

**2017 ANNUAL BASELINE WATER QUALITY REPORT**

**UNION VALE LANDFILL, UNION VALE**

**DUTCHESS COUNTY, NEW YORK**

**PREPARED FOR:**

**Town of Union Vale  
249 Duncan Road  
LaGrangeville, N. Y. 12540**

**MA #200128.00**

**February 2018**

**PREPARED BY:**



**MORRIS ASSOCIATES**  
**ENGINEERING & SURVEYING CONSULTANTS, PLLC**

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## 1.0 PURPOSE AND SCOPE

This report presents the results of the water quality monitoring conducted at the Union Vale Landfill located in Union Vale, Dutchess County, New York. This report contains the third quarter monitoring results, as sampled on October 23, 2017 which consists of baseline parameter and water quality analysis, as defined by 6 NYCRR Part 360-2.11 (d)(6).

Groundwater samples were collected from three (3) monitoring wells. Please note that no sampling was performed at monitoring well MW-1 and at well MW-2 due to dry conditions during this monitoring period. The locations of groundwater monitoring wells and surface water sampling points are shown on Figure 1 Union Vale Landfill Monitoring Wells and Surface Water Sampling Locations (refer to Appendix A of this report).

Appendix C contains a historical account of parameters which have been determined to be of significance either because they are above the maximum contaminant levels established by the State of New York, or there is a significant increase in concentrations as the groundwater moves downstream of the site.

## 2.0 REGULATORY STANDARDS

The routine samples were collected from each of the monitoring wells as well as surface water sampling points. The results were analyzed and compared with the Water Quality Regulations for groundwater and surface water as promulgated by NYCRR 6 Part 703.5 (f). The laboratory test results (see Appendix B of this report) define the following: sample collection dates, field observations, analytical test results and alphanumeric designation for monitoring wells and sampling points. The well and sampling point designations correspond to the locations noted on Figure 1 in Appendix A of this report.

The upgradient sampling point for the groundwater-monitoring program is well MW-5. It should be noted that there are two other upgradient wells (MW-1 and MW-2), however these appear to be under the influence of the Old Beekman Landfill as has been noted in past reports provided by the Town. The remaining groundwater monitoring wells (MW-3 and MW-4) are in downgradient locations.

The New York State Department of Environmental Conservation, Division of Water T.O.G.S.-1.1.1, Ambient Water Quality Standards and Guidance Values and 6 NYCRR Part 703 define the quality criteria for the sampled waters. The monitoring well samples were compared to the "GA" classification criteria.

### 3.0 DISCUSSION OF RESULTS

Table 1 located below lists all the parameters that have exceeded the standard or guidance value as noted for the monitoring of groundwater and surface water in vicinity of the Union Vale Landfill.

Town of Union Vale Landfill, Dutchess County - Summary Information

Table 1  
Most Recent Groundwater Exceedences

Parameter	Limit <sup>1</sup>	Well Location				
		MW-1	MW-2	MW-3	MW-4	MW-5
Aluminum	N.S.	Not Sampled	Not Sampled	0.21	0.24	3.45
Iron	0.3 mg/L	"	"	1.81	1.56	1.50
Manganese	0.3 mg/L	"	"	5.19	8.12	-
Iron and Manganese	0.5 mg/L	"	"	7.00	9.68	1.63
Sodium	20 mg/L	"	"	37.1	144.0	-
Total Dissolved Solids	500 mg/L	"	"	-	700	-
Turbidity	5 NTU	"	"	52	66	>999

<sup>1</sup> Limit is either a Standard or a Guidance Value per NYSDEC T.O.G.S. 1.1.1.

Well Information:

	Well Location				
	MW-1	MW-2	MW-3	MW-4	MW-5
Depth (Ft):	50	47	42.5	45	50

Note: Wells MW-1 & MW-2 are upgradient of the Union Vale landfill; however they are downgradient of the Old Beekman Landfill and are therefore considered downgradient wells for the purposes of this report.

#### Aluminum:

Aluminum is a metal that does not typically exist in normal groundwater. The values reported for this parameter refer to the total of either aluminum ions dissolved in water or solid aluminum suspended in the water. How much of the aluminum is dissolved versus suspended is unknown.

Although there is no groundwater standard for Aluminum, data collected indicates a decrease in concentrations as groundwater moves downgradient. Previous data also shows that MW-1, MW-2 and MW-5 have decreased concentrations of aluminum. Based on revised DEC recommendations regarding landfill reporting this parameter is now included in the discussion whereas it was not likely discussed previously.

The inclusion of this parameter in the discussion does not necessarily indicate that the aluminum levels noted is an issue for this site. It also should not be

inferred that since there is no standard that there is no cause for concern. It is included simply due to the fact that the landfill is apparently impacting the concentration, and therefore should be noted pursuant to the recommendations and requests of the DEC.

The data and graphs located in the Appendix show the past several monitoring periods in four of six sampling events, downgradient aluminum concentrations are lower than the upgradient concentrations; in past tests MW-1 has been the only exception with a slight increase. Given that the downgradient concentrations are close to detectable limits, it is further likely that the aluminum detected is suspended in the groundwater and is filtered by the soil as it travels. This parameter will be closely observed during future monitoring events.

#### Iron & Manganese:

Iron and Manganese are commonly found in groundwater, particularly in Dutchess County. They are minerals that have similar chemistry and at low levels have aesthetic impacts. These minerals have 2 standards due to their chemistry. The standard for iron alone is 0.3 mg/L and the standard for manganese alone is 0.3 mg/L. However the sum of both iron and manganese cannot exceed 0.5 mg/L.

Upgradient exceedances of the combined iron and manganese and individual standards for iron in well MW-5 indicate the presence of natural background concentrations. The data in Appendix C shows MW-3 and MW-4 exceeded the allowable groundwater standard of 0.3 mg/l for manganese with values of 5.19 mg/l and 8.12 mg/l respectively.

Monitoring wells MW-3 and MW-4 and upgradient well MW-5 exceeded the groundwater standard of 0.3 mg/l for iron with recorded concentrations of 1.81 mg/l, 1.56 mg/l and 1.50 mg/l.

Downgradient monitoring wells MW-3, MW-4 and upgradient monitoring well MW-5 exceeded the cumulative groundwater standard with values of 7.00 mg/l, 9.68 mg/l and 1.63 mg/l respectively.

#### Sodium:

Sodium is another mineral that can exist in natural groundwaters. The current groundwater standard for sodium is 20 mg/L.

The sodium standard of 20 mg/l was exceeded at downgradient monitoring wells MW-3 and MW-4 with reported results of 37.1 mg/l and 144.0 mg/l respectively. Higher sodium concentrations recorded at some of the downgradient groundwater monitoring wells indicate that the landfill is likely contributing to downgradient concentrations. Since it is believed that all the sodium is in a dissolved state, filtration is not likely. The fact that this

upgradient well is higher than the true upgradient well MW-5 indicates that the source of the sodium may be the Old Beekman Landfill.

Total Dissolved Solids (TDS):

Total Dissolved Solids (TDS), is not a particular element or chemical, rather it is a measurement of how many mineral solids are in a dissolved, or ionic, state in the water. The groundwater standard for TDS is 500 mg/l.

Down gradient monitoring well MW-4 exceeded the TDS concentration standard with recorded concentrations of 700 mg/l respectively.

Turbidity:

The turbidity standard of 5 NTU's was exceeded in up gradient monitoring well MW-5 and down gradient monitoring wells MW-3 and MW-4 with recorded concentrations of >999, 52 and 66 NTU's respectively. Results will be closely observed in future monitoring events to establish any long-term trends.

#### **4.0 GAS MONITORING RESULTS**

Gas monitoring was conducted on June 30, September 26 and October 20, 2017 at the Union Vale Landfill at a total of 13 passive gas vents identified as V-1 through V-13. Portable field instruments were used to evaluate the gas emissions concentrations. A summary of the test results can be found in Appendix D of this report.

During site visits to record landfill gas emissions, no soil cracks or stressed vegetation suggestive of uncontrolled gas emissions were noted. Gas emissions concentrations will continue to be closely monitored through future monitoring events and inspections.

## 5.0 CONCLUSIONS

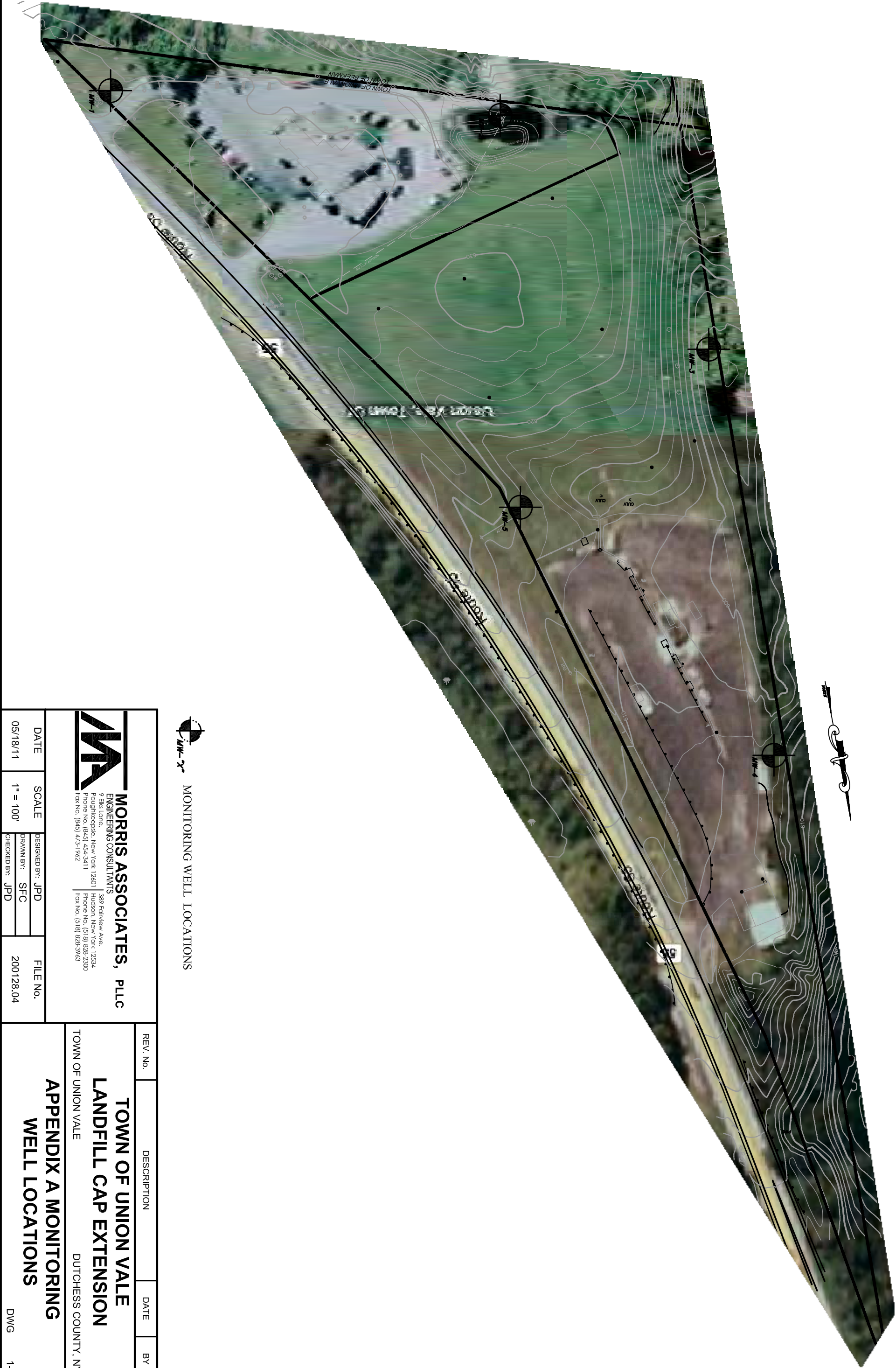
The final capping system is expected to reduce surface water and precipitation infiltration into the waste mass thereby reducing impacts to local groundwater quality as the waste mass desiccates. Most of the exceedences of groundwater and surface water standards or guidance values at downgradient monitoring wells and sampling points can be attributed, in part, to either naturally occurring background concentrations or more significantly, to the landfill. Monitoring data indicates that the landfill is contributing to the elevated levels of constituent concentrations recorded in the downgradient wells and sampling points.

Monitoring data from future monitoring events will continually be observed closely and analyzed to determine any significant reduction in groundwater quality in the vicinity of the Union Vale landfill, to draw reasonable conclusions about the groundwater quality in this area and to establish stable or any long-term trends in constituent concentrations.




## **APPENDIX A**

### **FIGURE 1, Union Vale Landfill Monitoring Wells**



 MONITORING WELL LOCATIONS

 <div><b>MORRIS ASSOCIATES, PLLC</b> ENGINEERING CONSULTANTS 389 Fairview Ave. Poughkeepsie, New York 12601 Phone No. (845) 454-3411 Fax No. (845) 473-1962</div>			REV. No.			DESCRIPTION			DATE			BY		
						TOWN OF UNION VALE								
						DUTCHESS COUNTY, NY								

DATE	SCALE	DESIGNED BY: JPD	FILE No.
05/18/11	1" = 100'	DRAWN BY: SFC	200128.04
		CHECKED BY: JPD	

TOWN OF UNION VALE LANDFILL CAP EXTENSION		
APPENDIX A MONITORING WELL LOCATIONS		
DWG 1-1		

## **APPENDIX B**

### **Laboratory Results for the Third Quarter 2017**



**Experience is the solution**

314 North Pearl Street ♦ Albany, New York 12207  
(800) 848-4983 ♦ (518) 434-4546 ♦ Fax (518) 434-0891

November 09, 2017

Patricia Tompkins  
Town of Union Vale  
249 Duncan Road  
Lagrangeville, NY 12540

TEL: (845) 724-5600

Work Order No: 171024001

RE: Union Vale LF

Dear Patricia Tompkins:

Adirondack Environmental Services, Inc received 6 samples on 10/24/2017 for the analyses presented in the following report.

Please see case narrative for specifics on analysis.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Krzysztof Trafalski  
Laboratory Manager

ELAP#: 10709

CC:

Morris Assoc-J. Dennis

## Adirondack Environmental Services, Inc

## CASE NARRATIVE

**CLIENT:** Town of Union Vale

**Date:** 09-Nov-17

**Project:** Union Vale LF

**Lab Order:** 171024001

The sampling was performed in accordance with the AES field sampling procedures and/or the client specified sampling procedures. Sample containers were supplied by Adirondack Environmental Services.

The samples MW-3 and MW-4 received for Cyanide analysis had pH adjusted prior to analysis.

<b>Qualifiers:</b>	ND - Not Detected at reporting limit	C - Details are above in Case Narrative
	J - Analyte detected below quantitation limit	S - LCS Spike recovery is below acceptable limits
	B - Analyte detected in Blank	S+ - LCS Spike recovery is above acceptable limits
	X - Exceeds maximum contamination limit	Z - Duplication outside acceptable limits
	H - Hold time exceeded	T - Tentatively Identified Compound-Estimated
	N - Matrix Spike below acceptable limits	E -Above quantitation range-Estimated
	N+ - Matrix Spike is above acceptable limits	

**Note : All Results are reported as wet weight unless noted**

**The results relate only to the items tested. Information supplied by the client is assumed to be correct.**

**Adirondack Environmental Services, Inc****Date:** 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** **171024001**  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** MW-1  
**Collection Date:** 10/23/2017 10:56:00 AM  
**Lab Sample ID:** 171024001-001  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE						Analyst: <b>FLD</b>
Observation	<b>Dry</b>			NA		10/23/2017 10:56:00 AM

**Adirondack Environmental Services, Inc****Date:** 09-Nov-17**CLIENT:** Town of Union Vale**Client Sample ID:** MW-2**Work Order:** 171024001**Collection Date:** 10/23/2017 11:00:00 AM**Reference:** Union Vale LF /**Lab Sample ID:** 171024001-002**PO#:****Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE						Analyst: FLD
Observation	Dry			NA		10/23/2017 11:00:00 AM

**Adirondack Environmental Services, Inc**

Date: 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** MW-3  
**Collection Date:** 10/23/2017 12:45:00 PM  
**Lab Sample ID:** 171024001-003  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE**Analyst: **FLD**

Conductivity (E120.1)	<b>840</b>	1.0		umhos/cm		10/23/2017 12:45:00 PM
eH (Orion)	<b>150.4</b>			mV		10/23/2017 12:45:00 PM
Observation	<b>Cloudy, No Odor</b>			NA		10/23/2017 12:45:00 PM
pH (E150.1)	<b>6.1</b>			S.U.		10/23/2017 12:45:00 PM
Static Water Level	<b>23.31</b>			ft		10/23/2017 12:45:00 PM
Temperature (E170.1)	<b>12</b>			deg C		10/23/2017 12:45:00 PM
Turbidity (E180.1)	<b>52</b>	1.0		NTU		10/23/2017 12:45:00 PM

**HARDNESS - EPA 200.7 REV 4.4**Analyst: **SM**

( Prep: E200.7 - 10/24/2017 )

Total Hardness (As CaCO3)	<b>289</b>	5		mg/L CaCO3	1	11/2/2017
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**ICP METALS - EPA 200.7 REV 4.4**Analyst: **SM**

( Prep: E200.7 - 10/24/2017 )

Aluminum	<b>0.213</b>	0.100		mg/L	1	11/2/2017 3:22:31 PM
Antimony	<b>ND</b>	0.060		mg/L	1	11/2/2017 3:22:31 PM
Arsenic	<b>ND</b>	0.005		mg/L	1	11/2/2017 3:22:31 PM
Barium	<b>0.096</b>	0.010		mg/L	1	11/2/2017 3:22:31 PM
Beryllium	<b>ND</b>	0.005		mg/L	1	11/2/2017 3:22:31 PM
Boron	<b>0.093</b>	0.050		mg/L	1	11/2/2017 3:22:31 PM
Cadmium	<b>ND</b>	0.005		mg/L	1	11/2/2017 3:22:31 PM
Calcium	<b>83.1</b>	0.050		mg/L	1	11/2/2017 3:22:31 PM
Chromium	<b>ND</b>	0.005		mg/L	1	11/2/2017 3:22:31 PM
Copper	<b>0.010</b>	0.005		mg/L	1	11/2/2017 3:22:31 PM
Iron	<b>1.81</b>	0.050		mg/L	1	11/2/2017 3:22:31 PM
Lead	<b>0.007</b>	0.005		mg/L	1	11/2/2017 3:22:31 PM
Magnesium	<b>19.8</b>	0.050		mg/L	1	11/2/2017 3:22:31 PM
Manganese	<b>5.19</b>	0.020		mg/L	1	11/2/2017 3:22:31 PM
Nickel	<b>ND</b>	0.020		mg/L	1	11/2/2017 3:22:31 PM
Potassium	<b>11.5</b>	0.050		mg/L	1	11/2/2017 3:22:31 PM
Selenium	<b>ND</b>	0.005		mg/L	1	11/2/2017 3:22:31 PM
Silver	<b>ND</b>	0.010		mg/L	1	11/2/2017 3:22:31 PM
Sodium	<b>37.1</b>	0.050		mg/L	1	11/2/2017 3:22:31 PM
Thallium	<b>ND</b>	0.010		mg/L	1	11/2/2017 3:22:31 PM
Zinc	<b>0.026</b>	0.010		mg/L	1	11/2/2017 3:22:31 PM

**MERCURY - EPA 245.1 REV 3.0**Analyst: **AVB**

( Prep: E245.1 - 10/24/2017 )

Mercury	<b>ND</b>	0.0002		mg/L	1	10/24/2017 2:26:01 PM
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**Adirondack Environmental Services, Inc**

Date: 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** MW-3  
**Collection Date:** 10/23/2017 12:45:00 PM  
**Lab Sample ID:** 171024001-003  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1**

Analyst: CS

Chloride	107	2.00		mg/L	2	10/24/2017 3:38:32 PM
Nitrate, Nitrogen (As N)	0.14	0.04		mg/L	2	10/24/2017 3:38:32 PM
Sulfate	20.2	4.00		mg/L	2	10/24/2017 3:38:32 PM

**VOLATILE ORGANICS - EPA 601/602**

Analyst: SMD

Dichlorodifluoromethane	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
Chloromethane	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
Vinyl chloride	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
Bromomethane	ND	1.0	S	µg/L	1	10/24/2017 6:56:00 PM
Chloroethane	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
Methylene chloride	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
trans-1,2-Dichloroethene	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
cis-1,2-Dichloroethene	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
Chloroform	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
Carbon tetrachloride	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
1,2-Dichloroethane	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
Trichloroethene	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
Tetrachloroethene	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
Chlorobenzene	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
Bromoform	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
Benzene	ND	0.5		µg/L	1	10/24/2017 6:56:00 PM
Toluene	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
Ethylbenzene	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
m,p-Xylene	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM
o-Xylene	ND	1.0		µg/L	1	10/24/2017 6:56:00 PM

**Adirondack Environmental Services, Inc**

Date: 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** MW-3  
**Collection Date:** 10/23/2017 12:45:00 PM  
**Lab Sample ID:** 171024001-003  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>VOLATILE ORGANICS - EPA 601/602</b>						Analyst: <b>SMD</b>
Surr: 4-Bromofluorobenzene	<b>106</b>	76.1-125		%REC	1	10/24/2017 6:56:00 PM
<b>ALKALINITY TO PH 4.5 - SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	<b>190</b>	10		mg/L CaCO3	1	11/6/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>CA</b>
Nitrogen, Ammonia (As N)	<b>ND</b>	5.0		mg/L	50	10/27/2017 6:09:00 PM
<b>BOD, 5 DAY, 20°C - SM 5210B-01,-11</b>						Analyst: <b>SH</b>
Biochemical Oxygen Demand	<b>23</b>	12	S+	mg/L	1	10/25/2017 11:25:00 AM
<b>CHEMICAL OXYGEN DEMAND - EPA 410.4 REV 2.0</b>						Analyst: <b>PL</b>
Chemical Oxygen Demand	<b>17</b>	5		mg/L	1	10/25/2017 12:00:00 PM
<b>CYANIDE, TOTAL - EPA 335.4 REV 1.0</b>						Analyst: <b>KB</b>
( Prep: 9010C - 10/25/2017 )						
Cyanide	<b>ND</b>	0.010		mg/L	1	10/26/2017 12:23:00 PM
<b>PHENOLS, TOTAL - EPA 420.1 REV 1978</b>						Analyst: <b>KB</b>
( Prep: Method - 11/1/2017 )						
Phenolics, Total Recoverable	<b>ND</b>	0.002		mg/L	1	11/8/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>480</b>	5		mg/L	1	10/25/2017
<b>TKN (INCLUDES PREP) - SM 4500 N C-97,-11</b>						Analyst: <b>CA</b>
Nitrogen, Kjeldahl, Total	<b>2.8</b>	1.0		mg/L	1	10/31/2017
<b>TOTAL ORGANIC CARBON - SM 5310C-00,-11</b>						Analyst: <b>NK</b>
Total Organic Carbon	<b>3.9</b>	1.0		mg/L	1	10/31/2017 6:19:00 PM
<b>COLOR (PLATINUM-COBALT) - SM 2120B-01,-11</b>						Analyst: <b>KB</b>

**Adirondack Environmental Services, Inc**

Date: 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** MW-3  
**Collection Date:** 10/23/2017 12:45:00 PM  
**Lab Sample ID:** 171024001-003  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>COLOR (PLATINUM-COBALT) - SM 2120B-01,-11</b>						Analyst: <b>KB</b>
Color	<b>8</b>	5		cpu@pH7.5	1	10/24/2017 12:15:00 PM
<b>HEXAVALENT CHROMIUM - SM3500-CR D</b>						Analyst: <b>CC</b>
Chromium, Hexavalent	<b>ND</b>	0.02		mg/L	1	10/24/2017 10:04:00 AM

**Adirondack Environmental Services, Inc**

Date: 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** MW-4  
**Collection Date:** 10/23/2017 12:38:00 PM  
**Lab Sample ID:** 171024001-004  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE**Analyst: **FLD**

Conductivity (E120.1)	1412	1.0		umhos/cm		10/23/2017 12:38:00 PM
eH (Orion)	142			mV		10/23/2017 12:38:00 PM
Observation	Cloudy, No Odor			NA		10/23/2017 12:38:00 PM
pH (E150.1)	6.4			S.U.		10/23/2017 12:38:00 PM
Static Water Level	34.42			ft		10/23/2017 12:38:00 PM
Temperature (E170.1)	14			deg C		10/23/2017 12:38:00 PM
Turbidity (E180.1)	66	1.0		NTU		10/23/2017 12:38:00 PM

**HARDNESS - EPA 200.7 REV 4.4**Analyst: **SM**

( Prep: E200.7 - 10/24/2017 )

Total Hardness (As CaCO3)	217	5		mg/L CaCO3	1	11/2/2017
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**ICP METALS - EPA 200.7 REV 4.4**Analyst: **SM**

( Prep: E200.7 - 10/24/2017 )

Aluminum	0.235	0.100		mg/L	1	11/2/2017 3:32:54 PM
Antimony	ND	0.060		mg/L	1	11/2/2017 3:32:54 PM
Arsenic	ND	0.005		mg/L	1	11/2/2017 3:32:54 PM
Barium	0.076	0.010		mg/L	1	11/2/2017 3:32:54 PM
Beryllium	ND	0.005		mg/L	1	11/2/2017 3:32:54 PM
Boron	0.066	0.050		mg/L	1	11/2/2017 3:32:54 PM
Cadmium	ND	0.005		mg/L	1	11/2/2017 3:32:54 PM
Calcium	59.9	0.050		mg/L	1	11/2/2017 3:32:54 PM
Chromium	ND	0.005		mg/L	1	11/2/2017 3:32:54 PM
Copper	0.010	0.005		mg/L	1	11/2/2017 3:32:54 PM
Iron	1.56	0.050		mg/L	1	11/2/2017 3:32:54 PM
Lead	0.008	0.005		mg/L	1	11/2/2017 3:32:54 PM
Magnesium	16.3	0.050		mg/L	1	11/2/2017 3:32:54 PM
Manganese	8.12	0.020		mg/L	1	11/2/2017 3:32:54 PM
Nickel	ND	0.020		mg/L	1	11/2/2017 3:32:54 PM
Potassium	9.71	0.050		mg/L	1	11/2/2017 3:32:54 PM
Selenium	0.005	0.005		mg/L	1	11/2/2017 3:32:54 PM
Silver	ND	0.010		mg/L	1	11/2/2017 3:32:54 PM
Sodium	144	0.500		mg/L	10	11/2/2017 3:38:15 PM
Thallium	ND	0.010		mg/L	1	11/2/2017 3:32:54 PM
Zinc	0.014	0.010		mg/L	1	11/2/2017 3:32:54 PM

**MERCURY - EPA 245.1 REV 3.0**Analyst: **AVB**

( Prep: E245.1 - 10/24/2017 )

Mercury	ND	0.0002		mg/L	1	10/24/2017 2:27:35 PM
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**Adirondack Environmental Services, Inc**

Date: 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** MW-4  
**Collection Date:** 10/23/2017 12:38:00 PM  
**Lab Sample ID:** 171024001-004  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1**

Analyst: CS

Chloride	279	10.0		mg/L	10	11/4/2017 1:45:27 AM
Nitrate, Nitrogen (As N)	0.10	0.04		mg/L	2	10/24/2017 3:50:38 PM
Sulfate	10.7	4.00		mg/L	2	10/24/2017 3:50:38 PM

**VOLATILE ORGANICS - EPA 601/602**

Analyst: SMD

Dichlorodifluoromethane	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
Chloromethane	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
Vinyl chloride	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
Bromomethane	ND	1.0	S	µg/L	1	10/24/2017 7:18:00 PM
Chloroethane	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
Methylene chloride	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
trans-1,2-Dichloroethene	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
cis-1,2-Dichloroethene	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
Chloroform	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
Carbon tetrachloride	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
1,2-Dichloroethane	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
Trichloroethene	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
Tetrachloroethene	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
Chlorobenzene	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
Bromoform	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
Benzene	ND	0.5		µg/L	1	10/24/2017 7:18:00 PM
Toluene	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
Ethylbenzene	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
m,p-Xylene	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM
o-Xylene	ND	1.0		µg/L	1	10/24/2017 7:18:00 PM

**Adirondack Environmental Services, Inc**

Date: 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** MW-4  
**Collection Date:** 10/23/2017 12:38:00 PM  
**Lab Sample ID:** 171024001-004  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>VOLATILE ORGANICS - EPA 601/602</b>						Analyst: <b>SMD</b>
Surr: 4-Bromofluorobenzene	111	76.1-125		%REC	1	10/24/2017 7:18:00 PM
<b>ALKALINITY TO PH 4.5 - SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	200	10		mg/L CaCO3	1	11/6/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>CA</b>
Nitrogen, Ammonia (As N)	10.4	1.0		mg/L	10	10/27/2017 6:11:00 PM
<b>BOD, 5 DAY, 20°C - SM 5210B-01,-11</b>						Analyst: <b>SH</b>
Biochemical Oxygen Demand	33	12	S+	mg/L	1	10/25/2017 11:25:00 AM
<b>CHEMICAL OXYGEN DEMAND - EPA 410.4 REV 2.0</b>						Analyst: <b>PL</b>
Chemical Oxygen Demand	19	5		mg/L	1	10/25/2017 12:00:00 PM
<b>CYANIDE, TOTAL - EPA 335.4 REV 1.0</b>						Analyst: <b>KB</b>
( Prep: 9010C - 10/25/2017 )						
Cyanide	ND	0.010		mg/L	1	10/26/2017 1:33:00 PM
<b>PHENOLS, TOTAL - EPA 420.1 REV 1978</b>						Analyst: <b>KB</b>
( Prep: Method - 11/1/2017 )						
Phenolics, Total Recoverable	ND	0.002		mg/L	1	11/8/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	700	5		mg/L	1	10/25/2017
<b>TKN (INCLUDES PREP) - SM 4500 N C-97,-11</b>						Analyst: <b>CA</b>
Nitrogen, Kjeldahl, Total	12.9	1.0		mg/L	1	10/31/2017
<b>TOTAL ORGANIC CARBON - SM 5310C-00,-11</b>						Analyst: <b>NK</b>
Total Organic Carbon	2.4	1.0		mg/L	1	10/31/2017 7:08:00 PM
<b>COLOR (PLATINUM-COBALT) - SM 2120B-01,-11</b>						Analyst: <b>KB</b>

**Adirondack Environmental Services, Inc****Date:** 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** MW-4  
**Collection Date:** 10/23/2017 12:38:00 PM  
**Lab Sample ID:** 171024001-004  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>COLOR (PLATINUM-COBALT) - SM 2120B-01,-11</b>						Analyst: <b>KB</b>
Color	<b>8</b>	5		cpu@pH7	1	10/24/2017 12:15:00 PM
<b>HEXAVALENT CHROMIUM - SM3500-CR D</b>						Analyst: <b>CC</b>
Chromium, Hexavalent	<b>ND</b>	0.02		mg/L	1	10/24/2017 10:04:00 AM

**Adirondack Environmental Services, Inc**

Date: 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** MW-5  
**Collection Date:** 10/23/2017 12:00:00 PM  
**Lab Sample ID:** 171024001-005  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE**Analyst: **FLD**

Conductivity (E120.1)	257	1.0		umhos/cm		10/23/2017 12:00:00 PM
eH (Orion)	152.9			mV		10/23/2017 12:00:00 PM
Observation	Turbid, No Odor			NA		10/23/2017 12:00:00 PM
pH (E150.1)	6.6			S.U.		10/23/2017 12:00:00 PM
Static Water Level	48.00			ft		10/23/2017 12:00:00 PM
Temperature (E170.1)	13			deg C		10/23/2017 12:00:00 PM
Turbidity (E180.1)	> 999	1.0		NTU		10/23/2017 12:00:00 PM

**HARDNESS - EPA 200.7 REV 4.4**Analyst: **SM**

( Prep: E200.7 - 10/24/2017 )

Total Hardness (As CaCO3)	147	5		mg/L CaCO3	1	11/2/2017
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**ICP METALS - EPA 200.7 REV 4.4**Analyst: **SM**

( Prep: E200.7 - 10/24/2017 )

Aluminum	3.45	0.100		mg/L	1	11/2/2017 3:43:23 PM
Antimony	ND	0.060		mg/L	1	11/2/2017 3:43:23 PM
Arsenic	ND	0.005		mg/L	1	11/2/2017 3:43:23 PM
Barium	0.078	0.010		mg/L	1	11/2/2017 3:43:23 PM
Beryllium	ND	0.005		mg/L	1	11/2/2017 3:43:23 PM
Boron	ND	0.050		mg/L	1	11/2/2017 3:43:23 PM
Cadmium	ND	0.005		mg/L	1	11/2/2017 3:43:23 PM
Calcium	45.7	0.050		mg/L	1	11/2/2017 3:43:23 PM
Chromium	ND	0.005		mg/L	1	11/2/2017 3:43:23 PM
Copper	0.013	0.005		mg/L	1	11/2/2017 3:43:23 PM
Iron	1.50	0.050		mg/L	1	11/2/2017 3:43:23 PM
Lead	0.009	0.005		mg/L	1	11/2/2017 3:43:23 PM
Magnesium	7.99	0.050		mg/L	1	11/2/2017 3:43:23 PM
Manganese	0.129	0.020		mg/L	1	11/2/2017 3:43:23 PM
Nickel	ND	0.020		mg/L	1	11/2/2017 3:43:23 PM
Potassium	0.819	0.050		mg/L	1	11/2/2017 3:43:23 PM
Selenium	ND	0.005		mg/L	1	11/2/2017 3:43:23 PM
Silver	ND	0.010		mg/L	1	11/2/2017 3:43:23 PM
Sodium	6.88	0.050		mg/L	1	11/2/2017 3:43:23 PM
Thallium	ND	0.010		mg/L	1	11/2/2017 3:43:23 PM
Zinc	0.026	0.010		mg/L	1	11/2/2017 3:43:23 PM

**MERCURY - EPA 245.1 REV 3.0**Analyst: **AVB**

( Prep: E245.1 - 10/24/2017 )

Mercury	ND	0.0002		mg/L	1	10/24/2017 2:29:08 PM
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**Adirondack Environmental Services, Inc**

Date: 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** MW-5  
**Collection Date:** 10/23/2017 12:00:00 PM  
**Lab Sample ID:** 171024001-005  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1**

Analyst: CS

Chloride	3.05	2.00		mg/L	2	10/24/2017 4:02:44 PM
Nitrate, Nitrogen (As N)	0.43	0.04		mg/L	2	10/24/2017 4:02:44 PM
Sulfate	12.5	4.00		mg/L	2	10/24/2017 4:02:44 PM

**VOLATILE ORGANICS - EPA 601/602**

Analyst: SMD

Dichlorodifluoromethane	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
Chloromethane	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
Vinyl chloride	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
Bromomethane	ND	1.0	S	µg/L	1	10/24/2017 8:43:00 PM
Chloroethane	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
Methylene chloride	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
trans-1,2-Dichloroethene	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
cis-1,2-Dichloroethene	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
Chloroform	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
Carbon tetrachloride	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
1,2-Dichloroethane	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
Trichloroethene	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
Tetrachloroethene	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
Chlorobenzene	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
Bromoform	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
Benzene	ND	0.5		µg/L	1	10/24/2017 8:43:00 PM
Toluene	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
Ethylbenzene	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
m,p-Xylene	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM
o-Xylene	ND	1.0		µg/L	1	10/24/2017 8:43:00 PM

**Adirondack Environmental Services, Inc**

Date: 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** MW-5  
**Collection Date:** 10/23/2017 12:00:00 PM  
**Lab Sample ID:** 171024001-005  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>VOLATILE ORGANICS - EPA 601/602</b>						Analyst: <b>SMD</b>
Surr: 4-Bromofluorobenzene	<b>99.8</b>	76.1-125		%REC	1	10/24/2017 8:43:00 PM
<b>ALKALINITY TO PH 4.5 - SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	<b>120</b>	10		mg/L CaCO3	1	11/6/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>CA</b>
Nitrogen, Ammonia (As N)	<b>ND</b>	0.1		mg/L	1	10/27/2017 6:13:00 PM
<b>BOD, 5 DAY, 20°C - SM 5210B-01,-11</b>						Analyst: <b>SH</b>
Biochemical Oxygen Demand	<b>ND</b>	4		mg/L	1	10/25/2017 11:25:00 AM
<b>CHEMICAL OXYGEN DEMAND - EPA 410.4 REV 2.0</b>						Analyst: <b>PL</b>
Chemical Oxygen Demand	<b>11</b>	5		mg/L	1	10/25/2017 12:00:00 PM
<b>CYANIDE, TOTAL - EPA 335.4 REV 1.0</b>						Analyst: <b>KB</b>
( Prep: 9010C - 10/26/2017 )						
Cyanide	<b>ND</b>	0.010		mg/L	1	10/26/2017 1:37:00 PM
<b>PHENOLS, TOTAL - EPA 420.1 REV 1978</b>						Analyst: <b>KB</b>
( Prep: Method - 11/1/2017 )						
Phenolics, Total Recoverable	<b>ND</b>	0.002		mg/L	1	11/8/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>115</b>	5		mg/L	1	10/25/2017
<b>TKN (INCLUDES PREP) - SM 4500 N C-97,-11</b>						Analyst: <b>CA</b>
Nitrogen, Kjeldahl, Total	<b>ND</b>	1.0		mg/L	1	10/31/2017
<b>TOTAL ORGANIC CARBON - SM 5310C-00,-11</b>						Analyst: <b>NK</b>
Total Organic Carbon	<b>ND</b>	1.0		mg/L	1	10/31/2017 7:24:00 PM
<b>COLOR (PLATINUM-COBALT) - SM 2120B-01,-11</b>						Analyst: <b>KB</b>

**Adirondack Environmental Services, Inc****Date:** 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** MW-5  
**Collection Date:** 10/23/2017 12:00:00 PM  
**Lab Sample ID:** 171024001-005  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>COLOR (PLATINUM-COBALT) - SM 2120B-01,-11</b>						Analyst: <b>KB</b>
Color	<b>5</b>	5		cpu@pH7.5	1	10/24/2017 12:15:00 PM
<b>HEXAVALENT CHROMIUM - SM3500-CR D</b>						Analyst: <b>CC</b>
Chromium, Hexavalent	<b>ND</b>	0.02		mg/L	1	10/24/2017 10:04:00 AM

**Adirondack Environmental Services, Inc**

Date: 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** DUP MW-5  
**Collection Date:** 10/23/2017 12:00:00 PM  
**Lab Sample ID:** 171024001-006  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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**FIELD-PH, RES CL2, AND TEMP ARE NOT ELAP CERTIFIABLE**Analyst: **FLD**

Conductivity (E120.1)	256	1.0		umhos/cm		10/23/2017 12:00:00 PM
eH (Orion)	153.4			mV		10/23/2017 12:00:00 PM
Observation	Turbid, No Odor			NA		10/23/2017 12:00:00 PM
pH (E150.1)	6.6			S.U.		10/23/2017 12:00:00 PM
Static Water Level	48.00			ft		10/23/2017 12:00:00 PM
Temperature (E170.1)	13			deg C		10/23/2017 12:00:00 PM
Turbidity (E180.1)	> 999	1.0		NTU		10/23/2017 12:00:00 PM

**HARDNESS - EPA 200.7 REV 4.4**Analyst: **SM**

( Prep: E200.7 - 10/24/2017 )

Total Hardness (As CaCO3)	132	5		mg/L CaCO3	1	11/2/2017
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**ICP METALS - EPA 200.7 REV 4.4**Analyst: **SM**

( Prep: E200.7 - 10/24/2017 )

Aluminum	3.89	0.100		mg/L	1	11/2/2017 3:53:45 PM
Antimony	ND	0.060		mg/L	1	11/2/2017 3:53:45 PM
Arsenic	ND	0.005		mg/L	1	11/2/2017 3:53:45 PM
Barium	0.081	0.010		mg/L	1	11/2/2017 3:53:45 PM
Beryllium	ND	0.005		mg/L	1	11/2/2017 3:53:45 PM
Boron	ND	0.050		mg/L	1	11/2/2017 3:53:45 PM
Cadmium	ND	0.005		mg/L	1	11/2/2017 3:53:45 PM
Calcium	45.2	0.050		mg/L	1	11/2/2017 3:53:45 PM
Chromium	ND	0.005		mg/L	1	11/2/2017 3:53:45 PM
Copper	0.014	0.005		mg/L	1	11/2/2017 3:53:45 PM
Iron	1.90	0.050		mg/L	1	11/2/2017 3:53:45 PM
Lead	0.009	0.005		mg/L	1	11/2/2017 3:53:45 PM
Magnesium	7.92	0.050		mg/L	1	11/2/2017 3:53:45 PM
Manganese	0.142	0.020		mg/L	1	11/2/2017 3:53:45 PM
Nickel	ND	0.020		mg/L	1	11/2/2017 3:53:45 PM
Potassium	0.815	0.050		mg/L	1	11/2/2017 3:53:45 PM
Selenium	ND	0.005		mg/L	1	11/2/2017 3:53:45 PM
Silver	ND	0.010		mg/L	1	11/2/2017 3:53:45 PM
Sodium	6.07	0.050		mg/L	1	11/2/2017 3:53:45 PM
Thallium	ND	0.010		mg/L	1	11/2/2017 3:53:45 PM
Zinc	0.029	0.010		mg/L	1	11/2/2017 3:53:45 PM

**MERCURY - EPA 245.1 REV 3.0**Analyst: **AVB**

( Prep: E245.1 - 10/24/2017 )

Mercury	ND	0.0002		mg/L	1	10/24/2017 2:30:42 PM
---------	----	--------	--	------	---	-----------------------

# Adirondack Environmental Services, Inc

Date: 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** DUP MW-5  
**Collection Date:** 10/23/2017 12:00:00 PM  
**Lab Sample ID:** 171024001-006  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	------	-------	----	---------------

## ANIONS BY ION CHROMATOGRAPHY - EPA 300.0 REV 2.1

Analyst: CS

Chloride	3.04	2.00		mg/L	2	10/24/2017 4:14:50 PM
Nitrate, Nitrogen (As N)	0.44	0.04		mg/L	2	10/24/2017 4:14:50 PM
Sulfate	12.6	4.00		mg/L	2	10/24/2017 4:14:50 PM

## VOLATILE ORGANICS - EPA 601/602

Analyst: SMD

Dichlorodifluoromethane	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
Chloromethane	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
Vinyl chloride	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
Bromomethane	ND	1.0	S	µg/L	1	10/24/2017 9:04:00 PM
Chloroethane	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
Trichlorofluoromethane	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
1,1-Dichloroethene	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
Methylene chloride	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
trans-1,2-Dichloroethene	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
1,1-Dichloroethane	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
cis-1,2-Dichloroethene	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
Chloroform	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
1,1,1-Trichloroethane	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
Carbon tetrachloride	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
1,2-Dichloroethane	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
Trichloroethene	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
Bromodichloromethane	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
1,2-Dichloropropane	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
1,1,2-Trichloroethane	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
Tetrachloroethene	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
Dibromochloromethane	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
Chlorobenzene	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
Bromoform	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
1,3-Dichlorobenzene	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
1,4-Dichlorobenzene	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
1,2-Dichlorobenzene	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
Benzene	ND	0.5		µg/L	1	10/24/2017 9:04:00 PM
Toluene	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
Ethylbenzene	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
m,p-Xylene	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM
o-Xylene	ND	1.0		µg/L	1	10/24/2017 9:04:00 PM

**Adirondack Environmental Services, Inc**

Date: 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** DUP MW-5  
**Collection Date:** 10/23/2017 12:00:00 PM  
**Lab Sample ID:** 171024001-006  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>VOLATILE ORGANICS - EPA 601/602</b>						Analyst: <b>SMD</b>
Surr: 4-Bromofluorobenzene	<b>106</b>	76.1-125		%REC	1	10/24/2017 9:04:00 PM
<b>ALKALINITY TO PH 4.5 - SM 2320B-97,-11</b>						Analyst: <b>CC</b>
Alkalinity, Total (As CaCO3)	<b>110</b>	10		mg/L CaCO3	1	11/6/2017
<b>AMMONIA (NON-DISTILLED) - EPA 350.1 REV 2.0</b>						Analyst: <b>CA</b>
Nitrogen, Ammonia (As N)	<b>ND</b>	0.1		mg/L	1	10/27/2017 6:15:00 PM
<b>BOD, 5 DAY, 20°C - SM 5210B-01,-11</b>						Analyst: <b>SH</b>
Biochemical Oxygen Demand	<b>ND</b>	4		mg/L	1	10/25/2017 11:25:00 AM
<b>CHEMICAL OXYGEN DEMAND - EPA 410.4 REV 2.0</b>						Analyst: <b>PL</b>
Chemical Oxygen Demand	<b>ND</b>	5		mg/L	1	10/25/2017 12:00:00 PM
<b>CYANIDE, TOTAL - EPA 335.4 REV 1.0</b>						Analyst: <b>KB</b>
( Prep: 9010C - 10/26/2017 )						
Cyanide	<b>ND</b>	0.010		mg/L	1	10/26/2017 1:39:00 PM
<b>PHENOLS, TOTAL - EPA 420.1 REV 1978</b>						Analyst: <b>KB</b>
( Prep: Method - 11/1/2017 )						
Phenolics, Total Recoverable	<b>ND</b>	0.002		mg/L	1	11/8/2017
<b>TOTAL DISSOLVED SOLIDS - SM 2540C-97,-11</b>						Analyst: <b>CS</b>
TDS (Residue, Filterable)	<b>135</b>	5		mg/L	1	10/25/2017
<b>TKN (INCLUDES PREP) - SM 4500 N C-97,-11</b>						Analyst: <b>CA</b>
Nitrogen, Kjeldahl, Total	<b>1.1</b>	1.0		mg/L	1	10/31/2017
<b>TOTAL ORGANIC CARBON - SM 5310C-00,-11</b>						Analyst: <b>NK</b>
Total Organic Carbon	<b>ND</b>	1.0		mg/L	1	10/31/2017 7:40:00 PM
<b>COLOR (PLATINUM-COBALT) - SM 2120B-01,-11</b>						Analyst: <b>KB</b>

**Adirondack Environmental Services, Inc****Date:** 09-Nov-17

**CLIENT:** Town of Union Vale  
**Work Order:** 171024001  
**Reference:** Union Vale LF /  
**PO#:**

**Client Sample ID:** DUP MW-5  
**Collection Date:** 10/23/2017 12:00:00 PM  
**Lab Sample ID:** 171024001-006  
**Matrix:** GROUNDWATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>COLOR (PLATINUM-COBALT) - SM 2120B-01,-11</b>						Analyst: <b>KB</b>
Color	<b>5</b>	5		cpu@pH7.5	1	10/24/2017 12:15:00 PM
<b>HEXAVALENT CHROMIUM - SM3500-CR D</b>						Analyst: <b>CC</b>
Chromium, Hexavalent	<b>ND</b>	0.02		mg/L	1	10/24/2017 10:04:00 AM



314 North Pearl Street  
Albany, New York 12207  
518-434-4546 ♦ Fax: 518-434-0891

# CHAIN OF CUSTODY RECORD

AES Work Order#:

171024001

EXPERIENCE IS THE SOLUTION

A full service analytical research laboratory offering solutions to environmental concerns

Client Name: <b>T/O Union Vale</b>		Address:							
Send Report to: <b>Patricia Tompkins</b>		Project Name (Location): <b>Union Vale LF</b>				Samplers Name: <i>Ryan Baisley</i>			
Client Phone No:		PO #:				Samplers Signature: <i>[Signature]</i>			
Client Fax No:									
AES Sample ID	Client Sample ID:	Date Sampled	Time A=am P=pm	Sample Type			# of Cont's	Analysis	
				Matrix	C	G			
001	MW-1	10/23/17	1056	A	GW	G	9	Observation	
002	MW-2		1100	A	GW	G	9	Observation	
003	MW-3		1245	A	GW	G	9	Baseline '89	
004	MW-4		1238	A	GW	G	9	Field: pH, Temp., Spec. Cond.,	
005	MW-5		1200	A	GW	G	9	eH, Turbidity, SWL,	
006	DUP MW-5		1200	A	GW	G	9	Observation	
	Trip Blank Lot# F27.2			A	WA		1	EPA 601/602	
				P					
				A					
				P					
				A					
				P					
				A					
				P					
				A					
				P					
				A					
				P					
Shipment Arrived Via: FedEx UPS Client <u>AES</u> Other: _____		Special Instructions/Remarks: Normal TAT MW-1 Observation <u>Dry</u> MW-2 Observation <u>Dry</u>							
Turnaround Time Requested: 1 Day 3 Day Normal 2 -Day 5 Day									
Relinquished by: (Signature) <i>[Signature]</i>		Received by: (Signature) <i>[Signature]</i>				Date 10/24/17		Time 8:23 Am	
Relinquished by: (Signature)		Received by: (Signature)				Date		Time	
Relinquished by: (Signature)		Received for Laboratory by:				Date		Time	
Sample Temperature Ambient <u>Chilled</u> Chilling Process begun		Properly Preserved <u>Y</u> N				Received Within Holding Times <u>Y</u> N			
Notes: <u>4°C</u>		Notes: _____				Notes: _____			



171024001





**Experience is the solution**

314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891

## TERMS, CONDITIONS & LIMITATIONS

All service rendered by the **Adirondack Environmental Services, Inc.** are undertaken and all rates are based upon the following terms:

- (a) Neither **Adirondack Environmental Services, Inc.**, nor any of its employees, agents or sub-contractors shall be liable for any loss or damage arising out of **Adirondack Environmental Services, Inc.**'s performance or nonperformance, whether by way of negligence or breach of contract, or otherwise, in any amount greater than twice the amount billed to the customer for the work leading to the claim of the customer. Said remedy shall be the sole and exclusive remedy against **Adirondack Environmental Services, Inc.** arising out of its work.
- (b) All claims made must be in writing within forty-five (45) days after delivery of the **Adirondack Environmental Services, Inc.** report regarding said work or such claim shall be deemed or irrevocably waived.
- (c) **Adirondack Environmental Services, Inc.** reports are submitted in writing and are for our customers only. Our customers are considered to be only those entities being billed for our services. Acquisition of an **Adirondack Environmental Services, Inc.** report by other than our customer does not constitute a representation of **Adirondack Environmental Services, Inc.** as to the accuracy of the contents thereof.
- (d) In no event shall **Adirondack Environmental Services, Inc.**, its employees, agents or sub-contractors be responsible for consequential or special damages of any kind or in any amount.
- (e) No deviation from the terms set forth herein shall bind **Adirondack Environmental Services, Inc.** unless in writing and signed by a Director of **Adirondack Environmental Services, Inc.**
- (f) Results pertain only to items analyzed. Information supplied by client is assumed to be correct. This information may be used on reports and in calculations and **Adirondack Environmental Services, Inc.** is not responsible for the accuracy of this information.
- (g) Payments by Credit Card/Purchase Cards are subject to a 3% additional charge.

## **APPENDIX C**

### **Historical Record of Water Quality Monitoring Results**

Town of Union Vale Landfill, Dutchess County - Summary Information

Table 1  
Most Recent Groundwater Exceedences

Parameter	Limit <sup>1</sup>	Well Location				
		MW-1	MW-2	MW-3	MW-4	MW-5
Aluminum	N.S.	Observation Only - Dry	Observation Only - Dry	0.21	0.24	3.45
Iron	0.3 mg/L	"	"	<b>1.81</b>	<b>1.56</b>	<b>1.50</b>
Manganese	0.3 mg/L	"	"	<b>5.19</b>	<b>8.12</b>	0.13
Iron and Manganese	0.5 mg/L	"	"	<b>7.00</b>	<b>9.68</b>	<b>1.63</b>
Sodium	20 mg/L	"	"	<b>37.1</b>	<b>144.0</b>	6.9
Total Dissolved Solids	500 mg/L	"	"	480	<b>700</b>	115

<sup>1</sup> Limit is either a Standard or a Guidance Value per NYSDEC T.O.G.S. 1.1.1.

Well Information:

	Well Location				
	MW-1	MW-2	MW-3	MW-4	MW-5
Depth (Feet):	50	47	42.5	45	50

Note: Wells MW-1 and MW-2 are upgradient of the Union Vale landfill, however they are downgradient of the Old Beekman Landfill and are therefore considered downgradient wells for the purposes of this report.

Town of Union Vale Landfill, Dutchess County - Aluminum (mg/L)

[illegible]

## Summary Statistics

Count	7		8		13		11		13	
Minimum	1.03		0.2		0.100		0.09		0.78	
Maximum	58.1		128		1.380		1.11		71	
Median	6.89		2.775		0.256		0.1		5.67	
Mean	15.0		29.3		0.362		0.2		14.2	
Standard Deviation	20.27		51.00		0.360		0.30		19.08	
90% C.I.	0.96		2.27		0.013		0.01		0.66	
10 <sup>th</sup> Percentile	2.248		0.7159		0.100		0.1		2.808	
90 <sup>th</sup> Percentile	36.74		103.43		0.674		0.41		26.7	

[illegible]

Summary Statistics									
Count	7		8		13		13		13
Minimum	0.015		0.499		0.639		0.049		0.9
Maximum	105		322		9.120		6.59		149
Median	9.57		7.805		2.880		1.02		7.52
Mean	25.8		61.6		3.974		1.6		27.4
Standard Deviation	37.8		114.9		2.913		1.8		41.4
90% C.I.	1.8		5.1		0.102		0.1		1.4
10 <sup>th</sup> Percentile	0.876		1.4447		0.789		0.1216		1.21
90 <sup>th</sup> Percentile	67.56		192.5		8.154		3.522		55.66

[illegible]

Summary Statistics									
Count	7		8		13		13		13
Minimum	0.180		0.239		0.734		4.730		0.081
Maximum	1.860		13.500		11.900		15.100		12.100
Median	0.345		0.761		4.520		8.330		0.431
Mean	0.601		2.760		4.678		8.899		1.874
Standard Deviation	0.601		4.597		3.101		2.821		3.245
90% C.I.	0.029		0.204		0.108		0.098		0.113
10 <sup>th</sup> Percentile	0.233		0.266		0.926		5.738		0.117
90 <sup>th</sup> Percentile	1.274		7.459		7.144		11.920		2.890

[illegible]

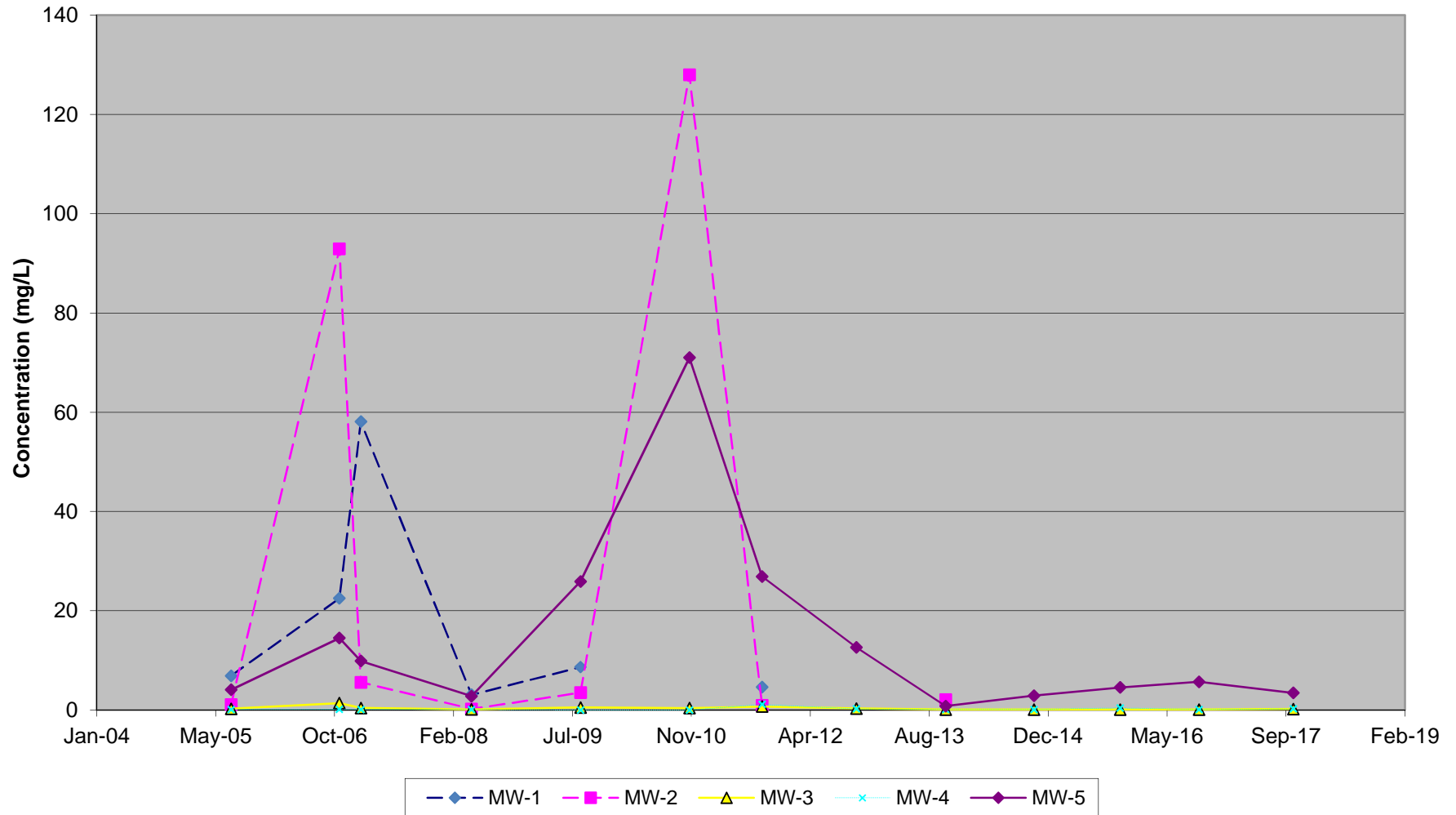
Summary Statistics										
Count	7		8		13		13		13	
Minimum	51.4		10.9		12.3		46.0		2.6	
Maximum	101.0		159.0		44.4		146.0		9.2	
Median	78.5		83.7		26.8		101.0		5.2	
Mean	76.8		82.2		27.8		97.7		5.1	
Standard Deviation	15.6		49.9		9.1		35.9		1.9	
90% C.I.	0.7		2.2		0.3		1.3		0.1	
10 <sup>th</sup> Percentile	59.3		21.8		15.9		52.8		2.8	
90 <sup>th</sup> Percentile	91.5		130.3		37.0		142.6		6.9	

[illegible]

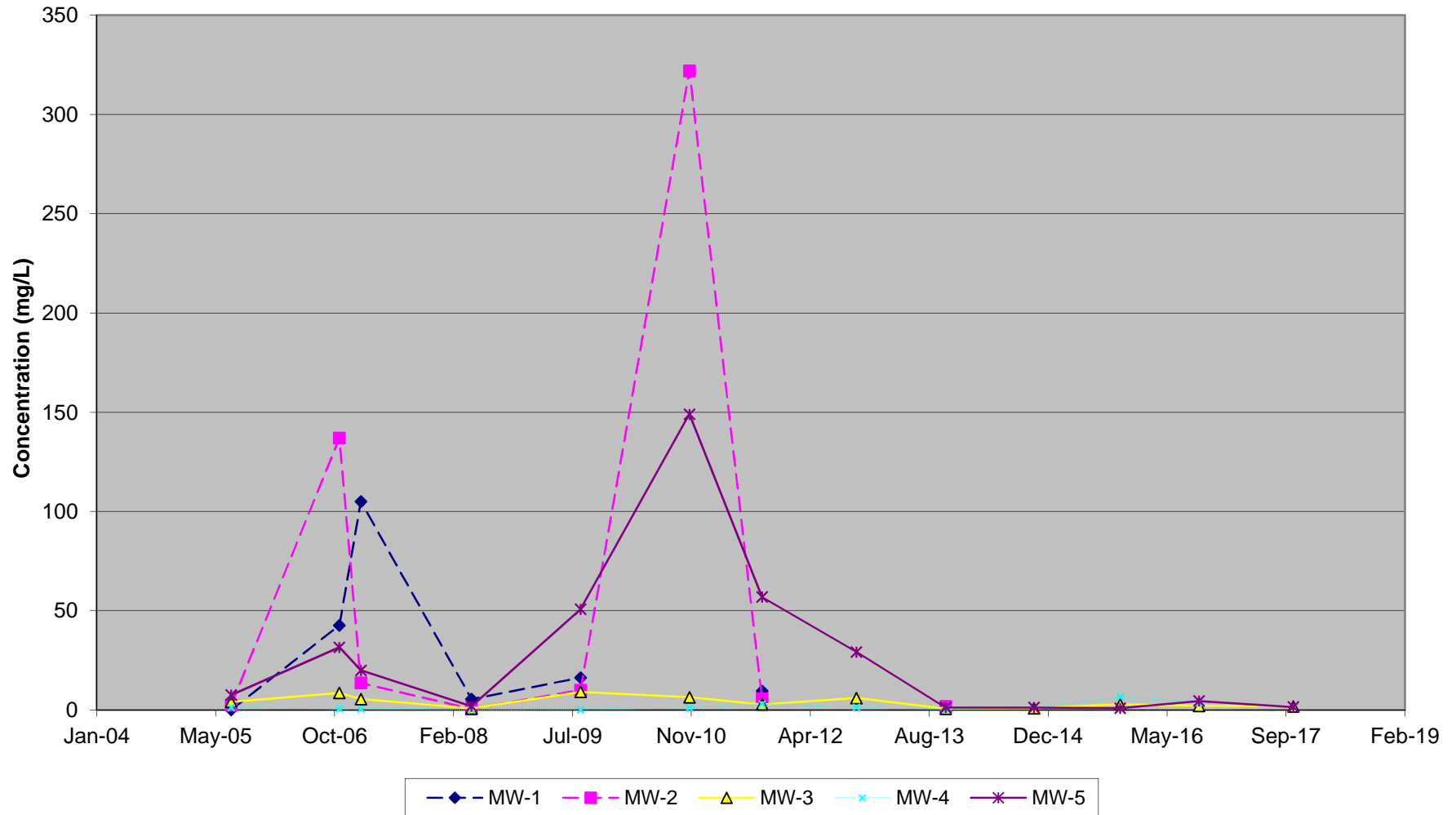
Summary Statistics									
Count	7		8		13		13		13
Minimum	580.0		220.0		82.0		355.0		60.0
Maximum	1340.0		1330.0		690.0		725.0		230.0
Median	955.0		755.0		382.0		575.0		165.0
Mean	959.3		793.1		396.5		569.7		165.2
Standard Deviation	301.8		339.0		146.5		122.0		49.4
90% C.I.	14.3		15.1		5.1		4.3		1.7
10 <sup>th</sup> Percentile	655.0		486.0		285.0		390.4		117.0
90 <sup>th</sup> Percentile	1340.0		1211.0		517.0		708.0		219.0



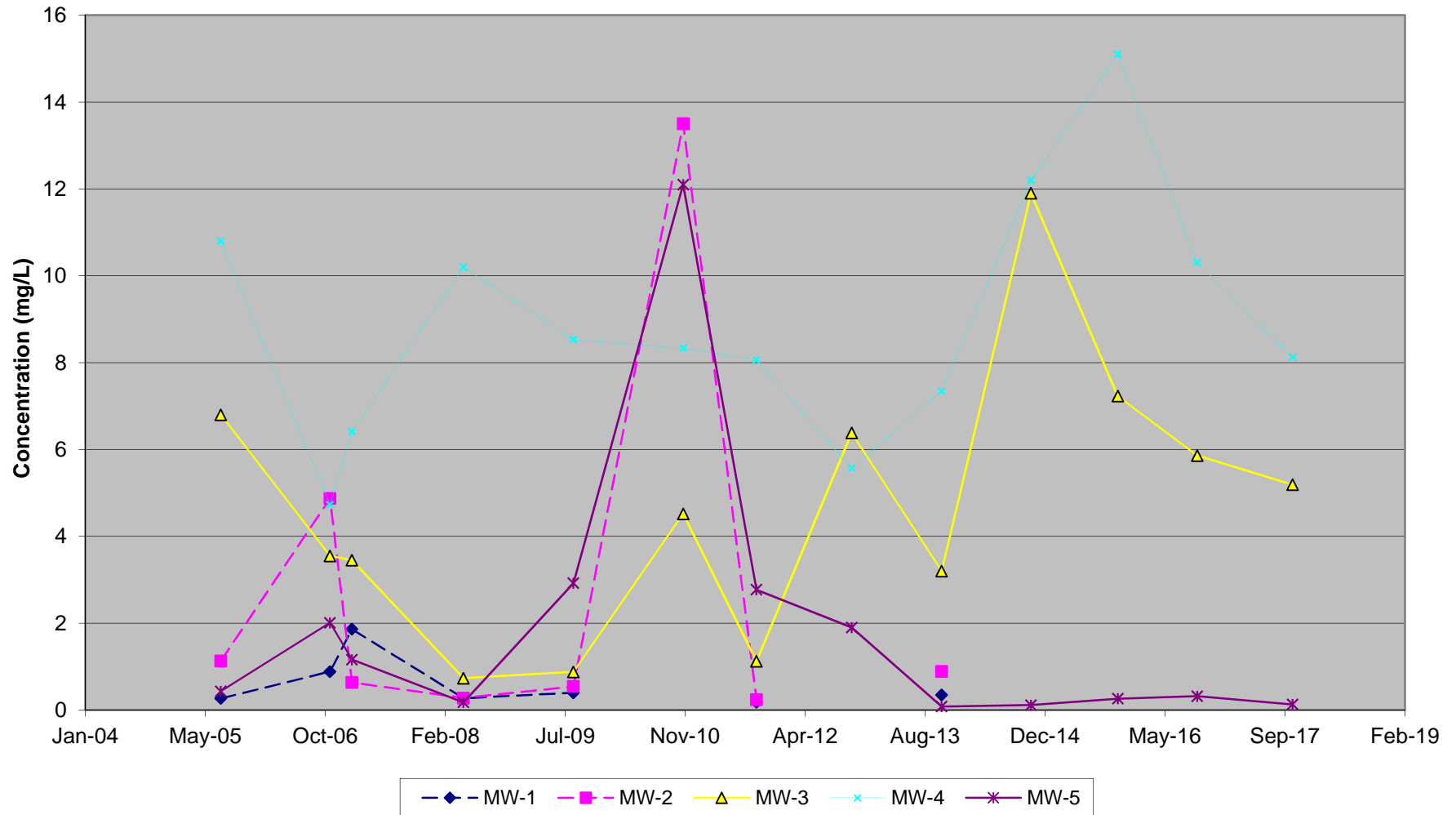
Town of Union Vale Landfill  
Dutchess County  
Aluminum vs. Time



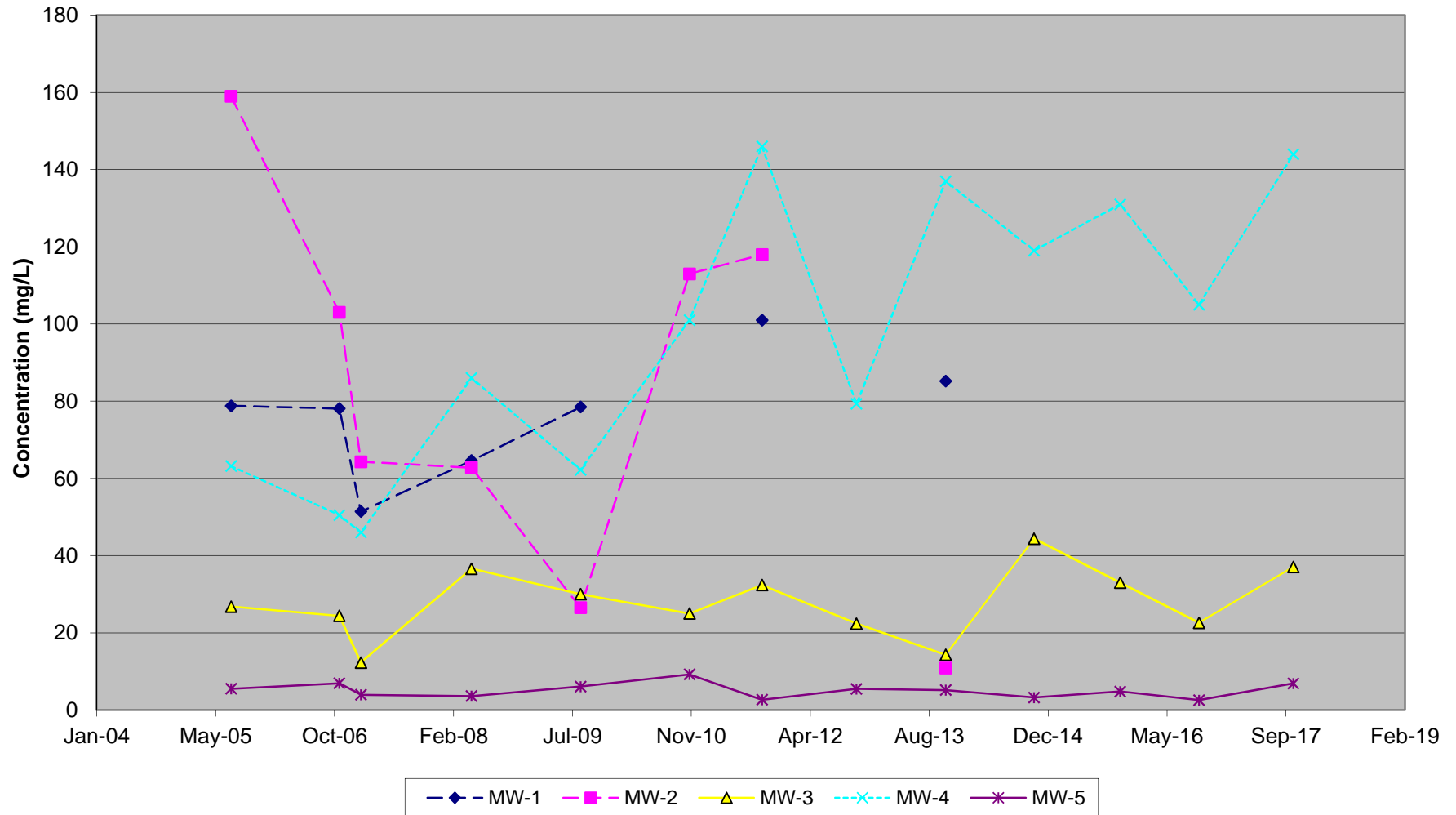
Town of Union Vale Landfill  
Dutchess County  
Iron vs. Time



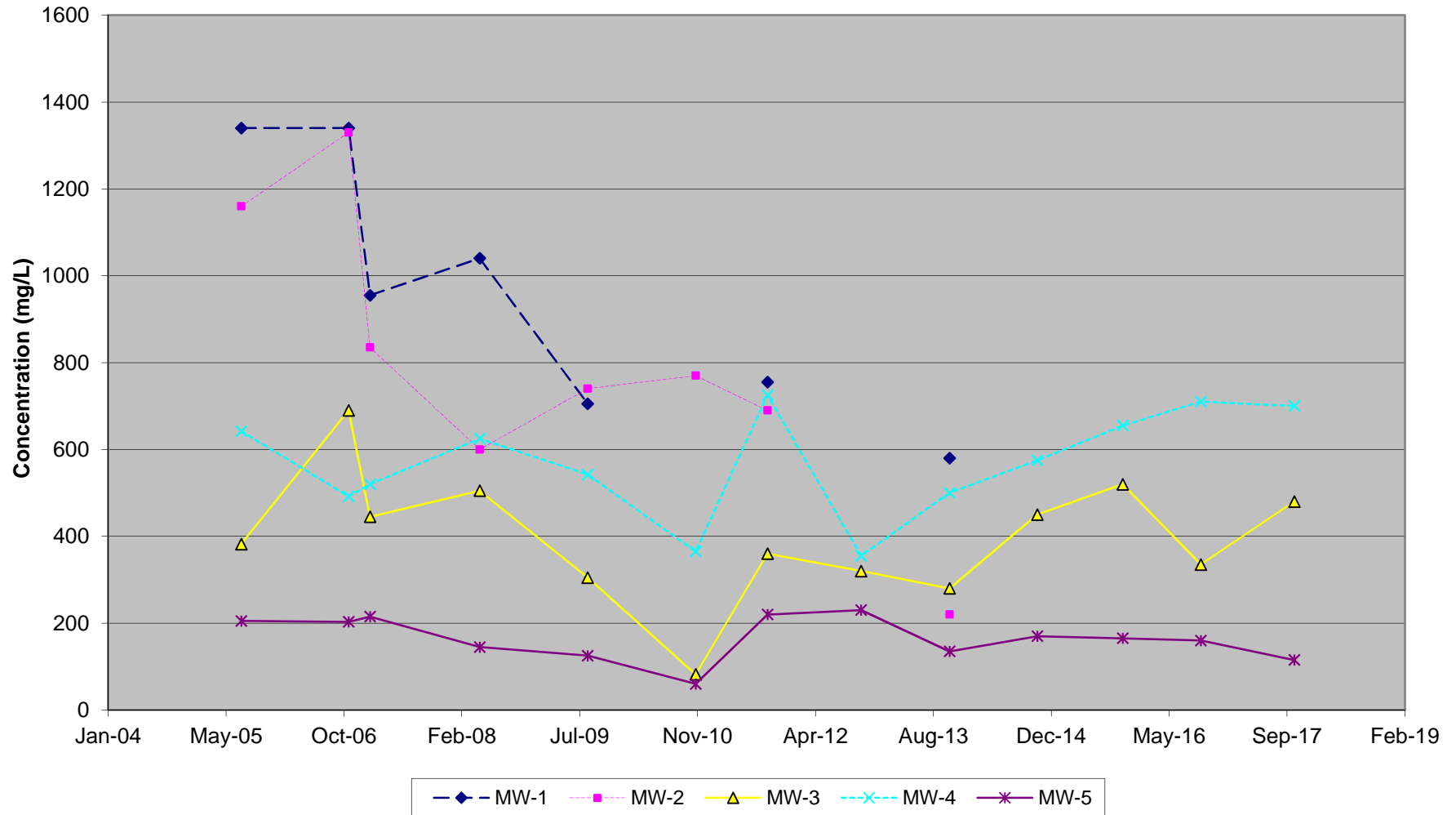
Town of Union Vale Landfill  
Dutchess County  
Manganese vs. Time



Town of Union Vale Landfill  
Dutchess County  
Sodium vs. Time



**Town of Union Vale Landfill  
Dutchess County  
Total Dissolved Solids vs. Time**



## **APPENDIX D**

### **Landfill Gas Monitoring Results**

**TABLE 1**  
**SOIL GAS MONITORING RESULTS FROM TOWN OF UNION VALE LANDFILL 2016 & 2017**

Location	Depth		12/21/2016		6/30/2017		9/26/2017		12/20/2017	
			% LEL		% LEL		% LEL		% LEL	
V-1			11		<1		42		37	
V-2			14		<1		70		28	
V-3			<1		<1		50		16	
V-4			<1		<1		20		<1	
V-5			6		45		>100		67	
V-6			<1		<1		<1		<1	
V-7			32		<1		<1		64	
V-8			9		<1		5		14	
V-9			<1		<1		5		10	
V-10			<1		<1		<1		<1	
V-11			40		40		>100		63	
V-12			<1		10		<1		<1	
V-13			17		50		50		6	

## **APPENDIX E**

### **Landfill Cap Inspections**



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): 1/2/17 to 2/21/18
2. OWNER OF LANDFILL: Town of Unionvale
3. ADDRESS OF LANDFILL: 2006 Route 55  
Unionvale N.Y.
4. LOCATION OF LANDFILL: County: Dutchess Municipality: Unionvale
5. CONTACT PERSON: Name: \_\_\_\_\_ Address: 249 Duncan Rd  
Phone: \_\_\_\_\_ Unionvale NY 12540
6. SIZE OF LANDFILL (Acres): ~~2.5~~
7. PERIOD OF OPERATION (Yr to Yr): \_\_\_\_\_
8. DATE OF COMPLETION OF CLOSURE CONSTRUCTION (mm/yy): \_\_\_\_\_
9. TYPE OF LANDFILL CAP (check one): ☒ Geomembrane \_\_\_\_\_ Clay \_\_\_\_\_ Composite  
\_\_\_\_\_ Other - Specify \_\_\_\_\_
10. LANDFILL GAS MANAGEMENT (Check all that apply): ☒ Passive Venting ☒ ~~Flares~~  
\_\_\_\_\_ Gas Filter \_\_\_\_\_ Gas Collection \_\_\_\_\_ Power Generation \_\_\_\_\_ Other - Specify \_\_\_\_\_
11. LEACHATE MANAGEMENT: Does the landfill have a leachate collection system? Y ☒ N
12. DATE OF CLOSURE CERTIFICATION (mm/dd/yy): \_\_\_\_\_
13. NAME OF CERTIFYING ENGINEER: \_\_\_\_\_

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

14. GRANTED REGULATORY RELIEF VARIANCES (Check all that apply): ☐ 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: Fall 2017

SECTION B - LANDFILL INSPECTION

1. DATE OF LAST INSPECTION (mm/dd/yy): 01/21/17

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

3. Was entire landfill surface and entire landfill perimeter inspected? ☒ 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? ☒ 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 ☒ 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? ☐ Y ☒ N; If yes, describe the nature of the problem and corrective actions taken or planned:

NOTE.  
very minor ponding at few vents but snow melt  
and precip has recently been substantial

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

7. Were odors detected on or in the vicinity of the landfill? \_\_\_ Y ☒ N; If yes, describe the nature of the problem and corrective actions taken or planned:

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

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9. Was damage to the landfill cover system, gas vents, monitoring wells, leachate collection system or other landfill components observed? ☒ Y \_\_\_ N; If yes, describe the nature of the problem and corrective actions taken or planned:

Vent on east end of landfill needs 'Caution' sign refastened.  
 Vent north of recycling center needs new 'Caution' sign  
 Vent east of Maintenance Bldg adjacent to retaining wall needs new 90° elbow.

10. Were there signs of dumping, ruts caused by vehicle tires, camp fires, or other signs of unauthorized public access or encroachment? \_\_\_ Y ☒ N; If yes, describe the nature of the problem and corrective actions taken or planned:

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

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#9 See Sketch for locations.



1 of 3



EWING NEON  
20 ECH 44  
LAWSON  
ENTING  
GASES  
CAUTION

2018/02/21 15:14



2 of 3



2018/02/21 15:37



3 of 3



2018/02/21 15:44



N/F  
PDFT Realty Inc  
L 22005, P. 5048  
135400-8880-00-500162  
F.M. #11718  
LOT ONE

gas vent  
90° Elbow should  
be replaced

New Caution sign  
should ~~be~~ fastened to  
vent

Caution Sign  
Should be reset  
at vent

Covered w/ barrel

Notes made Post Monitor  
Inspection  
2/21/18

CURVE TABLE			CHORD LENGTH
CURVE CI	RAIUS 215.0	CHORD S 80° 49' 01" W 208.0	
L1	S 18° 41' 58" E	410.57	
L2	S 30° 11' 58" E	560.39	
L3	S 45° 38' 59" E	127.55	
L4	S 57° 58' 18" W	127.55	
L5	N 06° 26' 51" W	168.51	
L6	N 07° 53' 59" W	143.89	
L7	N 08° 31' 59" W	143.89	
L8	N 07° 43' 59" W	256.38	
L9	N 08° 18' 59" W	228.43	
L10	S 45° 38' 04" E	228.43	
L11	S 04° 55' 58" W	382.07	
L12	S 20° 00' 00" W	382.07	
L13	N 04° 18' 58" W	65.18	
L14	S 18° 41' 58" W	275.14	
L15	S 18° 41' 58" W	275.14	
L16	S 07° 41' 05" W	136.43	
L17	S 45° 38' 58" W	136.43	
L18	S 28° 24' 49" W	35.43	
L19	N 08° 32' 58" W	150.58	
L20	N 08° 32' 58" W	150.58	
L21	N 81° 58' 10" E	8.95	
L22	N 39° 58' 58" E	8.95	
L23	N 08° 41' 15" E	21.77	
L24	S 34° 08' 55" E	81.58	
L25	N 11° 37' 15" E	15.43	
L26	N 00° 27' 18" E	12.76	
L27	S 25° 55' 38" W	21.74	
L28	S 28° 18' 58" E	12.76	
L29	S 6° 18' 58" E	186.27	
L30	N 08° 18' 58" W	208.00	
L31	S 34° 13' 58" W	230.51	
L32	S 30° 10' 39" E	82.00	
L33	S 45° 38' 58" W	6.27	



RESTRICTED PROPERTY #1  
TOWN OF UNION VALE PARCEL  
(TAX PARCEL 6660-00-544087)

ALL that certain parcel of land situate in the Town of Union Vale, County of Dutchess and State of New York and is more particularly described as follows:

BEGINNING at a point, said point being the southwest corner of Lands to be Retained by the Town of Union Vale as shown on a map entitled "Survey Map Prepared for Town of Union Vale" and filed in the Outdutch County Clerk's Office as PM #10733; thence running westerly along the southerly bounds of said Lands to be Retained by the Town of Union Vale as shown on said filed map South 79° 53' 48" West 322.38 feet to a point located on the easterly bounds of the lands now or formerly, of Andrews (Deed Liber 1267, Page 147); thence northerly along the easterly bounds of said Andrews the following five (5) courses:

1. North 09° 28' 57" West 169.51 feet,
2. North 08° 53' 57" West 143.89 feet,
3. North 08° 33' 57" West 275.21 feet,
4. North 07° 43' 57" West 256.26 and

to a point; thence running southerly the following three (3) courses:

1. South 18° 41' 58" East 410.67 feet,
2. South 26° 11' 57" East 580.20 feet and
3. South 45° 38' 57" East 127.55 feet

to the point or place of BEGINNING. Containing 3.080 acres of land, more or less.

RESTRICTED PROPERTY #2  
TOWN OF UNION VALE PARCEL  
05A1000000 0000 00 00000000

ALL that certain parcel of land situate in the Town of Union Vale, County of Dutchess and State of New York and is more particularly described as follows:

BEGINNING at the point, said point also being the southeast corner of Lot 3 as shown on a map entitled "Survey Map Prepared for Town of Union Vale" and filed in the Dutchess County Clerk's Office as FM

- #10739, once running southerly along the southerly boundary of said Lot 3 South 64° 55' 58" East 362.07 feet and South 25° 04' 02" East 100.00 feet to a point, from said point southerly along the southerly boundary of Fire No. 1 (hereinafter referred to as "Fire No. 1") (Dated Liber 2018, Page 309) then running westerly along the northerly boundary of said Fire No. 18° 18' 58" East 58.18 feet to a point located on the eastern boundary of the Land, from said point southerly along the southerly boundary of said Fire No. 1 running northerly along the easterly line of said Andrews North 09° 28' 57" West 275.14 feet to a point, then running easterly along the northerly boundary of the herein described parcel North 78° 53' 48" East 322.30 feet to a point, thence South 45° 33' 04" East 260.00 feet to the corner or place of BEGINNING. Containing 2.042 acres of land, more or less.

RESTRICTED PROPERTY #3  
POWER PLAY CAFE, INC.  
(TAX PARCEL 6660-00-586031)

ALL that certain parcel of land situate in the Town of Union Vale, County of Dutchess and State of New York and is more particularly described as follows:

1. South 47° 33' 13" West 230.01 feet,
2. South 30° 10' 27" East 82.00 feet and
3. South 24° 46' 37" West 6.27 feet

to a point on dividing line of the Town of Union Vale to the north and the Town of Beekman to the south; thence westerly along said dividing line North 62° 18' 58" West 196.27 feet to a point being the southeast corner of the lands, now or formerly, of Town of Union Vale (Deed Liber 1039, Page 629); thence running northerly along said Town of Union Vale North 25° 04' 02" West 48.24 feet and North 64° 55' 58" East 382.07 feet to the point or place of BEGINNING. Containing 0.556 acres of land, more or less.

RESTRICTED PROPERTY #4  
FINNE/MULLER  
(TAX PARCEL 8559-00-800992)

ALL that certain parcel of land situate in the Town of Beekman, County of Dutchess and State of New York and is more particularly described as follows:

- BEGINNING at a point on the southerly bounds of the lands, now or formerly, of the State of New York, (See 402 of 2014) 28421, said point also be located from  
 28°19'52" West 431.26 feet from the southeast corner of said Power Play Cals, Inc. and the northeast corner of the lands, now or formerly, of Finesse (Liber 18 of Page 309); thence southerly through the lands of said Finesse the following angle (8, courses):
1. South 23° 55' 38" East 21.74 feet
  2. South 00° 27' 19" West 12.78 feet
  3. South 11° 31' 15" West 76.53 feet
  4. South 54° 08' 55" West 81.58 feet
  5. South 19° 48' 15" West 21.77 feet
  6. South 39° 54' 23" West 80.60 feet
  7. South 63° 59' 10" West 12.53 feet
  8. South 83° 14' 30" West 122.68 feet

to a point located on the easterly bounds of the lands, now or formerly, of Andrew (Deed Liber 1264, Page 702); thence northerly along said easterly bounds of Andrews North 09°32'58" West 235.01 feet to a point located on the southerly bounds of the lands, now or formerly, of Town of Union Vale (Deed Liber 1039, Page 538); thence easterly along said bounds North 82° 18' 58" West 265.45 feet

to the point or place of BEGINNING. Containing 1.053 of land, more or less.

MAINTENANCE EASEMENT  
(TAX PARCEL 6659-00-600982)

ALL that certain parcel of land situate in the Town of Beekman, County of Dutchess and State of New York and is more particularly described as follows:

- BEGINNING** at a point on the southerly bounds of the lands, now or formerly owned by Power Play Golf, Inc. (Doc #02 2014 2883), said point, also being located North  $42^{\circ}15'55''$  West  $272.95$  feet from the southeast corner of the lands of said Power Play Golf, Inc. and the northeast corner of the lands, now or formerly, of Fines (Deed Ltr 2018, Page 309), thence continuing through the lands of said Fines the following four (4) courses:
1. South  $07^{\circ}41'12''$  West  $136.45$  feet.
  2. South  $43^{\circ}58'58''$  West  $183.34$  feet.
  3. South  $46^{\circ}27'47''$  East  $32.43$  feet and
  4. Along a curve to the right, having a radius of  $208.45$  feet and a length of  $219.02$  feet, a chord bearing South  $80^{\circ}49'01''$  West feet with a length of  $209.08$  feet.

to a point located on the easterly bounds of the lands, now or formerly, of Andrews (Deed Liber 1264, Page 702); thence northerly along said easterly bounds of Andrews North 09°32'58" West 152.55 feet to a point; thence continuing through the aforementioned Finne the following eight (8) courses:

1. North 83° 14' 30" East 122.68 feet.
2. North 63° 59' 10" East 12.13 feet.
3. North 39° 34' 23" East 9.99 feet.
4. North 18° 48' 15" East 21.77 feet.
5. North 54° 08' 55" East 81.58 feet.
6. North 31° 31' 45" East 76.53 feet.
7. North 00° 27' 18" East 12.76 feet and

to a point located on the southerly bounds of the aforementioned Power Play Cate, Inc.; thence easterly along said bounds South 82°18'56" East 158.31 feet

to the point or place of BEGINNING. Containing 1.750 of land, more or less.

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