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Table 1

Summary of Site Stratigraphy
Orange County Landfill, Goshen, New York

Piezometer I.D.	Measuring Point (MP) Elevation (Site Datum)	Piezometer Stickup (feet)	Ground Surface Elevation (Site Datum)	Glaciolacustrine Silt and Clay/Glaciolacustrine Fine Sand Interface (feet BGS)/[Geologic Contact Elevation]	Screened Interval (feet BGS) / [Screened Elevation]	Total Depth (Feet BGS) / [Bottom Elevation]
PZ-14-1	390.27	0.65	389.62	34.1 / [355.52]	34.5-39.5 / [355.12 - 350.12]	39.50 / [350.12]
PZ-14-2	381.94	0.80	381.14	24.6 / [356.54]	24.5-29.5 / [356.64 - 351.64]	30.26 / [350.88]
PZ-14-3	381.83	0.35	381.48	24.4 / [357.43]	24.92 -29.92 / [356.56 - 351.56]	29.92 / [351.56]
PZ-14-4	381.77	1.35	380.42	23.9 / [356.52]	23.91-28.91 / [356.51 - 351.51]	28.91 / [351.51]
PZ-14-5	392.22	2.17	390.05	33.5/ [356.55]	32.9-37.9 / [357.15 - 352.15]	37.86 / [352.19]
PZ-14-6	391.11	0.88	390.23	33.85 / [356.38]	34.2-39.2 / [356.03 - 351.03]	39.20 / [351.03]

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Table 2

Summary of Surveyed Elevations and Select Water Level Measurements
Orange County Landfill, Goshen, New York

Piezometer I.D.	Northing	Easting	Ground Surface Elevation (Site Datum)	Measuring Point (MP) Elevation (Site Datum)	February 20, 2014 Depth to Groundwater (feet BMP {Top of PVC}) / [Groundwater Elevation]	March 18, 2014 Depth to Groundwater (feet BMP {Top of PVC}) / [Groundwater Elevation]	September 9, 2014 Depth to Groundwater (feet BMP {Top of PVC}) / [Groundwater Elevation]	October 6, 2014 Depth to Groundwater (feet BMP {Top of PVC}) / [Groundwater Elevation]
PZ-14-1	N 41° 23' 19.50"	W 74° 24' 4.85"	389.62	390.27	27.69 / [362.58]	26.29 / [363.98]	28.67 / [361.60]	29.06 / [361.21]
PZ-14-2	N 41° 23' 19.21"	W 74° 24' 4.60"	381.14	381.94	20.21 / [361.73]	18.24 / [363.70]	21.24 / [360.70]	21.53 / [360.41]
PZ-14-3	N 41° 23' 19.39"	W 74° 24' 4.22"	381.48	381.83	20.10 / [361.73]	18.30 / [363.53]	21.09 / [360.74]	21.39 / [360.44]
PZ-14-4	N 41° 23' 19.54"	W 74° 24' 3.79"	380.42	381.77	19.88 / [361.89]	18.23 / [363.54]	20.92 / [360.85]	21.23 / [360.54]
PZ-14-5	N 41° 23' 19.70"	W 74° 24' 4.45"	390.05	392.22	29.58 / [362.64]	28.32 / [363.90]	29.53 / [362.69]	30.94 / [361.28]
PZ-14-6	N 41° 23' 19.88"	W 74° 24' 4.06"	390.23	391.11	28.61 / [362.50]	27.27 / [363.41]	29.32 / [361.79]	29.74 / [361.37]
SG-1	N 41° 23' 18.66"	W 74° 24' 4.11"	---	357.49				
SG-2	N 41° 23' 18.54"	W 74° 24' 4.04"	---	354.99			4.28 / [350.71]	4.72 / [350.27]

Notes:
Northing and Easting coordinates are in New York State Plane.

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TABLE 3

Summary of Field Parameter Measurements (October 6, 2014)
Orange County Landfill, Goshen, New York

Parameter	Title 6 Part 703.5 Standards	Units	Groundwater Locations						Seep Location	Surface Water Locations				Leachate
			PZ-14-1[3]	PZ-14-2[3]	PZ-14-3	PZ-14-4[3]	PZ-14-5	PZ-14-6[3]	Seep Monitoring Point	SW-13 (Upstream)	SW-5 (Upstream)	SW-Seep DS	SW-8 (Dwonstream)	MH-5
Static Water Level [1]	---	feet	29.06	21.53	21.39	21.23	31.93	29.74	---	---	---	---	---	---
Specific Conductance	---	mS/cm[c]	1.094 (1.113)	1.022 (0.698)	1.041 (0.859)	1.014 (0.607)	1.223 (1.230)	1.006 (1.001)	1.246	0.790	0.806	0.787	0.788	1.775
Temperature	---	°C	16.02 (13.56)	15.15 (12.68)	18.00 (12.96)	15.27 (12.36)	19.80 (14.15)	16.07 (13.66)	16.09	15.79	16.00	15.39	15.47	17.11
Turbidity		NTU	899	235	77.6	291	75.0	165	---	---	---	---	---	---
pH	6.5<pH< 8.5	S.U.	7.22 (7.00)	7.31 (7.41)	7.65 (7.03)	7.10 (7.21)	7.75 (7.03)	7.14 (7.12)	6.95	7.46	7.36	7.56	7.61	7.50
ORP	---	mV	-82.7 (-90.2)	-84.5 (3.10)	-40.4 (38.2)	-55.7 (47.5)	17.8 (214.8)	-64.9 (-15.9)	-58.8	516.9	-138.6	490.1	495.8	204.4
Dissolved Oxygen	> 3.0 [2]	mg/L	1.50 (1.76)	1.89 (2.77)	1.69 (1.19)	1.40 (1.44)	0.69 (1.29)	1.80 (1.72)	2.85	5.71	4.51	3.74	4.83	0.79

NOTES :

[1] Measured from the top of the PVC casing to water surface.

[2] Standard only applies to surface water samples.

[3] Only field measurements were taken at these locations, no sample.

Values in parentheses reflect field parameter measurements collected on March 18, 2014.

Values in **BOLD** indicate an exceedance of applicable water quality standard or guidance value.

--- No standard or not measured.

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Table 4

Summary of Analytical Results (October 2014)
Orange County Landfill, Goshen, New York

Analyte and Method	Units	Groundwater Standard and Guidance Values[A]	Groundwater Samples		Surface Water Standard and Guidance Values[B]	Seep Sample Location		Surface Water Sample Locations				Leachate
			PZ-14-3	PZ14-5		Seep Monitoring Point	DUP-1	SW-13 (Upstream)	SW-5 (Upstream)	SW-Seep DS	SW-8 (Downstream)	MH-5
Volatile Organic Compounds												
1,1,1-Trichloroethane	µg/L	5.0	0.39 U	0.39 U	---	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	3.9 U
1,1,2,2-Tetrachloroethane	µg/L	5.0	0.26 U	0.26 U	---	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	2.6 U
1,1,2-Trichloroethane	µg/L	1.0	0.48 U	0.48 U	---	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	4.8 U
1,1-Dichloroethane	µg/L	5.0	0.59 U	0.59 U	---	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	5.9 U
1,1-Dichloroethene	µg/L	5.0	0.85 U	0.85 U	---	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	8.5 U
1,2-Dichlorobenzene	µg/L	3.0	0.44 U	0.44 U	5 [2]	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	4.4 U
1,2-Dichloroethane	µg/L	0.6[1]	0.60 U	0.60 U	---	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	6.0 U
1,2-Dichloropropane	µg/L	1.0	0.61 U	0.61 U	---	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	6.1 U
1,3-Dichlorobenzene	µg/L	3.0	0.54 U	0.54 U	5 [2]	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	5.4 U
1,4-Dichlorobenzene	µg/L	3.0	0.51 U	0.51 U	5 [2]	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	5.1 U
2-Chloroethyl vinyl ether	µg/L	---	1.9 U	1.9 U	---	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	19 U
Benzene	µg/L	1.0	0.60 U	0.60 U	10	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	6.0 U
Bromodichloromethane	µg/L	50	0.54 U	0.54 U	---	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	5.4 U
Bromoform	µg/L	50	0.47 U	0.47 U	---	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	4.7 U
Bromomethane	µg/L	5.0	1.2 U	1.2 U	---	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	12 U
Carbon tetrachloride	µg/L	5.0	0.51 U	0.51 U	---	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	5.1 U
Chlorobenzene	µg/L	5.0	0.48 U	0.48 U	5	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	4.8 U
Chloroethane	µg/L	5.0	0.87 U	0.87 U	---	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	20 J
Chloroform	µg/L	7.0	0.54 U	0.54 U	---	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	0.54 U	5.4 U
Chloromethane	µg/L	5.0	0.64 U	0.64 U	---	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	6.4 U
cis-1,2-Dichloroethene	µg/L	5.0	0.57 U	0.57 U	---	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	5.7 U
cis-1,3-Dichloropropene	µg/L	0.4	0.33 U	0.33 U	---	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	3.3 U
Dibromochloromethane	µg/L	50	0.41 U	0.41 U	---	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	4.1 U
Dichlorodifluoromethane	µg/L	5.0	0.28 U	0.28 U	---	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	2.8 U
Ethylbenzene	µg/L	5.0	0.46 U	0.46 U	17	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U
Methylene Chloride	µg/L	5.0	0.81 U	0.81 U	200	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	8.1 U
m-Xylene & p-Xylene	µg/L	5.0 [2]	1.1 U	1.1 U	65 [2]	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	11 U
o-Xylene	µg/L	5.0	0.43 U	0.43 U	65 [2]	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	4.3 U
Tetrachloroethene	µg/L	5.0	0.34 U	0.34 U	1.0	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	3.4 U
Toluene	µg/L	5.0	0.45 U	0.45 U	6,000	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	4.5 U
trans-1,2-Dichloroethene	µg/L	5.0	0.59 U	0.59 U	---	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	5.9 U
trans-1,3-Dichloropropene	µg/L	0.4[1] [2]	0.44 U	0.44 U	---	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	4.4 U
Trichloroethene	µg/L	5.0	0.60 U	0.60 U	40	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	6.0 U
Trichlorofluoromethane	µg/L	5.0	0.45 U	0.45 U	---	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	4.5 U
Vinyl chloride	µg/L	2.0	0.75 U	0.75 U	---	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	7.5 U
Xylenes, Total	µg/L	5.0	1.1 U	1.1 U	65	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	11 U

Table 4

Summary of Analytical Results (October 2014)
Orange County Landfill, Goshen, New York

Analyte and Method	Units	Groundwater Standard and Guidance Values[A]	Groundwater Samples		Surface Water Standard and Guidance Values[B]	Seep Sample Location		Surface Water Sample Locations				Leachate
			PZ-14-3	PZ-14-5		Seep Monitoring Point	DUP-1	SW-13 (Upstream)	SW-5 (Upstream)	SW-Seep DS	SW-8 (Downstream)	MH-5
Leachate Indicator Parameters												
Alkalinity, Total	mg/L	---	570 B	600 B	---	590	620	210 B	230	230 B	220 B	1300 B
Ammonia	mg/L	2.0	**5.3**	**9.1 B**	[3]	**6.9**	**7.0**	0.009 U	0.009 U	0.058 B	0.014 JB	130 B
Biochemical Oxygen Demand	mg/L	---	2.0 U	7.1 b	---	6.1	5.2	2.0 H	2.0 U	2.0 Hb	2.0 U	16 b
Chemical Oxygen Demand	mg/L	---	23 B	32 B	---	21	15	6.4 JB^	21 B	23 B	21 B	250 B
Chloride	mg/L	250	61	79	---	81	84	100	100	100	100	520
Color	Color Units	15	5.0 U	5.0 U	---	**60**	**50**	25	25	25	25	40
Cyanide, Total	mg/L	0.2	0.005 U	**0.23**	0.0052	0.01 U	0.12	0.005 ^	0.005 ^	0.005 U	0.005 ^	0.0083 J
Hardness	mg/L	---	610	580	---	490	500	240	230	240	240	760
Nitrate as N	mg/L	10	0.69	0.090	---	0.02 U	0.02 U	2.1	2.1	2.1	2.1	0.24
Phenolics, Total Recoverable	mg/L	0.001[1]	0.005 U	**0.026**	0.001[1]	0.01 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0075 J
Sulfate	mg/L	250	34	30	---	4.7	5.9	33	33	34	34	4.6
Total Dissolved Solids	mg/L	500	**680**	**780**	---	**720**	**740**	390	420	410	400	1000
Total Kjeldahl Nitrogen	mg/L	---	5.9	9.2	---	8.5 B	8.2 B	0.94	0.75	0.8	0.41	140
Total Organic Carbon	mg/L	---	3.2	8.9	---	4.4	4.4	4.1	4.1	4.1	4.1	57
Turbidity	NTU	5.0	**450**	**240**	---	**76**	**73**	28	29	23	22	440
Total Metals												
Aluminum, Total Recoverable	mg/L	---	6.3	0.73	---	0.19 J	0.06 U	0.54	0.4	0.16 J	0.47	0.16 J
Antimony, Total Recoverable	mg/L	0.003[1]	0.0068 U	0.0068 U	---	0.0068 U	0.0064 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U
Arsenic, Total Recoverable	mg/L	0.025	**0.094**	**0.057**	0.15[5]	0.11	0.12	0.0056 U	0.0056 U	0.0062 J	0.0098 J	0.031
Barium, Total Recoverable	mg/L	1.0	0.63	0.51	---	0.86	0.93	0.041	0.04	0.043	0.041	1.9
Beryllium, Total Recoverable	mg/L	0.003[1]	0.00047 J	0.0003 U	[4]	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U
Boron, Total Recoverable	mg/L	1.0	0.18	0.21	10	0.24	0.24	0.046	0.045	0.048	0.045	1.0
Cadmium, Total Recoverable	mg/L	0.005	0.0005 U	0.0005 U	[4]	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U
Calcium, Total Recoverable	mg/L	---	180	140	---	130	130	59	58	61	61	180
Chromium, Total Recoverable	mg/L	0.05	0.028	0.0076	[4]	0.0018 J	0.0017 J	0.0015 J	0.001 U	0.0015 J	0.001 J	0.0054
Chromium, hexavalent	mg/L	0.05	0.005 U	0.005 U	0.011[5]	0.005 U	0.005 H	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Copper, Total Recoverable	mg/L	0.2	0.091	0.0072 J	[4]	0.0026 J	0.0018 J	0.0054 J	0.0051 J	0.0052 J	0.005 J	0.0038 J
Iron, Total Recoverable	mg/L	0.3	**18 B**	**4.8 B**	0.3	**8.6**	**9.1**	**0.54 B**	**0.4 B**	0.22 B	**0.46 B**	47 B
Lead, Total Recoverable	mg/L	0.025	0.017	0.003 U	[4]	0.0032 J	0.003 U	0.003 U	0.003 U	0.003 U	0.0031 J	0.003 U
Magnesium, Total Recoverable	mg/L	35[1]	**56**	**54**	---	**63**	**63**	23	23	23	23	53
Manganese, Total Recoverable	mg/L	0.3	**2.0**	**1.0**	---	**0.76 B**	**0.76 B**	0.13	0.13	0.13	0.12	2.2
Mercury, Total Recoverable	mg/L	0.0007	0.00012 U	0.00012 U	0.7	0.00012 U	0.0001 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U
Nickel, Total Recoverable	mg/L	0.1	0.025	0.028	[4]	0.0094 J	0.0099 J	0.0016 J	0.0018 J	0.0018 J	0.002 J	0.028
Potassium, Total Recoverable	mg/L	---	9.3	9.8	---	16	16	3.8	3.7	3.7	3.8	67
Selenium, Total Recoverable	mg/L	0.01	0.0087 U	0.0087 U	---	0.0087 U	0.0087 U	0.0087 U	0.0087 U	0.0087 U	0.0087 U	0.0087 U
Silver, Total Recoverable	mg/L	0.05	0.0017 U	0.0017 U	---	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U
Sodium, Total Recoverable	mg/L	20	**60**	**87**	---	**64**	**66**	52	52	52	52	370
Thallium, Total Recoverable	mg/L	0.0005[1]	0.01 U	0.01 U	0.008[1]	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Zinc, Total Recoverable	mg/L	2.0[1]	0.087 B	0.026 B	[4]	0.0094 JB	0.0071 JB	0.0071 JB	0.023 B	0.041 B	0.012 B	0.014 B

Table 4

Summary of Analytical Results (October 2014)
Orange County Landfill, Goshen, New York

Analyte and Method	Units	Groundwater Standard and Guidance Values[(A)]	Groundwater Samples		Surface Water Standard and Guidance Values[(B)]	Seep Sample Location		Surface Water Sample Locations				Leachate
			PZ-14-3	PZ-14-5		Seep Monitoring Point	DUP-1	SW-13 (Upstream)	SW-5 (Upstream)	SW-Seep DS	SW-8 (Downstream)	MH-5
Dissolved Metals												
Aluminum, Dissolved	mg/L	---	8.7	2.7	---	---	---	---	---	---	---	---
Antimony, Dissolved	mg/L	---	0.0068 U	0.0068 U	---	---	---	---	---	---	---	---
Arsenic, Dissolved	mg/L	---	0.092	0.055	---	---	---	---	---	---	---	---
Barium, Dissolved	mg/L	---	0.59	0.47	---	---	---	---	---	---	---	---
Beryllium, Dissolved	mg/L	---	0.00048 J	0.0003 U	---	---	---	---	---	---	---	---
Boron, Dissolved	mg/L	---	0.17 B	0.20 B	---	---	---	---	---	---	---	---
Cadmium, Dissolved	mg/L	---	0.0005 U	0.0005 U	---	---	---	---	---	---	---	---
Calcium, Dissolved	mg/L	---	150	130	---	---	---	---	---	---	---	---
Chromium, Dissolved	mg/L	---	0.032	0.016	---	---	---	---	---	---	---	---
Copper, Dissolved	mg/L	---	0.083 B	0.011 B	---	---	---	---	---	---	---	---
Iron, Dissolved	mg/L	---	22	7.7	---	---	---	---	---	---	---	---
Lead, Dissolved	mg/L	---	0.015	0.0051 J	---	---	---	---	---	---	---	---
Magnesium, Dissolved	mg/L	---	54	52	---	---	---	---	---	---	---	---
Manganese, Dissolved	mg/L	---	1.7	1.1	---	---	---	---	---	---	---	---
Mercury, Dissolved	mg/L	---	0.00012 U	0.00012 U	---	---	---	---	---	---	---	---
Nickel, Dissolved	mg/L	---	0.030	0.032	---	---	---	---	---	---	---	---
Potassium, Dissolved	mg/L	---	9.1	9.7	---	---	---	---	---	---	---	---
Selenium, Dissolved	mg/L	---	0.0087 U	0.0087 U	---	---	---	---	---	---	---	---
Silver, Dissolved	mg/L	---	0.0017 U	0.0017 U	---	---	---	---	---	---	---	---
Sodium, Dissolved	mg/L	---	58	85	---	---	---	---	---	---	---	---
Thallium, Dissolved	mg/L	---	0.010 U	0.01 U	---	---	---	---	---	---	---	---
Zinc, Dissolved	mg/L	---	0.087 B	0.036 B	---	---	---	---	---	---	---	---

Values in **BOLD** indicate exceedance of applicable groundwater and surface water quality standard.

--- = Not analyzed or no applicable standard.

(A) = T.O.G.S. 1.1.1 Ambient Water Quality Standards for Class GA Groundwater

(B) = T.O.G.S. 1.1.1 Ambient Water Quality Standards for Class C Surface Water

(1) = Laboratory Method Detection Limit is greater than or equal to the applicable water quality standard.

(2) = Applies to the sum of 1,2-1,3-1,4-Dichlorobenzene, or Applies to each individual isomer, or applies to the sum of m-, o-, and p-xylenes, or applies to the sum of cis-trans 1,3-Dichloropropene.

(3) = Surface water standard for ammonia (mg/L) is interpolated using the temperatures and pH of the individual samples. SW-13 = 2.18; SW-5 = 2.19; SW SEEP DS = 2.14; and SW-8 = 2.10

(4) = Surface Water Standard for Berylium, Cadmium, Chromium, Copper, Lead, Nickel, and Zinc are based on the individual sample's hardness.

Berylium (mg/L): SW-13 = 1.1; SW-5 = 1.1; SW SEEP DS = 1.1; and SW-8 = 1.1

Cadmium (mg/L): SW-13 = 0.01; SW-5 = 0.01; SW SEEP DS = 0.01; and SW-8 = 0.01

Chromium: (mg/L): SW-13 = 1.17; SW-5 = 1.13; SW SEEP DS = 1.17; and SW-8 = 1.7

Copper (mg/L): SW-13 = 0.03; SW-5 = 0.03; SW SEEP DS = 0.03; and SW-8 = 0.03

Lead (mg/L): SW-13 = 0.25; SW-5 = 0.24; SW SEEP DS = 0.25; and SW-8 = 0.25

Nickel (mg/L): SW-13 = 0.98; SW-5 = 0.95; SW SEEP DS = 0.98; and SW-8 = 0.98

Zinc (mg/L): SW-13 = 0.25; SW-5 = 0.24; SW SEEP DS = 0.25; and SW-8 = 0.25

(5) = Standard applies to the dissolved form, not total recoverable.

U = Compound is not detected at or above laboratory method detection limit.

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

B = Compound was found in the blank and the sample.

b = Result detected in the unseeded control blank (USB).

H = Sample was prepped or analyzed beyond specified holding time.

^ = Instrument related QC exceeds the control limits.

DUP-1 was collected at the Seep Monitoring Point location.

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Table 5

Summary of Historical Analytical Results - Seeps (2012 - 2014)
Orange County Landfill, Goshen, New York

Analyte	Units	Surface Water Standard and Guidance Values[A]	GW-B (South Side of Canal)		GW-01/GW-1 (North Side of Canal)		Seep Monitoring Point (North Side of Canal)				GW-3 (North Side of Canal)	GW-A (South Side of Canal)	
			8/21/2013	6/12/2014	8/22/2012	6/12/2014	8/22/2012 (GW-03)	8/21/2013 (GW-D)	6/12/2014 (GW-2)	10/6/2014	6/12/2014	8/21/2013	6/12/2014
Field Measurements													
Temperature	°C	---	21.75	16.83	20.77	13.81	23.88	19.01	14.47	16.09	15.66	20.57	15.12
Dissolved Oxygen	mg/L	< 4	---	8.1	9.3	**1.98**	8.17	6.54	**2.39**	**2.85**	9.18	5.68	9.08
Oxidation Reduction Potential	mV	---	-7.0	232	-90.6	-15.0	-77	-55	14.1	-58.8	31	9.6	252.3
pH	S.U.	6.5-8.5	7.46	7.7	7.03	6.85	---	7.15	6.83	6.95	6.77	7.48	6.92
Specific Conductivity	mS/cm[c]	---	0.426	0.438	0.7772	1.265	0.695	1.339	1.162	1.246	1.247	0.420	0.426
Water Quality Parameters													
Alkalinity	mg/L	---	130 B	260	640	560	850	640	610	590	630	170 B	130
Ammonia	mg/L	[2]	0.075	0.14	**40**	**18**	**13**	**8.0**	**8.8**	**6.9**	**6.3**	0.018 J	0.016 J
Biochemical Oxygen Demand	mg/L	---	2.0 b	2.2 b	2.0 U	2.0 U	5.8 b	13	2.0 U	6.1	14 b	2.0 U	<2.0
Bromide	mg/L	---	0.073 U^	---	0.65	---	0.75	1.0 ^	---	---	---	0.073	---
Chemical Oxygen Demand	mg/L	---	210	110	21	31	22	18 B	5.0 U	21	21	18	24
Chloride	mg/L	---	3.0	0.82	82	73	63	73	58	81	54	23	44
Color	Color Units	---	400	140	150	25	35	100	15	60	5.0	50	60
Cyanide	mg/L	0.0052	0.012 B	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	**0.0053 J**	0.01 U	0.005 U	0.005 U	0.005 U
Nitrate	mg/L	---	0.28	0.31	0.011 U	0.076	0.26	0.075 U	0.57	0.02 U	0.02 U	0.33	0.45
Phenols	mg/L	0.001[1]	**0.0069 J**	0.005 U	**0.0054 J**	0.005 U	0.005 U	**0.005 JH**	0.005 U	0.01 U	0.005 U	0.005 U	0.005 U
Sulfate	mg/L	---	86	23	19	4.7	7.7	10	11	4.7	67	27	17
Total Dissolved Solids	mg/L	500	430	420	**680**	**690**	**780**	**830**	**660**	**720**	**780**	250	280
Total Hardness	mg/L	---	240	250	530	490	540	760	500	490	600	180	160
Total Kjeldahl Nitrogen	mg/L	---	4.1 B	2.7	38	16	12	8.2	8.6	8.5 B	6.8	0.50	0.41
Total Organic Carbon	mg/L	---	67	46	6.1	6.0	6.0	5.5 b	5.9	4.4	5.5	5.6	6.9
Turbidity	NTU	---	7.6	160	66	320	1.0 U	7100	120	76	150	7.6	12
Metal Parameters													
Aluminum	mg/L	---	0.67	6.3	0.22	0.60	0.80	4.4	1.4	0.19 J	0.21	0.23	0.37
Antimony	mg/L	---	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U
Arsenic	mg/L	0.15[3]	0.0056 U	0.0058 J	0.094	0.12	0.048	0.11	0.086	0.11	0.029	0.0056 U	0.0056 U
Barium	mg/L	---	0.032	0.074	0.44	1.2	0.33	0.90	0.38	0.86	0.49	0.022	0.021
Beryllium	mg/L	1.1	0.0003 U	0.00045 J	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003
Boron	mg/L	10	0.080	0.027 B	0.37 B	0.27 B	0.23 B	0.25	0.17 B	0.24	0.17 B	0.092	0.023 B
Cadmium	mg/L	*	0.0005 U	0.0005 U	0.0005 U	0.00094 J	0.0005 U	0.0014	0.00062 J	0.0005 U	0.0005 U	0.0005 U	0.0005
Calcium	mg/L	---	72	76	100	92	130	140	120	130	150	56	49
Chromium	mg/L	*	0.0018 J	0.0078	0.001 U	0.0010 U	0.0011 J	0.0058	0.0020 J	0.0018 J	0.0010	0.001 U	0.001 U
Chromium, Hexavalent	mg/L	0.011	0.005 UH	0.005 U	0.005 U	0.005 U	0.005 U	0.0079 JH	0.005 U	0.005 U	0.005 U	0.0087 JH	0.005 U
Cobalt	mg/L	0.005	**0.0065**	0.0014 J	0.00063 U	0.00063 U	0.0034 J	**0.0051**	0.0019 J	---	0.0024 J	0.00063 U	0.00063 U
Copper	mg/L	*	**0.04**	0.012	0.0016 U	0.0016 U	0.0038 J	0.013	0.0027 J	0.0026 J	0.0016 U	0.0044 J	0.0016 U
Iron	mg/L	0.3	**1.5**	**8.0**	**6.5**	**11**	**3.2**	**12**	**5.3**	**8.6**	**13**	**0.34**	**0.53**
Lead	mg/L	*	0.003 U	0.007 J	0.003 U	0.003 U	0.003 U	0.0075	0.0042 J	0.0032 J	0.0030 U	0.003	0.003 U
Magnesium	mg/L	---	12	16	41	57	51	57	44	63	48	9.3	8.8
Manganese	mg/L	---	0.93	1.0	0.54	0.28	1.7	1.1	1.8	0.76 B	1.4	0.047	0.063
Mercury	mg/L	0.0007	0.00012 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U
Nickel	mg/L	*	0.027	0.018	0.0093 J	0.013	0.009 J	0.015	0.0091 J	0.0094 J	0.0073	0.0013 U	0.0013 U
Potassium	mg/L	---	3.3 B	4.4	23	19	15	13 B	12	16	8.0	2.2 B	1.8
Selenium	mg/L	0.0046[1]	0.0087 U	0.0087 U	0.0087 U	0.0087 U	0.0087 U	0.0087 U	0.0087 U	0.0087 U	0.0087 U	0.0087 U	0.0087 U
Silver	mg/L	0.0001	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U
Sodium	mg/L	---	2.0	3.2	81	65	59	64	45	64	45	16	24
Thallium	mg/L	0.008	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium	mg/L	0.014	0.0015 U	0.0015 U	0.0017 J	0.0015 U	0.0074	0.0067	0.0015 U	---	0.0015 U	0.0015 U	0.0015 U
Zinc	mg/L	*	0.011	0.028	0.0096 JB	0.012	0.010 B	0.033	0.020	0.0094 JB	0.0054 J	0.0017 J	0.0029 J

Values in **BOLD** indicate exceedance of applicable groundwater and surface water quality standard.

--- = Not analyzed or no applicable standard.

[A] = T.O.G.S. 1.1.1 Ambient Water Quality Standards for Class C Surface Water. Part 703.3 for pH, D.O., TDS, Color, and Trubidity.

[1] = Laboratory Method Detection Limit is greater than or equal to the applicable water quality standard.

[2] Surface Water Standard for ammonia, in mg/L, is interpolated from the samples pH and temperature. GW-B (8/21/2013) = 1.5, GW-B (6/12/2014) = 2.04, GW-1/GW-01 (8/22/2012) = 1.5, GW-1/GW-01 (6/12/2014) = 2.2,

[3] = Standard applies to the dissolved form, not total recoverable.

Seep Monitoring Point (8/22/2012) = No pH value, can't interpolate standard; Seep Monitoring Point (8/21/2013) = 1.5; Seep Monitoring Point (6/12/2014) = 2.2; Seep Monitoring Point (10/6/2014) = 2.2; GW-3 (6/12/2014) = 2.2; GW-A (8/21/2013) = 1.5; and, GW-A (6/12/2014) = 2.2

* = Surface water standards for Cadmium, Chromium, Copper, Lead, Nickel, and Zinc are based on the samples hardness for Class C streams.

Cadmium (mg/L): GW-B(8/21/2013) = 0.01, GW-B(6/12/2014) = 0.01, GW-1/GW-01(8/22/2012) = 0.03, GW-1/GW-01(6/12/2014) = 0.02, Seep Monitoring Point(8/22/2012) = 0.03, Seep Monitoring Point(8/21/2013) = 0.04, Seep Monitoring Point(6/12/2014) = 0.02, Seep Monitoring Point(10/6/2014) = 0.02, GW-3(6/12/2014) = 0.03, GW-A(8/21/2013) = 0.01, GW-A(6/12/2014) = 0.01

Chromium: (mg/L): GW-B(8/21/2013) = 1.17, GW-B(6/12/2014) = 1.12, GW-1/GW-01(8/22/2012) = 2.23, GW-1/GW-01(6/12/2014) = 2.09, Seep Monitoring Point(8/22/2012) = 2.27, Seep Monitoring Point(8/21/2013) = 3.00, Seep Monitoring Point(6/12/2014) = 2.13, Seep Monitoring Point(10/6/2014) = 2.09, GW-3(6/12/2014) = 2.47, GW-A(8/21/2013) = 0.92, GW-A(6/12/2014) = 0.84

Copper (mg/L): GW-B(8/21/2013) = 0.03, GW-B(6/12/2014) = 0.03, GW-1/GW-01(8/22/2012) = 0.06, GW-1/GW-01(6/12/2014) = 0.06, Seep Monitoring Point(8/22/2012) = 0.07, Seep Monitoring Point(8/21/2013) = 0.09, Seep Monitoring Point(6/12/2014) = 0.06, Seep Monitoring Point(10/6/2014) = 0.06, GW-3(6/12/2014) = 2.47, GW-A(8/21/2013) = 0.07, GW-A(6/12/2014) = 0.02

Lead (mg/L): GW-B(8/21/2013) = 0.25, GW-B(6/12/2014) = 0.26, GW-1/GW-01(8/22/2012) = 0.56, GW-1/GW-01(6/12/2014) = 0.52, Seep Monitoring Point(8/22/2012) = 0.57, Seep Monitoring Point(8/21/2013) = 0.80, Seep Monitoring Point(6/12/2014) = 0.53, Seep Monitoring Point(10/6/2014) = 0.52, GW-3(6/12/2014) = 0.64, GW-A(8/21/2013) = 0.18, GW-A(6/12/2014) = 0.16

Nickel (mg/L): GW-B(8/21/2013) = 0.98, GW-B(6/12/2014) = 1.02, GW-1/GW-01(8/22/2012) = 1.92, GW-1/GW-01(6/12/2014) = 1.80, Seep Monitoring Point(8/22/2012) = 1.95, Seep Monitoring Point(8/21/2013) = 2.60, Seep Monitoring Point(6/12/2014) = 1.83, Seep Monitoring Point(10/6/2014) = 1.80, GW-3(6/12/2014) = 2.13, GW-A(8/21/2013) = 0.77, GW-A(6/12/2014) = 0.70

Zinc (mg/L): GW-B(8/21/2013) = 0.25, GW-B(6/12/2014) = 0.25, GW-1/GW-01(8/22/2012) = 0.48, GW-1/GW-01(6/12/2014) = 0.45, Seep Monitoring Point(8/22/2012) = 0.49, Seep Monitoring Point(8/21/2013) = 0.65, Seep Monitoring Point(6/12/2014) = 0.46, Seep Monitoring Point(10/6/2014) = 0.45, GW-3(6/12/2014) = 0.53, GW-A(8/21/2013) = 0.19, GW-A(6/12/2014) = 0.17

U = Compound is not detected at or above laboratory method detection limit.

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

B = Compound was found in the blank and the sample.

b = Result detected in the unseeded control blank (USB).

H = Sample was prepped or analyzed beyond specified holding time.

^ = Instrument related QC exceeds the control limits.

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TABLE 6

Summary of Historical Analytical Results - Surface Water (2012 - 2014)
Orange County Landfill, Goshen, New York

Analyte	Units	Surface Water Standard and Guidance Values[A]	SW-13 (Upstream)		SW-5 (Upstream)		SW-01 (Upstream)		SW-Seep DS (Downstream)	SW-02** (Downstream)		SW-8 (Downstream)	
			10/6/2014	Historical Range	10/6/2014	Historical Range	8/22/2012	6/12/2014	10/6/2014	8/22/2012	6/12/2014	10/6/2014	Historical Range
Field Measurements													
Temperature	°C	---	15.79	0.3-25.3	16	0.1-25.4	22.17	18.63	15.39	23.25	18.67	15.47	0.2-25.91
Dissolved Oxygen	mg/L	< 4	5.71	6.79-12.68	4.51	5.2-10.8	6.78	8.13	3.74	6.68	8.04	4.83	6-11.28
Oxidation Reduction Potential	mV	---	516.9	-137-380	-138.6	-162-370	43.9	235.3	490.1	-20.6	235.1	495.8	-186-395
pH	S.U.	6.5-8.5	7.46	7.18-**9.02**	7.36	7.01-**9.33**	7.78	7.85	7.56	7.80	7.72	7.61	7.0-**8.81**
Specific Conductivity	mS/cm[c]	---	0.79	285-576	0.806	290-684	0.479	0.492	0.787	0.488	0.492	0.788	300-4940
Water Quality Parameters													
Alkalinity	mg/L	---	210 B	44-187	230	62.9-160	130 B	130	230 B	140 B	140	220 B	65.2-189
Ammonia	mg/L	[2]	0.009 U	0.03-0.51 U	0.009 U	0.03-0.155 U	0.049	0.053	0.058 B	0.21	0.053	0.014 JB	0.03 U-0.221
Biochemical Oxygen Demand	mg/L	---	2.0 H	2.0-7.0 U	2.0 U	2.0 U-8.0	3.3 b	2.0 U	2.0 Hb	2.0 U	2.0 U	2.0 U	2.0 U-14
Bromide	mg/L	---	---	0.1 U-1.0 U	---	0.1 U-1.0 U	0.1 U	---	---	0.1 U	---	---	0.1 U-1.0 U
Chemical Oxygen Demand	mg/L	--	6.4 JB^	10 U-50	21	10 U-105	14	10	23 B	14	9.0 J	21 B	6.0-34
Chloride	mg/L	---	100	23-82	100	28.9-79	46	61	100	47	61	100	30-80
Chromium, Hexavalent	mg/L	0.011	0.005 U	0.004 U-0.01 U	0.005 U	0.004 U-0.01 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	<0.005	0.004 U-0.01
Color	Color Units	---	25	5.0 U-750	25	5.0 U-750	40	35	25	50	40	25	5.0 U-500
Cyanide	mg/L	0.0052	0.005^	0.005 U-0.01 U	0.005^	0.005 U-0.01 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005^	0.005 U-0.01 U
Hardness	mg/L	---	240	96.7-260	230	99.8-242	18 J	180	240	180	180	240	102-238
Nitrate	mg/L	---	2.1	0.4-1.82	2.1	0.1 U-1.72	0.77	0.91	2.1	0.83	0.93	2.1	0.1 U-3.3
Phenols	mg/L	0.005	0.005 U	0.002 U-0.0045 U	0.005 U	0.002 U-**0.0072**	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	<0.005	0.002 U-**0.0115**
Sulfate	mg/L	---	33	11-91	33	7.5-100	19	14	34	19	14	34	8.5-100
Total Dissolved Solids	mg/L	500	390	172-404	420	156-446	300	310	410	300	310	400	190-428
Total Kjeldahl Nitrogen	mg/L	---	0.94	0.58-1.45	0.75	0.5-7.52	2.4	0.41	0.8	0.97	0.44	0.41	0.58-1.76
Total Organic Carbon	mg/L	---	4.1	4.5-18	4.1	4.2-11	5.8	4.4	4.1	5.5	4.4	4.1	4.4-18
Turbidity	NTU	---	28	5.6-130	29	8.7-95	37	16	23	29	17	22	5.8-112
Metal Parameters													
Aluminum	mg/L	---	0.54	0.08-0.991	0.4	0.13-0.941	1.5	0.57	0.16 J	1.6	0.55	0.47	0.12-1
Antimony	mg/L	---	0.0068 U	0.0068 U-0.06 U	0.0068 U	0.0044 U-0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.05 U-0.12
Arsenic	mg/L	0.15[3]	0.0056 U	0.002 U-0.02 U	0.0056 U	0.001-0.014	0.0056 U	0.0056 U	0.0062 J	0.0056 U	0.0056 U	0.0098 J	0.002 U-0.014
Barium	mg/L	---	0.041	0.017-0.2 U	0.04	0.016-0.2	0.033	0.024	0.043	0.039	0.024	0.041	0.2 U-0.037
Beryllium	mg/L	*	0.0003 U	0.0003 U-0.02 U	0.0003 U	0.0003 U-0.02 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.0003 U-0.02 U
Boron	mg/L	10	0.046	0.026-0.5 U	0.045	0.048 U-0.066	0.035 B	0.022 B	0.048	0.036 B	0.023 B	0.045	0.025 U-0.053
Cadmium	mg/L	*	0.0005 U	0.0005 U-0.02 U	0.0005 U	0.0005 U-0.02 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.0005 U-0.02 U
Calcium	mg/L	---	59	28.1-67	58	27.5-61.4	45	43	61	46	44	61	26.8-60.6
Chromium	mg/L	*	0.0015 J	0.001 U-0.02 U	0.001 U	0.0009 U-0.02 U	0.0016 J	0.001 U	0.0015 U	0.0022 J	0.001 U	0.001 J	0.001 U-0.02 U
Cobalt	mg/L	0.005	---	0.0019 U-0.05 U	---	0.0019 U-0.05 U	0.00067 J	0.00063 U	---	0.0019 U	0.00063 U	---	0.0019 U-0.05 U
Copper	mg/L	*	0.0054 J	0.0053-0.017 U	0.0051	0.003 U-0.025 U	**0.0034 J**	0.0016 U	0.0052 J	0.0031 J	0.0017 J	0.005 J	0.0021-0.025 U
Iron	mg/L	0.3	**0.54 B**	**0.36-8.2**	**0.4**	0.285-**9.17**	**1.4**	**0.81**	0.22 B	**1.4**	**0.77**	**0.46**	**0.34-3.13**
Lead	mg/L	*	0.003 U	0.001 U-0.014	0.003 U	0.0019 U-0.013	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.0031 J	0.001 U-0.02 U
Magnesium	mg/L	---	23	6.44-22.7	23	7.55-22.2	15	15	23	16	15	23	7.57-21.2
Manganese	mg/L	---	0.13	0.048-1.0	0.13	0.055-0.22	0.14	0.11	0.13	0.15	0.11	0.12	0.052-0.28
Mercury	mg/L	0.0007	0.00012 U	0.00012 U-0.001 U	0.00012 U	0.00012 U-0.001 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U-0.001 U
Nickel	mg/L	*	0.0016	0.0013 U-0.04 U	0.0018	0.0013 U-0.02 U	0.0015 J	0.0015 J	0.0018 J	0.0016 J	0.0013 U	0.002 J	0.0013 U-0.04 U
Potassium	mg/L	---	3.8	1.4-5.22	3.7	1.6-4.98	3.2	1.8	3.7	3.3	1.8	3.8	1.2-4.92
Selenium	mg/L	0.00046	0.0087 U	0.001 U-0.059	0.0087 U	0.001 U-0.077 U	0.0087 U	0.0087 U	0.0087 U	0.0087 U	0.0087 U	0.0087 U	0.001 U-0.079
Silver	mg/L	0.0001[1]	0.0017 U	0.0012-0.01 U	0.0017 U	0.0017 U-0.01	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.0015-0.01 U
Sodium	mg/L	---	52	14.9-41	52	15-38.6	29	32	52	30	32	52	15-40
Thallium	mg/L	0.008[1]	0.01 U	0.001 U-0.022	0.01 U	0.001 U-0.023	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.001 U-0.02 U
Vanadium	mg/L	0.014	---	0.002 U-0.274	---	0.002 U-0.01 U	0.0043 J	0.0015 U	---	0.0033 J	0.0015 U	---	0.002 U-0.02 U
Zinc	mg/L	*	0.0071 JB	0.0043-0.149	0.023 B	0.028 U-0.0023	0.0069 JB	0.006 J	0.041 B	0.0095 JB	0.0055 J	0.012 B	0.004-0.0345

Values in **BOLD** indicate exceedance of applicable groundwater and surface water quality standard.

--- = Not analyzed or no applicable standard.

[A] = T.O.G.S. 1.1.1 Ambient Water Quality Standards for Class C Surface Water

[1] = Laboratory Method Detection Limit is greater than or equal to the applicable water quality standard.

[2] = Surface water standard for ammonia (mg/L) is interpolated using the temperatures and pH of the individual samples. SW-13 = 2.18; SW-01(8/22/2012) = 1.34, SW-01(6/12/2014) = 1.21; SW-5 = 2.19; SW SEEP DS = 2.14; SW-02(8/22/2012) = 1.31; SW-02(6/12/2014) = 1.41; and SW-8 = 2.10.

[3] = Standard applies to the dissolved form.

* = Surface Water Standard for Berylium, Cadmium, Chromium, Copper, Lead, Nickel, and Zinc are based on the individual sample's hardness.

Beryllium (mg/L): SW-13 = 1.1; SW-01(8/22/2012) = 0.011; SW-01(6/12/2014) = 1.1; SW-5 = 1.1; SW SEEP DS = 1.1; SW-02(8/22/2012) = 1.1; SW-02(6/12/2014) = 1.1; and SW-8 = 1.1

Cadmium (mg/L): SW-13 = 0.01; SW-01(8/22/2012) = 0.0006; SW-01(6/12/2014) = 0.007; SW-5 = 0.01; SW SEEP DS = 0.01; SW-02(8/22/2012) = 0.007; SW-02(6/12/2014) = 0.007; and SW-8 = 0.01

Chromium: (mg/L): SW-13 = 0.03; SW-01(8/22/2012) = 0.14; SW-01(6/12/2014) = 0.92; SW-5 = 1.13; SW SEEP DS = 1.17; SW-02(8/22/2012) = 0.92; SW-02(6/12/2014) = 0.92; and SW-8 = 0.03

Copper (mg/L): SW-13 = 0.03; SW-01(8/22/2012) = 0.003; SW-01(6/12/2014) = 0.02; SW-5 = 0.03; SW SEEP DS = 0.03; SW-02(8/22/2012) = 0.02; SW-02(6/12/2014) = 0.02; and SW-8 = 0.03

Lead (mg/L): SW-13 = 0.25; SW-01(8/22/2012) = 0.01; SW-01(6/12/2014) = 0.18; SW-5 = 0.24; SW SEEP DS = 0.25; SW-02(8/22/2012) = 0.18; SW-02(6/12/2014) = 0.18; and SW-8 = 0.25

Nickel (mg/L): SW-13 = 0.25; SW-01(8/22/2012) = 0.11; SW-01(6/12/2014) = 0.77; SW-5 = 0.95; SW SEEP DS = 0.98; SW-02(8/22/2012) = 0.77; SW-02(6/12/2014) = 0.77; and SW-8 = 0.98

Zinc (mg/L): SW-13 = 0.25; SW-01(8/22/2012) = 0.03; SW-01(6/12/2014) = 0.19; SW-5 = 0.24; SW SEEP DS = 0.25; SW-02(8/22/2012) = 0.19; SW-02(6/12/2014) = 0.19; and SW-8 = 0.25

** = Sampling Location SW-02 at distinct locations (see Figure 4).

U = Compound is not detected at or above laboratory method detection limit.

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

B = Compound was found in the blank and the sample.

b = Result detected in the unseeded control blank (USB).

H = Sample was prepped or analyzed beyond specified holding time.

^ = Instrument related QC exceeds the control limits.

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Table 7

Evaluation of Mitigation Alternatives
Orange County Landfill, Goshen, New York

Response Action	Technology	Implementability	Effectiveness and Permanence	Cost Remarks
Containment	Geotextile filter fabric or Geomembrane w/ Riprap	Moderately difficult to install and maintain due to location and slope.	Effectively controls seep from reaching canal, no associated treatment of seep, potential negative ecological impacts, and will likely require maintenance.	Likely maintenance costs.
Containment	Slurry Wall	Moderately difficult to install and maintain due to location and slope.	Effectively prevents seep from reaching canal. Will likely require maintenance. Effectiveness could be reduced due to movement of Canal bank.	Likely maintenance costs. Recurring operational costs.
Groundwater Collection	Focused Groundwater Collection Treatment	Readily implementable.	Effectively prevents seep from reaching canal and treats groundwater contamination. Continuous operation of pump required.	Recurring operational costs.
Seep Source Collection	Seep Source Point Collection	Moderately difficult to maintain due to fluctuations of the canal stage.	Effectively prevents seep from reaching canal and treats present contamination. Continuous operation of pump required. Potentially ineffective operation due to frequent flooding of the canal stage.	Recurring operational costs.
In-situ Treatment	Chemical Injection	Readily implementable.	Effectiveness of technology currently unknown. Continuous operation of pump required.	Bench / pilot scale testing costs. Recurring operational costs.
In-situ Treatment	Reactive Trench	Moderately difficult to install and maintain due to location, slope, and is prone to site flooding.	Effectively prevents seep from reaching canal. Will likely require maintenance.	Likely maintenance costs.