Sterling Environmental Engineering, P.C.

December 28, 2018

Mr. Timothy B. Rose, P.E.
Ulster County Resource Recovery Agency
P.O. Box 6219
999 Flatbush Road
Kingston, New York 12402

Subject: 2018 Annual Post-Closure Monitoring Results
Town of New Paltz Landfill
STERLING File #26060 (Task 200)

Dear Mr. Rose,

The 2018 Annual Post-Closure Monitoring (PCM) event for the Town of New Paltz Landfill (Landfill) was conducted on October 2, 2018 by Sterling Environmental Engineering, P.C. (STERLING). This report summarizes the Landfill cover inspection, water quality monitoring results, Landfill gas survey results, and conclusions and recommendations. PCM requirements were modified by the New York State Department of Environmental Conservation (NYSDEC) on November 3, 2003 to reduce the number of monitoring points, reduce the number of analytical parameters, and to change the frequency of monitoring from quarterly to annually. A Site Vicinity Map is presented as Figure 1.

The 2018 NYSDEC Region 3 Solid Waste Program Annual Post-Closure Monitoring and Maintenance (PCMM) Report for the Landfill is provided in Attachment A.

Groundwater samples were collected from monitoring well locations MW-1D, MW-2D, MW-3D, and MW-4D. One surface water sample was collected from location SW-1 in an unnamed tributary that flows into the Wallkill River. Sample locations are presented on Figure 2. The explosive gas survey was conducted for the Landfill perimeter and onsite buildings.

LANDFILL COVER INSPECTION

Results of the inspection are provided in the PCMM Report (Attachment A). The Landfill cover is well maintained and was mowed in September 2018 (see Photograph Log, Attachment B). Photograph locations are provided in Figure 3. Slightly pungent odors were observed along the eastern portion of the Landfill. No evidence of erosion, settlement, leachate discharge, or vectors was observed. Temporary surface water ponding was present on the central portion of the Landfill due to heavy precipitation; however, no offsite discharge was observed. Minor shallow ruts were observed in localized areas from recent mowing activities during wet conditions. No significant damage to Landfill cover system was observed. STERLING recommends that the identified ruts in the Landfill cover system be repaired and mowing of the Landfill cover system be performed when the soils are dry and unsaturated.

The MW-3D PVC riser casing is bent; therefore, the monitoring well can only be sampled using a peristaltic pump and 0.25-inch inside diameter (ID) polyethylene tubing. This condition does not affect

the accuracy of groundwater elevation data or integrity of groundwater quality results collected from this monitoring point.

WATER QUALITY MONITORING

Groundwater elevations, groundwater elevation contours, and groundwater flow direction for the bedrock aquifer are presented on Figure 2. Groundwater flow in bedrock is to the northeast in the vicinity of the Landfill, which is consistent with historical trends.

Groundwater samples were analyzed for the NYSDEC-approved reduced list of 6 NYCRR Part 360-2.11(c) Baseline Parameters (1993 Regulations) by Alpha Analytical. Laboratory reporting and procedures follow the Analytical Services Protocol (ASP) Category "A" reporting requirements and the United States Environmental Protection Agency (USEPA) methodologies and protocols. A copy of the analytical report is provided in Attachment C.

Field parameter measurements are summarized in Table 1. Analytical results for groundwater are summarized in Table 2 and for surface water in Table 3. Historical data tables for parameters that periodically exceed water quality standards or guidance values are provided in Tables 4 through 8. These tables also include concentration versus time graphs to enable data trend analysis. Total Volatile Organic Compound (VOC) results are provided in Table 9, and monitoring well construction details are provided in Table 10.

The analytical results for the monitoring wells were compared to the Ambient Water Quality Standards and Guidance Values listed in the NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 (June 1998). Reported concentrations for individual VOCs and Total VOCs (Tables 2, 3, and 9) did not exceed the applicable water quality standard for all groundwater and surface water sample locations.

Leachate indicator and inorganic parameter concentrations reported for groundwater that exceed applicable water quality standards and/or guidance values are consistent with past monitoring results and data trends. All reported concentrations for the surface water location were below applicable surface water standards.

LANDFILL GAS SURVEY

Subsurface explosive gas levels were monitored as percent of the lower explosive limit (% LEL) at approximately 100-foot intervals around the Landfill perimeter from temporary probe holes installed in the soil at depths of 12 to 18 inches below grade. Explosive gas monitoring was also performed within the onsite buildings (Figure 3).

No explosive gas concentrations were detected around the Landfill perimeter or in any of the onsite buildings indicating that explosive gas is not present at the perimeter of the Landfill or migrating off the Landfill property. The observed conditions satisfy the post-closure requirements of 6 NYCRR Parts 360-2.15(a)(2) and 2.17(f) (effective prior to November 4, 2017) with respect to Landfill gas migration.

CONCLUSIONS

- The Landfill is in compliance with the PCM program.
- The Landfill cover is effectively maintained with no evidence of erosion, settlement, excessive surface water ponding, leachate discharge or vectors.

- The 2018 sample results for the onsite groundwater and surface water are consistent with historical data trends.

- The Landfill gas survey results indicate the 6 NYCRR Part 360-2.15(a)(2) and 2.17(f) requirements (effective prior to November 4, 2017) for Landfill gas control are satisfied.

RECOMMENDATIONS

- The protective casing and damaged portion of the riser pipe for bedrock monitoring well MW-3D should be replaced to re-establish well integrity and security. Once repaired, the revised top of casing elevation and measuring point elevation will require resurveying of the vertical elevation to the nearest 0.01 foot. The surveying task will require the services of a NYS licensed PLS.

- STERLING recommends that the identified ruts in the Landfill cover system be repaired and mowing of the Landfill cover system be performed when the soils are dry and unsaturated.

- Based on the results of the PCM Program from 1990 through 2018, STERLING recommends that UCRRA propose modification of the scope of the Landfill PCM Program to reduce the scope of explosive gas monitoring and to modify the sampling requirements of the four (4) bedrock monitoring wells (MW-1D, MW-2D, MW-3D and MW-4D) and one (1) surface water sample for NYSDEC Water Quality Parameters and select metals (iron, manganese, and sodium) only.

The next sampling event is scheduled for the third quarter of 2019. Please contact me should you have any questions or comments.

Very truly yours,

STERLING ENVIRONMENTAL ENGINEERING, P.C.

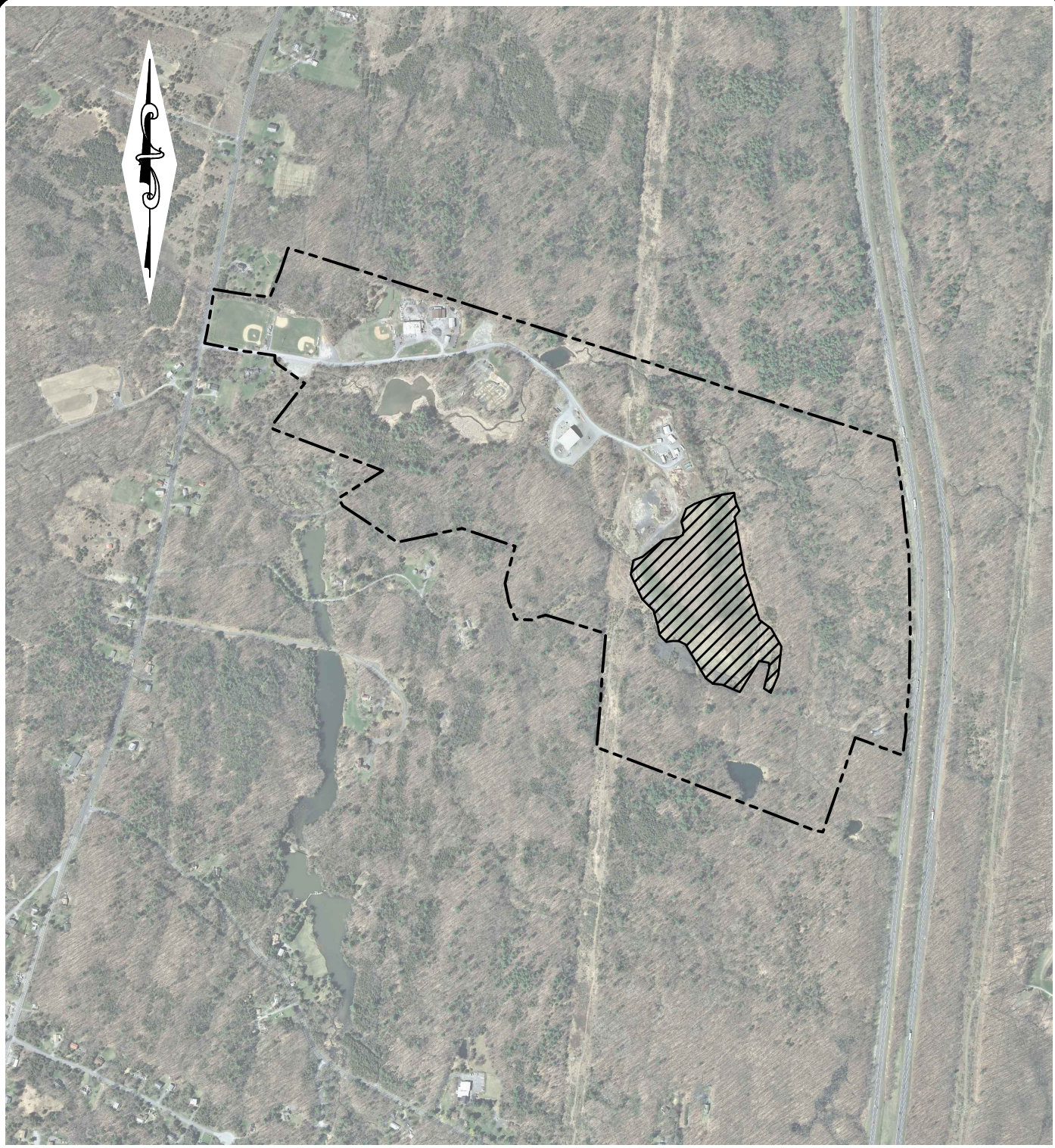
Mark A. Williams, P.G.
Senior Geologist
mark.williams@sterlingenvironmental.com

MAW/bc
Email/First Class Mail

Attachments: Figures 1-3, Tables 1-10, NYSDEC PCMM Report (Attachment A), Photograph Log (Attachment B) and Analytical Report (Attachment C)

cc: Ella M. Cattabiani, NYSDEC Region 3 (Email only)
Neil Bettez, Town of New Paltz Supervisor

FIGURES



LEGEND:

APPROXIMATE PROPERTY LINE

APPROXIMATE LANDFILL AREA

0 500 1000 2000

1 inch = 1000 ft.

MAP REFERENCE: USGS HIGH RESOLUTION ORTHOIMAGERY, 2013.

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SITE VICINITY MAP

UCRRA

TOWN OF NEW PALTZ LANDFILL

TOWN OF NEW PALTZ ULSTER CO., N.Y.

PROJ. No.:	DATE:	SCALE:	DWG. NO.	FIGURE
26060	11/17/2016	1" = 1000'	26060012NP	1

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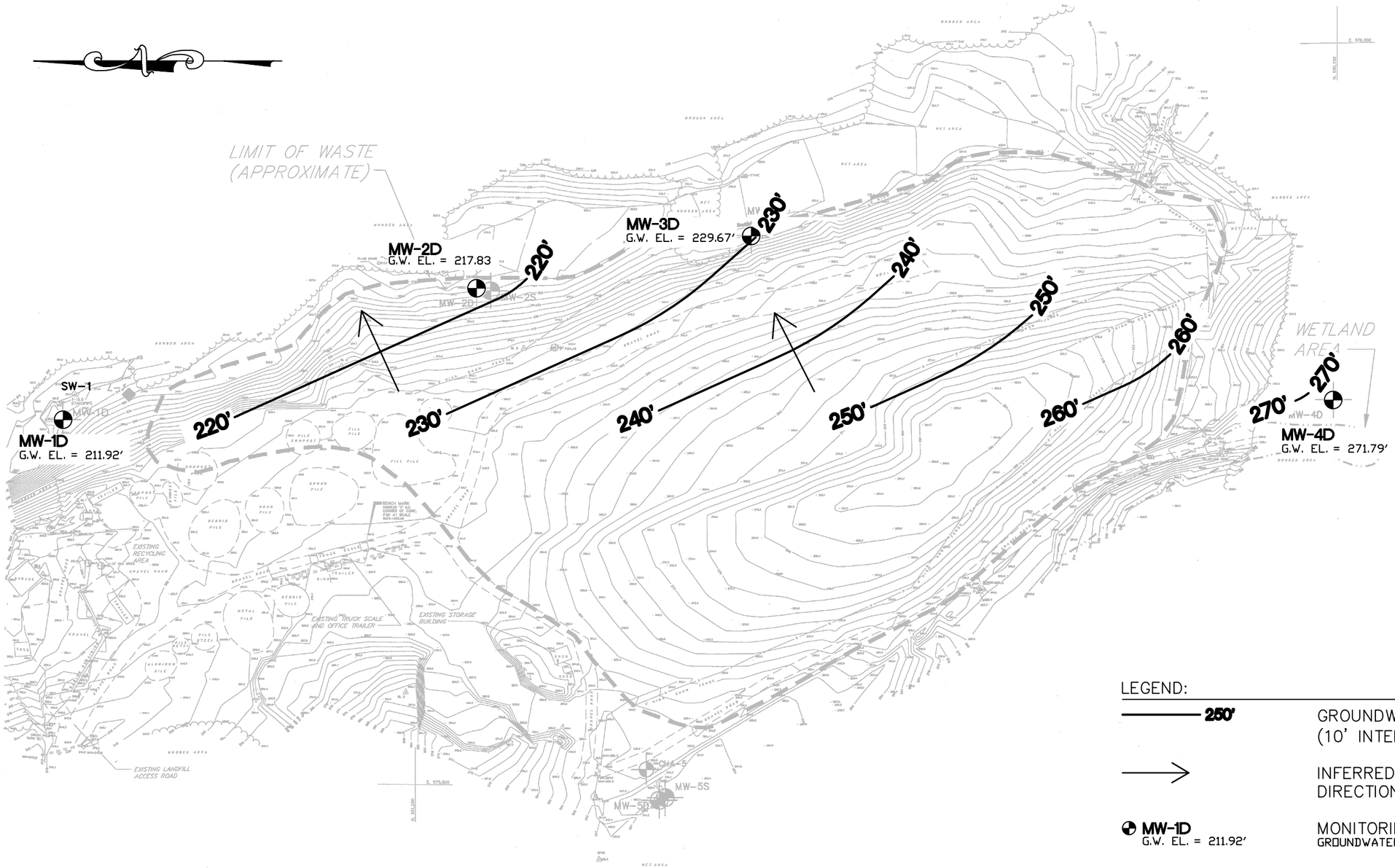

LEGEND:

250'	GROUNDWATER ELEVATION CONTOUR (10' INTERVAL)
→	INFERRED GROUNDWATER FLOW DIRECTION
MW-1D G.W. EL. = 211.92'	MONITORING WELL GROUNDWATER ELEVATION (OCTOBER 2, 2018)
SW-1	SURFACE WATER SAMPLE LOCATION

FIGURE 2

MAP REFERENCE: BASE MAP FROM "SITE PLAN, INTERIM CONSOLIDATION LANDFILL AT NEW PALTZ" BY CLOUGH HARBOUR & ASSOCIATES LLP, DATED 10-10-05.

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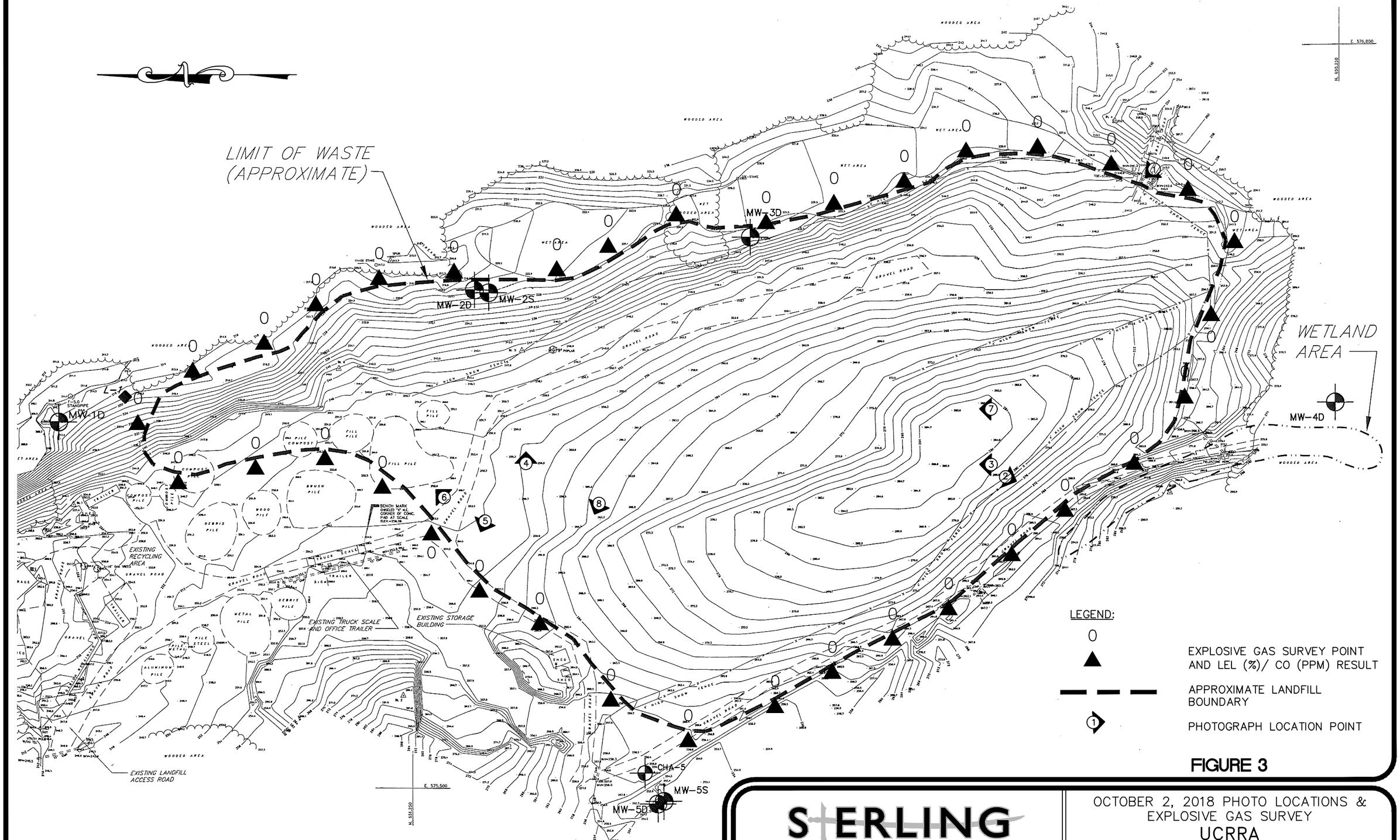
MONITORING WELL LOCATIONS AND OCTOBER 2, 2018 BEDROCK GROUNDWATER ELEVATION CONTOURS
UCRRA
TOWN OF NEW PALTZ LANDFILL
TOWN OF NEW PALTZ ULSTER CO., NY

PROJ. No.:	DATE:	SCALE:	DWG. NO.	FIGURE
26060	10/4/2018	1" = 150'	26060025NP	2



LEGEND:

- 0 ▲ — EXPLOSIVE GAS SURVEY POINT AND LEL (%)/ CO (PPM) RESULT
- — — — APPROXIMATE LANDFILL BOUNDARY
- ① PHOTOGRAPH LOCATION POINT

MAP REFERENCE: BASE MAP FROM DRAWING ENTITLED "SITE PLAN, INTERIM CONSOLIDATION LANDFILL AT NEW PALTZ" BY CLOUGH HARBOUR & ASSOCIATES LLP, DATED 10-10-05.

FIGURE 3

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OCTOBER 2, 2018 PHOTO LOCATIONS & EXPLOSIVE GAS SURVEY
UCRRA
NEW PALTZ LANDFILL
TOWN OF NEW PALTZ ULSTER CO., NY

PROJ. No.:	26060	DATE:	10/4/2018	SCALE:	1" = 120'	DWG. NO. 26060026NP	FIGURE	3

TABLES

Table 1

Summary of Field Parameter Measurements (October 2, 2018)
Town of New Paltz Landfill, New Paltz, New York

Parameters	NYSDEC T.O.G.S. 1.1.1 Standards	Units	MONITORING WELL LOCATIONS				SURFACE WATER LOCATION
			MW-1D	MW-2D	MW-3D	MW-4D	SW-1
Static Water Level [1]	---	feet	4.24	6.25	3.83	13.61	---
Specific Conductance	---	mS/cm	---	1.205	0.645	0.364	0.327
Temperature	---	°C	13.1	11.7	13.30	13.50	14.6
pH	6.5<pH<8.5	Standard Unit	6.84	6.51	7.47	7.49	7.77
Oxidation Reduction Potential (ORP)	---	mV	-48.9	-14.2	-46.9	127.7	28.9
Turbidity [2]	5.0	NTU	**36.9**	5.0	**5.3**	**32.8**	4.2
Dissolved Oxygen (DO) [3]	≥3	mg/L	2.59	1.45	2.53	6.49	9.47

NOTES:

[1] Static water level measured from top of PVC casing.

[2] Standard parameter applies to groundwater wells only.

[3] Standard applies to surface water location only.

--- Not measured or Not available

Value in **BOLD** indicates an exceedance of applicable water quality standard or guidance value.

mS/cm = MilliSiemen per Centimeter

°C = Degrees Centigrade

mV = milivolt

NTU = Nephelometric Turbidity Unit

mg/L = Milligram per Liter

Table 2

Summary of Monitoring Well Water Quality Results
(October 2, 2018)
Town of New Paltz Landfill, New Paltz, New York

Analyte	Units	Reg 1	MW-1D	MW-2D	MW-3D	MW-4D
Water Quality Parameters						
Alkalinity	mg/L	---	424	580	294	177
Ammonia	mg/L	2.0	0.564	**2.4**	0.65	0.646
Chloride	mg/L	250	49.3	58.5	14.2	1.05
Hardness	mg/L	---	479.4	490.5	277.0	180.6
Nitrate as N	mg/L	10	0.1 U	0.1 U	0.1 U	0.097 J
Sulfate	mg/L	250	37.8	11.5	14.1	12.8
Total Dissolved Solids	mg/L	500	**570**	**630**	330	210
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
1,1,2,2-Tetrachloroethane	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
1,1,2-Trichloroethane	µg/L	1.0	1.5 U	1.5 U	1.5 U	1.5 U
1,1,1,2-Tetrachloroethane	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
1,2,3-Trichloropropane	µg/L	0.04[(a)]	2.5[(a)] U	2.5[(a)] U	2.5[(a)] U	2.5[(a)] U
1,1-Dichlorethylene	µg/L	5.0	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
1,2-Dibromo-3-Chloropropane	µg/L	0.04	2.5 U	2.5 U	2.5 U	2.5 U
1,2-Dibromoethane	µg/L	0.0006	2.0[(a)] U	2.0[(a)] U	2.0[(a)] U	2.0[(a)] U
1,2-Dichlorobenzene	µg/L	3.0	2.5 U	2.5 U	2.5 U	2.5 U
1,2-Dichloroethane	µg/L	0.6	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	µg/L	1.0	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	3.0	2.5 U	2.5 U	2.5 U	2.5 U
2-Hexanone	µg/L	50	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (MIBK)	µg/L	---	5.0 U	5.0 U	5.0 U	5.0 U
Acrylonitrile	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	*50*	1.5 J	5.0 U	5.0 U	5.0 U
Benzene	µg/L	1.0	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
Bromodichloromethane	µg/L	*50*	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	µg/L	*50*	2.0 U	2.0 U	2.0 U	2.0 U
Bromomethane	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
Carbon disulfide	µg/L	---	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
Chloroethane	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
Chloromethane	µg/L	---	2.5 U	2.5 U	2.5 U	2.5 U
Chloroform	µg/L	7.0	2.5 U	2.5 U	2.5 U	2.5 U
cis-1,2-Dichloroethylene	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
cis-1,3-Dichloropropene	µg/L	0.4	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	µg/L	5.0	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	*50*	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
Iodomethane	µg/L	---	5.0 U	5.0 U	5.0 U	5.0 U
Methyl Ethyl Ketone	µg/L	*50*	5.0 U	5.0 U	5.0 U	5.0 U
Methylene Chloride	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
Styrene	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
Tetrachloroethylene	µg/L	5.0	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
trans-1,2-Dichloroethylene	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
trans-1,3-Dichloropropene	µg/L	0.4	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,4-Dichloro-2-butene	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
Trichloroethylene	µg/L	5.0	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
Vinyl Acetate	µg/L	---	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl chloride	µg/L	2.0	1.0 U	1.0 U	1.0 U	1.0 U
m/p-Xylene	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
o-Xylene	µg/L	5.0	2.5 U	2.5 U	2.5 U	2.5 U
Total Metals						
Arsenic	mg/L	0.025	0.00992	0.00084	0.00175	0.00331
Barium	mg/L	1.0	0.3695	0.2868	0.1988	0.09854
Iron	mg/L	0.3[(b)]	**17.4**	**0.441**	**0.255**	**13.3**
Lead	mg/L	0.025	0.00478	0.00047 J	0.00100 U	0.00900
Manganese	mg/L	0.3[(b)]	**3.939**	**3.365**	**0.6947**	**0.581**
Sodium	mg/L	20	**28.1**	**45.2**	12.1	4.80

Reg 1- T.O.G.S. 1.1.1: Water Quality Standards and *Guidance Values* for Groundwater, Eff. 1998
Value in **BOLD** indicates an exceedance of applicable water quality standard or guidance value.
J = Result is less than the reporting
U = Compound was not found at or above the laboratory method detection limit.
a = The sample specific detection limit does not support the regulatory requirement.
b = If Iron and Manganese are present, the total concentration of both should not exceed 0.5 mg/L.

Table 3

Summary of Surface Water Quality Results (October 2, 2018)
Town of New Paltz Landfill, New Paltz, New York

Analyte	Units	Reg 1	SW-1
Water Quality Parameters			
Alkalinity	mg $CaCO_3$	---	69.9
Ammonia	mg/L	1.95[(a)]	0.027
Chloride	mg/L	---	45.7
Hardness	mg/L	---	72.3
Nitrate as N	mg/L	---	0.043 J
Sulfate	mg/L	---	8.29
Total Dissolved Solids	mg/L	---	190
Volatile Organic Compounds			
1,1,1-Trichloroethane	µg/L	---	2.5 U
1,1,2,2-Tetrachloroethane	µg/L	---	0.5 U
1,1,2-Trichloroethane	µg/L	---	1.5 U
1,1,1,2-Tetrachloroethane	µg/L	---	2.5 U
1,2,3-Trichloropropane	µg/L	---	2.5 U
1,1-Dichlorethylene	µg/L	---	0.5 U
1,1-Dichloroethane	µg/L	---	2.5 U
1,2-Dibromo-3-Chloropropane	µg/L	---	2.5 U
1,2-Dibromoethane	µg/L	---	2 U
1,2-Dichlorobenzene	µg/L	5.0	2.5 U
1,2-Dichloroethane	µg/L	---	0.5 U
1,2-Dichloropropane	µg/L	---	1 U
1,4-Dichlorobenzene	µg/L	5.0	2.5 U
2-Hexanone	µg/L	---	5 U
4-Methyl-2-pentanone (MIBK)	µg/L	---	5 U
Acrylonitrile	µg/L	---	5 U
Acetone	µg/L	---	2.3 J
Benzene	µg/L	10	0.5 U
Bromochloromethane	µg/L	---	2.5 U
Bromodichloromethane	µg/L	---	0.5 U
Bromoform	µg/L	---	2 U
Bromomethane	µg/L	---	2.5 U
Carbon disulfide	µg/L	---	5 U
Carbon tetrachloride	µg/L	---	0.5 U
Chlorobenzene	µg/L	400	2.5 U
Chloroethane	µg/L	---	2.5 U
Chloromethane	µg/L	---	2.5 U
Chloroform	µg/L	---	2.5 U
cis-1,2-Dichloroethylene	µg/L	---	2.5 U
cis-1,3-Dichloropropene	µg/L	---	0.5 U
Dibromomethane	µg/L	---	5 U
Dibromochloromethane	µg/L	---	0.5 U
Ethylbenzene	µg/L	---	2.5 U
Iodomethane	µg/L	---	5 U
Methyl Ethyl Ketone	µg/L	---	5 U
Methylene Chloride	µg/L	200	2.5 U
Styrene	µg/L	---	2.5 U
Tetrachloroethylene	µg/L	1.0	0.5 U
Toluene	µg/L	100	2.5 U
trans-1,2-Dichloroethylene	µg/L	---	2.5 U
trans-1,3-Dichloropropene	µg/L	---	0.5 U
trans-1,4-Dichloro-2-butene	µg/L	---	2.5 U
Trichloroethylene	µg/L	40	0.5 U
Trichlorofluoromethane	µg/L	---	2.5 U
Vinyl Acetate	µg/L	---	5 U
Vinyl chloride	µg/L	---	1 U
m/p-Xylene	µg/L	65	2.5 U
o-Xylene	µg/L	65	2.5 U
Total Metals			
Arsenic	mg/L	0.15[(b)]	0.0003 J
Barium	mg/L	---	0.01021
Iron	mg/L	0.3	0.142
Lead	mg/L	2.65[(c)]	0.001 U
Manganese	mg/L	---	0.02282
Sodium	mg/L	---	37.7

Notes:

Reg 1- T.O.G.S. 1.1.1: Water Quality Standards and Guidance Values for Class C Surface Waters, Eff. 1998.

Value in BOLD indicates an exceedance of applicable water quality standard or guidance value.

U = Compound was not found at or above the laboratory method detection limit.

J = Result is less than the Reporting Limit (RL) but greater than or equal to the method detection limit (MDL) and the concentration is an approximate value.

[a] = Ammonia standard is based on the samples temperature and pH.

[b] = Applies to the dissolved form.

[c] = Standard is based on the hardness of the sample.

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Table 4

Summary of Historical Data
Ammonia, mg/L
TOGS 1.1.1 Groundwater Standard = 2.0 mg/L
TOGS 1.1.1 Surface Water Standard[(a)] = 1.95 mg/L
Town of New Paltz Landfill, New Paltz, NY

Well ID	MW-1D	MW-2D	MW-3D	MW-4D	SW-1
Location	Downgradient	Downgradient	Downgradient	Upgradient	Downgradient
Jan. - 90	0.06	0.96	0.06	0.06	0.06
Dec. - 91	0.4	0.02	0.1	0.1 U	0.1
Jun. - 93	1.4	**2.5**	0.22	0.08	0.23
Sep. - 93	0.1	0.1 U	0.1	0.2	0.2
Mar. - 94	NA	1.92	0.1 U	0.1 U	1.09
Jun. - 94	0.16	1.87	0.13	0.1 U	0.26
Sep. - 94	0.346	**2.34**	NA	0.1 U	0.1 U
Dec. - 94	0.116	0.635	NA	0.1 U	0.1 U
Mar. - 95	0.362	**2.77**	NA	0.1 U	0.1 U
Jun. - 95	0.58	**3.1**	0.1 U	0.1 U	0.1 U
Sep. - 95	0.7	**3**	0.4	0.4	0.2
Dec. - 95	0.7	**2.5**	0.1 U	0.1 U	0.1 U
Mar. - 96	0.57	**2.73**	0.01 U	0.01 U	0.05
Jun. - 96	0.79	**3.09**	0.01 U	0.01 U	0.03
Sep. - 96	1.8	**3**	NA	0.5 U	0.7
Dec. - 96	1.9	1.1	0.5 U	0.5 U	0.5 U
Mar. - 97	1.4	**2.4**	0.5 U	0.5 U	0.5 U
Jun. - 97	1.3	1.6	0.5 U	0.5 U	0.5 U
Sep. - 97	1.6	1.9	0.5 U	0.5 U	0.5 U
Dec. - 97	1.1	0.5 U	0.5 U	0.5 U	0.5 U
Mar. - 98	1.4	1.7	0.5 U	0.5 U	0.5 U
Jun. - 98	**2.8**	**2.6**	0.5 U	0.5 U	0.5 U
Sep. - 98	1.5	**2.4**	0.5 U	0.5 U	0.5 U
Dec. - 98	1.4	**2.4**	0.5 U	0.5 U	0.5 U
Mar. - 99	1.1	**2.6**	0.5 U	0.5 U	0.5 U
Jun. - 99	1.7	0.7	0.5 U	0.5 U	0.5 U
Sep. - 00	1.6	**2.7**	0.5 U	0.5 U	0.5 U
Aug. - 01	**3.1**	0.5 U	0.5 U	NA	0.5 U
Sep. - 02	**2.3**	**3.9**	0.5 U	0.5 U	0.5 U
Nov. - 03	0.6	**2.2**	0.5 U	0.5 U	0.5 U
Sep. - 04	1.74	**2.21**	0.5 U	0.5 U	0.5 U
Aug. - 05	0.9	1.6	0.1 U	0.1 U	0.1 U
Oct. - 06	1.1	1.2	0.12	NA	0.05 U
Aug. - 07	1.2	**2.4**	0.073	0.05 U	0.05 U
May. - 08	0.73	**2.5**	0.065	0.05 U	0.05 U
May. - 09	0.82	2	0.05 U	0.05 U	0.05 U
May. - 10	0.551	1.39	0.094	0.02 U	0.079
May. - 11	0.63	**3.1**	0.023	0.042	NA
May. - 12	0.53	1.5	0.027	0.015	NA
May. - 13	0.43	1.7	0.063	0.062	NA
Jul. - 14	0.51	1.1	0.084	0.02 U	NA
Sep. - 15	0.704	0.296	0.110	0.351	NA
Aug. - 16	0.513	1.25	0.104	0.195	0.033 J
Sep. - 17	0.521	**2.01**	**3.57**	0.125	0.108
Oct. - 18	0.564	**2.4**	0.65	0.646	0.027
Statistics Summary[(b)]					
Count	44	42	18	11	14
Minimum	0.1	0.02	0.02	0.02	0.0
Maximum	3.1	3.9	3.6	0.6	1.1
Mean	1.0	2.0	0.3	0.2	0.2
St. Dev.	0.7	0.8	0.8	0.2	0.3
10-Prcntl	0.4	1.0	0.1	0.04	0.0
Median	0.8	2.2	0.1	0.1	0.1
90-Prcntl	1.8	3.0	0.5	0.4	0.6

Notes:
Value in **BOLD** indicates an exceedance of the applicable water quality standard or guidance value.
NA = Not Analyzed
U = Concentration is less than laboratory reporting or instrument detection limit.
J = Result is less than reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
[a] = TOGS 1.1.1 Surface water Standard for stream class C(T) or D is specific to SW-1 for 2018 based on the sample pH and temperature.
[b] = Non-detect concentrations and not analyzed events are not represented in statistics summary.

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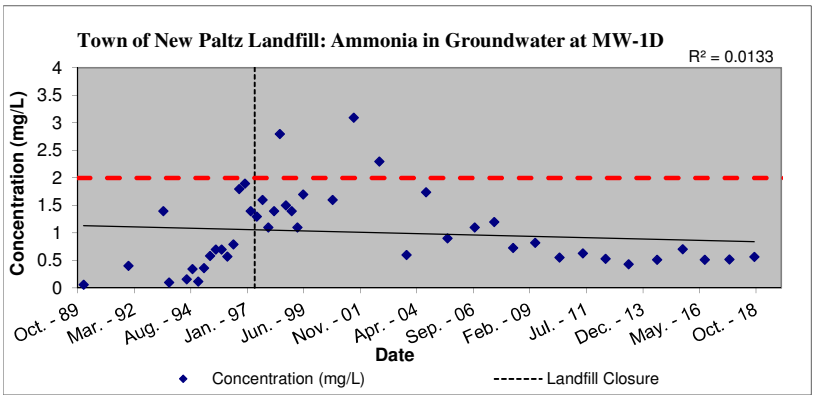
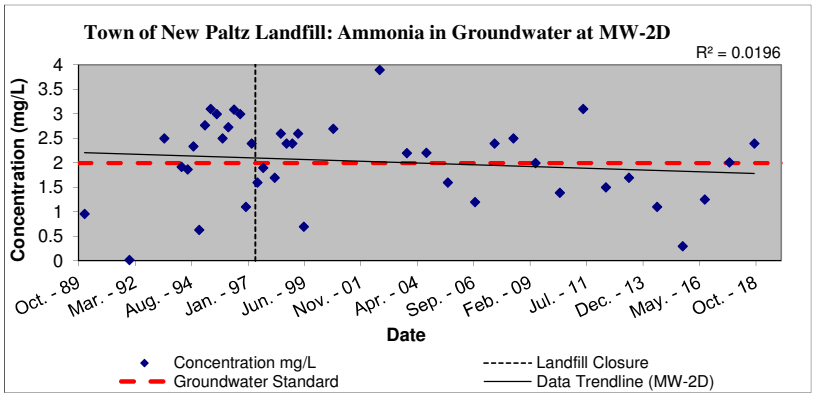
Summary of Historical Data
Ammonia, mg/L
Data Trend Analysis





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Summary of Historical Data
Total Dissolved Solids, mg/L
TOGS 1.1.1 Groundwater Standard = 500 mg/L
TOGS 1.1.1 Surface Water Standard[(a)] = 500 mg/L
Town of New Paltz Landfill, New Paltz, NY

Well ID	MW-1D	MW-2D	MW-3D	MW-4D	SW-1
Location	Downgradient	Downgradient	Downgradient	Upgradient	Downgradient
Jan. - 90	**562**	476	172	192	208
Dec. - 91	**513**	**688**	250	123	130
Jun. - 93	**770**	**656**	229	189	422
Sep. - 93	**978**	**913**	235	213	712
Mar. - 94	NA	**680**	235	110	272
Jun. - 94	**700**	**630**	230	132	318
Sep. - 94	**700**	**643**	NA	193	470
Dec. - 94	**588**	**608**	NA	72.5	128
Mar. - 95	**648**	**680**	NA	115	122
Jun. - 95	**718**	**685**	253	170	330
Sep. - 95	**790**	**668**	222	195	425
Dec. - 95	**815**	**653**	235	110	183
Mar. - 96	**752**	**567**	166	109	139
Jun. - 96	**649**	**525**	141	130	210
Sep. - 96	**970**	**690**	NA	250	440
Dec. - 96	**1,000**	450	260	130	130
Mar. - 97	**1,100**	**740**	280	120	150
Jun. - 97	**1,000**	**600**	250	200	300
Sep. - 97	**1,200**	**810**	290	190	480
Dec. - 97	**1,000**	**750**	250	160	190
Mar. - 98	**970**	**740**	260	48	110
Jun. - 98	**920**	**730**	260	150	170
Sep. - 98	**900**	**820**	310	230	390
Dec. - 98	**870**	**750**	260	130	230
Mar. - 99	**870**	**760**	280	110	230
Jun. - 99	**840**	**720**	280	180	270
Sep. - 00	**820**	**750**	290	190	170
Aug. - 01	**670**	**830**	350	NA	380
Sep. - 02	**810**	**610**	360	NA	550
Nov. - 03	**670**	**810**	440	280	180
Sep. - 04	**640**	**670**	282	167	168
Aug. - 05	**622**	**580**	340	225	605
Oct. - 06	**610**	**750**	340	NA	230
Aug. - 07	**650**	**520**	310	220	480
May. - 08	**540**	**750**	310	160	250
May. - 09	**600**	**670**	330	170	220
May. - 10	**543**	**622**	293	180	393
May. - 11	**550**	**562**	213	108	NA
May. - 12	**564**	490	344	138	NA
May. - 13	**530**	352	312	135	NA
Jul. - 14	**533**	**574**	273	157	NA
Sep. - 15	**540**	320	300	180	NA
Aug. - 16	**580**	**640**	330	180	680
Sep. - 17	**560**	420	310	150	500
Oct. - 18	**570**	**630**	330	210	190

Summary Statistics[(b)]

Count	44	45	41	42	40
Minimum	513	320	141	48	110
Maximum	1,200	913	440	280	712
Mean	737	648	278	162	304
St. Dev.	180	125	57	48	162
10-Prcntl	541	482	222	110	130
Median	685	668	280	164	240

Notes:
Value in **BOLD** indicates an exceedance of the applicable water quality standard or guidance value.
NA = Not Analyzed

[a] = TDS surface water standard for Class C streams is 500 mg/L.

[b] = Non-detect concentrations and not analyzed events are not represented in statistics summary.

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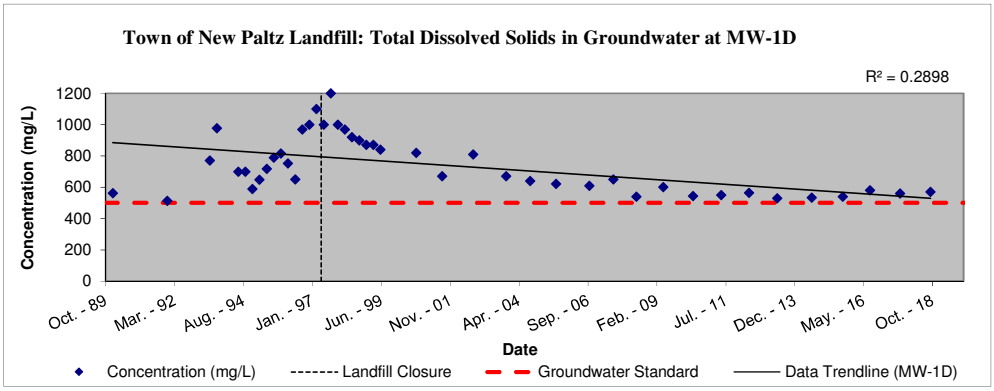
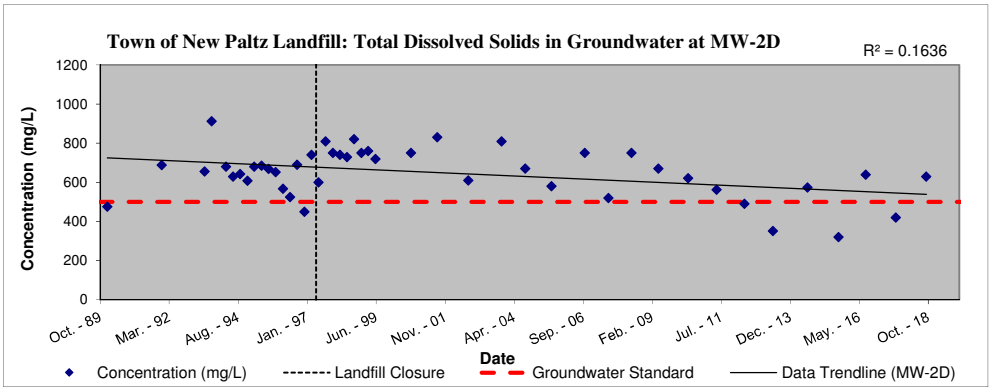
Table 5

Summary of Historical Data
Total Dissolved Solids, mg/L
Data Trend Analysis





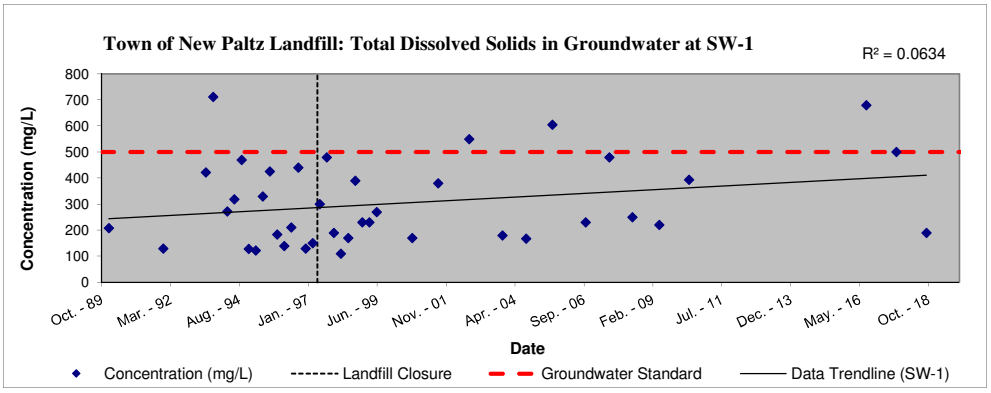


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Table 6

Summary of Historical Data
Iron, mg/L
TOGS 1.1.1 Groundwater Standard = 0.3 mg/L
TOGS 1.1.1 Surface Water Standard = 0.3 mg/L
Town of New Paltz Landfill, New Paltz, NY

Well ID	MW-1D	MW-2D	MW-3D	MW-4D	SW-1
Location	Downgradient	Downgradient	Downgradient	Upgradient	Downgradient
Jan. - 90	**0.44**	**2.2**	**1.7**	**3.6**	**0.47**
Dec. - 91	**2.8**	**0.44**	**1.2**	0.13	0.06
Jun. - 93	**6.3**	0.15	**1**	0.061	**0.54**
Sep. - 93	**10.4**	**13.5**	**1.4**	**0.52**	0.09
Mar. - 94	NA	0.178	0.215	**0.698**	**0.693**
Jun. - 94	**4.47**	0.258	**0.356**	**0.729**	**0.341**
Sep. - 94	**6.79**	**1.38**	NA	**3.03**	**1.82**
Dec. - 94	**2.13**	0.242	NA	**0.311**	0.243
Mar. - 95	**2.34**	0.208	NA	0.238	0.195
Jun. - 95	**8.8**	**2.5**	**3.49**	**3.7**	**4.27**
Sep. - 95	**6.74**	0.21	0.28	0.11	**0.32**
Dec. - 95	**8.78**	0.27	**1.41**	0.13	0.27
Mar. - 96	**4.53**	**0.48**	0.21	0.1	**0.45**
Jun. - 96	**10.8**	**0.31**	**1.14**	0.16	**8.5**
Sep. - 96	**1.3**	**0.36**	NA	**0.42**	**6.6**
Dec. - 96	**25**	**1.4**	**21**	**0.3**	0.13
Mar. - 97	**23**	**0.52**	**3.6**	**1.8**	0.14
Jun. - 97	**14**	**1.7**	**4**	**0.97**	0.21
Sep. - 97	**19**	**0.34**	**0.38**	**0.5**	0.21
Dec. - 97	**18**	**0.95**	**0.68**	**0.83**	0.1
Mar. - 98	**20**	**0.49**	**0.58**	**0.85**	0.14
Jun. - 98	**15**	**0.39**	**1**	**0.64**	1.1
Sep. - 98	**10**	**0.58**	**0.51**	0.22	0.25
Dec. - 98	**18**	**0.93**	**1.2**	0.25	**0.67**
Mar. - 99	**20**	**0.36**	**0.46**	**0.49**	**0.75**
Jun. - 99	**14**	0.2	**1**	0.27	0.16
Sep. - 00	**18**	**3.1**	**2.1**	**0.92**	**1**
Aug. - 01	**8.4**	**1.6**	**1.7**	NA	**0.38**
Sep. - 02	**9**	**0.72**	**0.48**	0.19	0.23
Nov. - 03	**44**	**0.35**	**1.6**	**0.3**	0.12
Sep. - 04	**10**	**0.46**	**0.96**	**2.6**	0.2
Aug. - 05	**28.3**	**0.525**	**0.838**	0.063	0.191
Oct. - 06	**24**	**19**	**2.1**	NA	0.18
Aug. - 07	**16**	**0.42**	0.013	**0.81**	0.14
May. - 08	**13**	**0.65**	0.01	**6.3**	0.032
May. - 09	**15**	0.27	0.05 U	**0.96**	0.21
May. - 10	**9.4**	**0.754**	0.05 U	**2.07**	0.056
May. - 11	**8.8**	**2.6**	0.05 U	**39.6**	NA
May. - 12	**32.6**	**1.8**	0.05 U	**7.4**	NA
May. - 13	**18.4**	**0.98**	0.12	**7**	NA
Jul. - 14	**15.4**	**1.8**	0.16	**2.1**	NA
Sep. - 15	**9.57**	**1.08**	0.288	**6.07**	NA
Aug. - 16	**9.75**	**0.80**	0.23	**2.64**	0.09
Sep. - 17	**18.20**	**1.42**	**3.89**	**2.32**	0.10
Oct. - 18	**17.4**	**0.441**	0.255	**13.3**	0.142
Statistics Summary[(a)]					
Count	44	45	37	43	40
Minimum	0.4	0.2	0.01	0.1	0.03
Maximum	44.0	19.0	21.0	39.6	8.5
Mean	13.6	1.5	1.7	2.7	0.8
St. Dev.	8.7	3.3	3.4	6.3	1.7
10-Prcntl	3.3	0.2	0.2	0.1	0.1
Median	11.9	0.5	1.0	0.7	0.2
90-Prcntl	23.7	2.4	3.5	6.3	1.2

Notes:

Value in **BOLD** indicates an exceedance of the applicable water quality standard or guidance value.

U = Concentration is less than laboratory reporting or instrument detection limit.

NA = Not Analyzed

[a] = Non-detect concentrations and not analyzed events are not represented in statistics summary.

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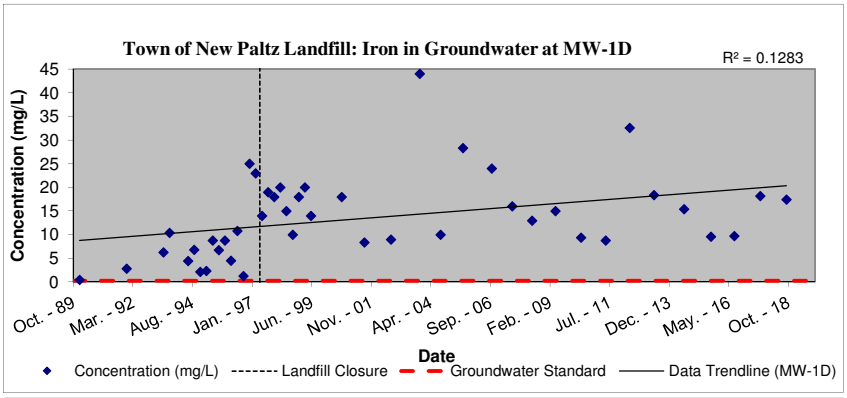
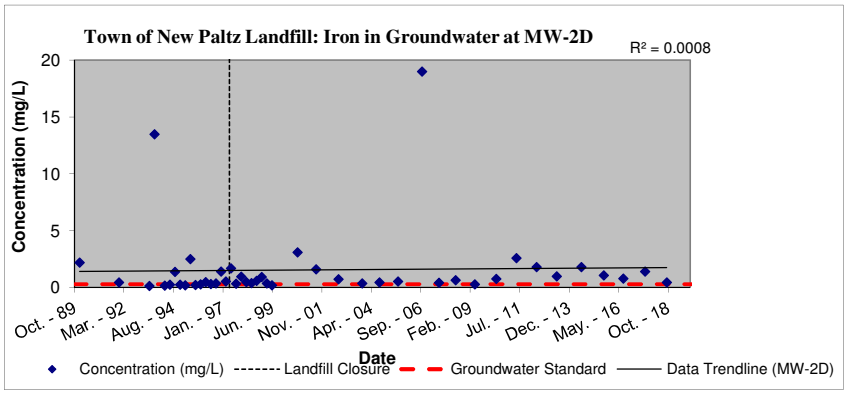
Summary of Historical Data
Iron, mg/L
Data Trend Analysis





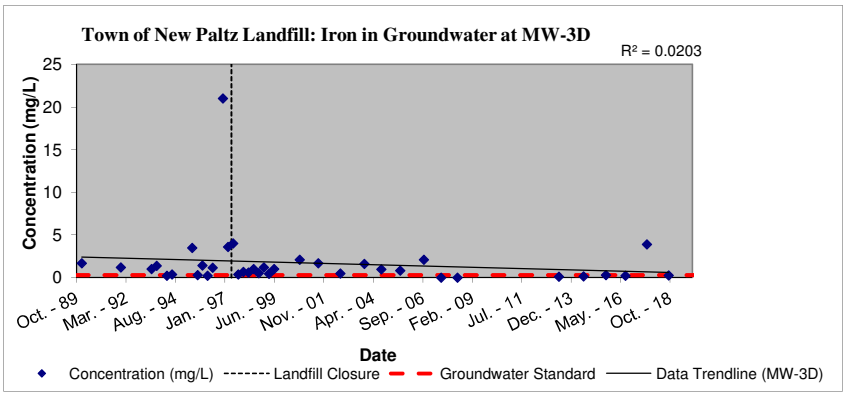


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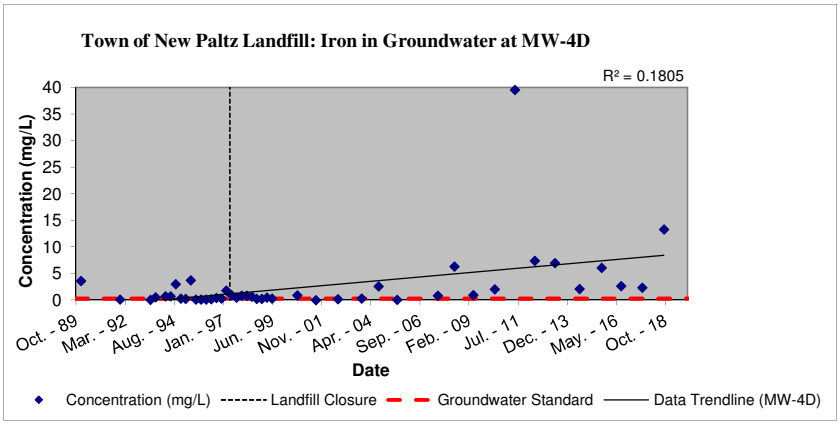
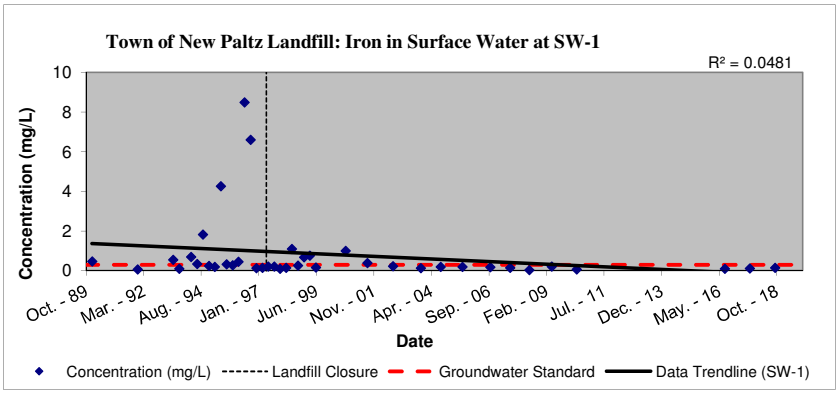
Table 6

Summary of Historical Data
Iron, mg/L
Data Trend Analysis





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Summary of Historical Data
Manganese, mg/L
TOGS 1.1.1 Groundwater Standard[a] = 0.3 mg/L
Town of New Paltz Landfill, New Paltz, NY

Well ID	MW-1D	MW-2D	MW-3D	MW-4D	SW-1
Location	Downgradient	Downgradient	Downgradient	Upgradient	Downgradient
Jan. - 90	**1.5**	**1.3**	0.29	**0.36**	0.08
Dec. - 91	**3**	**2.6**	**1.1**	0.18	0.03
Jun. - 93	**4.2**	**2.7**	**0.39**	0.014	**0.46**
Sep. - 93	**6.94**	**6.34**	**0.37**	**0.45**	0.15
Mar. - 94	NA	**3.24**	0.244	**0.331**	0.198
Jun. - 94	**4.13**	**3.1**	0.263	**0.538**	0.175
Sep. - 94	**3.76**	**2.94**	NA	**1.18**	0.133
Dec. - 94	**4.01**	**3.2**	NA	0.275	0.072
Mar. - 95	**4.33**	**3.7**	NA	0.218	0.0701
Jun. - 95	**4.43**	**3.83**	0.296	**0.658**	0.261
Sep. - 95	**5.16**	**3.02**	**0.32**	0.16	0.03
Dec. - 95	**6.5**	**2.87**	**0.36**	**0.42**	0.11
Mar. - 96	**1.32**	**3.12**	**0.303**	0.071	0.089
Jun. - 96	**8.05**	**3.86**	0.284	0.153	**1.08**
Sep. - 96	**8.2**	**3.2**	NA	**0.95**	0.27
Dec. - 96	**14**	**1.2**	**0.61**	0.2	0.09
Mar. - 97	**15**	**5.4**	**0.4**	**0.87**	0.04
Jun. - 97	**11**	**3.3**	**0.65**	**0.77**	0.09
Sep. - 97	**14**	**5.6**	**0.37**	0.14	0.12
Dec. - 97	**14**	**4.6**	**0.33**	**0.37**	0.07
Mar. - 98	**14**	**2.9**	**0.33**	**0.31**	0.04
Jun. - 98	**10**	**5**	**0.36**	**0.43**	0.13
Sep. - 98	**9.5**	**3.9**	**0.47**	0.17	0.19
Dec. - 98	**13**	**4.9**	**0.43**	0.11	0.02 U
Mar. - 99	**13**	**5.1**	**0.38**	0.22	0.06
Jun. - 99	**11**	**4.3**	**0.37**	0.24	0.03
Sep. - 00	**10**	**4.6**	**1.3**	0.29	0.05
Aug. - 01	**6.2**	**4.2**	**0.54**	NA	0.07
Sep. - 02	**6.8**	**3.3**	**1.1**	0.08	0.06
Nov. - 03	**4.9**	**4**	**1.6**	0.14	0.02
Sep. - 04	**6.4**	**3.5**	**0.98**	0.14	0.028
Aug. - 05	**5.64**	**3.42**	**0.864**	0.02 U	0.164
Oct. - 06	**5.9**	**3.5**	**1.4**	NA	0.13
Aug. - 07	NA	**4.7**	NA	0.19	0.013
May. - 08	**4.4**	**4.2**	**0.67**	**0.45**	0.0054
May. - 09	**5.3**	**4**	**0.68**	**0.53**	0.03
May. - 10	**4.66**	**2.96**	**0.722**	**0.308**	0.0356
May. - 11	**4.6**	**5**	**0.49**	**2.6**	NA
May. - 12	**4.6**	**5.4**	**0.48**	**1.3**	NA
May. - 13	**6.3 B**	**4.0 B**	**0.56 B**	**1.5 B**	NA
Jul. - 14	**3.5 B**	**4.0 B**	**0.66 B**	**0.62 B**	NA
Sep. - 15	**27.1**	**27.6**	**20.6**	**16**	NA
Aug. - 16	**3.9520**	**3.7040**	**0.5748**	**0.3797**	0.0367
Sep. - 17	**4.24**	**1.536**	**0.6997**	**0.7859**	0.05691
Oct. - 18	**3.939**	**3.365**	**0.6947**	**0.581**	0.02282

Summary Statistics[b]

Count	43	45	40	42	36
Minimum	1.3	1.2	0.244	0.014	0.005
Maximum	27.1	27.6	20.6	16.0	1.1
Mean	7.5	4.3	1.1	0.8	0.1
St. Dev.	4.9	3.7	3.2	2.4	0.2
10-Prcntl	3.8	2.8	0.3	0.1	0.0
Median	5.9	3.7	0.5	0.3	0.1
90-Prcntl	14.0	5.3	1.1	1.2	0.2

Notes:
Value in **BOLD** indicates an exceedance of the applicable water quality standard or guidance value.
U = Concentration is less than laboratory reporting or instrument detection limit.
B = Compound was found in the blank and sample.
NA = Not Analyzed
[a] = There is no manganese surface water standard for class C streams.
[b] = Non-detect concentrations and not analyzed events are not represented in statistics summary.

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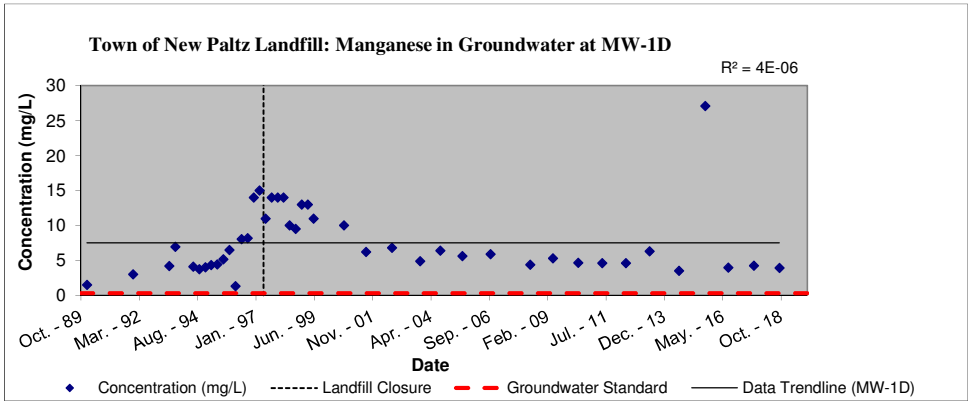
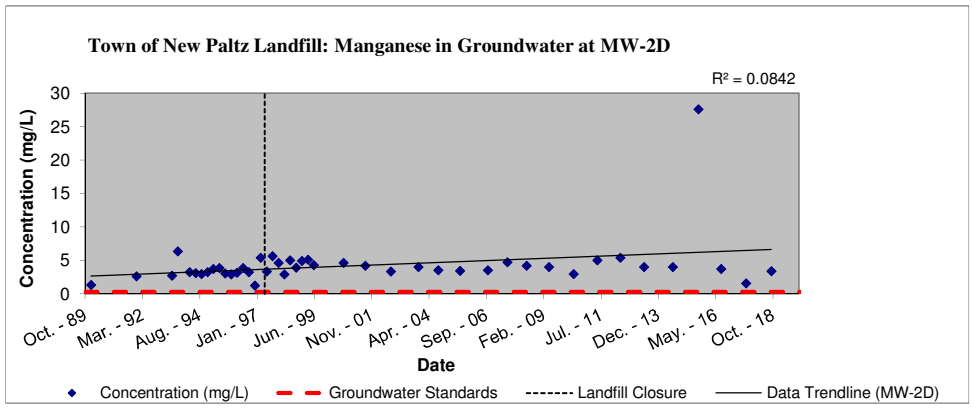
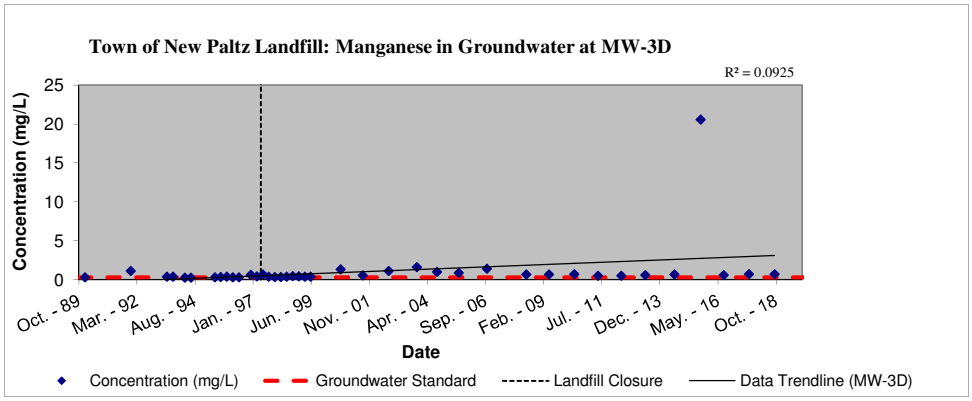
Summary of Historical Data
Manganese, mg/L
Data Trend Analysis







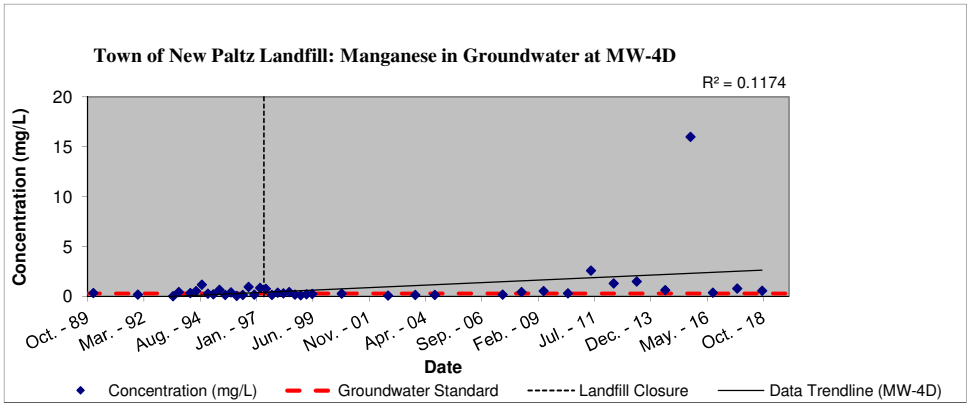


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Table 8

Summary of Historical Data
Sodium, mg/L
TOGS 1.1.1 Groundwater Standard[a] = 20 mg/L[b]
Town of New Paltz Landfill, New Paltz, NY

Well ID	MW-1D	MW-2D	MW-3D	MW-4D	SW-1
Location	Downgradient	Downgradient	Downgradient	Upgradient	Downgradient
Jan. - 90	**23**	**26**	8	2	36
Dec. - 91	**23**	**45**	9	3	24
Jun. - 93	**49.2**	**40.4**	9	16.1	75.7
Sep. - 93	**56.5**	**79**	10.7	5.8	114
Mar. - 94	NA	**45.9**	9.64	3.92	57.7
Jun. - 94	**49.3**	**39.4**	8.19	2.12	52.9
Sep. - 94	**50.5**	**42.1**	NA	6.02	88.8
Dec. - 94	**49**	**45.8**	NA	3.53	33.4
Mar. - 95	**50.7**	**48.6**	NA	3.89	26.5
Jun. - 95	**53.8**	**46.2**	9.83	5.32	74.8
Sep. - 95	**50.5**	**40.4**	12.5	6.4	110
Dec. - 95	**47**	**48**	10	2.8	32
Mar. - 96	**41.6**	**45**	10.9	3.2	36.5
Jun. - 96	**50.8**	**50.1**	10.3	4.6	59.5
Sep. - 96	**44**	**38**	NA	3.2	5.3
Dec. - 96	**40**	**23**	10	2.7	23
Mar. - 97	**41**	**39**	9.7	2.4	28
Jun. - 97	**39**	**34**	9.4	4.1	44
Sep. - 97	**44**	**42**	9.9	5.1	86
Dec. - 97	**47**	**49**	9.9	3.8	31
Mar. - 98	**45**	**43**	10	2.7	27
Jun. - 98	**33**	**47**	9.4	2.8	29
Sep. - 98	**41**	**46**	11	5.4	60
Dec. - 98	**37**	**42**	12	4.5	44
Mar. - 99	**37**	**49**	9.4	2.6	30
Jun. - 99	**49**	**53**	16	6.8	61
Sep. - 00	**36**	**54**	13	4.7	28
Aug. - 01	**34**	**57**	13	NA	86
Sep. - 02	**35**	**42**	11	4.7	61
Nov. - 03	**34**	**59**	11	5.4	22
Sep. - 04	**26**	**48**	11	6.3	31
Aug. - 05	**26.7**	**40.1**	12.2	5	58.3
Oct. - 06	**27**	**34**	12	NA	5.2
Aug. - 07	NA	**61**	NA	4.7	98
May. - 08	**23**	**54**	13	4	54
May. - 09	**23**	**52**	13	3.8	48
May. - 10	**20.2**	**36.1**	12.1	4.2	83.1
May. - 11	**21.5**	**58.5**	12.6	3.8	NA
May. - 12	**20.5**	**48.5**	13	3.9	NA
May. - 13	**23.3**	**50.3**	11.4	3.1	NA
Jul. - 14	19.7	**42.7**	10.1	4.4	NA
Sep. - 15	**23.5**	**25.6**	12.3	4.58	NA
Aug. - 16	**24.2**	**48.3**	12.2	4.63	184
Sep. - 17	**26.6**	**21.4**	14.3	3.57	128 NA
Oct. - 18	**28.1**	**45.2**	12.1	4.80	37.7

Summary Statistics

Count	43	45	40	43	40
Minimum	19.7	21.4	8.0	2.0	5.2
Maximum	56.5	79.0	16.0	16.1	184.0
Mean	36.4	45.0	11.1	4.4	55.4
St. Dev.	11.3	10.3	1.7	2.2	36.1
10-Prcntl	23.0	34.0	9.4	2.7	23.9
Median	37.0	45.8	11.0	4.1	46.0
90-Prcntl	50.5	55.8	13.0	6.0	99.2

Notes:
Value in **BOLD** indicates an exceedance of the applicable water quality standard or guidance value.
NA = Not analyzed.
[a] = There is no sodium surface water standard for class C streams.
[b] = Concentrations higher than 20 mg/L may be a factor for people on severely restricted sodium diets.
[c] = not analyzed events are not represented in statistics summary.

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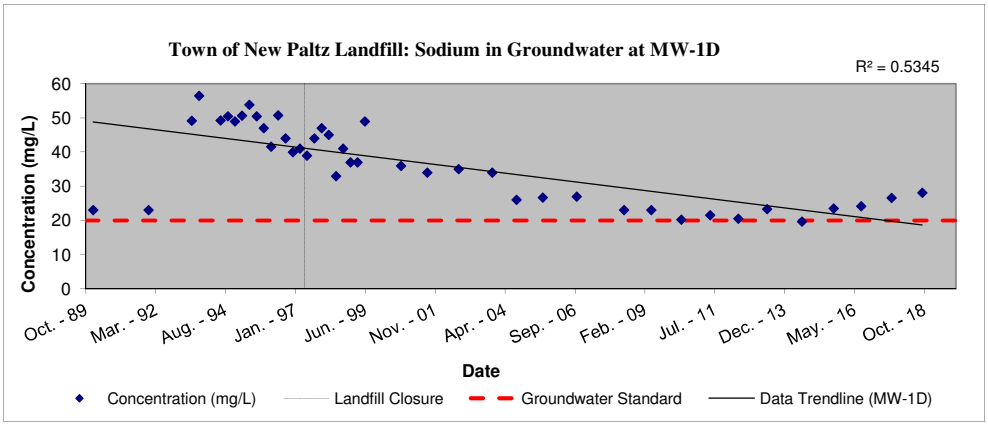
Table 8

Summary of Historical Data
Sodium, mg/L
Data Trend Analysis



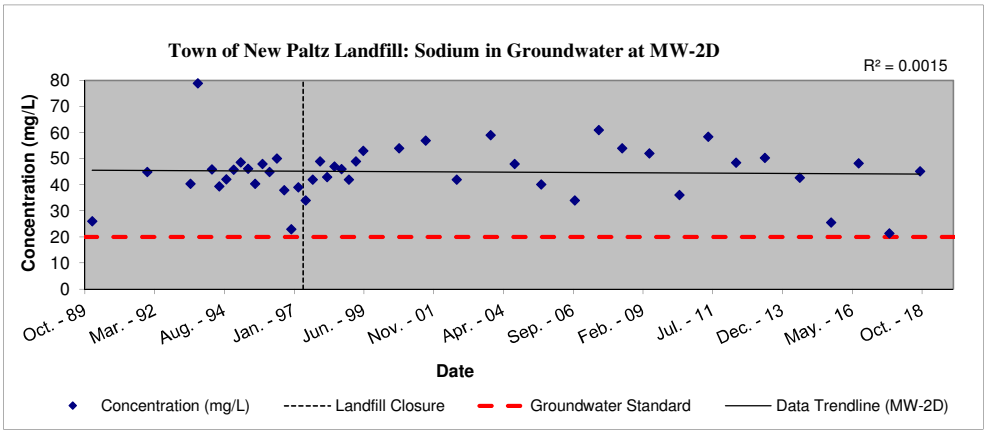


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Table 9

Summary of Historical Data
Total Volatile Organic Compounds, µg/L

TOGS 1.1.1 Groundwater Standard[(a)] = None
Town of New Paltz Landfill, New Paltz, NY

Well ID	MW-1D	MW-2D	MW-3D	MW-4D	SW-1
Location	Downgradient	Downgradient	Downgradient	Upgradient	Downgradient
Jan. - 90	U	U	U	U	U
Dec. - 91	NA	NA	NA	NA	NA
Jun. - 93	2	,	U	U	U
Sep. - 93	NA	NA	NA	NA	NA
Mar. - 94	NA	U	U	U	U
Jun. - 94	NA	NA	NA	N/A	NA
Sep. - 94	5	,	NA		U
Dec. - 94	NA	NA	NA	NA	NA
Mar. - 95	U	U	NA	U	U
Jun. - 95	NA	NA	NA	NA	NA
Sep. - 95	U	U	U	U	U
Dec. - 95	NA	NA	NA	NA	NA
Mar. - 96	U	U	U	U	U
Jun. - 96	NA	NA	NA	NA	NA
Sep. - 96	U	U	NA	U	U
Dec. - 96	NA	NA	NA	NA	NA
Mar. - 97	U	U	U		U
Jun. - 97	NA	NA	NA	NA	NA
Sep. - 97	U	U	U	U	U
Dec. - 97	NA	NA	NA	NA	NA
Mar. - 98	U	U	U	U	U
Jun. - 98	NA	NA	NA	NA	NA
Sep. - 98	U	U	U	U	U
Dec. - 98	NA	NA	NA	NA	NA
Mar. - 99	U	U	U	U	U
Jun. - 99	NA	NA	NA	NA	NA
Sep. - 00	3	NA	U	NA	4
Aug. - 01	U	NA	U	NA	NA
Sep. - 02	U	U	U	U	U
Nov. - 03	U	4	3	6	9
Sep. - 04	U	U	U	U	U
Sep. - 05	U	U	U	U	U
Oct. - 06	3.36	U	U	NA	1.28
Nov. - 07	U	5.58	U	U	3.21
May. - 08	U	U	0.68	U	U
May. - 09	1.3	1.03	U	U	1.15
May. - 10	U	U	U	U	U
May. - 11	7.1	U	U	U	NA
May. - 12	U	U	U	U	NA
May. - 13	7.8	3.62	U	U	NA
Jul. - 14	8.1	U	U	7.5	U
Sep. - 15	U	U	U	4.2 J	NA
Aug. - 16	U	U	U	U	U
Sep. - 17	U	U	U	U	U
Oct. - 18	1.5 J	U	U	U	2.3 J
Statistics Summary[b]					
Count	31	29	28	30	26
Minimum	NA	NA	NA	NA	NA
Maximum	8.1	5.6	NA	7.5	9.0
Mean	4.4	3.6	NA	5.9	3.5
St. Dev.	NA	NA	NA	NA	NA
10-Prcntl	NA	NA	NA	NA	NA
Median	3.4	3.8	NA	6.0	2.8
90-Prcntl	NA	NA	NA	NA	NA

Notes:

U = Not detected (ND). Each individual VOC was analyzed for, but was not detected above the reported sample quantitation limit.

J = Result is less than reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.

NA = Not analyzed.

[a] = Groundwater and surface water standards for Total VOCs are not available.

[b] = Non-detect concentrations and not sampled events are not represented in statistics summary.

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Table 10

Summary of Monitoring Well Construction Details
Town of New Paltz Landfill, New Paltz, New York

Well I.D./Location	Installation Date	Screen and Riser Material	Riser Stickup (Feet Above Grade)	Total Depth (Feet Below Measuring Point)	Screened Interval (Feet Below Grade)	Aquifer Type	Measuring Point Elevation (Top of PVC)
MW-1D	Apr-90	2" PVC	1.0	19.0	9 to 18	Bedrock (Shale)	216.16
MW-2D	May-90	2" PVC	1.17	41.2	~20 to 40	Bedrock (Shale)	224.08
MW-3D	May-90	2" PVC	1.5	35.75	~24.25 to 34.25	Bedrock (Shale)	233.50
MW-4D	May-90	2" PVC	2.0	22.56	~10.5 to 20.5	Bedrock (Shale)	285.40

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ATTACHMENT A

NYSDEC ANNUAL POST-CLOSURE MONITORING AND MAINTENANCE (PCMM) REPORT

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
REGION 3/SOLID WASTE PROGRAM
ANNUAL POST-CLOSURE MONITORING & MAINTENANCE REPORT FOR LANDFILLS

This report form provides a standard format for owners of closed municipal solid waste landfills to report to the Department regarding post-closure monitoring and maintenance activities which have occurred during the past year. Use of this form will ensure that information needed by the operator and Department staff is readily available. Reporting of non-essential information is avoided. By completing and submitting this form on an annual basis, all reporting requirements connected with the closed landfill are satisfied and there is no need to submit any additional reports or paperwork. This form should be submitted once per year on a schedule which coincides with completion of the annual or fourth quarter groundwater monitoring event.

SECTION A - FACILITY DATA

1. REPORTING PERIOD (mm/dd/yy to mm/dd/yy): 9/8/2017 – 10/2/2018

2. OWNER OF LANDFILL: Ulster County Resource Recovery Agency (UCRRA)

3. ADDRESS OF LANDFILL: Clearwater Road
New Paltz, NY 12561

4. LOCATION OF LANDFILL: County: Ulster Municipality: Town of New Paltz

5. CONTACT PERSON: Name: Timothy Rose Address: 999 Flatbush Road
Phone: 845-336-0600 Kingston, NY 12401

6. SIZE OF LANDFILL (Acres): 19

7. PERIOD OF OPERATION (Yr to Yr): 1996 - ceased acceptance of waste and began closure construction.

8. DATE OF COMPLETION OF CLOSURE CONSTRUCTION (mm/yy): 5/97

9. TYPE OF LANDFILL CAP (check one): X Geomembrane ___ Clay ___ Composite
___ Other – Specify: ___

10. LANDFILL GAS MANAGEMENT (Check all that apply): X Passive Venting X Flares
___ Gas Filter ___ Gas Collection ___ Power Generation ___ Other- Specify: ___

11. LEACHATE MANAGEMENT: Does the landfill have a leachate collection system? X Y ___ N

12. DATE OF CLOSURE CERTIFICATION (mm/dd/yy): 02/02/98

13. NAME OF CERTIFYING ENGINEER: Mr. Carsten H. Floess, P.E., Clough Harbour & Associates

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14. GRANTED REGULATORY RELIEF VARIANCES (Check all that apply): X Topsoil Layer
____ Barrier Layer ____ Barrier Protection Layer ____ Gas Vent Layer I ____ Gas Vent Layer II
____ Post Closure Monitoring I ____ Post Closure Monitoring II

15. DATE OF LAST MOWING OF VEGETATIVE COVER: September 17, 2018

SECTION B - LANDFILL INSPECTION

1. DATE OF LAST INSPECTION (mm/dd/yy): October 2, 2018

2. NAME(S) OF INSPECTOR(S):

Stefan Truex and Vedran Cirkovic of Sterling Environmental Engineering, P.C.

3. Was entire landfill surface and entire landfill perimeter inspected? X Y ___ N; If no, describe extent of inspection:

4. Was the entire landfill surface covered with suitable vegetation (e.g. shallow rooting) and free of soil erosion? X Y ___ N; If no, identify problems identified and corrective actions taken or planned:

5. Were active leachate discharges, iron-stained surface soils or other signs of leachate breakouts noted? Y X N If yes, describe the nature of the problem and corrective actions taken or planned:

6. Were areas of surface water ponding observed on the landfill surface? X Y ____ N; If yes, describe the nature of the problem and corrective actions taken or planned:
Temporary surface water ponding present on the central portion of the landfill (See Photographic Documentation Log for details). Heavy precipitation at time of inspection, no offsite discharge observed.

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7. Were odors detected on or in the vicinity of the landfill? __X__ Y ____ N If yes, describe the nature of the problem and corrective actions taken or planned:
Slight acrid odors observed on east portion of landfill. No explosive gas measurements were recorded in the vicinity of observations.

8. Were vectors or evidence of vectors observed? ____ Y __X__ N; If yes, describe the nature of the problem and corrective actions taken or planned:

9. Was damage to the landfill cover system, gas vents, monitoring wells, leachate collection system or other landfill components observed? __X__ Y ____ N; If yes, describe the nature of the problem and corrective actions taken or planned:
The PVC riser casing in well MW-3D is bent; however, the well can be sampled with a peristaltic pump and 0.25" ID tubing.

10. Were there signs of dumping, ruts caused by vehicle tires, camp fires, or other signs of unauthorized public access or encroachment? __X__ Y ____ N; If yes, describe the nature of the problem and corrective actions taken or planned:
Excessive vehicle ruts present on landfill surface (See Photographic Documentation Log) caused by mowing of the landfill cap during wet conditions.

11. Were any other problems noted in addition to those identified in items 4 through 10, above?
____ Y __X__ N; If yes, describe the nature of the problem and corrective actions taken or planned:

SECTION C - WATER QUALITY MONITORING

1. CURRENT WATER QUALITY MONITORING PROGRAM (Check One):

____ Quarterly Routine/Annual Baseline ____ Semi-Annual Baseline ____ Annual Baseline
__X__ Other - Specify: NYSDEC approved reduced list of Part 6 NYCRR 360-2.11(c) Baseline Parameters (1993 Regulations).

2. DATE OF MOST RECENT WATER QUALITY SAMPLING EVENT (mm/dd/yy): 10/02/18

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3. INDICATE EACH SAMPLING EVENT COMPLETED DURING PAST YEAR AND ATTACH THE *DATA SUMMARY SHEETS* FOR EACH SAMPLING EVENT:

1st Quarter ____ 2nd Quarter ____ 3rd Quarter __X__ 4th Quarter

4. LIST AND DESCRIBE THE WATER QUALITY MONITORING POINTS INCLUDED IN THE PROGRAM BY COMPLETING THE TABLE BELOW:

ID Number	Description: Indicate whether the monitoring point is for groundwater or surface water, upgradient or downgradient, completed in overburden or bedrock, and, if part of a well couplet, shallow or deep
MW-1D	GW, Downgradient, Bedrock (19.0' deep)
MW-2D	GW, Downgradient, Bedrock (41.2' deep), Part of Well Couplet
MW-3D	GW, Downgradient, Bedrock (35.75' deep)
MW-4D	GW, Upgradient, Bedrock (22.56' deep)
SW-1	SW, Downgradient
	GW – Groundwater SW – Surface Water
	Refer to Figure 2 for sample locations and Table 10 (Monitoring Well Construction Detail).

5. Using the following table, summarize each parameter detected during the reporting period, at a downgradient monitoring point, at a concentration exceeding the applicable water quality standard. (Include parameters which are undetected, if detection limit exceeds the standard.)

Sample Date	Sampling Point	Parameter	Units	Sample Result	Applicable Standard*	Upgradient Results
		See 2018 Monitoring Report				

* NYSDEC T.O.G.S. (1.1.1), "Ambient Water Quality Standards and Guidance Values".

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6. Do results of the most recent water quality monitoring event indicate an improvement or a worsening in water quality when compared with those of previous water quality monitoring events? X Y ___ N; If yes, describe change, attach graphs or tables if appropriate.

Reported concentrations over time for ammonia, Total Dissolved Solids, iron, manganese, and sodium are plotted in Tables 4 through 8 of the 2018 Post-Closure Monitoring Report.

SECTION D - IMPACTED OR POTENTIALLY IMPACTED RESIDENTIAL WATER SUPPLY WELLS

1. Are there residences served by private water supply wells located less than one mile from the landfill in the downgradient direction and not separated from the landfill by an intervening perennial stream or other groundwater discharge zone? ___ Y X N;

If yes, provide the information requested in items 2 through 5, below.

2. Indicate the distance between the downgradient edge of the landfill and the nearest residential water supply well, in feet: _____

3. Have residential wells been sampled to determine whether there has been landfill-water quality impact?
____ Y ____ N; If yes, provide the following information:

Date of most recent sampling event (mm/dd/yy): _____ Number of wells tested: _____

Samples collected by: _____ Was the County Health Department notified ___ Y ___ N

Parameters tested: _____

4. Using the following table, summarize each parameter detected during the reporting period, at a downgradient monitoring point, at a concentration exceeding the applicable drinking water standard. (Include parameters which are undetected, if detection limit exceeds the standard.)

Sample Date	Homeowner Name or Well ID	Parameter	Units	Sample Result	Applicable Standard *

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5. Explain cause of parameters exceeding standards, and if due to landfill-derived contamination, indicate what actions have been taken or are planned to mitigate water quality impact.

SECTION E - GAS MONITORING

1. Is landfill gas monitoring carried out at the landfill? __X__ Y ___ N; If yes, provide the following information:

Type of monitoring (Check all that are applicable)

__X__ Landfill perimeter survey using temporary boreholes
_____ Landfill perimeter survey using permanent gas monitoring wells
_____ Landfill gas vents within waste mass (as well as inspection for blockage)
__X__ Interior survey of on-site and nearby structures
_____ Landfill final cover areas where stressed vegetation and/or fissures are evident
_____ Continuous automatic monitoring devices installed in buildings
_____ Other-Specify: _____

Frequency of Monitoring: ____ Quarterly ____ Semi-annual __X__ Annual
____ Other-Specify: _____

Date of Most Recent Monitoring Event (mm/dd/yy): 10/2/18

2. Have any explosive gas readings exceeding 25% of the lower explosive limit been detected during sampling events carried out during the past year? ____ Y __X__ N; If yes, indicate whether the readings indicate a potential threat to public safety, what actions have been taken or are planned to mitigate potential safety concerns or the rationale for why corrective action is not needed.

No explosive gas was detected during the 2018 survey. The explosive gas survey results indicate landfill gases are not migrating off the Landfill property and pose no threat to public safety.

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SECTION F - CERTIFICATION OF ACCURACY

I certify that the information provided in this form is accurate and complete, to the best of my knowledge. I understand, that knowingly providing false information, may be grounds for enforcement action.

Mark P. Millspaugh, P.E.	President, Sterling Environmental Engineering, P.C.
Name	Title
	12/28/2018
Signature	Date

ATTACHMENT B

PHOTOGRAPH LOG

Photograph 1: Deep rooted vegetation present adjacent to Landfill (Southeast to Northwest).

Photograph 2: Suitable surface vegetation along eastern slopes of Landfill (Northeast to Southwest).

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Photograph 3: Frequent vehicle (Tractor) rutting observed on midwestern portion of Landfill (South-southwest to North-Northeast).

Photograph 4: Suitable Landfill surface vegetation observed along northeastern quadrant of the Landfill (West to East).

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Photograph 5: Suitable Landfill surface vegetation along northwestern quadrant of the Landfill (East to West).

Photograph 6: Minor surface water ponding observed in vicinity of Wood Chip Pile and Landfill Access Road (Southwest to Northeast).

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Photograph 7: Minor vehicle rutting from recent mowing activities observed along midwestern portion of the Landfill (South to North).

Photograph 8: View of gas vent and Landfill cover vegetation along northwestern quadrant of the Landfill (East-Southeast to West-Northwest).

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Photograph 9: Temporary surface water ponding observed along mideastern portion of Landfill cover system (South-Southwest to North-Northeast).

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ATTACHMENT C

ANALYTICAL REPORT

ANALYTICAL REPORT

Lab Number:	L1839707
Client:	Sterling Environmental Eng 24 Wade Road Latham, NY 12110
ATTN:	Mark Williams
Phone:	(518) 456-4900
Project Name:	UCRRA NEW PALTZ LANDFILL
Project Number:	26060 TASK 200
Report Date:	10/09/18

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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

Project Name: UCRRA NEW PALTZ LANDFILL
Project Number: 26060 TASK 200

Lab Number: L1839707
Report Date: 10/09/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1839707-01	MW-1D	WATER	NEW PALTZ, NEW YORK	10/02/18 13:10	10/02/18
L1839707-02	MW-2D	WATER	NEW PALTZ, NEW YORK	10/02/18 12:30	10/02/18
L1839707-03	MW-3D	WATER	NEW PALTZ, NEW YORK	10/02/18 11:15	10/02/18
L1839707-04	MW-4D	WATER	NEW PALTZ, NEW YORK	10/02/18 10:15	10/02/18
L1839707-05	SW-1	WATER	NEW PALTZ, NEW YORK	10/02/18 13:20	10/02/18

Project Name:	UCRRA NEW PALTZ LANDFILL	**Lab Number:**	L1839707
Project Number:	26060 TASK 200	**Report Date:**	10/09/18

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:	UCRRA NEW PALTZ LANDFILL	**Lab Number:**	L1839707
Project Number:	26060 TASK 200	**Report Date:**	10/09/18

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

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: Amita Naik

Title: Technical Director/Representative Date: 10/09/18

ORGANICS

VOLATILES

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-01
Client ID: MW-1D
Sample Location: NEW PALTZ, NEW YORK

Date Collected: 10/02/18 13:10
Date Received: 10/02/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/08/18 08:14
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-01 Date Collected: 10/02/18 13:10

Client ID: MW-1D Date Received: 10/02/18

Sample Location: NEW PALTZ, NEW YORK Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Acetone	1.5	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1
Iodomethane	ND		ug/l	5.0	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	104		70-130

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-02
Client ID: MW-2D
Sample Location: NEW PALTZ, NEW YORK

Date Collected: 10/02/18 12:30
Date Received: 10/02/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/08/18 08:39
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-02 Date Collected: 10/02/18 12:30

Client ID: MW-2D Date Received: 10/02/18

Sample Location: NEW PALTZ, NEW YORK Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1
Iodomethane	ND		ug/l	5.0	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	104		70-130

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-03
Client ID: MW-3D
Sample Location: NEW PALTZ, NEW YORK

Date Collected: 10/02/18 11:15
Date Received: 10/02/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/08/18 09:04
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-03 Date Collected: 10/02/18 11:15

Client ID: MW-3D Date Received: 10/02/18

Sample Location: NEW PALTZ, NEW YORK Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1
Iodomethane	ND		ug/l	5.0	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	106		70-130

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-04
Client ID: MW-4D
Sample Location: NEW PALTZ, NEW YORK

Date Collected: 10/02/18 10:15
Date Received: 10/02/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/08/18 09:30
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-04 Date Collected: 10/02/18 10:15

Client ID: MW-4D Date Received: 10/02/18

Sample Location: NEW PALTZ, NEW YORK Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1
Iodomethane	ND		ug/l	5.0	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	88		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	106		70-130

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-05
Client ID: SW-1
Sample Location: NEW PALTZ, NEW YORK

Date Collected: 10/02/18 13:20
Date Received: 10/02/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 10/08/18 09:55
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-05 Date Collected: 10/02/18 13:20

Client ID: SW-1 Date Received: 10/02/18

Sample Location: NEW PALTZ, NEW YORK Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Acetone	2.3	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1
Iodomethane	ND		ug/l	5.0	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	108		70-130

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/08/18 07:49
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1165563-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/08/18 07:49
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1165563-5					
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
Styrene	ND		ug/l	2.5	0.70
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70
Iodomethane	ND		ug/l	5.0	0.40

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: UCRRA NEW PALTZ LANDFILL
Project Number: 26060 TASK 200

Lab Number: L1839707
Report Date: 10/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1165563-3 WG1165563-4								
Methylene chloride	100		99		70-130	1		20
1,1-Dichloroethane	110		100		70-130	10		20
Chloroform	110		100		70-130	10		20
Carbon tetrachloride	120		120		63-132	0		20
1,2-Dichloropropane	100		99		70-130	1		20
Dibromochloromethane	93		93		63-130	0		20
1,1,2-Trichloroethane	97		95		70-130	2		20
Tetrachloroethene	110		100		70-130	10		20
Chlorobenzene	100		99		75-130	1		20
Trichlorofluoromethane	120		120		62-150	0		20
1,2-Dichloroethane	110		110		70-130	0		20
1,1,1-Trichloroethane	110		110		67-130	0		20
Bromodichloromethane	110		100		67-130	10		20
trans-1,3-Dichloropropene	90		89		70-130	1		20
cis-1,3-Dichloropropene	100		99		70-130	1		20
Bromoform	95		94		54-136	1		20
1,1,2,2-Tetrachloroethane	89		88		67-130	1		20
Benzene	110		110		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
Chloromethane	98		95		64-130	3		20
Bromomethane	130		120		39-139	8		20
Vinyl chloride	110		110		55-140	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: UCRRA NEW PALTZ LANDFILL
Project Number: 26060 TASK 200

Lab Number: L1839707
Report Date: 10/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1165563-3 WG1165563-4								
Chloroethane	130		120		55-138	8		20
1,1-Dichloroethene	110		110		61-145	0		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	100		100		70-130	0		20
1,2-Dichlorobenzene	100		100		70-130	0		20
1,4-Dichlorobenzene	100		100		70-130	0		20
p/m-Xylene	110		105		70-130	5		20
o-Xylene	115		110		70-130	4		20
cis-1,2-Dichloroethene	110		110		70-130	0		20
Dibromomethane	100		100		70-130	0		20
1,2,3-Trichloropropane	94		92		64-130	2		20
Acrylonitrile	97		98		70-130	1		20
Styrene	105		105		70-130	0		20
Acetone	87		90		58-148	3		20
Carbon disulfide	110		100		51-130	10		20
2-Butanone	89		88		63-138	1		20
Vinyl acetate	100		100		70-130	0		20
4-Methyl-2-pentanone	74		76		59-130	3		20
2-Hexanone	67		67		57-130	0		20
Bromochloromethane	110		110		70-130	0		20
1,2-Dibromoethane	95		96		70-130	1		20
1,1,1,2-Tetrachloroethane	100		100		64-130	0		20
1,2-Dibromo-3-chloropropane	83		85		41-144	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: UCRRA NEW PALTZ LANDFILL

Project Number: 26060 TASK 200

Lab Number: L1839707

Report Date: 10/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1165563-3 WG1165563-4								
trans-1,4-Dichloro-2-butene	86		81		70-130	6		20
Iodomethane	**36**	Q	**41**	Q	70-130	13		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		99		70-130
Toluene-d8	92		91		70-130
4-Bromofluorobenzene	98		95		70-130
Dibromofluoromethane	101		102		70-130

METALS

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-01 Date Collected: 10/02/18 13:10

Client ID: MW-1D Date Received: 10/02/18

Sample Location: NEW PALTZ, NEW YORK Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00992		mg/l	0.00050	0.00016	1	10/06/18 12:30	10/08/18 15:01	EPA 3005A	1,6020B	AM
Barium, Total	0.3695		mg/l	0.00050	0.00017	1	10/06/18 12:30	10/08/18 15:01	EPA 3005A	1,6020B	AM
Iron, Total	17.4		mg/l	0.0500	0.0191	1	10/06/18 12:30	10/08/18 15:01	EPA 3005A	1,6020B	AM
Lead, Total	0.00478		mg/l	0.00100	0.00034	1	10/06/18 12:30	10/08/18 15:01	EPA 3005A	1,6020B	AM
Manganese, Total	3.939		mg/l	0.00100	0.00044	1	10/06/18 12:30	10/08/18 15:01	EPA 3005A	1,6020B	AM
Sodium, Total	28.1		mg/l	0.100	0.0293	1	10/06/18 12:30	10/08/18 15:01	EPA 3005A	1,6020B	AM
Total Hardness (by calculation) - Mansfield Lab											
Hardness	479.4		mg/l	0.5400	NA	1	10/06/18 12:30	10/08/18 15:01	EPA 3005A	1,6020B	AM

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-02 Date Collected: 10/02/18 12:30

Client ID: MW-2D Date Received: 10/02/18

Sample Location: NEW PALTZ, NEW YORK Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00084		mg/l	0.00050	0.00016	1	10/06/18 12:30	10/08/18 15:05	EPA 3005A	1,6020B	AM
Barium, Total	0.2868		mg/l	0.00050	0.00017	1	10/06/18 12:30	10/08/18 15:05	EPA 3005A	1,6020B	AM
Iron, Total	0.441		mg/l	0.0500	0.0191	1	10/06/18 12:30	10/08/18 15:05	EPA 3005A	1,6020B	AM
Lead, Total	0.00047	J	mg/l	0.00100	0.00034	1	10/06/18 12:30	10/08/18 15:05	EPA 3005A	1,6020B	AM
Manganese, Total	3.365		mg/l	0.00100	0.00044	1	10/06/18 12:30	10/08/18 15:05	EPA 3005A	1,6020B	AM
Sodium, Total	45.2		mg/l	0.100	0.0293	1	10/06/18 12:30	10/08/18 15:05	EPA 3005A	1,6020B	AM
Total Hardness (by calculation) - Mansfield Lab											
Hardness	490.5		mg/l	0.5400	NA	1	10/06/18 12:30	10/08/18 15:05	EPA 3005A	1,6020B	AM

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-03 Date Collected: 10/02/18 11:15

Client ID: MW-3D Date Received: 10/02/18

Sample Location: NEW PALTZ, NEW YORK Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00175		mg/l	0.00050	0.00016	1	10/06/18 12:30	10/08/18 15:10	EPA 3005A	1,6020B	AM
Barium, Total	0.1988		mg/l	0.00050	0.00017	1	10/06/18 12:30	10/08/18 15:10	EPA 3005A	1,6020B	AM
Iron, Total	0.255		mg/l	0.0500	0.0191	1	10/06/18 12:30	10/08/18 15:10	EPA 3005A	1,6020B	AM
Lead, Total	ND		mg/l	0.00100	0.00034	1	10/06/18 12:30	10/08/18 15:10	EPA 3005A	1,6020B	AM
Manganese, Total	0.6947		mg/l	0.00100	0.00044	1	10/06/18 12:30	10/08/18 15:10	EPA 3005A	1,6020B	AM
Sodium, Total	12.1		mg/l	0.100	0.0293	1	10/06/18 12:30	10/08/18 15:10	EPA 3005A	1,6020B	AM
Total Hardness (by calculation) - Mansfield Lab											
Hardness	277.0		mg/l	0.5400	NA	1	10/06/18 12:30	10/08/18 15:10	EPA 3005A	1,6020B	AM

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-04 Date Collected: 10/02/18 10:15

Client ID: MW-4D Date Received: 10/02/18

Sample Location: NEW PALTZ, NEW YORK Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00331		mg/l	0.00050	0.00016	1	10/06/18 12:30	10/08/18 15:57	EPA 3005A	1,6020B	AM
Barium, Total	0.09854		mg/l	0.00050	0.00017	1	10/06/18 12:30	10/08/18 15:57	EPA 3005A	1,6020B	AM
Iron, Total	13.3		mg/l	0.0500	0.0191	1	10/06/18 12:30	10/08/18 15:57	EPA 3005A	1,6020B	AM
Lead, Total	0.00900		mg/l	0.00100	0.00034	1	10/06/18 12:30	10/08/18 15:57	EPA 3005A	1,6020B	AM
Manganese, Total	0.5810		mg/l	0.00100	0.00044	1	10/06/18 12:30	10/08/18 15:57	EPA 3005A	1,6020B	AM
Sodium, Total	4.80		mg/l	0.100	0.0293	1	10/06/18 12:30	10/08/18 15:57	EPA 3005A	1,6020B	AM
Total Hardness (by calculation) - Mansfield Lab											
Hardness	180.6		mg/l	0.5400	NA	1	10/06/18 12:30	10/08/18 15:57	EPA 3005A	1,6020B	AM

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-05 Date Collected: 10/02/18 13:20

Client ID: SW-1 Date Received: 10/02/18

Sample Location: NEW PALTZ, NEW YORK Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00030	J	mg/l	0.00050	0.00016	1	10/06/18 12:30	10/08/18 16:01	EPA 3005A	1,6020B	AM
Barium, Total	0.01021		mg/l	0.00050	0.00017	1	10/06/18 12:30	10/08/18 16:01	EPA 3005A	1,6020B	AM
Iron, Total	0.142		mg/l	0.0500	0.0191	1	10/06/18 12:30	10/08/18 16:01	EPA 3005A	1,6020B	AM
Lead, Total	ND		mg/l	0.00100	0.00034	1	10/06/18 12:30	10/08/18 16:01	EPA 3005A	1,6020B	AM
Manganese, Total	0.02282		mg/l	0.00100	0.00044	1	10/06/18 12:30	10/08/18 16:01	EPA 3005A	1,6020B	AM
Sodium, Total	37.7		mg/l	0.100	0.0293	1	10/06/18 12:30	10/08/18 16:01	EPA 3005A	1,6020B	AM
Total Hardness (by calculation) - Mansfield Lab											
Hardness	72.30		mg/l	0.5400	NA	1	10/06/18 12:30	10/08/18 16:01	EPA 3005A	1,6020B	AM

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-05 Batch: WG1165008-1										
Arsenic, Total	ND		mg/l	0.00050	0.00016	1	10/06/18 12:30	10/08/18 10:44	1,6020B	AM
Barium, Total	ND		mg/l	0.00050	0.00017	1	10/06/18 12:30	10/08/18 10:44	1,6020B	AM
Iron, Total	ND		mg/l	0.0500	0.0191	1	10/06/18 12:30	10/08/18 10:44	1,6020B	AM
Lead, Total	ND		mg/l	0.00100	0.00034	1	10/06/18 12:30	10/08/18 10:44	1,6020B	AM
Manganese, Total	ND		mg/l	0.00100	0.00044	1	10/06/18 12:30	10/08/18 10:44	1,6020B	AM
Sodium, Total	ND		mg/l	0.100	0.0293	1	10/06/18 12:30	10/08/18 10:44	1,6020B	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Hardness (by calculation) - Mansfield Lab for sample(s): 01-05 Batch: WG1165008-1										
Hardness	ND		mg/l	0.5400	NA	1	10/06/18 12:30	10/08/18 10:44	1,6020B	AM

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: UCRRA NEW PALTZ LANDFILL

Project Number: 26060 TASK 200

Lab Number: L1839707

Report Date: 10/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG1165008-2								
Arsenic, Total	105		-		80-120	-		
Barium, Total	102		-		80-120	-		
Iron, Total	114		-		80-120	-		
Lead, Total	108		-		80-120	-		
Manganese, Total	99		-		80-120	-		
Sodium, Total	99		-		80-120	-		
Total Hardness (by calculation) - Mansfield Lab Associated sample(s): 01-05 Batch: WG1165008-2								
Hardness	102		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: UCRRA NEW PALTZ LANDFILL
Project Number: 26060 TASK 200

Lab Number: L1839707
Report Date: 10/09/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1165008-3 QC Sample: L1840426-01 Client ID: MS Sample												
Arsenic, Total	0.0009	0.12	0.1309	108		-	-		75-125	-		20
Barium, Total	0.0729	2	2.267	110		-	-		75-125	-		20
Iron, Total	0.681	1	1.92	124		-	-		75-125	-		20
Lead, Total	0.0005J	0.51	0.5725	112		-	-		75-125	-		20
Manganese, Total	0.1444	0.5	0.6906	109		-	-		75-125	-		20
Sodium, Total	37.0	10	45.5	85		-	-		75-125	-		20
Total Hardness (by calculation) - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1165008-3 QC Sample: L1840426-01 Client ID: MS Sample												
Hardness	207.3	66.2	293.4	**130**	Q	-	-		75-125	-		20

INORGANICS
&
MISCELLANEOUS

Project Name: UCRRA NEW PALTZ LANDFILL
Project Number: 26060 TASK 200
Lab Number: L1839707
Report Date: 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-01
Client ID: MW-1D
Sample Location: NEW PALTZ, NEW YORK
Sample Depth:
Matrix: Water

Date Collected: 10/02/18 13:10
Date Received: 10/02/18
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	424.		mg CaCO3/L	2.00	NA	1	-	10/05/18 18:50	121,2320B	MR
Solids, Total Dissolved	570		mg/l	10	3.1	1	-	10/04/18 13:10	121,2540C	DW
Nitrogen, Ammonia	0.564		mg/l	0.075	0.024	1	10/07/18 16:30	10/08/18 20:42	44,350.1	AT
Nitrogen, Nitrate	ND		mg/l	0.10	0.033	1	-	10/03/18 20:25	44,353.2	MR
Anions by Ion Chromatography - Westborough Lab										
Chloride	49.3		mg/l	0.500	0.083	1	-	10/06/18 02:10	44,300.0	JR
Sulfate	37.8		mg/l	1.00	0.160	1	-	10/06/18 02:10	44,300.0	JR

Project Name: UCRRA NEW PALTZ LANDFILL
Project Number: 26060 TASK 200
Lab Number: L1839707
Report Date: 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-02
Client ID: MW-2D
Sample Location: NEW PALTZ, NEW YORK
Sample Depth:
Matrix: Water
Date Collected: 10/02/18 12:30
Date Received: 10/02/18
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	580.		mg CaCO3/L	2.00	NA	1	-	10/05/18 18:50	121,2320B	MR
Solids, Total Dissolved	630		mg/l	10	3.1	1	-	10/04/18 13:10	121,2540C	DW
Nitrogen, Ammonia	2.40		mg/l	0.075	0.024	1	10/07/18 16:30	10/08/18 20:43	44,350.1	AT
Nitrogen, Nitrate	ND		mg/l	0.10	0.033	1	-	10/03/18 20:26	44,353.2	MR
Anions by Ion Chromatography - Westborough Lab										
Chloride	58.5		mg/l	2.50	0.420	5	-	10/08/18 01:31	44,300.0	JR
Sulfate	11.5		mg/l	1.00	0.160	1	-	10/06/18 02:22	44,300.0	JR

Project Name: UCRRA NEW PALTZ LANDFILL
Project Number: 26060 TASK 200
Lab Number: L1839707
Report Date: 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-03
Client ID: MW-3D
Sample Location: NEW PALTZ, NEW YORK
Sample Depth:
Matrix: Water

Date Collected: 10/02/18 11:15
Date Received: 10/02/18
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	294.		mg CaCO3/L	2.00	NA	1	-	10/05/18 18:50	121,2320B	MR
Solids, Total Dissolved	330		mg/l	10	3.1	1	-	10/04/18 13:10	121,2540C	DW
Nitrogen, Ammonia	0.650		mg/l	0.075	0.024	1	10/07/18 16:00	10/08/18 21:38	44,350.1	AT
Nitrogen, Nitrate	ND		mg/l	0.10	0.033	1	-	10/03/18 20:32	44,353.2	MR
Anions by Ion Chromatography - Westborough Lab										
Chloride	14.2		mg/l	0.500	0.083	1	-	10/06/18 02:34	44,300.0	JR
Sulfate	14.1		mg/l	1.00	0.160	1	-	10/06/18 02:34	44,300.0	JR

Project Name: UCRRA NEW PALTZ LANDFILL
Project Number: 26060 TASK 200
Lab Number: L1839707
Report Date: 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-04
Client ID: MW-4D
Sample Location: NEW PALTZ, NEW YORK
Sample Depth:
Matrix: Water

Date Collected: 10/02/18 10:15
Date Received: 10/02/18
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	177.		mg CaCO3/L	2.00	NA	1	-	10/05/18 18:50	121,2320B	MR
Solids, Total Dissolved	210		mg/l	10	3.1	1	-	10/04/18 13:10	121,2540C	DW
Nitrogen, Ammonia	0.646		mg/l	0.150	0.048	2	10/07/18 16:00	10/08/18 21:04	44,350.1	AT
Nitrogen, Nitrate	0.097	J	mg/l	0.10	0.033	1	-	10/03/18 20:33	44,353.2	MR
Anions by Ion Chromatography - Westborough Lab										
Chloride	1.05		mg/l	0.500	0.083	1	-	10/06/18 03:46	44,300.0	JR
Sulfate	12.8		mg/l	1.00	0.160	1	-	10/06/18 03:46	44,300.0	JR

Project Name: UCRRA NEW PALTZ LANDFILL
Project Number: 26060 TASK 200
Lab Number: L1839707
Report Date: 10/09/18

SAMPLE RESULTS

Lab ID: L1839707-05
Client ID: SW-1
Sample Location: NEW PALTZ, NEW YORK
Sample Depth:
Matrix: Water

Date Collected: 10/02/18 13:20
Date Received: 10/02/18
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	69.9		mg CaCO3/L	2.00	NA	1	-	10/05/18 18:50	121,2320B	MR
Solids, Total Dissolved	190		mg/l	10	3.1	1	-	10/04/18 13:10	121,2540C	DW
Nitrogen, Ammonia	0.027	J	mg/l	0.075	0.024	1	10/07/18 16:00	10/08/18 21:05	44,350.1	AT
Nitrogen, Nitrate	0.043	J	mg/l	0.10	0.033	1	-	10/03/18 20:34	44,353.2	MR
Anions by Ion Chromatography - Westborough Lab										
Chloride	45.7		mg/l	0.500	0.083	1	-	10/06/18 03:10	44,300.0	JR
Sulfate	8.29		mg/l	1.00	0.160	1	-	10/06/18 03:10	44,300.0	JR

Project Name: UCRRA NEW PALTZ LANDFILL **Lab Number:** L1839707

Project Number: 26060 TASK 200 **Report Date:** 10/09/18

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-05 Batch: WG1163837-1										
Nitrogen, Nitrate	ND		mg/l	0.10	0.033	1	-	10/03/18 19:47	44,353.2	MR
General Chemistry - Westborough Lab for sample(s): 01-05 Batch: WG1164008-1										
Solids, Total Dissolved	ND		mg/l	10	3.1	1	-	10/04/18 13:10	121,2540C	DW
General Chemistry - Westborough Lab for sample(s): 01-05 Batch: WG1164853-1										
Alkalinity, Total	ND		mg CaCO3/L	2.00	NA	1	-	10/05/18 18:50	121,2320B	MR
Anions by Ion Chromatography - Westborough Lab for sample(s): 01-05 Batch: WG1165150-1										
Chloride	ND		mg/l	0.500	0.083	1	-	10/05/18 23:21	44,300.0	JR
Anions by Ion Chromatography - Westborough Lab for sample(s): 01-05 Batch: WG1165150-1										
Sulfate	ND		mg/l	1.00	0.160	1	-	10/05/18 23:21	44,300.0	JR
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1165193-1										
Nitrogen, Ammonia	ND		mg/l	0.075	0.024	1	10/07/18 16:30	10/08/18 20:44	44,350.1	AT
General Chemistry - Westborough Lab for sample(s): 03-05 Batch: WG1165194-1										
Nitrogen, Ammonia	ND		mg/l	0.075	0.024	1	10/07/18 16:00	10/08/18 20:57	44,350.1	AT
Anions by Ion Chromatography - Westborough Lab for sample(s): 02 Batch: WG1165609-1										
Chloride	ND		mg/l	0.500	0.083	1	-	10/08/18 04:31	44,300.0	JR

Lab Control Sample Analysis

Batch Quality Control

Project Name: UCRRA NEW PALTZ LANDFILL
Project Number: 26060 TASK 200

Lab Number: L1839707
Report Date: 10/09/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 Batch: WG1163837-2								
Nitrogen, Nitrate	98		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-05 Batch: WG1164008-2								
Solids, Total Dissolved	100		-		80-120	-		
General Chemistry - Westborough Lab Associated sample(s): 01-05 Batch: WG1164853-2								
Alkalinity, Total	101		-		90-110	-		10
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-05 Batch: WG1165150-2								
Chloride	99		-		90-110	-		
Sulfate	100		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1165193-2								
Nitrogen, Ammonia	103		-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 03-05 Batch: WG1165194-2								
Nitrogen, Ammonia	104		-		90-110	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 02 Batch: WG1165609-2								
Chloride	101		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: UCRRA NEW PALTZ LANDFILL
Project Number: 26060 TASK 200

Lab Number: L1839707
Report Date: 10/09/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1163837-4 QC Sample: L1839822-01 Client ID: MS Sample												
Nitrogen, Nitrate	1.9	4	5.9	100		-	-		83-113	-		6
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1164853-4 QC Sample: L1839730-02 Client ID: MS Sample												
Alkalinity, Total	549.	200	634	**42**	Q	-	-		86-116	-		10
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1165150-3 QC Sample: L1839707-04 Client ID: MW-4D												
Chloride	1.05	4	5.15	103		-	-		90-110	-		18
Sulfate	12.8	8	20.3	94		-	-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1165193-4 QC Sample: L1839328-08 Client ID: MS Sample												
Nitrogen, Ammonia	ND	4	3.97	99		-	-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 03-05 QC Batch ID: WG1165194-4 QC Sample: L1839707-05 Client ID: SW-1												
Nitrogen, Ammonia	0.027J	4	3.90	98		-	-		90-110	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 02 QC Batch ID: WG1165609-3 QC Sample: L1840104-02 Client ID: MS Sample												
Chloride	1120	200	1290	**86**	Q	-	-		90-110	-		18

Lab Duplicate Analysis

Batch Quality Control

Project Name: UCRRA NEW PALTZ LANDFILL
Project Number: 26060 TASK 200

Lab Number: L1839707
Report Date: 10/09/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1163837-3 QC Sample: L1839822-01 Client ID: DUP Sample						
Nitrogen, Nitrate	1.9	1.9	mg/l	0		6
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1164008-3 QC Sample: L1839707-01 Client ID: MW-1D						
Solids, Total Dissolved	570	570	mg/l	0		10
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1164853-3 QC Sample: L1839730-01 Client ID: DUP Sample						
Alkalinity, Total	325.	327	mg CaCO3/L	1		10
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1165150-4 QC Sample: L1839707-04 Client ID: MW-4D						
Chloride	1.05	1.07	mg/l	2		18
Sulfate	12.8	12.7	mg/l	0		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1165193-3 QC Sample: L1839328-08 Client ID: DUP Sample						
Nitrogen, Ammonia	ND	0.028J	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 03-05 QC Batch ID: WG1165194-3 QC Sample: L1839707-05 Client ID: SW-1						
Nitrogen, Ammonia	0.027J	ND	mg/l	NC		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 02 QC Batch ID: WG1165609-4 QC Sample: L1840104-02 Client ID: DUP Sample						
Chloride	1120	1120	mg/l	0		18

Project Name: UCRRA NEW PALTZ LANDFILL
Project Number: 26060 TASK 200

Lab Number: L1839707
Report Date: 10/09/18

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(*)
L1839707-01A	Vial HCl preserved	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1839707-01B	Vial HCl preserved	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1839707-01C	Vial HCl preserved	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1839707-01D	Plastic 120ml unpreserved/No Headspace	A	NA		4.9	Y	Absent		ALK-T-2320(14)
L1839707-01E	Plastic 250ml HNO3 preserved	A	<2	<2	4.9	Y	Absent		BA-6020T(180),FE-6020T(180),NA-6020T(180),PB-6020T(180),MN-6020T(180),AS-6020T(180),HARDT-6020(180)
L1839707-01F	Plastic 500ml unpreserved	A	7	7	4.9	Y	Absent		SO4-300(28),CL-300(28),NO3-353(2),TDS-2540(7)
L1839707-01G	Plastic 500ml H2SO4 preserved	A	<2	<2	4.9	Y	Absent		NH3-350(28)
L1839707-02A	Vial HCl preserved	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1839707-02B	Vial HCl preserved	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1839707-02C	Vial HCl preserved	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1839707-02D	Plastic 120ml unpreserved/No Headspace	A	NA		4.9	Y	Absent		ALK-T-2320(14)
L1839707-02E	Plastic 250ml HNO3 preserved	A	<2	<2	4.9	Y	Absent		BA-6020T(180),FE-6020T(180),NA-6020T(180),PB-6020T(180),MN-6020T(180),AS-6020T(180),HARDT-6020(180)
L1839707-02F	Plastic 500ml unpreserved	A	7	7	4.9	Y	Absent		SO4-300(28),CL-300(28),NO3-353(2),TDS-2540(7)
L1839707-02G	Plastic 500ml H2SO4 preserved	A	<2	<2	4.9	Y	Absent		NH3-350(28)
L1839707-03A	Vial HCl preserved	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1839707-03B	Vial HCl preserved	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1839707-03C	Vial HCl preserved	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1839707-03D	Plastic 120ml unpreserved/No Headspace	A	NA		4.9	Y	Absent		ALK-T-2320(14)
L1839707-03E	Plastic 250ml HNO3 preserved	A	<2	<2	4.9	Y	Absent		BA-6020T(180),FE-6020T(180),NA-6020T(180),PB-6020T(180),MN-6020T(180),AS-6020T(180),HARDT-6020(180)

*Values in parentheses indicate holding time in days

Project Name: UCRRA NEW PALTZ LANDFILL
Project Number: 26060 TASK 200

Lab Number: L1839707
Report Date: 10/09/18

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1839707-03F	Plastic 500ml unpreserved	A	7	7	4.9	Y	Absent		SO4-300(28),CL-300(28),NO3-353(2),TDS-2540(7)
L1839707-03G	Plastic 500ml H2SO4 preserved	A	<2	<2	4.9	Y	Absent		NH3-350(28)
L1839707-04A	Vial HCl preserved	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1839707-04B	Vial HCl preserved	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1839707-04C	Vial HCl preserved	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1839707-04D	Plastic 120ml unpreserved/No Headspace	A	NA		4.9	Y	Absent		ALK-T-2320(14)
L1839707-04E	Plastic 250ml HNO3 preserved	A	<2	<2	4.9	Y	Absent		BA-6020T(180),FE-6020T(180),NA-6020T(180),PB-6020T(180),MN-6020T(180),AS-6020T(180),HARDT-6020(180)
L1839707-04F	Plastic 500ml unpreserved	A	7	7	4.9	Y	Absent		SO4-300(28),CL-300(28),NO3-353(2),TDS-2540(7)
L1839707-04G	Plastic 500ml H2SO4 preserved	A	<2	<2	4.9	Y	Absent		NH3-350(28)
L1839707-05A	Vial HCl preserved	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1839707-05B	Vial HCl preserved	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1839707-05C	Vial HCl preserved	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1839707-05D	Plastic 120ml unpreserved/No Headspace	A	NA		4.9	Y	Absent		ALK-T-2320(14)
L1839707-05E	Plastic 250ml HNO3 preserved	A	<2	<2	4.9	Y	Absent		BA-6020T(180),FE-6020T(180),NA-6020T(180),PB-6020T(180),MN-6020T(180),AS-6020T(180),HARDT-6020(180)
L1839707-05F	Plastic 500ml unpreserved	A	7	7	4.9	Y	Absent		SO4-300(28),CL-300(28),NO3-353(2),TDS-2540(7)
L1839707-05G	Plastic 500ml H2SO4 preserved	A	<2	<2	4.9	Y	Absent		NH3-350(28)

*Values in parentheses indicate holding time in days

Project Name:	UCRRA NEW PALTZ LANDFILL	**Lab Number:**	L1839707
Project Number:	26060 TASK 200	**Report Date:**	10/09/18

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).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
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.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample¿s toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
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.

Report Format: DU Report with 'J' Qualifiers

Project Name:	UCRRA NEW PALTZ LANDFILL	**Lab Number:**	L1839707
Project Number:	26060 TASK 200	**Report Date:**	10/09/18

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 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. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	UCRRA NEW PALTZ LANDFILL	**Lab Number:**	L1839707
Project Number:	26060 TASK 200	**Report Date:**	10/09/18

REFERENCES

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

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

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: SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
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: Chloride, 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: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, 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, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

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.

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

NEW YORK CHAIN OF CUSTODY

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 1

Date Rec'd in Lab: 10/3/18

ALPHA Job #: L1839707

Client Information

Client: Sterling Environmental
Address: 24 Wade Road
Latham, NY 12110
Phone: 518-456-4900
Fax: 518-456-3532
Email: See Below

Project Information

Project Name: UCRRA New Paltz Landfill
Project Location: New Paltz, New York
Project #: 26060, Task 200
(Use Project name as Project #) ☐
Project Manager: Mark Williams
ALPHAQuote #:

Turn-Around Time

Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days: 5 Day

Deliverables

☑ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☑ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☐ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other: NA

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

*Send results via E-mail to mark.williams@sterlingenvironmental.com

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs (8260)	As, Ba, Fe, Mn, Na, Pb	Alkalinity, Cl-, Hardness	Ammonia	Sulfate (SO4)	Total Dissolved Solids	Nitrate (NO3) as N	TDS	Sample Specific Comments	Total Bottles
39707 -01	MW-1D	10/2/2018	1310	GW	ST/VC	x	x	x	x	x	x	x	x		7
-02	MW-2D	10/2/2018	1230	GW		x	x	x	x	x	x	x	x		7
-03	MW-3D	10/2/2018	1115	GW		x	x	x	x	x	x	x	x		7
-04	MW-4D	10/2/2018	1015	GW		x	x	x	x	x	x	x	x		7
-05	SW-1	10/2/2018	1320	SW		x	x	x	x	x	x	x	x		7

Container Type	V	P	P	P	P	P	P	P
Preservative	B	C	A	A	A	A	A	A

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
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

Relinquished By:	Date/Time	Received By:	Date/Time
	10/2/2018 1710		10/2/18 1710
	10/2/18 1848	Paul Mazella	10/2/18 1945
Paul Mazella	10/3/18 12:13		10/3/18 00:13

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 TERMS & CONDITI

Form No: 01-25 (rev. 30-Sept-2013)