↓	↓	ND	ND	Guid. Value = .05 mg/L

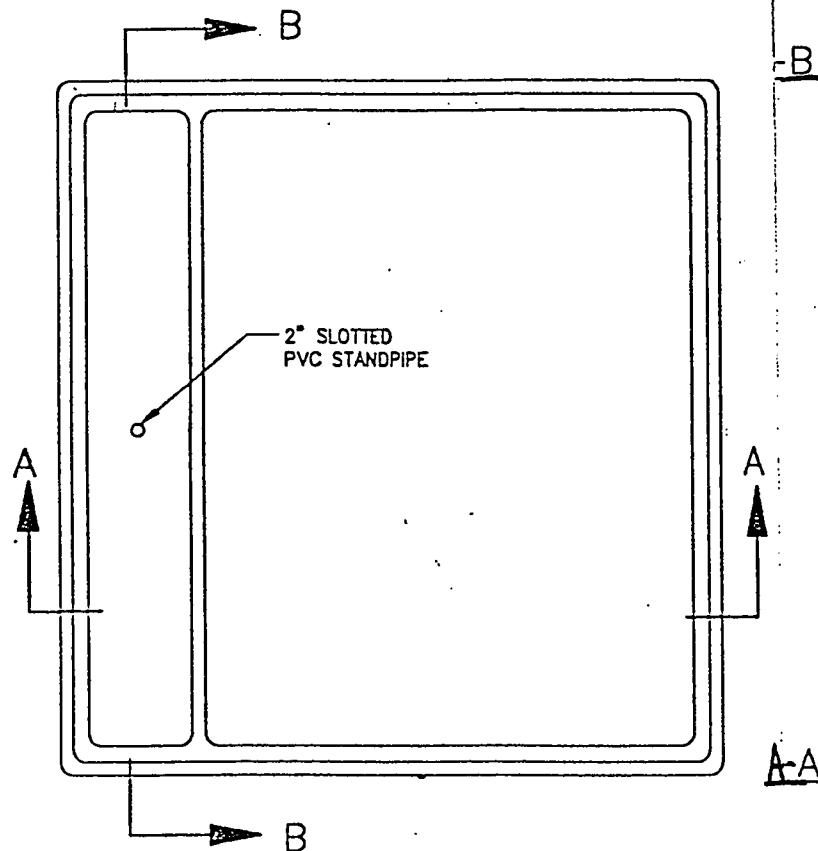
(A) CREEK
SAMPLE

ATTACHMENT A

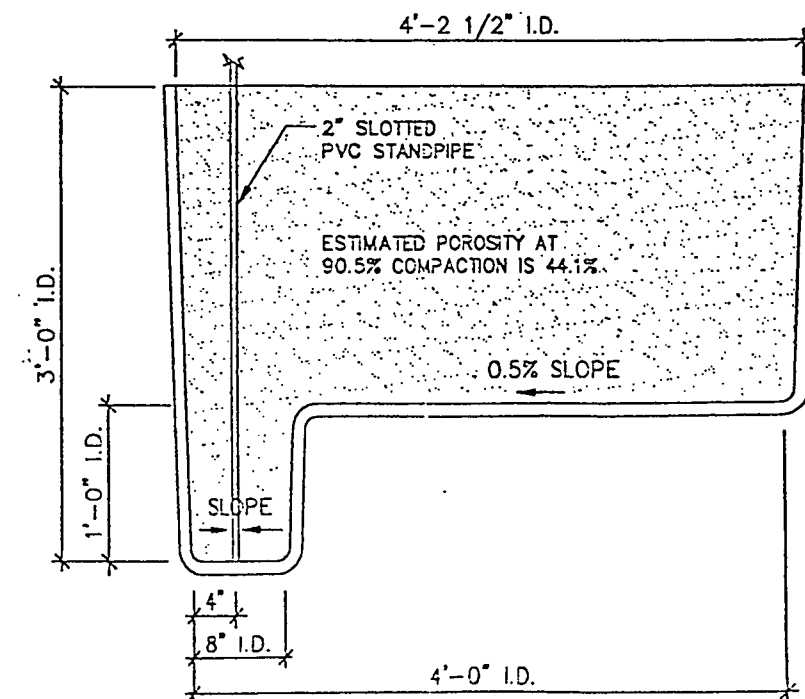
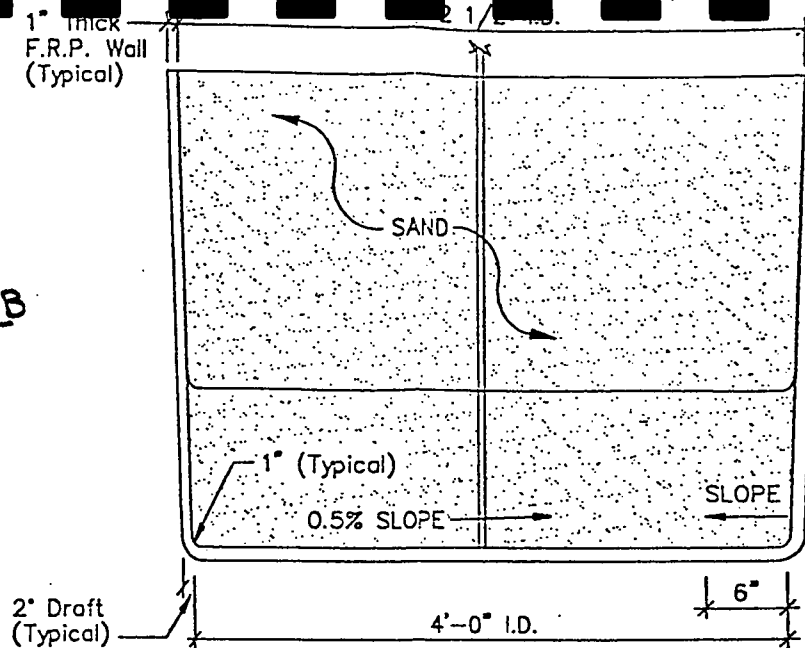
INFILTROMETER DESIGN

PALMER STREET LANDFILL
GROUNDWATER MONITORING REPORT...

April + July 17 SAMPLING EVENT..



PLAN



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

INFILTRATOR

ATTACHMENT B

GROUNDWATER ELEVATION
DATA & GRAPHS

MONITORING EVENTS April + July '17

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FIGURE #3		PALMER STREET LANDFILL MONITORING COMPANY GROUNDWATER ELEVATION vs TIME (FEET ABOVE SEA LEVEL) SHALLOW OVERBURDEN MONITOR WELLS										sec. 17													
	Jan-80	Apr-80	Jul-80	Oct-80	Jan-81	May-81	Jul-81	Oct-81	Jan-82	May-82	Jul-82	Oct-82	Feb-83	May-83	Jul-83	Oct-83	Mar-84	Jun-84	Sep-84	Dec-84	Mar-85	Jun-85	Sep-85	Dec-85	Apr-86
MW-1	818	819	817	817	819	817	818	818	819	820	818	820	820	821	819	821	821	821	822	823	821	821	821	821	821
MW-3	796	796	794	793	794	793	792	792	793	794	793	793	794	794	793	79	794	794	794	794	794	793	793	794	796
MW-5	785	785	784	784	788	784	782	782	783	784	784	783	783	784	782	78	786	783	7	784	784	784	784	782	DRY
MW-6	784	784	783	784	785	784	784	784	784	784	784	783	784	784	784	78	784	783	7	784	784	783	783	784	784
MW-7S	795	795	793	793	795	795	794	792	792	793	793	792	792	793	792	79	788	792	7	792	794	791	791	793	794
MW-4SR																78	792	791	7	791	791	790	790	790	780

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												Fig. #3												Fig. #3																							
	Aug-86	Nov-86		Apr-87	Aug-87	Nov-87	Apr-88	Aug-88	Nov-88	Apr-89	Aug-89	Nov-89	Apr-90	Sep-90	Mar-91	Aug-91	Mar-92	Aug-92	Mar-93	Aug-93	Mar-94	Aug-94	Mar-95	Aug-95	Mar-96	Aug-96																					
MW-1	821	822		822	821	821	821	821	821	821	819	820	822	821	822	820	821	821	820	821	821	821	821	821	821	821																					
MW-3	789	798		794	794	794	800	794	794	794	794	793	794	794	786	794	795	796	794	796	795	794	795	794	794	821																					
MW-5	DRY	DRY		787	787	787	DRY	DRY	DRY	DRY	DRY	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry																					
MW-6	783	787		785	785	784	784	784	783	784	783	783	785	784	783	783	785	784	788	788	785	784	781	783	785	784																					
MW-7S	792	794		793	792	793	793	792	792	793	793	791	794	792	794	793	794	793	793	794	794	792	791	791	795	784																					
MW-4SR	796	791		792	791	793	793	791	790	791	790	790	794	792	794	793	793	793	797	799	794	794	791	793	794	783																					

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plrgwelv

Palmer I/fill; shallow GW elev.

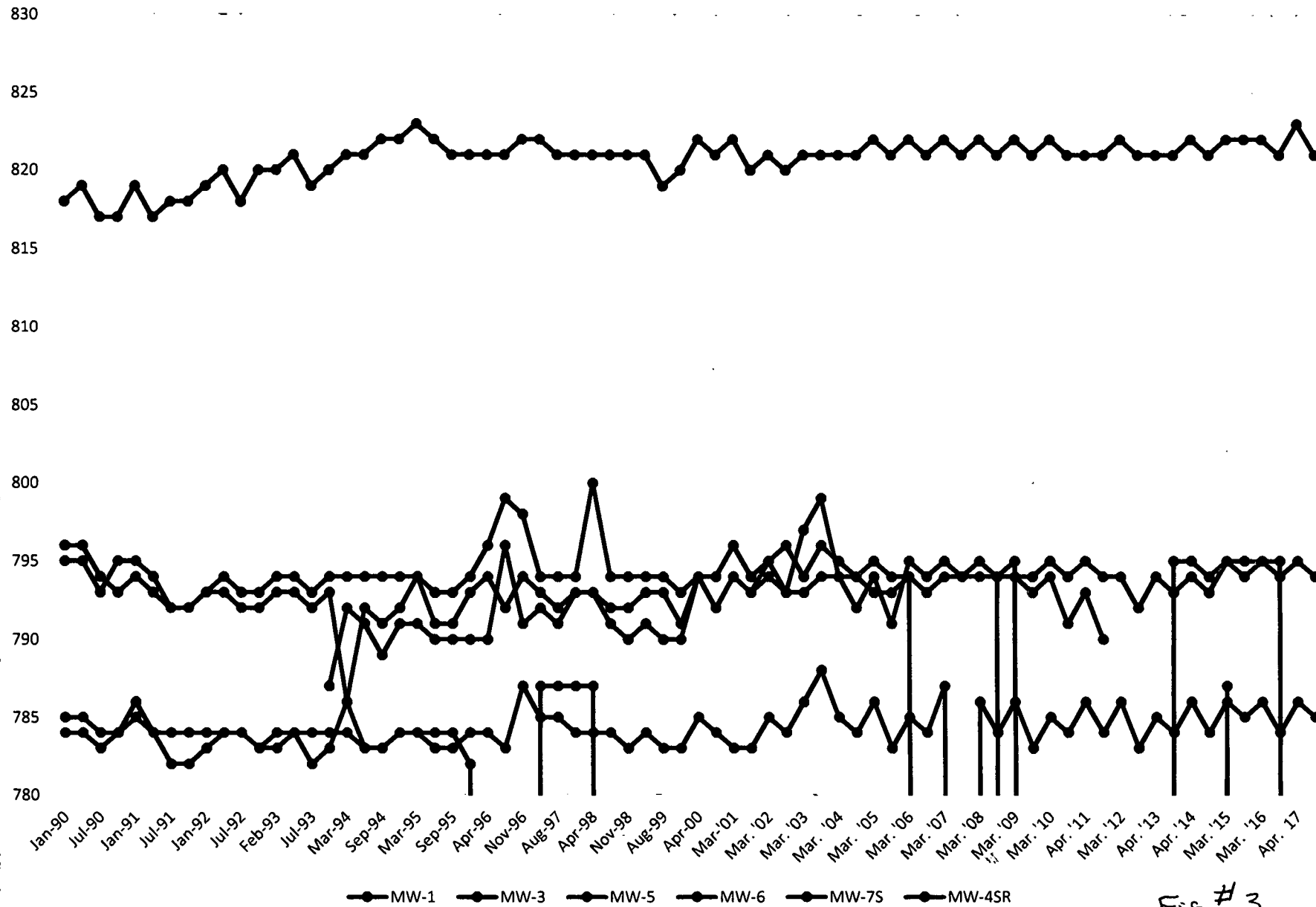


Fig #3

Plr gw elv ✓

plmrgw2.xlsx.xls

Figure #4				PALMER STREET LANDFILL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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Fig #4

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plmrgw2.xlsx.xls

Fig. #4																					
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801	801	802	802	801	802	797	802	792	799	798	800	801	801	802	797	791	789	788	792	794	794
795	794	795	794	795	794	795	795	794	794	794	795	794	795	795	795	794	794	794	793	793	794
796	796	797	796	796	796	794	794	792	792	793	795	796	795	797	794	792	791	785	789	791	791

P/mrg W2

Palmer L/fill; GW elev. Deep ov. Burden

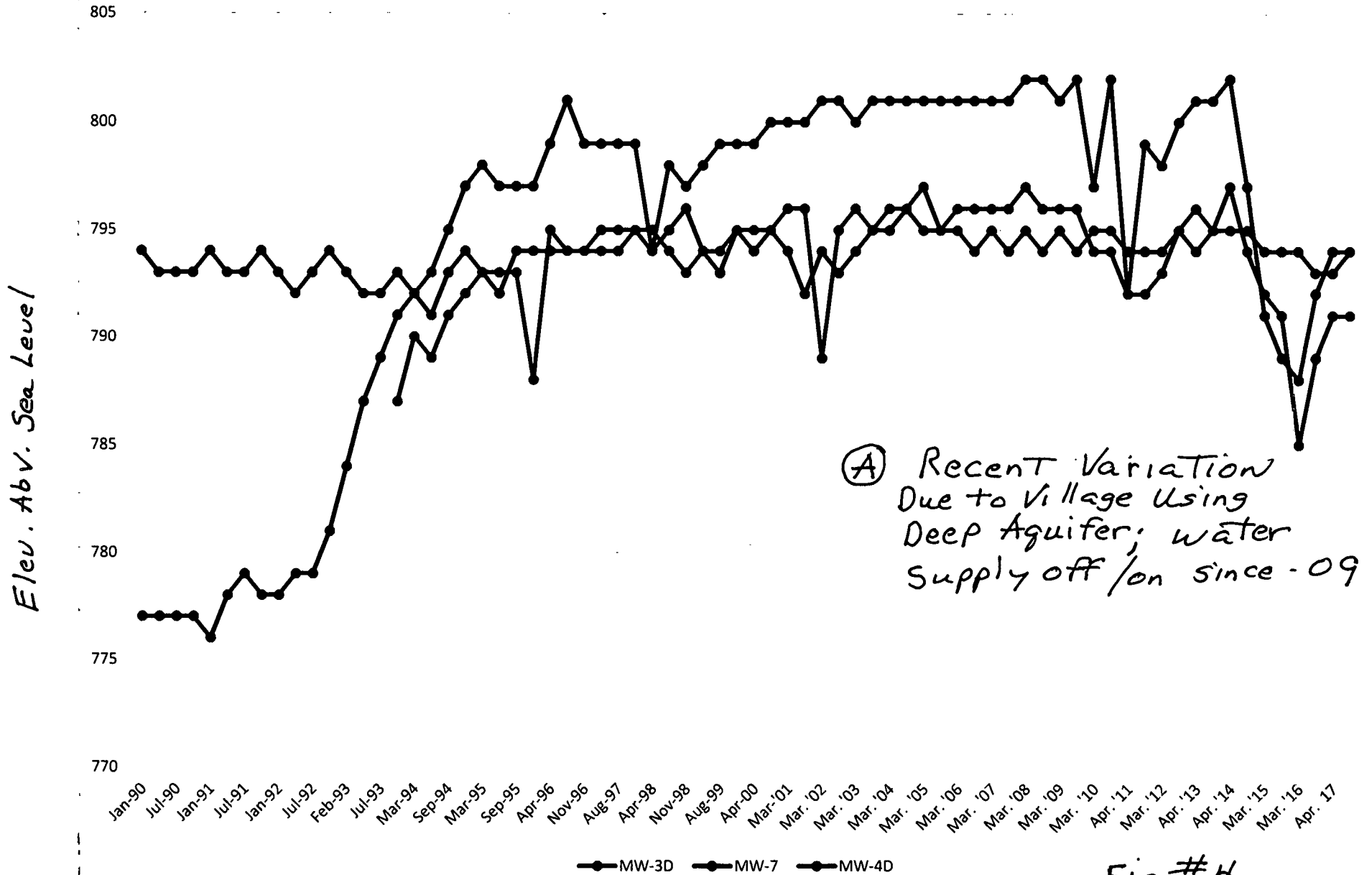


Fig #4
Plmrgw2

[illegible]

PLMRGW3.xls.xls

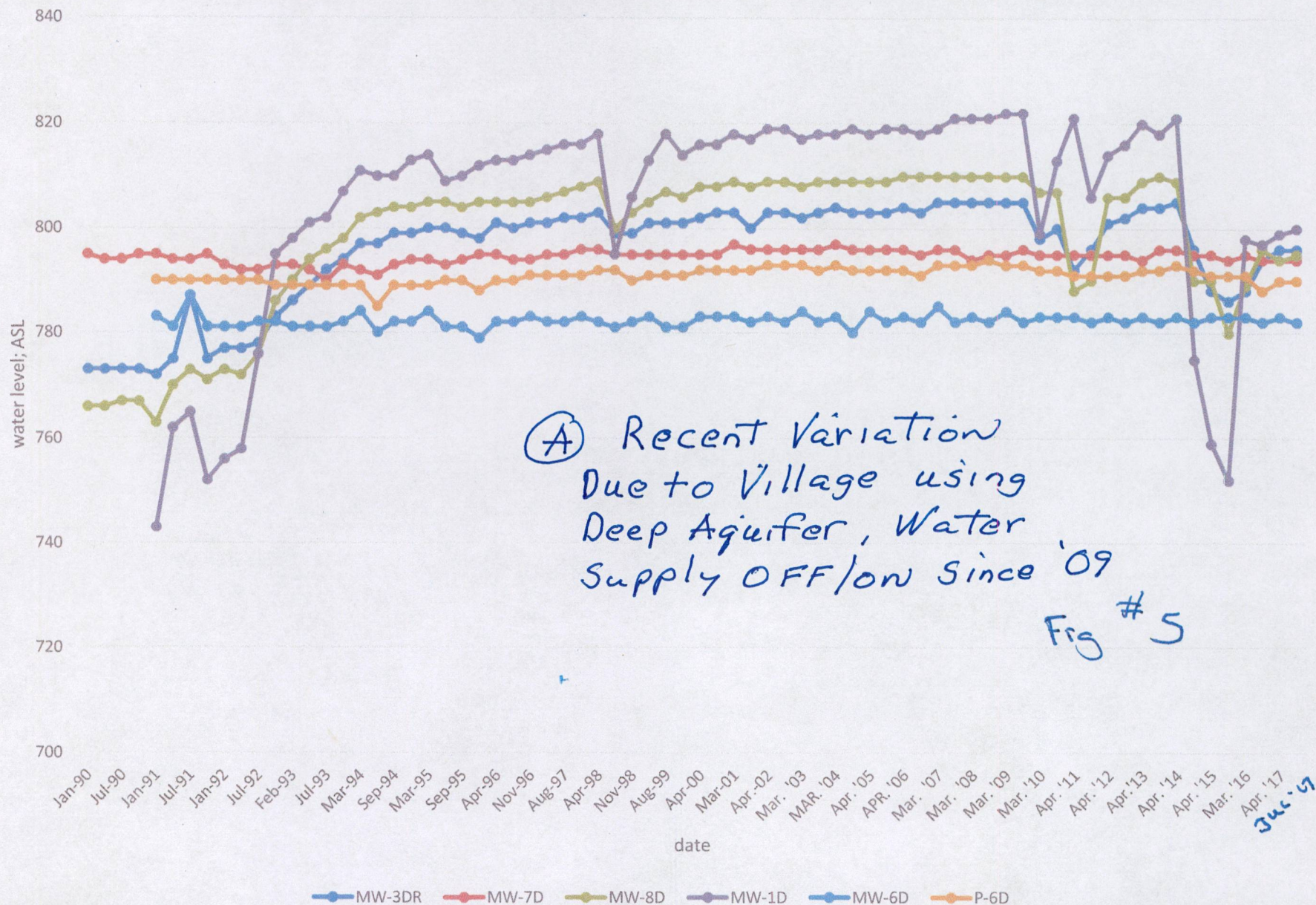
FS # 5

Aug. 17												Aug. 17												Aug. 17												Aug. 17												Aug. 17											
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MW-3DR	800	801	802	803	804	805	806	807	808	809	810	MW-3DR	800	801	802	803	804	805	806	807	808	809	810	MW-3DR	800	801	802	803	804	805	806	807	808	809	810	MW-3DR	800	801	802	803	804	805	806	807	808	809	810	MW-3DR	800	801	802	803	804	805	806	807	808	809	810
MW-7D	794	795	796	797	798	799	800	801	802	803	804	MW-7D	794	795	796	797	798	799	800	801	802	803	804	MW-7D	794	795	796	797	798	799	800	801	802	803	804	MW-7D	794	795	796	797	798	799	800	801	802	803	804	MW-7D	794	795	796	797	798	799	800	801	802	803	804
MW-8D	805	806	807	808	809	810	801	802	803	804	805	MW-8D	805	806	807	808	809	810	801	802	803	804	805	MW-8D	805	806	807	808	809	810	801	802	803	804	805	MW-8D	805	806	807	808	809	810	801	802	803	804	805	MW-8D	805	806	807	808	809	810	801	802	803	804	805
MW-1D	813	814	815	816	817	818	819	820	821	822	823	MW-1D	813	814	815	816	817	818	819	820	821	822	823	MW-1D	813	814	815	816	817	818	819	820	821	822	823	MW-1D	813	814	815	816	817	818	819	820	821	822	823	MW-1D	813	814	815	816	817	818	819	820	821	822	823
MW-6D	782	783	784	785	786	787	788	789	790	791	792	MW-6D	782	783	784	785	786	787	788	789	790	791	792	MW-6D	782	783	784	785	786	787	788	789	790	791	792	MW-6D	782	783	784	785	786	787	788	789	790	791	792	MW-6D	782	783	784	785	786	787	788	789	790	791	792
P-6D	790	791	792	793	794	795	796	797	798	799	800	P-6D	790	791	792	793	794	795	796	797	798	799	800	P-6D	790	791	792	793	794	795	796	797	798	799	800	P-6D	790	791	792	793	794	795	796	797	798	799	800	P-6D	790	791	792	793	794	795	796	797	798	799	800

PLMRGW3.xlsx.xls

[illegible]

plmr g w 3



P/m rg w 3

5.0 GROUNDWATER FLOW

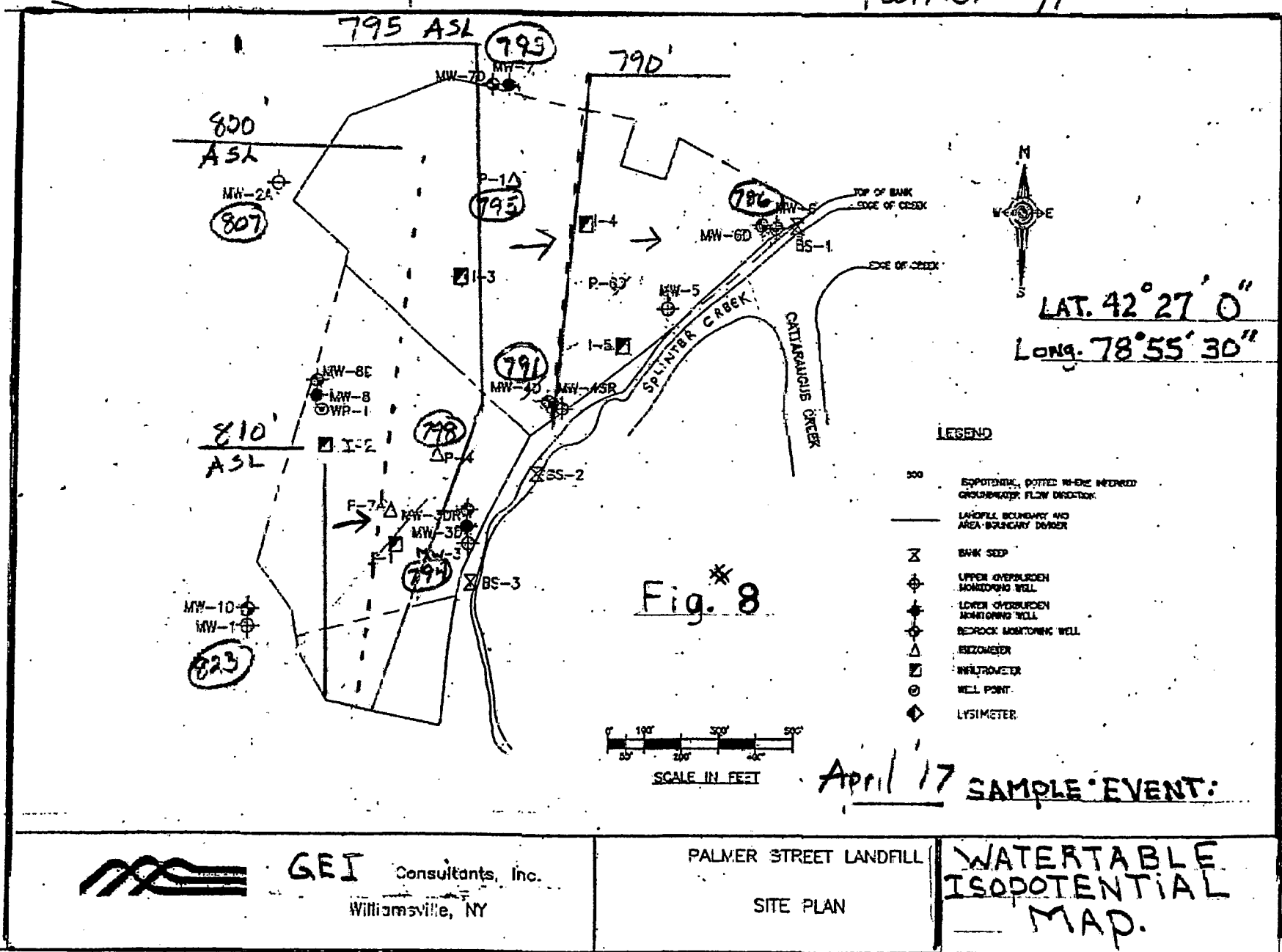
A WATER TABLE ISOPOTENTIAL MAP, BEDROCK ISOPOTENTIAL MAP AND A BEDROCK WATER LEVEL HYDROGRAPH HAVE BEEN PREPARED FOR THE PALMER STREET LANDFILL FIGURES 3,4 AND 5 RESPECTIVELY.

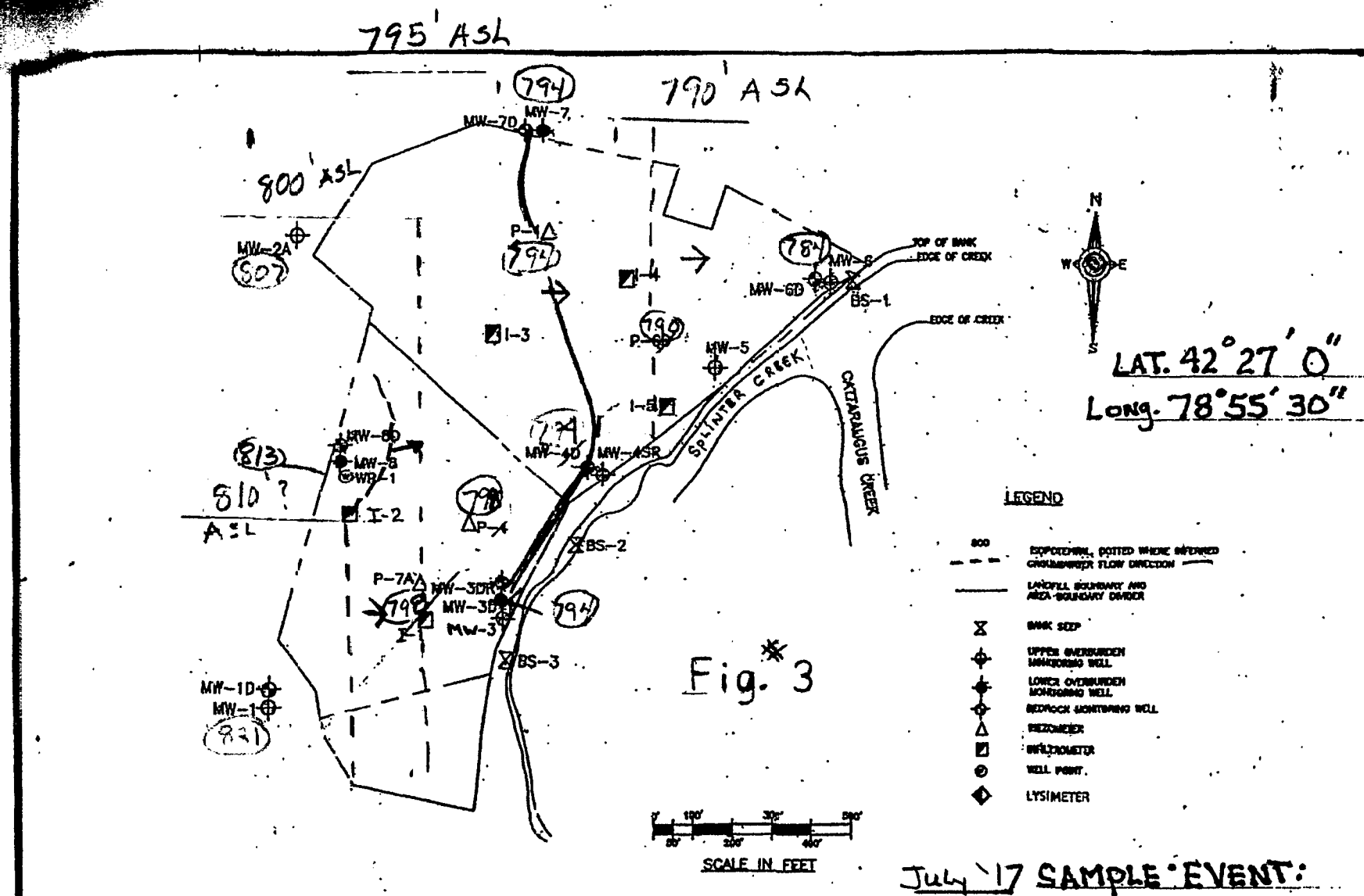
GROUNDWATER ELEVATIONS MEASURED THROUGH 2017 WERE USED IN PREPARING THE WATER TABLE AND BEDROCK ISOPOTENTIAL MAP INDICATED THAT THE SHALLOW GROUNDWATER FLOW IS PRIMARILY TO THE EAST TOWARD CATTARAUGUS CREEK. THE BEDROCK ISOPOTENTIAL MAP ALSO SHOWS FLOW TO THE EAST TOWARD THE CATTARAUGUS

AS MENTIONED PRIOR, MANY UNUSED WELLS, PIEZOMETERS, LYSIMETERS AND A WELL POINT WERE REMOVED IN 2011. NONE OF THESE WILL EFFECT THE EVALUATION OF GROUNDWATER FLOW.

2017 WEATHER SAW A VERY WET SPRING WITH RECORD RAINFALL IN APRIL AND CARRIED THRU EARLY SUMMER.

Palmer L/F

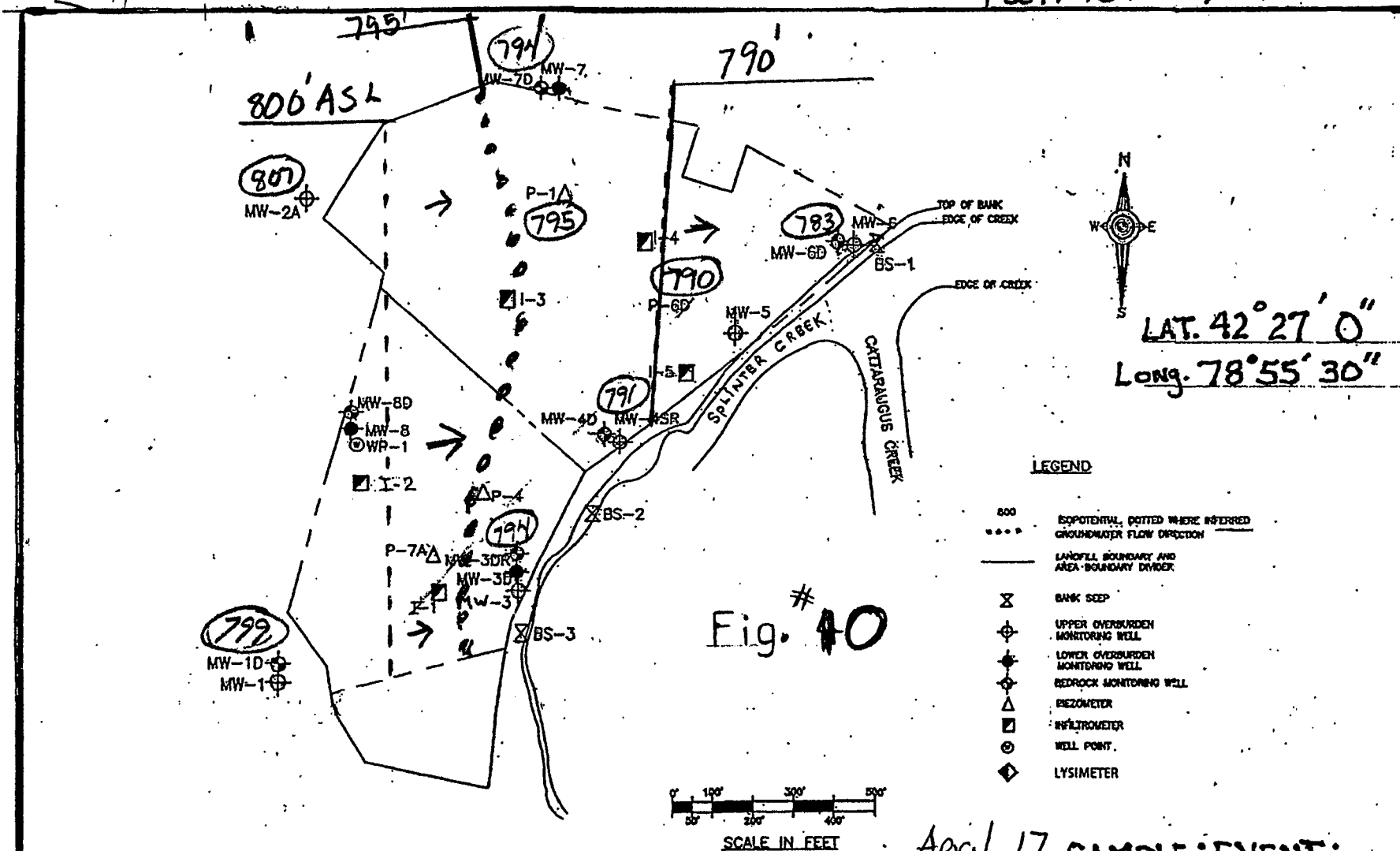




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PALMER STREET LANDFILL
SITE PLAN

**WATERTABLE
ISOPOTENTIAL
MAP.**



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PALMER STREET LANDFILL

SITE PLAN

BEDROCK
ISOPOTENTIAL
MAP.

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, USEPA 200.7, FOR METALS, AND VOC 8260.
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. Letter to Mr. Jeffrey Smith, Moench Tanning Co., from New York State Dept. of Environmental Conservation, dated
A 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.

ATTACHMENT B1

PALMER ST. LANDFILL

FIELD MEASUREMENT TRENDS

MONITORING EVENTS April 17
July 17

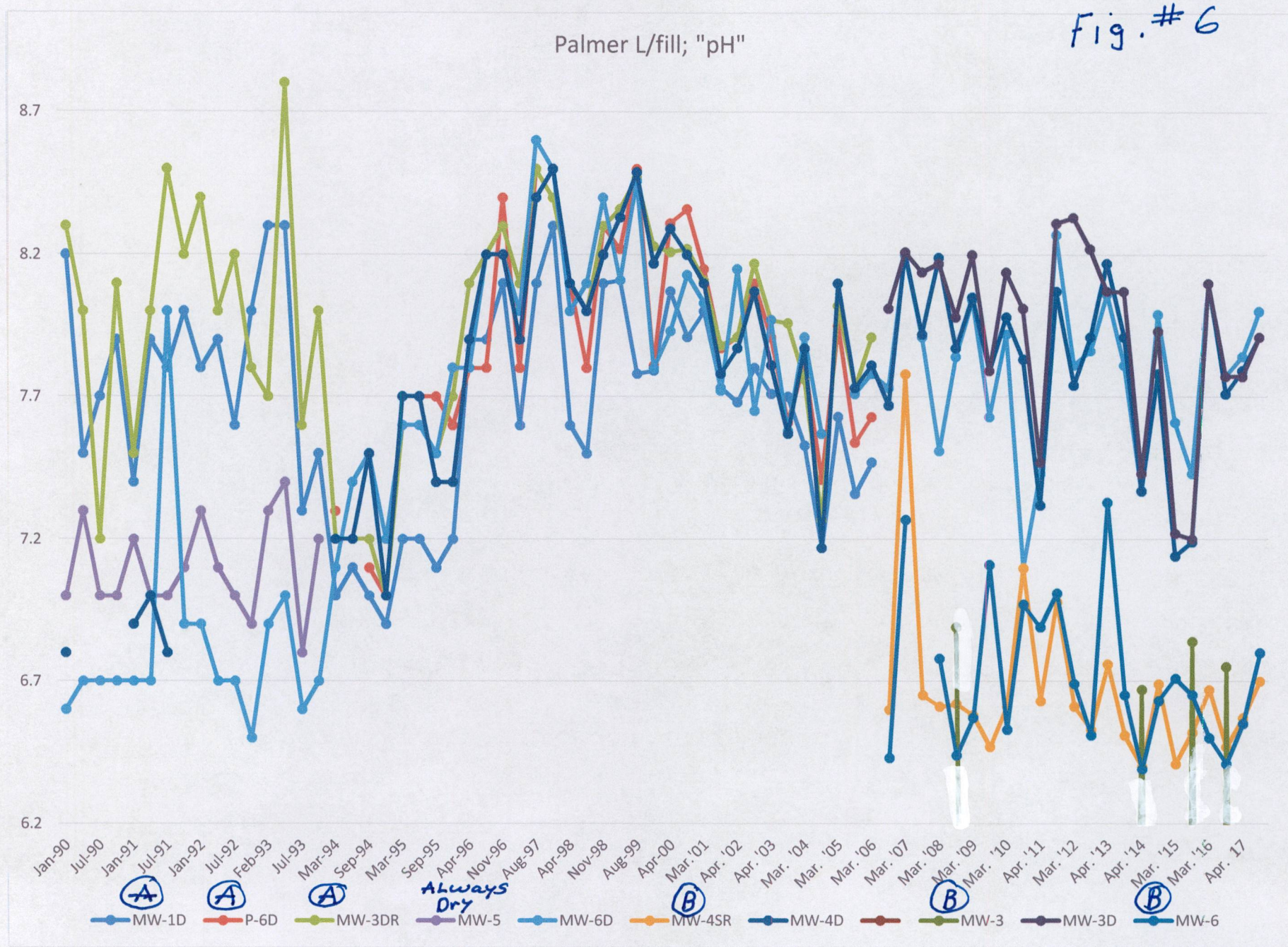
Fig #6

[illegible]

	Mar. '07	July '07	Mar. '08	Aug. '08	Mar. '09	Aug. '09	Mar. '10	July '10	Apr. '11	Aug. '11	Mar. '12	Aug. '12	Apr. '13	July '13	Apr. '14	Aug. '14	Mar. '15	July '15	Mar. '16	July '16	Apr. '17	July '17
MW-1D								no more	no more	no more	no more	no more	no more	no more	no more	no more	no more	no more	no more	no more	no more	no more
P-6D								" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "
MW-3DR								" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "	" "
MW-5					dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
MW-6D	8.2	7.91	7.51	7.84	8.04	7.63	7.92	7.1	7.43	8.27	7.81	7.86	8.06	7.81	7.37	7.99	7.81	7.43	8.1	7.77	7.84	8
MW-4SR	7.78	8.65	8.61	6.62	6.58	6.47	6.61	7.1	6.83	6.98	6.61	6.53	6.76	6.51	6.4	6.69	6.41	6.52	6.87	6.47	6.57	6.7
MW-4D	8.21	7.92	8.19	7.87	8.05	7.79	7.98	7.83	7.32	8.07	7.74	7.91	8.17	7.91	7.37	7.78	7.14	7.19	8.1	7.71	7.79	7.91
MW-3				8.89	dry	dry	dry	dry	dry	dry			dry	2.83	6.67	dry	dry	6.84	dry		6.75	dry
MW-3D	8.21	8.14	8.17	7.98	8.2	7.79	8.14	8.01	7.47	8.31	8.33	8.22	8.07	7.43	7.93	7.22	7.2	8.1	7.77	7.77	7.91	
MW-6	7.27		6.78	6.44	6.57	7.11	6.53	6.97	6.89	7.01	6.69	6.51	7.33	6.65	6.39	6.63	6.71	6.65	6.5	6.41	6.55	6.8

6.55 8.8
p1m rg w4

Fig. # 6



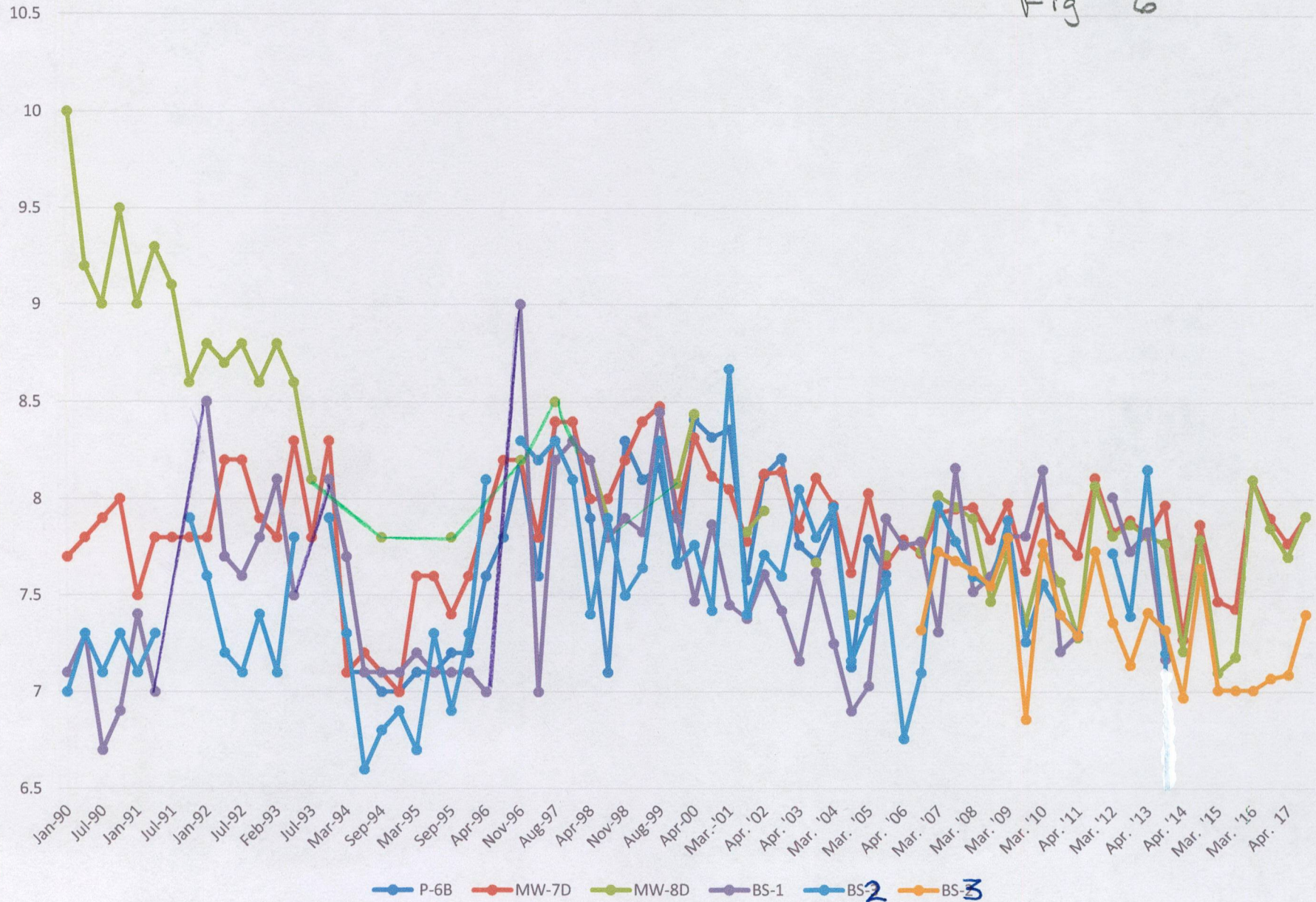
(A) not sampl'd since 05

(B) Acidic Trend ?

Plmrg W4

Palmer L/fill; 'pH'

Fig # 6



Plmr 5ph

SPECIFIC CONDUCTIVITY

DECEMBER 2017

Fig # 7

MOENCH WILL NO LONGER CHART & GRAPH SPECIFIC CONDUCTIVITY, AS IT HAS BEEN AT
" MINIMAL "LEVELS FOR 20+ YEARS. IT IS NOT A REVELANT INDICATOR OF CONCERN.

WE WILL, HOWEVER, CONTINUE TO RECORD THE SAMPLE AT EACH INDIVIDUAL WELL, IN THE SEMI-
ANNUAL, EVENT, AND NOTE ANY SIGNIFICANT INCREASE.

JEFFREY SMITH

SITE MANAGER

MOENCH CO.

Gowanda, NY

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:

Eq. 6

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

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)

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

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: April 2017
July 2017

			PALMER ST. LANDFILL; MOENCH COMPANY								ATTAACHMEN		C1	Dec. 17		
			MW-3 SOLUBLE METALS vs. TIME*** 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	3/07	
Arsenic (soluble)	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	dry	dry	
Chromium (soluble)	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	dry	dry	
Lead (soluble)	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	dry	dry	

								Attach: 1:1									
	8/07	3/08	8/08	3/09	8/09	3/10	7/10	4/11	8/11	3/12	8/12	4/13	7/13	4/14	8/14		
Arsenic (soluble)	dry	dry	0.015	dry	dry	dry	dry	dry	dry	dry	dry	dry	<.005	<.005	dry		
Chromium (soluble)	dry	dry	0.005	dry	dry	dry	dry	dry	dry	dry	dry	dry	<.005	<.005	dry		
Lead (soluble)	dry	dry	0.005	dry	dry	dry	dry	dry	dry	dry	dry	dry	<.005	<.005	dry		

	3/15	7/15	3/16	7/16	4/17	7/17	
Arsenic (soluble)	dry	dry	dry	0.009	dry	dry	
Chromium (soluble)	dry	dry	dry	<.005	dry	dry	
Lead (soluble)	dry	dry	dry	<.005	dry	dry	

MOSTLY "DRY" PAST

12 YEARS.

SHOWS EFFECTIVENESS
OF COVER SYSTEM.

P/Mr. MTL. MW3

Palmer L/fill; MW3; sol. Metals

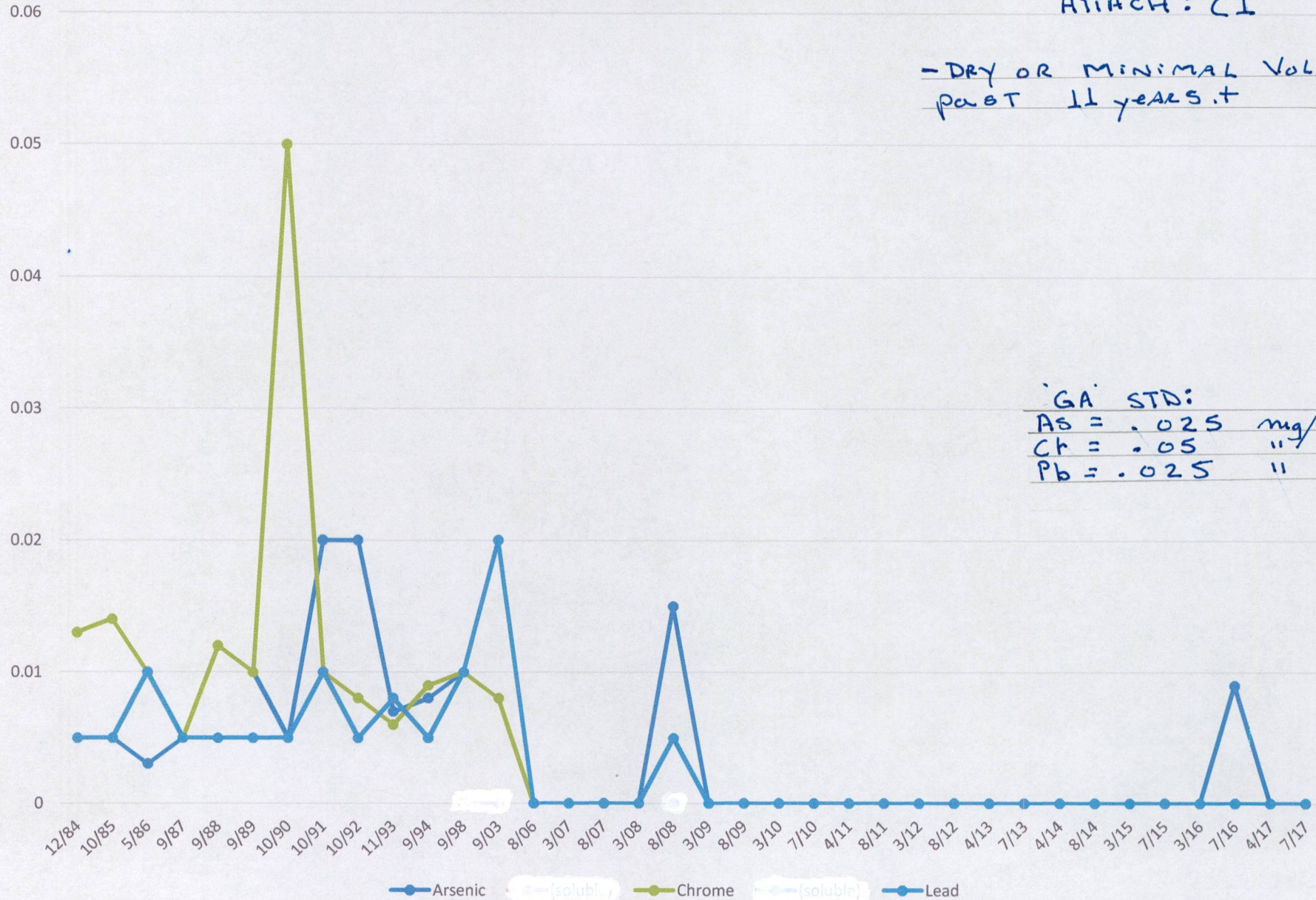
ATTACH: C1

- DRY OR MINIMAL VOLUME
past 11 years +

'GA' STD:

AS = .025 mg/L
Ch = .05 "
Pb = .025 "

mg/L



Soluble

ATTACHMENT: C1

	PALMER ST. LANDFILL; MOENCH COMPANY MW-3D, SOLUBLE METALS; (BEDROCK, IN WASTE)														
	ATTACHMENT-C1										Dec. 17				
	9/87	9/88	7/90	7/91	7/92	7/93	8/06	3/07	8/07	3/08	8/08	3/09	8/09	3/10	7/10
Arsenic (soluble)	0.005	0.007	0.005	0.005	0.007	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	0.009	<.005
Chrome (soluble)	0.005	0.005	0.005	0.005	0.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005
Lead	0.005	0.005	0.005	0.005	0.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005

	4/11	8/11	3/12	8/12	4/13	7/13	4/14	8/14	4/15	7/15	3/16	7/16	4/17	7/17	
Arsenic (soluble)	<.005	0.009	<.005	<.005	<.0005	<.005	<.005	<.005	0.005	<.005	<.005	0.005	<.005	0.002	
Chrome (soluble)	<.005	<.005	<.005	<.005	<.0005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	
Lead	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	

MDL = .005 mg/L

** No graph Due To MINIMAL DETECTION
PAST 14 YEARS. As STD = .025 mg/L

P/mr. m+L. MW 3D

PALMER ST. LANDFILL; MOENCH COMPANY																	
MW-4SR SOLUBLE METALS; ***SCREENED IN WASTE***																	
Dec. 17									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 (soluble)	0.008	0.007	0.003	0.014	0.018	0.01	0.016	0.01	0.008	0.01	0.01	0.017	0.01	<.005	<.005	<.005	<.005
Chrome (soluble)	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	<.005	0.012	0.007
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	<.005	<.005	<.005	<.005

Screened in Waste

Attach: C1

3/09	8/09	3/10	7/10	4/11	8/11	3/12	8/12	4/13	7/13	4/14	8/14	4-15	7/15	3/16	7/16	4/17	7/17
Arsenic (soluble)	0.009	<.005	<.005	<.005	<.005	0.013	<.005	0.008	<.005	<.005	<.005	<.005	<.005	0.007	0.009	<.005	<.005
Chrome (soluble)	0.012	<.005	0.017	<.005	<.005	0.017	0.012	<.005	0.015	0.019	0.021	0.019	0.01	0.011	0.01	0.02	0.013
Lead	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005

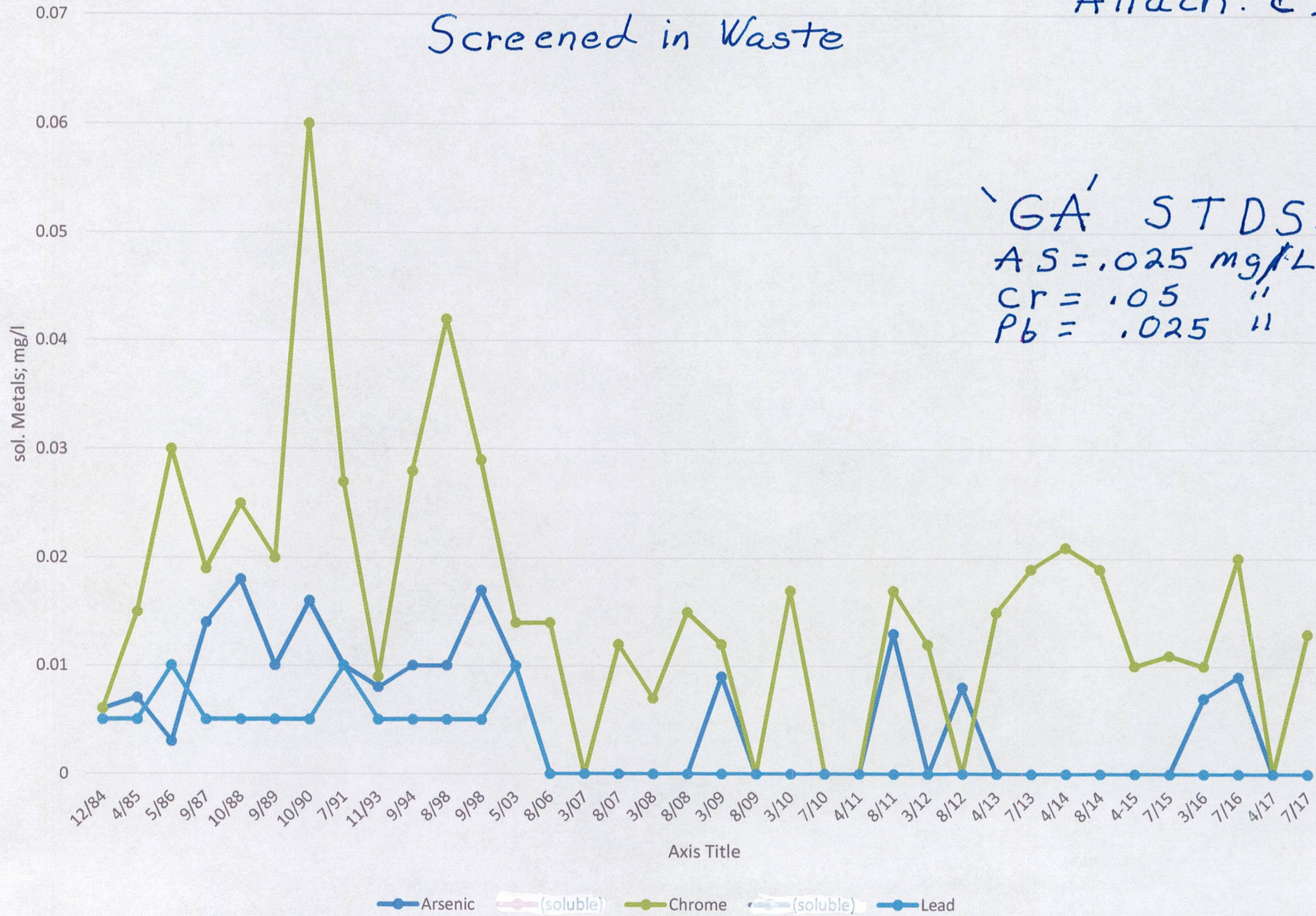
P/mr. MTL-MW4SR

Palmer L/fill; sol. Metals; MW-4sr

Attach: C1

Screened in Waste

'GA' STDS:
AS = .025 mg/L
Cr = .05 "
Pb = .025 "



P/mr. MTL. MWSr

		PALMER ST L/F, MOENCH COMPANY																											
		MW-4D Soluble Metals, Bedrock								Dec. 17								Attach: C1											
		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	Nov. '99	Apr. '00	Sept. '00	Mar. '01	Aug. '01	Apr. '02	Aug. '02	Apr. '03	Aug. '03
Arsenic (soluble)		<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005
Chromium (soluble)		<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005
Lead (soluble)		<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005
		**NO GRAPHS GENERATED DUE TO LIM																											

MW-4D; BEDROCK

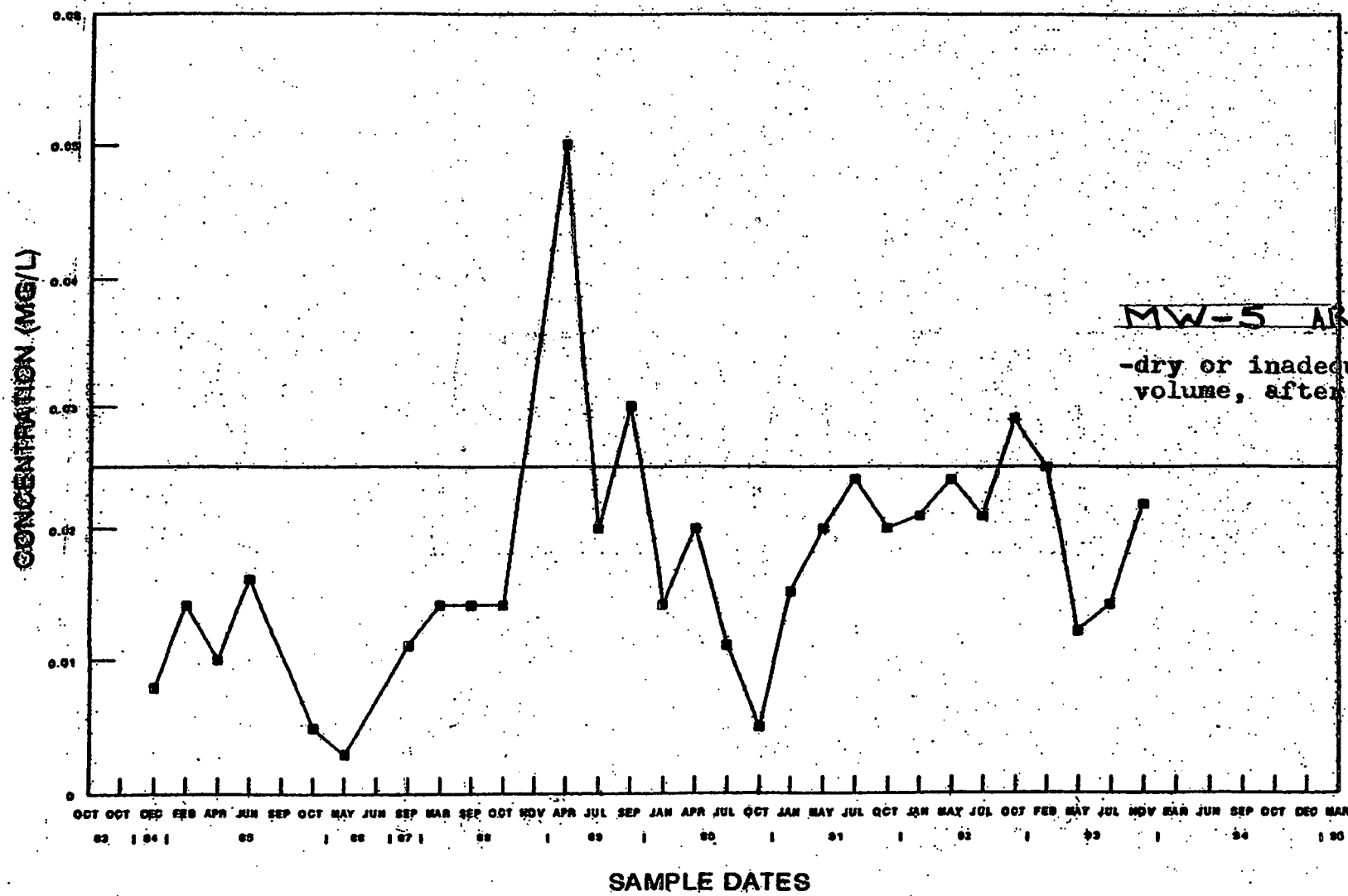
		ATTACH: c1																Attach C1															
		Mar. '04	Aug. '04	Mar. '05	Aug. '05	Apr. '06	Aug. '06	Mar. '07	Aug. '07	Mar. '08	Aug. '08	Mar. '09	Aug. '09	Mar. '10	July '10	Apr. '11	Aug. '11	Mar. '12	Aug. '12	Apr. '13	July '13	Apr. '14	Aug. '14	Apr. '15	July '15	Apr. '16	July '16	Apr. '17	July '17				
Arsenic (soluble)		<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	0.007	<.005	<.005	<.005	<.005	<.005	<.005	0.003	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005				
Chromium (soluble)		<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	0.017	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005				
Lead (soluble)		<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005				
FED	DETECTION***																																

No graph due to MINIMAL DETECTION; THRU 2017

3

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

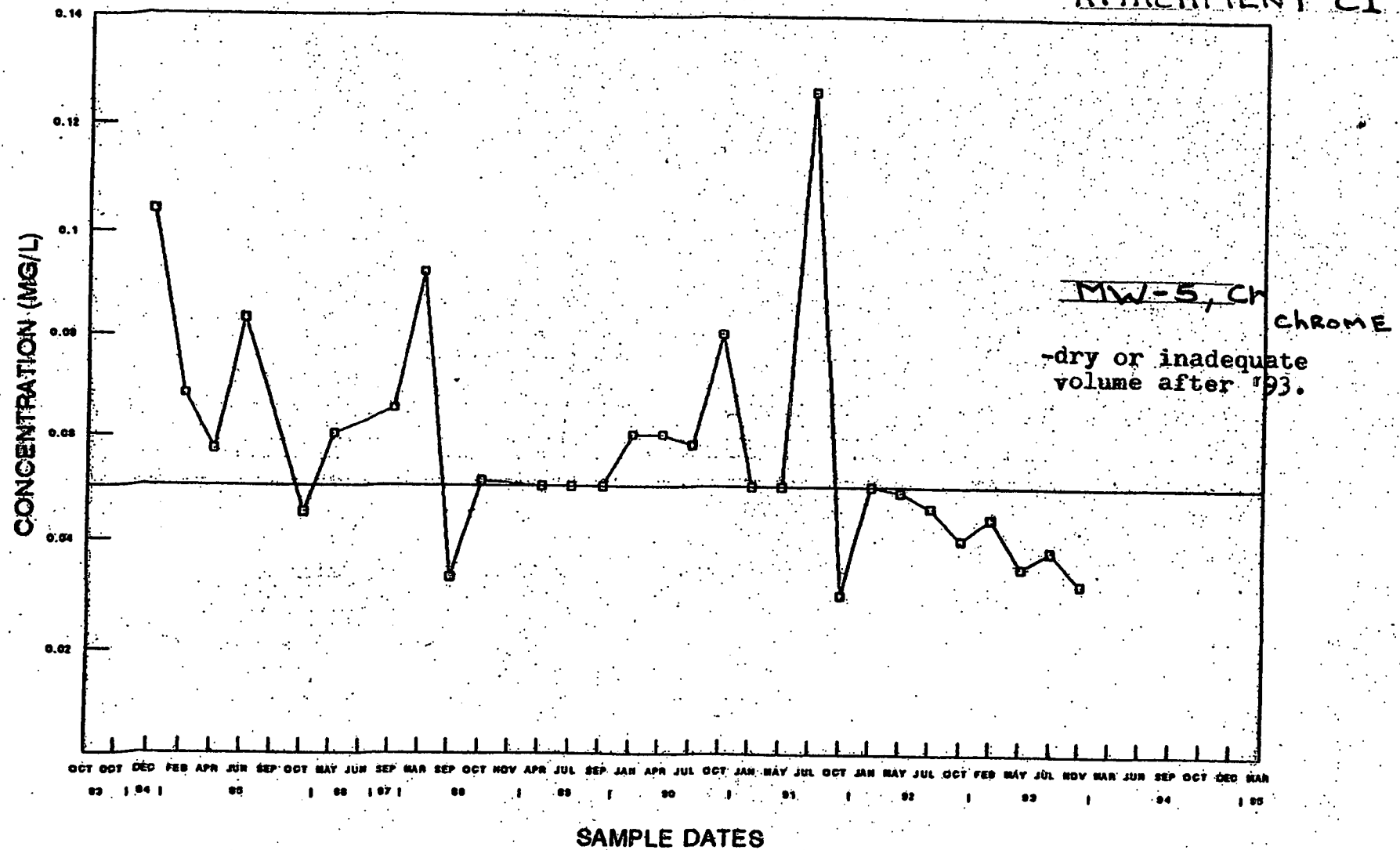
ATTACHMENT C1



■ ARSENIC (SOLUBLE) — NYSDEC STANDARD

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

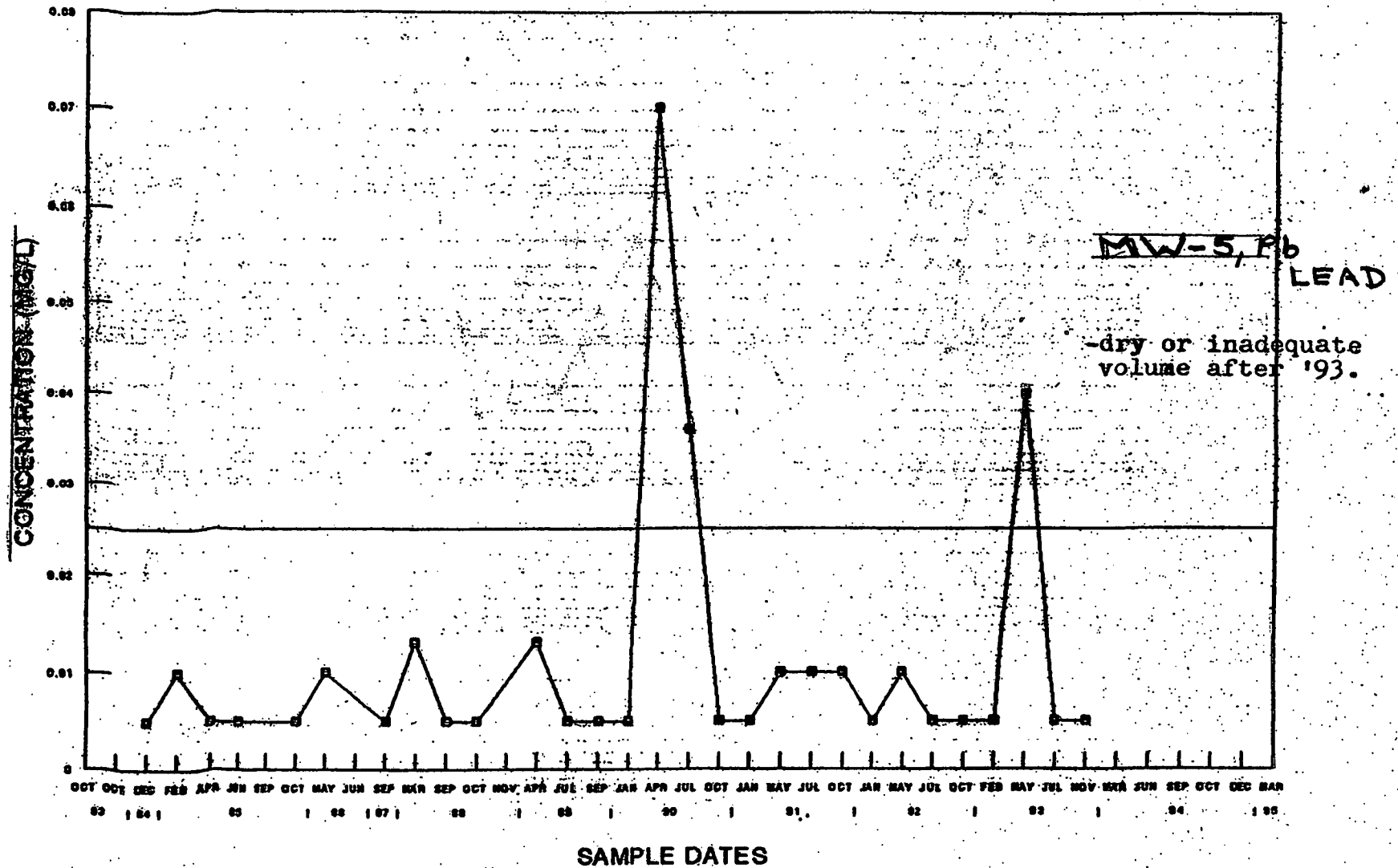
ATTACHMENT 'C1'



PALMER STREET LANDFILL

MW-5 SOLUBLE LEAD (screened in the waste)

ATTACHMENT C.1



— LEAD (SOLUBLE) — NYSDEC STANDARD

PALMER ST. LANDFILL; MOENCH COMPANY MW-6 SOLUBLE METAL (SCREENED IN WASTE)															
Dec. 17															
	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

(MW-6)

Screened in Waste: ATTACHMENT: C

	3/08	8/08	3/09	8/09	3/10	7/10	4/11	8/11	3/12	8/12	4/13	7/13	4/14	8/14	4/15
Arsenic	0.014	0.056	0.005	0.066	0.04	0.051	0.005	0.062	0.005	0.039	0.005	0.005	0.007	<.005	<.005
(soluble)							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	<.005	<.005	<.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.			
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	<.005	<.005	<.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.			

	7/15	3/16	7/16	4/17	7/17
Arsenic	<.005	0.069	0.065	0.037	0.039
(soluble)					
Chrome	<.005	<.005	<.005	<.005	0.004
(soluble)					
Lead	<.005	<.005	<.005	<.005	<.005
(soluble)					

PLMR. MTL. MW 6

Palmer L/fill; Metals; MW6

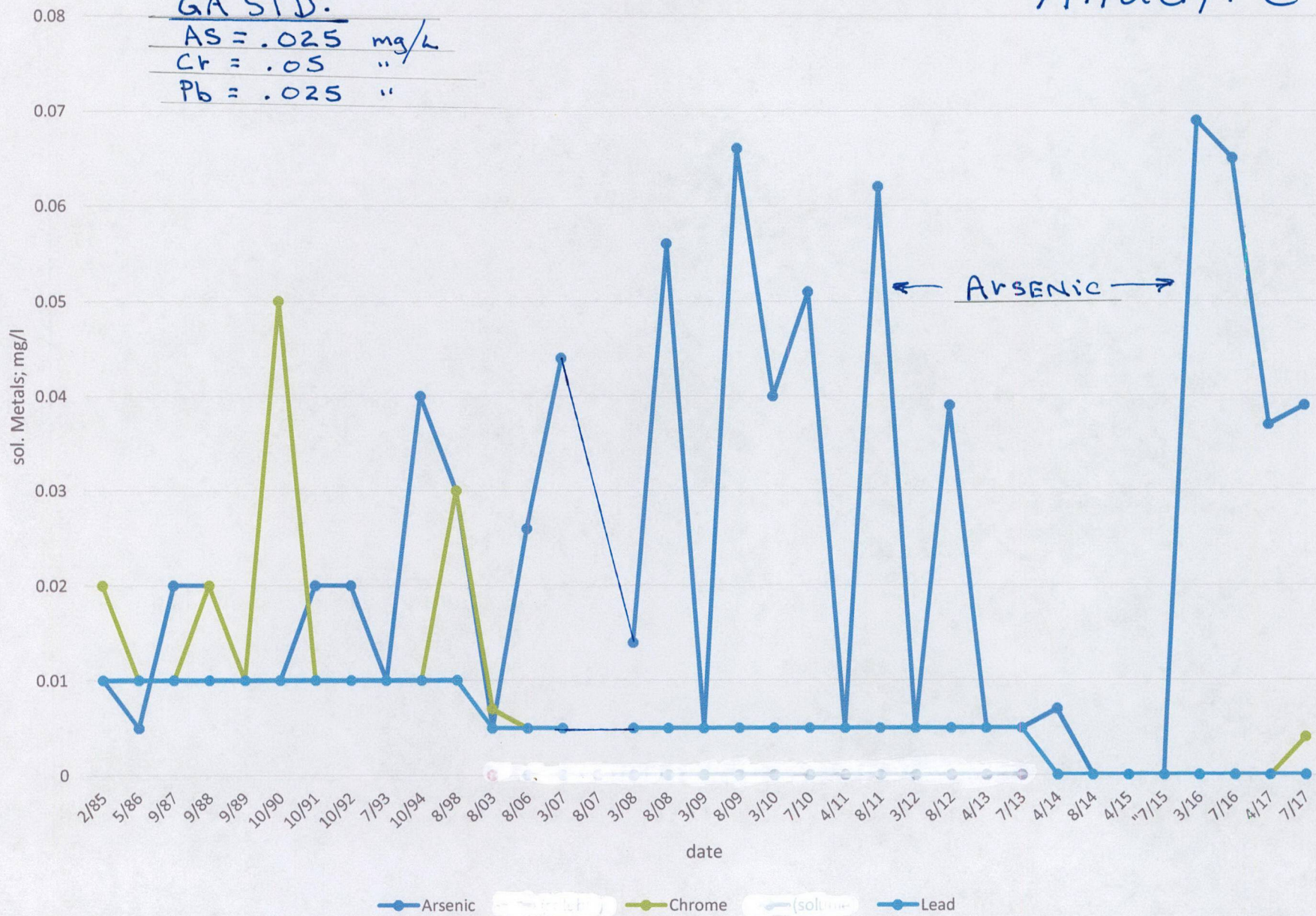
Attach: C

GA STD:

AS = .025 mg/L

Cr = .05 "

Pb = .025 "



Palmer L/fill; Metals; MW6

			PALMER ST L/F, MOENCH COMPANY ARSENIC (SOLUBLE) vs TIME (MG/L) MONITOR WELLS & BANK SEEPS																				
	Dec. 17								Attachment 'C'	Soluble Arsenic: 6D, 7D, 8D													
	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				
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				
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				

					Attachment 'C'														
	Oct-92	Feb-93	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						<.005	0.007	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.01	<.01	<.01	<.01	<.01
MW-7D	0.005	0.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.01	<.01	<.01	<.01	<.01
MW-8D	0.005	0.005	<.005	<.005				<.005	<.005			<.005	<.005	<.005	<.01	<.01		<.01	

					Attachment 'C'															
	Apr-98	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	Mar. '05	Aug. '05	Apr. '06	
MW-6D	<.01	<.01	<.01	<.01	<.01	<.01	<.005	<.005	<.002	<.002	<.002	<.002	<.002	<.02	<.002	<.002	0.001	0.003	<.005	
MW-7D	<.01	<.01	<.01	<.01	<.01	<.01	<.005	<.005	<.002	<.002	<.002	<.002	<.002	<.02	<.002	<.002	<.001	<.001	<.005	
MW-8D	<.01	<.01				<.01	<.005			<.002	<.002	<.002	<.002	<.02		<.002	<.001	<.001	<.005	

			Attachment "C"			Soluble Arsenic														
	Aug. '06	Mar. '07	Aug. '07	Mar. '08	Aug. '08	Mar. '09	Aug. '09	Mar. '10	July '10	Apr. '11	Aug. '11	Mar. '12	Aug. '12	Apr. '13	July '13	Apr. '14	Aug. '14	Apr. '15	July '15	
MW-6D	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	0.006	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	
MW-7D	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	0.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	
MW-8D	<.005	<.005	<.005	<.005	<.005	0.011	<.005	<.005	0.008	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	

-NO graph due to MINIMAL DETECTION PAST
28 YEARS. 'GA' STD = .025 mg/L.

	Mar. '16	July '16	Apr. '17	July '17
MW-6D	<.005	0.005	<.005	<.005
MW-7D	<.005	<.005	<.005	<.005
MW-8D	<.005	0.006	<.005	<.005

SOLUBLE CHROME: 6D, 7D, 8D

PALMER ST L/F, MOENCH COMPANY CHROME(SOLUBLE), mg/l vs. time																					
Dec. 17		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	<.005	0.006	<.005	<.005	<.005	<.01	<.01	<.01	<.05	<.05	<.05	<.05	<.05	<.05	<.01	<.005	<.005	<.005	<.005	<.005	<.005
MW-8D	<.005	0.008	<.005	<.005	<.005	0.02	<.01	<.01	<.05	<.05	<.05	<.05	<.05	<.05	<.01	<.005	<.005	<.005	<.005	<.005	<.005

																					Attachment
		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				<.005	<.01	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.01	<.005	<.01	<.01	<.01	<.01	<.01	<.01	<.01
MW-7D	<.005	<.005	<.005	<.005	<.005	0.025	<.005	<.005	<.005	<.005	<.005	<.005	<.01	<.005	<.01	<.01	<.01	<.01	<.01	<.01	<.01
MW-8D	<.005	<.005				<.005				<.005				<.005		<.01		<.01	<.01	<.01	<.01

"C"		Attachment "C"										Sol. Chrome									
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	Mar-'09
MW-6D	<.01	<.01	<.005	<.005	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004
MW-7D	<.01	<.01	<.005	<.005	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004	<.004
MW-8D		<.01	<.005			0.005	<.004			<.004		<.004		<.004		<.004	<.004	<.004	<.004	<.004	<.004

No graph; MINIMAL DETECTION PAST 28 YEARS: GA STD = .05 mg/L

				PALMER ST. L/F, MOENCH COMPANY															
				LEAD(SOLUBLE) vs TIME (MG/L)															
	Dec. 17			MONITOR WELLS & I															
										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
MW-6D	START94																		
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	0.01	0.01	<.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	0.01	0.01	0.01

Soluble Lead: MW-6D, 7D, 8D

Attachment 'C'																			
	Oct-92	Feb-93	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						<.005	0.013	<.005	<.005	<.005	<.005	<.005	<.005	0.006	<.005	<.005	<.005	<.005	<.005
MW-7D	0.007	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	0.015	<.005	<.005	0.214	<.005
MW-8D	<.005	<.005	<.005	<.005				<.005				<.005				<.005		<.005	

				Attachment "C"																
	Apr-98	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	Mar. '05	Aug. '05	Apr. '06	
MW-6D	<.005	<.005	<.005	0.008	<.005	<.005	<.02	<.02	0.027	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.005	<.005	<.005	
MW-7D	<.005	<.005	<.005	<.005	<.005	<.005	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.005	<.005	<.005	
MW-8D	<.005	<.005				<.005	<.02			<.02	<.02			<.02		<.02		<.005		

	Attachment "C"								Lead													
	Aug. '06	Mar. '07	Aug. '07	Mar. '08	Aug. '08	Mar. '09	Aug. '09	Mar. '10	July '10	Apr. '11	Aug. '11	Mar. '12	Aug. '12	Apr. '13	July '13	Apr. '14	Aug. '14	Apr. '15	July '15			
MW-6D	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005			
MW-7D	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005			
MW-8D		<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005			

- NO graph: DUE TO MINIMAL DETECTION
PAST 28 YEARS. 'GA' STD = .025 mg/L.

	Mar. '16	July '16	Apr. '17	July '17
MW-6D	<.005	<.005	<.005	<.005
MW-7D	<.005	<.005	<.005	<.005
MW-8D	<.005	<.005	<.005	<.005

plm113.xls.xls

[illegible]

- NO graph DUE TO MINIMAL DETECTION PAST 28 YEARS.
- NO SAMPLE AVAIL. @ BS1 & BS2, PAST 4 YEARS.

P1RMTL13

ATTACHMENT "D"

TOTAL VOLATILES vs TIME
(grouped by monitoring point)

MONITORING EVENTS:

April 17
July 17

		PALMER ST. LANDFILL; MOENCH CO.																		
		TOTAL VOLATILE ORGANICS					OF RELEVANT; ACETONE, TOLUENE, XYLENE					17-Dec		(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	3/09	8/09		
MW-3	8.97	<.005	<.005	<.005	<.005	0.011	<.005	<.005	<.005	<.005	0.36	dry	dry	dry	dry	1.4	dry	dry		
MW-4/4sr	2.46	<.005	<.005	<.005	<.005	<.005	<.005	<.005	0.586	2.1	0.125	0.293	0.052	0.062	0.021	<.005	<.005	<.005		
MW-5	2.02	<.005	<.005	<.005	0.022	<.005	0.019	<.005	<.005	<.005	dry	dry	dry	dry	acetone dry	dry	dry	dry		
MW-6	4.82	<.005	<.005	<.005	<.005	<.005	0.009	<.005	<.005	<.005	<.005	<.005	0.01	dry	0.05	0.078	0.099	<.005		
															acetone	acetone	acetone			

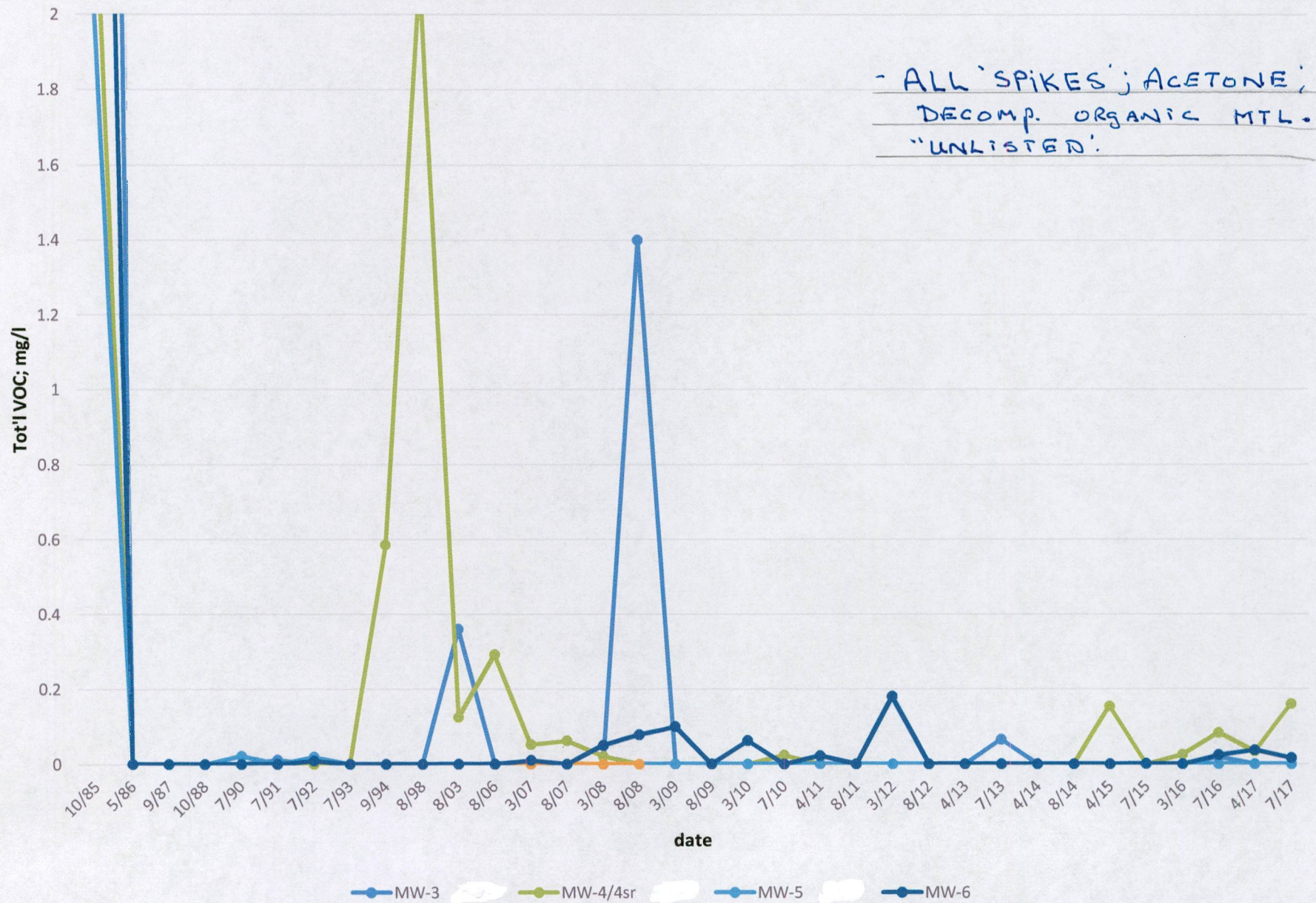
-All WELLS SCREENED IN WASTE.

	3/10	7/10	4/11	8/11	3/12	8/12	4/13	7/13	4/14	8/14	4/15	7/15	3/16	7/16	4/17	7/17
MW-3	dry	dry	dry	dry	dry	dry	dry	0.065	<.005	dry	dry	<.005	dry	0.018	dry	dry
MW-4/4sr	<.005	0.024	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	0.154	<.005	0.025	0.083	0.034	0.16
		acetone									acetone					
MW-5	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
MW-6	0.062	<.005	0.022	<.005	0.18	<.005	<.005	<.005	<.005	<.005	<.005	0.002	<.005	0.024	0.037	0.016
	acetone		acetone		acetone							acetone	acetone	acetone	acetone	

WELLS IN WASTE. TOTAL VOC

Palmer L/fill; tot'l VOCs; in waste

ATTACH: D



WELLS IN WASTE. TOTAL VOC

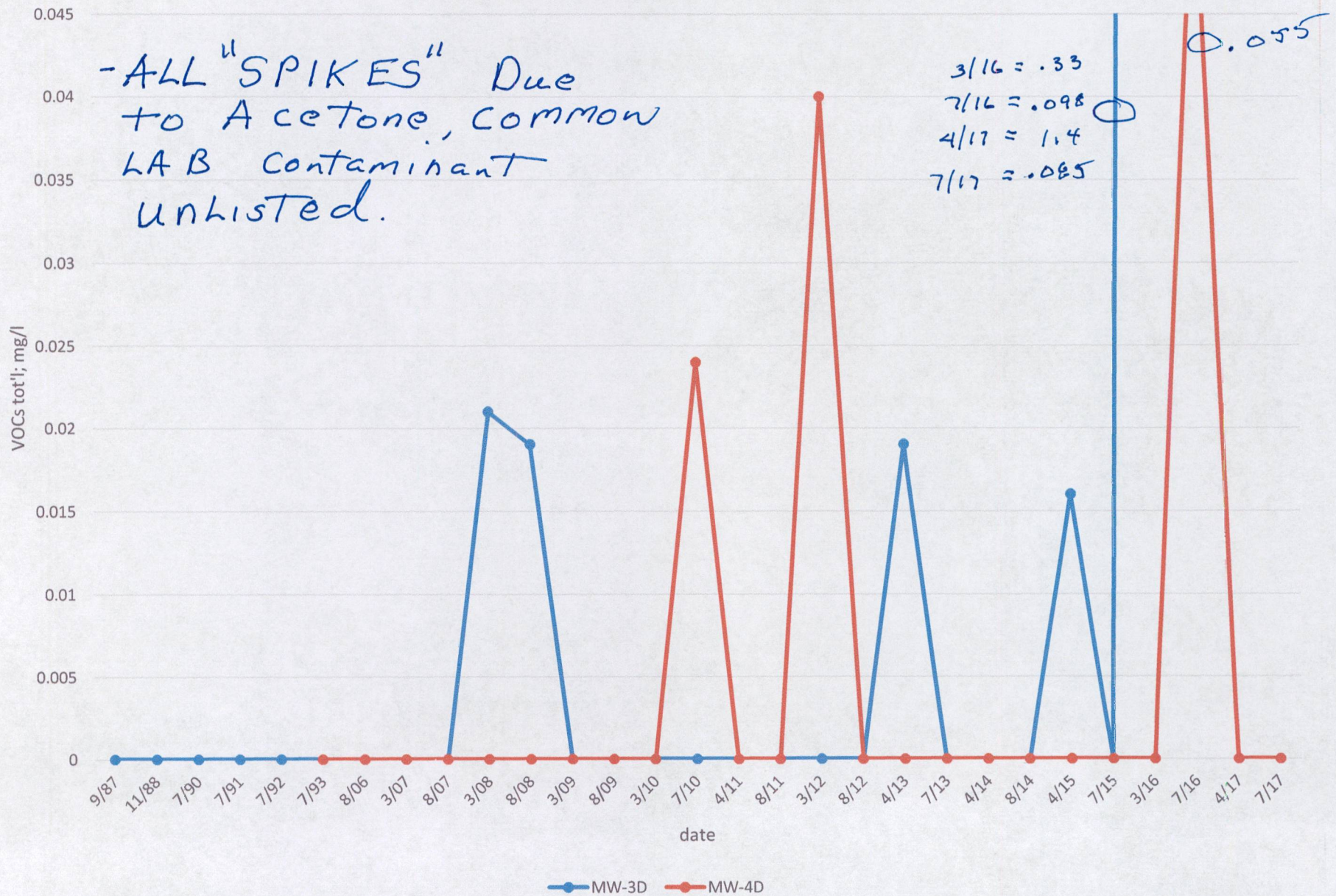
				PALMER ST. LANDFILL; MOENCH COMPANY									
	Jan. 18			TOTAL RELEVANT VOCs; BEDROCK WELLS(acetone, toluene,xylene)							ATTACHMENT "D"		
	9/87	11/88	7/90	7/91	7/92	7/93	8/06	3/07	8/07	3/08	8/08	3/09	8/09
MW-3D	<.005	<.005	<.005	<.007	<.005	<.005	<.005	<.005	<.005	0.021	0.019	<.005	<.005
MW-4D						<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005
										acetone	acetone		

	3/10	7/10	4/11	8/11	3/12	8/12	4/13	7/13	4/14	8/14	4/15	7/15	3/16
MW-3D	<.005	<.005	<.005	<.005	<.005	<.005	0.019	<.005	<.005	<.005	0.016	<.005	0.33
MW-4D	<.005	0.024	<.005	<.005	0.04	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005
					acetone		acetone						acetone

	7/16	4/17	7/17
MW-3D	0.098	1.4	0.085
MW-4D	0.055	<.005	<.005
	acetone	acetone	acetone

P1MR.VOC.BEDROCK

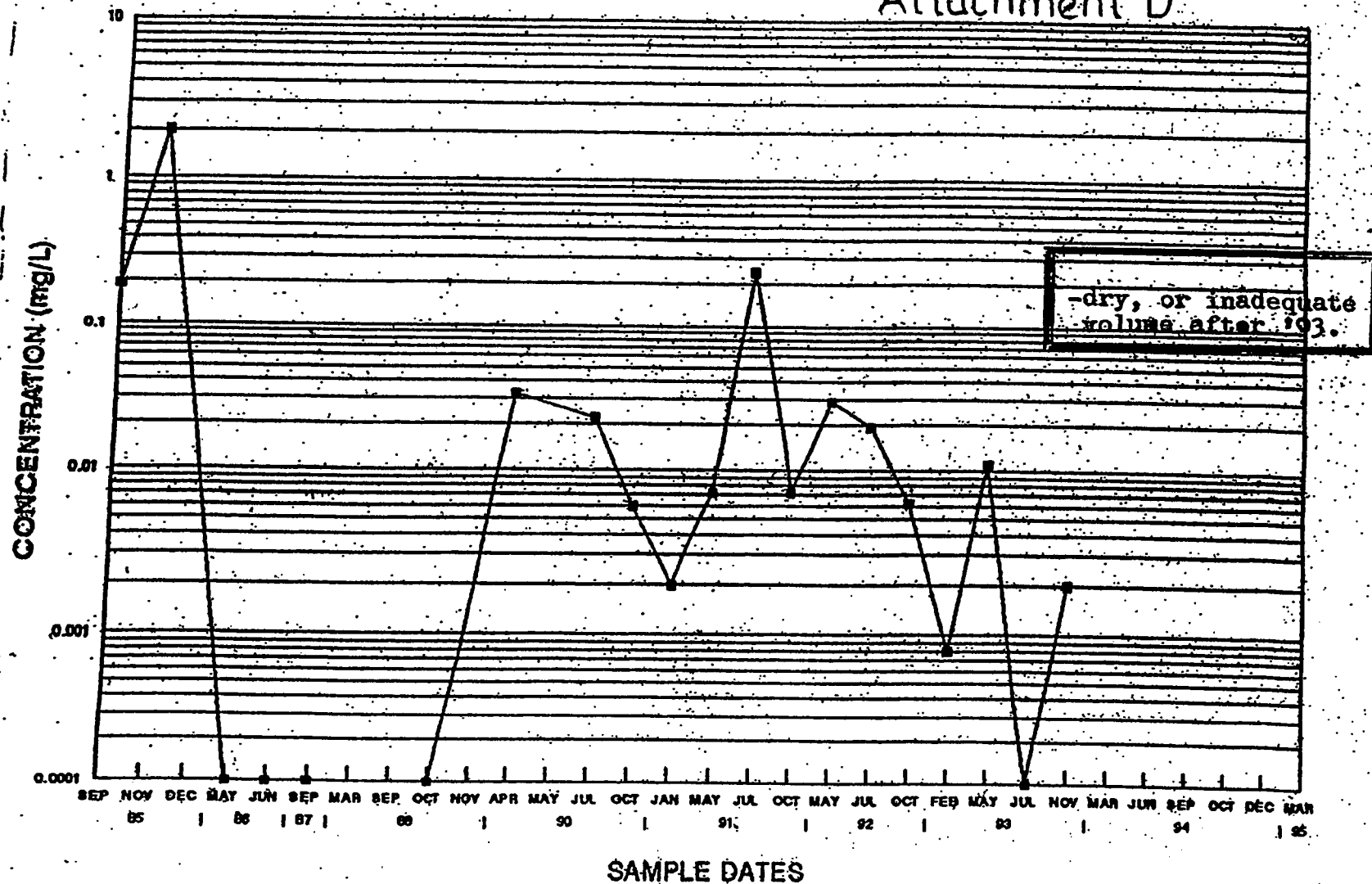
Palmer L/fill; tot'l VOCs; Bedrock



Plmr. Vo c. Bedrock

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

Attachment D



			PALMER ST. L/F, MOENCH COMPANY																			
			TOTAL VOLATILE ORGANICS vs TIME (MG/L)					**relevant VOCs: acetone, toluene, xylene					Attachment 'D'									
	Jan. 18		MONITOR WELLS &																			
	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	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	
MW-7D	<.005				<.005					<.005	<.005	<.005	<.005	<.005	<.005	0.011		<.005	<.005	<.005	<.005	
MW-8D	<.005			0.012						<.005	0.07	<.005	<.005	0.011	<.005			<.005	<.005	<.005	<.005	

	Attachment 'D'															Attachment 'D'														
	Dec. 18																													
	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	<.005	<.005	<.005	0.02	0.03	0.03	0.02	0.03	0.008	<.005	<.005	<.005	0.012	<.005	0.007	<.005	<.005	<.005	<.005	<.005	<.005									
MW-7D	<.005	<.005	<.005	<.005	0.008	0.012	<.005	<.005	<.005	<.005				<.005	<.005	<.005	<.005	<.005	<.005	<.005										
MW-8D	<.005	<.005				<.005								<.005		<.005		<.005	<.005											

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	Mar-'09
MW-6D	0.018	<.005	0.015	<.005	0.006	<.005	<.005	<.005	<.005	<.005	<.005	<.005	0.006	0.009	<.005	0.009	<.005	<.005	0.05	0.04	<.005
MW-7D	<.005	<.005	0.016	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005
MW-8D		<.005	<.005			<.005	<.005			<.005		0.12		0.01		<.005	<.005	<.005	acetone	acetone	<.005

attachment D																			
	Aug-'09	Mar-'10	July '10	Apr-'11	Aug-'11	Mar-'12	Aug-'12	Apr-'13	July '13	Apr-'14	Aug-'14	Apr-'15	July '15	Mar-'16	July '16	Apr-'17	17-Jul		
MW-6D	<.005	<.005	0.033	<.005	0.043	0.08	0.111	0.058	<.005	<.005	0.016	<.005	<.005	0.064	0.027	0.032	0.054		
MW-7D	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	0.008	<.005	<.005		
MW-8D	<.005	<.005	0.067	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	0.006	<.005	<.005		

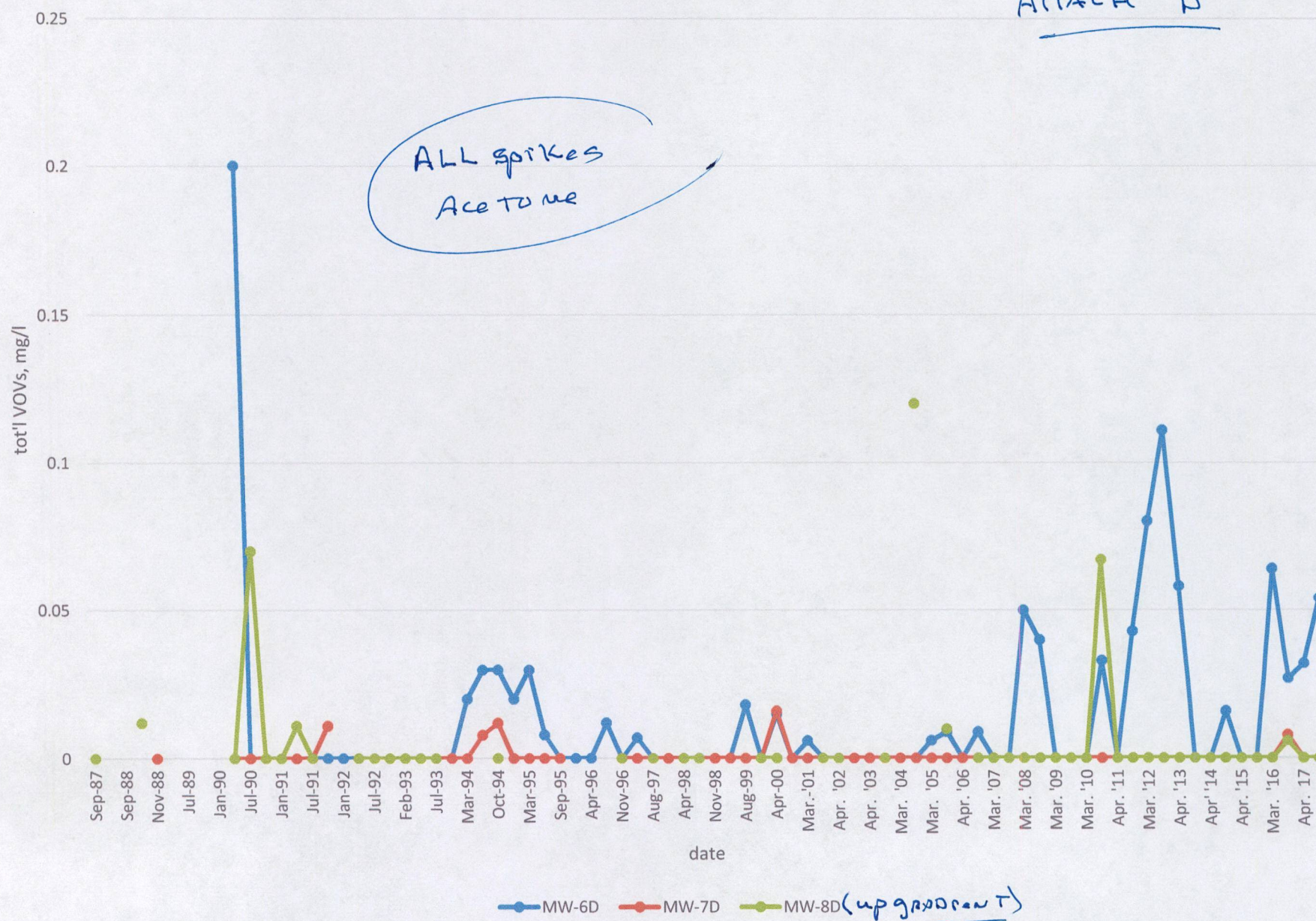
— MOSTLY
ACETONE.

6.3 - CARBON DISULFIDE
ANOMALY.

P1rvoc8

Palmer L/fill; Total VOCs

ATTACH 'D'



PALMER ST. L/F, MOENCH COMPANY															
TOTAL VOLATILE ORGANICS vs TIME (MG/L)															
	Jan. 18	BANK SEEPS				BS-1,2,3									
	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	<.005	<.005			<.005	<.005	<.005	<.005	<.005	<.005	<.005
BS-2	(started in 2006)														
BS-3					<.005	<.005			<.005	<.005	<.005	<.005	<.005	<.005	<.005

(Attachment 'D')															
	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	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005
BS-2															
BS-3	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005

acetone															
Attachment 'D'															
	Mar. '05	Aug. '05	Apr. '06	Aug. '06	Mar. '07	Aug. '07	Mar. '08	Aug. '08	Mar. '09	Aug. '09	Mar. '10	July '10	Apr. '11	Aug. '11	Mar. '12
BS-1	0.006	<.005 b	<.005 b	<.005 b	<.005 b	<.005 b	<.005 b	<.005 b	<.005 b	<.005 b	<.005 b	<.005 b	<.005	na	ND
BS-2				<.005 b	<.005 b	<.005 b	<.005 b	<.005 b	<.005 b	<.005 b	<.005 b	<.005 b	<.005	na	ND
BS-3	<.005 b	<.005 b	<.005 b	<.005 b	<.005 b	<.005 b	0.011	<.005 b	<.005	<.005	<.005	<.005	<.005	<.005	ND
		Often no Bank seep		took creel	sample										

	Aug. '12	Apr. '13	July '13	Apr. '14	Aug. '14	Apr. '15	July '15	Apr. '16	Apr. '16	Apr 17	July 17
BS-1	ND	<.005	<.005	na	na	NA	NA	NA	NA	NA	NA
BS-2	ND	<.005	<.005	na	na	NA	NA	NA	NA	NA	NA
BS-3	ND	<.005	<.005	ND	ND	ND	ND	ND	0.008	ND	ND
									acetone		
	NA= no bank seep available.										

plrvoc 14

ATTACHMENT "E"

* FIELD MEASUREMENT DATA SHEETS;

SAMPLE EVENTS: April + July 17

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

ATTACHMENT "F"

ANALYTICAL DATA EVENTS:

April + July 2017

*Analytical data from:

Alpha Lab

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.
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. PALMER ST. LANDFILL; COVER SYSTEM PERFORMANCE SYSTEM EVALUATION, PREPARED BY GEOMATRIX CONSULTANTS, WILLIAMSVILLE, NY. FEBRUARY 2004.
10. JULY 27, 2006 LETTER FROM RICHARD FRAPPA, GEOMATRIX CONSULTANT, WILLIAMSVILLE, NY; DOCUMENTING THE AGREEMENT WITH N.Y. STATE DEPT. OF ENVIRONMENTAL CONSERVATION, REGION 9; REVISED MONITORING (DETECTION) PROGRAM. LETTER TO STAN RADON.
11. SEPTEMBER 7, 2006 LETTER FROM STAN RADON (NYSDEC9) TO JEFFREY SMITH (MOENCH), CONFIRMING THE ACCEPTANCE OF THE REVISED DETECTION MONITORING SYSTEM, AND THE ELIMINATION OF THE PERFORMANCE MONITORING PLAN-COVER SYSTEM EVALUATION.