2019 ANNUAL POST-CLOSURE MONITORING REPORT

TOWN OF CLAY LANDFILL
OAK ORCHARD ROAD
TOWN OF CLAY, ONONDAGA COUNTY, NEW YORK
SITE #734034

Prepared for:

TOWN OF CLAY
4401 ROUTE 31
CLAY, NEW YORK 13041

Prepared by:

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MAY 2021

TOWN OF CLAY LANDFILL

2019 Annual Post-Closure Monitoring Report

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SECTION 1

INTRODUCTION/BACKGROUND

1.1 SITE DESCRIPTION

The Town of Clay Landfill is located along Oak Orchard Road, in the northern section of the Town of Clay, New York, approximately 1,300 feet east of the intersection of Oak Orchard Road and Henry Clay Boulevard. Residential properties exist to the immediate north and northwest of the landfill and near the intersection of Oak Orchard Road and Henry Clay Boulevard to the west. The landfill site is almost entirely surrounded by New York State Department of Environmental Conservation (NYSDEC) wetland BRE-9 with a number of surface water streams which flow in the vicinity of the landfill. The Oneida River, which flows in a westerly direction past the landfill, is listed as a NYSDEC Class B water body. Shaver Creek is a small stream, which flows northerly along the western site property boundary and discharges to the Oneida River. A site location map is shown in Figure 1, and a site plan is included in Figure 2.

1.2 SITE HISTORY/BACKGROUND

The Town of Clay Landfill site was operated by the Town as a municipal landfill from approximately 1956 until 1975 when the Onondaga County Solid Waste Disposal Authority (SWDA) began leasing the landfill from the Town of Clay and began accepting both residential and industrial waste. Prior to SWDA's operation of the landfill, the Town of Clay accepted only residential waste. The landfill was ordered closed by the NYSDEC in 1976 and ceased accepting waste in September 1977. The landfill closure was reportedly completed in 1978 at which time the landfill was returned to the Town of Clay. It was discovered in 1986 that industrial wastes containing polychlorinated biphenyls (PCBs) were disposed of in the Town of Clay Landfill during the period that the landfill was operated by SWDA. For this reason, the landfill was then classified by NYSDEC as a Class 2 Hazardous Waste Site (Site No. 734034). In 1990, a Consent Order between the Town of Clay and the NYSDEC was issued committing the Town of Clay to enter into a Remedial Program. Following completion of environmental investigations, a low permeability synthetic cap was constructed over the Town of Clay Landfill in 1996 as approved by NYSDEC. Funding for the remediation program was provided through State grants and cost recovery from the County.

Consistent with the NYSDEC Record of Decision (December 1994), The Town of Clay began quarterly post closure landfill monitoring in 1997. Post-closure landfill monitoring is required for a minimum of 30 years. From 1997 until 2001, the Town of Clay completed quarterly monitoring at the landfill. In 2001, the NYSDEC approved the Town's request to reduce monitoring of the landfill from quarterly to semiannually. In February 2007, the NYSDEC again approved the Town of Clay's request to reduce monitoring at the landfill; this time from semiannual to a fifth quarter monitoring frequency. In addition to fifth quarter monitoring, the Town of Clay continues to complete quarterly landfill inspections and gas monitoring at the site.

1.3 2019 POST-CLOSURE MONITORING PROGRAM REPORTING

This Monitoring Report was prepared for the Town of Clay by C&S Engineers, Inc. and documents the activities and results of Post-Closure monitoring for the Town of Clay Landfill. This report is based on landfill inspections and combustible gas monitoring at the landfill gas vents. Laboratory samples were not performed during 2019 based on the fifth quarter monitoring frequency. C&S personnel completed landfill inspections and combustible gas monitoring at the landfill gas vents on April 10, 2019, June 30, 2019, September 30, 2019, and December 30, 2019. An interpretation and discussion of the 2019 annual monitoring event results is presented in Section 3.

SECTION 2
METHODOLOGY

This report is based upon inspections only as laboratory samples were not collected in 2019 based on fifth quarter monitoring frequency.

2.1 SAMPLE COLLECTION

No samples collected in 2019 due to fifth quart monitoring frequency.

2.2 ANALYTICAL DATA INTERPRETIVE METHODS

No samples collected in 2019 due to fifth quart monitoring frequency.

2.3 LANDFILL RECONNAISSANCE AND COMBUSTIBLE GAS FIELD SURVEY

A landfill reconnaissance and combustible gas survey (landfill gas vents as well as perimeter monitoring) was completed at the site on a quarterly basis. A total of 22 gas vents are incorporated into the gas venting trench system across the landfill. Perimeter monitoring was completed at four locations along the access road surrounding the landfill. The gases released from each gas vent as well as perimeter gas monitoring were field screened utilizing a multi-gas monitor and a MiniRAE Photo Ionization Detector (PID) with 3-D sensor. Combustible gas measurements were completed for parameters including percent lower explosive limit (%LEL), carbon monoxide (CO), and hydrogen sulfide (H_2S), while total volatile organic vapor concentrations were measured at each vent using the PID. The locations of the landfill gas vents are shown on Figure 2.

SECTION 3

RESULTS AND DISCUSSION

3.4 LANDFILL RECONNAISSANCE

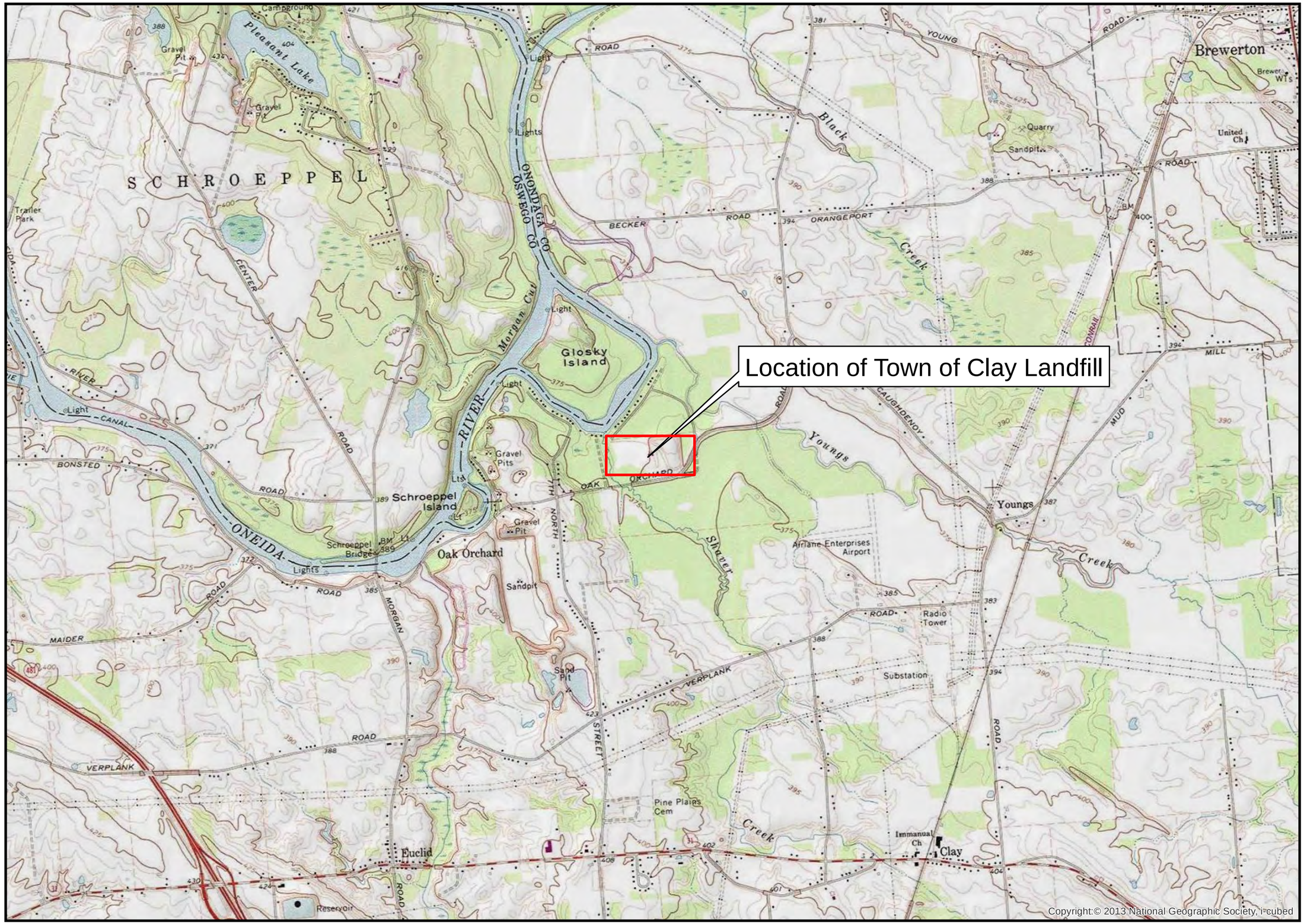
The landfill inspection and combustible gas monitoring was completed quarterly in 2019 and pictures and combustible gas monitoring results are attached as Appendix B.

3.5 RECOMMENDATIONS/CONCLUSIONS

Vector holes should be filled with the appropriate fill and cover material and sumac growing over the landfill and in the berms should be removed to protect the integrity of the landfill liner. In addition, all vines and trees growing on and around the fence need to be removed to protect the integrity of the fence. The Town of Clay regularly mows the landfill cap in the spring and summer months as well as clears the fence of limbs that fall on the fence periodically.

In general, the results of the 2019 monitoring event were consistent with historical conditions at the landfill.

FIGURES



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N

0 2,040 Feet

Town of Clay Landfill
Town of Clay, Onondaga County, New York

PROJECT NO:	195.767.008
DATE:	September 9, 2015
SCALE:	AS SHOWN
DRAWN BY:	WNR
DESIGNED BY:	WNR
CHECKED BY:	CC

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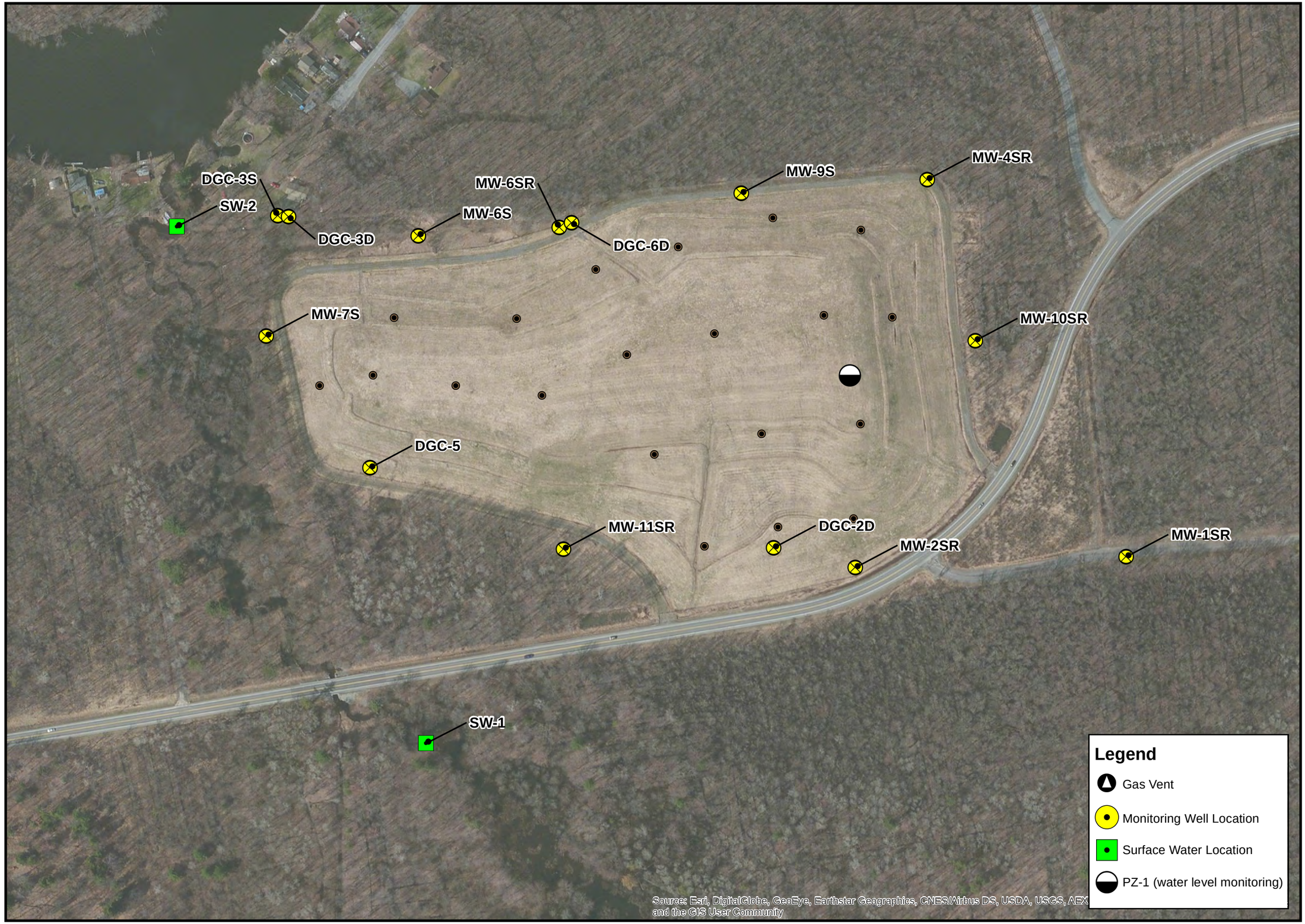
Site Location Map

FIGURE 1



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0 200 Feet

Town of Clay Landfill
Town of Clay, Onondaga County, New York

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Environmental Monitoring Site Plan

FIGURE 2

APPENDIX A

Gas Monitoring Measurements/Inspection Photos

4/10/2019					
CLAY LANDFILL GAS VENT MONITORING					
VENT	**%LEL**	**CO (ppm)**	**H_2S (ppm)**	**PID (ppm)**	**Comments**
GV-1	0.0	0.0	0.0	0.0	
GV-2	0.0	0.0	0.0	0.0	
GV-3	>100	0.0	0.0	1.0	
GV-4	>100	0.0	0.0	0.0	
GV-5	0.0	0.0	0.0	0.0	
GV-6	>100	0.0	0.0	0.0	
GV-7	0.0	0.0	0.0	0.0	
GV-8	0.0	0.0	0.0	0.0	
GV-9	0.0	0.0	0.0	0.0	
GV-10	0.0	0.0	0.0	0.0	
GV-11	0.0	0.0	0.0	0.0	
GV-12	0.0	0.0	0.0	0.0	
GV-13	>100	0.0	0.0	0.0	
GV-14	0.0	0.0	0.0	0.0	
GV-15	0.0	0.0	0.0	0.0	
GV-16	0.0	0.0	0.0	0.0	
GV-17	0.0	0.0	0.0	0.0	
GV-18	0.0	0.0	0.0	1.0	
GV-19	0.0	0.0	0.0	0.0	
GV-20	0.0	0.0	0.0	0.0	
GV-21	> 100	0.0	0.0	0.0	
GV-22	0.0	0.0	0.0	0.0	
North Boundary	0.0	0.0	0.0	0.0	
East Boundary	0.0	0.0	0.0	0.0	
South Boundary	0.0	0.0	0.0	0.0	
West Boundary	0.0	0.0	0.0	0.0	
PZ-1 Water Level	feet	40.36			

Town of Clay Landfill
Post-Closure Monitoring – 1st Quarter 2019

Town of Clay Landfill
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Town of Clay Landfill
Post-Closure Monitoring – 1st Quarter 2019

6/28/2019					
CLAY LANDFILL GAS VENT MONITORING					
VENT	**%LEL**	**CO (ppm)**	**H_2S (ppm)**	**PID (ppm)**	**Comments**
GV-1	0.0	0.0	0.0	0.0	
GV-2	0.0	0.0	0.0	0.0	
GV-3	>100	0.0	0.0	1.0	
GV-4	>100	0.0	0.0	0.0	
GV-5	0.0	0.0	0.0	0.0	
GV-6	>100	0.0	0.0	1.0	
GV-7	0.0	0.0	0.0	0.0	
GV-8	0.0	0.0	0.0	0.0	
GV-9	0.0	0.0	0.0	0.0	
GV-10	0.0	0.0	0.0	0.0	
GV-11	>100	0.0	0.0	0.0	
GV-12	0.0	0.0	0.0	0.0	
GV-13	>100	0.0	0.0	0.0	
GV-14	0.0	0.0	0.0	0.0	
GV-15	0.0	0.0	0.0	0.0	
GV-16	0.0	0.0	0.0	0.0	
GV-17	0.0	0.0	0.0	0.0	
GV-18	0.0	0.0	0.0	1.0	
GV-19	0.0	0.0	0.0	0.0	
GV-20	0.0	0.0	0.0	0.0	
GV-21	> 100	0.0	0.0	0.0	
GV-22	0.0	0.0	0.0	0.0	
North Boundary	0.0	0.0	0.0	0.0	
East Boundary	0.0	0.0	0.0	0.0	
South Boundary	0.0	0.0	0.0	0.0	
West Boundary	0.0	0.0	0.0	0.0	
PZ-1 Water Level	feet	41.09			

Town of Clay Landfill
Post-Closure Monitoring – 2nd Quarter 2019

Town of Clay Landfill
Post-Closure Monitoring – 2nd Quarter 2019

Town of Clay Landfill
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Town of Clay Landfill
Post-Closure Monitoring – 2nd Quarter 2019

Town of Clay Landfill
Post-Closure Monitoring – 2nd Quarter 2019

Town of Clay Landfill
Post-Closure Monitoring – 2nd Quarter 2019

Town of Clay Landfill
Post-Closure Monitoring – 2nd Quarter 2019

9/30/2019					
CLAY LANDFILL GAS VENT MONITORING					
VENT	**%LEL**	**CO (ppm)**	**H_2S (ppm)**	**PID (ppm)**	**Comments**
GV-1	0.0	0.0	0.0	0.0	
GV-2	0.0	0.0	0.0	0.0	
GV-3	>100	0.0	0.0	1.0	
GV-4	>100	0.0	0.0	0.0	
GV-5	0.0	0.0	0.0	0.0	
GV-6	>100	0.0	0.0	1.0	
GV-7	>100	0.0	0.0	1.0	
GV-8	0.0	0.0	0.0	0.0	
GV-9	0.0	0.0	0.0	0.0	
GV-10	0.0	0.0	0.0	0.0	
GV-11	>100	0.0	0.0	0.0	
GV-12	0.0	0.0	0.0	0.0	
GV-13	>100	0.0	0.0	0.0	
GV-14	0.0	0.0	0.0	0.0	
GV-15	0.0	0.0	0.0	0.0	
GV-16	0.0	0.0	0.0	0.0	
GV-17	0.0	0.0	0.0	0.0	
GV-18	0.0	0.0	0.0	1.0	
GV-19	0.0	0.0	0.0	0.0	
GV-20	0.0	0.0	0.0	0.0	
GV-21	> 100	0.0	0.0	0.0	
GV-22	0.0	0.0	0.0	0.0	
North Boundary	0.0	0.0	0.0	0.0	
East Boundary	0.0	0.0	0.0	0.0	
South Boundary	0.0	0.0	0.0	0.0	
West Boundary	0.0	0.0	0.0	0.0	
PZ-1 Water Level	feet	41.26			

Town of Clay Landfill
Post-Closure Monitoring – 4th Quarter 2019

Town of Clay Landfill
Post-Closure Monitoring – 4th Quarter 2019

Town of Clay Landfill
Post-Closure Monitoring – 4th Quarter 2019

Town of Clay Landfill
Post-Closure Monitoring – 4th Quarter 2019

12/30/2019					
CLAY LANDFILL GAS VENT MONITORING					
VENT	**%LEL**	**CO (ppm)**	**H_2S (ppm)**	**PID (ppm)**	**Comments**
GV-1	0.0	0.0	0.0	0.0	
GV-2	0.0	0.0	0.0	0.0	
GV-3	>100	0.0	0.0	1.0	
GV-4	>100	0.0	0.0	0.0	
GV-5	0.0	0.0	0.0	0.0	
GV-6	>100	0.0	0.0	1.0	
GV-7	0.0	0.0	0.0	0.0	
GV-8	0.0	0.0	0.0	0.0	
GV-9	0.0	0.0	0.0	0.0	
GV-10	0.0	0.0	0.0	0.0	
GV-11	>100	0.0	0.0	0.0	
GV-12	0.0	0.0	0.0	0.0	
GV-13	>100	0.0	0.0	0.0	
GV-14	0.0	0.0	0.0	0.0	
GV-15	0.0	0.0	0.0	0.0	
GV-16	0.0	0.0	0.0	0.0	
GV-17	0.0	0.0	0.0	0.0	
GV-18	0.0	0.0	0.0	1.0	
GV-19	0.0	0.0	0.0	0.0	
GV-20	0.0	0.0	0.0	0.0	
GV-21	> 100	0.0	0.0	0.0	
GV-22	0.0	0.0	0.0	0.0	
North Boundary	0.0	0.0	0.0	0.0	
East Boundary	0.0	0.0	0.0	0.0	
South Boundary	0.0	0.0	0.0	0.0	
West Boundary	0.0	0.0	0.0	0.0	
PZ-1 Water Level	feet	41.39			

Town of Clay Landfill
Post-Closure Monitoring – 4th Quarter 2019

Town of Clay Landfill
Post-Closure Monitoring – 4th Quarter 2019

Town of Clay Landfill
Post-Closure Monitoring – 4th Quarter 2019

Town of Clay Landfill
Post-Closure Monitoring – 4th Quarter 2019