

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 9  
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## MEMORANDUM

**TO:** Chad Staniszewski, Regional Engineer  2019.09.24 15:24:12 -04'00'

**FROM:** Benjamin McPherson, Project Manager 

**DATE:** September 19, 2019

**SUBJECT:** ETE Sanitation and Landfill, #961005  
Gainesville, Wyoming County  
Reduction in Groundwater Monitoring

Digitally signed by Benjamin McPherson  
DN: cn=Benjamin McPherson, o=Department of  
Environmental Conservation, ou=Division of  
Environmental Remediation,  
email=benjamin.mcpherson@dec.ny.gov, c=US  
Date: 2019.09.19 14:36:52 -04'00'

The ETE Sanitation and Landfill site was a privately-operated landfill that ceased operation in 1979. Chlorinated solvents were discovered within the landfill, and the site was subsequently remediated under State Superfund and closed to meet 6 NYCRR Part 360 landfill cap requirements. Closure of the landfill was substantially complete in 2007, with some limited repair to the landfill cap completed in 2008.

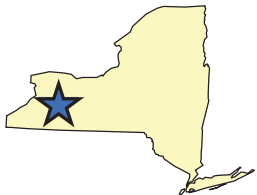
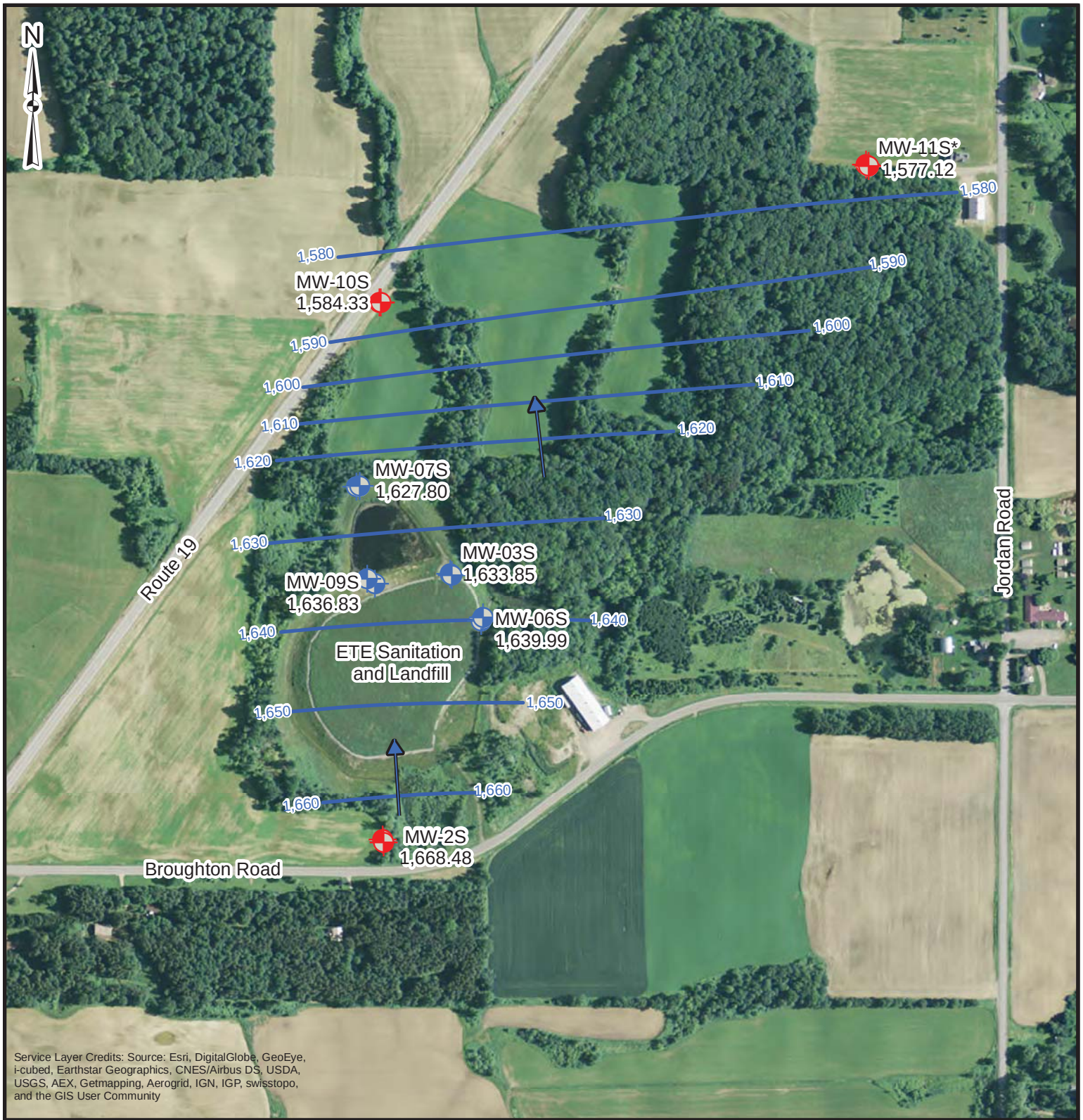
The 2008 Operations and Maintenance Plan (CDM Smith) and subsequent 2015 Site Management Plan (EA Science and Technology) included annual groundwater monitoring for VOCs, SVOCs, metals, and leachate parameters. Post construction groundwater monitoring only occurred in 2014 and 2018. Groundwater results from both of these events, documented that wells downgradient from the landfill meet groundwater quality standards for all compounds except some naturally occurring metals (iron, magnesium, manganese, and sodium). Note that the 2018 event also included emerging contaminants but did not analyze for the leachate parameters.

Considering that site contaminants of concern have not been detected in downgradient wells since post-closure, the frequency of groundwater monitoring required per the 2015 SMP will be reduced to biennial with analysis of VOCs and metals only (reflective of the contaminants of concern at the site). This reduction in monitoring will still allow DER to determine if the remedy remains protective of public health and the environment.

In addition, the site will be inspected annually per the 2015 Site Management Plan and a periodic review report will be completed triennially.

### Attachments:

site figures [2], 2014 Groundwater Results, 2018 Groundwater Results



Offsite Groundwater  
Monitoring Well



Onsite Groundwater  
Monitoring Well

— Inferred Groundwater Contour (ft AMSL)

➔ Groundwater Flow Direction

\* MW-11S Gauged in January 2015

1 in = 500 feet

0 250 500 1,000 Feet



Department of  
Environmental  
Conservation

ETE SANITATION AND LANDFILL  
(SITE NO. 961005)  
GAINESVILLE, NEW YORK

FIGURE 4  
SHALLOW GROUNDWATER  
CONTOURS (DECEMBER 2014)

PROJECT MGR:  
CJS

DESIGNED BY:  
CJS

CREATED BY:  
ALK

CHECKED BY:  
CJS

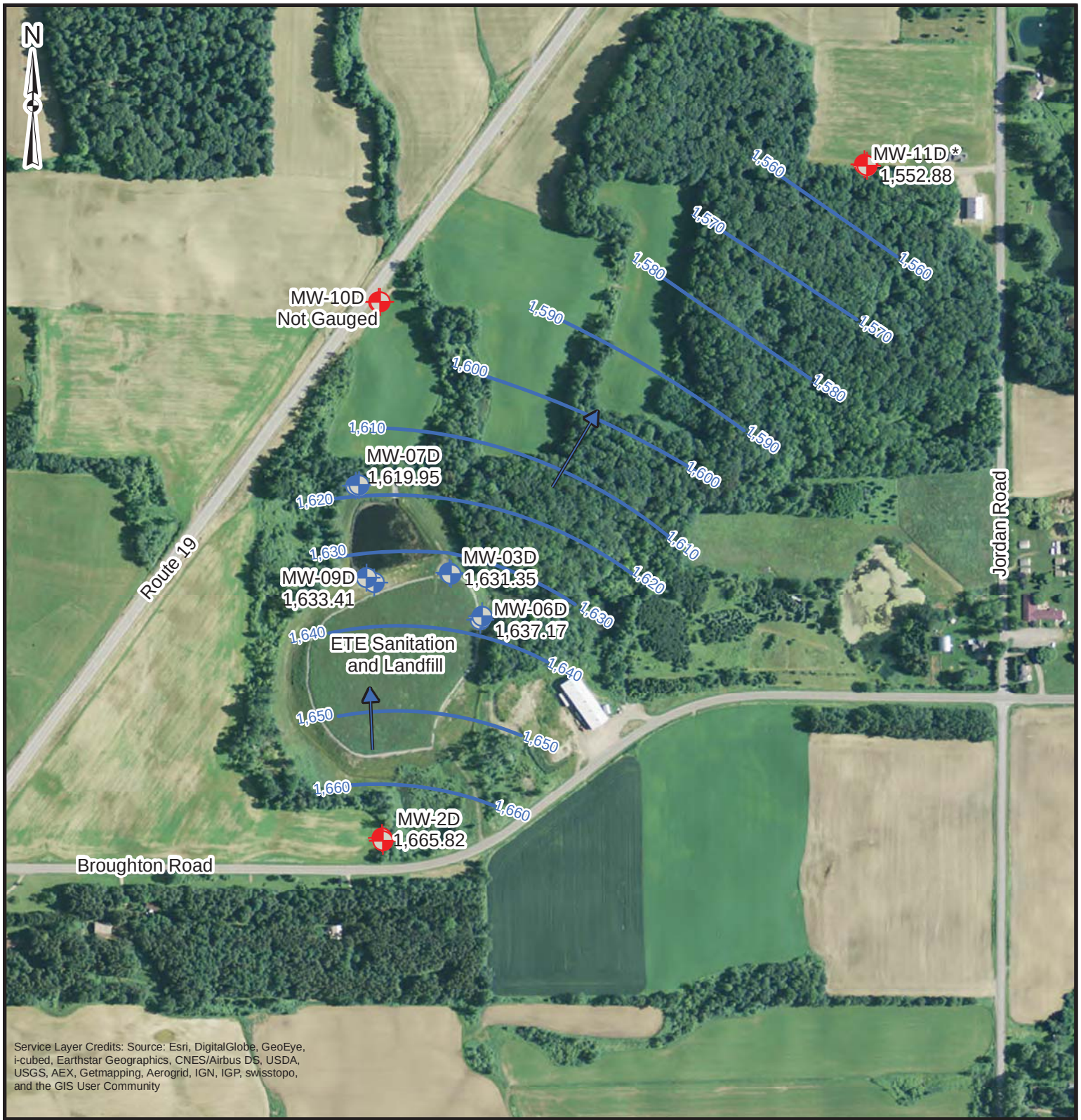
SCALE:  
AS SHOWN

DATE:  
NOVEMBER 2015

PROJECT NO:  
14907.27

FILE NO:  
GIS\FIGURES\14907.27  
ETE\GIS\MXDs





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Offsite Groundwater Monitoring Well



Onsite Groundwater Monitoring Well



Inferred Groundwater Contour (ft AMSL)



Groundwater Flow Direction

\* MW-11D Gauged in January 2015

1 in = 500 feet



Department of Environmental Conservation

ETE SANITATION AND LANDFILL  
(SITE NO. 961005)  
GAINESVILLE, NEW YORK

FIGURE 5  
DEEP GROUNDWATER  
CONTOURS (DECEMBER 2014)

PROJECT MGR:  
CJS

DESIGNED BY:  
CJS

CREATED BY:  
ALK

CHECKED BY:  
CJS

SCALE:  
AS SHOWN

DATE:  
NOVEMBER 2015

PROJECT NO:  
14907.27

FILE NO:  
GIS\FIGURES\14907.27  
ETE\GIS\MXD

Table 8 Summary of Groundwater Analytical Results Inorganic Compounds

| Parameters List<br>USEPA Method 8260B                                                                                        | MW ID       | MW-02D      | MW-03S      | MW-03D      | MW-06S      | MW-06D      | MW-07S      | MW-07D      | NYSDEC AWQS<br>(µg/L) |
|------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|
|                                                                                                                              | Lab ID      | N2474-12    | N2474-01    | N2474-02    | N2474-05    | N2474-06    | N2474-08    | N2474-09    |                       |
|                                                                                                                              | Sample Type | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |                       |
|                                                                                                                              | Sample Date | 12/29/2014  | 12/30/2014  | 12/30/2014  | 12/30/2014  | 12/30/2014  | 12/29/2014  | 12/29/2014  |                       |
| Acetone                                                                                                                      | µg/L        | U           | <2.2        | U           | <2.2        | U           | <2.2        | U           | 50 (g)                |
| cis-1,2- Dichloroethene                                                                                                      | (µg/L)      | <0.48       | U           | <0.48       | U           | <0.48       | U           | <0.48       | 5 (s)                 |
| Trichloroethene                                                                                                              | (µg/L)      | <0.36       | U           | <0.36       | U           | <0.36       | U           | <0.36       | 5 (s)                 |
| Vinyl chloride                                                                                                               | (µg/L)      | <0.50       | U           | 2.0         | U           | <0.50       | U           | <0.50       | 2 (s)                 |
| Parameters List<br>USEPA Method 8260B                                                                                        | MW ID       | MW-09S      | MW-09D      | MW-10S      | MW-11S      | MW-11D      | DUPLICATE   | RINSE BLANK | NYSDEC AWQS<br>(µg/L) |
|                                                                                                                              | Lab ID      | N2474-03    | N2474-04    | N2474-13    | P0007-01A   | P0007-02A   | N2474-07    | N2474-11    |                       |
|                                                                                                                              | Sample Type | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |             |                       |
|                                                                                                                              | Sample Date | 12/30/2014  | 12/30/2014  | 12/29/2014  | 1/5/2015    | 1/5/2015    | 12/30/2014  | 12/29/2014  |                       |
| Acetone                                                                                                                      | (µg/L)      | <2.2        | U           | <2.2        | U           | <2.2        | U           | 4.9         | 50 (g)                |
| cis-1,2- Dichloroethene                                                                                                      | (µg/L)      | <0.48       | U           | <0.48       | U           | <0.48       | U           | <0.48       | 5 (s)                 |
| Trichloroethene                                                                                                              | (µg/L)      | <0.36       | U           | <0.36       | U           | <0.36       | U           | <0.36       | 5 (s)                 |
| Vinyl chloride                                                                                                               | (µg/L)      | <0.50       | U           | <0.50       | U           | <0.50       | U           | <0.50       | 2 (s)                 |
| NOTE: NYSDEC = New York State Department of Environmental Conservation                                                       |             |             |             |             |             |             |             |             |                       |
| AWQS = Ambient Water Quality Standard                                                                                        |             |             |             |             |             |             |             |             |                       |
| µg/L = Micrograms per liter                                                                                                  |             |             |             |             |             |             |             |             |                       |
| J = Analyte detected below the practical quantification limit (PQL)                                                          |             |             |             |             |             |             |             |             |                       |
| U = Analyte was analyzed for, but not detected above the associated method detection limit.                                  |             |             |             |             |             |             |             |             |                       |
| (g) = guidance value                                                                                                         |             |             |             |             |             |             |             |             |                       |
| (s) = standard                                                                                                               |             |             |             |             |             |             |             |             |                       |
| Analytical data results provided by Spectrum Analytical. Validation services are provided by Meridian Consultant Group, Inc. |             |             |             |             |             |             |             |             |                       |
| Bold values indicate that the analyte was detected greater than the NYSDEC Ambient Water Quality Standards.                  |             |             |             |             |             |             |             |             |                       |
| DUPLICATE sample was collected at MW-03D.                                                                                    |             |             |             |             |             |             |             |             |                       |

Table 8 Summary of Groundwater Analytical Results Inorganic Compounds

| Parameters List<br>USEPA Method 8270C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | MW ID                                         | MW-02D      | MW-03S      | MW-03D      | MW-06S      | MW-06D      | MW-07S      | MW-07D      | NYSDEC AWQS<br>(µg/L) |       |       |   |       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------------------|-------|-------|---|-------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Lab ID                                        | N2474-12    | N2474-01    | N2474-02    | N2474-05    | N2474-06    | N2474-08    | N2474-09    |                       |       |       |   |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Sample Type                                   | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |                       |       |       |   |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Sample Date                                   | 12/29/2014  | 12/30/2014  | 12/30/2014  | 12/30/2014  | 12/30/2014  | 12/29/2014  | 12/29/2014  |                       |       |       |   |       |
| Parameters List<br>USEPA Method 8270C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4- Methylphenol<br>Bis(2-ethylhexyl)phthalate | µg/L        | 4.2         | J           | U           | <1.4        | U           | <1.4        | U                     | 1 (6) |       |   |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                               | (µg/L)      | 1.3         | J           | U           | <1.3        | U           | <1.3        | U                     | 5 (6) |       |   |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                               |             |             |             |             |             |             |             |                       |       |       |   |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                               |             |             |             |             |             |             |             |                       |       |       |   |       |
| Parameters List<br>USEPA Method 8270C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | MW ID                                         | MW-09S      | MW-09D      | MW-10S      | MW-11S      | MW-11D      | DUPLICATE   |             | NYSDEC AWQS<br>(µg/L) |       |       |   |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Lab ID                                        | N2474-03    | N2474-04    | N2474-13    | P0007-01A   | P0007-02A   | N2474-11    |             |                       |       |       |   |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Sample Type                                   | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |             |                       |       |       |   |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Sample Date                                   | 12/30/2014  | 12/30/2014  | 12/29/2014  | 1/5/2015    | 1/5/2015    | 12/30/2014  |             |                       |       |       |   |       |
| Parameters List<br>USEPA Method 8270C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4- Methylphenol<br>Bis(2-ethylhexyl)phthalate | µg/L        | <1.4        | U           | <1.4        | U           | <1.4        | U           | <1.4                  | U     | 1 (6) |   |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                               | (µg/L)      | <1.3        | U           | <1.3        | U           | 2           | J           | <1.3                  | U     | <1.3  | U | 5 (6) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                               |             |             |             |             |             |             |             |                       |       |       |   |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                               |             |             |             |             |             |             |             |                       |       |       |   |       |
| NOTE: NYSDEC = New York State Department of Environmental Conservation<br>AWQS = Ambient Water Quality Standard<br>µg/L = Micrograms per liter<br>J = Analyte detected below the practical quantification limit (PQL).<br>U = Analyte was analyzed for, but not detected above the associated method detection limit.<br>(g) = NYSDEC Ambient Water Quality Standards guidance value<br>(s) = NYSDEC Ambient Water Quality Standards standard value<br>Analytical data results provided by Spectrum Analytical. Validation services are provided by Meridian Consultant Group, Inc.<br><b>Bold</b> values indicate that the analyte was detected greater than the NYSDEC Ambient Water Quality Standards.<br>DUPLICATE sample was collected at MW-03D. |                                               |             |             |             |             |             |             |             |                       |       |       |   |       |



Table 8 Summary Of Groundwater Analytical Results Inorganic Compounds

| Parameters List<br>USEPA Method 6010 / 7470                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | MW-02D      |            | MW-03S      |            | MW-03D      |            | MW-06S      |            | MW-06D      |            | MW-07S      |            | MW-07D      |            | NYSDEC AWQS<br>(µg/L) |            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-----------------------|------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | MW-02D      |            | MW-03S      |            | MW-03D      |            | MW-06S      |            | MW-06D      |            | MW-07S      |            | MW-07D      |            |                       |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Lab ID      | N2474-12   | Groundwater | N2474-01   | Groundwater | N2474-02   | Groundwater | N2474-05   | Groundwater | N2474-06   | Groundwater | N2474-08   | Groundwater | N2474-09   |                       |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Sample Date | 12/29/2014 | 12/30/2014  | 12/30/2014 | 12/30/2014  | 12/30/2014 | 12/30/2014  | 12/30/2014 | 12/30/2014  | 12/30/2014 | 12/30/2014  | 12/29/2014 | 12/29/2014  | 12/29/2014 |                       |            |
| Aluminum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | µg/L        | 498        | U           | 170        | J           | 163        | J           | (-66)      | U           | 4,830      | U           | 2,270      | U           | 189        | J                     | ---        |
| Arsenic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | µg/L        | (-5.6)     | U           | (-4.3)     | U           | (-8.8)     | U           | (-4.3)     | U           | (-4.3)     | U           | (-4.3)     | U           | (-4.3)     | U                     | ---        |
| Barium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | µg/L        | 163        | J           | 112        | J           | 600        | J           | 34.6       | J           | 236        | U           | 26.0       | J           | 1,940      | J                     | 1,000 (s)  |
| Beryllium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | µg/L        | (-0.26)    | U           | (-0.26)    | U           | (-0.26)    | U           | (-0.26)    | U           | 0.26       | J           | (-0.26)    | U           | (-0.26)    | U                     | 3 (g)      |
| Cadmium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | µg/L        | (-0.89)    | U           | (-0.89)    | U           | (-0.89)    | U           | (-0.89)    | U           | (-0.89)    | U           | (-0.89)    | U           | (-0.89)    | U                     | 5 (s)      |
| Calcium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | µg/L        | 141,000    |             | 124,000    |             | 132,000    | J           | 192,000    |             | 67,900     |             | 47,200     |             | 195,000    | J                     | ---        |
| Chromium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | µg/L        | 52.7       |             | 125        |             | 4.7        | J           | 3.4        | J           | 13.4       | J           | 6.5        | J           | 6.1        | J                     | 50 (s)     |
| Cobalt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | µg/L        | 0.8        | J           | 14.2       | J           | (-0.67)    | U           | 1.6        | J           | 3.8        | J           | 1.4        | J           | (-0.67)    | U                     | ---        |
| Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | µg/L        | 18.3       | J           | 15.4       | J           | (-3.6)     | U           | 4.3        | J           | 11.7       | J           | 14.3       | J           | 6.3        | J                     | 200 (s)    |
| Iron                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | µg/L        | 4,040      |             | 1,160      |             | 6,950      | J           | 756        |             | 11,100     |             | 3,610      |             | 3,180      |                       | 300 (s)    |
| Magnesium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | µg/L        | 34,500     |             | 15,900     |             | 26,500     | J           | 26,600     |             | 19,200     |             | 5,190      |             | 46,400     |                       | 35,000 (g) |
| Manganese                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | µg/L        | 144        |             | 5,660      |             | 71.7       | J           | 1,570      |             | 197        |             | 32.7       | J           | 116        |                       | 300 (s)    |
| Mercury                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | µg/L        | (-0.028)   | U           | (-0.17)    | U           | (-0.16)    | U           | (-0.028)   | U           | (-0.028)   | U           | (-0.032)   | U           | (-0.028)   | U                     | 0.7 (s)    |
| Nickel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | µg/L        | 30.9       | J           | 83.3       | J           | 3.1        | J           | 3.0        | J           | 12.4       | J           | 6.1        | J           | 6.0        | J                     | 100 (s)    |
| Potassium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | µg/L        | 1,750      |             | 4,430      |             | 5,780      | J           | 2,450      |             | 2,170      |             | 1,770      |             | 4,340      |                       | ---        |
| Selenium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | µg/L        | (-12)      | U           | (-12)      | U           | (-12)      | U           | (-12)      | U           | (-12)      | U           | (-12)      | U           | (-12)      | U                     | 10 (s)     |
| Sodium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | µg/L        | 19,500     |             | 16,300     |             | 170,000    | J           | 8,090      |             | 6,440      |             | 41,800     |             | 1,910,000  |                       | 20,000 (s) |
| Thallium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | µg/L        | (-6.2)     | U           | 7.2        | J           | (-6.2)     | U           | (-6.2)     | U           | (-6.2)     | U           | (-6.2)     | U           | (-6.2)     | U                     | 0.5 (g)    |
| Vanadium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | µg/L        | (-1.1)     | U           | 1.2        | J           | (-1.1)     | U           | (-1.1)     | U           | 8.6        | J           | 3.5        | J           | (-1.1)     | U                     | ---        |
| Zinc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | µg/L        | 112        | J+          | (-27.8)    | U           | (-45.5)    | U           | (-36.6)    | U           | (-44.9)    | U           | (-30)      | U           | (-46)      | U                     | 2,000 (g)  |
| Parameters List<br>USEPA Method 6010 / 7470                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | MW-09S      |            | MW-09D      |            | MW-10S      |            | MW-11S      |            | MW-11D      |            | DUPLICATE   |            | RINSE BLANK |            | NYSDEC AWQS<br>(µg/L) |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | MW-09S      |            | MW-09D      |            | MW-10S      |            | MW-11S      |            | MW-11D      |            | DUPLICATE   |            | RINSE BLANK |            |                       |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | MW-09S      |            | MW-09D      |            | MW-10S      |            | MW-11S      |            | MW-11D      |            | DUPLICATE   |            | RINSE BLANK |            |                       |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | MW-09S      |            | MW-09D      |            | MW-10S      |            | MW-11S      |            | MW-11D      |            | DUPLICATE   |            | RINSE BLANK |            |                       |            |
| Aluminum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | µg/L        | 110        | J           | 476        | U           | 214        |             | 150        | J           | 540        |             | 185        | J           | (-66)      | U                     | ---        |
| Arsenic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | µg/L        | (-4.3)     | U           | (-4.3)     | U           | (-9.8)     | U           | (-4.3)     | U           | 4.5        | J           | (-4.3)     | J           | (-4.3)     | U                     | ---        |
| Barium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | µg/L        | 487        |             | 458        |             | 138        | J           | 10         | J           | 130        | J           | 1,030      | J           | (-1.1)     | U                     | 1,000 (s)  |
| Beryllium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | µg/L        | (-0.26)    | U           | (-0.26)    | U           | (-0.26)    | U           | (-0.26)    | U           | (-0.26)    | U           | (-0.26)    | U           | (-0.26)    | U                     | 3 (g)      |
| Cadmium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | µg/L        | (-0.89)    | U           | (-0.89)    | U           | 1.5        | J           | (-0.89)    | U           | (-0.89)    | U           | (-0.89)    | U           | (-0.89)    | U                     | 5 (s)      |
| Calcium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | µg/L        | 155,000    |             | 89,200     |             | 58,100     |             |            |             | 76,000     |             | 201,000    | J           | (-110)     | U                     | ---        |
| Chromium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | µg/L        | 2.3        | J           | 2.5        | J           | 12.7       | J           | 1.6        | J           | 2.5        | J           | 5.4        | J           | (-0.64)    | U                     | 50 (s)     |
| Cobalt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | µg/L        | 0.9        | J           | (-0.67)    | U           | (-0.67)    | U           | (-0.67)    | U           | 1.2        | J           | 0.8        | J           | (-0.67)    | U                     | ---        |
| Copper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | µg/L        | 9.0        | J           | (-3.6)     | U           | 4.1        | J           | (-3.6)     | U           | (-3.6)     | U           | (-3.6)     | U           | (-3.6)     | U                     | 200 (s)    |
| Iron                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | µg/L        | 1,360      |             | 3,740      |             | 9,360      |             | 470        |             | 4,800      |             | 9,680      | J           | (-31)      | U                     | 300 (s)    |
| Magnesium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | µg/L        | 28,400     |             | 20,200     |             | 14,000     |             | 5,600      |             | 17,000     |             | 51,300     | J           | (-76)      | U                     | 35,000 (g) |
| Manganese                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | µg/L        | 257        |             | 154        |             | 180        |             | (-10)      | U           | 150        |             | 166        | J           | (-10)      | U                     | 300 (s)    |
| Mercury                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | µg/L        | (-0.14)    | U           | (-0.028)   | U           | (-0.057)   | U           | 0.140      | J           | 0.032      | J           | (-0.028)   | U           | (-0.028)   | U                     | 0.7 (s)    |
| Nickel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | µg/L        | 14.8       | J           | 1.0        | J           | 6.8        | J           | (-0.85)    | U           | 1.7        | J           | 4.8        | J           | (-0.85)    | U                     | 100 (s)    |
| Potassium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | µg/L        | 17,200     |             | 1,210      |             | 742        | J           | 110        | J           | 1,100      |             | 4,160      | J           | (-76)      | U                     | ---        |
| Selenium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | µg/L        | (-12)      | U           | (-12)      | U           | (-12)      | U           | (-12)      | U           | (-12)      | U           | 12.1       | J           | (-12)      | U                     | 10 (s)     |
| Sodium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | µg/L        | 3,300,000  |             | 9,370      |             | 110,000    |             | 1,900      |             | 22,000     |             | 291,000    | J           | 551        | J                     | 20,000 (s) |
| Thallium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | µg/L        | (-6.2)     | U           | (-6.2)     | U           | (-6.2)     | U           | (-6.2)     | U           | (-6.2)     | U           | (-6.2)     | U           | (-6.2)     | U                     | 0.5 (g)    |
| Vanadium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | µg/L        | (-1.1)     | U           | (-1.1)     | U           | (-1.1)     | U           | (-1.1)     | U           | 1.5        | J           | 1.2        | J           | (-1.1)     | U                     | ---        |
| Zinc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | µg/L        | (-16.9)    | U           | (-9.4)     | U           | 67.5       | J+          | 7.1        | J           | 10.0       | J           | (-34)      | U           | 6.4        | J                     | 2,000 (g)  |
| NOTE: NYSDEC = New York State Department of Environmental Conservation<br>AWQS = Ambient Water Quality Standard<br>µg/L = Micrograms per liter<br>--- = no applicable screening value.<br>J = Analyte detected below the practical quantification limit (POL).<br>J+ = Analyte was analyzed for, but not detected below the laboratory reporting limit.<br>U = Analyte present. Reported value may be biased high. Result is estimated high.<br>(g) = NYSDEC Ambient Water Quality Standards guidance value<br>(s) = NYSDEC Ambient Water Quality Standards standard value<br>Analytical data results provided by Spectrum Analytical. Validation services are provided by Meridian Consultant Group, Inc.<br>Bold values indicate that the analyte was detected greater than the NYSDEC Ambient Water Quality Standards.<br>DUPLICATE sample was collected at MW-03D. |             |            |             |            |             |            |             |            |             |            |             |            |             |            |                       |            |

Table 8 Summary of Groundwater Analytical Results  
Groundwater Quality Parameters

| Parameters List<br>USEPA Method                                                                                                                                                                                                                                                          | MW ID                   | MW-02D      | MW-03S      | MW-03D      | MW-06S      | MW-06D      | MW-07S      | MW-07D      | NYSDEC AWQS (µg/L) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------|
|                                                                                                                                                                                                                                                                                          | Lab ID                  | N2474-12    | N2474-01    | N2474-02    | N2474-05    | N2474-06    | N2474-08    | N2474-09    |                    |
|                                                                                                                                                                                                                                                                                          | Sample Type             | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |                    |
|                                                                                                                                                                                                                                                                                          | Sample Date             | 12/30/2014  | 12/30/2014  | 12/30/2014  | 12/30/2014  | 12/30/2014  | 12/29/2014  | 12/29/2014  |                    |
| Organic Carbon, Total<br>Chemical Oxygen Demand<br>Nitrogen, Kjeldahl, Total<br>Ammonia<br>Total Dissolved Solids<br>Total Hardness<br>Phenolics, Total Recoverable<br>Nitrogen, Nitrate-Nitrite<br>Bromide<br>Chloride<br>Sulfate<br>Alkalinity, Total (As CaCO <sub>3</sub> )<br>Color | µg/L                    | 16,000      | J- (<5,000) | U (<2,500)  | U (<6,100)  | U (<2,200)  | U (<6,500)  | U (<9,200)  | ---                |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 71,000      | U (<10,000) | U 13,000    | J 11,000    | J (<10,000) | U 12,000    | J 70,000    | ---                |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 8,890       | 420         | 840         | 350         | 280         | 350         | 1,330       | ---                |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 1,960       | J+ (<210)   | U (<420)    | U (<210)    | U (<210)    | U (<140)    | U (<770)    | 2,000 (s)          |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 441,000     | 457,000     | 1,540,000   | 688,000     | 185,000     | 212,000     | 4,420,000   | ---                |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 490,000     | 380,000     | 440,000     | J 590,000   | 550,000     | 140,000     | 680,000     | ---                |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 21 (<990)   | U (<5.0)    | U (<5.0)    | U (<5.0)    | U (<5.0)    | U (<5.0)    | U (<5.0)    | 1 (s)              |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 69          | U (<500)    | U (<2,020)  | U (<1,020)  | U (<990)    | U (<495)    | U (<990)    | 10,000 (s)         |
|                                                                                                                                                                                                                                                                                          | µg/L                    | J (<60)     | U (<60)     | U 730       | J (<60)     | U (<60)     | U (<60)     | U           | 2,000 (g)          |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 59,000      | 2,300       | 510,000     | J 1,300     | J 17,000    | 3,100       | 3,100       | 250,000 (s)        |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 58,000      | 72,000      | 9,300       | J 310,000   | 20,000      | 44,000      | 27,000      | 250,000 (s)        |
|                                                                                                                                                                                                                                                                                          | µg CaCO <sub>3</sub> /L | 320,000     | 350,000     | 230,000     | 250,000     | 170,000     | 220,000     | 500,000     | ---                |
|                                                                                                                                                                                                                                                                                          | color unit              | 15          | U (<10)     | U 35        | J 10        | 25          | 85          | 35          | ---                |
| Parameters List<br>USEPA Method                                                                                                                                                                                                                                                          | MW ID                   | MW-09S      | MW-09D      | MW-10S      | MW-11S      | MW-11D      | DUPLICATE   |             | NYSDEC AWQS (µg/L) |
|                                                                                                                                                                                                                                                                                          | Lab ID                  | N2474-03    | N2474-04    | N2474-13    | P0007-01A   | P0007-02A   | RINSE BLANK |             |                    |
|                                                                                                                                                                                                                                                                                          | Sample Type             | Groundwater | Groundwater | Groundwater | Groundwater | Groundwater |             |             |                    |
|                                                                                                                                                                                                                                                                                          | Sample Date             | 12/30/2014  | 12/30/2014  | 12/29/2014  | 1/5/2015    | 1/5/2015    | 12/29/2014  |             |                    |
| Organic Carbon, Total<br>Chemical Oxygen Demand<br>Nitrogen, Kjeldahl, Total<br>Ammonia<br>Total Dissolved Solids<br>Total Hardness<br>Phenolics, Total Recoverable<br>Nitrogen, Nitrate-Nitrite<br>Bromide<br>Chloride<br>Sulfate<br>Alkalinity, Total (As CaCO <sub>3</sub> )<br>Color | µg/L                    | 12,000      | J- (<7,300) | U (<2,800)  | U (<2.0)    | U (<2,000)  | U (<3,400)  | U (<2,000)  | ---                |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 49,000      | 11,000      | J (<10,000) | U (<10)     | U (<10,000) | U 12,000    | J (<10,000) | ---                |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 3,780       | 490         | U (<166)    | U 210       | J 350       | J 980       | U (<166)    | ---                |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 3,150       | J+ (<280)   | U (<210)    | U (<118)    | U (<118)    | U (<700)    | U 210       | 2,000 (s)          |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 7,920       | 336,000     | 422,000     | 87,000      | 251,000     | 1,590,000   | 13,000      | ---                |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 500,000     | 310,000     | 200,000     | 89,000      | 260,000     | 710,000     | J (<300)    | ---                |
|                                                                                                                                                                                                                                                                                          | µg/L                    | U (<5.0)    | U (<5.0)    | U (<5.0)    | U (<5.0)    | U (<5.0)    | U (<5.0)    | U (<5.0)    | 1 (s)              |
|                                                                                                                                                                                                                                                                                          | µg/L                    | U (<495)    | U (<495)    | U (<495)    | 1,390       | U (<248)    | U (<406)    | U 657       | 10,000 (s)         |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 880         | 88          | J 130       | U (<60)     | U 210       | J (<60)     | U 2,000 (g) | ---                |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 4,800,000   | 61,000      | 82,000      | 1,900       | J 24,000    | 650,000     | J (<280)    | 250,000 (s)        |
|                                                                                                                                                                                                                                                                                          | µg/L                    | 54,000      | U (<1,000)  | U 44,000    | 7,100       | 36,000      | 5,300       | J 370       | 250,000 (s)        |
|                                                                                                                                                                                                                                                                                          | µg CaCO <sub>3</sub> /L | 670,000     | 250,000     | 240,000     | 75,000      | 180,000     | 260,000     | U (<20,000) | ---                |
|                                                                                                                                                                                                                                                                                          | color unit              | 45          | 55          | U (<10)     | U (<10)     | 35          | U (<10)     | U (<10)     | ---                |

NOTE: NYSDEC = New York State Department of Environmental Conservation

AWQS = Ambient Water Quality Standard

µg/L = Micrograms per liter

J = Analyte detected below the practical quantification limit (PQL).

J+ = Analyte present. Reported value may be biased high. Result is estimated high.

U = Analyte was analyzed for, but not detected below the laboratory reporting limit.

J- = Analyte present. Reported value may be biased low. Result is estimated low.

D = Indicates the compound concentration is the result of a dilution.

(g) = NYSDEC Ambient Water Quality Standards guidance value

(s) = NYSDEC Ambient Water Quality Standards standard value

Analytical data results provided by Spectrum Analytical. Validation services are provided by Meridian Consultant Group, Inc.

**Bold** values indicate that the analyte was detected greater than the NYSDEC Ambient Water Quality Standards.

DUPLICATE sample was collected at MW-03D.



Table 1  
PFAS and 1,4-Dioxane Groundwater Data Summary

| Group | CAS No. | Emerging Contaminant | Abbreviation | Sample ID:     | MW-2R                      | MW-7S        | MW-11S       | MW-11S DUP   | EB           |
|-------|---------|----------------------|--------------|----------------|----------------------------|--------------|--------------|--------------|--------------|
|       |         |                      |              | Lab Sample ID: | 480-142503-1 & 320-43696-1 | 480-142274-1 | 480-142274-2 | 480-142274-3 | 480-142274-4 |
|       |         |                      |              | Date Sampled:  | 09/27/2018                 | 09/18/2018   | 09/20/2018   | 09/20/2018   | 9/20/2018    |
|       |         |                      |              | DTW (ft btoc)  | 14.00                      | 9.17         | 8.67         | 8.67         | NA           |
|       |         |                      |              | (ng/L)         | ND<1.8 UJ                  | 4.5          | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | PFBA         | (ng/L)         | ND<1.8 U                   | ND<1.9 UJ    | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | PFPeA        | (ng/L)         | ND<1.8 U                   | ND<1.9 UJ    | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | PFHxA        | (ng/L)         | ND<1.8 U                   | ND<1.9 UJ    | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | PFHpA        | (ng/L)         | ND<1.8 U                   | 7.8          | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | PFOA         | (ng/L)         | ND<1.8 UJ                  | ND<1.9 UJ    | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | PFNA         | (ng/L)         | ND<1.8 UJ                  | ND<1.9 U     | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | PFDA         | (ng/L)         | ND<1.8 U                   | ND<1.9 U     | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | PFUnA        | (ng/L)         | ND<1.8 U                   | ND<1.9 U     | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | PFDoA        | (ng/L)         | ND<1.8 U                   | ND<1.9 U     | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | PFTriA       | (ng/L)         | ND<1.8 U                   | ND<1.9 U     | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | PFTeA        | (ng/L)         | ND<1.8 U                   | ND<1.9 UJ    | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | PFBS         | (ng/L)         | ND<1.8 U                   | ND<1.9 UJ    | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | PFHxS        | (ng/L)         | ND<1.8 UJB                 | ND<1.9 UJB   | ND<2.0 UJB   | ND<1.9 UJB   | ND<2.0 UJB   |
|       |         |                      | PFHpS        | (ng/L)         | ND<1.8 U                   | ND<1.9 U     | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | PFOS         | (ng/L)         | ND<1.8 U                   | 7.2          | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | PFDS         | (ng/L)         | ND<1.8 UJ                  | ND<1.9 U     | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | FOSA         | (ng/L)         | ND<1.8 U                   | ND<1.9 U     | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | NMeFOSAA     | (ng/L)         | ND<1.8 U                   | ND<1.9 U     | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | NEtFOSAA     | (ng/L)         | ND<1.8 U                   | ND<1.9 U     | ND<2.0 U     | ND<1.9 U     | ND<2.0 U     |
|       |         |                      | 6:2FTS       | (ng/L)         | ND<18 U                    | ND<19 U      | ND<20 UJ     | ND<19 U      | ND<20 UJ     |
|       |         |                      | 8:2FTS       | (ng/L)         | ND<18 U                    | ND<19 U      | ND<20 U      | ND<19 U      | ND<20 U      |
|       |         |                      | 1,4-Dioxane  | (µg/L)         | ND<0.20 U                  | ND<0.20 U    | ND<0.20 U    | ND<0.20 U    | ND<0.20 U    |

Notes:

ft btoc = Feet below top of casing

µg/L = Micrograms per liter

ng/L = Nanograms per liter

NA = Not applicable

ND<# = Not detected at or above indicated laboratory reporting limit.

U = Analyte analyzed for, but not detected above the sample's reported quantitation limit

B = An analyte identified in method blank

UJ = Analyte not detected above the sample quantitation limit; the associated quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample









Table 4  
Metals Groundwater Data Summary

| COMPOUND        | NYSDEC TOGS 1.1.1<br>Class GA AWQS | Sample ID:     |                          | MW-2DR | MW-3S        | MW-3D        | MW-6S       | MW-6D        | MW-7S       | MW-7D       | MW-9S        | MW-9D        | MW-11S       | MW-11S DUP   | MW-11D      | EB            |         |
|-----------------|------------------------------------|----------------|--------------------------|--------|--------------|--------------|-------------|--------------|-------------|-------------|--------------|--------------|--------------|--------------|-------------|---------------|---------|
|                 |                                    | Lab Sample ID: | Depth to Water (ft bwc): |        |              |              |             |              |             |             |              |              |              |              |             |               |         |
|                 |                                    |                |                          |        |              |              |             |              |             |             |              |              |              |              |             |               | Matrix: |
|                 |                                    |                |                          |        |              |              |             |              |             |             |              |              |              |              |             |               |         |
| UNITS:          |                                    |                |                          |        |              |              |             |              |             |             |              |              |              |              |             |               |         |
| Metals          |                                    |                |                          |        |              |              |             |              |             |             |              |              |              |              |             |               |         |
| Aluminum        | -                                  | (µg/L)         |                          | NA     | ND (<200) U  | ND (<200) UJ | 5000        | 1300         | 1900        | 1300        | ND (<200) U  | 200          | ND (<200) U  | ND (<200) U  | 4400        | ND (<200) U   |         |
| Arsenic         | 6                                  | (µg/L)         |                          | NA     | ND (<20) UJ  | ND (<20) UJ  | ND (<20) UJ | ND (<20) UJ  | ND (<20) UJ | ND (<20) UJ | ND (<20) UJ  | ND (<20) UJ  | ND (<20) UJ  | ND (<20) UJ  | ND (<20) UJ | ND (<20) UJ   |         |
| Antimony        | 50                                 | (µg/L)         |                          | NA     | ND (<15) UJ  | ND (<15) UJ  | ND (<15) UJ | ND (<15) UJ  | ND (<15) UJ | ND (<15) UJ | ND (<15) UJ  | ND (<15) UJ  | ND (<15) UJ  | ND (<15) UJ  | ND (<15) UJ | ND (<15) UJ   |         |
| Barium          | 2,000                              | (µg/L)         |                          | NA     | 340 J        | 1100 J       | 160 J       | 190 J        | 32 J        | 1500 J      | 620 J        | 390 J        | 8.7 J        | 8.6 J        | 140 J       | ND (<2) UJ    |         |
| Beryllium       | 3.0                                | (µg/L)         |                          | NA     | ND (<20) UJ  | ND (<20) UJ  | ND (<2) UJ  | ND (<2) UJ   | ND (<2) UJ  | ND (<2) UJ  | ND (<2) UJ   | ND (<2) UJ   | ND (<2) UJ   | ND (<2) UJ   | ND (<2) UJ  | ND (<2) UJ    |         |
| Cadmium         | 10.0                               | (µg/L)         |                          | NA     | ND (<2) UJ   | ND (<2) UJ   | ND (<2) UJ  | ND (<2) UJ   | ND (<2) UJ  | ND (<2) UJ  | ND (<2) UJ   | ND (<2) UJ   | ND (<2) UJ   | ND (<2) UJ   | ND (<2) UJ  | ND (<2) UJ    |         |
| Calcium         | -                                  | (µg/L)         |                          | NA     | 95100 J      | 237000 J     | 143000 J    | 55800 J      | 34700 J     | 153000 J    | 50400 J      | 78900 J      | 28100 J      | 27800 J      | 72600       | ND (<500) UJ  |         |
| Chromium, Total | 100                                | (µg/L)         |                          | NA     | ND (<4) UJ   | ND (<4) UJ   | 28 J        | ND (<4) UJ   | ND (<4) UJ  | ND (<4) UJ  | ND (<4) UJ   | ND (<4) UJ   | ND (<4) UJ   | ND (<4) UJ   | 6.5 J       | ND (<4) UJ    |         |
| Cobalt          | -                                  | (µg/L)         |                          | NA     | ND (<40) UJ  | ND (<4) UJ   | 30 J        | ND (<4) UJ   | ND (<4) UJ  | ND (<4) UJ  | ND (<4) UJ   | ND (<4) UJ   | ND (<4) UJ   | ND (<4) UJ   | 0.24 J      | ND (<4) UJ    |         |
| Copper          | 1,000                              | (µg/L)         |                          | NA     | ND (<10) UJ  | ND (<10) UJ  | 10 J        | ND (<10) UJ  | ND (<10) UJ | ND (<10) UJ | ND (<10) UJ  | ND (<10) UJ  | ND (<10) UJ  | ND (<10) UJ  | 6.6 J       | ND (<10) UJ   |         |
| Cyanide, Total  | 200                                | (µg/L)         |                          | NA     | ND (<10) U   | ND (<10) U   | ND (<10) U  | ND (<10) U   | ND (<10) U  | ND (<10) U  | ND (<10) U   | ND (<10) U   | ND (<10) U   | ND (<10) U   | ND (<10) UJ | ND (<10) U    |         |
| Iron            | 600                                | (µg/L)         |                          | NA     | 2100         | 2400         | 16700       | 2400         | 1800        | 3900        | 2400         | 2300         | ND (<50) UJ  | ND (<50) UJ  | 10500       | ND (<50) U    |         |
| Lead            | 50                                 | (µg/L)         |                          | NA     | ND (<10) UJ  | ND (<10) UJ  | ND (<10) UJ | ND (<10) UJ  | ND (<10) UJ | ND (<10) UJ | ND (<10) UJ  | ND (<10) UJ  | ND (<10) UJ  | ND (<10) UJ  | 5.0 J       | ND (<10) UJ   |         |
| Magnesium       | 35,000                             | (µg/L)         |                          | NA     | 23500 J      | 63900 J      | 20000 J     | 15100 J      | 4100 J      | 39700 J     | 8100 J       | 17300 J      | 5500 J       | 5400 J       | 17800       | ND (<200) UJ  |         |
| Manganese       | 600                                | (µg/L)         |                          | NA     | 940 JB       | 120 B        | 8000 B      | 54 B         | 70 B        | 100 B       | 130 B        | 100 B        | ND (<3) UJB  | ND (<3) UJB  | 170 B       | ND (<200) UJB |         |
| Mercury         | 1.4                                | (µg/L)         |                          | NA     | ND (<0.2) U  | ND (<0.2) U  | ND (<0.2) U | ND (<0.2) U  | ND (<0.2) U | ND (<0.2) U | ND (<0.2) U  | ND (<0.2) U  | ND (<0.2) U  | ND (<0.2) U  | ND (<0.2) U | ND (<0.2) U   |         |
| Nickel          | 200                                | (µg/L)         |                          | NA     | ND (<10) UJ  | ND (<10) UJ  | 13 J        | ND (<10) UJ  | ND (<10) UJ | ND (<10) UJ | 13 J         | ND (<10) UJ  | ND (<10) UJ  | ND (<10) UJ  | 6.6 J       | ND (<10) UJ   |         |
| Potassium       | -                                  | (µg/L)         |                          | NA     | 2000         | 2500         | 1900        | 1200         | 2700        | 3400        | 21400        | 1200         | ND (<500) UJ | ND (<500) UJ | 2100        | ND (<500) U   |         |
| Selenium        | 20.0                               | (µg/L)         |                          | NA     | ND (<25) UJ  | ND (<25) UJ  | ND (<25) UJ | ND (<25) UJ  | ND (<25) UJ | ND (<25) UJ | ND (<25) UJ  | ND (<25) UJ  | ND (<25) UJ  | ND (<25) UJ  | ND (<25) UJ | ND (<25) UJ   |         |
| Silver          | 100                                | (µg/L)         |                          | NA     | ND (<6) UJ   | ND (<6) UJ   | ND (<6) UJ  | ND (<6) UJ   | ND (<6) UJ  | ND (<6) UJ  | ND (<6) UJ   | ND (<6) UJ   | ND (<6) UJ   | ND (<6) UJ   | ND (<6) UJ  | ND (<6) UJ    |         |
| Sodium          | -                                  | (µg/L)         |                          | NA     | 67500 J      | 199000 J     | 3600 J      | 5400 J       | 97800 J     | 1520000 J   | 3760000 J    | 8500 J       | 1800 J       | 1700 J       | 14300       | ND (<1000) UJ |         |
| Thallium        | 0.5                                | (µg/L)         |                          | NA     | ND (<20) UJ  | ND (<20) UJ  | ND (<20) UJ | ND (<20) UJ  | ND (<20) UJ | ND (<20) UJ | ND (<20) UJ  | ND (<20) UJ  | ND (<20) UJ  | ND (<20) UJ  | ND (<20) UJ | ND (<20) UJ   |         |
| Vanadium        | -                                  | (µg/L)         |                          | NA     | ND (<5) UJ   | ND (<5) UJ   | 9.5 J       | ND (<5) UJ   | ND (<5) UJ  | ND (<5) UJ  | ND (<5) UJ   | ND (<5) UJ   | ND (<5) UJ   | ND (<5) UJ   | 7.2 J       | ND (<5) UJ    |         |
| Zinc            | 5,000                              | (µg/L)         |                          | NA     | ND (<10) UJB | ND (<10) UJB | 34 JB       | ND (<10) UJB | 15 JB       | 170 JB      | ND (<10) UJB | ND (<10) UJB | ND (<10) UJB | ND (<10) UJB | 19 B        | ND (<10) UJB  |         |

Bold values indicate analytical result exceeds TOGS 1.1.1 WQS  
TOGS 1.1.1 WQS = Ambient Water Quality Standards Guidance Values and Groundwater Effluent Limitations, amended April 2000  
µg/L = micrograms per liter

- = no published regulatory standard

J = Analyte positively identified at a numerical value that is the approximate concentration of the analyte in the sample or Analyte not detected above the sample quantitation limit; the associated quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample

B = An analyte identified in method blank (B), aqueous equipment (EB), tip (TB), or bottle blanks (BB) used to assess field contamination associated with soil or sediment samples mandates these qualifiers for only soil and sediment sample results.

FI = MS and or MSD Recovery is outside acceptable limits

NA = not analyzed