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To: [Spellman, John \(DEC\)](#)
Cc: [Christopher Wagner](#)
Subject: 2022 Operation and Maintenance Report, Clarkstown Sanitary Landfill
Date: Friday, April 7, 2023 5:22:01 PM
Attachments: [Transmittal 2022 Annual Report.pdf](#)
[Clarkstown Landfill O&M Report 2022 Final.pdf](#)

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John,

Please find attached the 2022 Operation and Maintenance report for the Clarkstown Landfill. If you have any questions or comments please let me know. Thank you and have a great weekend.

-Colin

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Transmittal

Date: Friday, April 07, 2023

Project: Clarkstown Landfill

To: John Spellman

From: Colin Mills

Subject: 2022 Annual Landfill Gas Report

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Remarks: If DEC has any questions or comments, please contact Colin Mill sat 201-335-9404 or Colin.Mills@hdrinc.com

Copy to: Christopher Wagner, Town of Clarkstown
First Deputy Director
Dept. of Engineering & Facilities
Management

Signed: Colin Mills



Operation and Maintenance Report

Clarkstown Sanitary Landfill

Period - January-December 2022

West Nyack NY

March 1, 2023

PREPARED FOR:

TOWN OF CLARKSTOWN
DEPARTMENT OF ENGINEERING &
FACILITIES MANAGEMENT
10 MAPLE AVE.
NEW CITY, NY 10956

Report Verification

PROJECT: **Clarkstown Sanitary Landfill; Landfill Gas Management**
 Town of Clarkstown, Department of Engineering & Facilities Management
 West Nyack, New York
 NYSDEC Inactive Hazardous Waste Site No. 344001

TITLE: **Operation and Maintenance Report**
 Clarkstown Sanitary Landfill; January-December 2022

This document has been reviewed for accuracy and quality commensurate with the intended application.

Prepared by: Matthew T. Papula

Date: 1/10/2023

Checked by: Colin Mills

Date: 2/27/2023

Project Manager: Colin Mills

Revised: 3/1/2023



Contents

Report Verification.....	i
1 Introduction.....	1
2 Landfill Gas System Monitoring, Balancing, and Maintenance.....	2
2.1 LFG System Collection Piping	2
2.2 LFG System Surface Collector Networks.....	2
2.3 LFG Drip Leg Assemblies	3
2.4 System Wellheads, Vaults and Valves.....	4
2.5 LFG Monitoring for System Control.....	5
3 Landfill Gas Handling System	6
3.1 LFG Control System.....	6
3.2 Blower Assembly	7
3.3 Enclosed LFG Ground Flare	8
4 Landfill Gas System Overall Gas Evaluation	9
4.1 Quantitative Analysis of Gas Recovery.....	9
4.2 Qualitative Analysis of Gas Recovery.....	10
4.3 Off-Site Landfill Gas Monitoring	14
5 Other Landfill Gas Systems.....	15
5.1 LFG Knockout Tank	15
5.2 Aboveground LFG Condensate Storage Tank.....	15
5.3 Landfill Final Cover System.....	15
5.4 Leachate Collection System.....	16
6 Conclusions.....	17

Tables

Table 2-1: Volume of Condensate Removed from Drip Legs.....	4
Table 4-1 Summary of Extraction Well Measurements 2021	12

Graphs

Graph 4-1: Gas Volume Extraction Trends	10
Graph 4-2: Average Methane Concentration per Extraction Well.....	11
Graph 4-3: Annual Mathane Removal Over Time	14



Figures (Following Text)

- Figure 1 – Clarkstown Landfill Location
- Figure 2 – Landfill Gas Collection Network
- Figure 3 – Landfill Gas Header Pipe
- Figure 4 – Surface Collector Network
- Figure 5 – Drip Leg Assembly Locations
- Figure 6 – Gas Extraction Wells
- Figure 7 – Well Head Valve Settings
- Figure 8 – Localized Area of Low Methane Readings
- Figure 9 – Landfill Access Roads

Appendices (At Back of Report Following Figures)

- Appendix A – FS-3 Forms
- Appendix B – DP-1 Forms
- Appendix C – Well Balancing Forms
- Appendix D – Flare Data Sheets
- Appendix E – Flare Log Sheet
- Appendix F – FCS-1 Forms
- Appendix G – AR-1 Forms



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1 Introduction

The purpose of this annual report is to provide an operation and maintenance (O&M) summary for the period of January 2022 through December 2022 for the Clarkstown Sanitary Landfill (the Landfill), located in West Nyack, Rockland County, New York (Figure 1).

The Landfill, which is located approximately 1,000 feet south of New York State Route 59, is bound on the east side by New York State Route 303, and on the north, south and west sides by buffer wetlands. The Landfill property encompasses approximately 100 acres.

The Landfill originally operated from the 1940s through 1990. The Landfill was closed under an Order on Consent issued by New York State Department of Environmental Conservation (NYSDEC). The Landfill is a listed inactive Hazardous Waste Class 2 site (Site No. 344001). The Operation and Maintenance Manual indicates that the United States Environmental Protection Agency (USEPA) has listed the site on the National Priority List (NPL); however, this Site does not appear to be listed on the USEPA NPL registry.

In 1996, the Town of Clarkstown (the Town) began capping the Landfill and constructing a gas collection system, which was designed to evacuate and combust methane gas from the capped Landfill. Construction of the Landfill cap and gas collection system was completed in February 1999.

The Town retained the services of Henningson, Durham & Richardson Architecture and Engineering, P.C., in association with HDR Engineering, Inc. (HDR) to assist in the O&M activities at the Landfill. HDR performed routine inspections and maintenance of the Landfill to comply with the Clarkstown Sanitary Landfill Operation & Maintenance Manual, dated October 1999.

2 Landfill Gas System Monitoring, Balancing, and Maintenance

The landfill gas (LFG) system (Figure 2) was designed to collect, transport, and incinerate gas generated at the capped Landfill. The system is constructed of a main header pipe, horizontal surface collection areas, and 10 extraction legs with 52 extraction wells. The entire system is comprised of approximately 18,000 linear feet of high-density polyethylene (HDPE) pipe of varying diameters. This section provides a description of the monitoring and maintenance of the LFG system, which includes the following:

- LFG System Collection Piping
- LFG System Surface Collector Network
- LFG Drip Leg Assemblies
- LFG System Wellheads, Vaults, and Valves

Maintenance logs for the LFG system (FS-3) are included as Appendix A of this report.

2.1 LFG System Collection Piping

The header pipe (Figure 3) is constructed of a HDPE pipe that encircles the eastern and central portion of the Landfill in a circular or 'ring' shape. Four isolation (header) valves and two in-line pipe reducers are located along the length of the header pipe. The eastern and northern sections of the ring are constructed with ten-inch diameter HDPE and are reduced to an eight-inch diameter main along the southern and western sections. The gas collection piping is located above the geo-membrane and below the final cover. It is typically buried 18 to 24 inches below the existing grade of the Landfill.

The operation and maintenance of gas collection piping consists of the inspection of leg vaults and valves, header vaults and valves, drip legs and well head vaults for subsidence and damage. Well head static pressures are collected using a LandTec GEM 2000 Landfill gas meter and are used to identify condensate accumulation and/or blockage.

2.2 LFG System Surface Collector Networks

The two LFG surface collectors (Figure 4) are composed of a series of perforated six-inch diameter HDPE pipes that are located at the northeast and southeast corners of the Landfill. The perforated six-inch diameter HDPE pipes have been installed in gravel-filled trenches spaced 100 feet apart. The northeast surface collection gallery is regulated by Leg Valve K. As of December 2022, the valve at Leg K is approximately 5% open. The southeast collector is regulated by Leg Valve A which is currently approximately 25% open.

The design of the southeast surface collector is unclear in part because one set of as-built drawings show the system in place and another set does not. The presence of passive vents located in the same area as the surface collector would suggest the surface collector is not in place. However, the presence of Leg Valve A suggests otherwise. If the surface

collector is in place, the prevailing thought is that the surface collector would draw ambient air via the passive collectors.

Total methane concentrations on April 29, 2022 at Leg A was 72.6% and on 23 November 2022 at Leg A was 70.6%. The presence of the valve and the elevated methane composition suggests the surface collector is present. Therefore, HDR is managing the gas in this area under the assumption that the surface collector is in place.

2.3 LFG Drip Leg Assemblies

There are 12 drip leg assemblies (Figure 5) located at the Landfill. Some areas along the gas collection piping experience restrictions in air flow caused by the accumulation of condensate in low lying areas of the gas collecting piping. These locations are near Drip Leg (DL) 1, DL-5, a 2" PVC drip leg located adjacent to GE-09 (referred to as "GE-09"), and to a lesser extent DL-10. These areas are inspected/monitored, and condensate is removed during monthly site visits. It should be noted that it is common for condensate to accumulate in landfill gas lines and these issues are not unique to this landfill.

DL-1, DL-5, and GE-09 are located in the vicinity of Leg Valve C, which services two gas extraction wells (GE-09 and GE-10). The drip leg is located immediately off the ten-inch diameter header main, which serves as a major artery for the collection piping. DL-5 is located along Leg B, between GE-02 and GE-03. Six gas extraction wells are located up-gradient of the drip leg (GE-03 through GE-08). All six of these wells are located along the northern crest of the Landfill, which is a major collection area of LFG. DL-10 is along Leg I, between GE-37 and GE-38, which services the north-west corner of the Landfill.

At each restricted location, the collection leg was tapped and fitted with a pipe-sleeve and tee. A PVC riser pipe and valve were connected to this sleeve/tee. The modification to the Landfill collection pipe is used exclusively to remove condensate. During each monthly site visit, each location was inspected for the presence of condensate (positive vs. negative pressure). If positive pressure or minimal negative pressure is noted, condensate is removed by utilizing a submersible or peristaltic pump. This method has been effective in removing the blockages caused by condensate in the collection pipe.

Table 2-1 illustrates the locations, dates and approximate volumes of condensate purged from the riser pipes during this reporting period. Based on the data presented below the greatest accumulation of condensate is present at DL-1.

Table 2-1: Approximate Volume of Condensate Removed from Drip Legs

Date	DL-1	DL-5	GE-09	DL-10
	Volume purged (gallons)	Volume purged (gallons)	Volume purged (gallons)	Volume purged (gallons)
January 7, 2022	34.9	51.5	152.2	10.0
February 23, 2022	410.5	71.7	127	16.6
March 25, 2022	113.5	167	14	NA
April 29, 2022	17.4	90.3	9.5	4.4
May 18, 2022	52.0	27.3	1.5	NA
June 29, 2022	19.0	14.5	3.0	12
July 19, 2022	0	1.5	1.5	10.0
August 30, 2022	57	3.0	15.0	2.0
September 20, 2022	22.0	11.0	11.0	1.5
November 1, 2022	22.0	9.0	1.5	9.5
November 23, 2022	2.7	5.2	38.1	3.5
January 4, 2022	11.1	13.9	11.9	71.4
Total Removed	762.1	465.9	386.2	140.9

Note:

NA – pumping not attempted

2.4 System Wellheads, Vaults, and Valves

The 52 LFG extraction wells (Figure 6) were inspected during monthly site visits. Gas extraction well monitoring, and inspections of each well were conducted to identify potential leakage, liquid pooling, and hazardous methane conditions in the surrounding area. Observations noted during the monthly inspections were reported on Form DP-1, which is included as Appendix B.

Settlement of the well head vaults is an ongoing issue at the Landfill. The Town, in conjunction with HDR, has evaluated the well head construction and design and has retrofitted LFG extraction wells and vaults at 38 locations with new QED® Accu-Flo well heads, located above grade. Three of these were replaced in December of 2022 (GE-10, GE-15, and GE-26). This new design eliminates the slip/trip/fall hazard which was associated with settlement of the old vault system. Additionally, the new well heads are clearly visible and easily accessible. The new well head design also allows differential pressures to be measured. These measurements allow HDR to calculate the flow rate for the wells that have been retrofitted.

Fourteen LFG extraction wells and associated valves have not yet been retrofitted. These vaults are constructed out of heavy-duty fiberglass. Over the years, some of the vaults have exhibited minimal to moderate amounts of damage around the lip of the vault and/or the vault covers. This damage is cosmetic and does not affect the performance or operation of the LFG collection piping or wells.

Leg valves are monitored on a bi-annual basis (twice/year) for valve settings, gas composition and indications of differential settlement or fatigue. Originally, a ¼-inch valve and sample tube were tapped into the collection piping immediately up-gradient of each leg valve. This set-up is used to confirm suction pressure in each leg. To better evaluate the performance of, and to optimize gas collection, at the Landfill, HDR removed the tubing and placed a compression cap over each valve. During site inspections, the cap is removed, and a barbed fitting is connected to the valve. Information collected is used to evaluate LFG production and balancing of the well field. This is especially important as the LFG production continues to decrease over time.

2.5 LFG Monitoring for System Control

All of the LFG extraction wells are measured for gas composition and pressures. Each well is fitted with a valve that may be adjusted based upon corresponding gas and pressure readings. This process is referred to as “well balancing” and is performed monthly. The goal for well balancing is to optimize system operations by determining the equilibrium for each well where the methane extraction is equal to the methane production. The monthly well balancing field summary report is provided as Appendix C.

Figure 7 is a map illustrating the LFG collection system with notations for each gas extraction well that has been entirely or partially closed. The well valves that have been entirely or partially closed are primarily located around the perimeter of the Landfill, or in lower lying areas. The number of these wells has increased over time, suggesting methane production is diminishing. Gas collection, gas concentration, and volumes are discussed in Section 4.

3 Landfill Gas Handling System

This section provides a description of the monitoring and maintenance of the LFG flare control system. The system consists of three components: an LFG control system, an LFG blower assembly, and an enclosed LFG ground flare.

3.1 LFG Control System

The gas extraction rate exceeds the gas production rate at the Landfill. Currently, the flare is programmed to operate for 10 hours per day with the scheduled down time during the overnight hours. By cycling operating times, HDR is attempting to balance LFG production with extraction occurring during times when the adjacent transfer and co-joining recycling facility are active to minimize human exposure.

On occasion, the flare has failed to automatically restart in the morning. Two or three attempts were typically needed to restart the flare successfully. The failed restarts are a result of either an insufficient volume of methane available to sustain a flame or a pilot flame fail (either pilot flame blow out or an empty pilot flame fuel tank).

Even though the system is now automated, it will not attempt to restart a second time as the failed restart triggers an alarm condition (e.g., flame fail) that must be cleared in order to restart. Due to these operational constraints, regular (2-4 times per week) site visits by HDR were historically necessary to ensure that the flare operates on a regular basis. A remote interface that allows HDR personnel to view the control panel and reset the alarm condition remotely was installed, reducing the frequency of field visits.

The control system also provides safety shutdowns for emergency conditions. The safety shutdowns include:

- High Lower Explosive Limit (one for each of four combustible detectors inside the building & gas analyzer cabinet)
- Blower Overload (one for each blower)
- High Oxygen Content in LFG
- Low Methane Content in LFG
- Flame Failure
- Pilot Failure
- High Flame Temperature
- Low Flame Temperature
- Low LFG Flow
- Shutdown Valve Fail Closed
- Shutdown Valve Fail Open
- High Liquid Level in Condensate Tank

The LFG control system receives signals from the sensors and detectors to monitor the operation of the enclosed ground flare. Malfunction of sensing/detecting devices will trigger alarms and shut down the system. The alarm shutdowns are logged by the system.

As noted in previous reports, the Gas Analysis Cabinet (GAC) methane detector has not been operating properly. Two deficiencies have been identified with this unit:

- The temperature transmitter has been malfunctioning.
- The oxygen sensor has been malfunctioning.

HDR has been monitoring the gas makeup from a flare sampling port. The data show that the gas is under control and the flare itself is operating properly and within manufacturer's guidelines. This monitoring precludes the need to repair the GAC detector currently.

A new Sierra RV50 5G capable wireless modem was installed in the control panel cabinet at the end of December 2022 in order to continue being able to remotely access the system. The prior modem used 3G wireless technology, which was phased out by the wireless service provider at the end of the year. On January 3, 2023, the set up for the modem was finalized and remote access for the control panel was reestablished.

3.2 Blower Assembly

The blower assembly is in a "Butler" building, which is open on the north side to facilitate adequate ventilation. The blower assembly consists of two explosion-proof, spark-proof centrifugal vacuum blowers (Blower 301 and 302). Each blower has a separate pre-filtration system (demister filters) and inlet and outlet isolation valves. The blower assembly is mounted on a steel skid, which is centrally located within the building. The blower's starter is located outside of the blower assembly at the flare station control panel. The system is currently operated using one blower (Blower 301).

Four lower explosive limit (LEL) sensors are located at the corners of the skid and are checked and calibrated annually using an MSA Ultima® calibrator. One of the sensors and controller unit had malfunctioned after a power outage causing the system to be down from November 16, 2020 through March 5, 2021. See discussion in section 3.1 in the 2021 O&M report for more details.

The inlet isolation valve is used to control flow. The valve on the operating blower is positioned to provide an average flow of 550-650 cubic feet per minute (CFM). However, as previously noted the demister filters are failing and actual flow is between 350 and 450 cfm. The outlet valve for the operating blower is fully open. The valves (inlet and outlet) for the offline Blower 302 were both closed while Blower 301 is operating.

On April 29, 2022, TAM Enterprises serviced the two blowers and assessed the damage to Blower 302. Blower 301 was serviced, and the amperage and voltage being used were within specification. Blower 302 had a damaged drive coupling that needed to be replaced. On December 7, 2022, TAM Enterprises replaced the damaged coupling on Blower 302 with a Rexnord Omega coupling. Blower 302 started but the amperage and flow rate were erratic leading to a shutdown due to flame flail. Further investigation is warranted.

3.3 Enclosed LFG Ground Flare

The enclosed LFG ground flare consists of a combustor assembly, an insulated stack, a pilot gas assembly, three thermocouples, a flame arrestor, a shut-down valve, and three electrically actuated fresh air intake louvers. The system is currently operating using Thermocouple Two as a temperature monitor set to 1440 degrees Fahrenheit. Two of the three louvers are offline and closed. This provides better temperature control of the system by reducing overcompensation by the louver/actuator controls.



4 Landfill Gas System Overall Gas Evaluation

LFG is typically composed of methane (35%-60%), carbon dioxide (35%-60%), nitrogen (3%-12%), and oxygen (0%-5%) at most landfills. Methane and carbon dioxide are produced through the bacteriological breakdown of organic matter under anaerobic conditions. If concentrations of nitrogen and oxygen gases increase above expected values, it is often an indication that intrusion of ambient air into the gas extraction system is occurring. This typically occurs when the gas extraction system is operating at extraction rates that are greater than the methane production rates. During monthly well balancing, gas extraction well valves are set to optimize methane concentrations and minimize oxygen and nitrogen concentrations in the mixture going to the flare.

LFG data is collected from each gas extraction well using a Landtec GEM™ 2000 meter (GEM 2000). The GEM 2000 measures the percentage of methane, carbon dioxide, and oxygen present in the LFG. The remaining gas is reported as “balance” gas and typically consists of nitrogen with low percentages (typically <1%) of trace gases. The meter is also used to measure suction pressure and differential pressure on above grade well heads at applicable gas extraction wells and leg valves. LFG is also monitored at the flare station and perimeter monitoring wells using the GEM 2000.

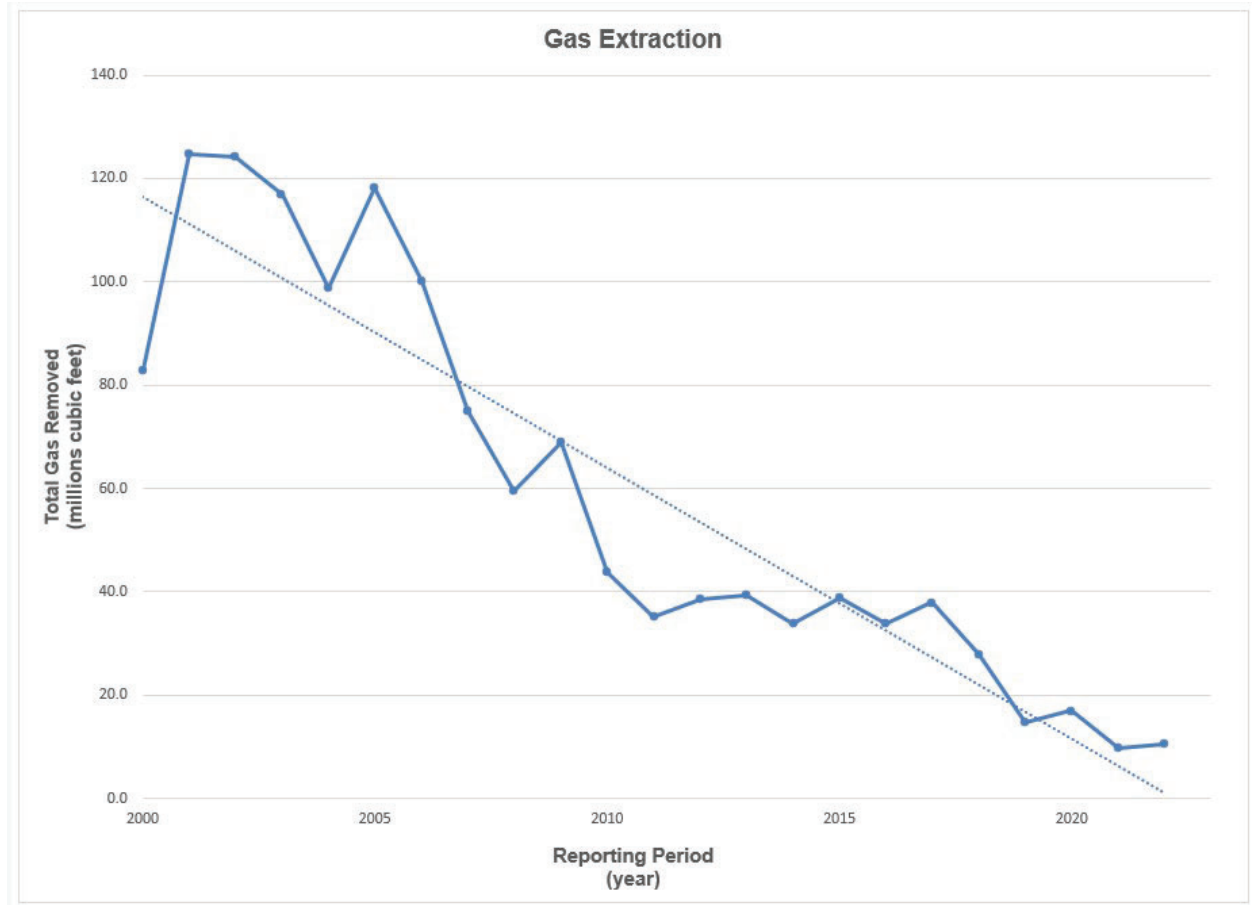
4.1 Quantitative Analysis of Gas Recovery

For the 2022 period, log sheets were maintained to record the gas flow rate, cumulative and daily gas extraction volumes, flare temperatures, blower amperage, and cumulative blower run-time. The data sheets are included in this report as Appendix D.

The total LFG recovered in 2022 was approximately 10.54 million cubic feet. This is small increase in gas production compared to the previous year’s volume (9.69 million cubic feet). This is likely a function of increased run time compared to the previous year. The system operated for 813 hours in 2022, which to 31% runtime based on a 10 hour per day operation cycle. This is a decrease over the previous reporting year’s runtime of 20%.

Graph 4-1 illustrates the volume of landfill gas removed on an annual basis. A decreasing trend in the volume of gas removed from the Landfill over the past 21 years is observed. This is the expected result of continued landfill gas removal.

Graph 4-1: Gas Volume Extraction Trends



4.2 Qualitative Analysis of Gas Recovery

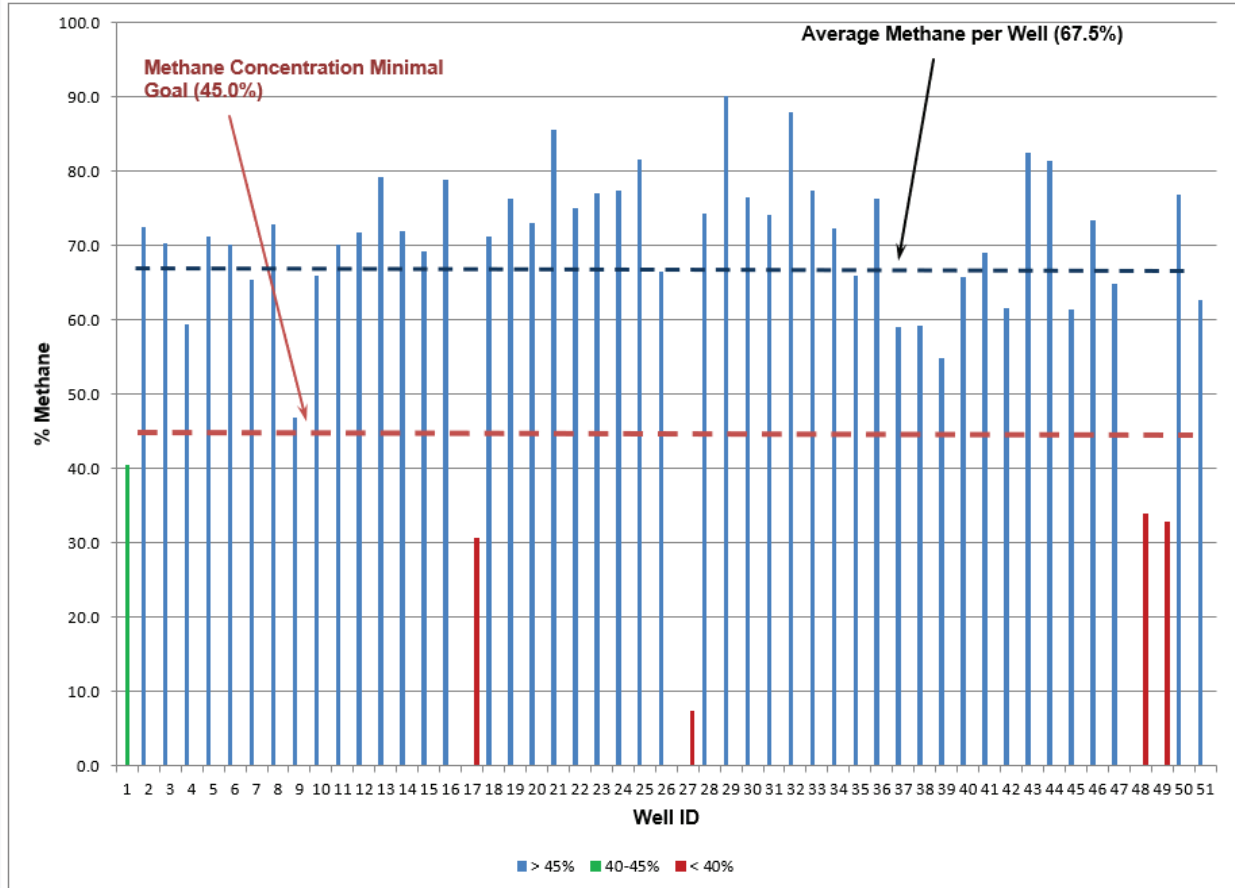
LFG quality is monitored at each of the 52 gas extraction wells and at the flare station. Optimal gas quality consists of a high methane concentration (greater than 45%) and low carbon dioxide, oxygen, and nitrogen levels. Methane is required to sustain the flaring of the gas. The primary reason to burn LFG is public safety. Additionally, methane is a greenhouse gas with a global warming potential more than 20 times that of carbon dioxide.

The efficient combustion of LFG can be inhibited by carbon dioxide. Therefore, low levels of carbon dioxide are desired. Low oxygen at the well heads is also desirable because it is an indication that ambient air intrusion is not occurring, and high concentrations of oxygen would increase the potential for LFG to exhibit flammable conditions outside of the flare station. Typically, LFG that is extracted from the Landfill is low in oxygen (<5%) and cannot support combustion.

At the flare station, oxygen is introduced and controlled by the flare actuator and louvers to create optimum burning conditions. Nitrogen has no effect on the system operation since it is an inert gas; however, the presence of nitrogen more than 10% may suggest

ambient air intrusion. The gas quality averages for each well are illustrated in the graph below.

Graph 4-2 Average Methane Concentrations per Extraction Well



The average methane composition during this period was 67.5% (up from 62.6% the previous year). Forty-Seven wells had an average methane concentration above the 45% methane goal. One of the fifty-two wells were below the goal (>45%) but within 5% of it. The remaining four wells had average methane concentrations less than 40%, three of these four wells are located along the perimeter of the Landfill or in low lying areas. Diminishing methane levels are expected in these areas and data from the last 20 years, which show a reduction in methane production along the perimeter, confirms this. Methane production and accumulation along the Landfill perimeter remains low despite limiting the flow using valve settings.

It was also observed during the reporting period that the historic area of low methane production located on the northwest side of the landfill (Figure 8) has now split forming two areas of low methane production. It was also reported that a small area along the east side and the southwest corner of the landfill also showed low methane production during the reporting period. It is not clear why methane production in this area have changed in



2022 operational year but monthly well balancing is performed as necessary to account for these fluctuations.

Table 4-1 compares the average monthly methane level measured at the extraction wells to the average monthly methane composition measured at the flare station.

Table 4-1 Summary of Extraction Well Measurements 2022

Month	Average Methane in Well Field	Average Methane at Flare	Difference
	(%)	(%)	(%)
January	64.4	16.4	48.0
February	63.7	22.7	41.0
March	69.8	52.1	17.7
April	68.1	66.2	1.9
May	58.9	44.0	14.9
June	65.9	42.7	23.2
July	75.2	54.2	21.0
August	71.8	41.6	30.2
September	71.8	48.6	23.2
October	67.5	46.4	21.1
November	64.4	42.0	22.4
December	68.3	47.3	21.0

Based on the data presented in Table 4-1 there is a measurable difference between the average percent methane in the well field versus the average percent methane measured at the flare station (Appendix D) during all months. This may be due to increased landfill gas production at the well head related to warmer weather conditions experienced over the course of the 2022 reporting period.

Smaller variances observed in other months are likely due to the absence of methane levels reported from the surface collectors (A and K). The surface collectors are located at a relatively flat portion of the Landfill where historic land filling activities were significantly less than most of the remaining Landfill areas. The leg valves for the surface collectors (A and K) are set at 25% and 5% open, respectively. However, both legs are a short distance from the flare and are more impacted by the suction of the blowers than most other leg valves located further from the header pipe. The result is Landfill gases are removed from these areas in greater volume, especially at start-up, which likely contributes to failed restarts at the flare station.

Intrusion may be occurring at well heads where damaged sample ports and damaged flexible hoses have been observed. At these damaged areas, it is common to observe ambient air being drawn into the gas extraction system. These breaches are typically small and are temporarily sealed with duct tape until a more permanent remedy is in place such as the installation of new well head risers. As more well heads are replaced, the overall quality of gas removed from each well has increased over time.



Any additional discrepancies that exist between landfill gases in the well field compared to the flare station may attribute to a combination of factors including the following:

- individual well head valve settings,
- time of day flare operation was observed, and
- lag-time attributed to the distance from individual wells to the flare.

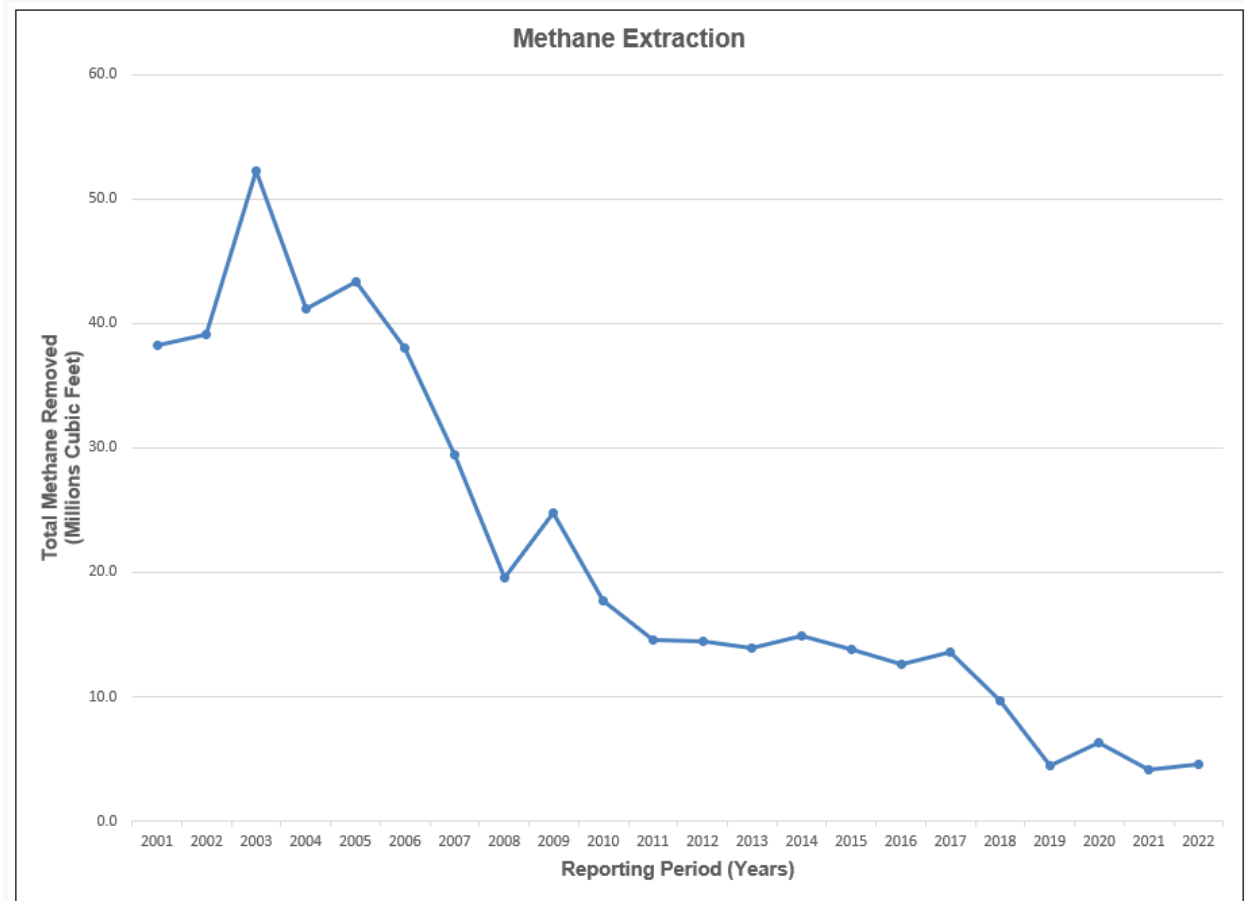
Most of the poorest methane producing wells and surface collectors are located closest to the flare station, which places the greatest amount of vacuum pull on the poorest producing section of the Landfill. This has been augmented by restricting flow through valves to optimize the gas mixture.

Since the data is collected monthly, the actual percentage or total methane removed as the gas composition recorded does not necessarily reflect the actual gas composition fluctuation throughout the entire run cycle over a daily, monthly, or annual period. The readings are recorded throughout well balancing and are consistent relative with one another; therefore, they can be used to approximate methane removal on a comparative daily, monthly, and annual basis.

Graph 4-3 illustrates annual methane removal at the Landfill as an approximation based on field measurements recorded during monthly O&M events. An estimated 4.1 million cubic feet of methane were removed during the 2022 reporting period. The graph illustrates the decreasing rate of methane removal from the Landfill over the past 21 reporting periods.



Graph 4-3 Annual Methane Removal over Time



4.3 Off-Site Landfill Gas Monitoring

Evaluation of off-site monitoring wells is performed by a third-party consultant for the Town of Clarkstown and reported independently of this report.

5 Other Landfill Gas Systems

This section provides the inspection/maintenance reports for:

- LFG Knockout Tank
- Aboveground LFG Condensate Storage Tank
- Landfill Final Cover System
- Leachate Collection System

5.1 LFG Knockout Tank

Condensate has not been historically observed at the knockout tank or the condensate pump station. Drip legs are located at the low points along each leg, except Leg L and along the eastern edge of the Landfill (DL-1), leaving condensate from the surface collectors, GE-1, GE-2, and Leg L as the only areas that are not influenced by any of the drip leg assemblies. Most of these areas are relatively flat and historically there appears to be a minimal amount of landfill material placed in this area. The anticipated development and accumulation of condensate is minimal; therefore, little to no condensate would be expected in the knockout tank. The exceptions are GE-50, GE-51, and GE-52 – all of which are located along Leg L. These three wells are located along the east slope and top of the Landfill where condensate is anticipated to develop and accumulate at greater frequency and volume. Based upon the grade change and extraction well location, accumulation of condensate and ultimate blockage of the Leg L with condensate occur between wells GE-50 and GE-49.

5.2 Aboveground LFG Condensate Storage Tank

No condensate has been observed in the storage tank as discussed since the installation of the system.

5.3 Landfill Final Cover System

The Landfill Final Cover System is inspected for drainage and erosion quarterly in accordance with the procedures described on the Final Cover Inspection checklist and Form FCS-1, which have been included in Appendix F.

The Landfill is designed with a system of vegetated berms, dikes, and drainage ditches. Eight drainage basins are located at the Landfill. Drainage at the Landfill has been adequate, and no reported instances of erosion or ponding have been documented during this reporting period. However, several areas of the Landfill have been identified as being

'soft', particularly in the areas between GE-36 and GE-37, the area around GE-4 and the area between GE-3, GE-2 and GE-10.

Solar panels have been installed on the Landfill cap along the eastern side of the Landfill. The solar panel field occupies roughly 15% of the landfill footprint. This area is still maintained by the Town of Clarkstown.

The Landfill is surrounded by an access road shown in Figure 9. A second road is located along the crest of the Landfill. During monthly site visits, HDR inspects the roads for potholes, ponding, settlement, or erosion and documents the inspections on Roadway Inspection Sheets (Appendix G).

5.4 Leachate Collection System

Leachate from each collection chamber is pumped directly into the sanitary sewer system managed by Rockland County Sewer District #1. A flow meter was installed by the Town at the end of the leachate line prior to the sewer pump house in November 2016 to track the volume of leachate discharged to the sanitary sewer system. No flow has been recorded to date. Leachate is observed in the collection chambers during inspections but at levels too low to be trigger discharge to the sewer system. Leachate production is expected to diminish over time. Inspection of the leachate collection chambers is documented on Form FS-3 which can be found in Appendix A of this report.

6 Conclusions

Landfill operations have been effective in managing LFG and leachate during this reporting period. The levels of methane at the Landfill have fluctuated with time but continue demonstrate a downward trend. Diminishing levels are most evident around the perimeter of the Landfill.

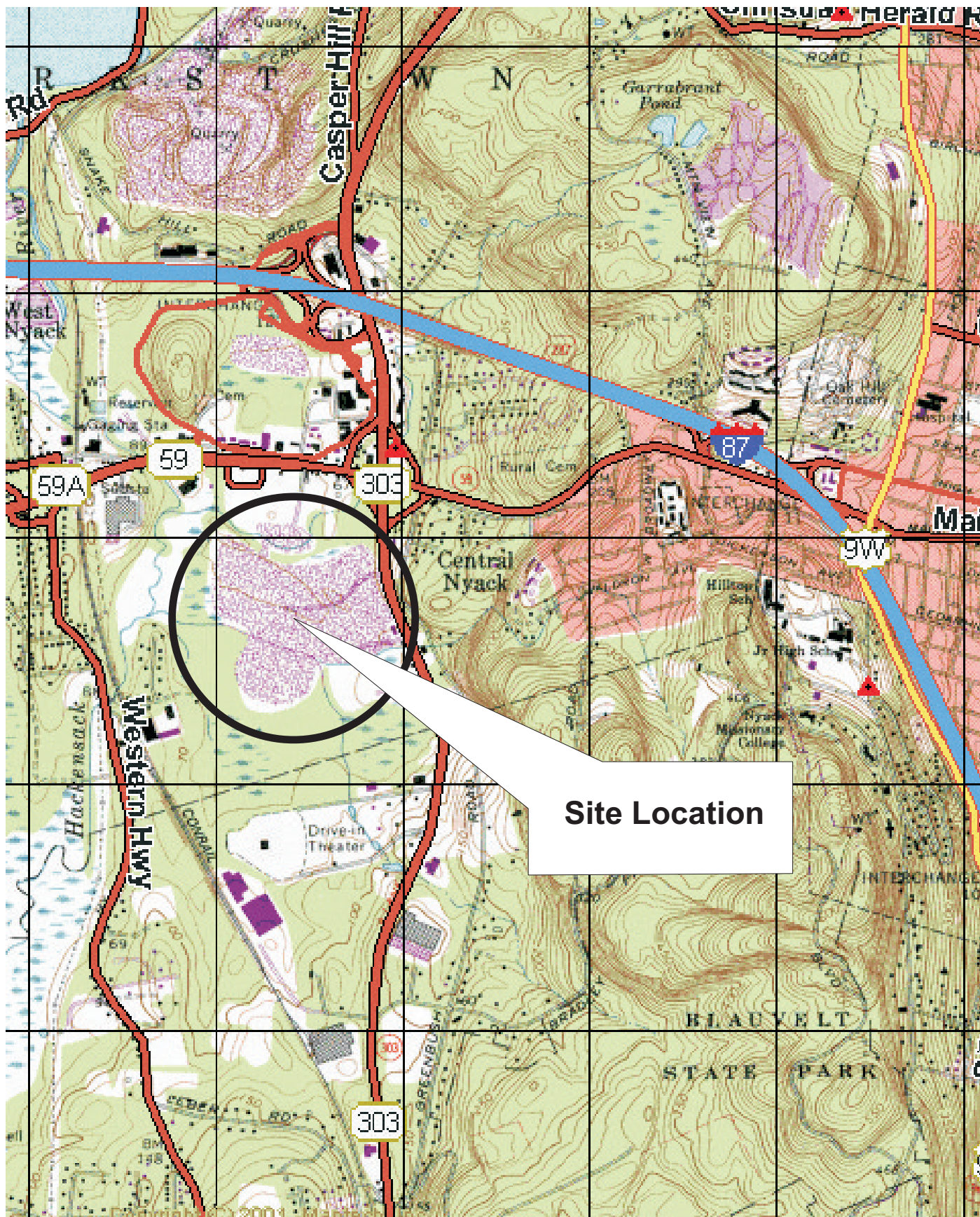
A difference between the methane levels at the well field versus the methane level at the flare continues to be noted. HDR will continue to evaluate the levels between the landfill gas extraction wells and the leg valves to identify any locations that explain the discrepancy. HDR will also continue to balance the LFG collection system as necessary to optimize the running time of the system.

The Town continues to invest in maintaining the aging LFG collection system at the site. It is anticipated that additional gas extraction well head upgrades and blower maintenance will continue as necessary; however, the Town/HDR would also like to open a dialogue with the State to explore the ability of converting the active collection system to a passive venting option in the future.



Figures





Source: US Quadangle Nyack, NY 1967, Photorevised 1979



Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.
404 Airport Executive Park
Nanuet, NY 10954

Clarkstown Landfill Location
Clarkstown Landfill
West Nyack, NY 10994

Figure 1



Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

404 Airport Executive
Park Nanuet, NY 10954

Landfill Gas Collection Network
Clarkstown Landfill
West Nyack, NY 10994

Figure 2

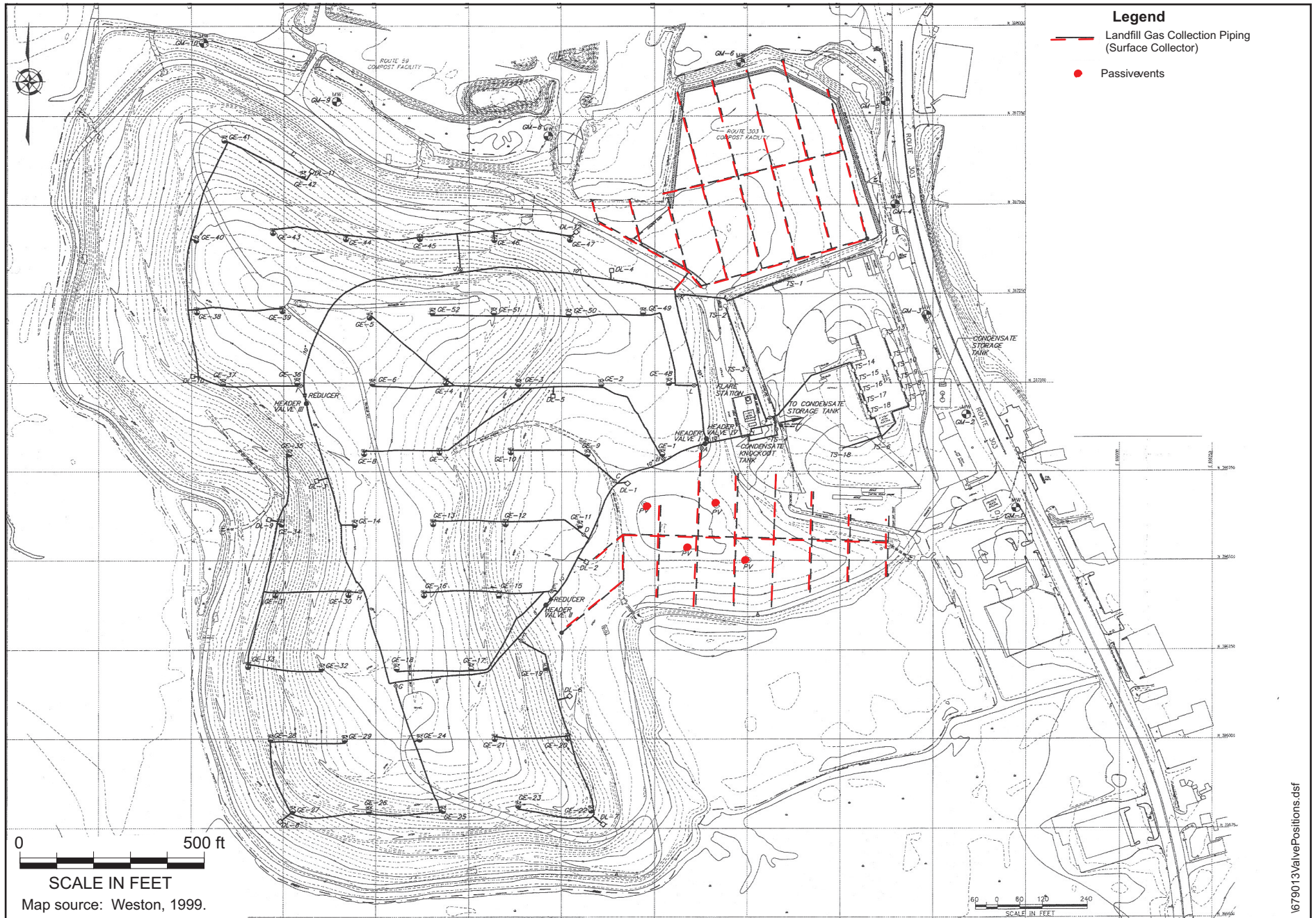


Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

404 Airport Executive Park
Nanuet, NY 10954

Landfill Gas Header Pipe
Clarkstown Landfill
West Nyack, NY 10994

Figure 3

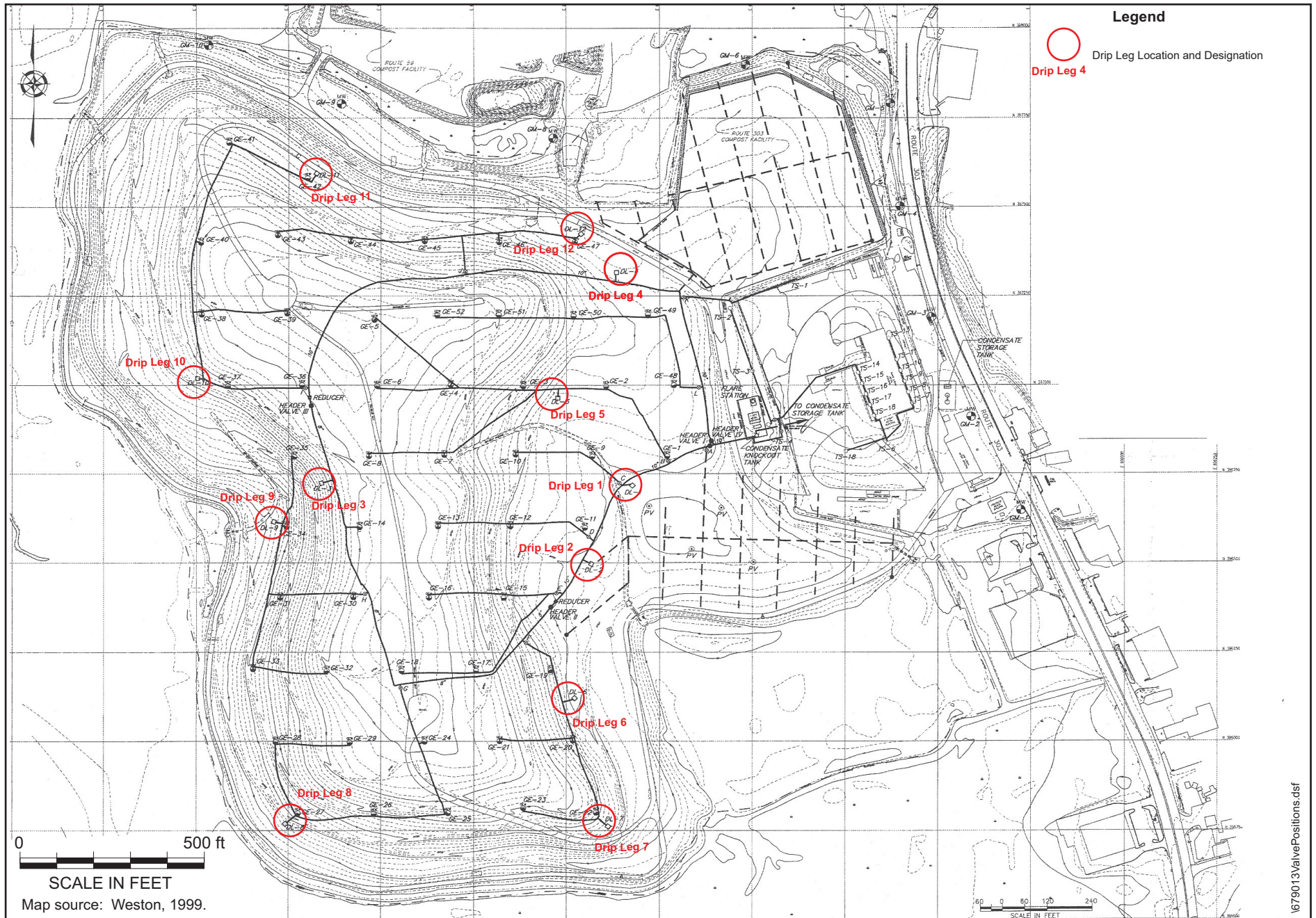


Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

404 Airport Executive Park
Nanuet, NY 10954

Surface Collector Network
Clarkstown Landfill
West Nyack, NY 10994

Figure 4

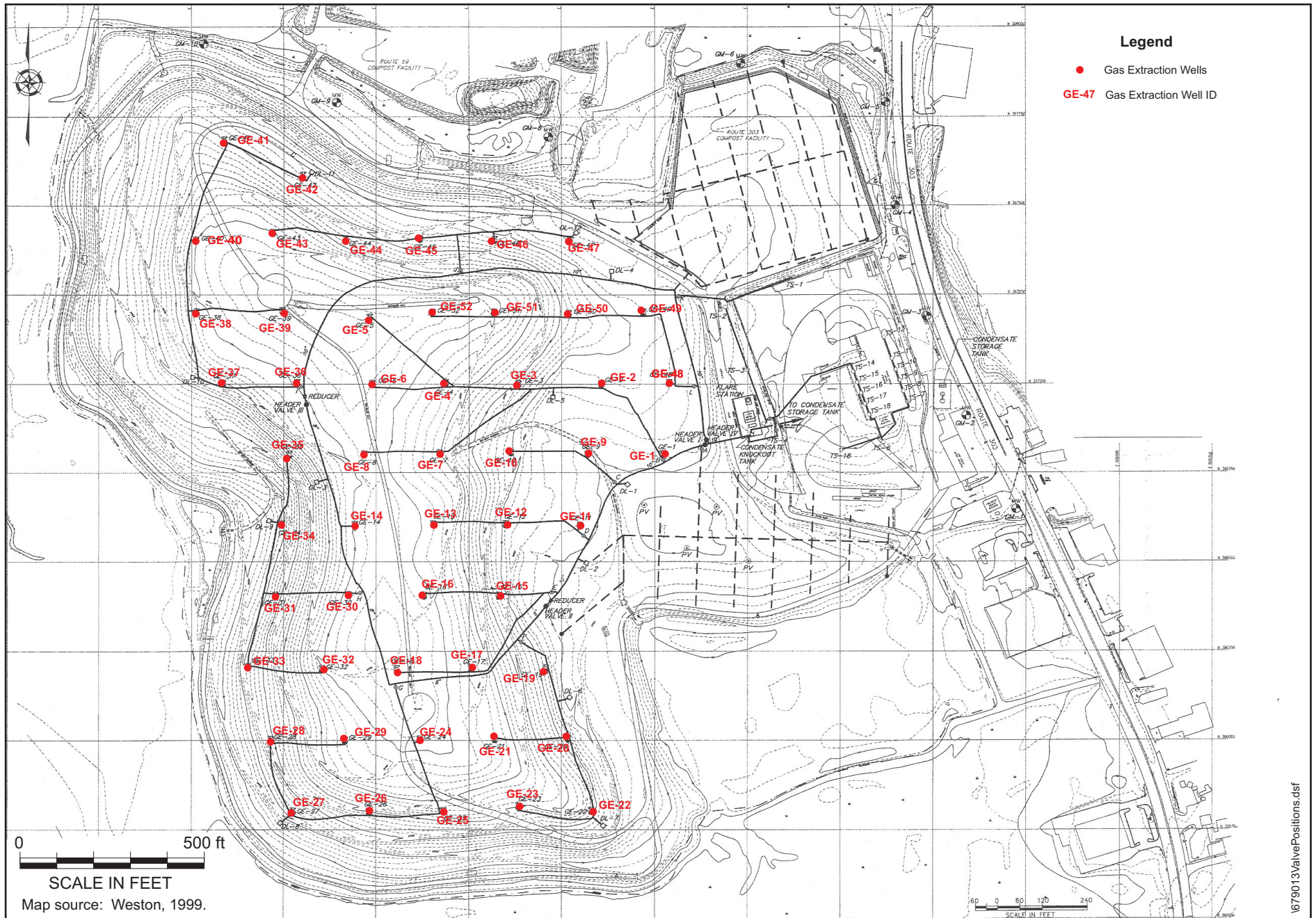


Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

404 Airport Executive Park
Nanuet, NY 10954

Drip Leg Assembly Locations
Clarkstown Landfill
West Nyack, NY 10994

Figure 5



v679013ValvePositions.dsf



Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

404 Airport Executive Park
Nanuet, NY 10954

Gas Extraction Wells
Clarkstown Landfill
West Nyack, NY 10994

Figure 6



Henningson, Durham & Richardson
Architecture and Engineering, P.C.
in association with HDR Engineering, Inc.

404 Airport Executive Park
Nanuet, NY 10954

Landfill Gas Collection Network
Clarkstown Landfill
West Nyack, NY 10994

Figure 2



A

FS-3 Forms



FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
<i>Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:</i>		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
<i>Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:</i>		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
<i>Knockout Tank and Surrounding Area – Visually Inspect and Note:</i>		
12	Any settling or buoyant rising	X
<i>Surface Collectors:</i>		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
<i>Aboveground Condensate Storage Tank</i>		
15	Inspect anchor bolts for firmness and integrity	X
<i>Enclosed Ground Flare</i>		
16	Inspect and periodically clean out the flame arrestor	X
<i>Leachate Collection Chambers</i>		
17	Inspect leachate collection chambers	X

Notes:

- 1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
- 2 Use “NS” (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 1/25/2022

Inspector’s Initials: MTP

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
<i>Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:</i>		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
<i>Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:</i>		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
<i>Knockout Tank and Surrounding Area – Visually Inspect and Note:</i>		
12	Any settling or buoyant rising	X
<i>Surface Collectors:</i>		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
<i>Aboveground Condensate Storage Tank</i>		
15	Inspect anchor bolts for firmness and integrity	X
<i>Enclosed Ground Flare</i>		
16	Inspect and periodically clean out the flame arrestor	X
<i>Leachate Collection Chambers</i>		
17	Inspect leachate collection chambers	X

Notes:

- 1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
- 2 Use “NS” (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 2/23/2022

Inspector’s Initials: MTP

INSPECTION CHECKLIST – MONTHLY TASKS LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
<i>Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:</i>		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
<i>Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:</i>		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
<i>Knockout Tank and Surrounding Area – Visually Inspect and Note:</i>		
12	Any settling or buoyant rising	X
<i>Surface Collectors:</i>		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
<i>Aboveground Condensate Storage Tank</i>		
15	Inspect anchor bolts for firmness and integrity	X
<i>Enclosed Ground Flare</i>		
16	Inspect and periodically clean out the flame arrestor	X
<i>Leachate Collection Chambers</i>		
17	Inspect leachate collection chambers	X

Notes:

- 1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
- 2 Use “NS” (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 3/25//2022

Inspector’s Initials: MTP

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
<i>Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:</i>		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
<i>Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:</i>		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
<i>Knockout Tank and Surrounding Area – Visually Inspect and Note:</i>		
12	Any settling or buoyant rising	X
<i>Surface Collectors:</i>		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
<i>Aboveground Condensate Storage Tank</i>		
15	Inspect anchor bolts for firmness and integrity	X
<i>Enclosed Ground Flare</i>		
16	Inspect and periodically clean out the flame arrestor	X
<i>Leachate Collection Chambers</i>		
17	Inspect leachate collection chambers	X

Notes:

- 1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
- 2 Use “NS” (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 4/29/2022

Inspector’s Initials: MTP/MJR

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
<i>Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:</i>		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
<i>Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:</i>		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
<i>Knockout Tank and Surrounding Area – Visually Inspect and Note:</i>		
12	Any settling or buoyant rising	X
<i>Surface Collectors:</i>		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
<i>Aboveground Condensate Storage Tank</i>		
15	Inspect anchor bolts for firmness and integrity	X
<i>Enclosed Ground Flare</i>		
16	Inspect and periodically clean out the flame arrestor	X
<i>Leachate Collection Chambers</i>		
17	Inspect leachate collection chambers	X

Notes:

- 1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
- 2 Use “NS” (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 5/18/2022

Inspector’s Initials: MTP

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
<i>Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:</i>		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
<i>Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:</i>		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
<i>Knockout Tank and Surrounding Area – Visually Inspect and Note:</i>		
12	Any settling or buoyant rising	X
<i>Surface Collectors:</i>		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
<i>Aboveground Condensate Storage Tank</i>		
15	Inspect anchor bolts for firmness and integrity	X
<i>Enclosed Ground Flare</i>		
16	Inspect and periodically clean out the flame arrestor	X
<i>Leachate Collection Chambers</i>		
17	Inspect leachate collection chambers	X

Notes:

- 1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
- 2 Use “NS” (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 6/29/2022

Inspector’s Initials: BKM

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
<i>Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:</i>		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
<i>Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:</i>		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
<i>Knockout Tank and Surrounding Area – Visually Inspect and Note:</i>		
12	Any settling or buoyant rising	X
<i>Surface Collectors:</i>		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
<i>Aboveground Condensate Storage Tank</i>		
15	Inspect anchor bolts for firmness and integrity	X
<i>Enclosed Ground Flare</i>		
16	Inspect and periodically clean out the flame arrestor	X
<i>Leachate Collection Chambers</i>		
17	Inspect leachate collection chambers	X

Notes:

- 1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
- 2 Use “NS” (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 7/19/2022

Inspector’s Initials: MTP/MJR

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
<i>Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:</i>		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
<i>Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:</i>		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
<i>Knockout Tank and Surrounding Area – Visually Inspect and Note:</i>		
12	Any settling or buoyant rising	X
<i>Surface Collectors:</i>		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
<i>Aboveground Condensate Storage Tank</i>		
15	Inspect anchor bolts for firmness and integrity	X
<i>Enclosed Ground Flare</i>		
16	Inspect and periodically clean out the flame arrestor	X
<i>Leachate Collection Chambers</i>		
17	Inspect leachate collection chambers	X

Notes:

- 1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
- 2 Use “NS” (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 8/30/2022

Inspector’s Initials: MTP

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
<i>Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:</i>		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
<i>Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:</i>		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
<i>Knockout Tank and Surrounding Area – Visually Inspect and Note:</i>		
12	Any settling or buoyant rising	X
<i>Surface Collectors:</i>		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
<i>Aboveground Condensate Storage Tank</i>		
15	Inspect anchor bolts for firmness and integrity	X
<i>Enclosed Ground Flare</i>		
16	Inspect and periodically clean out the flame arrestor	X
<i>Leachate Collection Chambers</i>		
17	Inspect leachate collection chambers	X

Notes:

- 1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
- 2 Use “NS” (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 9/20/2022

Inspector’s Initials: MTP

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
<i>Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:</i>		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
<i>Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:</i>		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
<i>Knockout Tank and Surrounding Area – Visually Inspect and Note:</i>		
12	Any settling or buoyant rising	X
<i>Surface Collectors:</i>		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
<i>Aboveground Condensate Storage Tank</i>		
15	Inspect anchor bolts for firmness and integrity	X
<i>Enclosed Ground Flare</i>		
16	Inspect and periodically clean out the flame arrestor	X
<i>Leachate Collection Chambers</i>		
17	Inspect leachate collection chambers	X

Notes:

- 1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
- 2 Use “NS” (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 11/01/2022 (for October 2022)

Inspector’s Initials: BKM

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
<i>Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:</i>		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
<i>Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:</i>		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
<i>Knockout Tank and Surrounding Area – Visually Inspect and Note:</i>		
12	Any settling or buoyant rising	X
<i>Surface Collectors:</i>		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
<i>Aboveground Condensate Storage Tank</i>		
15	Inspect anchor bolts for firmness and integrity	X
<i>Enclosed Ground Flare</i>		
16	Inspect and periodically clean out the flame arrestor	X
<i>Leachate Collection Chambers</i>		
17	Inspect leachate collection chambers	X

Notes:

- 1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
- 2 Use “NS” (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 11/23/2022

Inspector’s Initials: BKM

FORM FS-3
INSPECTION CHECKLIST – MONTHLY TASKS
LANDFILL GAS SYSTEM

Item	Inspection Item	Check Box
<i>Gas Extraction Wells, Visually inspect or improper operation during monthly well balancing. Check for:</i>		
1	Settlement of the well, vault, or surrounding cover	NS
2	Leakage of air or gas either in or around the well	X
3	Liquids pooling in the wellhead vaults	X
4	Condensate accumulating in the flexible connection between well and pipe manifold	X
5	Stress and/or ripping of the liner boots due to landfill settlement	X
<i>Gas Collection Piping, Visually inspect valve and valve vaults for damage or improper operation. Check for:</i>		
6	Settlement of the vault, or surrounding cover	NS
7	Leakage of air or gas either in or around the vault	X
8	Liquids pooling in the vault	X
9	Improper slope as a result of settlement	X
10	Landfill surface above buried pipe manifold for any signs of differential settlement	X
11	Any possibility of line blockage or breakage	X
<i>Knockout Tank and Surrounding Area – Visually Inspect and Note:</i>		
12	Any settling or buoyant rising	X
<i>Surface Collectors:</i>		
13	Visually inspect collector areas for signs of excessive differential settlement	X
14	Investigate any possibility of blockage or breakage as a result of condensate accumulation and/or freezing	X
<i>Aboveground Condensate Storage Tank</i>		
15	Inspect anchor bolts for firmness and integrity	X
<i>Enclosed Ground Flare</i>		
16	Inspect and periodically clean out the flame arrestor	X
<i>Leachate Collection Chambers</i>		
17	Inspect leachate collection chambers	X

Notes:

- 1 Use a check in the box to indicate that the specific item in the area has been inspected and no problems were noted.
- 2 Use “NS” (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 01/04/2023 (for December 2022)

Inspector’s Initials: MTP



B

DP-1Forms



**FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL**

REFERENCE INSPECTION FORM NO: 1

RFW NOTIFICATION REFERRAL NO.: _____

LOCATION: West Nyack, NY

PROBLEM/DEFICIENCY IDENTIFICATION:
1. Many of the vaults are experiencing the effects of settling. 2.
ACTION TAKEN:
1. Some vault lids remain open because the pipe is at a greater elevation than the vault. Open vault doors are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
RECOMMENDATIONS:
1. Replace with new above grade well heads (eliminate vaults).

Date: 1/25/2022

Inspector's Initials: MTP

**FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL**

REFERENCE INSPECTION FORM NO: 1

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1. Many of the vaults are experiencing the effects of settling.
ACTION TAKEN:
1. Some vault lids remain open because the pipe is at a greater elevation than the vault. Open vault doors are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
RECOMMENDATIONS:
1. Replace with new above grade well heads (eliminate vaults).

Date: 2/23/2022

Inspector's Initials: MTP

**FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL**

REFERENCE INSPECTION FORM NO: 1

RFW NOTIFICATION REFERRAL NO.: _____

LOCATION: West Nyack, NY

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Some vault lids remain open because the pipe is at a greater elevation than the vault. Open vault doors are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 3/25/2022

Inspector's Initials: MTP

**FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL**

REFERENCE INSPECTION FORM NO: 1

RFW NOTIFICATION REFERRAL NO.: _____

LOCATION: West Nyack, NY

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Some vault lids remain open because the pipe is at a greater elevation than the vault. Open vault doors are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
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Replace with new above grade well heads (eliminate vaults).

Date: 4/29/2022

Inspector's Initials: MTP/MJR

**FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL**

REFERENCE INSPECTION FORM NO: 1

RFW NOTIFICATION REFERRAL NO.: _____

LOCATION: West Nyack, NY

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RECOMMENDATIONS:
1. Replace with new above grade well heads (eliminate vaults).

Date: 5/18/2022

Inspector's Initials: MTP

**FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL**

REFERENCE INSPECTION FORM NO: 1

RFW NOTIFICATION REFERRAL NO.: _____

LOCATION: West Nyack, NY

PROBLEM/DEFICIENCY IDENTIFICATION:
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RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 6/29/2022

Inspector's Initials: BKM

**FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL**

REFERENCE INSPECTION FORM NO: 1

RFW NOTIFICATION REFERRAL NO.: _____

LOCATION: West Nyack, NY

PROBLEM/DEFICIENCY IDENTIFICATION:
Many of the vaults are experiencing the effects of settling.
ACTION TAKEN:
Some vault lids remain open because the pipe is at a greater elevation then the vault. Open vault door are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 7/21/2022

Inspector's Initials: MTP/MJR

**FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL**

REFERENCE INSPECTION FORM NO: 1

RFW NOTIFICATION REFERRAL NO.: _____

LOCATION: West Nyack, NY

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RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 8/30/2022

Inspector's Initials: MTP

**FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL**

REFERENCE INSPECTION FORM NO: 1

RFW NOTIFICATION REFERRAL NO.: _____

LOCATION: West Nyack, NY

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RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 9/20/2022

Inspector's Initials: MTP

**FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL**

REFERENCE INSPECTION FORM NO: 1

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LOCATION: West Nyack, NY

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Some vault lids remain open because the pipe is at a greater elevation than the vault. Open vault doors are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 11/01/2022 (for October 2022)

Inspector's Initials: BKM

FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL

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RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 11/23/2022

Inspector's Initials: BKM

**FORM DP-1
DESCRIPTION OF DEFICIENCIES AND PROBLEMS
CLARKSTOWN LANDFILL**

REFERENCE INSPECTION FORM NO: 1

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Some vault lids remain open because the pipe is at a greater elevation than the vault. Open vault door are causing breakdown of PVC sampling ports, and in some cases the flexible hose. Damaged ports have been sealed temporarily with duct tape.
RECOMMENDATIONS:
Replace with new above grade well heads (eliminate vaults).

Date: 01/04/2022 (for December 2022)

Inspector's Initials: MTP



C

Well Balancing Forms

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
B	1/25/2022	1	21.4	7.2	14.7	56.7	-5.2	0.011	9.2	49.0	11% Open	10% Open
B	2/23/2022	1	8.7	3.4	17.4	70.5	-4.0	0.026	14.2	71	11% Open	11% Open
B	3/25/2022	1	40.1	12.8	9.8	38.1	-1.5	0.050	19.7	66	11% Open	11% Open
B	4/29/2022	1	47.1	15.3	6.3	31.3	-1.8	0.004	5.6	72	11% Open	11% Open
B	5/18/2022	1	49.4	16.9	4.2	29.5	-2.0	0.011	9.2	74.0	11% Open	11% Open
B	6/29/2022	1	51.5	16.6	5.0	26.9	-1.4	0.101	28.0	85	10% Open	11% Open
B	7/21/2022	1	37.1	11.3	9.3	42.3	-1.2	0.005	6.5	85	10% Open	11% Open
B	8/30/2022	1	43.7	14.9	5.8	35.9	-2.0	0.072	23.6	NC	10% Open	11% Open
B	9/20/2022	1	38.0	13.8	7.8	40.4	-1.9	0.018	11.8	81	10% Open	11% Open
B	11/1/2022	1	57.4	19.2	3.8	19.6	-2.9	0.003	4.8	58	10% Open	10% Open
B	11/23/2022	1	61.3	19.6	3.4	15.7	-2.8	0.024	13.6	67.0	15% Open	10% Open
B	1/4/2023	1	29.7	9.7	11.8	48.8	-1.3	0.048	19.3	71	10% Open	15% Open
B	1/25/2022	2	49.3	16.8	10.8	23.1	-3.9	-0.640	0.0	50.0	35% Open	32% Open
B	2/23/2022	2	73.1	22.8	0.0	4.1	-2.5	-0.031	0.0	62	35% Open	35% Open
B	3/25/2022	2	77.3	22.2	0.0	0.5	-1.1	0.072	23.6	59	35% Open	35% Open
B	4/29/2022	2	77.5	22.4	0.0	0.1	-1.4	0.020	12.5	59	35% Open	35% Open
B	5/18/2022	2	78.2	22.4	0.0	0.4	-1.7	0.031	15.5	72.0	35% Open	35% Open
B	6/29/2022	2	76.9	22.5	0.4	0.2	-1.2	0.117	30.1	68	32% Open	35% Open
B	7/21/2022	2	76.1	23.6	0.2	0.1	-1.0	0.067	22.8	86	32% Open	35% Open
B	8/30/2022	2	64.7	21.5	1.9	9.8	-2.2	0.127	31.4	NC	32% Open	32% Open
B	9/20/2022	2	73.8	26.0	0.1	0.1	-1.5	0.036	16.7	66	32% Open	32% Open
B	11/1/2022	2	73.3	26.7	0.0	0.0	-2.4	0.048	19.3	59	35% Open	32% Open
B	11/23/2022	2	73.4	26.4	0.1	0.1	-2.2	0.032	15.8	60	37% Open	35% Open
B	1/4/2023	2	75.6	24.2	0.1	0.1	-1.2	0.011	9.2	58	45% Open	40% Open
B	1/25/2022	3	59.1	22.6	0.0	18.3	0.4	-1.625	0.0	55.0	100% Open	100% Open
B	2/23/2022	3	65.7	23.0	0.0	11.3	0.4	0.029	15.0	68	100% Open	100% Open
B	3/25/2022	3	67.6	17.6	2.7	12.1	-1.3	0.053	20.3	60	100% Open	100% Open
B	4/29/2022	3	80.0	19.7	0.1	0.2	-1.6	0.008	7.9	63	100% Open	100% Open
B	5/18/2022	3	81.1	18.6	0.0	0.3	-1.9	0.004	5.6	70.0	100% Open	100% Open
B	6/29/2022	3	68.6	14.8	3.1	13.5	-1.1	0.066	22.6	78	100% Open	100% Open
B	7/21/2022	3	80.8	18.9	0.1	0.2	-1.1	0.056	20.9	80	100% Open	100% Open
B	8/30/2022	3	80.4	19.6	0.0	0.0	-2.8	0.084	25.5	NC	100% Open	100% Open
B	9/20/2022	3	77.5	19.0	1.5	2.0	-1.7	0.026	14.2	78	100% Open	100% Open
B	11/1/2022	3	78.0	21.9	0.0	0.1	-2.3	0.024	13.6	61	100% Open	100% Open
B	11/23/2022	3	27.0	7.8	13.0	52.2	-2.4	NC	-	NC	100% Open	100% Open
B	1/4/2023	3	79.0	20.8	0.1	0.1	-1.2	-0.410	0.0	59	100% Open	100% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
B	1/25/2022	4	68.9	19.0	0.0	12.1	0.3	-0.004	0.0	60.0	5% Open	5% Open
B	2/23/2022	4	60.7	18.0	0.0	21.3	0.4	0.023	13.4	68	5% Open	5% Open
B	3/25/2022	4	70.2	15.1	1.8	12.9	-1.4	0.036	16.7	64	5% Open	5% Open
B	4/29/2022	4	71.3	16.0	1.4	11.3	-1.1	0.021	12.8	68	5% Open	5% Open
B	5/18/2022	4	31.7	13.0	6.9	48.4	-1.6	0.026	14.2	64.0	5% Open	5% Open
B	6/29/2022	4	60.5	16.6	1.5	21.4	-1.1	0.075	24.1	83	5% Open	5% Open
B	7/21/2022	4	57.3	16.8	1.1	24.8	-1.0	0.045	18.7	84	5% Open	5% Open
B	8/30/2022	4	34.3	8.8	10.5	46.4	-2.8	0.075	24.1	NC	5% Open	5% Open
B	9/20/2022	4	42.8	13.5	6.6	37.1	-2.9	-0.020	0.0	78	5% Open	5% Open
B	11/1/2022	4	79.3	18.5	0.0	2.2	-2.4	0.012	9.7	56	5% Open	5% Open
B	11/23/2022	4	77.9	18.3	0.2	3.6	-2.4	0.010	8.8	66	5% Open	5% Open
B	1/4/2023	4	57.1	13.4	4.8	24.7	-1.2	0.035	16.5	68	10% Open	5% Open
B	1/25/2022	5	62.5	24.5	0.0	13.0	0.4	-0.153	0.0	50.0	100% Open	100% Open
B	2/23/2022	5	66.9	23.7	0.0	10.3	0.3	-0.631	0.0	62	100% Open	100% Open
B	3/25/2022	5	71.5	23.2	0.0	5.3	-1.3	0.434	58.0	65	100% Open	100% Open
B	4/29/2022	5	72.4	23.1	0.0	4.5	-1.0	0.002	3.9	64	100% Open	100% Open
B	5/18/2022	5	58.5	22.4	0.3	18.8	-1.6	0.023	13.4	63.0	100% Open	100% Open
B	6/29/2022	5	58.4	21.8	1.9	17.9	-1.1	0.083	25.4	73	100% Open	100% Open
B	7/21/2022	5	78.5	21.4	0.0	0.1	-1.6	0.150	34.1	79	100% Open	100% Open
B	8/30/2022	5	78.4	20.1	0.0	1.5	-2.7	0.109	29.1	NC	100% Open	100% Open
B	9/20/2022	5	79.0	20.0	0.0	0.1	-3.0	0.038	17.2	74	100% Open	100% Open
B	11/1/2022	5	75.7	22.5	0.0	1.8	-2.2	0.159	35.1	66	100% Open	100% Open
B	11/23/2022	5	77.4	22.5	0.0	0.1	-2.3	0.020	12.5	66	100% Open	100% Open
B	1/4/2023	5	74.8	22.6	0.0	2.6	-1.1	0.040	17.6	62	100% Open	100% Open
B	1/25/2022	6	61.4	21.2	0.0	17.4	0.2	0.001	2.8	57.0	100% Open	100% Open
B	2/23/2022	6	63.1	21.7	0.0	15.2	0.4	0.023	13.4	66	100% Open	100% Open
B	3/25/2022	6	72.8	22.7	0.0	4.5	-1.4	0.038	17.2	58	100% Open	100% Open
B	4/29/2022	6	71.7	21.2	0.7	6.4	-1.0	0.019	12.1	60	100% Open	100% Open
B	5/18/2022	6	51.6	20.1	0.9	27.4	-1.6	0.024	13.6	67.0	100% Open	100% Open
B	6/29/2022	6	56.5	19.1	1.5	22.9	-1.1	0.079	24.8	78	100% Open	100% Open
B	7/21/2022	6	78.4	21.5	0.0	0.1	-1.5	0.008	7.9	81	100% Open	100% Open
B	8/30/2022	6	79.2	20.8	0.0	0.0	-3.1	0.077	24.4	NC	100% Open	100% Open
B	9/20/2022	6	78.1	21.4	0.4	0.1	-1.9	0.016	11.1	73	100% Open	100% Open
B	11/1/2022	6	76.0	22.0	0.0	2.0	-2.4	0.015	10.8	58	100% Open	100% Open
B	11/23/2022	6	77.1	22.8	0.0	0.1	-2.4	0.012	9.7	56	100% Open	100% Open
B	1/4/2023	6	76.0	22.1	0.2	1.7	-1.1	0.034	16.2	61	100% Open	100% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
B	1/25/2022	7	49.2	15.3	0.0	35.5	0.3	-0.007	0.0	52.0	100% Open	100% Open
B	2/23/2022	7	61.9	23.4	0.0	14.7	0.5	0.022	13.1	63	100% Open	100% Open
B	3/25/2022	7	52.3	15.2	0.7	31.8	-1.0	0.021	12.8	53	100% Open	100% Open
B	4/29/2022	7	61.0	15.0	0.5	23.5	-1.1	0.020	12.5	62	100% Open	100% Open
B	5/18/2022	7	38.4	13.8	6.0	41.8	-1.7	0.024	13.6	67.0	100% Open	100% Open
B	6/29/2022	7	69.8	15.1	0.0	20.1	-1.4	0.109	29.1	83	100% Open	100% Open
B	7/21/2022	7	84.3	14.2	0.2	1.3	-1.0	0.039	17.4	85	100% Open	100% Open
B	8/30/2022	7	83.3	13.5	0.0	3.1	-3.0	0.076	24.3	NC	100% Open	100% Open
B	9/20/2022	7	62.9	10.9	4.8	21.4	-1.6	0.017	11.5	77	100% Open	100% Open
B	11/1/2022	7	78.7	14.7	0.0	6.6	-3.8	0.023	13.4	63	100% Open	100% Open
B	11/23/2022	7	73.9	14.8	0.5	10.8	-3.7	0.026	14.2	55	100% Open	100% Open
B	1/4/2023	7	70.3	16.4	0.2	13.1	-1.3	0.035	16.5	64	100% Open	100% Open
B	1/25/2022	8	55.0	14.8	0.0	30.2	0.3	0.003	4.8	52.0	100% Open	100% Open
B	2/23/2022	8	39.5	18.8	1.3	40.4	0.5	0.027	14.5	64	100% Open	100% Open
B	3/25/2022	8	53.6	14.3	1.9	30.2	-1.0	0.025	13.9	55	100% Open	100% Open
B	4/29/2022	8	68.2	14.0	1.6	16.2	-1.1	0.014	10.4	64	100% Open	100% Open
B	5/18/2022	8	78.8	15.7	0.1	5.4	-1.6	0.026	14.2	69.0	100% Open	100% Open
B	6/29/2022	8	82.9	14.6	0.0	2.5	-1.3	0.115	29.9	80	100% Open	100% Open
B	7/21/2022	8	86.7	13.2	0.0	0.1	-1.3	0.073	23.8	81	100% Open	100% Open
B	8/30/2022	8	85.2	12.6	0.2	2.0	-3.0	0.081	25.1	NC	100% Open	100% Open
B	9/20/2022	8	82.4	12.0	0.7	4.9	-2.1	0.003	4.8	80	100% Open	100% Open
B	11/1/2022	8	81.5	13.9	0.2	4.4	-2.5	0.019	12.1	62	100% Open	100% Open
B	11/23/2022	8	83.2	14.1	0.3	2.4	-3.8	0.027	14.5	56	100% Open	100% Open
B	1/4/2023	8	76.8	15.3	0.1	7.8	-1.3	0.038	17.2	62	100% Open	100% Open
C	1/25/2022	9	7.3	2.9	17.5	72.3	0.0	0.002	3.9	53.0	2% Open	0% Open
C	2/23/2022	9	45.1	20.9	0.0	34.0	0.1	0.021	12.8	63	2% Open	2% Open
C	3/25/2022	9	40.7	18.1	1.8	39.4	0.4	0.019	12.1	57	2% Open	2% Open
C	4/29/2022	9	3.2	1.2	20.2	75.4	-1.0	0.015	10.8	67	2% Open	2% Open
C	5/18/2022	9	40.1	11.2	10.0	38.7	-0.4	0.029	15.0	72.0	2% Open	2% Open
C	6/29/2022	9	77.5	21.7	0.6	0.2	-0.7	0.110	29.2	89	5% Open	2% Open
C	7/21/2022	9	75.1	22.3	1.5	0.1	0.0	0.032	15.8	90	5% Open	2% Open
C	8/30/2022	9	0.3	0.3	19.0	80.4	-0.5	0.084	25.5	NC	5% Open	5% Open
C	9/20/2022	9	72.5	27.4	0.0	0.1	-0.2	0.022	13.1	78	5% Open	5% Open
C	11/1/2022	9	71.1	24.9	1.4	2.6	-1.2	0.007	7.4	58	20% Open	5% Open
C	11/23/2022	9	72.6	25.6	1.1	0.7	-1.4	0.027	14.5	65	25% Open	20% Open
C	1/4/2023	9	56.3	17.5	5.7	20.5	-0.3	0.029	15.0	67	5% Open	5% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
C	1/25/2022	10	70.8	27.3	1.8	0.1	0.6	-	-	Broken	0% Open	0% Open
C	2/23/2022	10	69.5	25.7	0.0	4.8	0.8	-	-	Broken	0% Open	0% Open
C	3/25/2022	10	73.1	26.8	0.0	0.1	1.1	-	-	Broken	0% Open	0% Open
C	4/29/2022	10	69.1	24.0	1.6	5.3	0.0	-	-	Broken	0% Open	0% Open
C	5/18/2022	10	0.6	0.1	20.6	78.7	-0.1	-	-	Broken	0% Open	0% Open
C	6/29/2022	10	72.9	23.8	0.0	3.3	-	-	-	Broken	0% Open	0% Open
C	7/21/2022	10	74.1	25.6	0.2	0.1	0.4	-	-	Broken	0% Open	0% Open
C	8/30/2022	10	74.8	25.2	0.0	0.0	0.4	-	-	Broken	0% Open	0% Open
C	9/20/2022	10	72.6	27.3	0.0	0.1	0.3	-	-	Broken	0% Open	0% Open
C	11/1/2022	10	71.0	28.9	0.0	0.1	0.0	-	-	Broken	0% Open	0% Open
C	11/23/2022	10	69.3	27.2	0.9	2.6	-0.3	-	-	Broken	0% Open	0% Open
C	1/4/2023	10	73.1	26.4	0.4	0.1	-0.9	0.030	15.3	68	20% Open	10% Open
D	1/25/2022	11	71.5	23.5	0.0	5.0	0.3	0.006	6.8	50.0	12% Open	12.4% Open
D	2/23/2022	11	72.0	22.8	0.4	4.8	-0.5	-0.084	0.0	54	12% Open	12% Open
D	3/25/2022	11	76.5	23.1	0.0	0.4	0.1	0.015	10.8	51	12% Open	12% Open
D	4/29/2022	11	78.3	21.6	0.0	0.1	-0.6	0.006	6.8	57	12% Open	12% Open
D	5/18/2022	11	70.7	21.0	1.1	7.2	-0.7	0.020	12.5	60.0	12% Open	12% Open
D	6/29/2022	11	77.1	22.3	0.0	0.6	-0.3	0.110	29.2	71	10% Open	12% Open
D	7/21/2022	11	76.4	23.4	0.1	0.1	-0.4	-0.040	0.0	71	10% Open	12% Open
D	8/30/2022	11	70.8	23.7	0.1	5.4	-0.6	0.083	25.4	NC	10% Open	10% Open
D	9/20/2022	11	70.3	24.1	0.6	5.0	-0.6	0.025	13.9	67	10% Open	10% Open
D	11/1/2022	11	68.1	25.2	0.0	6.7	-1.1	0.012	9.7	58	20% Open	10% Open
D	11/23/2022	11	60.9	24.2	0.0	14.9	-1.5	0.031	15.5	59	20% Open	20% Open
D	1/4/2023	11	48.3	20.9	0.2	30.6	-0.9	0.028	14.7	55	10% Open	10% Open
D	1/25/2022	12	72.2	27.7	0.0	0.1	-0.3	0.172	36.5	49.0	42% Open	42% Open
D	2/23/2022	12	66.6	23.0	2.7	7.7	-1.1	-0.004	0.0	60	42% Open	42% Open
D	3/25/2022	12	73.5	25.9	0.4	0.2	-0.6	0.139	32.8	55	42% Open	42% Open
D	4/29/2022	12	73.7	23.2	3.0	0.1	-1.1	0.021	12.8	55	42% Open	42% Open
D	5/18/2022	12	76.3	22.7	0.7	0.1	-1.3	0.065	22.5	70.0	42% Open	42% Open
D	6/29/2022	12	73.2	23.0	1.4	2.4	-0.4	0.058	21.2	83	40% Open	42% Open
D	7/21/2022	12	77.2	21.8	0.9	0.1	-0.2	0.012	9.7	87	40% Open	42% Open
D	8/30/2022	12	73.9	25.3	0.3	0.6	-0.4	0.076	24.3	Broken	40% Open	40% Open
D	9/20/2022	12	60.4	21.6	4.4	13.6	-1.1	0.053	20.3	76	40% Open	40% Open
D	11/1/2022	12	71.0	28.4	0.4	0.2	-1.6	0.013	10.0	56	40% Open	40% Open
D	11/23/2022	12	70.9	28.3	0.6	0.2	-1.7	0.012	9.7	54	45% Open	40% Open
D	1/4/2023	12	72.4	25.6	1.6	0.4	-0.9	0.285	47.0	64	50% Open	45% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
D	1/25/2022	13	81.2	18.7	0.0	0.1	0.8	0.003	4.8	57.0	100% Open	100% Open
D	2/23/2022	13	79.3	20.2	0.2	0.3	0.5	0.128	31.5	63	100% Open	100% Open
D	3/25/2022	13	80.3	19.6	0.0	0.1	0.2	0.540	64.7	56	100% Open	100% Open
D	4/29/2022	13	81.7	18.2	0.0	0.1	0.4	0.022	13.1	61	100% Open	100% Open
D	5/18/2022	13	82.2	17.6	0.0	0.2	-0.1	0.067	22.8	65.0	100% Open	100% Open
D	6/29/2022	13	79.5	17.1	0.0	3.4	-0.3	0.110	29.2	75	100% Open	100% Open
D	7/21/2022	13	82.4	17.0	0.0	0.6	-0.3	0.078	24.6	80	100% Open	100% Open
D	8/30/2022	13	74.0	17.9	0.0	8.1	0.2	0.097	27.4	NC	100% Open	100% Open
D	9/20/2022	13	74.5	14.5	0.8	5.2	-0.6	0.027	14.5	76	100% Open	100% Open
D	11/1/2022	13	78.3	21.0	0.2	0.5	-0.7	0.178	37.2	64	100% Open	100% Open
D	11/23/2022	13	78.5	21.4	0.0	0.1	-0.9	0.010	8.8	58	100% Open	100% Open
D	1/4/2023	13	79.5	20.4	0.0	0.1	-0.3	0.023	13.4	60	100% Open	100% Open
None	1/25/2022	14	49.7	16.2	0.0	34.1	0.0	0.005	6.2	47.0	10% Open	10% Open
None	2/23/2022	14	52.8	16.7	0.3	30.2	-1.6	0.029	15.0	63	10% Open	10% Open
None	3/25/2022	14	61.7	15.4	2.5	20.4	-0.8	0.029	15.0	54	10% Open	10% Open
None	4/29/2022	14	77.4	17.8	0.0	4.8	-0.8	0.026	14.2	60	10% Open	10% Open
None	5/18/2022	14	74.2	17.8	0.0	8.0	-1.2	0.042	18.1	65.0	10% Open	10% Open
None	6/29/2022	14	82.7	16.7	0.0	0.6	-0.9	0.112	29.5	76	85% Open	10% Open
None	7/21/2022	14	85.3	14.6	0.0	0.1	-1.0	0.076	24.3	77	85% Open	10% Open
None	8/30/2022	14	82.9	14.2	0.0	2.9	-1.3	0.076	24.3	NC	85% Open	85% Open
None	9/20/2022	14	77.5	13.4	1.4	7.7	-1.7	0.014	10.4	75	85% Open	85% Open
None	11/1/2022	14	69.4	14.8	1.5	14.3	-1.7	0.030	15.3	63	85% Open	85% Open
None	11/23/2022	14	76.1	17.1	0.0	6.8	-1.8	0.322	50.0	59	90% Open	85% Open
None	1/4/2023	14	73.7	16.8	0.0	9.5	-0.9	0.036	16.7	60	85% Open	85% Open
E	1/25/2022	15	71.0	21.7	0.0	7.3	0.3	-	-	Broken	85% Open	85% Open
E	2/23/2022	15	72.5	21.8	0.0	5.7	-1.4	-	-	Broken	85% Open	85% Open
E	3/25/2022	15	78.0	21.8	0.0	0.2	-0.9	-	-	Broken	85% Open	85% Open
E	4/29/2022	15	68.7	20.1	0.0	11.2	-1.5	-	-	Broken	85% Open	85% Open
E	5/18/2022	15	36.5	13.7	4.4	45.4	-1.5	-	-	Broken	85% Open	85% Open
E	6/29/2022	15	55.6	17.9	0.2	26.3	-	-	-	Broken	85% Open	85% Open
E	7/21/2022	15	78.4	21.4	0.0	0.2	-0.8	-	-	Broken	85% Open	85% Open
E	8/30/2022	15	77.5	22.5	0.0	0.0	-1.6	-	-	Broken	85% Open	85% Open
E	9/20/2022	15	76.3	22.7	0.9	0.1	-1.4	-	-	Broken	85% Open	85% Open
E	11/1/2022	15	74.2	24.0	0.0	1.8	-2.1	-	-	Broken	85% Open	85% Open
E	11/23/2022	15	66.0	22.1	1.4	10.5	-2.2	-	-	Broken	85% Open	85% Open
E	1/4/2023	15	76.1	21.9	0.1	1.9	-1.1	0.256	44.6	66	80% Open	70% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
E	1/25/2022	16	72.3	15.6	1.1	11.0	0.2	0.007	7.4	50.0	52% Open	52% Open
E	2/23/2022	16	71.6	15.4	0.7	12.3	-1.5	0.019	12.1	60	52% Open	52% Open
E	3/25/2022	16	73.8	13.9	1.9	10.4	-0.8	0.025	13.9	58	52% Open	52% Open
E	4/29/2022	16	86.3	15.5	0.0	4.2	-0.9	0.021	12.8	61	52% Open	52% Open
E	5/18/2022	16	75.2	17.5	0.0	7.3	-1.3	-0.005	0.0	69.0	52% Open	52% Open
E	6/29/2022	16	73.9	14.7	0.0	11.4	-1.1	0.106	28.7	79	52% Open	52% Open
E	7/21/2022	16	87.1	12.1	0.7	0.1	-1.0	0.067	22.8	84	52% Open	52% Open
E	8/30/2022	16	85.9	12.1	0.0	2.0	-1.0	0.084	25.5	NC	52% Open	52% Open
E	9/20/2022	16	87.5	12.3	0.0	0.2	-1.3	0.023	13.4	77	52% Open	52% Open
E	11/1/2022	16	81.1	12.8	0.0	6.1	-2.2	0.018	11.8	62	52% Open	52% Open
E	11/23/2022	16	78.2	13.4	0.0	8.4	-1.6	0.021	12.8	55	100% Open	52% Open
E	1/4/2023	16	73.2	13.3	0.0	13.5	-1.1	0.027	14.5	60	52% Open	52% Open
E	1/25/2022	17	89.6	13.0	0.0	0.1	0.2	0.001	2.8	51.0	53 % Open	50% Open
E	2/23/2022	17	28.4	4.4	11.8	55.4	-1.3	0.039	17.4	63	53 % Open	53 % Open
E	3/25/2022	17	6.3	1.0	15.5	77.2	-0.9	0.040	17.6	64	53 % Open	53 % Open
E	4/29/2022	17	35.6	5.3	11.4	47.7	-1.0	0.025	13.9	62	53 % Open	53 % Open
E	5/18/2022	17	26.2	4.1	13.8	55.9	-1.4	0.013	10.0	71.0	53 % Open	53 % Open
E	6/29/2022	17	27.5	4.2	14.2	54.1	-1.2	0.094	27.0	80	52 % Open	53 % Open
E	7/21/2022	17	30.8	4.3	12.5	52.4	-1.1	0.065	22.5	89	52 % Open	53 % Open
E	8/30/2022	17	24.1	3.7	13.7	58.6	-1.7	0.083	25.4	NC	52 % Open	52 % Open
E	9/20/2022	17	21.7	3.3	14.2	60.8	-1.2	0.010	8.8	77	52 % Open	52 % Open
E	11/1/2022	17	23.9	3.7	14.5	57.9	-2.0	0.029	15.0	63	45% Open	52 % Open
E	11/23/2022	17	17.1	3.3	15.6	64.0	-1.8	0.023	13.4	55	45% Open	45% Open
E	1/4/2023	17	37.3	5.2	11.4	46.1	-1.2	0.022	13.1	67	45% Open	45% Open
E	1/25/2022	18	81.3	13.5	0.0	5.2	0.2	-	-	Broken	100% Open	100% Open
E	2/23/2022	18	69.5	11.3	2.7	16.5	-1.7	-	-	Broken	100% Open	100% Open
E	3/25/2022	18	87.3	12.6	0.0	0.1	-0.9	-	-	Broken	100% Open	100% Open
E	4/29/2022	18	82.8	11.7	1.0	4.5	-1.0	-	-	Broken	100% Open	100% Open
E	5/18/2022	18	51.0	11.9	1.4	35.7	-1.4	-	-	Broken	100% Open	100% Open
E	6/29/2022	18	78.1	11.7	1.0	9.2	-1.2	-	-	Broken	100% Open	100% Open
E	7/21/2022	18	87.9	10.6	1.3	0.2	-1.1	-	-	Broken	100% Open	100% Open
E	8/30/2022	18	75.4	9.8	3.2	11.6	-1.7	-	-	Broken	100% Open	100% Open
E	9/20/2022	18	57.7	7.7	5.5	29.1	-2.2	-	-	Broken	100% Open	100% Open
E	11/1/2022	18	52.7	8.3	4.7	34.3	-1.7	-	-	Broken	100% Open	100% Open
E	11/23/2022	18	49.2	8.0	6.4	36.4	-1.5	-	-	Broken	100% Open	100% Open
E	1/4/2023	18	82.0	10.7	1.4	5.9	-1.1	-	-	Broken	100% Open	100% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
F	1/25/2022	19	75.6	23.4	0.0	0.1	0.2	-	-	Broken	50% Open	50% Open
F	2/23/2022	19	76.5	23.4	0.0	0.1	-0.9	-	-	Broken	50% Open	50% Open
F	3/25/2022	19	77.2	22.7	0.0	0.1	-0.5	-	-	Broken	50% Open	50% Open
F	4/29/2022	19	77.9	21.8	0.6	0.2	-0.9	-	-	Broken	50% Open	50% Open
F	5/18/2022	19	76.5	20.6	0.0	2.9	-1.0	-	-	Broken	50% Open	50% Open
F	6/29/2022	19	73.6	19.9	0.1	6.4	-	-	-	Broken	50% Open	50% Open
F	7/21/2022	19	79.1	20.8	0.0	0.1	-0.5	-	-	Broken	50% Open	50% Open
F	8/30/2022	19	78.4	21.6	0.0	0.0	-0.8	-	-	Broken	50% Open	50% Open
F	9/20/2022	19	76.5	23.2	0.2	0.1	-0.9	-	-	Broken	50% Open	50% Open
F	11/1/2022	19	75.2	24.8	0.0	0.0	-1.4	-	-	Broken	50% Open	50% Open
F	11/23/2022	19	74.8	24.7	0.4	0.1	-1.4	-	-	Broken	50% Open	50% Open
F	1/4/2023	19	75.6	24.0	0.2	0.2	-0.7	-	-	Broken	50% Open	50% Open
F	1/25/2022	20	84.5	15.3	0.1	0.1	0.3	-	-	Broken	50% Open	50% Open
F	2/23/2022	20	79.8	19.0	1.0	0.2	-0.8	-	-	Broken	50% Open	50% Open
F	3/25/2022	20	76.4	22.7	0.8	0.1	-0.5	-	-	Broken	50% Open	50% Open
F	4/29/2022	20	79.8	19.4	0.6	0.2	-0.9	-	-	Broken	50% Open	50% Open
F	5/18/2022	20	78.7	20.7	0.4	0.2	-0.9	-	-	Broken	50% Open	50% Open
F	6/29/2022	20	78.5	21.3	0.1	0.1	-	-	-	Broken	50% Open	50% Open
F	7/21/2022	20	81.5	18.0	0.4	0.1	-0.5	-	-	Broken	50% Open	50% Open
F	8/30/2022	20	76.4	23.5	0.1	0.0	-0.7	-	-	Broken	50% Open	50% Open
F	9/20/2022	20	72.9	26.2	0.7	0.2	-0.8	-	-	Broken	50% Open	50% Open
F	11/1/2022	20	14.5	25.6	0.0	0.1	-1.3	-	-	Broken	50% Open	50% Open
F	11/23/2022	20	73.9	25.6	0.3	0.2	-1.3	-	-	Broken	50% Open	50% Open
F	1/4/2023	20	78.7	20.9	0.3	0.1	-0.7	-	-	Broken	50% Open	50% Open
F	1/25/2022	21	84.7	15.2	0.0	0.1	0.2	0.003	4.8	61.0	100% Open	100% Open
F	2/23/2022	21	78.0	12.3	2.8	6.9	-1.0	0.010	8.8	63	100% Open	100% Open
F	3/25/2022	21	84.2	12.3	1.6	1.9	-0.7	0.030	15.3	63	100% Open	100% Open
F	4/29/2022	21	85.7	14.2	0.0	0.1	-0.2	0.014	10.4	66	100% Open	100% Open
F	5/18/2022	21	85.8	13.8	0.3	0.1	-0.8	0.002	3.9	73.0	100% Open	100% Open
F	6/29/2022	21	86.8	13.1	0.0	0.1	-0.6	0.104	28.4	85	100% Open	100% Open
F	7/21/2022	21	87.0	12.8	0.0	0.2	-0.6	0.065	22.5	87	100% Open	100% Open
F	8/30/2022	21	88.1	119.0	0.0	0.0	-0.6	0.074	24.0	NC	100% Open	100% Open
F	9/20/2022	21	87.0	12.2	0.7	0.1	-0.9	0.015	10.8	79	100% Open	100% Open
F	11/1/2022	21	87.0	12.8	0.0	0.1	-1.2	0.013	10.0	64	100% Open	100% Open
F	11/23/2022	21	86.8	13.1	0.0	0.1	-1.0	0.018	11.8	65	100% Open	100% Open
F	1/4/2023	21	86.1	12.9	0.8	0.2	-0.6	0.024	13.6	65	100% Open	100% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
F	1/25/2022	22	72.0	21.0	3.2	3.8	0.0	0.004	5.6	44.0	20% Open	15% Open
F	2/23/2022	22	71.4	21.5	0.2	6.9	-0.1	0.016	11.1	57	20% Open	20% Open
F	3/25/2022	22	75.5	21.0	0.0	3.5	0.0	0.053	20.3	56	20% Open	20% Open
F	4/29/2022	22	76.5	20.6	0.0	2.9	0.2	0.025	13.9	59	20% Open	20% Open
F	5/18/2022	22	78.6	21.0	0.0	0.4	-0.1	0.026	14.2	65.0	20% Open	20% Open
F	6/29/2022	22	73.7	20.2	0.2	5.9	0.0	0.034	16.2	71	20% Open	20% Open
F	7/21/2022	22	78.9	19.5	1.4	0.2	0.1	0.057	21.0	80	20% Open	20% Open
F	8/30/2022	22	76.7	20.7	0.2	2.7	0.0	0.089	26.3	NC	20% Open	20% Open
F	9/20/2022	22	78.3	21.6	0.0	0.1	-0.1	0.011	9.2	73	20% Open	20% Open
F	11/1/2022	22	75.7	22.5	0.0	1.8	-0.3	0.044	18.5	58	20% Open	20% Open
F	11/23/2022	22	71.1	23.4	0.0	5.5	-0.4	0.021	12.8	53	25% Open	20% Open
F	1/4/2023	22	71.9	21.5	0.2	6.4	-0.1	0.036	16.7	60	25% Open	25% Open
F	1/25/2022	23	73.5	21.9	0.0	4.6	0.0	-	-	Broken	5% Open	5% Open
F	2/23/2022	23	72.9	21.8	0.0	5.3	-0.2	-	-	Broken	5% Open	5% Open
F	3/25/2022	23	75.4	21.3	0.0	3.3	0.0	-	-	Broken	5% Open	5% Open
F	4/29/2022	23	75.7	20.9	0.0	3.4	0.3	-	-	Broken	5% Open	5% Open
F	5/18/2022	23	79.0	20.6	0.0	0.4	-0.1	-	-	Broken	5% Open	5% Open
F	6/29/2022	23	76.7	20.0	0.0	3.3	-0.1	-	-	Broken	5% Open	5% Open
F	7/21/2022	23	78.9	19.8	0.0	1.3	-0.1	-	-	Broken	5% Open	5% Open
F	8/30/2022	23	81.2	18.1	0.0	0.7	-0.2	-	-	Broken	5% Open	5% Open
F	9/20/2022	23	79.4	20.5	0.0	0.1	-0.2	-	-	Broken	5% Open	5% Open
F	11/1/2022	23	78.1	21.8	0.0	0.1	-0.5	-	-	Broken	5% Open	5% Open
F	11/23/2022	23	78.4	21.6	0.0	0.0	-0.3	-	-	Broken	5% Open	5% Open
F	1/4/2023	23	76.2	21.4	0.0	2.4	-0.1	-	-	Broken	5% Open	5% Open
G	1/25/2022	24	76.6	16.8	0.0	6.6	0.3	0.002	3.9	60.0	100% Open	100% Open
G	2/23/2022	24	70.1	14.6	1.7	13.6	-1.4	0.013	10.0	64	100% Open	100% Open
G	3/25/2022	24	79.1	15.2	1.4	4.3	-1.2	0.037	16.9	69	100% Open	100% Open
G	4/29/2022	24	83.2	16.6	0.1	0.1	-0.6	0.007	7.4	61	100% Open	100% Open
G	5/18/2022	24	51.9	14.6	2.3	31.2	-1.2	0.003	4.8	73.0	100% Open	100% Open
G	6/29/2022	24	83.9	16.6	0.0	0.1	-1.0	0.102	28.1	84	100% Open	100% Open
G	7/21/2022	24	84.6	15.2	0.1	0.1	-1.0	0.061	21.8	89	100% Open	100% Open
G	8/30/2022	24	84.8	14.7	0.2	0.3	-0.9	0.068	23.0	NC	100% Open	100% Open
G	9/20/2022	24	70.9	12.7	3.2	13.2	-1.3	0.013	10.0	78	100% Open	100% Open
G	11/1/2022	24	83.3	16.1	0.0	0.1	-2.2	0.008	7.9	61	100% Open	100% Open
G	11/23/2022	24	76.5	15.2	3.1	5.2	-1.8	0.022	13.1	59	100% Open	100% Open
G	1/4/2023	24	83.9	15.6	0.3	0.2	-0.9	0.044	18.5	69	100% Open	100% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
G	1/25/2022	25	71.8	18.8	0.3	9.1	-0.1	-0.019	0.0	40.0	100% Open	10% Open
G	2/23/2022	25	76.7	18.5	0.0	4.8	-1.4	0.024	13.6	61	100% Open	100% Open
G	3/25/2022	25	72.9	14.7	2.4	10.0	-1.2	0.044	18.5	62	100% Open	100% Open
G	4/29/2022	25	79.3	17.7	0.0	3.0	-0.6	0.007	7.4	60	100% Open	100% Open
G	5/18/2022	25	84.3	15.5	0.0	0.2	-1.2	-0.002	0.0	69.0	100% Open	100% Open
G	6/29/2022	25	85.7	14.3	0.0	0.0	-1.0	0.098	27.6	80	100% Open	100% Open
G	7/21/2022	25	84.3	14.7	0.8	0.2	-1.0	0.072	23.6	85	100% Open	100% Open
G	8/30/2022	25	85.7	13.5	0.0	0.8	-1.1	0.069	23.1	NC	100% Open	100% Open
G	9/20/2022	25	86.3	13.4	0.2	0.1	-1.5	0.015	10.8	76	100% Open	100% Open
G	11/1/2022	25	84.5	15.4	0.0	0.1	-2.2	0.009	8.4	59	100% Open	100% Open
G	11/23/2022	25	84.0	15.9	0.0	0.1	-1.7	0.019	12.1	57	100% Open	100% Open
G	1/4/2023	25	83.8	16.2	0.0	0.0	-0.9	0.018	11.8	62	100% Open	100% Open
G	1/25/2022	26	Cannot collect readings.									
G	2/23/2022	26	Cannot collect readings.									
G	3/25/2022	26	Cannot collect readings.									
G	4/29/2022	26	Cannot collect readings.									
G	5/18/2022	26	Cannot collect readings.									
G	6/29/2022	26	Cannot collect readings.									
G	7/21/2022	26	Cannot collect readings.									
G	8/30/2022	26	Cannot collect readings.									
G	9/20/2022	26	Cannot collect readings.									
G	11/1/2022	26	Cannot collect readings.									
G	11/23/2022	26	Cannot collect readings.									
G	1/4/2023	26	66.6	19.3	0.0	14.1	-0.9	0.0	10.0	66.0	100% Open	100% Open
G	1/25/2022	27	0.5	0.5	21.4	77.6	-0.1	-	-	Broken	0% Open	0% Open
G	2/23/2022	27	0.1	0.0	21.3	78.6	-0.2	-	-	Broken	0% Open	0% Open
G	3/25/2022	27	41.4	21.6	0.0	37.0	0.1	-	-	Broken	0% Open	0% Open
G	4/29/2022	27	45.2	21.1	0.0	33.7	0.2	-	-	Broken	0% Open	0% Open
G	5/18/2022	27	0.6	0.0	20.1	79.3	-0.2	-	-	Broken	0% Open	0% Open
G	6/29/2022	27	0.3	0.0	20.9	78.8	-0.1	-	-	Broken	0% Open	0% Open
G	7/21/2022	27	0.3	0.0	20.6	79.1	-0.1	-	-	Broken	0% Open	0% Open
G	8/30/2022	27	0.4	0.1	20.4	79.1	-0.1	-	-	Broken	0% Open	0% Open
G	9/20/2022	27	0.6	0.0	19.9	79.5	-0.3	-	-	Broken	0% Open	0% Open
G	11/1/2022	27	0.2	0.0	19.9	79.9	-0.5	-	-	Broken	20% Open	0% Open
G	11/23/2022	27	0.2	0.0	20.6	79.2	-0.3	-	-	Broken	20% Open	20% Open
G	1/4/2023	27	0.3	0.1	19.3	80.3	-0.1	-	-	Broken	0% Open	0% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
G	1/25/2022	28	72.3	17.9	0.0	9.8	-0.1	-0.337	0.0	39.0	16% Open	12.5% Open
G	2/23/2022	28	71.8	17.6	1.4	9.2	-0.9	-0.106	0.0	57	16% Open	16% Open
G	3/25/2022	28	71.4	17.1	0.0	11.5	-0.4	0.058	21.2	60	16% Open	16% Open
G	4/29/2022	28	79.1	18.2	0.0	2.7	-0.1	0.015	10.8	58	16% Open	16% Open
G	5/18/2022	28	76.8	15.6	0.5	7.1	-0.7	0.003	4.8	65.0	16% Open	16% Open
G	6/29/2022	28	81.1	15.8	0.0	3.1	-0.5	0.094	27.0	72	15% Open	16% Open
G	7/21/2022	28	84.8	15.1	0.0	0.1	-0.7	0.074	24.0	74	15% Open	16% Open
G	8/30/2022	28	83.2	16.6	0.0	0.2	-0.8	0.082	25.2	NC	15% Open	15% Open
G	9/20/2022	28	75.4	17.3	0.5	6.8	-1.0	-0.002	0.0	72	15% Open	15% Open
G	11/1/2022	28	65.7	19.4	0.0	14.9	-1.3	0.023	13.4	61	100% Open	15% Open
G	11/23/2022	28	57.8	19.2	0.2	22.8	-1.0	0.025	13.9	60	20% Open	100% Open
G	1/4/2023	28	71.8	17.5	1.0	9.7	-0.6	0.026	14.2	NC	25% Open	20% Open
G	1/25/2022	29	90.3	9.6	0.0	0.1	0.0	0.001	2.8	41.0	100% Open	100% Open
G	2/23/2022	29	79.7	7.9	2.3	10.1	-1.5	0.015	10.8	63	100% Open	100% Open
G	3/25/2022	29	91.0	8.0	0.9	0.1	-1.0	0.044	18.5	62	100% Open	100% Open
G	4/29/2022	29	91.9	8.0	0.0	0.1	-0.8	0.025	13.9	62	100% Open	100% Open
G	5/18/2022	29	89.1	6.6	1.8	2.5	-1.1	0.004	5.6	73.0	100% Open	100% Open
G	6/29/2022	29	93.1	6.0	0.0	0.1	-0.8	0.096	27.3	86	100% Open	100% Open
G	7/21/2022	29	93.4	6.5	0.0	0.1	-0.8	0.074	24.0	87	100% Open	100% Open
G	8/30/2022	29	93.4	6.6	0.0	0.0	-1.1	0.071	23.5	NC	100% Open	100% Open
G	9/20/2022	29	88.7	6.1	1.6	3.6	-1.2	0.000	0.0	78	100% Open	100% Open
G	11/1/2022	29	90.0	7.4	0.0	2.6	-2.0	0.017	11.5	62	100% Open	100% Open
G	11/23/2022	29	89.0	7.5	0.0	3.5	-1.5	0.012	9.7	55	100% Open	100% Open
G	1/4/2023	29	92.4	7.5	0.0	0.1	-0.8	0.053	20.3	65	100% Open	100% Open
H	1/25/2022	30	62.1	15.6	0.0	22.3	0.2	0.009	8.4	52.0	100% Open	100% Open
H	2/23/2022	30	62.9	15.0	0.5	21.6	-1.5	0.022	13.1	62	100% Open	100% Open
H	3/25/2022	30	76.8	15.4	0.6	7.2	-0.9	0.042	18.1	55	100% Open	100% Open
H	4/29/2022	30	80.0	16.8	0.0	3.2	-0.9	0.021	12.8	61	100% Open	100% Open
H	5/18/2022	30	79.1	18.4	0.4	2.1	-1.2	0.004	5.6	67.0	100% Open	100% Open
H	6/29/2022	30	83.6	16.3	0.0	0.1	-1.0	0.109	29.1	79	100% Open	100% Open
H	7/21/2022	30	86.4	13.5	0.0	0.1	-1.0	0.076	24.3	76	100% Open	100% Open
H	8/30/2022	30	85.7	12.6	0.0	1.7	-1.0	0.082	25.2	NC	100% Open	100% Open
H	9/20/2022	30	72.6	10.9	3.2	13.3	-1.1	0.009	8.4	78	100% Open	100% Open
H	11/1/2022	30	67.9	11.5	3.7	16.9	-1.7	0.015	10.8	63	100% Open	100% Open
H	11/23/2022	30	80.4	15.3	0.0	4.3	-1.4	0.027	14.5	57	75% Open	100% Open
H	1/4/2023	30	80.0	15.5	0.0	4.5	-0.9	0.029	15.0	61	100% Open	100% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
H	1/25/2022	31	56.1	20.7	0.0	23.2	-0.2	-	-	Broken	10% Open	10% Open
H	2/23/2022	31	68.4	21.7	0.0	9.9	-1.5	-	-	Broken	10% Open	10% Open
H	3/25/2022	31	78.2	21.5	0.0	0.3	-1.2	-	-	Broken	10% Open	10% Open
H	4/29/2022	31	76.7	19.9	0.0	3.4	-0.7	-	-	Broken	10% Open	10% Open
H	5/18/2022	31	79.2	19.2	1.5	7.1	-1.4	-	-	Broken	10% Open	10% Open
H	6/29/2022	31	78.3	21.0	0.0	0.1	-1.1	-	-	Broken	10% Open	10% Open
H	7/21/2022	31	78.5	21.4	0.0	0.1	-1.1	-	-	Broken	10% Open	10% Open
H	8/30/2022	31	76.7	23.1	0.0	0.2	-1.2	-	-	Broken	10% Open	10% Open
H	9/20/2022	31	74.0	15.9	0.0	0.1	-1.8	-	-	Broken	10% Open	10% Open
H	11/1/2022	31	73.0	26.9	0.0	0.1	-1.8	-	-	Broken	10% Open	10% Open
H	11/23/2022	31	73.7	26.2	0.0	0.1	-1.7	-	-	Broken	50% Open	10% Open
H	1/4/2023	31	76.1	23.8	0.0	0.1	-0.9	-	-	Broken	10% Open	10% Open
H	1/25/2022	32	83.3	13.0	0.0	3.7	-0.1	0.002	3.9	40.0	100% Open	100% Open
H	2/23/2022	32	84.3	12.0	0.5	3.2	-1.3	0.017	11.5	61	100% Open	100% Open
H	3/25/2022	32	88.4	11.5	0.0	0.1	-0.7	0.027	14.5	57	100% Open	100% Open
H	4/29/2022	32	88.1	11.9	0.0	0.0	-0.8	0.016	11.1	62	100% Open	100% Open
H	5/18/2022	32	84.6	15.3	0.0	0.1	-1.2	0.002	3.9	70.0	100% Open	100% Open
H	6/29/2022	32	87.6	12.3	0.0	0.1	-0.9	0.106	28.7	82	100% Open	100% Open
H	7/21/2022	32	90.7	9.2	0.0	0.1	0.1	0.071	23.5	82	100% Open	100% Open
H	8/30/2022	32	91.2	8.8	0.0	0.0	-0.8	0.067	22.8	NC	100% Open	100% Open
H	9/20/2022	32	91.1	8.7	0.1	0.1	-1.1	0.007	7.4	80	100% Open	100% Open
H	11/1/2022	32	89.5	10.4	0.0	0.1	-1.8	0.026	14.2	64	100% Open	100% Open
H	11/23/2022	32	88.5	11.4	0.0	0.1	-1.3	0.020	12.5	57	100% Open	100% Open
H	1/4/2023	32	88.7	11.2	0.0	0.1	-0.8	0.025	13.9	61	100% Open	100% Open
H	1/25/2022	33	77.8	21.3	0.0	0.9	0.0	-0.008	0.0	41.0	15% Open	12% Open
H	2/23/2022	33	75.9	21.1	0.3	2.7	-0.3	0.021	12.8	57	15% Open	15% Open
H	3/25/2022	33	79.7	20.2	0.0	0.1	0.2	0.051	19.9	59	15% Open	15% Open
H	4/29/2022	33	78.9	21.0	0.0	0.1	0.2	0.029	15.0	58	15% Open	15% Open
H	5/18/2022	33	80.2	19.7	0.0	0.1	-0.2	0.023	13.4	63.0	15% Open	15% Open
H	6/29/2022	33	80.3	19.6	0.0	0.1	-0.1	0.104	28.4	70.0	18% Open	15% Open
H	7/21/2022	33	78.1	21.8	0.0	0.1	-0.2	0.078	24.6	71	18% Open	15% Open
H	8/30/2022	33	78.3	21.6	0.0	0.1	-0.3	0.081	25.1	NC	18% Open	18% Open
H	9/20/2022	33	78.1	21.8	0.0	0.1	-0.4	0.006	6.8	68.0	18% Open	18% Open
H	11/1/2022	33	77.1	22.8	0.0	0.1	-0.7	0.070	23.3	58.0	25% Open	18% Open
H	11/23/2022	33	68.4	22.8	0.0	8.8	-0.6	0.071	23.5	57	27% Open	25% Open
H	1/4/2023	33	76.9	23.0	0.0	0.1	-0.2	0.070	23.3	56	30% Open	27% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
H	1/25/2022	34	65.2	25.6	0.0	9.2	-0.4	-	-	Broken	100% Open	100% Open
H	2/23/2022	34	69.9	25.9	0.0	4.2	-1.6	-	-	Broken	100% Open	100% Open
H	3/25/2022	34	74.0	25.9	0.0	0.1	-1.2	-	-	Broken	100% Open	100% Open
H	4/29/2022	34	73.8	26.1	0.0	0.1	-0.7	-	-	Broken	100% Open	100% Open
H	5/18/2022	34	73.9	26.0	0.0	0.1	-1.4	-	-	Broken	100% Open	100% Open
H	6/29/2022	34	73.3	26.6	0.0	0.1	-1.1	-	-	Broken	100% Open	100% Open
H	7/21/2022	34	72.7	27.2	0.0	0.1	-1.1	-	-	Broken	100% Open	100% Open
H	8/30/2022	34	74.7	25.1	0.0	0.1	-0.9	-	-	Broken	100% Open	100% Open
H	9/20/2022	34	71.4	28.5	0.0	0.1	1.6	-	-	Broken	100% Open	100% Open
H	11/1/2022	34	73.3	26.6	0.0	0.1	-1.8	-	-	Broken	100% Open	100% Open
H	11/23/2022	34	72.0	28.0	0.0	0.0	-1.5	-	-	Broken	75% Open	100% Open
H	1/4/2023	34	73.4	26.5	0.0	0.1	-1.0	-	-	Broken	100% Open	100% Open
H	1/25/2022	35	53.2	22.2	0.0	24.6	0.2	0.003	4.8	54.0	8% Open	5% Open
H	2/23/2022	35	50.3	23.1	0.0	26.6	0.0	0.017	11.5	60	8% Open	8% Open
H	3/25/2022	35	55.4	22.5	0.0	22.1	0.5	0.038	17.2	60	8% Open	8% Open
H	4/29/2022	35	71.4	23.0	0.0	5.3	0.4	0.015	10.8	60	8% Open	8% Open
H	5/18/2022	35	62.4	22.8	0.0	14.8	0.0	0.019	12.1	70.0	8% Open	8% Open
H	6/29/2022	35	75.6	23.7	0.4	0.3	0.0	0.076	24.3	75	10% Open	8% Open
H	7/21/2022	35	69.5	23.5	0.0	7.0	0.0	0.078	24.6	79	10% Open	8% Open
H	8/30/2022	35	68.4	23.6	0.0	8.0	0.0	0.018	11.8	NC	10% Open	10% Open
H	9/20/2022	35	73.7	25.2	0.0	0.1	-0.2	-0.004	0.0	77	10% Open	10% Open
H	11/1/2022	35	69.8	24.9	0.0	5.3	-0.2	0.018	11.8	62	15% Open	10% Open
H	11/23/2022	35	69.6	25.1	0.0	5.3	-1.0	0.011	9.2	60	20% Open	15% Open
H	1/4/2023	35	73.0	23.1	0.0	3.9	-0.7	0.044	18.5	59	22% Open	20% Open
I	1/25/2022	36	64.6	19.5	0.0	15.9	0.1	0.001	2.8	50.0	100% Open	95% Open
I	2/23/2022	36	66.3	17.0	2.1	14.6	-1.4	0.023	13.4	63	100% Open	100% Open
I	3/25/2022	36	79.7	18.7	0.0	1.6	-1.1	0.036	16.7	63	100% Open	100% Open
I	4/29/2022	36	71.3	16.7	1.9	10.1	-0.6	0.021	12.8	60	100% Open	100% Open
I	5/18/2022	36	79.3	18.2	1.1	1.4	-1.2	0.024	13.6	67.0	100% Open	100% Open
I	6/29/2022	36	74.1	16.3	2.3	7.3	-0.8	0.081	25.1	81	100% Open	100% Open
I	7/21/2022	36	82.8	17.1	0.0	0.1	-1.1	0.006	6.8	81	100% Open	100% Open
I	8/30/2022	36	80.9	17.4	0.0	1.6	-0.7	0.081	25.1	NC	100% Open	100% Open
I	9/20/2022	36	82.1	17.8	0.0	0.1	-1.7	0.001	2.8	75	100% Open	100% Open
I	11/1/2022	36	75.8	18.1	0.0	6.1	-2.0	0.013	10.0	60	100% Open	100% Open
I	11/23/2022	36	81.4	18.5	0.0	0.1	-2.0	0.014	10.4	56	100% Open	100% Open
I	1/4/2023	36	78.4	18.4	0.0	3.2	-1.0	0.039	17.4	62	100% Open	100% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
I	1/25/2022	37	65.5	34.4	0.0	0.1	0.5	-	-	Broken	5% Open	5% Open
I	2/23/2022	37	66.4	33.5	0.0	0.1	0.5	-	-	Broken	5% Open	5% Open
I	3/25/2022	37	66.7	33.2	0.0	0.1	1.0	-	-	Broken	5% Open	5% Open
I	4/29/2022	37	67.0	33.0	0.0	0.0	0.8	-	-	Broken	5% Open	5% Open
I	5/18/2022	37	64.1	30.0	1.0	4.9	0.2	-	-	Broken	5% Open	5% Open
I	6/29/2022	37	66.3	29.9	1.3	2.5	-	-	-	Broken	5% Open	5% Open
I	7/21/2022	37	68.1	31.8	0.0	0.1	0.2	-	-	Broken	5% Open	5% Open
I	8/30/2022	37	68.6	31.2	0.0	0.0	0.8	-	-	Broken	5% Open	5% Open
I	9/20/2022	37	58.0	27.4	2.7	11.9	0.0	-	-	Broken	5% Open	5% Open
I	11/1/2022	37	25.3	13.1	12.7	48.9	-0.1	-	-	Broken	5% Open	5% Open
I	11/23/2022	37	66.8	33.0	0.1	0.1	-0.2	-	-	Broken	5% Open	5% Open
I	1/4/2023	37	26.5	13.9	11.4	48.2	0.0	-	-	Broken	5% Open	5% Open
I	1/25/2022	38	58.6	21.6	0.0	19.8	0.5	-	-	Broken	5% Open	5% Open
I	2/23/2022	38	56.2	23.0	0.0	20.8	0.6	-	-	Broken	5% Open	5% Open
I	3/25/2022	38	68.5	20.4	0.0	11.1	0.7	-	-	Broken	5% Open	5% Open
I	4/29/2022	38	51.4	19.0	0.3	29.2	0.7	-	-	Broken	5% Open	5% Open
I	5/18/2022	38	12.6	8.5	9.1	69.8	0.1	-	-	Broken	5% Open	5% Open
I	6/29/2022	38	45.1	18.3	0.3	36.3	-	-	-	Broken	5% Open	5% Open
I	7/21/2022	38	73.9	23.4	0.0	2.7	0.3	-	-	Broken	5% Open	5% Open
I	8/30/2022	38	71.7	23.5	0.0	4.8	0.8	-	-	Broken	5% Open	5% Open
I	9/20/2022	38	81.3	16.5	0.0	2.2	0.2	-	-	Broken	5% Open	5% Open
I	11/1/2022	38	60.4	16.6	3.4	19.6	0.0	-	-	Broken	5% Open	5% Open
I	11/23/2022	38	57.4	23.4	1.0	18.2	-0.1	-	-	Broken	5% Open	5% Open
I	1/4/2023	38	73.6	24.1	0.1	2.2	0.1	-	-	Broken	100% Open	100% Open
I	1/25/2022	39	69.3	21.9	0.0	88.0	0.3	-	-	Broken	25% Open	25% Open
I	2/23/2022	39	39.8	19.5	0.0	40.7	0.7	-	-	Broken	25% Open	25% Open
I	3/25/2022	39	75.5	21.0	0.0	3.5	1.2	-	-	Broken	25% Open	25% Open
I	4/29/2022	39	41.8	19.2	0.0	39.0	0.7	-	-	Broken	25% Open	25% Open
I	5/18/2022	39	0.1	0.0	21.1	78.8	0.0	-	-	Broken	25% Open	25% Open
I	6/29/2022	39	39.6	16.9	1.3	42.2	-	-	-	Broken	25% Open	25% Open
I	7/21/2022	39	78.6	16.2	0.0	5.2	0.3	-	-	Broken	25% Open	25% Open
I	8/30/2022	39	69.7	20.6	0.0	9.7	0.9	-	-	Broken	25% Open	25% Open
I	9/20/2022	39	82.4	15.8	0.0	1.8	0.2	-	-	Broken	25% Open	25% Open
I	11/1/2022	39	55.9	16.9	3.7	23.5	0.0	-	-	Broken	25% Open	25% Open
I	11/23/2022	39	32.4	14.9	5.8	16.9	-0.1	-	-	Broken	25% Open	25% Open
I	1/4/2023	39	74.1	24.9	0.0	1.0	0.1	-	-	Broken	30% Open	25% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
I	1/25/2022	40	65.0	17.8	0.0	17.2	0.5	-	-	Broken	100% Open	100% Open
I	2/23/2022	40	67.7	20.9	0.0	11.4	0.6	-	-	Broken	100% Open	100% Open
I	3/25/2022	40	72.6	18.2	0.0	9.2	0.6	-	-	Broken	100% Open	100% Open
I	4/29/2022	40	65.0	15.3	0.7	19.0	0.8	-	-	Broken	100% Open	100% Open
I	5/18/2022	40	18.7	6.7	12.8	61.8	0.1	-	-	Broken	100% Open	100% Open
I	6/29/2022	40	48.8	15.0	2.5	33.7	-	-	-	Broken	100% Open	100% Open
I	7/21/2022	40	78.1	16.7	0.0	5.2	0.1	-	-	Broken	100% Open	100% Open
I	8/30/2022	40	75.6	24.0	0.0	0.4	0.9	-	-	Broken	100% Open	100% Open
I	9/20/2022	40	81.5	16.3	0.0	2.2	0.2	-	-	Broken	100% Open	100% Open
I	11/1/2022	40	77.6	20.5	0.0	1.9	0.0	-	-	Broken	100% Open	100% Open
I	11/23/2022	40	59.8	18.1	0.0	22.1	-0.1	-	-	Broken	100% Open	100% Open
I	1/4/2023	40	78.9	19.7	0.0	1.4	0.1	-	-	Broken	100% Open	100% Open
I	1/25/2022	41	80.0	17.2	0.0	2.8	0.4	-	-	Broken	50% Open	50% Open
I	2/23/2022	41	76.1	16.5	0.0	7.4	0.8	-	-	Broken	50% Open	50% Open
I	3/25/2022	41	79.2	16.9	0.0	3.9	0.9	-	-	Broken	50% Open	50% Open
I	4/29/2022	41	79.0	16.6	0.0	4.4	0.6	-	-	Broken	50% Open	50% Open
I	5/18/2022	41	80.3	15.1	0.2	4.4	0.0	-	-	Broken	50% Open	50% Open
I	6/29/2022	41	43.9	16.4	1.6	38.1	-	-	-	Broken	50% Open	50% Open
I	7/21/2022	41	76.6	23.3	0.0	0.1	0.3	-	-	Broken	50% Open	50% Open
I	8/30/2022	41	80.8	15.5	0.0	3.7	0.8	-	-	Broken	50% Open	50% Open
I	9/20/2022	41	82.6	16.5	0.0	0.9	0.2	-	-	Broken	50% Open	50% Open
I	11/1/2022	41	74.7	17.2	0.0	8.1	-0.1	-	-	Broken	50% Open	50% Open
I	11/23/2022	41	4.6	1.3	19.7	74.4	-0.1	-	-	Broken	50% Open	50% Open
I	1/4/2023	41	71.2	13.3	2.6	12.6	0.1	-	-	Broken	50% Open	50% Open
I	1/25/2022	42	53.4	21.2	0.0	25.4	0.3	-	-	Broken	50% Open	50% Open
I	2/23/2022	42	65.8	19.9	0.0	14.3	0.7	-	-	Broken	50% Open	50% Open
I	3/25/2022	42	49.6	19.4	0.0	31.0	0.6	-	-	Broken	50% Open	50% Open
I	4/29/2022	42	48.4	18.7	0.0	32.9	0.5	-	-	Broken	50% Open	50% Open
I	5/18/2022	42	49.6	17.8	0.0	32.6	0.1	-	-	Broken	50% Open	50% Open
I	6/29/2022	42	43.6	16.1	1.9	38.4	-	-	-	Broken	50% Open	50% Open
I	7/21/2022	42	74.5	20.2	0.0	5.3	0.0	-	-	Broken	50% Open	50% Open
I	8/30/2022	42	75.4	21.6	0.0	3.0	0.8	-	-	Broken	50% Open	50% Open
I	9/20/2022	42	80.4	19.2	0.0	0.4	0.2	-	-	Broken	50% Open	50% Open
I	11/1/2022	42	69.0	22.2	0.0	8.8	0.0	-	-	Broken	50% Open	50% Open
I	11/23/2022	42	51.6	16.8	0.4	31.2	-0.1	-	-	Broken	50% Open	50% Open
I	1/4/2023	42	77.9	21.3	0.0	0.8	0.1	-	-	Broken	50% Open	50% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
J	1/25/2022	43	80.0	19.9	0.0	0.1	0.5	0.004	5.6	48.0	100% Open	100% Open
J	2/23/2022	43	81.2	18.8	0.0	0.0	0.7	0.023	13.4	66	100% Open	100% Open
J	3/25/2022	43	80.8	19.1	0.0	0.1	1.1	0.022	13.1	65	100% Open	100% Open
J	4/29/2022	43	82.9	17.0	0.0	0.1	0.9	0.022	13.1	63	100% Open	100% Open
J	5/18/2022	43	83.9	15.7	0.3	0.1	0.3	-0.003	0.0	76.0	100% Open	100% Open
J	6/29/2022	43	84.9	13.0	0.0	2.1	0.3	0.088	26.1	83	100% Open	100% Open
J	7/21/2022	43	82.6	17.3	0.0	0.1	0.1	0.015	10.8	87	100% Open	100% Open
J	8/30/2022	43	82.6	16.4	0.0	0.9	1.0	0.083	25.4	NC	100% Open	100% Open
J	9/20/2022	43	83.2	16.7	0.0	0.1	0.3	0.016	11.1	76	100% Open	100% Open
J	11/1/2022	43	82.5	17.5	0.0	0.0	0.0	0.010	8.8	56	100% Open	100% Open
J	11/23/2022	43	83.3	16.6	0.0	0.1	0.0	0.015	10.8	58	100% Open	100% Open
J	1/4/2023	43	83.2	16.7	0.0	0.1	0.1	0.042	18.1	65	100% Open	100% Open
J	1/25/2022	44	69.8	18.6	0.0	11.6	0.4	-	-	Broken	25% Open	25% Open
J	2/23/2022	44	81.2	18.8	0.0	0.0	0.8	-	-	Broken	25% Open	25% Open
J	3/25/2022	44	76.4	16.7	0.0	6.9	1.1	-	-	Broken	25% Open	25% Open
J	4/29/2022	44	83.5	16.4	0.0	0.1	0.8	-	-	Broken	25% Open	25% Open
J	5/18/2022	44	82.1	15.8	0.0	2.1	0.1	-	-	Broken	25% Open	25% Open
J	6/29/2022	44	83.7	14.4	0.0	1.9	0.2	-	-	Broken	25% Open	25% Open
J	7/21/2022	44	82.7	16.9	0.2	0.2	0.0	-	-	Broken	25% Open	25% Open
J	8/30/2022	44	83.1	16.5	0.0	0.3	0.9	-	-	Broken	25% Open	25% Open
J	9/20/2022	44	82.8	17.1	0.0	0.1	0.2	-	-	Broken	25% Open	25% Open
J	11/1/2022	44	85.0	14.2	0.0	0.8	-0.1	-	-	Broken	25% Open	25% Open
J	11/23/2022	44	83.3	16.4	0.0	0.3	-0.1	-	-	Broken	25% Open	25% Open
J	1/4/2023	44	83.3	16.6	0.0	0.1	0.1	-	-	Broken	30% Open	25% Open
J	1/25/2022	45	61.6	22.8	0.0	15.6	0.3	-	-	Broken	5% Open	5% Open
J	2/23/2022	45	44.6	19.6	0.0	35.8	0.7	-	-	Broken	5% Open	5% Open
J	3/25/2022	45	62.7	21.5	0.0	15.8	1.0	-	-	Broken	5% Open	5% Open
J	4/29/2022	45	49.8	19.0	0.0	31.2	0.5	-	-	Broken	5% Open	5% Open
J	5/18/2022	45	50.2	18.4	0.2	31.2	0.2	-	-	Broken	5% Open	5% Open
J	6/29/2022	45	53.3	15.8	2.6	28.3	0.2	-	-	Broken	5% Open	5% Open
J	7/21/2022	45	75.2	21.0	0.0	3.8	0.0	-	-	Broken	5% Open	5% Open
J	8/30/2022	45	73.4	19.4	0.0	7.2	0.8	-	-	Broken	5% Open	5% Open
J	9/20/2022	45	75.4	20.6	0.4	3.6	0.1	-	-	Broken	5% Open	5% Open
J	11/1/2022	45	76.2	22.0	0.0	1.8	-0.1	-	-	Broken	5% Open	5% Open
J	11/23/2022	45	56.8	17.7	2.6	22.9	-0.1	-	-	Broken	5% Open	5% Open
J	1/4/2023	45	58.1	18.0	1.1	22.8	0.1	-	-	Broken	5% Open	5% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
J	1/25/2022	46	73.1	26.9	0.0	0.0	0.0	0.005	6.2	46.0	15% Open	10% Open
J	2/23/2022	46	69.8	25.0	0.0	5.2	-1.4	0.042	18.1	67	15% Open	15% Open
J	3/25/2022	46	74.4	25.5	0.0	0.1	-1.1	0.048	19.3	66	15% Open	15% Open
J	4/29/2022	46	75.4	24.3	0.2	0.1	-1.1	0.030	15.3	68	15% Open	15% Open
J	5/18/2022	46	76.2	22.8	0.1	0.9	-1.4	0.048	19.3	72.0	15% Open	15% Open
J	6/29/2022	46	75.4	24.0	0.5	0.1	-1.0	0.096	27.3	84	12% Open	15% Open
J	7/21/2022	46	74.0	25.0	0.0	0.1	0.0	0.008	7.9	86	12% Open	15% Open
J	8/30/2022	46	73.0	26.5	0.1	0.4	-1.1	0.080	24.9	NC	12% Open	12% Open
J	9/20/2022	46	72.4	25.3	1.4	0.9	-1.3	0.016	11.1	75	12% Open	12% Open
J	11/1/2022	46	71.1	28.0	0.0	0.1	-2.2	0.009	8.4	57	12% Open	12% Open
J	11/23/2022	46	72.1	27.8	0.0	0.1	-2.0	0.014	10.4	57	20% Open	12% Open
J	1/4/2023	46	74.0	25.9	0.0	0.1	-1.0	0.043	18.3	64	25% Open	20% Open
J	1/25/2022	47	55.8	20.4	1.6	22.2	0.1	-0.006	0.0	46.0	15% Open	15% Open
J	2/23/2022	47	53.5	21.4	0.0	25.1	0.2	0.025	13.9	69	15% Open	15% Open
J	3/25/2022	47	68.2	22.2	0.0	9.6	0.9	0.045	18.7	67	15% Open	15% Open
J	4/29/2022	47	65.9	22.6	0.0	11.5	-1.0	0.004	5.6	60	15% Open	15% Open
J	5/18/2022	47	64.1	23.2	0.0	12.7	-1.3	0.006	6.8	70.0	15% Open	15% Open
J	6/29/2022	47	73.8	24.1	0.6	1.5	-0.9	0.101	28.0	80	15% Open	15% Open
J	7/21/2022	47	72.6	27.0	0.2	0.2	-0.6	0.044	18.5	81	15% Open	15% Open
J	8/30/2022	47	68.9	29.1	0.0	1.9	-1.0	0.076	24.3	NC	15% Open	15% Open
J	9/20/2022	47	65.0	27.6	1.2	6.2	-1.1	0.013	10.0	74	15% Open	15% Open
J	11/1/2022	47	71.6	28.3	0.0	0.1	-1.9	0.011	9.2	57	15% Open	15% Open
J	11/23/2022	47	59.7	27.3	0.0	13.0	-1.6	0.023	13.4	53	15% Open	15% Open
J	1/4/2023	47	59.4	21.9	0.2	18.5	0.0	0.040	17.6	66	15% Open	15% Open
L	1/25/2022	48	34.3	10.7	8.9	46.1	-1.4	0.004	5.6	46.0	18% Open	15% Open
L	2/23/2022	48	42.9	11.6	7.0	38.5	-0.9	0.048	19.3	67	18% Open	18% Open
L	3/25/2022	48	58.0	15.8	3.1	23.1	0.0	0.040	17.6	70	18% Open	18% Open
L	4/29/2022	48	38.4	10.8	7.1	43.7	-0.5	0.060	21.6	63	18% Open	18% Open
L	5/18/2022	48	42.1	9.8	6.4	41.7	-0.7	0.062	21.9	71.0	18% Open	18% Open
L	6/29/2022	48	0.3	0.2	20.8	78.7	0.1	-0.479	0.0	90	8% Open	18% Open
L	7/21/2022	48	41.6	9.1	9.0	40.3	-0.4	0.052	20.1	87	8% Open	18% Open
L	8/30/2022	48	44.0	9.7	7.7	38.5	-0.7	0.076	24.3	NC	8% Open	8% Open
L	9/20/2022	48	38.2	8.7	10.2	42.8	-0.5	0.015	10.8	80	8% Open	8% Open
L	11/1/2022	48	22.7	5.3	14.3	57.7	-1.1	0.003	4.8	57	10% Open	8% Open
L	11/23/2022	48	21.3	5.1	14.4	59.2	-1.1	0.017	11.5	62	7% Open	10% Open
L	1/4/2023	48	24.8	5.9	14.3	55.0	-0.6	0.040	17.6	66	8% Open	8% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
L	1/25/2022	49	51.0	23.6	2.1	23.3	-1.0	0.054	20.5	49.0	22% Open	20% Open
L	2/23/2022	49	58.2	25.3	0.2	16.3	-0.5	-0.099	0.0	64	22% Open	22% Open
L	3/25/2022	49	67.6	24.6	0.0	7.8	0.0	-0.298	0.0	62	22% Open	22% Open
L	4/29/2022	49	0.5	0.3	19.4	79.8	-0.4	0.005	6.2	62	22% Open	22% Open
L	5/18/2022	49	1.2	0.4	19.6	78.8	-0.4	0.014	10.4	72.0	22% Open	22% Open
L	6/29/2022	49	0.1	0.0	20.9	79.0	-0.3	0.100	27.9	85	22% Open	22% Open
L	7/21/2022	49	74.9	24.8	0.1	0.2	-0.1	0.005	6.2	87	22% Open	22% Open
L	8/30/2022	49	68.2	23.9	0.3	0.6	-0.4	0.074	24.0	NC	22% Open	22% Open
L	9/20/2022	49	72.1	27.2	0.1	0.6	-0.2	0.012	9.7	79	22% Open	22% Open
L	11/1/2022	49	0.9	0.0	20.8	79.1	-0.8	0.012	9.7	58	2% Open	22% Open
L	11/23/2022	49	0.1	0.0	20.1	79.8	-0.8	0.022	13.1	64	0% Open	2% Open
L	1/4/2023	49	0.3	0.1	19.4	80.2	-0.5	0.048	19.3	66	0% Open	0% Open
L	1/25/2022	50	73.0	22.8	0.0	4.2	-0.9	-0.004	0.0	55.0	100% Open	100% Open
L	2/23/2022	50	74.0	23.0	0.0	3.0	-0.6	0.026	14.2	68	100% Open	100% Open
L	3/25/2022	50	77.2	22.7	0.0	0.1	0.0	0.045	18.7	66	100% Open	100% Open
L	4/29/2022	50	75.0	21.0	0.8	3.2	-0.3	0.002	3.9	69	100% Open	100% Open
L	5/18/2022	50	73.9	21.5	0.4	4.2	-0.5	0.010	8.8	68.0	100% Open	100% Open
L	6/29/2022	50	80.9	18.6	0.4	0.1	-0.1	0.066	22.6	94	100% Open	100% Open
L	7/21/2022	50	79.3	20.3	0.2	0.2	-0.1	0.046	18.9	85	100% Open	100% Open
L	8/30/2022	50	78.1	21.0	0.3	0.6	-0.4	0.072	23.6	NC	100% Open	100% Open
L	9/20/2022	50	79.7	20.1	0.1	0.1	-0.3	0.016	11.1	79	100% Open	100% Open
L	11/1/2022	50	77.6	22.3	0.0	0.1	-0.5	0.020	12.5	56	100% Open	100% Open
L	11/23/2022	50	75.1	21.9	1.1	1.9	-0.6	0.009	8.4	57	100% Open	100% Open
L	1/4/2023	50	78.7	21.2	0.0	0.1	-0.3	-0.328	0.0	64	100% Open	100% Open
L	1/25/2022	51	59.5	16.5	1.2	22.8	-0.6	0.020	12.5	62.0	100% Open	100% Open
L	2/23/2022	51	71.5	17.1	0.0	11.4	-0.4	0.046	18.9	69	100% Open	100% Open
L	3/25/2022	51	72.8	17.7	0.0	9.5	0.1	0.055	20.7	71	100% Open	100% Open
L	4/29/2022	51	55.8	16.8	0.2	27.2	0.1	0.066	22.6	67	100% Open	100% Open
L	5/18/2022	51	2.1	5.3	12.9	79.7	-0.5	0.030	15.3	65.0	100% Open	100% Open
L	6/29/2022	51	35.9	16.7	1.3	46.1	-0.1	0.069	23.1	74	100% Open	100% Open
L	7/21/2022	51	83.1	16.6	0.2	0.1	0.0	0.051	19.9	76	100% Open	100% Open
L	8/30/2022	51	80.2	15.9	0.0	3.9	0.0	0.102	28.1	NC	100% Open	100% Open
L	9/20/2022	51	83.4	16.5	0.0	0.1	-0.2	0.027	14.5	74	100% Open	100% Open
L	11/1/2022	51	75.0	16.8	0.0	8.2	-0.4	0.102	28.1	66	100% Open	100% Open
L	11/23/2022	51	68.5	16.1	0.5	14.9	-0.5	0.277	46.4	63	100% Open	100% Open
L	1/4/2023	51	64.9	16.7	0.6	17.8	-0.2	-0.445	0.0	59	100% Open	100% Open

Appendix C Well Balancing
2022 Extraction Well Data Summary
Clarkstown Landfill, West Nyack, NY

Zone	Date	Well ID	CH4	CO2	O2	Bal	SP	DP	Flow	Temp	Valve Position	Previous Value Postion
L	1/25/2022	52	74.4	5.5	0.0	0.1	0.6	0.001	3.3	50.0	100% Open	100% Open
L	2/23/2022	52	75.8	24.1	0.0	0.1	0.7	0.028	14.7	67	100% Open	100% Open
L	3/25/2022	52	75.1	24.8	0.0	0.1	1.2	0.042	18.1	64	100% Open	100% Open
L	4/29/2022	52	74.8	25.0	0.0	0.2	0.9	0.019	12.1	63	100% Open	100% Open
L	5/18/2022	52	63.1	21.6	3.2	12.1	-0.1	0.027	14.5	69.0	100% Open	100% Open
L	6/29/2022	52	75.5	24.2	0.1	0.2	0.2	0.068	23.0	85	100% Open	100% Open
L	7/21/2022	52	76.0	23.9	0.0	0.1	0.1	0.005	6.2	89	100% Open	100% Open
L	8/30/2022	52	74.4	22.4	0.0	3.2	0.9	0.780	77.8	NC	100% Open	100% Open
L	9/20/2022	52	76.7	23.2	0.0	0.1	0.1	0.018	11.8	78	100% Open	100% Open
L	11/1/2022	52	75.0	24.0	0.0	0.1	0.0	0.016	11.1	56	100% Open	100% Open
L	11/23/2022	52	75.5	24.2	0.1	0.2	-0.2	0.012	9.7	65	100% Open	100% Open
L	1/4/2023	52	76.0	22.7	1.1	0.2	0.0	0.037	16.9	65	100% Open	100% Open



D

Flare Data Sheets

Appendix D - Flare Data
2022 Flare Data
Clarkstown Landfill, West Nyack, NY

Date	Time	CH4	CO2	O2	Balance	Comments
2/7/2022	930	16.4	6.3	8.6	35.4	DL-1 34.87; DL-5 51.51 gal; DL-10 9.99 gal; DL - GE9 152.16 gal
2/23/2022	1015	22.7	8.4	6.2	29.3	DL-1 410.5; DL-5 71.7 gal; DL-10 16.6 gal; DL - GE9 127 gal
3/25/2022	840	52.1	16.6	5.2	26.1	DL-1 113.5; DL-5 167 gal; DL-10 not purged gal; DL - GE9 14 gal
4/29/2022	0830	66.2	22.9	10.7	50.2	DL-1 17.4; DL-5 90.3 gal; DL-10 4.4; DL - GE9 9.5 gal
5/18/2022	0950	44.0	14.6	6.6	34.9	DL-1 52 gal; DL-5 27.3 gal; DL-10 not purged; DL - GE9 1.5 gal
6/29/2022	8:20	42.7	15.7	7.0	34.7	DL-1 19 gal; DL-5 14.5 gal; DL-10 12; DL - GE9 3 gal
7/19/2022	8:15	54.2	17.7	4.9	23.2	DL-1 Dry; DL-5 1.5 gal; DL-10 Dry; DL - GE9 1.5 gal
8/30/2022	10:50	41.6	14.8	6.3	37.3	DL-1 57 gal; DL-5 3 gal; DL-10 2 gal; DL - GE9 15 gal
9/20/2022	9:45	48.6	16.8	5.3	29.3	DL-1 22 gal; DL-5 11 gal; DL-10 1.5 gal; DL - GE9 11 gal
11/1/2022	7:38	46.4	16.9	6.4	30.4	DL-1 22 gal; DL-5 9 gal; DL-10 9.5 gal; DL-GE9 1.5 gal
11/23/2022	8:00	42.0	16.1	7.5	34.4	DL-1 2.7 gal, DL-5 5.2 gal, DL-GE9 38.1 gal, DL-10 3.5 gal
1/4/2023	9:30	47.3	16.7	6.7	29.3	DL-1 11.1 gal, DL-5 13.9 gal, DL-GE9 11.9 gal, DL-10 71.4 gal



E

Flare Log Sheets



Appendix E - Working Flare Log Sheet
2022 Working Flare Log Sheet
Clarkstown Landfill, West Nyack, NY

Date	Time	301/302	Hour meter	Amps	Panel Display		Total Flow (10 ⁶ CF)	Comments
		Flare Operation (On/Off)			Flare Temperature	Flow		
1/3/2022	930	off	5997	---	---	---	544.0	Flame Fail, Restarted, pilot fail, restarted (1x), flame fail, restarted (4x), let rest
1/4/2022	1030	off	5997	---	---	---	544.0	Flame Fail. Restarted, flame fail (5x), will let rest
1/6/2022	815	off	5997	7.2	1098	249	544.0	Pilot Fail, restarted, pilot fail restarted
1/10/2022	900	off	6008	7.7	744	258	544.2	Flame Fail, restarted, Flame Fail (5x), finally started
1/12/2022	900	off	6017	7.9	513	247	544.3	Flame Fail, Restarted Flame Fail (1X), restarted
1/14/2022	745	off	6027	7.4	863	251	544.4	Flame Fail, Restarted
1/17/2022	800	off	6038	6.7	496	206	544.6	Flame Fail, Restarted, low flow rate alarm
1/19/2022	930	off	6040	---	---	---	544.6	Low Flare Flow Rate Alarm and shutdown, restarted, flame fail, restart (5X), let rest
1/21/2022	845	off	6040	---	---	---	544.6	Flame fail, restarted, flame fail - restarted (3X), on fourth try issues with the relay not resting. Rebooted the system, working normally again. Flame Fail restarted (2x), let rest
1/25/2022	845	off	6040	7.6	388	252	544.6	Flame Fail, Restarted
1/27/2022	945	off	6051	---	---	---	544.8	flame fail, restarted, flame fail, restarted (10X), let rest
1/28/2022	845	off	6051	7.7	506	257	544.8	flame fail, restarted
1/31/2022	800	off	6052	---	---	---	544.8	flame fail, restarted, pilot fail restart, flame fail restarted, pilot fail restarted (3x). Gas will be changed and restarted from the field.
2/7/2022	830	off	6052	---	---	---	544.8	Flame Fail will not start wait for tomorrow.
2/8/2022	930	off	6052	7.8	570	223	544.8	Flame Fail, restarted, pilot fail restarted
2/9/2022	800	off	6061	---	---	---	544.9	Low flow rate alarm, Flame fail, restarted, flame fail restarted (5x), let rest
2/11/2022	930	off	6061	7.6	262	225	544.9	Flame Fail, restarted; Pilot fail, restarted (1x); flame fail restarted (4x), let rest
2/14/2022	745	off	6071	7.8	394	195	545.0	Low Flow Rate alarm, Flame fail, restarted; low flow rate alarm and flame fail, restarted (1x); Flame Fail, restarted
2/16/2022	1111	off	6073	8.5	29	262	545.0	Low Flow Rate alarm, Restarted; 4x Flame fail, restarted; pilot fail
2/18/2022	900	off	6073	7.3	367	220	545.1	Flame Fail, restarted; flame fail restarted
2/23/2022	830	off	6083	6.8	1073	219	545.2	Low flow rate alarm, Flame fail, restarted,
2/25/2022	800	off	6092	---	---	---	545.3	flame fail, restarted; Pilot Fail, restarted 5x; will let rest
2/28/2022	745	off	6092	---	---	---	545.3	Pilot Fail, restarted, pilot fail restarted (1x), flame fail, restarted (4x)
3/2/2022	830	off	6092	7.4	983	222	545.3	Flame Fail, restarted; flame fail restarted.
3/4/2022	1000	off	6103	---	---	---	545.4	Flame Fail; Restarted - Pilot Fail; restart - flame fail (4x); let rest
3/8/2022	1030	off	6103	---	---	---	545.4	Flame Fail; started, Flame Fail restarted (5x); let rest.
3/9/2022	800	off	6103	7.1	750	225	545.4	Flame Fail; started, Flame Fail restarted (6x)
3/16/2022	745	off	6115	---	---	---	545.6	Flame Fail, let rest for O&M later this week
3/18/2022	1100	off	6115	7.5	375	2112	545.6	Flame Fail, restarted
3/23/2022	750	off	6124	---	---	---	545.7	Flame Fail, let rest for O&M later this week
3/25/2022	815	off	6124	6.7	504	206	545.7	Flame Fail, restarted
3/28/2022	915	off	6136	---	---	---	545.8	Flame Fail. Restarted, flame fail; restarted 5x let rest
4/4/2022	945	off	6136	7.1	357	216	545.8	flame fail, restarted; flame fail, restarted
4/6/2022	945	off	6147	6.8	918	217	546.0	flame fail, restarted; flame fail, restarted; pilot fail (3x), restarted
4/11/2022	815	off	6157	---	---	---	546.1	flame fail, restarted 3x. Pilot fail, flamefail and Pilot fail. Tank changed needed
4/12/2022	830	off	6157	6.7	738	198	546.1	Pilot Fail, Restarted, Pilot Fail 2X, restarted, Flame Fail, restarted
4/18/2022	850	off	6169	---	---	---	546.2	Low Flow Rate Alarm, Flame Fail, Restarted, Flame Fail, Restarted (5x), let rest

* Unable to read display due to error message that cannot be cleared remotely.

** conducted December 2022's inspection on this day

Appendix E - Working Flare Log Sheet
2022 Working Flare Log Sheet
Clarkstown Landfill, West Nyack, NY

Date	Time	Flare Operation (On/Off)	Hour meter	Amps	Flare Temperature	Flow	Total Flow (10 ⁶ CF)	Comments
4/22/2022	1030	off	6169	6.9	463	210	546.2	Flame Fail, restarted; Flame Fail, Restarted (4X) lit on 5 attempt
4/28/2022	945	off	6178	---	---	---	546.3	Flame Fail let rest for sampling tomorrow
4/29/2022	820	off	6178	7.1	559	215	546.3	Flame Fail Restarted.
5/3/2022	730	off	6189	---	---	---	546.5	Flame Fail, low flow rate alarm, Restarted; wuill not start, trip or anything will look to diagnose.
5/6/2022	1000	off	6203	7.3	612	208	546.6	Flame Fail, Restarted
5/10/2022	730	off	6216	---	---	---	546.8	Low Flow Rate alarm, Flame Fail, Restarted, CMORE Program reset but is unresponsive, no failures but also not showing it is lit. Will send someone out to the landfill to look. Flame Failed started 3 more time while there Flame fail, will let rest
5/12/2022	1830	off	6216	7.1	273	197	546.8	Flame Fail, Restarted
5/18/2022	945	off	6220	7.5	103	189	546.8	Flame Fail, restarted
5/20/2022	1820	off	6233	7.1	360	201	547.0	Pilot Fail, restarted, flame fail 2x and fillarly started
5/25/2022	730	off	6237	7.1	827	214	547.0	flame fail, restrated,does not register and there are no alarms.Will check later, check and system was running
5/27/2022	630	off	6250	---	---	---	547.2	Pilot Fail, restarted, does not register and there are no alarms.Will check later, check and system was running, never started
5/31/2022	945	off	6250	6.4	1012	182	547.2	Pilot Fail, restarted, pilot fail, restarted, low flow rate alarm and shut down, restarted (3x)
6/3/2022	1130	off	6255	6.2	684	172	547.2	low flow rate alam and shut down, restarted, Pilot fail, Restarted, Low Flow Rate Alarm and Shutdown 2X ,
6/6/2022	815	off	6255	6.7	613	186	547.2	Low flow rate alarm and shut down, restarted; alarms rest but nothing happened, no flow, not errors, restarted; Pilot Fail, Restarted; Low Flow Alarm and Shut down, Pilolt fail. Sent technician to trouble shoot. Valves closed, running, but showing low flow alarm.
6/8/2022	830	off	6269	6.7	384	187	547.4	Low fow rate alarm, Pilot Fail, Restarted; Pilot Fail, Restarted; Low Flow Rate Alarm, Flame Fail, Restarted (2X); low flow rate alarm but running
6/13/2022	845	off	6278	---	---	---	547.5	Low Flow Rate Alarm and Shutdown, Restarted; Pilolt Fail, Restarted (2x); Low Flow Rate Alarm and shut down, restarted (3x), will trouble shoot back up and clogs, clean flow tubes again and pump legs
6/16/2022	700	off	6278	---	---	---	547.5	low flow rate alarm and shut down, restarted; pilot fail, restarted;
6/20/2022	800	off	6278	---	---	---	547.5	Pilot Fail, restarted; Pilot Fail, Restarted (4x); Flame Fail, low flow alarm; Change of gas is required.
6/22/2022	1115	off	6278	6.7	773	181	547.5	Flame Fail, low flow alarm, Restarted; flare lite but low flow rate alarm and shut down, Restarted; running with low flow alarm
6/27/2022	800	off	6286	6.9	378	188	547.6	flame fail low flow alarm and shutdown, restarted, low flow alarm and shut down (2x), restarted
7/5/2022	700	off	6297	6.8	589	194	547.7	low flow rate alarm, pilot fail, restarted; Pilot Fail, restarted; low flow rate alarm and shut down, restarted; pilot fail, restarted (2x); running with low flow rate alarm
7/8/2022	830	off	6310	6.7	803	193	547.8	low flow rate alarm, flame fail, restarted; pilot fail, restarted;
7/12/2022	1300	off	6321	6.2	1105	195	548.0	pilot fail, low flow rate alarm, restarted; Low flow rate alarm and shut down, Restarted;

* Unable to read display due to error message that cannot be cleared remotely.

** conducted December 2022's inspection on this day

Appendix E - Working Flare Log Sheet
2022 Working Flare Log Sheet
Clarkstown Landfill, West Nyack, NY

Date	Time	Flare Operation (On/Off)	Hour meter	Amps	Flare Temperature	Flow	Total Flow (10 ⁶ CF)	Comments
7/18/2022	830	off	6327	---	---	---	548.0	Pilot Fail, letting rest for survey tomorrow
7/27/2022	1100	off	6334	6.5	1091	194	548.1	Low flow Rate alarm and Shutdown, restarted; pilot fail, restarted; low flow alarm and shutdown, restarted; Pilot Fail restarted;
8/1/2022	830	off	6346	6.8	867	210	548.2	Low flow rate alarm, Flame Fail, Restarted; Pilot Fail, restarted;
8/3/2022	1430	off	6357	6.8	519	220	548.4	Flame Fail, restarted; flame fail, restarted
8/5/2022	1330	off	6362	6.7	181	216	548.5	Pilot fail, restarted; Pilot Fail, Restarted; Flame Fail, Restracted (2x);
8/8/2022	1045	off	6368	6.9	217	226	548.5	Flame Fail, Restarted; Flame Fail (2x), Restarted
8/10/2022	830	off	6377	6.8	865	226	548.7	Flame Fail, Restarted; Flame Fail, Restarted (4X); lit on 5th attempt
8/12/2022	845	off	6389	6.7	900	223	548.8	Flame Fail, restarted; Flame Fail, Rstarted (3X)
8/15/2022	630	off	6399	7.1	876	229	549.0	Flame Fail, restarted; pilot fail, restarted;
8/17/2022	930	off	6413	6.9	965	234	549.1	Flame Fail, Retrsrated;
8/19/2022	700	off	6424	7.1	654	234	549.3	Flame Fail, Restarted; Flame Fail, Restarted (4x), restarted
8/23/2022	1000	off	6436	7.0	233	230	549.5	Flame Fail, restarted;
8/26/2022	1500	off	6446	6.6	1059	230	549.6	Flame Fail. Restarted;
8/30/2022	900	off	6451	6.9	466	240	549.7	Flame Fail Restarted
9/6/2022	630	off	6463	7.2	236	233	549.8	Flame Fail, Restarted;
9/7/2022	745	off	6476	7.2	633	215	550.0	Flame Fail, Restarted, flame fail, restarted
9/9/2022	925	off	6482	7.4	269	234	550.2	flame fail, restrated; flame fail, restarted
9/12/2022	715	off	6493	7.4	160	234	550.3	Flame Fail, Restarted;
9/14/2022	830	off	6513	7.2	340	224	550.5	flame fail, restarted;
9/19/2022	715	off	6523	--	--	--	550.7	flmae fail, restarted; pilot fail, restarted; Flame fail, restarted; Pilot Fail, Restarted, Flame Fail; Restarted; Pilot Fail, Let rest for next week O&M
9/20/2022	930	off	6523	7.2	500	224	550.7	Pilot fail, restarted 13 times and changed the tanks out. Finally started
9/23/2022	800	off	6533	--	--	--	550.8	Pilot Fail, restarted; Flame Fail, restarted; Pilot fail, restarted, flame fail, restarted (2x); Let rest
9/27/2022	630	off	6534	7.8	450	232	550.8	Flame Fail, Restarted;
9/28/2022	1215	off	6547	--	--	--	551.0	Flame Fail, Restarted; flame fail, restarted (2x); Pilot Fail, restarted; flame fail, restarted (2x); will let rest.
9/30/2022	800	off	6547	8.2	233	249	551.0	flame fail, restarted; flame fail, restarted; pilot fail (3x), restarted; Pilot Fail, restarted;
10/3/2022	820	off	6559	7.6	1128	248	551.2	Pilot fail, restarted;
10/6/2022	730	off	6570	7.1	718	197	551.4	Pilot Fail, Restarted; running at low flow alarm
10/10/2022	645	off	6583	7.8	280	218	551.5	Low flow rate alarm and flame fail, restarted;
10/12/2022	800	off	6596	8.2	238	228	551.7	Flame Fail, restarted;
10/14/2022	730	off	6622	7.6	320	218	552.1	flame fail, Restarted;
10/17/2022	800	off	6635	7.8	233	217	552.2	Flame Fail, Restarted;
10/19/2022	615	off	6646	7.8	466	218	552.4	Pilot Fail, Restarted, Flame Fail, Restart;
10/21/2022	730	off	6660	--	--	--	552.6	Flame Fail, Restarted, Pilot Fail, Restarted, Flame Fail, Restarted (3X), Let rest
10/28/2022	815	off	6661	--	--	--	552.6	Flame Fail, Restarted 15x, would not start. Let rest, push O&M until following week
11/1/2022	615	off	6661	7.5	221	215	552.6	Flame Fail, restarted
11/2/2022	730	off	6675	--	--	--	552.8	Pilot Fail, retarded; flame fail, restarted (5x) let rest
11/7/2022	630	off	6675	7.6	301	222	552.8	Flame Fail, Restarted;
11/9/2022	900	off	6688	--	--	--	552.9	Pilot fail, Restarted; Pilot Fail, restarted (3x); Flame Fail, restarted (2x). Let rest
11/14/2022	700	off	6688	7.7	254	223	552.9	Flame Fail, Restarted; Pilot Fail, restarted (1x); Flame Fail, Restarted (5x)
11/16/2022	800	off	6700	7.7	263	206	553.1	Flame Fail, restarted; pilot fail, restarted
11/18/2022	715	off	6711	7.7	364	202	553.2	Pilot fail, restarted; pilot fail, restarted; Flame Fail, Restarted
11/21/2022	930	off	6723	--	--	--	553.4	Flame Fail, let rest for O&M later this week

* Unable to read display due to error message that cannot be cleared remotely.

** conducted December 2022's inspection on this day

Appendix E - Working Flare Log Sheet
2022 Working Flare Log Sheet
Clarkstown Landfill, West Nyack, NY

Date	Time	Flare Operation (On/Off)	Hour meter	Amps	Flare Temperature	Flow	Total Flow (10 ⁶ CF)	Comments
11/23/2022	637	off	6723	7.7	159	225	553.4	Flame Fail, restarted;
11/28/2022	715	off	6735	8.2	170	225	553.6	Flame Fail, Restarted,
11/30/2022	930	off	6747	7.7	465	220	553.7	Flame Fail, restarted; Flame Fail, restarted (2x)
12/2/2022	745	off	6757	--	--	--	553.8	Low Flow rate alarm, Flame fail; restarted, Flame Fail, restarted (5x); let rest
12/2/2022	10:53	off	6757	-	-	-	553.8	Flame Fail; restarted - flame fail.
12/5/2022	9:50	off	6757	7.4	590	211	553.8	Flame Fail; restarted (5x) - successful on 5th
12/8/2022	11:43	off	677*	-	-	-	554.1	Flame fail/low flare flow rate. Restart. FF x5
12/9/2022	9:21	off	677*	7.1	723	203	554.1	Flame Fail. Restart 3x
12/12/2022	10:21	off	677*	7.1	665	203	554.2	Flame Fail. Restart (1x - worked first time)
12/14/2022	11:01	off	6795	7.6	302	204	554.2	Low flow rate alarm, flame fail, Restarted;
12/16/2022	751	off	6806	6.9	989	197	554.4	Flame Fail, Restartedl
12/19/2022	930	off	6810	-	-	-	554.5	Low Flow Rate Alarm, Low Flow Rate Shut Down, Restarted; Flame Fail, Restarted (5x)
12/23/2022	900	off	6810	-	-	-	554.5	Flame Fail, restrated; Pilot fail, restarted; low flow rate alarm and shut down, pilot fail, restarted (2x); low flow rate alarm and shut down
1/4/2023**	9:50	on	6810	6.8	815	184	554.5	Off on arrival (tech in field). Restarted multiple types. Pilot fail initially. Then low flare flow alarm.

* Unable to read display due to error message that cannot be cleared remotely.

** conducted December 2022's inspection on this day



F

FCS-1 Forms



FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	X	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:

- 1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
- 2 Use "NS" (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
- * Refer to Figure 2-4 for delineations of inspection areas.

Date: 1/25/2022

Inspector's Initials: MTP

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	X	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:

- 1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
- 2 Use "NS" (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
- * Refer to Figure 2-4 for delineations of inspection areas.

Date: 2/23/2022

Inspector's Initials: MTP

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	NS	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:

- 1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
- 2 Use "NS" (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
- * Refer to Figure 2-4 for delineations of inspection areas.

Date: 3/25/2022

Inspector's Initials: MTP

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	X	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:

- 1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
- 2 Use "NS" (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
- * Refer to Figure 2-4 for delineations of inspection areas.

Date: 4/29/2022

Inspector's Initials: MTP/MJR

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	NS	NS	NS	NS	NS	NS	NS	NS
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	X	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:

- 1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
- 2 Use "NS" (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
- * Refer to Figure 2-4 for delineations of inspection areas.

Date: 5/18/2022

Inspector's Initials: MTP

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	X	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:

- 1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
- 2 Use "NS" (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
- * Refer to Figure 2-4 for delineations of inspection areas.

Date: 6/29/2022

Inspector's Initials: BKM

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	NS	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:

- 1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
- 2 Use "NS" (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
- * Refer to Figure 2-4 for delineations of inspection areas.

Date: 7/21/2022

Inspector's Initials: MTP/MJR

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	X	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:

- 1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
- 2 Use "NS" (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
- * Refer to Figure 2-4 for delineations of inspection areas.

Date: 8/30/2022

Inspector's Initials: MTP

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	NS	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:

- 1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
- 2 Use "NS" (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
- * Refer to Figure 2-4 for delineations of inspection areas.

Date: 9/20/2022

Inspector's Initials: MTP

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	NS	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:

- 1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
- 2 Use "NS" (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
- * Refer to Figure 2-4 for delineations of inspection areas.

Date: 11/01/2022 (for October 2022)

Inspector's Initials: BKM

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	NS	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:

- 1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
- 2 Use "NS" (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
- * Refer to Figure 2-4 for delineations of inspection areas.

Date: 11/23/2022

Inspector's Initials: BKM

FORM FCS-1
FINAL COVER SYSTEM INSPECTION CHECKLIST
CLARKSTOWN LANDFILL

Item No.	Item Title	Drainage Area Number*							
		DA-1	DA-2	DA-3	DA-4	DA-5	DA-6	DA-7	DA-8
Vegetated Cover									
1	Vegetative Growth (grass height, undesirable species)	X	X	X	X	X	X	X	X
2	Sparse Vegetation/Die-Outs	X	X	X	X	X	X	X	X
Protective Soil Cover and Cap Components									
1	Erosion Damage	X	X	X	X	X	X	X	X
2	Animal Burrowing	X	X	X	X	X	X	X	X
3	Settlement/Subsidence	X	X	X	X	X	X	X	X
4	Surface Water Ponding	X	X	X	X	X	NS	X	X
5	Extensive Die-Out	X	X	X	X	X	X	X	X
6	Slope Stability	X	X	X	X	X	X	X	X
7	Seepage	X	X	X	X	X	X	X	X
8	Vandalism	X	X	X	X	X	X	X	X

Notes:

- 1 Use a check in the box to indicate that the specific item number in the area has been inspected and no problems were noted.
- 2 Use "NS" (Not Satisfactory) where problems are noted.
- 3 For boxes checked NS, provide, on Form DP-1, a description of the deficiency/problem. Attach additional sheets as necessary.
- * Refer to Figure 2-4 for delineations of inspection areas.

Date: 01/04/2023 (for December 2022)

Inspector's Initials: MTP

A large, bold, black letter 'G' is positioned on the right side of the page, partially overlapping a white rectangular area. The 'G' is the primary visual element of the section header.

AR-1 Forms

FORM AR-1
INSPECTION CHECKLIST FORM
ACCESS ROADS
CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- <i>Potholes</i>	X
- <i>Condition of asphalt/gravel</i>	X
- <i>Evidence of debris and/or obstructions</i>	X
- <i>Guard rails</i>	X
- <i>Uneven settlement</i>	X
- <i>Ponding of water</i>	X
- <i>Ruts</i>	X
Perimeter Access Road: Remainder	
- <i>Potholes</i>	X
- <i>Evidence of debris and/or obstructions</i>	X
- <i>Guard rails</i>	X
- <i>Uneven settlement</i>	X
- <i>Ponding of water</i>	X
Access Road Across Top of Landfill	X
- <i>Potholes</i>	X
- <i>Evidence of debris and/or obstructions</i>	X
- <i>Uneven settlement</i>	X
- <i>Ponding of water</i>	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 1/25/2022

Inspector's Initials: MTP

FORM AR-1
INSPECTION CHECKLIST FORM
ACCESS ROADS
CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- <i>Potholes</i>	X
- <i>Condition of asphalt/gravel</i>	X
- <i>Evidence of debris and/or obstructions</i>	X
- <i>Guard rails</i>	X
- <i>Uneven settlement</i>	X
- <i>Ponding of water</i>	X
- <i>Ruts</i>	X
Perimeter Access Road: Remainder	
- <i>Potholes</i>	X
- <i>Evidence of debris and/or obstructions</i>	X
- <i>Guard rails</i>	X
- <i>Uneven settlement</i>	X
- <i>Ponding of water</i>	X
Access Road Across Top of Landfill	X
- <i>Potholes</i>	X
- <i>Evidence of debris and/or obstructions</i>	X
- <i>Uneven settlement</i>	X
- <i>Ponding of water</i>	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 2/23/2022

Inspector's Initials: MTP

FORM AR-1
INSPECTION CHECKLIST FORM
ACCESS ROADS
CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- <i>Potholes</i>	X
- <i>Condition of asphalt/gravel</i>	X
- <i>Evidence of debris and/or obstructions</i>	X
- <i>Guard rails</i>	X
- <i>Uneven settlement</i>	X
- <i>Ponding of water</i>	X
- <i>Ruts</i>	X
Perimeter Access Road: Remainder	
- <i>Potholes</i>	X
- <i>Evidence of debris and/or obstructions</i>	X
- <i>Guard rails</i>	X
- <i>Uneven settlement</i>	X
- <i>Ponding of water</i>	X
Access Road Across Top of Landfill	X
- <i>Potholes</i>	X
- <i>Evidence of debris and/or obstructions</i>	X
- <i>Uneven settlement</i>	X
- <i>Ponding of water</i>	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 3/25/2022

Inspector's Initials: MTP

FORM AR-1
INSPECTION CHECKLIST FORM
ACCESS ROADS
CLARKSTOWN LANDFILL, WEST NYACK, NEW YORK

Description	Status/Comments
Perimeter Access Road: Eastern Side (Compost access roads)	
- <i>Potholes</i>	X
- <i>Condition of asphalt/gravel</i>	X
- <i>Evidence of debris and/or obstructions</i>	X
- <i>Guard rails</i>	X
- <i>Uneven settlement</i>	X
- <i>Ponding of water</i>	X
- <i>Ruts</i>	X
Perimeter Access Road: Remainder	
- <i>Potholes</i>	X
- <i>Evidence of debris and/or obstructions</i>	X
- <i>Guard rails</i>	X
- <i>Uneven settlement</i>	X
- <i>Ponding of water</i>	X
Access Road Across Top of Landfill	X
- <i>Potholes</i>	X
- <i>Evidence of debris and/or obstructions</i>	X
- <i>Uneven settlement</i>	X
- <i>Ponding of water</i>	X

Notes:

- Use a check in the status/comments box to indicate that the specific item in the area has been inspected and no problems were noted.
- Use "NS" (Not Satisfactory) in the status box where problems are noted.
- For boxes checked NS, provide, on Form DP-1, a description of the deficiency. Attach additional sheets, as necessary.

Date: 4/29/2022

Inspector's Initials: MTP/MJR